



SAWPA

SANTA ANA WATERSHED PROJECT AUTHORITY

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

This meeting will be conducted in person at the addresses listed below. As a convenience to the public, members of the public may also participate virtually using the zoom link provided below. The zoom link is for viewing purposes only; members of the public will not have speaking privileges virtually. Public Comments may be provided in person or submitted in advance to publiccomment@sawpa.gov. Speaking privileges through zoom are limited to approved entities and pre-vetted participants who must request authorization. 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.

ZOOM LINK FOR VIEWING ONLY

<https://sawpa.zoom.us/j/86455557859>

REGULAR COMMISSION MEETING TUESDAY, DECEMBER 16, 2025 – 9:30 A.M.

Santa Ana Watershed Project Authority
11615 Sterling Avenue
Riverside, CA 92503

and

601 N. Ross Street, Room 327
Santa Ana, CA 92701

AGENDA

1. CALL TO ORDER/PLEDGE OF ALLEGIANCE

2. ROLL CALL

3. 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 with the subject line "Public Comment". Submit your electronic comments by 5:00 p.m. on Monday, December 15, 2025. 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.

4. 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.

5. 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 2, 2025 7
Recommendation: Approve as posted.
- B. SAWPA SOCIAL MEDIA POLICY (CM#2025.89) 13
Recommendation: Approve as posted.
- C. SAWPA MULTIMEDIA POLICY (CM#2025.90) 17
Recommendation: Approve as posted.

6. WORKSHOP DISCUSSION AGENDA

- A. LEGISLATIVE REPORT
Presenter: Michael Boccadoro and Beth Olhasso, West Coast Advisors
Recommendation: Receive and file.

7. NEW BUSINESS

- A. FISCAL YEAR 2024-25 REPORT ON AUDIT (CM#2025.91) 21
Presenter: Karen Williams
Recommendation: The Commission receive and review the Annual Comprehensive Financial Report (ACFR) for the Fiscal Year Ending June 30, 2025, which includes the Report on Audit prepared by C.J. Brown & Company CPAs, then:
1. Accept the ACFR, including the Report on Audit as prepared by C.J. Brown & Company CPAs; and
 2. Direct staff to file the Report with the respective government agencies as required by law; and
 3. Direct staff to submit the ACFR, with any necessary changes, for the Certificate of Achievement for Excellence in Financial Reporting Award.
- B. REQUEST FOR QUALIFICATIONS ON GROUNDWATER TECHNICAL ASSISTANCE AND SURFACE WATER REPORTING (CM#2025.92) 169
Presenter: Ian Achimore
Recommendation: The Commission approve the list of qualified consultants for the following services in the Request for Qualifications on Groundwater Technical Assistance and Surface Water Reporting:

Service	Firms on Qualified Consultant List
Storage Model Technical Assistance	Water Systems Consulting, Inc. West Yost
Groundwater Data Consolidation	GEI Consultants Inc. West Yost
Implementation of 2026 Ambient Water Quality Recomputation	Water Systems Consulting, Inc. West Yost
Development of Santa Ana River Annual Water Quality Report	GEI Consultants Inc Larry Walker Associates, Inc. West Yost

- C. **SAWPA 50th ANNIVERSARY CELEBRATION – BUDGET AND FUNDING STRATEGY (CM#2025.93)** 457
Presenter: Karen Williams
Recommendation: The Commission review and discuss the update on the detailed budget and funding strategy for SAWPA’s 50th Anniversary celebration and receive and file.

8. INFORMATIONAL REPORTS

Recommendation: Receive for information.

- A. **CASH TRANSACTIONS REPORT – OCTOBER 2025**.....481
Presenter: Karen Williams
- B. **INTER-FUND BORROWING – OCTOBER 2025 (CM#2025.94)**.....487
Presenter: Karen Williams
- C. **PERFORMANCE INDICATORS/FINANCIAL REPORTING – OCTOBER 2025 (CM#2025.95)** 493
Presenter: Karen Williams
- D. **PROJECT AGREEMENT 25 – OWOW FUND – FINANCIAL REPORT, SEPTEMBER 2025** 515
Presenter: Karen Williams
- E. **PROJECT AGREEMENT 26 – ROUNDTABLE FUND – FINANCIAL REPORT, SEPTEMBER 2025** 519
Presenter: Karen Williams
- F. **FIRST QUARTER FYE 2026 EXPENSE REPORT** 523
 - General Manager
 - Staff**Presenter:** Karen Williams
- G. **BUDGET VS ACTUAL VARIANCE REPORT FYE 2026 FIRST QUARTER – SEPTEMBER 30, 2025 (CM#2025.96)**.....527
Presenter: Karen Williams
- H. **FINANCIAL REPORT FOR THE FIRST QUARTER ENDING SEPTEMBER 30, 2025**.....535
Presenter: Karen Williams
- I. **STATE LEGISLATIVE REPORT** 553
Presenter: Karen Williams
- J. **GENERAL MANAGER REPORT**.....559
Presenter: Karen Williams
- K. **CHAIR’S COMMENTS/REPORT**
- L. **COMMISSIONERS’ COMMENTS**
- M. **COMMISSIONERS’ REQUEST FOR FUTURE AGENDA ITEMS**

9. CLOSED SESSION

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

10. 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 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, 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 December 11, 2025, a copy of this agenda has been uploaded to the SAWPA website at www.sawpa.gov and posted at SAWPA's office at 11615 Sterling Avenue, Riverside, California and 601 N. Ross Street, Room 327, Santa Ana, CA 92701.

2026 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.)

January 1/6/26 ~~Commission Workshop~~ [cancelled] 1/20/26 Regular Commission Meeting	February 2/3/26 Commission Workshop 2/17/26 Regular Commission Meeting
March 3/3/26 Commission Workshop 3/17/26 Regular Commission Meeting	April 4/7/26 Commission Workshop 4/21/26 Regular Commission Meeting
May 5/5/26 Commission Workshop 5/19/26 Regular Commission Meeting 5/5 – 5/7/26 ACWA Spring Conference, Sacramento, CA	June 6/2/26 Commission Workshop 6/16/26 Regular Commission Meeting
July 7/7/26 Commission Workshop 7/21/26 Regular Commission Meeting	August 8/4/26 Commission Workshop 8/18/26 Regular Commission Meeting
September 9/1/26 Commission Workshop 9/15/26 Regular Commission Meeting	October 10/6/26 Commission Workshop 10/20/26 Regular Commission Meeting
November 11/3/26 Commission Workshop 11/17/26 Regular Commission Meeting	December 12/1/26 Commission Workshop 12/15/26 Regular Commission Meeting 12/1 – 12/3/26 ACWA Fall Conference, Anaheim, CA

SAWPA COMPENSABLE MEETINGS

In addition to Commission meetings, Commissioners and Alternate Commissioners will receive compensation for attending the meetings listed below, pursuant to the Commission Compensation, Expense Reimbursement, and Ethics Training Policy.

IMPORTANT NOTE: These meetings are subject to change. Prior to attending any meetings listed below, please confirm meeting details by viewing the website calendar using the following link:

<https://sawpa.gov/sawpa-calendar/>

MONTH OF: DECEMBER 2025

DATE	TIME	MEETING DESCRIPTION	LOCATION
12/2/25	8:30 AM	PA 23 Committee Mtg	CANCELLED
12/2/25	10:00 AM	PA 24 Committee Mtg	Hybrid (SAWPA & Virtual/Teleconference)
12/9/25	8:30 AM	PA 22 Committee Mtg	CANCELLED
12/9/25	10:00 AM	Santa Ana Sucker Conservation Team	Virtual/Teleconference
12/18/25	4:00 PM	LESJWA Board of Directors Mtg	Hybrid (Elsinore Valley MWD, 31315 Chaney Street, Lake Elsinore, CA 92530 & Virtual/Teleconference)

MONTH OF: JANUARY 2026

DATE	TIME	MEETING DESCRIPTION	
1/6/26	10:00 AM	PA 24 Committee Mtg	CANCELLED
1/26/26	1:00 PM	Basin Monitoring Program Task Force Mtg	SAWPA - Boardroom

Please Note : We strive to ensure the list of Compensable Meetings set forth above is accurate and up-to-date; the list is compiled based on input from SAWPA staff and Department Managers regarding meeting purpose and content.

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**SAWPA COMMISSION
REGULAR MEETING MINUTES
DECEMBER 2, 2025**

COMMISSIONERS PRESENT

Mike Gardner, Chair, Western Municipal Water District
Gil Botello, Vice Chair, San Bernardino Valley Municipal Water District
David Slawson, Alternate, Eastern Municipal Water District
Denis Bilodeau, Orange County Water District [via – zoom]

COMMISSIONERS ABSENT

Jasmin A. Hall, Inland Empire Utilities Agency
Philip E. Paule, Eastern Municipal Water District

**COMMISSIONERS PRESENT;
NON-VOTING**

Fred Jung, Orange County Water District [via – zoom]
T. Milford Harrison, San Bernardino Valley Municipal Water District
[via – zoom]

STAFF PRESENT

Karen Williams, David Ruhl, Shavonne Turner, Ian Achimore, Dean Unger, John Leete, Rick Whetsel, Alison Lewis, Natalia Gonzalez, Sara Villa, Emily Fuentes, Lucas Gilbert, Olivia Burgess, Linda Kim, Zyanya Ramirez, Marie Jauregui, Daniel Vasquez

OTHERS PRESENT

Thomas S. Bunn, Lagerlof, LLP; Christiana Daisy, Inland Empire Utilities Agency; Carly Pierce, Western Municipal Water District; Adekunle Ojo, San Bernardino Valley Municipal Water District; Derek Kawaii, Western Municipal Water District; Tom Lindsey, Yorba Linda Water District; Valerie Amezcua, City of Santa Ana

The Regular Meeting of the Santa Ana Watershed Project Authority Commission was called to order at 9:30 a.m. by Chair Gardner on behalf of the Santa Ana Watershed Project Authority, 11615 Sterling Avenue, Riverside, California, and Denis Bilodeau at 1960 Harbor Island Drive, San Diego, CA 92101.

1. CALL TO ORDER

2. ROLL CALL

An oral roll call was duly noted and recorded by the Clerk of the Board.

3. PUBLIC COMMENTS

There were no public comments.

4. ITEMS TO BE ADDED OR DELETED

There were no items to be added or deleted.

5. CONSENT CALENDAR

A. APPROVAL OF MEETING MINUTES: NOVEMBER 18, 2025

Recommendation: Approve as posted.

B. TREASURER'S REPORT: OCTOBER 2025

Recommendation: Approve as posted.

MOVED, to approve the Consent Calendar as posted.

Result:	Adopted by Roll Call Vote
Motion/Second:	Botello/Slawson
Ayes:	Bilodeau, Botello, Gardner, Slawson
Nays:	None
Abstentions:	None
Absent:	None

6. NEW BUSINESS

A. PHASE 1 ELECTRIC VEHICLE CHARGER PROJECT AWARD (CM#2025.87)

Daniel Vasquez provided a presentation titled Phase 1 Electric Vehicle Charger Project Award, contained in the agenda packet on pages 23-33.

Mr. Vasquez provided a brief overview of Executive Order N-79-20, which drives CARB's Advanced Clean Fleet Regulation. The order directed that by 2026, 35% of new passenger cars and light trucks sold in California be zero-emission. Although private enforcement has been temporarily stayed, local governments are still required to comply, and SAWPA will be required to ensure that all new fleet purchases are zero-emission electric vehicles.

For Phase 1 of the electric vehicle charger project, the Commission directed staff to issue a Request for Proposal (RFP) in September. The RFP requested the purchase and installation of two dual-port chargers, allowing up to four (4) vehicles to charge simultaneously. Proposals were due November 6, 2025. All proposals received were evaluated based on qualifications, staffing and project organization, work plan, cost, and completeness. InCharge Energy received the highest overall score and is recommended for award at \$101,731.48.

Mr. Vasquez noted that the project tasks include a pre-construction phase with permitting, design approval, and site preparation; installation of pedestal-mounted chargers, trenching, system integration, and control setup; and testing and commissioning.

The schedule is to file the Notice of Exemption and approve the contract today. Permitting and procurement would begin immediately this month but acquire the equipment and obtain approvals from Riverside Public Utilities and the City of Riverside will take some time. As a result, it is anticipated that construction will begin in March 2026.

The recommendation is to direct the General Manager to file a Notice of Exemption for the Phase 1 EV Charger Project with the Riverside County Clerk's Office; and to execute a General Service Agreement and Task Order with InCharge Energy for an amount not to exceed \$101,731.48 for Phase 1 of the EV Charger Project. There was no discussion.

MOVED, to approve the following:

1. Direct the General Manager to file a Notice of Exemption for the Phase 1 Electric Vehicle Charger Project with the Riverside County Clerk's Office, and
2. Authorize the General Manager to approve the General Services Agreement and Task Order No. INC100-01 with InCharge Energy Inc. for an amount not to exceed \$101,731.48 for the Phase 1 Electric Vehicle Charger Project.

Result:	Adopted by Roll Call Vote
Motion/Second:	Slawson/Botello
Ayes:	Bilodeau, Botello, Gardner, Slawson
Nays:	None
Abstentions:	None
Absent:	None

B. PROPOSITION 4 OVERVIEW (CM#2025.88)

Ian Achimore provided a presentation titled Proposition 4 Overview, contained in the agenda packet on pages 171-180.

In July 2024, the legislature approved a \$10 billion bond (SB 867). The bond's focus includes safe drinking water, wildfire prevention, drought preparedness, and clean air, all aimed at improving the state's climate resilience. The bond passed with 60% of the vote, surpassing the 50% requirement.

A significant portion of the funding is earmarked for grants to water agencies, tribes, and non-governmental organizations. Like previous climate and water-related bonds, Proposition 4 allocates funding for Integrated Regional Water Management (IRWM), a priority for SAWPA and the OWOW Steering Committee. While earlier bonds allocated around \$500 million for IRWM, Proposition 4 only includes \$100 million, with a stronger focus on climate resilience. The decline in IRWM funding reflects the state's evolving approach to water and climate projects.

Mr. Achimore noted that the bond stipulates that at least 40% of the funds must benefit vulnerable populations, including disadvantaged communities. Funds must prioritize projects that leverage additional outside funding, and while there is no overall cost-share requirement, certain categories, like water recycling, may include one.

IRWM funding, a key focus for our region, will target climate resilience, and while the focus on disadvantaged communities remains, "vulnerable populations" is a new term that will require data-driven descriptions from applicants.

The bond allocates funding to several areas, with Chapter 2 focusing on water-related projects, including:

- \$15 million for stream gauges
- \$62 million for brackish desalination
- \$100 million for IRWM (with a climate resilience focus)
- \$385 million for water reuse and recycling
- \$585 million for water quality and safe drinking water

Other areas include funding for wildfire and forest resilience, coastal resilience, extreme heat mitigation, nature-based solutions, climate-smart agriculture, and clean air and energy.

Mr. Achimore noted that the Department of Water Resources is leading this effort, and state agencies are in the process of developing guidelines for the funds. SAWPA is tracking the bond and will provide periodic updates to the OWOW Steering Committee and SAWPA Commission, especially as it relates to the \$100 Million in IRWM funding.

Commissioner Botello inquired about the "vulnerable populations" clause and the focus on climate resilience for the IRWM funds, our service area, and every agency in this JPA has vulnerable populations in at-risk environments. It would be beneficial, especially OWOW, to really unpack the definition of "vulnerable populations" and develop some guidelines for how to address this focus.

Additionally, Commissioner Botello suggests when preparing the CARP report, it should incorporate this "vulnerable populations" definition. We will need to understand what this really means in practice to align with the criteria. It was also interesting to note that during the OWOW presentation, the members were very perceptive and some of the questions raised were about the timeline, specifically, concerns that we might not have access to the grant funding until 2027. Is that timeline realistic?

Mr. Achimore noted that the guidelines for the Proposition 4 funding need to be drafted, followed by a draft release, a comment period, and finalization. As a result, applications will not be available until 2027. However, the CARP is currently being developed, which aligns well with the timeline for the funding. As work on the CARP progresses, projects will emerge in conceptual form and later become more shovel-ready, which should fit the funding process once the guidelines are finalized.

Chair Gardner noted that SAWPA and the member agencies will want to be involved in the development of the regulations. There may be an opportunity to share feedback with staff before the draft regulations are released. The goal is to provide input on the draft regulations, with the hope of shaping them in a way that makes the funding more beneficial to our region.

This item is to receive and file; no action was taken on agenda item no. 6.B.

7. INFORMATIONAL REPORTS

Recommendation: Receive for Information.

A. COMMUNICATIONS REPORT

Presenter: Karen Williams

B. GENERAL MANAGER REPORT

Karen Williams reported that the Crestmore Manor has been reserved for the 50th Anniversary Celebration, scheduled for Thursday, January 22nd. Planning for the event is underway, and the anticipated guest list will include up to 160 people. Commissioners are encouraged to begin thinking about potential invitees and to share their suggestions with staff. Save-the-date notices will be sent out before formal invitations to ensure guests keep the date open. An update on the event's budget and funding will be provided at the next meeting. The consultant is coordinating the interviews and mentioned that we set a record for the most interviews conducted in a single day. Since then, several additional interviews have taken place, including more last Monday.

C. CHAIR'S COMMENTS/REPORT

There were no Chair comments received.

D. COMMISSIONERS' COMMENTS

There were no Commissioners' comments received.

E. COMMISSIONERS' REQUEST FOR FUTURE AGENDA ITEMS

There were no requests for future agenda items.

Chair Gardner recessed the meeting at 9:52 a.m. for Closed Session.

8. CLOSED SESSION

A. CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION

Significant exposure to litigation pursuant to paragraph (2) of subdivision (d) of Section 54956.9: one case | PFAS Regional Analysis Phase II Update

9. CLOSED SESSION REPORT

Chair Gardner resumed the Open Session at 10:10 a.m. and Legal Counsel, Thomas S. Bunn announced that the Commission received a report from Counsel; no reportable action was taken on Agenda Items No. 8.A.

10. ADJOURNMENT

There being no further business for review, Chair Gardner adjourned the meeting at 10:12 a.m. in memory of those who died in the Inland Empire Regional Center terrorist attack 10 years ago.

Approved at a Regular Meeting of the Santa Ana Watershed Project Authority Commission on Tuesday, December 16, 2025.

Mike Gardner, Chair

Attest:

Sara Villa, Clerk of the Board

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COMMISSION MEMORANDUM NO. 2025.89

DATE: December 16, 2025
TO: SAWPA Commission
SUBJECT: SAWPA Social Media Policy
PREPARED BY: Emily Fuentes, Senior Communications Specialist

RECOMMENDATION

It is recommended that the Commission adopt the Social Media Policy 01-011.

DISCUSSION

Currently, there is no Social Media Policy at SAWPA, and adopting this policy is important for several reasons:

- To ensure any offensive content (including, but not limited to, racist, sexist, and other offensive remarks) will be removed from SAWPA social media pages.
- To ensure content remains on topic for the post at hand, preventing the spread of misinformation.
- To ensure staff and the public understand the rules and guidelines of social media use.

This is the first iteration of this policy. A more in-depth policy will follow, but this policy will cover some immediate digital safety and best practices concerns.

This policy has been reviewed by Legal Counsel.

RESOURCE IMPACTS

There are no anticipated financial impacts with this policy.

Attachments:

1. Social Media Policy 01-011

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SAWPA Social Media Policy 01-011

PURPOSE

This policy is intended to guide the responsible and effective use of social media by Santa Ana Watershed Project Authority (SAWPA). Its goal is to increase public awareness, engagement, and trust in SAWPA's programs and initiatives.

POLICY

To address the evolving landscape of digital communication, SAWPA departments and staff may utilize social media platforms to reach a broader audience and enhance public outreach. Social media may be used to share updates, promote events, and educate the public.

SAWPA staff and representatives may publish content, facilitate discussions, and share information through approved social media channels in alignment with SAWPA's mission and strategic goals.

SCOPE

This policy applies to all SAWPA employees, contractors, and authorized representatives who manage or contribute to SAWPA's social media presence.

DEFINITIONS

Social Media refers to external websites and platforms used to promote SAWPA-related services and information. Examples include Facebook, X (formerly Twitter), Instagram, LinkedIn, YouTube, and emerging platforms.

PROCEDURE

- All SAWPA social media accounts must be approved by the Sr. Communications Specialist, Administrative Services Manager, and the General Manager.
- Social media content must comply with applicable federal, state, and local laws, including public records and information technology policies.
- Content must be managed and archived in accordance with the California Public Records Act.
- All posts must be clearly identified as official SAWPA communications and subject to public disclosure.
- SAWPA reserves the right to remove content that is offensive, defamatory, violates intellectual property rights, or poses a security risk.

CONTENT GUIDELINES

- SAWPA social media platforms must not allow or promote (whether the posts themselves or comments on the posts) the following. Content violating these guidelines is subject to removal.
- Comments not related to the topic of discussion
- Profane, obscene, or abusive language
- Discriminatory content based on race, gender, religion, disability, or other protected categories
- Sexual content or links to such content
- Commercial solicitations or spam
- Promotion of illegal activities
- Content that compromises public safety or security
- Personal attacks or threats
- Disclosure of private or personal information without consent
- Hyperlinks to unrelated or inappropriate material as described in these guidelines

RESPONSIBLE PARTIES

- Sr. Communications Specialist
- Information Technology Department
- Legal Counsel
- Human Resources Department

REFERENCES

- California Public Records Act (Government Code Section 6250 et seq.)
- Applicable federal and state regulations on digital communications

COMMISSION MEMORANDUM NO. 2025.90

DATE: December 16, 2025
TO: SAWPA Commission
SUBJECT: SAWPA Multimedia Policy
PREPARED BY: Emily Fuentes, Senior Communications Specialist

RECOMMENDATION

It is recommended that the Commission adopt the Multimedia Policy 01-012.

DISCUSSION

Currently, there is no Multimedia Policy at SAWPA, and adopting this policy is important to ensure staff know the proper way to collect and store multimedia content for SAWPA.

This policy has been reviewed by Legal Counsel.

RESOURCE IMPACTS

There are no anticipated financial impacts with this policy.

Attachments:

1. Multimedia Policy 01-012

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SAWPA Staff Multimedia Policy 01-012

PURPOSE

This policy is intended to guide the responsible and effective use of multimedia by Santa Ana Watershed Project Authority (SAWPA) employees. Its goal is to offer clarification around how to capture, properly store, and transfer multimedia.

POLICY

Whenever possible, employees are encouraged to use a work device to capture video and photo footage for SAWPA business. If you have not been issued a work phone, a SAWPA phone or tablet can be issued to you for a project. It is best not to store public records on private devices, so an employee will not also have to search their own personal device in the event of a Public Records request.

However, if an employee takes a photo on a personal device and the record is removed (deleted from the device and any associated personal multimedia backup, and stored via a SAWPA cloud system, SAWPA shared drive, or SAWPA device), the record will not be on the personal device. It is important to note, if an employee has used their personal device for business, they will need to double-check their personal device to ensure there are no records on the device or personal multimedia back-up in the event of a Public Records request.

Some practical examples of how to handle multimedia captured on a personal device:

- *Staff is out for a run and captures a spill at the Brine Line on a personal device, but then transfers it to a SAWPA device via a cable, AirDrop, or SAWPA Cloud system like Google Photos to share with Engineering later, and removes it from the personal device and personal multimedia backup.*
 - *Public record that must be produced if the photo has not been removed.*
- *Staff accidentally takes a picture on a personal device instead of their work phone and wants to transfer and remove it*
 - *Not a public record; need not be produced.*
- *Staff has a relevant photo to share with SAWPA, like wildlife at the river captured during a walk on a personal device.*
 - *It's a public record and must be produced unless it has been removed.*

SCOPE

This policy applies to all SAWPA employees.



Mike Gardner
Chair
Western Municipal
Water District



Gil J. Botello
Vice Chair
San Bernardino Valley
Municipal Water District



Philip E. Paule
Secretary-Treasurer
Eastern Municipal
Water District



Jasmin A. Hall
Commissioner
Inland Empire
Utilities Agency



Denis Bilodeau
Commissioner
Orange County
Water District



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COMMISSION MEMORANDUM NO. 2025.91

DATE: December 16, 2025

TO: SAWPA Commission

SUBJECT: Fiscal Year 2024-2025 Report on Audit

PREPARED BY: Karen Williams, General Manager

RECOMMENDATION

It is recommended that the Commission receive and review the Annual Comprehensive Financial Report (ACFR) for the Fiscal Year Ending June 30, 2025, which includes the Report on Audit prepared by C.J. Brown & Company CPAs, then:

1. Accept the ACFR, including the Report on Audit as prepared by C.J. Brown & Company CPAs; and
2. Direct staff to file the Report with the respective government agencies as required by law; and
3. Direct staff to submit the ACFR, with any necessary changes, for the Certificate of Achievement for Excellence in Financial Reporting Award.

DISCUSSION

As required by the State of California Government Code, all government agencies and/or special districts must contract for an independent financial audit. In addition, because SAWPA has received State Water Board grant funding, the independent audit must include additional work and reporting by the auditors, and testing of SAWPA's internal control procedures for receipt of grant funding to ensure compliance with respective State and Federal laws and regulations.

SAWPA has received the Government Finance Officers Associations (GFOA) Certificate of Achievement for Excellence in Financial Reporting for the past eleven years. Staff will submit this ACFR for the award as well. The ACFR was prepared following the guidelines recommended by the Governmental Accounting Standards Board (GASB) and generally accepted accounting principles (GAAP). It includes three sections:

1. The Introductory Section, which provides an overview of the Agency, its background, organization, recent activities and accomplishments over the past fiscal year, local and economic conditions and forecasts, service efforts and accomplishments, and future plans.
2. The Financial Section, which includes the independent auditor's report, management's discussion and analysis, and all basic financial statements and notes to the basic financial statements.
3. The Statistical Section, which includes a number of unaudited tables and schedules that present historical trends for the past ten years, as well as demographic and other information about the Agency that is deemed relevant.

SAWPA is pleased to report that the financial statements presented herein, contain no qualifications or reportable conditions. This indicates that SAWPA's financial reporting meets generally accepted GAAP, it is compliant with applicable State and Federal laws and regulations, and internal controls are sufficient to safeguard against material errors or fraud.

Christopher Brown (Audit Partner) will be available to answer questions regarding SAWPA's FY 2024-25 Report on Audit (financial statements).

RESOURCE IMPACTS

The FY 2024-25 Audit contains no financial deficiencies to report.

Attachments:

1. FYE 2025 ACFR
2. Report on Internal Controls and Compliance
3. SAWPA Management Report June 30, 2025

ANNUAL COMPREHENSIVE FINANCIAL REPORT



**Fiscal Year Ended
June 30, 2025 and 2024**

11615 Sterling Avenue, Riverside, CA 92503
951.354.4220
sawpa.gov

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INTRODUCTORY SECTION



December 16, 2025

To the Chair of the Board of Commissioners, Members of the Commission, and Member Agencies of the Santa Ana Watershed Project Authority (SAWPA):

We are pleased to present the Santa Ana Watershed Project Authority's (hereinafter referred to as "the Authority") Annual Comprehensive Financial Report (ACFR) for the fiscal year ended June 30, 2025.

The report was prepared by the Authority's Finance Department following the guidelines recommended by the Governmental Accounting Standards Board (GASB) and generally accepted accounting principles (GAAP). Responsibility for both the accuracy of the data presented, and the completeness and fairness of the presentation, including disclosures, rests with the Authority's management. We believe the data, as presented, is accurate in all material respects, and that it is presented in a manner that provides a fair representation of the financial position and results of operation of the Authority. Included are all disclosures we believe necessary to enhance your understanding of the financial condition of the Authority.

GAAP requires that management provide a narrative introduction, overview, and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis (MD&A). The letter transmittal is designed to complement the MD&A and should be read in conjunction with it. The Authority's MD&A can be found immediately following the Independent Auditors' Report.

The Authority's financial statements have been audited by C.J. Brown & Company CPAs, a firm of licensed certified public accountants. The goal of the independent audit is to provide reasonable assurance that the financial statements of the Authority for the fiscal year ended June 30, 2025, are free of material misstatement. The independent audit involved examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements; assessing the accounting principles used and significant estimates made by management; and evaluating the overall financial statement presentation. The independent auditors concluded, based upon the audit, that there was a reasonable basis for rendering an unmodified opinion that the Authority's financial statements for the fiscal year ended June 30, 2025, are fairly presented in conformity with GAAP. The Independent Auditor's Report is presented as the first component of the financial section of this report.

Reporting Entity and Its Services

Governmental Structure

The Authority was first formed in 1968 as a planning agency, and reformed in 1975, with a mission to plan and build facilities to protect the water quality of the Santa Ana River Watershed (hereinafter referred to as “the Watershed”). The Authority is a Joint Powers Authority (JPA), comprised of the five largest water agencies in the Watershed: Eastern Municipal Water District (EMWD), Inland Empire Utilities Agency (IEUA), Orange County Water District (OCWD), San Bernardino Valley Municipal Water District (SBVMWD), and Western Municipal Water District (WMWD).

Service Area

The Watershed spans approximately 2,840 square miles and includes the western portion of San Bernardino and Riverside Counties, the northern portion of Orange County, as well as a small eastern sliver of Los Angeles County. It is home to over 6.0 million people. The Watershed, and the State as a whole, is facing many challenges in guaranteeing sufficient, high-quality water for the ever-growing population of the region. The Authority works with planners, scientists, water experts, design and construction engineers, and other government agencies to identify issues and develop innovative solutions to resolve many water-related problems.

Vision

The Authority’s vision is a sustainable Santa Ana River Watershed that provides clean and reliable water resources for a vibrant economy and high quality of life for all, while maintaining healthy ecosystems and open space opportunities.

A successful Authority provides value to its member agencies and to the Watershed as a whole, by facilitating collaboration across boundaries to address common goals and tackle problems that are larger than any individual entity.

Mission

The Authority strives to make the Santa Ana River Watershed sustainable through fact-based planning and informed decision-making; regional and multi-jurisdictional coordination; and the innovative development of policies, programs, and projects. Our mission is accomplished through a number of specific functions:

- Maintaining peace in the Watershed;
- Facilitating conflict resolution through collaborative processes;
- Preparing an integrated watershed-wide water management plan that provides a unified vision for the Watershed;
- Operating the Inland Empire Brine Line to convey salt out of the Watershed and support economic development;
- Developing water-related initiatives, particularly those that require the participation of several entities;
- Identifying, pursuing, securing, and administering supplemental funds for the Watershed; and,
- Influencing legislation for the benefit of the Watershed.

Our Values

Our strategy and day-to-day operations are guided by values strongly held by our member agencies, management, and staff:

Leadership in the development and advancement of a vision and plan for a sustainable Watershed, and in the incorporation of new paradigms for water and watershed planning.

Collaboration and cooperation among member agencies and other stakeholders in the Watershed toward the formulation and implementation of solutions to watershed-wide, multi-jurisdictional problems.

Creativity in the pursuit of new approaches to watershed planning, the use of new technologies, and the enhancement of a new water ethic in the Watershed.

Fact-based decision-making to identify neutral and transparent solutions that maximize the benefit to the entire Watershed.

Respect for all voices and perspectives in the Watershed to develop sound solutions and maximize consensus building.

Transparency, integrity and professionalism to maintain the respect and trust of our partners, and to attract and retain talented and committed individuals to our organization.

The Authority uses a three-pronged approach to accomplish our mission with the services it offers, which are listed below.

Inland Empire Brine Line

The Authority's enterprise includes ownership and operation of the Inland Empire Brine Line (Brine Line). The 73-mile-long regional brine line is designed to convey 30 million gallons per day of non-reclaimable wastewater from the upper Santa Ana River Basin to the Pacific Ocean for disposal, after treatment. The Brine Line is currently used for: 1) the disposal of high Total Dissolved Solids (TDS) brine from brackish groundwater desalter operations and power plants within the region; 2) the disposal of industrial wastewater that is unacceptable for discharge into local wastewater treatment facilities, usually because of high concentrations of TDS from commercial and industrial facilities; and 3) the disposal of domestic or industrial wastewater that is managed by public agencies and which meets standards of local treatment facilities. Some users of the Brine Line have temporary or emergency needs and connect to the system for a fixed term. The Brine Line protects the water quality of the Santa Ana River, a major water source for Orange County groundwater basins.

This 54-year-old utility was built as the fundamental method of salt export for the region. Historic import of water for agricultural purposes has increased the salinity of many groundwater basins within the Watershed. Removing salt by means of the Brine Line allows the Watershed to work towards achieving salt balance – a key Watershed goal and indicator of sustainability. Salt is removed from brackish groundwater by reverse osmosis desalters, which discharge the concentrated brine into the Brine Line. The treated water from the desalters is delivered for consumption as potable water. Brine disposal will be essential to support water recycling efforts and economic growth within the Watershed.

Integrated Regional Watershed Planning (IRWP)

SAWPA has been involved in watershed and regional integrated water resource planning since its formation. The Santa Ana River Watershed Integrated Regional Water Management Plan (IRWMP) called the One Water One Watershed (OWOW) was first adopted in 2010 and updated twice since then, in 2014 and 2018. All OWOW plans (2010, 2014 and 2018) reflect a comprehensive view of the watershed and water issues encompassing all sub-regions, political jurisdictions, water agencies, and non-governmental stakeholders in the Santa Ana River Watershed.

In an extension of the foundational work of the OWOW Plan, SAWPA is developing a community-informed, stakeholder-driven, and implementation focused Climate Adaptation and Resilience Plan in support of funding regional planning and implementation projects that address the impacts of climate change risks in the Santa Ana River Watershed. Staff applied for funding from the Governor’s Office of Land Use and Climate Innovation (formerly Governor’s Office of Planning and Research) for the Integrated Climate Adaptation and Resiliency Program Regional Resilience Planning and Implementation Grant Program and was chosen to receive \$644,190 in grant funding. In FYE 2025 (July 2024), SAWPA executed the grant agreement for this funding.

In FYE 2025, SAWPA has served on the Steering Committee of the Statewide Roundtable of Integrated Regional Water Management (IRWM) Regions and provides guidance to the California Department of Water Resources on future grant solicitations. In FYE 2025, SAWPA managed the contract with the Roundtable of Regions Network Coordinator to ensure statewide coordination on IRWM planning. SAWPA staff also tracked the recently passed Proposition 4 Parks, Environmental, Energy and Water Bond Measure (Climate Bond) to provide the SAWPA member agencies updates.

Roundtables

The Authority has taken the lead role in establishing effective regional partnerships with the Regional Water Quality Control Board (RWQCB) and other stakeholders in the Watershed to solve water quality problems, as well as water and natural resource problems. The Authority serves as the administrator/facilitator and creates a neutral venue for a number of efforts bringing together many organizations to solve a multiplicity of problems through integration and innovation.

Economic Conditions and Outlook

Local Economy

The Inland Empire’s economy remained resilient through Fiscal Year 2025, supported by its diverse industry base and strategic role as a national logistics hub. Job growth continued at a moderate pace, led by healthcare, education, and professional services, while logistics employment stabilized amid cooling global freight activity and increased automation. Housing activity softened due to higher interest rates, though population growth and demand for rental housing remained strong.

Looking ahead to Fiscal Year 2026, the region is expected to experience steady but slower economic growth. Key drivers include infrastructure investment, continued expansion in healthcare and advanced manufacturing, and ongoing modernization within the goods-movement sector. Real estate markets are projected to stabilize as interest rates level off, though affordability challenges persist.

Overall, the Inland Empire enters FY 2026 with a stable economic outlook. While inflationary pressures and broader economic uncertainties present challenges, the region's strong fundamentals, population growth, geographic advantages, and industry diversity, continue to support long-term economic stability.

Sound Financial Policies

The Authority continues to manage funds to ensure financial stability and demonstrate responsible stewardship by sustaining reasonable rates for customers, containing costs through careful planning, preserving investments, safeguarding reserves, and active debt management.

Financial Planning

The Commission approves a biennial operating budget as a management tool. The budget is developed with input from the various departments within the organization and adopted prior to the start of each fiscal year. Monthly comparison reports of budget to actual are prepared, and quarterly budget to actual results by fund type are provided to and discussed with the Commission, along with financial position and other key performance information.

Reserves Policy

The Authority adopted a reserve policy, which states the purpose, source, and funding targets for each of its designated reserves. The reserves are essential for maintaining liquidity in the marketplace, which enables the Authority to access the lowest cost-of-capital borrowing opportunities.

Investment Policy

The Authority invests its funds in instruments permitted by California Government Code sections 53601 et seq., and in accordance with its investment policy. The investment objectives of the Authority are to first preserve capital, followed by maintaining liquidity, and finally, maximizing the rate of return without compromising the first two objectives.

Debt Administration

The Authority actively manages its debt portfolio, seeking to minimize its total debt costs. This goal is met by the use of state revolving fund (SRF) loans to fund part of its capital projects. Reserves will also be used to fund capital projects.

Major Initiatives and Accomplishments

The fiscal year ending 2025 was a busy year for the Authority. While the Authority administered the day-to-day operations of the JPA, operated the Brine Line Enterprise and Capital Improvement Program, administered the OWOW Program, including several grant programs, served as the Lake Elsinore & San Jacinto Watersheds Authority administrator, conducted regional planning activities, and facilitated many stakeholder task force work groups. The Authority continued work on a new planning project, developing the Santa Ana River Watershed Climate Adaptation and Resilience Plan (CARP). Some of the major accomplishments for fiscal year 2025 are listed on the following pages.

Brine Line Enterprise

Engineering

- Completed the Brine Line Master Plan.
- Completed the draft Reach IV-B condition assessment. The Final Report is anticipated to be completed in September 2026.
- Completed the Reach IV Condition Assessment Final Report.
- Completed the Reach IV-D Condition Assessment Final Report.
- Updated the Brine Line 10-Year Capital Improvement Plan.
- Initiated review of the Brine Line solids imbalance and billing formula. Commenced the monitoring program phase at discharger site locations and the SARI Metering Station.
- Completed and executed an agreement with SBVMWD for the purchase of 0.505 MGD of Treatment and Disposal Capacity for Yucaipa Valley Water District.
- Executed a License Agreement with AT&T to remove existing telecommunication poles and install a new telecommunications conduit in SAWPA's property on Reach IV.
- Issued a request for proposal (RFP) for the Brine Line Pretreatment Program data management system.
- Issued an RFP for the Brine Line SCADA specification and work plan, selected a consultant and awarded a contract.
- Continued to implement the Pretreatment Program (PTP). Performed 50 on-site discharger inspections, 74 monitoring (or sampling) events at discharger locations, 52 monitoring (or sampling) events at the Santa Ana Regional Interceptor (SARI) Metering Station and reissued 19 existing permits.
- Submitted 14 reports (monthly, quarterly, semi-annual and annual) to Orange County Sanitation District (OC San) detailing, at a minimum, pretreatment program activities and industrial compliance.
- Continued to coordinate efforts that represent SAWPA's interests with OC San through the Joint Policy Committee and the Joint Operations Committee.

Operations

- Prepared an RFP and awarded contracts for on-call services for various activities for Brine Line operations.
- Completed an audit of the Sanitary Sewer System Management Plan (SSMP).
- Updated the SSMP to fully comply with the audit findings and the new Waste Discharge Requirements and uploaded the SSMP to the State Water Resources Control Board (SWRCB) website.
- Updated the Sewer Emergency Response Plan (SERP). Conducted a workshop with member agencies and the RWQCB to review the SERP.
- Received and reviewed 3,689 USA Dig-Alert tickets.
- Installed 19 new frame and cover assemblies on Reach IV, IV-A and IV-D.
- Completed 46,700 feet of right-of-way maintenance on Reach IV, IV-A and IV-B.
- Inspected 136 maintenance access structures (MAS) on Reach IV, IV-A, IV-B, IV-D, IV-E and V.
- Rehabilitated 18 MAS on Reach IV, IV-A, IV-B and IV-D.
- Exercised valves on Reach V.
- Maintained the Brine Line Operations Center (BLOC).
- Maintained 49 air release and vacuum valves on Reach IV-B, IV-E and V.
- Completed 21 potholes to locate the Brine Line on Reach IV-B, IV-D, IV-E and V.
- Completed inspection of 16,000 linear feet of pipeline.
- Completed line cleaning and inspection of 5,600 linear feet of pipeline.

OWOW Program

OWOW and Integrated Regional Watershed Management (IRWM) Support

- Managed Roundtable of Regions contract with WSC, Inc. and served on the Roundtable of Regions Steering Committee. Successfully managed this project by ensuring the 12 funding partners are kept apprised of the contract and ensuring WSC, Inc. completed tasks on time and within budget.
- Estimated location of the invasive and high water-using weed *Arundo Donax* was mapped using 2021 high resolution imagery. SAWPA compared the location of *Arundo* plant stands to the amount of *Arundo* that was mapped in 2011 by the California Invasive Plant Council.

Proposition 1 IRWM Implementation Grants

Box Springs Mutual Water Company Well Improvement Project

- Implemented the three-party grant project sub-agreement with California Rural Water Association (CRWA) and Box Springs Mutual Water Company which has an award of \$1.9 million in grant funding from the DWR through the Proposition 1 Round 2 Grant Program.
- Coordinated with CRWA staff on the implementation of the project.

Water Use Efficiency

- Coordinated with Bureau of Reclamation (BOR) to successfully quantify outdoor landscape features using geographic information system-based deep learning tools. In FYE 2025, BOR finalized the imagery analysis to identify, and measure irrigated and

irrigable outdoor landscape for retail water agency services areas located in the upper watershed and portion of the Santa Margarita Watershed.

Disadvantaged Community Involvement (DACI) Grant Program

- Coordinated with each of the project proponents on the implementation of projects funded through the Department of Water Resources (DWR) 2021 Urban and Multi-benefit Drought Relief Grant Program. These include:
 - Box Springs Mutual Water Company - Reservoir Improvement Project,
 - City of Colton - Production Well Rehabilitation Project,
 - Devore Mutual Water Company - Booster Pump Station and Valve Vault Project,
 - Marygold Mutual Water Company - Well 7 Rehabilitation and Systems Upgrade Project, and
 - City of Fullerton - Well 6 Rehabilitation Project.
- In FYE 2025, SAWPA in coordination with the five project proponents were successful in amending the DWR Urban and Multi-benefit Drought Relief Grant Agreement via Amendment No. 3. The amendment included revising the project deliverables and extending the term of the grant till March 31, 2026.

Santa Ana River Conservation and Conjunctive Use Program (SARCCUP)

- Executed the FYE 2026 task order with Woodard & Curran for continued programmatic support of SARCCUP.
- Held monthly SARCCUP meetings with the SAWPA member agency planning staff.
- Worked with the SARCCUP planning managers to execute amendment number 5 in February 2025. This request included moving the schedule back four months to account for completing two Santa Ana River tributary projects for the Santa Ana Sucker.
- In June 2025, SAWPA staff attended the Department of Water Resources Proposition 84 site inspections for SARCCUP, which received a \$55 Million Proposition 84 IRWM grant.

Lake Elsinore Algae Harvesting and Nutrient Removal Pilot Project

- Implemented the draft three party grant project sub-agreement with the Lake Elsinore and San Jacinto Watersheds Authority (LESJWA) and the City of Lake Elsinore which has an award of \$1.5 million in grant funding from the DWR through the Proposition 1 Round 2 Grant Program.

Santa Ana River Watershed Climate Adaptation and Resilience Plan

- Implemented the CARP alongside the Soboba Band of Luiseno Indians and the Inland Southern California Climate Collective (ISC3), the plan partners, in order to develop a community-informed plan for the Santa Ana River Watershed.
- Executed the \$644,190 grant agreement with the Governor's Office of Land Use and Climate Innovation to fund the CARP.
- Held the first Technical Advisory Committee (TAC) meeting in April 2025 and the first Community Advisory Panel (CAP) meeting in June 2025. The TAC and the CAP will oversee the development of the CARP. Quarterly meetings will be held where the TAC and CAP will receive progress updates, provide guidance, and technical input as work is completed.

- Consultant Woodard & Curran inventoried planning documents from agencies in the region to understand the climate risks and vulnerabilities experienced across the Santa Ana River Watershed.

Stakeholder Partnering (Roundtables)

Santa Ana Fish Conservation Team

- The Team conducted the annual Santa Ana River Habitat Survey (Survey) over two days in October 2024 with approximately 40 volunteers. The Survey is the longest running voluntary annual habitat assessment conducted in Southern California for an aquatic species.
- SAWPA compiled and tabulated all historical Survey data including an analysis of the past years' data sets. Worked on updating the Survey's annual report to share the results of the data collected.
- The Team approved implementing a Wintertime habitat survey with the purpose of getting a snapshot of native fish habitat (i.e. the same items as a normal Survey) but after stormflows. This pilot survey was conducted over two days on February 3 and 4, 2025.

Water Energy Community Action Network (WECAN)

- Continued working with the City of Riverside on Phase 3 of SAWPA's Water-Energy Community Action Network (WECAN) program through the City's Transformative Climate Communities (TCC) Program Grant awarded California Strategic Growth Council (SGC). Accomplishments included removing over 22,000 square feet of turf (through end of FYE 2025) and replacing it with drought tolerant landscaping, executing amendments for the grant agreement, increasing outreach and engagement in the community to encourage resident participation, and providing detailed observations to the city of Riverside and the SGC about program progress and implementation obstacles.

Basin Monitoring Program Task Force

- Managed consultant contract with CWE to monitor quarterly at three sites along the Santa Ana River.
- Staff prepared the draft 2024 Santa Ana River Annual Report for the Basin Monitoring Task Force, including taking into account the current and proposed definition of Santa Ana River Reach 3 "baseflow conditions" antidegradation objective in the Basin Plan. The report is a required deliverable of the task force which originated per the 2004 amendment to the Basin Plan, which the Task Force and Regional Board proposed/approved.
- Began implementation of the Reach 3 Special Study with consultant WSC, Inc. The study is an optional report that the Task Force is interested in implementing because they want to understand why past years' total dissolved solids (TDS) sampling is showing concentrations fluctuating around the 700 mg/L antidegradation objective in the Basin Plan.

Southern California Salinity Coalition (SCSC)

- Attended quarterly Board meetings.
- Attended Board meetings.

- Awarded fellowship grants for continued research on salinity management technologies as part of the SCSC student fellowship grant.

Lake Elsinore and San Jacinto Watersheds Authority (LESIWA)

- Prepared and submitted the 2023-2024 Annual Lake Elsinore and Canyon Lakes (LE& CL) total maximum daily load (TMDL) Water Quality Monitoring Report to the Regional Board.
- Implemented successful alum application to Canyon Lake in FYE 2025 to reduce the phosphorus content, reduce algae, and help meet the TMDL targets for the lake.
- Prepared and approved the fiscal year 2025-2026 budget for the Lake Elsinore & Canyon Lake TMDL Task Force.
- Coordinated with Task Force consultants and stakeholders on the preparation and review of regulatory documents to update the LE&CL TMDLs.
- Coordinated with Lake Elsinore Aeration and Mixing System (LEAMS) Operators and their consultants on the LEAMS Alternatives Study.
- The LE&CL TMDL Task Force coordinated with Regional Board staff on preparation of language to update the Basin Plan and to revise the TMDL Technical Report. The proposed revisions are scheduled to go before the Regional Board for adoption at the July 25, 2025, Regional Board Workshop.
- The LE&CL TMDL Task Force created a sub-committee to develop guidelines for defining minor source contributors and their responsibilities as Task Force participants.

Middle Santa Ana River (MSAR) TMDL Task Force

- Prepared and approved the fiscal year 2025-2026 budget for the task force.
- Completed the 2024-2025 MSAR TMDL compliance monitoring and submitted a final report to the Regional Board.
- The MSAR TMDL Task Force coordinated with Regional Board staff on preparing language to update the Basin Plan and to revise the TMDL Technical Report.
- The MSAR TMDL Task Force kicked off an effort to conduct a synoptic water quality study and prepare the 2026 Triennial Report in support of the Middle Santa Ana River Bacterial Indicator TMDLs.

Regional Water Quality Monitoring Task Force

- The Task Force prepared the 2024-25 Santa Ana River Regional Bacteria Monitoring Report for submittal to Regional Board on behalf of the Regional Water Quality Monitoring Task Force and Middle Santa Ana River Bacterial Indicator TMDL Task Force in conjunction with the San Bernardino County and Riverside County MS4 Permits.
- Task Force initiated efforts to update the Santa Ana River Regional Bacteria Monitoring Program Monitoring Plan and Quality Assurance Project Plan to address proposed revisions to the monitoring program.
- Prepared and submitted the 2024-2025 Final Santa Ana River Bacteria Water Quality Monitoring Program to the Regional Board.

Emerging Constituents Program Task Force

- Tracked per and poly fluoroalkyl (PFAS) aquatic toxicology issues, microplastics regulatory developments at the State level, and microplastics research initiatives (shared by Southern California Coastal Water Research Project Authority).
- Consultant Kahn, Soares and Conway LLP (KSC) facilitated a discussion with the Task Force during their regular meeting on June 2023. The purpose of the planning discussion is for task force members to provide input on any possible future tasks/deliverables for the Task Force.
- Regulatory reports were provided quarterly by Tess Dunham of KSC, including items such as protocols for testing of microplastics in drinking water.
- Prepared and posted blog articles to the Your So Cal Tap Water website, as well as social media sites Facebook, Instagram, and Twitter.
- Implemented the new task order with JPW Communications for fiscal years 2024 and 2025. The task order included work to create videos and track social media metric.

Forest First

- Coordinated with SBVMWD on the partnership with the agency regarding the Headwaters Resiliency Partnership Task Force. Worked with SBVMWD to draft programmatic goals and long-term objectives for the task force, which will eventually be included in a charter agreement.
- Worked with the Cleveland and San Bernardino National Forests to resign the Forest First Memorandum of Understanding (MOU); the document was re-signed in April 2024.

Arundo Removal and Habitat Management

- Coordinated with Riverside County Regional Park and Open-Space District on exploring options to certify the Santa Ana River Mitigation Bank under the new California mitigation banking rules.
- Implemented year three of the Inland Empire Resource Conservation District (IERCD) project to treat and remove *Arundo Donax* from various waterways in the upper Santa Ana River Watershed (Headwaters Project).
- In November 2024, SAWPA reported the Commission that IERCD had discovered that the density and extent of *Arundo* in the 14 Headwaters Project areas were greater than originally anticipated when the project commenced in 2022.
- In Spring 2025, SAWPA worked with IERCD on Change Order No. 1 to IERCD contract, which increases the Project budget from \$147,777 to \$616,045 (a change of \$468,268).

PFAS Regional Analysis

- Continued to work on Phase 2 of the PFAS Regional Analysis project with partners. This involved updating an existing version of a SAR HSPF model to represent conditions through the end of 2022 and conducting watershed modeling to estimate baseline contributions of PFOA and PFAS in the upper Santa Ana River Watershed.

Technology

- Began Computer refresh project which will move users from Windows 10 to Windows 11. PCs have been ordered and are awaiting delivery, completion by October 2025.

- Managed new Great Plains (GP) support vendor Endeavor with desktop support and support for gathering information for new finance software recommendation.
- Designed, installed, and configured a new BLOC connection allowing staff direct access to the Authority network.
- Upgraded BLOC internet and hardware (Spectrum).
- New firewall installed and configured New Power Over Ethernet (POE) switch installed
- Secured VPN connection to main HQ firewall (BLOC users no longer need to sign in to VPN to reach files/applications stored at HQ multiple times a day).
- Improved network security by penetration tests and internal phishing campaigns.
- Continued to use KnowBe4 internal phishing campaigns to test staff on phishing.
- Proposition 1 Landscape Analysis and Decision Support Tool:
 - Performed QC checks, parsed landscape classification to meter service areas, and generated QC and landscape area statistics for upper watershed retailers.
 - Created ArcGIS Online Dashboard summarizing Landscape Analysis results for entire project.
- Added tool to download MAS inspections data from website.
- Added Dischargers map to website.
- Updated angular framework and JavaScript API library to keep the application running smoothly.
- Updated ArcGIS server software which provides maps for the website.
- Created Dig Alert, brine line construction and other maps for the website.
- Completed final two phases of the Arundo Identification Study using deep learning on aerial imagery.
- Created a story map of the Arundo Identification Study.
- Published Santa Ana Sucker Fish Habitat Survey cell phone application and downloaded data.
- Collected and processes data for Santa Ana River Annual Report and produced charts and maps for the report.
- Completed over 100 map requests for the Cloud Seeding Project.

Administration

Communications / Outreach

- Expanded the Authority's digital presence through consistent, strategic social media content supporting projects, programs, and regional initiatives.
- Finalized and launched the new SAWPA 50th Anniversary logo and associated brand materials.
- Designed and produced brochures, maps, fact sheets, and collateral for the Brine Line, ICARP, One Water One Watershed (OWOW), and other Authority programs.
- Updated agency-wide templates, PowerPoints, letterheads, signage, and forms to ensure visual and brand consistency.
- Enhanced communication workflows for internal and external announcements, meetings, and events.
- Coordinated media inquiries and supported regional messaging with partners and member agencies.
- Coordinated dignitary outreach, protocol planning, and resolution requests.
- Oversaw development of scripts, talking points, and event program materials.

- Improved internal communication practices between departments.
- Supported ICARP outreach by building relationships with Community-Based Organizations and local partners.
- Conducted community outreach at local events for ICARP.

Human Resources / Training

- Updated the Personnel Handbook; revised policies, Standard Operating Procedures (SOPs), and administrative workflows to support consistency and compliance.
- Advanced work on recruitment, onboarding, classification, performance management, and personnel practices.
- Improved the recruitment process through clearer workflows, updated templates, and enhanced communication with hiring managers.
- Implemented new employee onboarding resources and improved orientation processes.
- Onboarded new intern.
- Supported staff professional development, including certifications, conferences, and leadership programs across departments.
- Managed employee relations, performance documentation support, and policy interpretation.
- Secured an ACWA JPIA Wellness Grant and expanded employee wellness initiatives.
- Completed records management training.
- Developed and managed agency-wide trainings.
- Hosted All Hands Meetings, Holiday Luncheons.

Operations / Facilities / Finance

- Streamlined internal administrative procedures, including document storage, routing, calendaring, and project workflows.
- Supported Commission agendas, staff reports, resolution preparation, and meeting logistics.
- Coordinated multiple vendor contracts and renewals across departments.
- Assisted with the completion of the SAWPA Lobby Security Improvement project.
- Continued improving the facility environment through landscaping updates, workspace enhancements, and safety improvements.
- Updated procurement workflows to align with finance and policy requirements.

Conferences / Collaboration

- Participated in regional conferences, trainings, and collaborative outreach initiatives.
- Co-hosted the second annual Women in Water event with Western Municipal Water District, expanding regional networking and professional development opportunities.
- Strengthened collaboration with member agencies through joint communications, meetings, and project engagement materials.

Accounting System

The Finance Department is responsible for providing financial services for the Authority, including financial accounting and reporting, payroll, accounts payable and receivable, custody and investment of funds, billing and collection of wastewater charges, and other

revenues. The Authority accounts for its activities as an enterprise fund and prepares its financial statements on the accrual basis of accounting, under which revenues are recognized when earned and expenses are recorded when incurred. It is the intent of the Board of Commissioners to manage the Authority's operations as a business, thus matching revenues against the cost of providing services.

Internal Controls

The Authority operates within a system of internal accounting controls established and continually reviewed by management to provide reasonable assurance that assets are adequately safeguarded, and transactions are recorded in accordance with Authority policies and procedures. When establishing and reviewing controls, management must consider the cost of the control and the value of the benefit derived from its utilization. Management normally maintains or implements only those controls for which its value adequately exceeds its cost. Recent audits have not noted any weaknesses in internal controls.

Audit and Financial Reporting

State Law requires the Authority to obtain an annual audit of its financial statements by an independent certified public accountant. The accounting firm, C.J. Brown & Company CPAs, has conducted the audit of the Authority's financial statements. Their unmodified (clean) Independent Auditor's Report appears in the Financial Section.

Awards

The Government Finance Officers Association of the United States and Canada ("GFOA") awarded a Certificate of Achievement for Excellence in Financial Reporting to the Authority for its annual comprehensive financial report for the fiscal year ended June 30, 2024. This was the sixteenth year that the Authority has achieved this prestigious award. To be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized annual comprehensive financial report. This report must satisfy both GAAP and applicable legal requirements. A Certificate of Achievement is valid for a period of only one year.

We believe that our current annual comprehensive financial report continues to meet the program requirements and will submit our current June 30, 2025, report to the GFOA to determine its eligibility for a certificate.

The GFOA awarded a Distinguished Budget Presentation Award to the Authority for the two-year budget beginning July 1, 2023. In order to receive this award, a government unit must publish a budget document that meets program criteria as a policy document, as an operating guide, as a financial plan, and as a communication device.

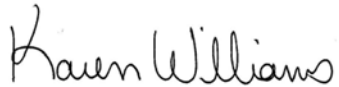
Acknowledgements

The preparation of this report could not have been accomplished without the efficient and dedicated services of the entire staff of the Authority's Finance Department. We also would like to express our appreciation to the other Authority Departments for their cooperation, assistance, and support.

We further acknowledge the thorough and professional manner in which our auditors, C.J. Brown & Company CPAs, conducted the audit.

Additionally, we would like to acknowledge the Board of Commissioners for their continued support of the Authority's goal of sound accountable financial management, and for maintaining the highest standards of professionalism in the management of the Authority's finances. We truly appreciate their unfailing interest and support.

Respectfully submitted,

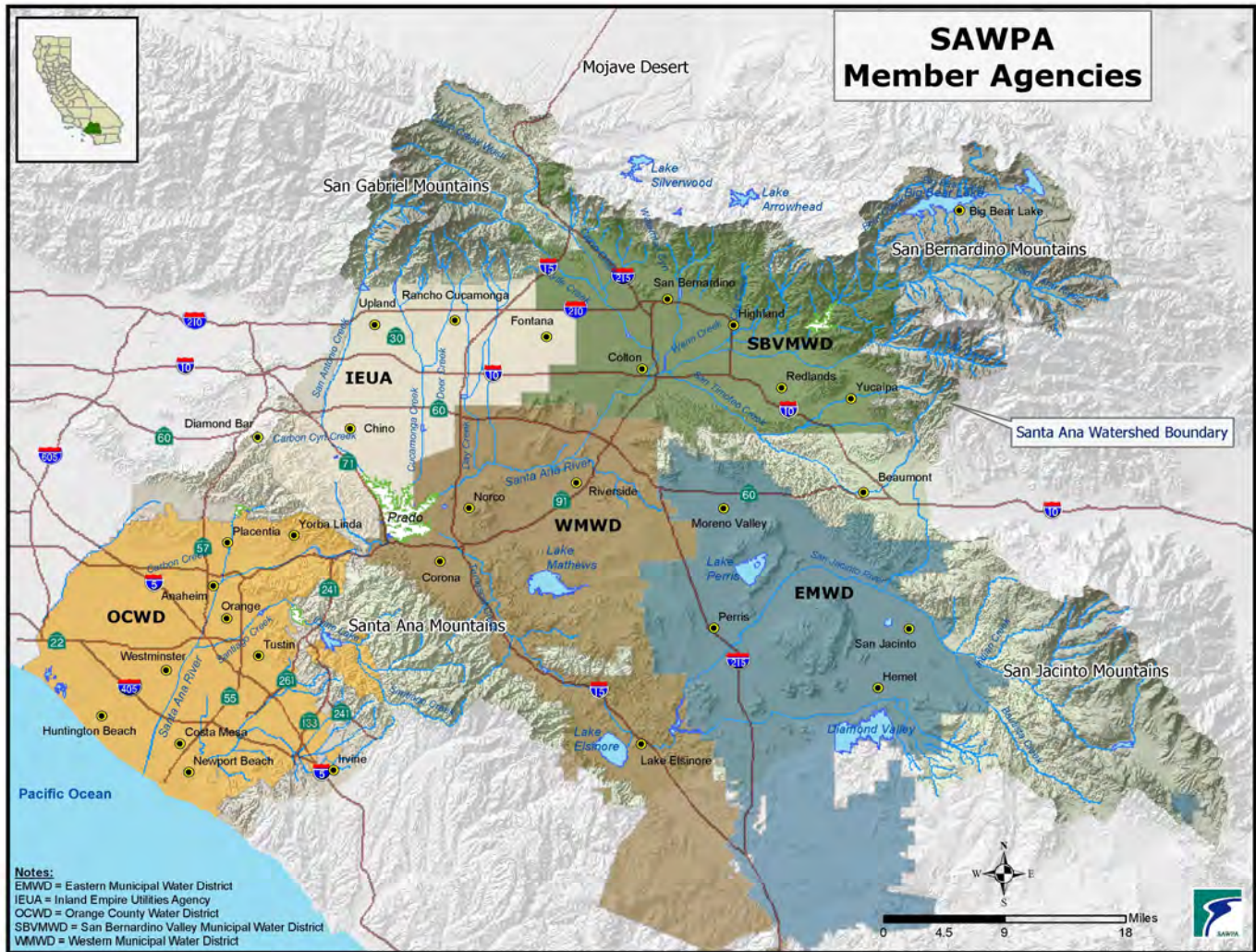
A handwritten signature in black ink that reads "Karen Williams". The signature is written in a cursive, flowing style.

Karen Williams
General Manager/Chief Financial Officer

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Santa Ana Watershed Project Authority

Authority Service Area Map



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**Santa Ana Watershed Project Authority
California**

For its Annual Comprehensive
Financial Report
For the Fiscal Year Ended

June 30, 2024

Executive Director/CEO

Santa Ana Watershed Project Authority

Authority Officials

Board of Commissioners

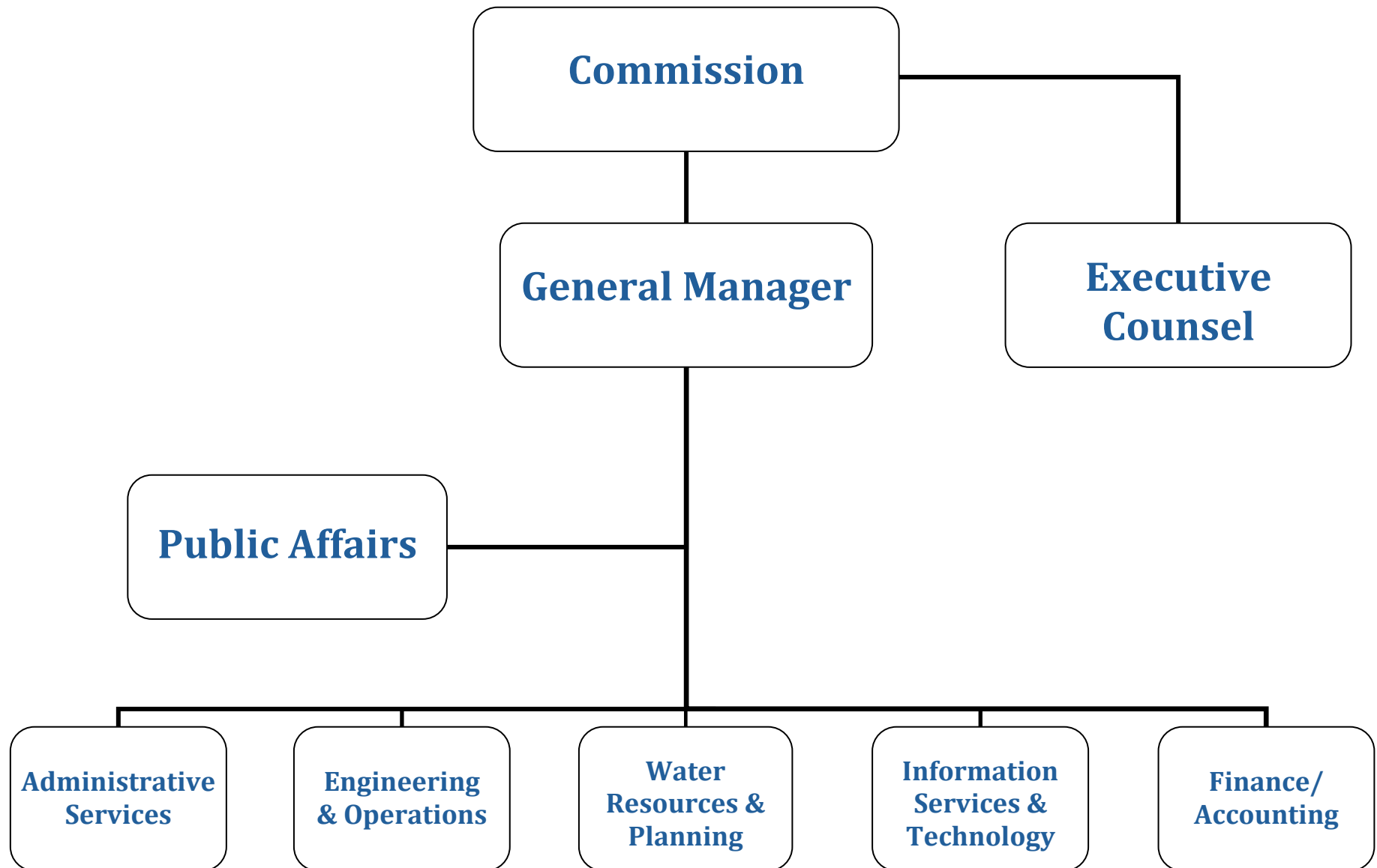
Mike Gardner	Chair	WMWD
Gil Botello	Vice Chair	SBVMWD
Philip E. Paulie	Secretary/Treasurer	EMWD
Jasmin A. Hall	Commission Member	IEUA
Denis Bilodeau	Commission Member	OCWD

Management Staff

Karen Williams	General Manager/Chief Financial Officer
David Ruhl	Executive Manager of Engineering & Operations
Erika Beyer	Water Resources and Planning Manager
Shavonne Turner	Administrative Services Manager
Dean Unger	IS and Technology Manager
Lagerlof LLP	Executive Counsel

Santa Ana Watershed Project Authority

Organizational Chart



FINANCIAL SECTION



Independent Auditor's Report

Board of Commissioners
Santa Ana Watershed Project Authority
Riverside, California

Report on the Financial Statements

Opinion

We have audited the accompanying financial statements of the Santa Ana Watershed Project Authority (Authority) as of and for the years ended June 30, 2025 and 2024, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Santa Ana Watershed Project Authority as of June 30, 2025 and 2024, and the changes in net position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audit contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the State Controller's Minimum Audit Requirements for California Special Authority's. Those standards require that we plan and perform our audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal controls relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Authority's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Independent Auditor's Report, continued

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Authority's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Independent Auditor's Report, continued

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the required supplementary be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquires of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquires, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The introductory section, the supplementary information of combining schedules, and the statistical section are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The supplementary information of combining schedules is the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Independent Auditor's Report, continued

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued a report dated [ISSUE DATE], on our consideration of the Authority's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements, and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control over financial reporting and compliance. This report can be found at the end of this report.

C.J. Brown & Company, CPAs
Cypress, California
[ISSUE DATE]

Working Draft Subject to Review

The intent of the Management Discussion and Analysis is to provide highlights of the financial activities for the fiscal years ended June 30, 2025, and 2024 of the Santa Ana Watershed Project Authority (the "Authority"). Readers are encouraged to read this section in conjunction with the transmittal letter and the accompanying basic financial statements.

The Authority

The Authority was formed in 1975 pursuant to the provisions of Article 1, Chapter 5, Division 7, Title 1 of the Government Code of the State of California relating to the joint exercise powers common to public agencies. The Authority was formed for the purpose of undertaking projects for water quality control and protection as well as pollution abatement in the Santa Ana River Watershed.

The Authority's five member agencies are Eastern Municipal Water District (EMWD), Inland Empire Utilities Agency (IEUA), Orange County Water District (OCWD), San Bernardino Valley Municipal Water District (SBVMWD), and Western Municipal Water District (WMWD).

Overview of the Financial Statements

The Authority is a special purpose government (special district) engaged only in activities that support themselves through user charges and member contributions. Accordingly, the accompanying financial statements are presented in the format prescribed for proprietary funds by the Governmental Accounting Standards Board (GASB).

These financial statements consist of three interrelated statements designed to provide the reader with relevant, understandable data about the Authority's financial condition and operating results. They are the (1) Statement of Net Position; (2) Statement of Revenues, Expenses, and Changes in Net Position; and (3) Statement of Cash Flows.

The Statement of Net Position presents information on all the Authority's assets, deferred outflows of resources, liabilities, and deferred inflows of resources, with the difference between the four reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the Authority is improving or deteriorating.

The Statement of Revenues, Expenses, and Changes in Net Position presents information showing how the Authority's net position changed during the year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of timing of the related cash flows. Thus, revenues and expenses are reported in this statement for some items that will only result in cash flow in future fiscal periods.

The Statement of Cash Flows conveys to financial statement users how the Authority managed cash resources during the year. This statement converts the change in net position presented on the Statement of Revenues, Expenses, and Changes in Net Position into actual cash provided by and used in operations. The Statement of Cash Flows also details how the Authority obtains cash through financing and investing activities, and how cash is spent for these purposes.

Summary Financial Information and Analysis

The Authority's financial operations remained sound during the fiscal year 2025. Sources of revenue were sufficient to cover combined operating and non-operating costs. The Statement of Net Position remains strong, providing a foundation for continued growth within the Authority's service area. As noted earlier, net position may serve over time as a useful indicator of a government's financial position. In the case of the Authority, assets and deferred outflows of resources exceeded liabilities and deferred inflows of resources by \$94.5 million at June 30, 2025, by \$87.6 million at June 30, 2024, and by \$80.0 million at June 30, 2023.

Statements of Net Position

For the Fiscal Years Ended June 30, 2025, 2024, and 2023

	Fiscal Year End June 30,				
	2025	2024	Increase/ (Decrease)	2023	Increase/ (Decrease)
Assets					
Current	\$100,988,932	\$83,217,581	\$17,771,351	\$77,062,238	\$6,155,343
Non-current	628,803	369,212	259,591	824,407	(455,195)
Capital	88,919,660	92,521,424	(3,601,764)	93,314,330	(792,906)
Total assets	190,537,395	176,108,217	14,429,178	171,200,975	4,907,242
Deferred outflows	1,906,602	2,636,976	(730,374)	2,984,563	(347,587)
Liabilities					
Current	17,944,473	11,679,775	6,264,698	10,610,023	1,069,752
Non-current	79,161,503	78,627,738	533,765	83,297,932	(4,670,194)
Total liabilities	97,105,976	90,307,513	6,798,463	93,907,955	(3,600,442)
Deferred inflows	874,419	845,675	28,744	289,195	556,480
Net position					
Net investment in capital assets	69,016,710	71,336,614	(2,319,904)	70,815,204	521,410
Restricted	3,589,363	3,329,772	259,591	2,960,560	369,212
Unrestricted (Deficit)	21,857,529	12,925,619	8,931,99	6,212,624	6,712,995
Total net position	\$94,463,602	\$87,592,005	\$6,871,596	\$79,988,388	\$7,603,617

The following denotes explanations on some of the changes between fiscal years 2025 and 2024, as compared in the table on the previous page.

- The \$17.8 million increase in current assets is primarily due to higher investment balances and accounts receivable. Substantial interest earnings in fiscal year 2025, combined with capital contributions received from SBVMWD for the Agua Mansa Lateral, and the City of Beaumont's purchase of treatment capacity, significantly increased cash available for investment. Accounts receivable also rose as Proposition 84 Final Round grant neared completion, along with overall increases in other grant activity and Brine Line billings.
- The \$3.6 million decrease in capital assets is due to the continued depreciation and amortization of existing capital investments throughout fiscal year 2025.
- The \$0.7 million decrease in deferred outflows is due to changes in the current year actuarial valuation in addition to scheduled amortization of the deferred outflow balances.
- The \$6.3 million increase in current liabilities is due primarily because of higher accounts payable associated with the Proposition 84 Final Round grant closeout and other active grant projects.
- The \$0.5 million decrease in non-current liabilities is mainly due to the ongoing amortization of pipeline and wastewater treatment rights, coupled with reductions in long-term debt resulting from scheduled debt service payments.

The following denotes explanations on some of the changes between fiscal years 2024 and 2023, as compared in the table on the previous page.

- The \$6.2 million increase in current assets is primarily attributable to higher investment balances and increased accounts receivable. Fiscal year 2024 experienced substantial interest earnings, and the early repayment of the Agua Mansa Lateral loan further increased cash available for investment. Accounts receivable also rose due to the initiation of a new Proposition I Round II Capital Projects grant and overall increases in other grant and Brine Line billing activity.
- The \$0.5 million decrease in non-current assets is due to the payoff of the Agua Mansa Lateral loan during fiscal year 2024. This decrease was partially offset by a \$0.4 million increase in the net OPEB assets compared to the prior year.

- The \$0.8 million decrease in capital assets reflects depreciation and amortization of existing assets during fiscal year 2024. This was offset in part by an increase in capital assets not yet depreciated for the Agua Mansa Lateral Project.
- The \$1.1 million increase in current liabilities is due to higher accounts payable associated with Proposition I Round II Capital Projects and other grant activities.
- The \$4.7 million decrease in non-current liabilities is due primarily to the amortization of pipeline and wastewater treatment rights, repayment of the Agua Mansa Lateral loan, and reductions in long-term debt attributed to scheduled debt service payments.

Category of Net Position

The Authority is required to present its net position in three categories: (1) net investment in capital assets; (2) restricted; and (3) unrestricted.

Net Investment in Capital Assets

At June 30, 2025, 2024, and 2023, net investment in capital assets consisted of the following:

Net Investment in Capital Assets (In Millions)

	2025	2024	2023
Property, plant & equipment	\$163.0	\$160.1	\$159.9
Accumulated depreciation	(93.8)	(90.5)	(87.6)
Wastewater treatment and disposal rights	55.6	55.6	55.6
Accumulated amortization	(37.0)	(36.1)	(35.1)
Construction in process	1.0	3.4	0.5
Related payables and loans, net of discounts	(19.8)	(21.2)	(22.5)
Total	\$69.0	\$71.3	\$70.8

Restricted

At June 30, 2025, restricted net position of \$3.6 million is legally restricted by contract to fund additional Arundo Management and Habitat Restoration projects within the Santa Ana River Watershed, by the State Water Resources Control Board (SWRCB) for the State Revolving Fund (SRF) reserve requirement, and for the net OPEB asset. Please see Note 11 of the Notes to Financial Statements for further information.

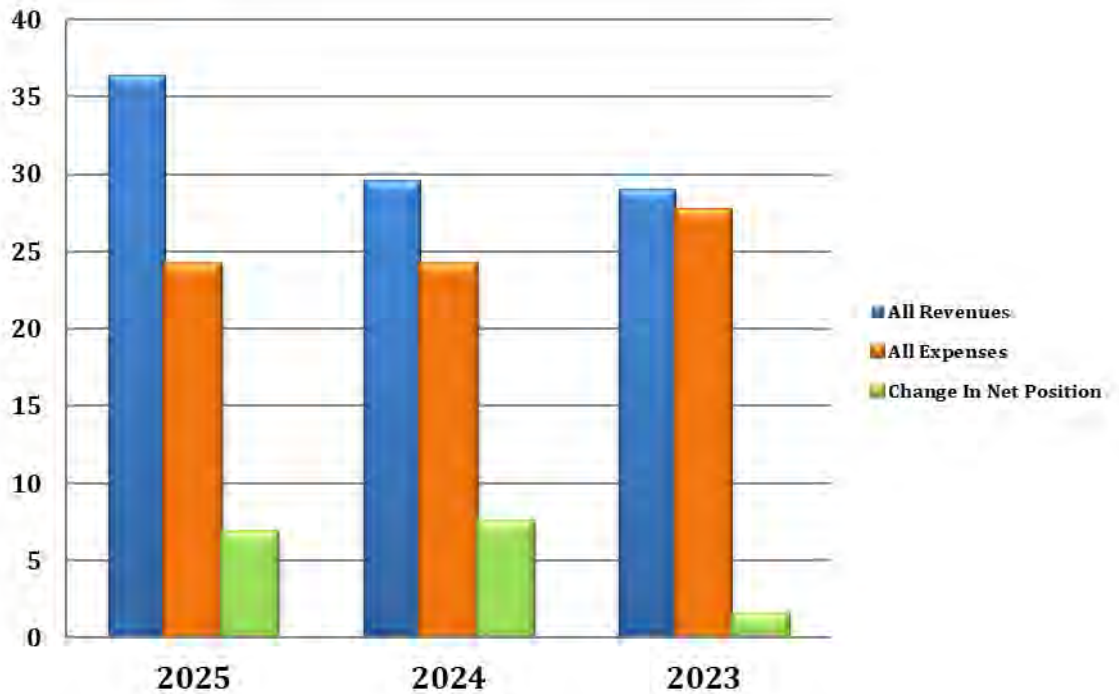
Unrestricted

At June 30, 2025, the Authority had an unrestricted net position of \$21.9 million. The Authority possesses \$57.0 million in unearned revenue being realized over a 50-year period of approximately \$2.6 million per year.

Change in Net Position

In the fiscal year ended June 30, 2025, net position increased by \$6.9 million primarily due to an increase in Investment Earnings and the sale of 0.505 MGD of treatment capacity to the City of Beaumont.

**Change in Net Position
(in millions)**



Statements of Revenues, Expenses, and Changes in Net Position

For the Fiscal Years Ended June 30, 2025, 2024, and 2023

Fiscal Year End June 30,					
	2025	2024	Increase/ (Decrease)	2023	Increase/ (Decrease)
Operating Revenues:					
WWT and disposal	\$13,037,789	\$13,047,884	(\$10,095)	\$12,319,657	\$728,227
WWT and disposal capacity rights	2,614,477	2,510,154	104,323	2,510,154	-
Program administration	142,100	153,460	(11,360)	203,714	(50,254)
Other operating revenues	15,182	3,186	11,996	7,708	(4,522)
Total operating revenues	15,809,548	15,714,684	94,864	15,041,233	673,451
Non-operating revenues:					
Member contributions	2,261,410	2,308,275	(46,865)	2,069,760	238,515
Intergovernmental	14,448,599	7,903,442	6,545,157	10,525,569	(2,622,127)
OPEB income – GASB 75	159,361	273,301	(113,940)	235,127	(38,174)
Investment earnings, net of fair value	3,856,464	3,438,677	417,787	1,134,643	2,304,034
Total non-operating revenues	20,725,834	13,923,695	6,802,139	13,965,099	(117,752)
Total revenues	36,535,382	29,638,379	6,897,003	29,006,332	555,699
Operating expenses:					
WWT and disposal	8,305,066	8,038,986	266,080	6,957,971	1,081,015
General, admin, and overhead	82,992	399,828	(316,836)	692,402	(292,574)
Studies and planning costs	2,660,903	3,104,665	(443,762)	3,405,256	(300,591)
Depreciation	3,193,945	3,085,805	108,140	3,069,476	16,329
Amortization of WWT and disposal rights	927,235	927,235	-	927,886	(651)
Total operating expenses	15,170,141	15,556,519	(386,378)	15,052,991	(503,528)
Non-operating expenses:					
Interest expense	446,768	479,119	(32,351)	503,989	(24,870)
Pension expense – GASB 68	1,175,064	1,271,247	(96,183)	2,912,634	(1,641,387)
Grant program expenses	12,871,812	6,893,893	5,977,919	9,201,690	(2,307,797)
Total non-operating expenses	14,493,644	8,644,259	5,849,385	12,618,313	(3,974,054)
Total expenses	29,663,785	24,200,778	5,463,007	27,671,304	(4,477,582)
Capital contributions	-	2,166,016	(2,166,016)	260,432	1,905,584
Change in net position	6,871,597	7,603,617	(732,020)	1,595,460	6,008,157
Beginning net position	87,592,005	79,988,388	7,603,617	78,392,928	1,595,460
Ending net position	\$94,463,602	\$87,592,005	\$6,871,597	\$79,988,388	\$7,603,617

Revenues

Combined revenues for the fiscal year 2025 totaled \$36.5 million, an increase of \$6.9 million, or 23.3%, more than the prior fiscal year. Key factors contributing to the year-over-year changes between fiscal years 2025 and 2024 include the following:

- The \$6.5 million increase in intergovernmental is primarily associated with the Proposition 84 Final Round grant nearing completion, resulting in a higher volume of invoices submitted by project proponents. In addition, Proposition I Round II projects commenced implementation in fiscal year 2025, further contributing to the increase in intergovernmental revenue compared to fiscal year 2024.
- The \$0.4 million increase in investment income reflects higher interest earnings due to rising interest rates, as well as favorable unrealized market value adjustments to the Authority's investment portfolio.

Combined revenues for the fiscal year 2024 totaled \$29.6 million, an increase of \$0.6 million, or 2.2%, more than the prior fiscal year. Key factors contributing to the changes between fiscal years 2024 and 2023 include:

- The \$0.7 million increase in WWT and disposal is attributable to higher flows and higher BOD and TSS concentrations in 2024, combined with increased rates for each component.
- The \$2.6 million decrease in intergovernmental is due to the majority of Proposition 1 Round I construction costs having been billed in fiscal year 2023. As a result, significantly fewer invoices were received in 2024. Additionally, Proposition I Round II grant agreements were executed late in fiscal year 2024, and project implementation was slower than anticipated.
- The \$2.3 million increase in investment income is due to higher interest rates and favorable changes in the unrealized market value of investments during fiscal year 2024.

Expenses

Combined expenses for the fiscal year 2025 totaled \$29.7 million, an increase of \$5.5 million, or 22.5% more than the prior fiscal year. Key factors driving the changes between fiscal years 2025 and 2024 are summarized below:

- The \$0.4 million decrease in Studies and Planning costs reflects planned reductions in study-related budgets for fiscal year 2025. Several task forces also experienced slower than anticipated progress in implementing scheduled studies and work plans.

- The \$6.0 million increase in grant program expenses is largely due to Proposition 84 Final Round projects nearing completion, resulting in higher billings from project proponents. In addition, Proposition I Round II projects began implementation in 2025, leading to increased expenditures compared to fiscal year 2024.

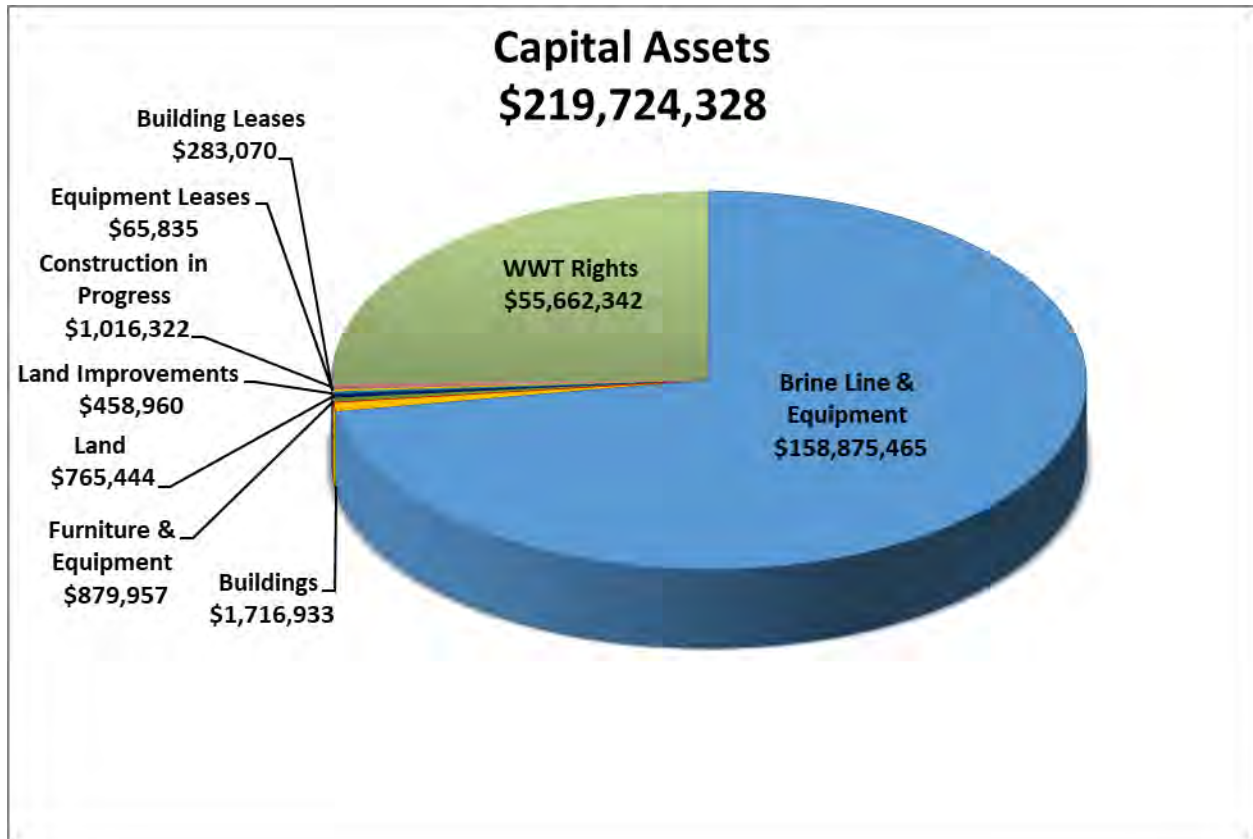
Combined expenses for the fiscal year 2024 totaled \$24.2 million, a decrease of \$3.5 million, or 12.5% more than the prior fiscal year. Key factors contributing to the changes between fiscal years 2024 and 2023 include:

- The \$1.1 million increase in WWT and disposal is due to higher flows and higher BOD and TSS concentrations, combined with rate increases across each component. Consulting expenses also increased in fiscal year 2024 as work advanced on the Brine Line Master Plan.
- The \$1.6 million decrease in pension expense – GASB 68 results from the CalPERS cost-share pool's investment loss, which lowered pension expense allocations proportionately across participating agencies within the pool.
- The \$2.3 million decrease in grant program expenses is due to the majority of Proposition 1 Round I construction costs being billed in fiscal year 2023. As a result, fewer billings were received in 2024. Proposition I Round II grant agreements were executed late in 2024 and project implementation has progressed slowly.

Capital Assets

Existing Capital Assets

The following chart is the composition of the Authority's total capital assets, not including depreciation and amortization, as of June 30, 2025; additional information can be found in Note 5 of the Notes to Financial Statements.



A comparison of the changes by major category between the current and prior fiscal years is provided in the Category of Net Position section on page 8 of this report.

Future Capital Improvements

The capital improvements program (CIP) includes annual capital repairs to correct pipeline and MAS defects identified during closed circuit television (CCTV) and direct visual inspection. The repairs include items such as sealing pipe joints with major groundwater infiltration, repairing MAS and pipe corrosion protection (plastic "T-Lok" type liner), and completing repairs where structure corrosion has occurred.

The Brine Line Reach 4-D was constructed in the early 1990's and runs from the intersection with Reach 4-A in the City of Chino approximately 21 miles East to the intersection with Reach 4-E in the City of Rialto. About 7 miles of the Brine Line Reach 4-D consists of T-Lok Lined 42-inch reinforced concrete pipe (RCP). The T-Lok lining is a polyvinyl chloride (PVC) lining on the interior circumference of the pipe that provides a protective corrosion barrier between the flow and concrete pipe. The T-Lok lining on this portion of the Brine Line was installed on the upper 270 degrees of the pipeline leaving the invert or bottom 90 degrees of the pipe unlined. Low flows during the initial years of operation placed the flow line below the termination of the T-Lok liner and exposed the concrete to corrosion and uplifting of the T-Lok liner. A consultant was hired in March 2018 to conduct a pipeline condition assessment, evaluate the condition and remaining useful life of this portion of the Reach 4-D pipeline, and prepare the Reach 4-D Work Plan. The pipeline field investigation work was completed in May 2018. The Final Reach 4-D Rehabilitation Work Plan was completed in November 2018. The Work Plan includes an evaluation of potential repair methods, near, mid- and long-term recommended actions to monitor the condition of the Brine Line and provide repairs as necessary in the future, and a schedule and cost estimate for the proposed recommendations. A consultant was hired in May 2019 to conduct the near-term recommended actions. The near-term recommended field investigation work was completed in May 2019. The Reach 4-D Near-term Recommended Inspections Data Analysis and Summary Report was completed in July 2019. The Near-Term Actions Summary Report concluded that the findings presented in the Reach 4-D Work Plan remain valid, and the recommendations provided remain unchanged. A consultant was hired in September 2023 to conduct the mid-term recommended actions. The mid-term field investigation was completed in February 2024. The Data Analysis and Summary Report for the Brine Line Reach 4-D Rehabilitation Work Plan Mid-term Recommended Inspections Final Report was completed in November 2024. The Final Report includes an evaluation of potential repair methods and near, mid-and long-term recommended actions to monitor the condition of the Brine Line. The near-term recommendations include minor repair work and CCTV inspections within 2 years. The mid-term recommended action included reinspection in 5 to 10 years. A phased approach to repair Reach 4-D was recommended for the long-term. The sections with the highest degree of deterioration would be addressed in Phase 1 with a timeline of 10 to 15 years. The remainder of the segments would be addressed in Phase 2 with a timeline of more than 20 years.

A portion of Reach IV-B was constructed with 36-inch cement-mortar lined ductile iron pipe (DIP) in the late 1990s and is over 25 years old. Corrosion (both external and internal) is the main factor that can affect the structural integrity of the pipe. Over time defects in the lining system can develop due to excessive wear, scaling, water chemistry, and various cleaning methods. An assessment of the condition of the lining system and pipe can identify potential issues and actions needed to extend the remaining useful life of the system. A consultant was hired in February 2023 to conduct a condition assessment on the DIP portion of Reach IV-B. The field investigation work was completed in May 2023. The Field Investigation Plan Findings and Rehabilitation Recommendations Report – Reach IV-B was completed in June 2024. The Final Report includes an evaluation of potential repair methods and near, mid-and long-term recommended actions to monitor the

condition of the Brine Line. The near-term recommendations include minor repair work, CCTV inspections and the addition of new maintenance access structures to provide access needed to assist with cleaning and assessment. The mid-term recommended action included reinspection in the next 7 to 10 years. A long-term solution is anticipated in the next 10 to 20 years. A consultant was hired in December 2025 to design the new maintenance access structures as recommended in the Final Report.

Collection of real-time flow and quality information increases SAWPA's ability to monitor, operate and control the Brine Line system. Furthermore, real-time data gathering allows SAWPA to monitor system dischargers on a continuous basis, thereby recording potential discharge violations, exceedance of capacity ownership and facilitating future pretreatment enforcement. Finally, a real-time understanding of each discharger's flow and strength characteristics will allow for a more equitable distribution of costs between the dischargers. For these reasons, a Supervisory Control and Data Acquisition (SCADA) based system is necessary for the purpose of data collection, evaluation, and management. It is recommended that the SCADA-based system be implemented (more for data acquisition than control at this time), with data collection and transmittal devices installed at each discharger location and at five (5) in-line monitoring locations. The SCADA system concept was originally investigated by SAWPA in 2010, as part of the Santa Ana Watershed Salinity Management. A SCADA-based system was recommended to be implemented in 2024, as part of the Inland Empire Brine Line Master Plan. A consultant was hired in May 2025 to prepare a project design specification and SCADA Work Plan as recommended in the Brine Line Master Plan. Design will be completed in Fiscal Year 2026, and construction is anticipated to commence in Fiscal Year 2027 and be phased over several years.

The City of Chino is planning to construct a bridge along Euclid Avenue (State Hwy 83) between State Route 71 and Pine Avenue. The project location is within the Prado inundation area that tends to flood in above average wet years. The project will raise Euclid Avenue by constructing an elevated roadway to maintain access during flooding events. The Brine Line Reach IV-A and Reach IV-D are located within the project limits. The bridge construction and location have the potential to impact approximately 200 feet of 27-inch pipe on Reach IV-A and approximately 5,000 feet of 42-inch pipe on Reach IV-D. Due to the construction and various constraints in the location of the elevated roadway, the Brine Line is impacted due to interference with several concrete pilings that support the structure, increased fill and retaining walls over the brine line. SAWPA staff is working closely with the City of Chino to gain an understanding of the impacts and to explore all alternatives including cost share opportunities to maintain the structural integrity of the Brine Line which may include protection measures and relocation of the Brine Line.

Long-Term Debt

The Authority's long-term debt consists of a loan from the SWRCB for repairs of Reach IV-A and IV-B, a loan from the SWRCB for the Reach V Capital Repairs project, and leases payable.

During the fiscal years ended June 30, 2025, 2024, and 2023, the Authority made all of the scheduled principal payments on these debts as follows:

Debt Service	2025	2024	2023
SWRCB Reach IV-A & IV-B	\$828,873	\$807,868	\$787,396
SWRCB Reach V Capital Repairs	423,422	415,527	407,779
Leases Payable	107,915	90,921	61,599

These payments decreased the outstanding balance in long-term debt by \$1.4 million. For more detailed information refer to Note 7 of the Notes to Financial Statements.

Fiscal Year 2025-2026 Budget

Economic and Financial Factors

The Inland Empire's economy is poised for continued growth in 2026, supported by strong sectors like logistics, housing, and manufacturing. The region's strategic location for trade and distribution, coupled with a thriving residential market and recovering tourism industry, positions it for a robust year ahead. However, challenges such as rising interest rates, labor shortages, water scarcity, and escalating housing costs could temper some of this growth. To ensure sustained prosperity, the region will need to prioritize infrastructure investments, workforce development, and adaptability to economic and environmental changes.

The Authority's Commission and management have carefully considered these dynamics in preparing the Fiscal Year 2025 - 2026 Budget. Strategic goals and objectives have been central to the budgeting process, guiding projections, and resource allocation. In response to inflationary pressures, staff will focus on optimizing operational efficiency and implementing cost-cutting measures. These efforts aim to reduce overall expenses, with the goal of passing savings on to member agencies through lower fees and reduced contributions.

The approved budget is the Authority's tenth biennial budget and will help to continue the long-range planning effort for Agency operations. The total combined budget for both years is \$55.9 million, which consists of \$41.6 million or 75% for operating expenses, \$3.4 million or 6% for debt service, \$5.0 million or 9% for reserve contributions and \$5.8 million or 10% in Capital Program expenses. Available to cover those expenses are revenues of \$55.2 million and \$0.7 million from fund balances.

The Authority is confronted with a substantial \$70 million Capital Improvement Program spanning the next 10 years. To guarantee the availability of funds for program implementation, the Authority has undertaken a comprehensive long-term financial plan

and rate model specifically tailored for the Brine Line. This model serves as a pivotal financial planning tool. Meticulously designed to ascertain that revenues are not only adequate for meeting day-to-day operational requirements but also for fulfilling capital needs. Furthermore, the model plays a crucial role in establishing a robust financial foundation for the creation and maintenance of a long-term capital repair and replacement reserve.

In essence, the financial plan and rate model serve as strategic instruments, aligning revenue generation with both immediate operational necessities and the imperative to accumulate funds for sustaining the integrity of the Brine Line infrastructure over an extended period. This proactive approach ensures that the Authority remains well-positioned to address not only current obligations but also future challenges, thereby fostering resilience and sustainability in the face of evolving capital demands.

Management is unaware of any other conditions that could have a significant past, present, or future impact on the Authority's current financial position, net position, or operating results.

Contacting the Authority's Financial Management

This financial report is designed to provide a general overview of the Authority's finances for the Board of Commissioners, customers, investors, creditors, and other interested parties. Questions concerning any information provided in the report or requests for additional information should be addressed to the Authority's Finance Department, 11615 Sterling Avenue, Riverside, CA 92503.

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Basic Financial Statements

Working Draft Subject to Review

Santa Ana Watershed Project Authority
Statements of Net Position – Proprietary Funds
June 30, 2025 and 2024

	Business-type Activities Enterprise Fund	
	2025	2024
Current assets:		
Cash and cash equivalents (note 2)	\$ 65,475,255	50,625,527
Cash and cash equivalents – held for mitigation (note 2)	703,933	749,289
Investments (note 2)	13,271,315	15,920,557
Interest receivable	706,520	560,242
Accounts receivable	2,151,474	3,709,204
Accounts receivable – grants	16,388,218	9,297,920
Accounts receivable – other	5,930	12,109
Prepaid expenses and other assets	375,727	432,173
Mitigation credits (note 4)	1,910,560	1,910,560
Total current assets	100,988,932	83,217,581
Non-current assets:		
Capital assets not being depreciated (note 5)	1,781,766	4,176,632
Depreciable capital assets, net (note 5)	87,137,894	88,344,792
Net OPEB asset (note 8)	628,803	369,212
Total non-current assets	89,548,463	92,890,636
Total assets	190,537,395	176,108,217
Deferred outflows of resources:		
Deferred OPEB outflows of resources (note 8)	200,556	313,228
Deferred pension outflows of resources (note 9)	1,706,046	2,323,748
	\$ 1,906,602	2,636,976

Continued on next page

See accompanying notes to the basic financial statements.

Santa Ana Watershed Project Authority
Statements of Net Position – Proprietary Funds, continued
June 30, 2025 and 2024

	Business-type Activities Enterprise Fund	
	2025	2024
Current liabilities:		
Accounts payable and accrued expenses	\$ 16,006,949	9,840,223
Accrued salaries and wages	128,718	106,304
Accrued interest payable	155,480	169,640
Customer deposits	-	667
Long-term liabilities – due within one year:		
Compensated absences (note 6)	261,822	222,681
Leases payable (note 7)	109,613	87,965
Loans payable (note 7)	1,281,891	1,252,295
Total current liabilities	<u>17,944,473</u>	<u>11,679,775</u>
Non-current liabilities:		
Unearned revenue (note 10)	57,030,926	55,159,506
Long-term liabilities due in more than one year:		
Compensated absences (note 6)	610,919	519,590
Leases payable (note 7)	35,713	86,926
Loans payable (note 7)	18,475,733	19,757,624
Net pension liability (note 9)	3,008,212	3,104,092
Total non-current liabilities	<u>79,161,503</u>	<u>78,627,738</u>
Total liabilities	<u>97,105,976</u>	<u>90,307,513</u>
Deferred inflows of resources:		
Deferred OPEB inflows of resources (note 8)	138,055	238,275
Deferred pension inflows of resources (note 9)	736,364	607,400
	<u>874,419</u>	<u>845,675</u>
Net position: (note 11)		
Net investment in capital assets	69,016,710	71,336,614
Restricted for:		
SRF Reach IV-A & IV-B reserve requirement	1,050,000	1,050,000
Mitigation	1,910,560	1,910,560
Net OPEB asset	628,803	369,212
Unrestricted	21,857,529	12,925,619
Total net position	<u>\$ 94,463,602</u>	<u>87,592,005</u>

See accompanying notes to the basic financial statements.

Santa Ana Watershed Project Authority
Statements of Revenues, Expenses, and Changes in Net Position – Proprietary Funds
For the Fiscal Years Ended June 30, 2025 and 2024

	Business-type Activities Enterprise Fund	
	2025	2024
Operating revenues:		
Wastewater treatment and disposal	\$ 13,037,789	13,047,884
Wastewater treatment and disposal – capacity rights	2,614,477	2,510,154
Program administration	142,100	153,460
Other	15,182	3,186
Total operating revenues	15,809,548	15,714,684
Operating expenses:		
Wastewater treatment and disposal	8,305,066	8,038,986
General and administrative	82,992	399,828
Studies and planning costs	2,660,903	3,104,665
Total operating expenses:	11,048,961	11,543,479
Operating income before depreciation and amortization	4,760,587	4,171,205
Depreciation and amortization expense	(3,193,945)	(3,085,805)
Amortization of disposal rights	(927,235)	(927,235)
Total depreciation and amortization	(4,121,180)	(4,013,040)
Operating income	639,407	158,165
Non-operating revenues (expenses):		
Member contributions	2,261,410	2,308,275
Intergovernmental	14,448,599	7,903,442
Pension (expense) income – GASB 68 (note 8)	(1,175,064)	(1,271,247)
OPEB income – GASB 75 (note 9)	159,361	273,301
Investment earnings, net of fair value	3,856,464	3,438,677
Grant program expenses	(12,871,812)	(6,893,893)
Interest expense	(446,768)	(479,119)
Total non-operating revenues, net	6,232,190	5,279,436
Capital contributions:		
Rialto Bioenergy	-	1,389,215
San Bernardino Valley Municipal Water District	-	776,801
Total capital contributions	-	2,166,016
Change in net position	6,871,597	7,603,617
Net position – beginning of year	87,592,005	79,988,388
Net position – end of year	\$ 94,463,602	87,592,005

See accompanying notes to the basic financial statements.

Santa Ana Watershed Project Authority
Statements of Cash Flows – Proprietary Funds
For the Years Ended June 30, 2025 and 2024

	Business-type Activities Enterprise Fund	
	2025	2024
Cash flows from operating activities:		
Cash received from customers	\$ 22,495,065	13,710,909
Cash payments to employees	(4,366,105)	(4,111,167)
Cash payments to suppliers	(3,154,008)	(8,574,114)
Cash provided by operating activities	14,974,952	1,025,628
Cash flows from non-capital financing activities:		
Member contributions	2,261,410	2,308,275
Other governments	7,358,301	7,049,161
Grant program expenses	(12,871,812)	(6,893,893)
Cash (used in) provided by non-capital financing activities	(3,252,101)	2,463,543
Cash flows from capital and related financing activities:		
Acquisition and construction of capital assets	(519,416)	(3,220,134)
Proceeds from capital contributions	-	776,801
Proceeds from acquisition of long-term debt	78,350	-
Principal payments on long-term debt	(1,360,210)	(1,314,316)
Interest paid on long-term debt	(460,928)	(490,253)
Cash used in capital and related financing activities	(2,262,204)	(4,247,902)
Cash flows from investing activities:		
Purchase of investments	(3,384,694)	(4,978,260)
Proceeds from sale of investments	5,018,233	1,667,336
Principal received on loan receivable	-	1,084,839
Interest received	3,710,186	3,282,764
Cash provided by investing activities	5,343,725	1,056,679
Net increase in cash and cash equivalents	14,804,372	297,948
Cash and cash equivalent – beginning of year	51,374,816	51,076,868
Cash and cash equivalent – end of year	\$ 66,179,188	51,374,816
Reconciliation of cash and cash equivalents to the Statements of Net Position		
Cash and cash equivalents	65,475,255	50,625,527
Cash and cash equivalents – restricted	703,933	749,289
Total cash and cash equivalents	\$ 66,179,188	51,374,816

Continued on next page

See accompanying notes to the basic financial statements.

Santa Ana Watershed Project Authority
Statements of Cash Flows – Proprietary Funds, continued
For the Years Ended June 30, 2025 and 2024

	Business-type Activities Enterprise Fund	
	2025	2024
Reconciliation of operating loss to net cash provided by operating activities:		
Operating income (loss)	\$ 639,407	158,165
Adjustments to reconcile operating loss to net cash provided by operating activities		
Depreciation and amortization	3,193,945	3,085,805
Amortization of disposal rights	927,235	927,235
Changes in assets and liabilities:		
(Increase) decrease in assets		
Accounts receivable	1,557,730	(1,404,416)
Accounts receivable – other	6,179	16,529
Prepaid expenses and other assets	56,446	(17,553)
Net OPEB asset	(259,591)	(369,212)
Net pension asset	-	-
(Increase) decrease in deferred OPEB outflows	112,672	67,754
(Increase) decrease in deferred pension outflows	617,702	279,833
Increase (decrease) in liabilities		
Accounts payable and accrued expenses	6,166,726	1,017,195
Accrued salaries and wages	22,414	24,338
Customer deposits	(667)	(13,718)
Compensated absences	130,470	87,127
Unearned revenue	1,871,420	(3,853,025)
Net OPEB liability	-	(43,722)
Net pension liability	(95,880)	506,813
Increase (decrease) in deferred OPEB inflows	(100,220)	71,879
Increase (decrease) in deferred pension inflows	128,964	484,601
Cash provided by operating activities	\$ 14,974,952	1,025,628
Non-cash investing, capital, and financing transactions:		
Change in fair value of investments	\$ (644,095)	(824,541)

See accompanying notes to the basic financial statements.

Santa Ana Watershed Project Authority
Statements of Fiduciary Net Position
Fiduciary Fund
June 30, 2025 and 2024

	Custodial Fund	
	Legal Defense Fund	
	2025	2024
Assets:		
Cash and cash equivalents	\$ 530,456	507,122
Interest receivable	1,770	2,113
Total assets	532,226	509,235
Liabilities:		
Other liabilities	-	-
Total liabilities	-	-
Net position:		
Restricted for:		
Legal defense	532,226	509,235
Total net position	\$ 532,226	509,235

See accompanying notes to the basic financial statements.

Santa Ana Watershed Project Authority
Statements of Changes in Fiduciary Net Position
Fiduciary Fund
For the Fiscal Years Ended June 30, 2025 and 2024

	Custodial Fund	
	Legal Defense Fund	
	2025	2024
Additions:		
Investment earnings	\$ 22,991	25,186
Total additions	<u>\$ 22,991</u>	<u>25,186</u>
Deductions:		
Administrative expenses	-	-
Total deductions	<u>-</u>	<u>-</u>
Net increase in fiduciary net position	22,991	25,186
Net position – beginning of year	<u>509,235</u>	<u>484,049</u>
Net position – end of year	<u>\$ 532,226</u>	<u>509,235</u>

See accompanying notes to the basic financial statements.

Santa Ana Watershed Project Authority
Notes to the Financial Statements
For the Fiscal Years Ended June 30, 2025 and 2024

(1) Reporting Entity and Summary of Significant Accounting Policies

A. Organization and Operations of the Reporting Entity

The Santa Ana Watershed Project Authority (Authority) was reformed in 1972 pursuant to the provisions of Article 1, Chapter 5, Division 7, Title 1 of the Government Code of the State of California relating to the joint exercise of powers common to public agencies, for the purpose of undertaking projects for water quality control and protection and pollution abatement in the Santa Ana River Watershed. The five member agencies are the Orange County Water District, Inland Empire Utilities Agency (formerly Chino Basin Municipal Water District), Eastern Municipal Water District, San Bernardino Valley Municipal Water District, and Western Municipal Water District. The Board of Commissioners is the governing body of the Authority. Each member of the Authority appoints, by Resolution of its governing body, one member of its governing body to act as its Commissioner on the Board.

Accounting principles generally accepted in the United States of America require that the reporting entity include (1) the primary government, (2) organizations for which the primary government is financially accountable, and (3) other organizations for which the nature and significance of their relationship with the primary government are such that exclusion would cause the reporting entity's financial statements to be misleading or incomplete. The criteria provided in Government Accounting Standard Board (GASB) Statements have been considered and there are no agencies or entities which should be presented with the Authority.

The Authority's operations are accounted for on the basis of funds, each of which is considered a separate accounting entity. The operations of each fund are accounted for with a separate set of self-balancing accounts that comprise its assets, liabilities, fund equity, revenue, and expenses. Authority resources are allocated to and accounted for in individual funds based on the purposes for which they are to be spent and the means by which spending activities are controlled. The Authority's various funds are grouped as follows:

Capital Project Activities – Record the activity of the various capital improvement projects undertaken by the Authority.

Internal Administration – Reflect the grouping of general and administration expenses and department overhead costs. Reported amounts are net of allocations made in support of capital project and enterprise activities.

Enterprise Activities – Reflect operations of the Inland Empire Brine Line System (Brine Line) pipelines.

The Authority also has the following Fiduciary Funds:

Custodial Funds – Custodial funds are utilized to record monies held on behalf of others in a fiduciary capacity. The Authority has one custodial fund:

The Legal Defense Custodial Fund – This fund was established in conjunction with the Environmental Protection Agency in connection with potential third-party lawsuits arising from the discharge of effluent which originates from the Stringfellow Hazardous Waste Site, while the facility is operated by the Environmental Protection Agency or its agents under the use permit.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(1) Reporting Entity and Summary of Significant Accounting Policies, continued

B. Basis of Accounting and Measurement Focus

Proprietary and Fiduciary Funds

The Authority reports its activities as an enterprise fund. An enterprise fund is a proprietary type fund used to account for operations that are financed and operated in a manner similar to a private business enterprise, where the intent of the Authority is that the cost of providing services on a continuing basis be financed or recovered primarily through user charges, capital grants, and similar funding. In the fund financial statements proprietary and all fiduciary funds are presented using the accrual basis of accounting. Revenues are recognized in the accounting period in which they are earned, and expenses are recognized in the period incurred, regardless of when the related cash flows take place.

In the fund financial statements, proprietary and all fiduciary funds are presented using the economic resources measurement focus. This means that all assets and all liabilities (whether current or noncurrent) associated with their activity are included on the Statement of Net Position. Proprietary fund type operating statements present increases (revenues) and decreases (expenses) in total net position.

Proprietary fund operating revenues, such as charges for services, result from exchange transactions associated with the principal activity of the fund. Exchange transactions are those in which each party receives and gives the Authority essentially equal values. Nonoperating revenues, such as investment income, gain or loss on sale of equipment, and miscellaneous revenues result from nonexchange transactions or ancillary activities. Operating expenses for enterprise funds include the cost of sales and services, administrative expenses, and depreciation on capital assets. All expenses not meeting this definition are reported as nonoperating expenses. The Authority's custodial funds are fiduciary funds and use the accrual basis of accounting.

C. Financial Reporting

Operating revenues and expenses, such as wastewater treatment and wastewater disposal, capacity rights, and contractual services, result from exchange transactions associated with the principal activity of the Authority. Exchange transactions are those in which each party receives and gives up essentially equal values. Management, administration, and depreciation expenses are also considered operating expenses. Other revenues and expenses not included in the above categories are reported as non-operating revenues and expenses. Non-operating revenues and expenses, such as grant funding, investment income, and interest expense, result from non-exchange transactions, in which, the Authority gives (receives) value without directly receiving (giving) value in exchange.

The Authority's basic financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America (GAAP), as applied to enterprise funds. The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and financial reporting principles. The Authority solely operates as a special-purpose government which means it is only engaged in business-type activities; accordingly, activities are reported in the Authority's proprietary fund.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(1) Reporting Entity and Summary of Significant Accounting Policies, continued

C. Financial Reporting, continued

The Authority has adopted the following GASB pronouncements in the current year:

Governmental Accounting Standards Board Statement No. 101

In June 2022, the GASB issued Statement No. 101 – *Compensated Absences*. The objective of this Statement is to better meet the information needs of financial statement users by updating the recognition and measurement guidance for compensated absences. That objective is achieved by aligning the recognition and measurement guidance under a unified model and by amending certain previously required disclosures.

This Statement requires that liabilities for compensated absences be recognized for (1) leave that has not been used and (2) leave that has been used but not yet paid in cash or settled through noncash means. A liability should be recognized for leave that has not been used if (a) the leave is attributable to services already rendered, (b) the leave accumulates, and (c) the leave is more likely than not to be used for time off or otherwise paid in cash or settled through noncash means. Leave is attributable to services already rendered when an employee has performed the services required to earn the leave. Leave that accumulates is carried forward from the reporting period in which it is earned to a future reporting period during which it may be used for time off or otherwise paid or settled. In estimating the leave that is more likely than not to be used or otherwise paid or settled, a government should consider relevant factors such as employment policies related to compensated absences and historical information about the use or payment of compensated absences. However, leave that is more likely than not to be settled through conversion to defined benefit postemployment benefits should not be included in a liability for compensated absences.

The requirements of this Statement are effective for fiscal years beginning after December 15, 2023, and all reporting periods thereafter. Earlier application is encouraged. See Note 1.D.11 and Note 6 for the impact of this note on the financial statements due to implementation in the current fiscal year.

Governmental Accounting Standards Board Statement No. 102

In December 2023, the GASB issued Statement No. 102 – *Certain Risk Disclosures*. The primary objective of this Statement requires a government to assess whether a concentration or constraint makes the primary government reporting unit or other reporting units that report a liability for revenue debt vulnerable to the risk of a substantial impact. Additionally, this Statement requires a government to assess whether an event or events associated with a concentration or constraint that could cause the substantial impact to have occurred, have begun to occur, or are more likely than not to begin to occur within 12 months of the date the financial statements are issued.

The requirements of this Statement are effective for fiscal years beginning after June 15, 2024, and all reporting periods thereafter. Earlier application is encouraged.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(1) Reporting Entity and Summary of Significant Accounting Policies, continued

D. Assets, Deferred Outflows, Liabilities, Deferred Inflows, and Net Position

1. Use of Estimates

The preparation of the basic financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities, deferred inflows of resources, and disclosures of contingent assets and liabilities at the date of the financial statements and the reported changes in net position during the reporting period. Actual results could differ from those estimates.

2. Cash and Cash Equivalents

Substantially all of the Authority's cash is invested in interest-bearing accounts. The Authority considers all highly liquid investments with a maturity of three months or less to be cash equivalents.

3. Investments and Investment Policy

The Authority has adopted an investment policy directing the Authority's Chief Financial Officer to deposit funds in financial institutions.

Changes in fair value that occur during a fiscal year are recognized as investment income reported for that fiscal year. Investment income includes interest earnings, changes in fair value, and any gains or losses realized upon the liquidation or sale of investments.

4. Fair Value Measurements

The Authority categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles.

The hierarchy is based on valuation inputs used to measure the fair value of the asset, as follows:

- **Level 1** – Valuation is based on quoted prices in active markets for identical assets.
- **Level 2** – Valuation is based on directly observable and indirectly observable inputs. These inputs are derived principally from or corroborated by observable market data through correlation or market-corroborated inputs. The concept of market-corroborated inputs incorporates observable market data such as interest rates and yield curves that are observable at commonly quoted intervals.
- **Level 3** – Valuation is based on unobservable inputs where assumptions are made based on factors such as prepayment rates, probability of defaults, loss severity, and other assumptions that are internally generated and cannot be observed in the market.

5. Restricted Assets

Restricted assets are financial resources generated for a specific purpose such as capital projects or debt service. These assets are for the benefit of a specified purpose and, as such, are legally or contractually restricted by an external third-party agreement.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(1) Reporting Entity and Summary of Significant Accounting Policies, continued

D. Assets, Deferred Outflows, Liabilities, Deferred Inflows, and Net Position, continued

6. Accounts Receivable

The Authority extends credit in the normal course of operations. Management deems all accounts receivable as collectible at year-end. Accordingly, an allowance for doubtful accounts has not been recorded.

7. Prepaid Expenses

Certain payments to vendors reflect costs or deposits applicable to future accounting periods and are recorded as prepaid items in the basic financial statements.

8. Mitigation Credits

Mitigation credits are purchased and used by those agencies or businesses needing habitat mitigation within the Watershed for specific development projects.

9. Capital Assets

Capital assets acquired and/or constructed are capitalized at historical cost. Authority policy has set the capitalization threshold for capitalizing equipment purchases at \$10,000. Donated assets are recorded at acquisition value at the date of donation. Upon retirement or other disposition of capital assets, the cost and related accumulated depreciation are removed from the respective balances and any gains or losses are recognized.

Depreciation is calculated on a straight-line basis over the estimated useful lives of the assets as follows:

• Building and improvements	40 years
• Land improvements	15 – 20 years
• Furniture and office equipment	3 years
• Brine Line and equipment	25 years

The Authority capitalizes a portion of general and administration expenses and interest expense relating to certain long-term projects.

Wastewater treatment and disposal rights are included as capital assets and are capitalized at cost. Amortization is computed using the straight-line method over the remaining life of the Authority's contract with the Orange County Sanitation District for the acquisition of the rights at the time the right was acquired. The current contract expires April 26, 2046.

Leased building and equipment right-to-use assets are amortized on straight-line basis over the life of the lease term.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(1) Reporting Entity and Summary of Significant Accounting Policies, continued

D. Assets, Deferred Outflows, Liabilities, Deferred Inflows, and Net Position, continued

10. Deferred Outflows of Resources

The statements of net position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, *deferred outflows of resources*, represents an acquisition of net assets applicable to future periods and, therefore, will *not* be recognized as an outflow of resources (expenditure) until that time.

The Authority has the following items that qualify for reporting in this category:

Post-Employment Benefits Other Than Pensions (OPEB)

- Deferred outflow which is equal to the employer contributions made after the measurement date of the net OPEB liability. This amount will be amortized-in-full against the net OPEB liability in the next fiscal year.
- Deferred outflow for the net difference between the projected and actual earnings on investments of the other post-employment benefits plan's fiduciary net position. This amount is amortized over a five-year period.

Pensions

- Deferred outflow which is equal to the employer contributions made after the measurement date of the net pension liability. This amount will be amortized-in-full against the net pension liability in the next fiscal year.
- Deferred outflow for the net difference between the actual and expected experience which will be amortized over a closed period equal to the expected average remaining service lives of all employees that are provided with pension.
- Deferred outflow for the net change in assumptions which will be amortized over a closed period equal to the expected average remaining service lives of all employees that are provided with pension.
- Deferred outflow for the net difference between the projected and actual earnings on investments of the pension plan's fiduciary net position. This amount is amortized over a five-year period.
- Deferred outflow as a result of the net change in proportions of the net pension liability which will be amortized over a closed period equal to the expected average remaining service lives of all employees that are provided with pension.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(1) Reporting Entity and Summary of Significant Accounting Policies, continued

D. Assets, Deferred Outflows, Liabilities, Deferred Inflows, and Net Position, continued

11. Compensated Absences

The Authority's policy is to pay out sick leave time accrued upon retirement, death or termination on a variable scale of 15% to 60% based on years of service. Each full-time employee accrues 96 hours of sick time per year. The liability for this benefit has been accrued in these financial statements.

Employees of the Authority are entitled to paid vacation depending on length of service. Vacation is accrued for full-time employees beginning on the first day of full-time employment, and ranges from 12 to 22 days per year based on longevity with the Authority. Part-time employees accrue vacation on a pro-rated basis based on the actual number of hours worked.

Authority policy requires employees to pass a probationary period prior to payment for accrued vacation hours. Employees cannot accrue more than 36 vacation days (324 hours) total.

12. Postemployment Benefits Other than Pensions (OPEB)

For purposes of measuring the net OPEB liability and deferred outflows/inflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the Authority's OPEB plan (Plan) and additions to/deductions from the Plans' fiduciary net position have been determined on the same basis as they are reported by the Plan. For this purpose, the Plan recognizes benefit payments when due and payable in accordance with the benefit terms.

GASB 75 requires that the reported results must pertain to liability and asset information within certain defined timeframes. For this report, the following timeframes are used:

- Valuation dates: June 30, 2023
- Measurement dates: June 30, 2024 and 2023
- Measurement periods: July 1, 2023 to June 30, 2024 and July 1, 2022 to June 30, 2023

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(1) Reporting Entity and Summary of Significant Accounting Policies, continued

D. Assets, Deferred Outflows, Liabilities, Deferred Inflows, and Net Position, continued

13. Pensions

For purposes of measuring the net pension liability and deferred outflows/inflows of resources related to pension, and pension expense, information about the fiduciary net position of the Authority's California Public Employees' Retirement System (CalPERS) plans (Plans) and additions to/deductions from the Plans' fiduciary net position have been determined on the same basis as they are reported by CalPERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

GASB 68 requires that the reported results must pertain to liability and asset information within certain defined timeframes. For this report, the following timeframes are used:

- Valuation Dates: June 30, 2023 and 2022
- Measurement Date: June 30, 2024 and 2023
- Measurement Period: July 1, 2023 to June 30, 2024 and July 1, 2022 to June 30, 2023

14. Unearned Revenue

Unearned revenue represents wastewater treatment and disposal capacity rights sold, which are being recognized as revenue as the services are provided.

15. Leases Payable

Leases payable are measured at the present value of payments expected to be paid during the lease term.

16. Deferred Inflows of Resources

The of statement of net position will sometimes report a separate section for deferred inflows of resources. This financial statement element, *deferred inflows of resources*, represents an acquisition of net assets applicable to future periods and, therefore, will *not* be recognized as an inflow of resources (revenue) until that time.

The Authority has the following items that qualify for reporting in this category:

Post-Employment Benefits Other Than Pensions (OPEB)

- Deferred inflow for the net change in assumptions which will be amortized over a closed period equal to the expected average remaining service lives of all employees that are provided with post-employment benefits.
- Deferred inflow for the net differences between the actual and expected experience which will be amortized over a closed period equal to the average of the expected remaining service lives of all employees that are provided with post-employment benefits.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(1) Reporting Entity and Summary of Significant Accounting Policies, continued

D. Assets, Deferred Outflows, Liabilities, Deferred Inflows, and Net Position, continued

16. Deferred Inflows of Resources, continued

Pensions

- Deferred inflow for the net difference between actual contributions and the proportionate share of employer contribution which will be amortized over a closed period equal to the expected average remaining service lives of all employees that are provided with pension.

17. Capital Contributions

Capital contributions consist of grants awarded and contributions received for the acquisition and/or construction of capital assets. Contributions received for studies, planning, administration, and other non-capital assets are considered non-operating revenue.

18. Capital and Operating Grants

When a grant agreement is approved and eligible expenditures are incurred, the amount is recorded as a capital or operating grant receivable on the statement of net position and as capital grant contribution or operating grant revenue, as appropriate, on the Statement of Revenues, Expenses, and Changes in Net Position.

19. Budgetary Policies

The Authority adopts a biennial non-appropriated budget for planning, control, and evaluation purposes. Budgetary control and evaluation are affected by comparison of actual revenue and expense with planned revenue and expense for the period.

20. Net Position

The financial statements utilize a net position presentation. Net position is categorized as follows:

- **Net Investment in Capital Assets** – This component of net position consists of capital assets, net of accumulated depreciation and reduced by any outstanding debt against the acquisition, construction, or improvement of those assets.
- **Restricted Net Position** – This component of net position consists of constraints placed on net position use imposed by creditors, grantors, contributors, or laws or regulations of other governments or constraints imposed by law through constitutional provisions or enabling legislation.
- **Unrestricted Net Position** – This component of net position consists of net position that do not meet the definition of *restricted* or *net investment in capital assets*.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(2) Cash and Investments

Cash and investments as of June 30 are classified in the Statements of Net Position as follows:

	<u>2025</u>	<u>2024</u>
Statements of Net Position:		
Cash and cash equivalents	\$ 65,475,255	50,625,527
Cash and investments – restricted	703,933	749,289
Investments	<u>13,271,315</u>	<u>15,920,557</u>
Total cash and investments	<u>\$ 79,450,503</u>	<u>67,295,373</u>
Statements of Fiduciary Net Position:		
Cash and investments	<u>530,456</u>	<u>507,122</u>
Total cash and investments	<u>\$ 79,980,959</u>	<u>67,802,495</u>

Cash and investments as of June 30 consist of the following:

	<u>2025</u>	<u>2024</u>
Cash on hand	\$ 500	500
Deposits with financial institutions	1,263,313	2,678,559
Investments	<u>78,717,146</u>	<u>65,123,436</u>
Total cash and investments	<u>\$ 79,980,959</u>	<u>67,802,495</u>

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(2) Cash and Investments, continued

Investments Authorized by the California Government Code and the Authority's Investment Policy

The table below identifies the investment types that are authorized by the Authority in accordance with the California Government Code (or the Authority's investment policy, where more restrictive). The table also identifies certain provisions of the California Government Code (or the Authority's investment policy, where more restrictive) that address interest rate risk, credit risk, and concentration of credit risk.

<u>Authorized Investment Type</u>	<u>Maximum Maturity</u>	<u>Maximum Percentage of Portfolio</u>	<u>Maximum Investment in One Issuer</u>
United States Treasury Bills, Notes, and Bonds	5 years	None	N/A
U.S. Government Sponsored Agency Securities	5 years	None	None
Mutual Funds	90 days	15%	None
Municipal Bonds	5 years	None	None
Banker's Acceptances	180 days	40%	30%
Commercial Paper	270 days	15%	*
Negotiable Certificates of Deposit	5 years	30%	\$250,000
Repurchase Agreements	1 year	None	None
Medium-Term Corporate Notes	5 years	30%	None
Local Agency Investment Fund (LAIF)	N/A	None	N/A
Collateralized Bank Deposits	5 years	25%	None

N/A - Not applicable

* 10% of outstanding paper of an issuing corporation.

Investment in State Investment Pool

The Authority is a voluntary participant in the Local Agency Investment Fund (LAIF) that is regulated by the California Government Code under the oversight of the Treasurer of the State of California. The fair value of the Authority's investment in this pool is reported in the accompanying financial statements at amounts based upon the Authority's pro-rata share of the fair value provided by LAIF for the entire LAIF portfolio (in relation to the amortized cost of that portfolio). The balance available for withdrawal is based on the accounting records maintained by LAIF, which are recorded on an amortized cost basis. Amounts held with LAIF are highly liquid, as deposits can be converted to cash within a twenty-four-hour period without loss of accrued interest. LAIF detail may be obtained from the State of California Treasurer's website at www.treasurer.ca.gov/pmia-laif/index.asp.

The pool portfolio is invested in a manner that meets the maturity, quality, diversification, and liquidity requirements set forth by GASB 79 for external investments pools that elect to measure, for financial reporting purposes, investments at amortized cost. LAIF does not have any legally binding guarantees of share values. LAIF does not impose liquidity fees or redemption gates on participant withdrawals.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(2) Cash and Investments, continued

Custodial Credit Risk

Custodial credit risk for *deposits* is the risk that, in the event of the failure of a depository financial institution, a government will not be able to recover its deposits or will not be able to recover collateral securities that are in the possession of an outside party. The custodial credit risk for *investments* is the risk that, in the event of the failure of the counterparty (e.g., broker-dealer) to a transaction, a government will not be able to recover the value of its investment or collateral securities that are in the possession of another party. With respect to investments, custodial credit risk generally applies only to direct investments in marketable securities. Custodial credit risk does not apply to a local government's indirect investment in securities through the use of mutual funds or government investment pools (such as LAIF).

The California Government Code and the Authority's investment policy do not contain legal or policy requirements that would limit the exposure to custodial credit risk for deposits or investments, other than the following provision for deposits: The California Government Code requires that a financial institution secure deposits made by state or local governmental units by pledging securities in an undivided collateral pool held by a depository regulated under state law (unless so waived by the governmental unit), and, the Authority's investment policy that requires no more than two-thirds of the Authority's deposits in a depository shall be collateralized by mortgage-backed securities, with the remainder to be secured by non-mortgage-backed securities.

The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty (e.g., broker-dealer) to a transaction, a government will not be able to recover the value of its investment or collateral securities that are in the possession of another party. The Code and the Agency's investment policy contain legal and policy requirements that would limit the exposure to custodial credit risk for investments. With respect to investments, custodial credit risk generally applies only to direct investments in marketable securities. Custodial credit risk does not apply to a local government's indirect investment in securities through the use of mutual funds or government investment pools (such as LAIF and the Pool).

Interest Rate Risk

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. The longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. One of the ways that the Authority manages its exposure to interest rate risk is by purchasing a combination of shorter term and longer-term investments and by timing cash flows from maturities so that a portion of the portfolio matures, or comes close to maturity evenly over time, as necessary to provide requirements for cash flow and liquidity needed for operations.

The market value of the pledged securities in the collateral pool must equal at least 110% of the total amount deposited by the public agencies. California law also allows financial institutions to secure Authority deposits by pledging first trust deed mortgage notes having a value of 150% of the secured public deposits. Of the bank balances, up to \$250,000 is federally insured and the remaining balance is collateralized in accordance with the Code; however, the collateralized securities are not held in the Authority's name.

Information about the sensitivity of the fair values of the Authority's investments to market interest rate fluctuations is provided by the following table that shows the distribution of the Authority's investments by maturity date:

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(2) Cash and Investments, continued

Investment maturities as of June 30, 2025, were as follows:

Investment Types	Total	Remaining Maturity (in Months)			
		12 Months or Less	13 to 24 Months	25-60 Months	60 Months or More
U.S. Treasury Notes	\$ 2,007,031	2,007,031	-	-	-
U.S. Government Sponsored Agency Securities	4,023,118	993,768	-	2,517,664	511,686
LAIF	65,445,831	65,445,831	-	-	-
Negotiable Certificates of Deposit	7,241,166	1,231,024	2,993,295	1,010,704	2,006,143
	<u>\$ 78,717,146</u>	<u>69,677,654</u>	<u>2,993,295</u>	<u>3,528,368</u>	<u>2,517,829</u>

Investment maturities as of June 30, 2024, were as follows:

Investment Types	Total	Remaining Maturity (in Months)			
		12 Months or Less	13 to 24 Months	25-60 Months	60 Months or More
U.S. Treasury Notes	\$ 1,893,633	955,781	937,852	-	-
U.S. Government Sponsored Agency Securities	4,419,995	3,472,177	947,818	-	-
LAIF	49,202,880	49,202,880	-	-	-
Negotiable Certificates of Deposit	9,606,928	244,272	1,220,629	2,946,268	5,195,759
	<u>\$ 65,123,436</u>	<u>53,875,110</u>	<u>3,106,299</u>	<u>2,946,268</u>	<u>5,195,759</u>

Credit Risk

Generally, credit risk is the risk that the issuer of an investment will not fulfill its obligation to the holder of the investment. This is measured by the assignment of a rating by a nationally recognized statistical rating organization.

Per the Authority's investment policy, credit risk is mitigated by investing in safe securities, and diversifying the investment portfolio so the failure of one issuer would not materially affect the Authority's cash flow. Presented below is the minimum rating required by (where applicable) the California Government Code, the Authority's investment policy, or debt agreements, and the actual rating as of year-end for each investment type.

Credit ratings of investments as of June 30, 2025, were as follows:

Investment Types	Total	Minimum Legal Rating	Rating as of Year End			Not Rated
			AAA	AA+	A+	
U.S. Treasury Notes	\$ 2,007,031	N/A	-	-	-	2,007,031
U.S. Government Sponsored Agency Securities	4,023,118	N/A	4,023,118	-	-	-
LAIF	65,445,831	N/A	-	-	-	65,445,831
Negotiable Certificates of Deposit	7,241,166	AAA	-	-	-	7,241,166
	<u>\$ 78,717,146</u>		<u>4,023,118</u>	<u>-</u>	<u>-</u>	<u>74,694,028</u>

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(2) Cash and Investments, continued

Credit ratings of investments as of June 30, 2024, were as follows:

Investment Types	Total	Minimum Legal Rating	Rating as of Year End			Not Rated
			AAA	AA+	A+	
U.S. Treasury Notes	\$ 1,893,633	N/A	-	-	-	1,893,633
U.S. Government Sponsored Agency Securities	4,419,995	N/A	4,419,995	-	-	-
LAIF	49,202,880	N/A	-	-	-	49,202,880
Negotiable Certificates of Deposit	9,606,928	AAA	-	-	-	9,606,928
	<u>\$ 65,123,436</u>		<u>4,419,995</u>	<u>-</u>	<u>-</u>	<u>60,703,441</u>

Concentration of Credit Risk

The Authority's investment policy contains various limitations on the amounts that can be invested in any one governmental agency or non-governmental issuer as stipulated by the California Government Code. The Authority's deposit portfolio with governmental agencies, LAIF, is 83% and 76% as of June 30, 2025 and 2024, respectively, of the Authority's total depository and investment portfolio.

Fair Value Measurements

The Authority categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

Investments measured at fair value on a recurring and non-recurring basis, are as follows:

Investment Types	Total	Fair Value Measurement at Reporting Date Using:		
		Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
U.S. Treasury Notes	\$ 2,007,031	2,007,031	-	-
U.S. Government Sponsored Agency Securities	4,023,118	-	4,023,118	-
Negotiable Certificates of Deposit	7,241,166	-	7,241,166	-
	<u>13,271,315</u>	<u>2,007,031</u>	<u>11,264,284</u>	<u>-</u>
Investments not subject to fair value hierarchy:				
Local Agency Investment Fund	<u>65,445,831</u>			
Total	<u>\$ 78,717,146</u>			

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(2) Cash and Investments, continued

Fair Value Measurements, continued

The Authority has the following recurring fair value measurements as of June 30, 2025:

- U.S. treasury note securities of \$2,007,031 are valued using quoted market prices (Level 1 inputs).
- U.S. governmental sponsored agency securities of \$4,023,118 are valued using a matrix pricing model (Level 2 inputs).
- Negotiable certificates-of-deposit of \$7,241,166 are valued using a matrix pricing model (Level 2 inputs).
- Local agency investment funds of \$65,445,831 are valued at amortized cost and are not subject to fair value hierarchy.

Investment Types	Total	Fair Value Measurement at Reporting Date Using:		
		Quoted Prices in Active Markets for Identical Assets	Significant Other Observable Inputs	Significant Unobservable Inputs
		Level 1	Level 2	Level 3
U.S. Treasury Notes	\$ 1,893,633	1,893,633	-	-
U.S. Government Sponsored Agency Securities	4,419,995	-	4,419,995	-
Negotiable Certificates of Deposit	9,606,928	-	9,606,928	-
	15,920,556	1,893,633	14,026,923	-
Investments not subject to fair value hierarchy:				
Local Agency Investment Fund	49,202,880			
Total	\$ 65,123,436			

The Authority has the following recurring fair value measurements as of June 30, 2024:

- U.S. treasury note securities of \$1,893,633 are valued using quoted market prices (Level 1 inputs).
- U.S. governmental sponsored agency securities of \$4,419,995 are valued using a matrix pricing model (Level 2 inputs).
- Negotiable certificates-of-deposit of \$9,606,928 are valued using a matrix pricing model (Level 2 inputs).
- Local agency investment funds of \$49,202,880 are valued at amortized cost and are not subject to fair value hierarchy.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(3) Loan Receivable

As of June 30, 2025, the Authority had no reportable loan receivable balances.

Changes in the loan receivable for the year ended June 30, 2024 was as follows:

	<u>2023</u>	<u>Additions</u>	<u>Principal Pmts Amortization</u>	<u>2024</u>
Loan Receivable:				
Rialto BioEnergy	\$ 1,084,839	-	(1,084,839)	-
Total loan receivable	1,084,839	-	(1,084,839)	-
Less: current portion	(260,432)			-
Long-term portion	\$ 824,407			-

On June 23, 2022, the Authority entered into the Inland Empire Brine Line New Lateral Construction and Cost Share agreement with San Bernardino Valley Municipal Water District and Rialto BioEnergy Facility, LLC to fund the construction of brine line laterals.

The District provided funding to Rialto BioEnergy to finance the cost of construction of \$1,605,703. The loan bears an interest rate of 3.00% and matures on July 25, 2026. Principal and interest payments are due annually on July 25. At June 30, 2024, the Authority had received \$1,084,839 in principal and \$23,439 in interest payments. As of June 30, 2024, the loan receivable was paid-in-full.

(4) Mitigation Credits

On March 17, 2000, the State of California voted to approve, Proposition 13, the Costa-Machado Water Act of 2000 containing the Southern California Integrated Watershed Program (SCIWP), providing \$235 million for local grant assistance. The State Legislature appropriated the funds to the State Water Resource Control Board (SWRCB) to be allocated to the Authority for projects to rehabilitate and improve the Santa Ana River Watershed.

On April 23, 2003, as part of the SCIWP, the Authority purchased 100 acres of mitigation credits from the Riverside County Regional Park and Open Space District. These credits are purchased and used by those needing habitat mitigation within the Watershed for specific development projects.

The changes to mitigation credits at June 30 were as follows:

<u>Balance 2024</u>	<u>Additions</u>	<u>Deletions</u>	<u>Balance 2025</u>
\$ 1,910,560	-	-	1,910,560

The changes to mitigation credits at June 30 were as follows:

<u>Balance 2023</u>	<u>Additions</u>	<u>Deletions</u>	<u>Balance 2024</u>
\$ 1,910,560	-	-	1,910,560

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(5) Capital Assets

Changes in capital assets for 2025 were as follows:

	<u>2024</u>	<u>Additions</u>	<u>Disposals</u>	<u>2025</u>
Capital assets not being depreciated:				
Land	\$ 765,444	-	-	765,444
Construction-in-progress	3,411,188	301,050	(2,695,916)	1,016,322
Total capital assets not being depreciated	4,176,632	301,050	(2,695,916)	1,781,766
Capital assets being depreciated and amortized:				
Land improvements	446,960	12,000	-	458,960
Buildings	1,702,149	14,784	-	1,716,933
Furniture and equipment	729,493	150,464	-	879,957
Brine Line and equipment	156,212,208	2,663,257	-	158,875,465
Wastewater treatment and disposal rights	55,662,342	-	-	55,662,342
Building leases	270,555	12,515	-	283,070
Equipment leases	31,356	65,835	(31,356)	65,835
Total capital assets being depreciated and amortized	215,055,063	2,918,855	(31,356)	217,942,562
Less accumulated depreciation and amortization:				
Land improvements	(167,978)	(39,910)	-	(207,888)
Buildings	(1,230,004)	(54,649)	-	(1,284,653)
Furniture and equipment	(559,702)	(55,095)	-	(614,797)
Brine Line and equipment	(88,567,288)	(2,941,549)	-	(91,508,837)
Wastewater treatment and disposal rights	(36,056,036)	(927,235)	-	(36,983,271)
Building leases	(103,786)	(87,720)	-	(191,506)
Equipment leases	(25,477)	(15,023)	26,784	(13,716)
Total accumulated depreciation and amortization	(126,710,271)	(4,121,181)	26,784	(130,804,668)
Depreciable capital assets, net	88,344,792	(1,202,326)	(4,572)	87,137,894
Total capital assets, net	\$ 92,521,424	(901,276)	(2,700,488)	88,919,660

Major depreciable / amortizable capital asset additions during the fiscal year ending 2025 consist of additions to the following categories: construction-in-progress, land improvements, buildings, furniture and equipment, Brine Line and equipment, right-to-use building leases, and right-to use equipment leases. The Authority's disposals consisted of right-to use equipment leases and related amortization. Transfers from construction-in-process include \$2,663,257 sourcing from the Agua Mansa Lateral pipeline project transferred to Brine Line and equipment and \$32,660 in expensed project costs for the year.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(5) Capital Assets, continued

Changes in capital assets for 2024 were as follows:

	<u>2023</u>	<u>Additions</u>	<u>Disposals</u>	<u>2024</u>
Capital assets not being depreciated:				
Land	\$ 765,444	-	-	765,444
Construction-in-progress	451,984	2,959,204	-	3,411,188
Total capital assets not being depreciated	1,217,428	2,959,204	-	4,176,632
Capital assets being depreciated and amortized:				
Land improvements	270,505	176,455	-	446,960
Buildings	1,702,149	-	-	1,702,149
Furniture and equipment	709,858	24,871	(5,236)	729,493
Brine Line and equipment	156,193,896	62,887	(44,575)	156,212,208
Wastewater treatment and disposal rights	55,662,342	-	-	55,662,342
Building leases	270,555	-	-	270,555
Equipment leases	31,356	-	-	31,356
Total capital assets being depreciated and amortized	214,840,661	264,213	(49,811)	215,055,063
Less accumulated depreciation and amortization:				
Land improvements	(145,565)	(22,413)	-	(167,978)
Buildings	(1,176,721)	(53,283)	-	(1,230,004)
Furniture and equipment	(495,774)	(65,881)	1,953	(559,702)
Brine Line and equipment	(85,759,352)	(2,852,511)	44,575	(88,567,288)
Wastewater treatment and disposal rights	(35,128,801)	(927,235)	-	(36,056,036)
Building leases	(19,908)	(83,878)	-	(103,786)
Equipment leases	(17,638)	(7,839)	-	(25,477)
Total accumulated depreciation and amortization	(122,743,759)	(4,013,040)	46,528	(126,710,271)
Depreciable capital assets, net	92,096,902	(3,748,827)	(3,283)	88,344,792
Total capital assets, net	\$ 93,314,330	(789,623)	(3,283)	92,521,424

Major depreciable / amortizable capital asset additions during the fiscal year ending 2024 consist of additions to the following categories: construction-in-progress, land improvements, furniture and equipment, and Brine Line and equipment. The Authority's disposals consisted of furniture and equipment, Brine Line and equipment, and related depreciation. There were no transfers from construction-in-process for the year.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(6) Compensated Absences

The Authority has adopted the provisions of *GASB Statement No. 101 – Compensated Absences*. Compensated absences include unpaid vacation leave and sick leave, accrued when earned and is expected to be settled through paid time off or cash payments upon termination or retirement.

As of June 30, 2025 and 2024, the liability for compensated absences was calculated based on employees' pay rates at the fiscal year end and historical usage data, considering employment policies. The total liability represents amounts that are more likely than not to be used or paid out. The total liability for compensated absences amounted to \$872,741 and 742, 271, respectively. The liability is reported on the Statement of Net Position.

The net change in the compensated absences liability for the fiscal years ended June 30, 2025 and 2024, were \$130,470 and \$87,127, respectively, reflecting a net increase due to changes in employee leave balances, pay rates, and usage patterns.

The changes to compensated absences balances at June 30 were as follows:

<u>Balance</u> <u>2024</u>	<u>Earned</u>	<u>Taken</u>	<u>Balance</u> <u>2025</u>	<u>Current</u> <u>Portion</u>	<u>Long-term</u> <u>Portion</u>
\$ 742,271	130,470 *	-	872,741	261,822	610,919
<u>Balance</u> <u>2023</u>	<u>Earned</u>	<u>Taken</u>	<u>Balance</u> <u>2024</u>	<u>Current</u> <u>Portion</u>	<u>Long-term</u> <u>Portion</u>
\$ 655,144	87,127 *	-	742,271	222,681	519,590

*The change in the compensated absence liability is presented as a net change.

(7) Long-term Debt

Changes in long-term debt for the year ended June 30, were as follows:

	<u>2024</u>	<u>Additions</u>	<u>Principal Pmts</u> <u>Amortization</u>	<u>2025</u>	<u>Current</u> <u>Portion</u>	<u>Long-Term</u> <u>Portion</u>
State Revolving Fund Loan:						
Reach IV-A & IV-B	\$ 8,284,631	-	(828,873)	7,455,758	850,424	6,605,334
SWRCB Inland Empire Brine Line:						
Reach V Loans:						
Loan I	12,725,288	-	(423,422)	12,301,866	431,467	11,870,399
Total loans payable	21,009,919	-	(1,252,295)	19,757,624	1,281,891	18,475,733
Leases payable:						
Konica Minolta	5,535	65,835	(19,664)	51,706	15,993	35,713
Building 1	48,657	12,515	(29,764)	31,408	31,408	-
Building 2	64,405	-	(31,184)	33,221	33,221	-
Building 3	56,294	-	(27,303)	28,991	28,991	-
Total leases payable	174,891	78,350	(107,915)	145,326	109,613	35,713
Total long-term debt	\$ 21,184,810	78,350	(1,360,210)	19,902,950	1,391,504	18,511,446

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(7) Long-term Debt, continued

Changes in long-term debt for the year ended June 30, were as follows:

	<u>2023</u>	<u>Additions</u>	<u>Principal Pmts Amortization</u>	<u>2024</u>	<u>Current Portion</u>	<u>Long-Term Portion</u>
State Revolving Fund Loan:						
Reach IV-A & IV-B	\$ 9,092,499	-	(807,868)	8,284,631	828,873	7,455,758
SWRCB Inland Empire Brine Line:						
Reach V Loans:						
Loan I	13,140,815	-	(415,527)	12,725,288	423,422	12,301,866
Total loans payable	22,233,314	-	(1,223,395)	21,009,919	1,252,295	19,757,624
Leases payable:						
Konica Minolta	13,485	-	(7,950)	5,535	5,535	-
Building 1	76,799	-	(28,142)	48,657	23,944	24,713
Building 2	93,589	-	(29,184)	64,405	31,183	33,222
Building 3	81,939	-	(25,645)	56,294	27,303	28,991
Total leases payable	265,812	-	(90,921)	174,891	87,965	86,926
Total long-term debt	\$ 22,499,126	-	(1,314,316)	21,184,810	1,340,260	19,844,550

State Revolving Fund Loan - Reach IV-A and IV-B

On April 13, 2011, the Authority entered into a loan agreement to receive up to \$16,850,337 from the California State Water Resources Control Board to repair the existing brine disposal pipeline to extend its useful life of the Inland Empire Brine Line upstream of Prado Dam. Terms of the loan call for annual principal and interest payments of \$1,044,273 based on the net loan amount of \$16,850,337, at the rate of 2.60%, commenced on December 29, 2013, and matures on December 29, 2032.

Future principal and interest obligations on the loan as of June 30, are as follows:

<u>Fiscal Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2026	\$ 850,424	193,850	1,044,274
2027	872,535	171,739	1,044,274
2028	895,220	149,053	1,044,273
2029	918,496	48,376	966,872
2030	942,377	39,191	981,568
2031-2033	2,976,706	60,042	3,036,748
Total	7,455,758	662,251	8,118,009
Less current portion	(850,424)		
Total non-current	\$ 6,605,334		

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(7) Long-term Debt, continued

SWRCB Inland Empire Brine Line Reach V Loans - Loan 1

On May 14, 2014, the Authority entered into a loan agreement to receive up to \$15,000,000 from the California State Water Resources Control Board to repair the existing brine disposal pipeline to extend the useful life of the Inland Empire Brine Line. Terms of the loan call for annual principal and interest payments of \$665,202 commencing on March 31, 2019, at the rate of 1.90%, and matures on March 31, 2048.

Future principal and interest obligations on the loan as of June 30, are as follows:

<u>Fiscal Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2026	\$ 431,467	233,735	665,202
2027	439,665	225,538	665,203
2028	448,019	217,184	665,203
2029	456,531	208,672	665,203
2030	465,205	199,998	665,203
2031-2035	2,462,015	863,997	3,326,012
2036-2040	2,704,965	621,047	3,326,012
2041-2045	2,971,889	354,123	3,326,012
2046-2048	<u>1,922,110</u>	<u>73,499</u>	<u>1,995,609</u>
Total	12,301,866	<u>2,997,793</u>	<u>15,299,659</u>
Less current portion	<u>(431,467)</u>		
Total non-current	\$ <u>11,870,399</u>		

Konica Minolta Lease

In August 2024, the Authority entered into an agreement with Konica Minolta, to lease copier equipment for use in the Authority's administrative office. Terms of the agreement commenced on August 7, 2024, for a period of 48 months, with rent due monthly at \$1,403 per month for the entire lease term.

Following the guidelines set forth by GASB Statement No. 87, the Authority has recorded a right-to-use asset and a lease payable at present value with an implicit rate of 1.90%. The right-to-use asset is amortized on a straight-line basis over the term of the lease.

Annual lease principal and interest obligations on the lease as of June 30, are as follows:

<u>Fiscal Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2026	\$ 15,993	844	16,837
2027	16,300	537	16,837
2028	16,612	225	16,837
2029	<u>2,801</u>	<u>7</u>	<u>2,808</u>
Total	51,706	<u>1,613</u>	<u>53,319</u>
Less current portion	<u>(15,993)</u>		
Total non-current	\$ <u>35,713</u>		

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(7) Long-term Debt, continued

Building 1 Lease

In June 2023, the Authority renewed an agreement with Biltmore Riverside I, LLC to rent building space for the purpose of providing a headquarters building for Authority operations. Terms of the agreement commence on July 1, 2023, for a period of 36 months, with base rent due monthly at \$2,448 per month, for months 1-12, \$2,057 per month, for months 13-24, and \$2,165 for months 25-36.

Following the guidelines set forth by GASB Statement No. 87, the Authority has recorded a right-to-use asset and a lease payable at present value with an implicit rate of 1.90%. The right-to-use asset is amortized on a straight-line basis over the term of the lease.

Annual lease principal and interest obligations on the lease as of June 30, are as follows:

<u>Fiscal Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2026	\$ 31,408	184	31,592
Total	31,408	184	31,592
Less current portion	(31,408)		
Total non-current	\$ -		

Building 2 Lease

In January 2023, the Authority renewed an agreement with Biltmore Riverside I, LLC to rent building space for the purpose of providing a separate operations building. Terms of the agreement commence on January 1, 2023, for a period of 42 months, with base rent due monthly at \$2,500 per month, for months 1-12, \$2,619 per month, for months 13-24, \$2,738 for months 25-36, and \$2,857 for months 38-42.

Following the guidelines set forth by GASB Statement No. 87, the Authority has recorded a right-to-use asset and a lease payable at present value with an implicit rate of 1.90%. The right-to-use asset is amortized on a straight-line basis over the term of the lease.

Annual lease principal and interest obligations on the lease as of June 30, are as follows:

<u>Fiscal Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2026	\$ 33,221	346	33,567
Total	33,221	346	33,567
Less current portion	(33,221)		
Total non-current	\$ -		

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(7) Long-term Debt, continued

Building 3 Lease

In May 2023, the Authority entered into an agreement with Biltmore Riverside I, LLC to rent building space for the purpose of providing a separate operations building. Terms of the agreement commence on May 1, 2023, for a period of 38 months, with base rent due monthly at \$2,232 per month, for months 1-12, \$2,328 per month, for months 13-24, \$2,425 for months 25-36 and \$2,521 for months 37-38.

Following the guidelines set forth by GASB Statement No. 87, the Authority has recorded a right-to-use asset and a lease payable at present value with an implicit rate of 1.90%. The right-to-use asset is amortized on a straight-line basis over the term of the lease.

Annual lease principal and interest obligations on the lease as of June 30, are as follows:

<u>Fiscal Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2026	\$ 28,991	324	29,315
Total	28,991	324	29,315
Less current portion	(28,991)		
Total non-current	\$ -		

(8) Other Post-Employment Benefits (OPEB) Plan

Plan Description

The Authority defined benefit post-employment healthcare plan, SAWPA Post Employment Healthcare Plan (SPHP), provides medical benefits to eligible retired Authority employees and spouses. SHPHP is part the Public Agency portion of the California Employers' Retiree Trust Fund (CERBT), an agent multiple-employer plan administered by California Public Employees' Retirement System.

CalPERS acts as a common investment and administrative agent for participating public employers within the State of California. A menu of benefit provisions as well as other requirements is established by State statute within the Public Employees' Retirement Law. SPHP selects optional benefit provisions from the benefit menu by contract with CalPERS and adopts those benefits through Authority resolution. CalPERS issues an Annual Comprehensive Financial Report (ACFR). The ACFR is issued in aggregate and includes the sum of all CalPERS plans. Copies of the CalPERS ACFR may be obtained from the CalPERS Executive Office, 400 P Street, Sacramento, California 95814.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(8) Other Post-Employment Benefits (OPEB) Plan, continued

Benefits Provided

The Authority's employees hired prior to July 1, 2005, who retire at age 58 or older with a minimum of ten years of service with the Authority are eligible for lifetime medical benefits. Benefits are also provided to spouses. Employees hired on or after July 1, 2005, are not eligible to receive employer subsidized post-employment medical benefits. The Authority contributes the entire premium cost up to a predetermined cap. The cap is defined as the Kaiser Family premium rate.

Funding Policy

The contribution requirements of plan members and the Authority are established and may be amended by the Authority. The Authority contributes the entire premium cost up to a predetermined cap. The 2025 and 2024 monthly cap per retiree amounted to \$X,XXX and \$2,058, respectively. Employees hired on or after July 1, 2005, are not eligible to receive employer subsidized postemployment medical benefits.

Employees Covered by Benefit Terms

Membership in the OPEB plan consisted of the following members as of June 30:

	<u>2025</u>	<u>2024</u>
Inactive employees or beneficiaries currently receiving benefit payments	9	14
Inactive employees entitled to but not yet receiving benefit payments	-	-
Active employees	4	4
Total plan membership	<u>13</u>	<u>18</u>

Contributions

The annual contribution is based on the actuarially determined contribution. For the fiscal years ended June 30, 2025 and 2024, the Authority's cash contributions were \$87,778 and \$105,323, respectively in payments to the trust.

As of the fiscal year ended June 30, the contributions were as follows:

	<u>2025</u>	<u>2024</u>
Contributions to trust by – employer	\$ 87,778	105,323
Total employer paid contributions	<u>\$ 87,778</u>	<u>105,323</u>

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(8) Other Post-Employment Benefits (OPEB) Plan, continued

Actuarial Assumptions and Other Inputs

The net OPEB liability in the June 30, 2023, actuarial valuation, which was measured at June 30, 2024 and 2023, respectively, were determined using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Inflation	2025 – 2.50 percent	
	2024 – 2.62 percent	
Salary increases	3.25 percent, average, including inflation	
Discount rate	2025 – 6.10 percent	
	2024 – 5.50 percent	
Mortality Rate ⁽¹⁾	Derived using CalPERS Membership Data for all funds	
Pre-Retirement Turnover ⁽²⁾	Derived using CalPERS Membership Data for all funds	
Healthcare cost trend rates		
Initial Trend Rate	2025 - (MD 2024)	2024 - (MD 2023)
Pre-65	7.66%	7.66%
Post-65	4.85%	4.85%
Ultimate Rate	4.50%	4.50%
Year Ultimate Rate is Reached	2052	2052

Notes:

- (1) Pre-retirement mortality information was derived from data collected during 1997 to 2011 CalPERS Experience Study dated January 2014 and post-retirement mortality information was derived from the 2007 to 2011 CalPERS Experience Study. The Experience Study Reports may be accessed on the CalPERS website www.calpers.ca.gov under Forms and Publications.
- (2) The pre-retirement turnover information was developed based on CalPERS specific data. For more details, please refer to the 2007 to 2011 Experience Study Report. The Experience Study Report may be accessed on the CalPERS website www.calpers.ca.gov under Forms and Publications.

The long-term expected rate of return on OPEB plan investments was determined using a building block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the OPEB plan's target asset are summarized in the table on the following page for measurement periods June 30, 2024 and 2023.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(8) Other Post-Employment Benefits (OPEB) Plan, continued

Actuarial Assumptions and Other Inputs, continued

<u>Asset class</u>	<u>Target Allocation</u>	<u>Long-term Expected Real Rate of Return</u>
Equity	34.00%	7.11%
Fixed income	41.00%	4.30%
REITS	22.00%	7.11%
Others	3.00%	3.10%
Total	<u>100.00%</u>	

Discount Rate

As of June 30, 2024 and 2023, the discount rate used to measure the net OPEB liability was 6.10 and 5.50 percent, respectively. The projection of cash flows used to determine the discount rate assumed that Authority contributions will be made at rates equal to the actuarially determined contribution rates.

Changes in the Net OPEB Liability

Changes in the net OPEB liability for the year ended June 30, were as follows:

	<u>Total OPEB Liability</u>	<u>Plan Fiduciary Net Position</u>	<u>Net OPEB Liability (Asset)</u>
Balance at June 30, 2024	\$ 1,574,384	1,943,596	(369,212)
Changes for the year:			
Service cost	20,007	-	20,007
Interest	85,347	-	85,347
Differences between expected and actual experience	-	-	-
Changes in assumptions or other inputs	(100,768)	-	(100,768)
Employer contributions	-	105,322	(105,322)
Net investment income	-	159,482	(159,482)
Benefit payments	(86,380)	(86,380)	-
Administrative expenses	-	(627)	627
Net changes	<u>(81,794)</u>	<u>177,797</u>	<u>(259,591)</u>
Balance at June 30, 2025	\$ <u>1,492,590</u>	<u>2,121,393</u>	<u>(628,803)</u>

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(8) Other Post-Employment Benefits (OPEB) Plan, continued

Changes in the Net OPEB Liability, continued

Changes in the net OPEB liability for the year ended June 30, were as follows:

	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB (Asset) Liability
Balance at June 30, 2023	\$ 1,903,396	1,859,674	43,722
Changes for the year:			
Service cost	16,903	-	16,903
Interest	126,398	-	126,398
Differences between expected and actual experience	(181,272)	-	(181,272)
Changes in assumptions or other inputs	(206,702)	-	(206,702)
Employer contributions	-	102,379	(102,379)
Net investment income	-	66,415	(66,415)
Benefit payments	(84,339)	(84,339)	-
Administrative expenses	-	(533)	533
Net changes	(329,012)	83,922	(412,934)
Balance at June 30, 2024	\$ 1,574,384	1,943,596	(369,212)

Sensitivity of the net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability of the Authority, as well as what the Authority's net OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current discount rate:

As of June 30, 2025, the discount rate comparison was the following:

	Trend 1% Lower	Valuation Trend	Trend 1% Higher
Net OPEB liability (asset)	\$ (797,028)	(628,803)	(426,328)

As of June 30, 2024, the discount rate comparison was the following:

	Trend 1% Lower	Valuation Trend	Trend 1% Higher
Net OPEB liability (asset)	\$ (148,321)	(369,212)	299,050

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(8) Other Post-Employment Benefits (OPEB) Plan, continued

Sensitivity of the net OPEB Liability to Changes in the Healthcare Cost Trend Rates

The following presents the net OPEB liability of the Authority, as well as what the Authority's net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower or 1-percentage-point higher than the current healthcare cost trend rates:

As of June 30, 2025, the healthcare cost trend rate comparison was the following:

	Trend 1% Lower	Valuation Trend	Trend 1% Higher
Net OPEB liability (asset)	\$ (797,028)	(628,803)	(426,328)

As of June 30, 2024, the healthcare cost trend rate comparison was the following:

	Trend 1% Lower	Valuation Trend	Trend 1% Higher
Net OPEB liability (asset)	\$ (148,321)	(369,212)	299,050

For the year ended June 30, 2025 and 2024, the Authority recognized OPEB income of \$159,361 and \$167,978, respectively.

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

As of June 30, the Authority reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

Description	June 30, 2025		June 30, 2024	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
OPEB contributions subsequent to the measurement date	\$ 87,778	-	105,323	-
Change of assumptions	-	(101,801)	-	(124,021)
Difference between expected and actual experience	-	(36,254)	-	(114,254)
Net difference between projected and actual earnings on investments	112,778	-	207,905	-
Total	\$ 200,556	(138,055)	313,228	(238,275)

As of June 30, 2025 and 2024, employer OPEB contributions reported as deferred outflows of resources related to contributions subsequent to the measurement date of \$87,778 and \$105,323 will be/were recognized as a reduction of the net OPEB liability in the fiscal year ended June 30, 2026 and 2025, respectively.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(8) Other Post-Employment Benefits (OPEB) Plan, continued

As of June 30, 2025, there were amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB which are required to be recognized in OPEB expense over future periods, respectively. OPEB related amounts will be recognized as pension expense as follows.

Fiscal Year Ending June 30,	Deferred Net Outflows(Inflows) of Resources
2026	\$ (79,005)
2027	62,697
2028	1,450
2029	(10,419)

Schedules of Changes in the Authority's Net OPEB Liability and Related Ratios

Schedules of Other Post-Employment Benefits Plan Contributions

See the Required Supplementary Information section for the Required Supplementary Schedules.

(9) Defined Benefit Pension Plan

Plan Description

All qualified permanent and probationary employees are eligible to participate in the Authority's separate Miscellaneous Employee Pension Plans, cost-sharing multiple employer defined benefit pension plans administered by the California Public Employees' Retirement System (CalPERS). Benefit provisions under the Plan are established by State statute and Local Government resolution. CalPERS issues publicly available reports that include a full description of the pension plan regarding benefit provisions, assumptions, and membership information that can be found on the CalPERS website or may be obtained from their executive office: 400 P Street, Sacramento, CA, 95814.

Benefits Provided

CalPERS provides service retirement and disability benefits, annual cost of living adjustments and death benefits to plan members, who must be public employees and beneficiaries. Benefits are based on years of credited service, equal to one year of full-time employment. Members with five years of total service are eligible to retire at age 50 with statutorily reduced benefits. All members are eligible for non-duty disability benefits after 10 years of service. The death benefit is one of the following: the Basic Death Benefit, the 1957 Survivor Benefit, or the Optional Settlement 2W Death Benefit. The cost-of-living adjustments for each plan are applied as specified by the Public Employees' Retirement Law. Classic Plan members are eligible for one-year final compensation and a 3.0% cost of living adjustment.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(9) Defined Benefit Pension Plan, continued

Benefits Provided, continued

On September 12, 2012, the California Governor signed the California Public Employees' Pension Reform Act of 2013 (PEPRA) into law. PEPRA took effect January 1, 2013. The new legislation closed the Authority's CalPERS 2.0% at 55 Risk Pool Retirement Plan to new employee entrants effective December 31, 2013. All employees hired after January 1, 2013, are eligible for the Authority's CalPERS 2.0% at 62 Retirement Plan under PEPRA.

The Plans' provision and benefits in effect at June 30, 2025, are summarized as follows:

	Miscellaneous	
	Classic	PEPRA
	Prior to January 1, 2013	On or after January 1, 2013
Hire date		
Benefit formula	2.0% @ 55	2.0% @ 62
Benefit vesting schedule	5 years service	5 years service
Benefit payments	monthly for life	monthly for life
Retirement age	50 - 63	52 - 67
Monthly benefits, as a % of eligible compensation	1.4% to 2.0%	1.0% to 2.0%
Required employee contribution rates	7.00%	8.00%
Required employer contribution rates	13.10%	8.20%

Contributions

Section 20814(c) of the California Public Employees' Retirement Law requires that the employer contribution rates for all public employers are determined on an annual basis by the actuary and shall be effective on the July 1, following notice of a change in the rate. Funding contributions for the Plan are determined annually on an actuarial basis as of June 30 by CalPERS. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The Authority is required to contribute the difference between the actuarially determined rate and the contribution rate of employees.

For the fiscal years ended June 30, the contributions were as follows:

	2025	2024
Contributions – employer	\$ 524,278	378,165

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(9) Defined Benefit Pension Plan, continued

Net Pension Liability

As of the fiscal year ended June 30, the Authority reported net pension liabilities for its proportionate share of the net pension liability of the Plan were as follows:

	<u>2025</u>	<u>2024</u>
Proportionate share of net pension liability	\$ <u>3,008,212</u>	<u>3,104,092</u>

The Authority's net pension liability for the Plan is measured as the proportionate share of the net pension liability. The net pension liability of the Plan is measured as of June 30, 2024 and 2023, and the total pension liability for the Plan used to calculate the net pension liability was determined by an actuarial valuation as of June 30, 2023 and 2022, rolled forward to June 30, 2024 and 2023, respectively, using standard update procedures. The Authority's proportion of the net pension liability was based on a projection of the Authority's long-term share of contributions to the pension plan relative to the projected contributions of all participating employers, actuarially determined.

The Authority's change in the proportionate share of the pension liability for the Plan as of the fiscal year end June 30, was as follows:

	<u>Proportionate Share</u>
Proportion – June 30, 2024	0.02488 %
Change in proportion	<u>(0.00007)</u>
Proportion – June 30, 2025	<u>0.02481 %</u>

The Authority's change in the proportionate share of the pension liability for the Plan as of the fiscal year end June 30, was as follows:

	<u>Proportionate Share</u>
Proportion – June 30, 2023	0.02249 %
Change in proportion	<u>0.00239</u>
Proportion – June 30, 2024	<u>0.02488 %</u>

As a result of the adjustment for the GASB 68 pronouncement at June 30, 2025 and 2024, the Authority recognized pension expense of \$1,175,064 and \$1,271,247, respectively.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(9) Defined Benefit Pension Plan, continued

Deferred Pension Outflows (Inflows) of Resources

At June 30, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

Description	June 30, 2025		June 30, 2024	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
Pension contributions subsequent to measurement date at June 30	\$ 524,278	-	378,165	-
Net, differences between actual and expected experience	249,940	-	133,977	-
Net, changes in assumptions	77,318	-	187,410	-
Net, differences between projected and actual earnings on plan investments	173,180	-	502,586	-
Net, differences between actual contributions and proportionate share of contributions	-	(736,364)	-	(607,400)
Net, change due to differences in proportion of net pension liability	681,330	-	1,121,610	-
Total	\$ 1,706,046	(736,364)	2,323,748	(607,400)

As of June 30, 2025 and 2024, employer pension contributions reported as deferred outflows of resources related to contributions subsequent to the measurement date of \$524,278 and \$378,165 will be/were recognized as a reduction of the net pension liability in the fiscal year ended June 30, 2026 and 2025, respectively.

As a result of the current year actuarial valuation changes for GASB 68 at June 30, 2025, the Authority recognized other amounts reported by the Plan actuarial as deferred outflows of resources and deferred inflows of resources related to the pension liability. Pension related amounts will be recognized as pension expense (income) as follows.

Fiscal Year Ending June 30,	Deferred Net Outflows(Inflows) of Resources
2026	\$ 513,652
2027	(55,437)
2028	10,487
2029	(23,298)

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(9) Defined Benefit Pension Plan, continued

Actuarial Assumptions

The total pension liabilities were determined as of June 30, 2023 and 2022, which were rolled forward to June 30, 2024 and 2023, respectively, using the following actuarial assumptions:

Valuation dates	June 30, 2023 and 2022
Measurement dates	June 30, 2024 and 2023
Actuarial cost method	Entry Age Normal in accordance with the requirements of GASB Statement No. 68
Actuarial assumptions:	
Discount rate	2024 – 6.90% 2023 – 6.90%
Inflation	2024 – 2.30% 2023 – 2.30%
Salary increase	Varies by Entry Age and Service
Investment Rate of Return	6.90 % Net of Pension Plan Investment and Administrative Expenses; includes inflation
Mortality Rate Table*	Derived using CalPERS' Membership Data for all Funds
Period upon which actuarial Experience Survey assumptions were based	2022 and 2021 – 1997–2015
Post Retirement Benefit	2022 and 2021 – Contract COLA up to 2.30% until Purchasing Power Protection Allowance Floor on Purchasing Power applies, 2.30%

* The mortality table used was developed based on CalPERS' specific data. The table includes 20 years of mortality improvements using Society of Actuaries Scale BB. For more details on this table, please refer to the 2014 Experience Study report. Further details of the Experience Study can be found on the CalPERS website.

Discount Rate

The discount rate used to measure the total pension liability was 6.90% for the Plan. To determine whether the municipal bond rate should be used in the calculation of a discount rate for the Plan, the amortization and smoothing periods recently adopted by CalPERS were utilized. The crossover test was performed for a miscellaneous agent plan and a safety agent plan selected as being more at risk of failing the crossover test and resulting in a discount rate that would be different from the long-term expected rate of return on pension investments.

Based on the testing of the plans, the tests revealed the assets would not run out. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability for the Plan.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(9) Defined Benefit Pension Plan, continued

Discount Rate, continued

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

In determining the long-term expected rate of return, CalPERS took into account both short-term and long-term market return expectations as well as the expected pension fund cash flows. Using historical returns of all the funds' asset classes, expected compound returns were calculated over the short-term (first 10 years) and the long-term (11-60 years) using a building-block approach. Using the expected nominal returns for both short-term and long-term, the present value of benefits was calculated for each fund. The expected rate of return was set by calculating the single equivalent expected return that arrived at the same present value of benefits for cash flows as the one calculated using both short-term and long-term returns. The expected rate of return was then set equivalent to the single equivalent rate calculated above and rounded down to the nearest one quarter of one percent.

The table below reflects the long-term expected real rate of return by asset class. The rate of return was calculated using the capital market assumptions applied to determine the discount rate and asset allocation.

As of June 30, 2025, the target allocation and the long-term expected real rate of return by asset class were as follows:

Asset Class	Target Allocation	Real Return Years 1-10
Global equity - cap-weighted	30.00 %	4.45 %
Global equity non-cap-weighted	12.00	3.84
Private Equity	13.00	7.28
Treasury	5.00	0.27
Mortgage-backed Securities	5.00	0.50
Investment Grade Corporates	10.00	1.56
High Yield	5.00	2.27
Emerging Market Debt	5.00	2.48
Private Debt	5.00	3.57
Real Assets	15.00	3.21
Leverage	-5.00	(0.59)
Total	<u>100.00 %</u>	

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(9) Defined Benefit Pension Plan, continued

Sensitivity of the Proportionate Share of Net Pension Liability to Changes in the Discount Rate

The following tables presents the Authority's proportionate share of the net position liability for the Plan, calculated using the discount rate, as well as what the Authority's proportional share of the net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate.

As of June 30, 2025, the discount rate comparison was the following:

	Discount Rate - 1% 5.90%	Current Discount Rate 6.90%	Discount Rate + 1% 7.90%
Authority's net pension liability (asset)	\$ 6,912,305	3,008,212	(205,432)

As of June 30, 2024, the discount rate comparison was the following:

	Discount Rate - 1% 5.90%	Current Discount Rate 6.90%	Discount Rate + 1% 7.90%
Authority's net pension liability (asset)	\$ 6,734,925	3,104,092	115,605

Pension Plan Fiduciary Net Position

Detailed information about the pension plan's fiduciary net position is available in separately issued CalPERS financial reports. See the Required Supplementary Information section for the Required Supplementary Schedules.

Payable to the Pension Plan

As of June 30, 2025 and 2024, the Authority reported no payables for the outstanding amount of contribution to the pension plan, respectively.

(10) Unearned Revenue

The changes to deferred revenue at June 30 were as follows:

Balance 2024	Additions	Deletions	Balance 2025
\$ 55,159,506	4,497,194	(2,625,774)	57,030,926

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(10) Unearned Revenue, continued

The changes to deferred revenue at June 30 were as follows:

	<u>Balance</u> <u>2023</u>	<u>Additions</u>	<u>Deletions</u>	<u>Balance</u> <u>2024</u>
\$	59,012,531	11,297	(3,864,322)	55,159,506

(11) Net Position

Calculation of net position as of June 30 was as follows:

	<u>2025</u>	<u>2024</u>
Net investment in capital assets:		
Capital assets – not being depreciated	\$ 1,781,766	4,176,632
Depreciable capital assets, net	87,137,894	88,344,792
State Revolving Fund Reach IV-A & IV-B loan payable	(7,455,758)	(8,284,631)
SWRCB Brine Line Reach V Loans Payable	(12,301,866)	(12,725,288)
Konica Minolta	(51,706)	(5,535)
Building 1	(31,408)	(48,657)
Building 2	(33,221)	(64,405)
Building 3	(28,991)	(56,294)
Total net investment in capital assets	<u>69,016,710</u>	<u>71,336,614</u>
Restricted net position:		
SRF Reach IV-A & IV-B Reserve Requirement	1,050,000	1,050,000
Mitigation	1,910,560	1,910,560
Net OPEB asset	628,803	369,212
Total restricted net position	<u>3,589,363</u>	<u>3,329,772</u>
Unrestricted net position:	<u>21,857,529</u>	<u>12,925,619</u>
Total net position	<u>\$ 94,463,602</u>	<u>87,592,005</u>

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(12) Joint Ventures

Lake Elsinore & San Jacinto Watersheds Authority (LESJWA)

The Authority is a member of LESJWA, a Joint Powers Authority created on March 8, 2000, for the purpose of implementing projects and programs to improve the two watersheds in order to preserve agricultural land, protect wildlife habitat, protect and enhance recreational resources, and improve lake water quality, for the benefit of the general public. Other members include the City of Canyon Lake, the City of Lake Elsinore, Elsinore Valley Municipal Water District, and the County of Riverside. Each member agency appoints one Director and one alternate to serve on the Board, with both also on the member's agency's board. Each member agency has agreed to make contributions for construction and operations, if necessary.

Upon dissolution of LESJWA, each member agency will receive its proportionate or otherwise defined share of the assets, and each member agency will contribute its proportionate or otherwise defined share of any enforceable liabilities incurred.

The Authority conducts the administrative function of LESJWA, which reimburses the Authority based on invoices for administrative services provided. During the years ended June 30, 2025, and 2024, administrative services provided to LESJWA totaled \$142,100 and \$153,460, respectively, which are included in operating revenue.

The financial statements for LESJWA are available at the Authority.

	<u>2025</u>	<u>2024</u>
Total assets	\$ 300,378	406,644
Total liabilities	\$ 169,004	222,666
Total net position	\$ 131,374	183,978

(13) Risk Management

The Authority is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The Authority purchases commercial insurance policies from independent third parties. Settled claims have been immaterial and have not exceeded insurance coverage for the past three years.

On February 22, 1986, the Authority became self-insured with respect to its comprehensive liability coverage for toxic waste handling as allowed under California Government Code, Section 990. Coverage includes occurrences and incidents resulting in liability to the Authority, its commissioners, officers, employees, and agents. There are no outstanding claims pending.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(14) Governmental Accounting Standards Board Statements Issued, Not Yet Effective

The Governmental Accounting Standards Board (GASB) has issued several pronouncements prior to June 30, 2025, that have effective dates that may impact future financial presentations.

Governmental Accounting Standards Board Statement No. 103

In April 2024, the GASB issued Statement No. 103 – *Financial Reporting Model Improvements*. The primary objective of this Statement is to improve key components of the financial reporting model to enhance effectiveness in providing information that is essential for decision making and assessing a government’s accountability. Also, this Statement: (1) continues the requirement that the basic financial statements be preceded by management’s discussion and analysis (MD&A), which is presented as required supplementary information (RSI); (2) describes unusual or infrequent items as transactions and other events that are either unusual in nature or infrequent in occurrence; (3) requires that the proprietary fund statement of revenues, expenses, and changes in fund net position continue to distinguish between operating and nonoperating revenues and expenses; (4) requires governments to present each major component unit separately in the reporting entity’s statement of net position and statement of activities if it does not reduce the readability of the statements; and (5) requires governments to present budgetary comparison information using a single method of communication—RSI.

The requirements of this Statement are effective for fiscal years beginning after June 15, 2025, and all reporting periods thereafter. Earlier application is encouraged.

Governmental Accounting Standards Board Statement No. 104

In September 2024, the GASB issued Statement No. 104 – *Disclosure of Certain Capital Assets*. The primary objective of this Statement is to provide users of government financial statements with essential information about certain types of capital assets. This Statement establishes requirements for certain types of capital assets to be disclosed separately in the capital assets note disclosures required by Statement No. 34, *Basic Financial Statements and Management Discussion and Analysis* for State and Local Governments. Also, this Statement establishes requirements for capital assets held for sale, including additional disclosures for those capital assets. The requirements of this Statement apply to the financial statements of all state and local governments.

The requirements of this Statement are effective for fiscal years beginning after June 15, 2025, and all reporting periods thereafter. Earlier application is encouraged.

Santa Ana Watershed Project Authority
Notes to the Financial Statements, continued
For the Fiscal Years Ended June 30, 2025 and 2024

(15) Commitments and Contingencies

Grant Awards

Grant funds received by the Authority are subject to audit by the grantor agencies. Such audits could lead to requests for reimbursements to the grantor agencies for expenditures disallowed under the terms of the grant. The management of the Authority believes that such disallowances, if any, would not be significant.

In the ordinary course of operations, the Authority is subject to claims and litigation from outside parties. After consultation with legal counsel, the Authority believes the ultimate outcome of such matters, if any, will not materially affect its financial condition.

Other Commitments and Contingencies

The Authority is contractually obligated to pay a pro-rata share of capital costs associated with the Santa Ana Regional Interceptor (SARI) Pipeline owned by Orange County Sanitation District. Within the SARI pipeline, the Authority's portion is referred to as the Inland Empire Brine Line. The percentage varies with each Reach of the SARI.

(16) Subsequent Events

Events occurring after June 30, 2025, have been evaluated for possible adjustment to the financial statements or disclosure as of [ISSUE DATE], which is the date the financial statements were available to be issued.

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Working Draft Subject to Review

Required Supplementary Information

Working Draft Subject to Review

Santa Ana Watershed Project Authority
Schedules of Changes in the Net OPEB Liability and Related Ratios
As of June 30, 2025
Last Ten Years*

	Measurement Dates							
	June 30, 2024	June 30, 2023	June 30, 2022	June 30, 2021	June 30, 2020	June 30, 2019	June 30, 2018	June 30, 2017
Total OPEB liability								
Service cost	\$ 20,007	16,903	16,098	20,942	19,944	28,540	27,181	26,828
Interest	85,347	126,398	124,628	138,454	135,129	127,527	122,126	108,355
Employer contributions	-	-	-	-	-	-	-	-
Changes of benefit terms	-	-	-	-	-	-	-	-
Difference between expected and actual experience	-	-	-	-	-	-	-	-
Changes of assumptions or other inputs	(100,768)	(206,702)	-	(424,697)	-	(248,125)	-	103,114
Benefit payments	(86,380)	(84,339)	(113,595)	(109,963)	(95,452)	(75,336)	(57,035)	(55,611)
Net change in total OPEB liability	(81,794)	(329,012)	11,790	(198,815)	55,541	131,467	87,889	204,967
Total OPEB liability – beginning	1,574,384	1,903,396	1,891,606	2,090,421	2,034,880	1,903,413	1,815,524	1,610,557
Total OPEB liability – ending	<u>1,492,590</u>	<u>1,574,384</u>	<u>1,903,396</u>	<u>1,891,606</u>	<u>2,090,421</u>	<u>2,034,880</u>	<u>1,903,413</u>	<u>1,815,524</u>
Plan fiduciary net position								
Contribution – employer	105,322	102,379	160,466	164,101	169,930	149,059	129,352	121,424
Net investment income	159,482	66,415	(265,576)	335,301	84,799	100,148	73,974	79,164
Benefit payments	(86,380)	(84,339)	(113,595)	(109,963)	(95,452)	(75,336)	(57,035)	(55,611)
Administrative expense	(627)	(533)	(528)	(621)	(759)	(298)	(643)	(572)
Net change in plan fiduciary net position	177,797	83,922	(219,233)	388,818	158,518	173,573	145,648	144,405
Plan fiduciary net position – beginning	1,943,596	1,859,674	2,078,907	1,690,089	1,531,571	1,357,998	1,212,350	1,067,945
Plan fiduciary net position – ending	<u>2,121,393</u>	<u>1,943,596</u>	<u>1,859,674</u>	<u>2,078,907</u>	<u>1,690,089</u>	<u>1,531,571</u>	<u>1,357,998</u>	<u>1,212,350</u>
Net OPEB (asset) liability	<u>\$ (628,803)</u>	<u>(369,212)</u>	<u>43,722</u>	<u>(187,301)</u>	<u>400,332</u>	<u>503,309</u>	<u>545,415</u>	<u>603,174</u>
Covered payroll	\$ 836,023	810,757	977,174	1,182,249	1,379,767	1,336,336	1,238,555	1,156,128
Total OPEB liability as a percentage of covered payroll	<u>-75.21%</u>	<u>-45.54%</u>	<u>4.47%</u>	<u>-15.84%</u>	<u>29.01%</u>	<u>37.66%</u>	<u>44.04%</u>	<u>52.17%</u>

Notes to Schedule

Valuation dates	June 30, 2023	June 30, 2023	June 30, 2021	June 30, 2021	June 30, 2021	June 30, 2019	June 30, 2017	June 30, 2017
Methods and assumptions used to determine contribution rates:								
Single and agent employers	Entry age normal	Entry age normal	Entry age normal	Entry age normal	Entry age normal	Entry age normal	Entry age normal	Entry age normal
Amortization method	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Asset valuation method	Market value	Market value	Market value	Market value	Market value	Market value	Market value	Market value
Inflation	2.50%	2.62%	2.39%	2.39%	2.39%	2.26%	2.26%	2.25%
Salary increases	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%
Investment rate of return	6.10%	5.50%	6.73%	6.73%	6.73%	6.73%	6.73%	6.73%
Mortality, retirement, disability								
Termination	(3)	(3)	(3)	(3)	(3)	(3)	(2)	(2)
Other information	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)

(1) Level percentage of payroll, closed 30 year period.

(2) Pre-retirement mortality based on CalPERS 2014 Employee Mortality Tables, Post-retirement mortality rates based on CalPERS 2014 Employee Mortality Tables.

(3) Pre-retirement mortality probability based on 2017 CalPERS Experience Study covering CalPERS participants.

Post-retirement mortality probability based on CalPERS Experience Study 2007-2011 covering participants in CalPERS.

(4) N/A

*The Authority has presented information for those years for which information is available until a full 10-year trend is compiled.

Santa Ana Watershed Project Authority
Schedules of OPEB Plan Contributions
As of June 30, 2025
Last Ten Years*

Description	Fiscal Years Ended							
	<u>June 30, 2025</u>	<u>June 30, 2024</u>	<u>June 30, 2023</u>	<u>June 30, 2022</u>	<u>June 30, 2021</u>	<u>June 30, 2020</u>	<u>June 30, 2019</u>	<u>June 30, 2018</u>
Actuarially determined contribution	\$ 86,951	97,672	88,991	99,262	60,264	73,723	72,317	65,813
Contributions in relation to the actuarially determined contribution	<u>(86,951)</u>	<u>(97,672)</u>	<u>(86,380)</u>	<u>(109,963)</u>	<u>(169,930)</u>	<u>(149,059)</u>	<u>(129,352)</u>	<u>(121,424)</u>
Contribution deficiency(excess)	\$ <u>-</u>	<u>-</u>	<u>2,611</u>	<u>(10,701)</u>	<u>(109,666)</u>	<u>(75,336)</u>	<u>(57,035)</u>	<u>(55,611)</u>
District's covered payroll	\$ 836,023	810,757	977,174	1,217,716	1,182,249	1,379,767	1,336,336	1,238,555
Contribution's as a percentage of covered payroll	<u>10.40%</u>	<u>12.05%</u>	<u>8.84%</u>	<u>9.03%</u>	<u>14.37%</u>	<u>10.80%</u>	<u>9.68%</u>	<u>9.80%</u>

*The Authority has presented information for those years for which information is available until a full 10-year trend is compiled.

Working Draft Subject to Review

Santa Ana Watershed Project Authority
Schedules of Proportionate Share of the Net Pension Liability
As of June 30, 2025
Last Ten Years

Description	Measurement Dates									
	June 30, 2024	June 30, 2023	June 30, 2022	June 30, 2021	June 30, 2020	June 30, 2019	June 30, 2018	June 30, 2017	June 30, 2016	June 30, 2015
Authority's proportion of the net pension liability	0.02481%	0.02488%	0.02490%	-0.02044%	0.01719%	0.03983%	0.03788%	0.03755%	0.03588%	0.03274%
Authority's proportionate share of the net pension liability (asset)	\$ 3,008,212	3,104,092	2,597,279	(1,105,718)	1,870,834	4,081,229	3,649,848	3,724,430	3,104,742	2,247,501
Authority's covered payroll	\$ 3,147,488	3,043,474	3,177,937	3,244,053	3,277,860	3,166,203	3,065,932	3,098,371	2,795,885	2,560,510
Authority's proportionate share of the net pension liability as a percentage of its covered payroll	95.58%	101.99%	81.73%	-34.08%	57.07%	128.90%	119.05%	120.21%	111.05%	87.78%
Plan's fiduciary net position as a percentage of the total pension liability	89.60%	88.44%	89.64%	104.76%	77.71%	77.73%	75.26%	73.31%	74.06%	78.40%

Notes to schedule:

There were no changes in benefits.

Changes in assumptions:

From fiscal year June 30, 2015 to June 30, 2016:

GASB 68, paragraph 68 states that the long-term expected rate of return should be determined net of pension plan investment expense but without reduction for pension plan administrative expense. The discount rate of 7.50% used for the June 30, 2014 measurement date was net of administrative expenses.

The discount rate of 7.65% used for the June 30, 2015 measurement date is without reduction of pension plan administrative expense.

From fiscal year June 30, 2016 to June 30, 2017:

There were no changes in assumptions.

From fiscal year June 30, 2017 to June 30, 2018:

The discount rate was reduced from 7.65% to 7.15%

From fiscal year June 30, 2018 to June 30, 2019:

The inflation rate was reduced from 2.75% to 2.50%

From fiscal year June 30, 2019 to June 30, 2020:

There were no changes in assumptions.

From fiscal year June 30, 2020 to June 30, 2021:

There were no changes in assumptions.

From fiscal year June 30, 2021 to June 30, 2022:

There were no changes in assumptions.

From fiscal year June 30, 2022 to June 30, 2023:

The discount rate was reduced from 7.15% to 6.90%

The inflation rate was reduced from 2.50% to 2.30%

From fiscal year June 30, 2023 to June 30, 2024:

There were no changes in assumptions.

From fiscal year June 30, 2024 to June 30, 2025:

There were no changes in assumptions.

Santa Ana Watershed Project Authority
Schedules of Pension Plan Contributions
As of June 30, 2025
Last Ten Years

Description	Fiscal Years Ended									
	June 30, 2025	June 30, 2024	June 30, 2023	June 30, 2022	June 30, 2021	June 30, 2020	June 30, 2019	June 30, 2018	June 30, 2017	June 30, 2016
Actuarially determined contribution	\$ 461,722	355,437	529,378	486,186	618,033	552,495	485,329	422,430	388,896	339,020
Contributions in relation to the actuarially determined contribution	(461,722)	(355,437)	(529,378)	(486,186)	(618,033)	(3,104,168)	(485,329)	(422,430)	(388,896)	(339,020)
Contribution deficiency(excess)	\$ -	-	-	-	-	(2,551,673)	-	-	-	-
Authority's covered payroll	\$ 3,437,186	3,147,488	3,043,474	3,177,937	3,244,053	3,277,860	3,166,203	3,065,932	3,098,371	2,795,885
Contribution's as a percentage of covered payroll	13.43%	11.29%	17.39%	15.30%	19.05%	94.70%	15.33%	13.78%	12.55%	12.13%
Notes to schedule:										
Valuation date	June 30, 2023	June 30, 2022	June 30, 2021	June 30, 2020	June 30, 2019	June 30, 2018	June 30, 2017	June 30, 2016	June 30, 2015	June 30, 2014
Methods and assumptions used to determine contribution rates:										
Actuarial cost method	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age
Amortization method	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Asset valuation method	Market Value	Market Value	Market Value	Market Value	Market Value	Market Value	Market Value	Market Value	Market Value	Market Value
Inflation	2.30%	2.30%	2.30%	2.50%	2.50%	2.50%	2.75%	2.75%	2.75%	2.75%
Salary increases	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Investment rate of return	6.90% (3)	6.90% (3)	6.90% (3)	7.15% (3)	7.00% (3)	7.25% (3)	7.375% (3)	7.50% (3)	7.50% (3)	7.50% (3)
Retirement age	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Mortality	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)

(1) Level of percentage payroll, closed.

(2) Depending on age, service, and type of employment.

(3) Net of pension plan investment expense, including inflation.

(4) 50 for all plans with exception of 52 for Miscellaneous 2% @ 62.

(5) Mortality assumptions are based on mortality rates resulting from the most recent CalPERS Experience Study adopted by the CalPERS Board.

Supplemental Information

Working Draft Subject to Review

Santa Ana Watershed Project Authority
Combining Schedule of Net Position
Enterprise Funds
June 30, 2025

with Comparative Information for the Fiscal Year Ended June 30, 2024

	Capital Project Activities	Internal Administration	Enterprise Activities	Totals	
				2025	2024
Current assets:					
Cash and cash equivalents	\$ 3,782,446	1,829,826	59,862,983	65,475,255	50,625,527
Cash and cash equivalents – restricted	703,933	-	-	703,933	749,289
Investments	-	-	13,271,315	13,271,315	15,920,557
Interest receivable	43,042	35,322	628,156	706,520	560,242
Accounts receivable	-	9,968	2,141,506	2,151,474	3,709,204
Accounts receivable – grants	15,020,183	1,368,035	-	16,388,218	9,297,920
Accounts receivable – other	5,896	34	-	5,930	12,109
Loan receivable – current portion	-	-	-	-	-
Prepaid expenses and other assets	-	180,064	195,663	375,727	432,173
Mitigation credits	1,910,560	-	-	1,910,560	1,910,560
Due from other funds	-	226,263	-	226,263	56,107
Total current assets	21,466,060	3,649,512	76,099,623	101,215,195	83,273,688
Non-current assets:					
Loan receivable	-	-	-	-	-
Loan receivable	-	-	-	-	-
Capital assets not being depreciated	705,217	756,541	320,008	1,781,766	4,176,632
Depreciable capital assets, net	-	872,797	86,265,097	87,137,894	88,344,792
Net OPEB asset	-	628,803	-	628,803	369,212
Total non-current assets	705,217	2,258,141	86,585,105	89,548,463	92,890,636
Total assets	22,171,277	5,907,653	162,684,728	190,763,658	176,164,324
Deferred outflows of resources:					
Deferred OPEB outflows of resources	-	200,556	-	200,556	313,228
Deferred pension outflows of resources	-	1,706,046	-	1,706,046	2,323,748
	\$ -	1,906,602	-	1,906,602	2,636,976

Continued on next page.

See accompanying notes to the basic financial statements

Santa Ana Watershed Project Authority
Combining Schedule of Net Position - Continued
Enterprise Funds
June 30, 2025

with Comparative Information for the Fiscal Year Ended June 30, 2024

	Capital Project Activities	Internal Administration	Enterprise Activities	Totals	
				2025	2024
Current liabilities:					
Accounts payable and accrued expenses	\$ 14,748,146	208,493	1,050,310	16,006,949	9,840,223
Accrued salaries and wages	-	128,718	-	128,718	106,304
Accrued interest payable	16	-	155,464	155,480	169,640
Customer deposits	-	-	-	-	667
Due to other funds	226,263	-	-	226,263	56,107
Long-term liabilities – due within one year:					
Compensated absences	-	261,822	-	261,822	222,681
Leases payable	-	23,898	85,715	109,613	87,965
Loans payable	-	-	1,281,891	1,281,891	1,252,295
Total current liabilities	14,974,425	622,931	2,573,380	18,170,736	11,735,882
Non-current liabilities:					
Unearned revenue	-	-	57,030,926	57,030,926	55,159,506
Long-term liabilities due in more than one year:					
Compensated absences	-	610,919	-	610,919	519,590
Leases payable	-	35,713	-	35,713	86,926
Loans payable	-	-	18,475,733	18,475,733	19,757,624
Net OPEB liability	-	-	-	-	-
Net pension liability	-	3,008,212	-	3,008,212	3,104,092
Total non-current liabilities	-	3,654,844	75,506,659	79,161,503	78,627,738
Total liabilities	14,974,425	4,277,775	78,080,039	97,332,239	90,363,620
Deferred inflows of resources:					
Deferred OPEB inflows of resources	-	138,055	-	138,055	238,275
Deferred pension inflows of resources	-	736,364	-	736,364	607,400
	-	874,419	-	874,419	845,675
Net position:					
Net investment in capital assets	705,217	1,569,727	66,741,766	69,016,710	71,336,614
Restricted for:					
SRF Reach IV-A & IV-B reserve requirement	-	-	1,050,000	1,050,000	1,050,000
Mitigation	1,910,560	-	-	1,910,560	1,910,560
Net OPEB asset	-	628,803	-	628,803	369,212
Unrestricted	4,581,075	463,531	16,812,923	21,857,529	12,925,619
Total net position	\$ 7,196,852	2,662,061	84,604,689	94,463,602	87,592,005

See accompanying notes to the basic financial statements

Santa Ana Watershed Project Authority
Combining Schedule of Revenues, Expenses, and Changes in Net Position
Enterprise Funds
For the Year Ended June 30, 2025
with Comparative Information for the Fiscal Year Ended June 30, 2024

	Capital Project Activities	Internal Administration	Enterprise Activities	Totals	
				2025	2024
Operating revenues:					
Wastewater treatment and disposal	\$ -	-	13,037,789	13,037,789	13,047,884
Wastewater treatment and disposal - capacity rights	-	-	2,614,477	2,614,477	2,510,154
Program administration	142,100	-	-	142,100	153,460
Other	-	15,182	-	15,182	3,186
Total operating revenues	142,100	15,182	15,652,266	15,809,548	15,714,684
Operating expenses:					
Wastewater treatment and disposal	-	-	8,305,066	8,305,066	8,038,986
General and administrative and overhead	-	82,992	-	82,992	399,828
Studies and planning costs	2,660,903	-	-	2,660,903	3,104,665
Total operating expenses:	2,660,903	82,992	8,305,066	11,048,961	11,543,479
Operating (loss) income before depreciation and amortization	(2,518,803)	(67,810)	7,347,200	4,760,587	4,171,205
Depreciation and amortization	-	(152,026)	(3,041,919)	(3,193,945)	(3,085,805)
Amortization – disposal rights	-	-	(927,235)	(927,235)	(927,235)
Net (loss) income	(2,518,803)	(219,836)	3,378,046	639,407	158,165
Non-operating revenues (expenses):					
Member contributions	1,548,500	712,910	-	2,261,410	2,308,275
Intergovernmental	13,399,755	1,048,844	-	14,448,599	7,903,442
Pension (expense) income – GASB 68	-	(1,175,064)	-	(1,175,064)	(1,271,247)
OPEB income – GASB 75	-	159,361	-	159,361	273,301
Investment earnings, net of fair value	174,380	145,350	3,536,734	3,856,464	3,438,677
Grant program expenditures	(11,823,962)	(1,047,850)	-	(12,871,812)	(6,893,893)
Interest expense	-	(1,178)	(445,590)	(446,768)	(479,119)
Total non-operating (expense) revenues, net	3,298,673	(157,627)	3,091,144	6,232,190	5,279,436
Capital contributions:					
Rialto Bioenergy	-	-	-	-	1,389,215
San Bernardino Valley Municipal Water District	-	-	-	-	776,801
Total capital contributions	-	-	-	-	2,166,016
Total (loss) income before transfers	779,870	(377,463)	6,469,190	6,871,597	7,603,617
Transfers	(2,485,898)	-	2,485,898	-	-
Change in net position	(1,706,028)	(377,463)	8,955,088	6,871,597	7,603,617
Net position – beginning of year,	8,902,880	3,039,524	75,649,601	87,592,005	79,988,388
Net position – end of year	\$ 7,196,852	2,662,061	84,604,689	94,463,602	87,592,005

See accompanying notes to the basic financial statements

Santa Ana Watershed Project Authority
Combining Schedule of Net Position
Capital Projects Activities
June 30, 2025

	Brine Line Protection Project	Reach IV-D Corrosion Repair	Aqua Mansa Lateral Project	Basin Planning
Current assets:				
Cash and cash equivalents	\$ -	-	-	197,139
Cash and cash equivalents – restricted	-	-	-	-
Interest receivable	-	-	-	2,218
Accounts receivable – grants	-	-	-	-
Accounts receivable – other	-	-	-	-
Prepaid expenses and other assets	-	-	-	-
Mitigation credits	-	-	-	-
Total current assets	-	-	-	199,357
Non-current assets:				
Capital assets not being depreciated	-	705,217	-	-
Total assets	-	705,217	-	199,357
Current liabilities:				
Accounts payable	-	-	-	26,477
Accrued interest payable	-	-	-	-
Due to other funds	-	-	-	-
Total liabilities	-	-	-	26,477
Net position:				
Net investment in capital assets	-	705,217	-	-
Restricted	-	-	-	-
Unrestricted	-	-	-	172,880
Total net position	\$ -	705,217	-	172,880

Continued on next page.

See accompanying notes to the basic financial statements

Watershed Management Plan	Basin Monitoring Program Task Force	Int. Climate Adaptation & Resilience Program	PFAS Study	Weather Modification	Santa Ana River Fish Conservation	MSAR TMDL Task Force
247,876	1,076,342	-	533,037	256,258	93,883	407,150
-	-	-	-	-	-	-
3,144	12,010	-	6,192	1,742	1,020	4,501
-	-	162,110	-	8,014	-	-
-	-	-	-	3,867	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
<u>251,020</u>	<u>1,088,352</u>	<u>162,110</u>	<u>539,229</u>	<u>269,881</u>	<u>94,903</u>	<u>411,651</u>
-	-	-	-	-	-	-
<u>251,020</u>	<u>1,088,352</u>	<u>162,110</u>	<u>539,229</u>	<u>269,881</u>	<u>94,903</u>	<u>411,651</u>
11,875	14,471	9,893	5,907	42,367	29	13,488
-	-	-	-	-	-	-
-	-	152,217	-	9,163	-	-
<u>11,875</u>	<u>14,471</u>	<u>162,110</u>	<u>5,907</u>	<u>51,530</u>	<u>29</u>	<u>13,488</u>
-	-	-	-	-	-	-
-	-	-	-	-	-	-
<u>239,145</u>	<u>1,073,881</u>	<u>-</u>	<u>533,322</u>	<u>218,351</u>	<u>94,874</u>	<u>398,163</u>
<u>239,145</u>	<u>1,073,881</u>	<u>-</u>	<u>533,322</u>	<u>218,351</u>	<u>94,874</u>	<u>398,163</u>

Continued on next page.

See accompanying notes to the basic financial statements

Santa Ana Watershed Project Authority
Combining Schedule of Net Position - Continued
Capital Project Activities
June 30, 2025

	Regional Water Quality Monitoring Task Force	Arundo Management & Habitat Restoration	Emerging Constituents Task Force	Energy Water DAC Grant Project
Current assets:				
Cash and cash equivalents	\$ 140,585	-	206,494	-
Cash and cash equivalents – restricted	-	703,933	-	-
Interest receivable	2,075	7,730	2,410	-
Accounts receivable – grants	-	-	-	68,986
Accounts receivable – other	-	-	-	-
Prepaid expenses and other assets	-	-	-	-
Mitigation credits	-	1,910,560	-	-
Total current assets	142,660	2,622,223	208,904	68,986
Non-current assets:				
Capital assets not being depreciated	-	-	-	-
Total assets	142,660	2,622,223	208,904	68,986
Current liabilities:				
Accounts payable	25,000	2,426	6,073	21,900
Accrued interest payable	-	-	-	-
Due to other funds	-	-	-	45,076
Total liabilities	25,000	2,426	6,073	66,976
Net position:				
Net investment in capital assets	-	-	-	-
Restricted	-	1,910,560	-	-
Unrestricted	117,660	709,237	202,831	2,010
Total net position	\$ 117,660	2,619,797	202,831	2,010

Continued on next page.

See accompanying notes to the basic financial statements

Prop 1 DACI Grant	Lake Elsinore Management	Prop 84 Grant Projects	Prop 1 Grant Projects	Total	
				2025	2024
-	-	601,600	22,082	\$ 3,782,446	2,898,434
-	-	-	-	703,933	749,289
-	-	-	-	43,042	33,829
266,123	-	11,441,785	3,073,165	15,020,183	8,592,692
-	2,029	-	-	5,896	11,903
-	-	-	-	-	8,200
-	-	-	-	1,910,560	1,910,560
266,123	2,029	12,043,385	3,095,247	21,466,060	14,204,907
-	-	-	-	705,217	3,356,735
266,123	2,029	12,043,385	3,095,247	22,171,277	17,561,642
246,974	75	11,332,277	2,988,914	14,748,146	8,602,542
-	16	-	-	16	113
19,199	608	-	-	226,263	56,107
266,173	699	11,332,277	2,988,914	14,974,425	8,658,762
-	-	-	-	705,217	3,356,735
-	-	-	-	1,910,560	1,910,560
(50)	1,330	711,108	106,333	4,581,075	3,635,585
(50)	1,330	711,108	106,333	\$ 7,196,852	8,902,880

See accompanying notes to the basic financial statements

Santa Ana Watershed Project Authority
Combining Schedule of Revenues, Expenses, and Changes in Net Position
Capital Project Activities
For the Fiscal Year Ended June 30, 2025

	Brine Line Protection Project	Reach IV-D Corrosion Repair	Aqua Mansa Lateral Project	Basin Planning
Operating revenues:				
Other	-	-	-	-
Total operating revenues	-	-	-	-
Operating expenses:				
Studies and planning costs	2,801	-	-	335,091
Total operating expenses	2,801	-	-	335,091
Net income (loss)	(2,801)	-	-	(335,091)
Non-operating revenues (expenses):				
Member contributions	-	-	-	420,000
Intergovernmental	-	-	-	-
Investment earnings, net of fair value	-	-	-	11,578
Grant program expenditures	-	-	-	-
Total non-operating revenues (expense)	-	-	-	431,578
Total income (loss) before transfers	(2,801)	-	-	96,487
Transfers	15,650	36,518	(2,538,066)	-
Changes in net position	12,849	36,518	(2,538,066)	96,487
Net position – beginning of year	(12,849)	668,699	2,538,066	76,393
Net position – end of year	\$ -	705,217	-	172,880

Continued on next page.

See accompanying notes to the basic financial statements

Watershed Management Plan	Basin Monitoring Program Task Force	Int. Climate Adaptation & Resilience Program	PFAS Study	Weather Modification	Santa Ana River Fish Conservation	MSAR TMDL Task Force
-	-	-	-	-	-	-
-	-	-	-	-	-	-
395,544	170,607	162,110	392,656	126,460	49,913	98,765
395,544	170,607	162,110	392,656	126,460	49,913	98,765
(395,544)	(170,607)	(162,110)	(392,656)	(126,460)	(49,913)	(98,765)
400,000	-	-	550,000	158,500	10,000	-
67,900	530,019	162,110	-	57,637	19,000	237,846
15,852	44,438	-	29,830	4,207	4,475	16,033
-	-	-	-	-	-	-
483,752	574,457	162,110	579,830	220,344	33,475	253,879
88,208	403,850	-	187,174	93,884	(16,438)	155,114
-	-	-	-	-	-	(120,320)
88,208	403,850	-	187,174	93,884	(16,438)	34,794
150,937	670,031	-	346,148	124,467	111,312	363,369
239,145	1,073,881	-	533,322	218,351	94,874	398,163

Continued on next page.

See accompanying notes to the basic financial statements

Santa Ana Watershed Project Authority
Combining Schedule of Revenues, Expenses, and Changes in Net Position - Continued
Capital Project Activities
For the Fiscal Year Ended June 30, 2025

	Regional Water Quality Monitoring Task Force	Arundo Management & Habitat Restoration	Emerging Constituents Task Force	Energy Water DAC Grant Project
Operating revenues:				
Other	\$ -	-	-	-
Total operating revenues	-	-	-	-
Operating expenses:				
Studies and planning costs	352,781	74,453	81,438	102,385
Total operating expenses	352,781	74,453	81,438	102,385
Net income (loss)	(352,781)	(74,453)	(81,438)	(102,385)
Non-operating revenues (expenses):				
Member contributions	-	-	-	-
Intergovernmental	300,999	-	114,000	82,008
Investment earnings, net of fair value	6,902	31,324	9,659	82
Grant program expenditures	-	-	-	-
Total non-operating revenues (expense)	307,901	31,324	123,659	82,090
Total income (loss) before transfers	(44,880)	(43,129)	42,221	(20,295)
Transfers	120,320	-	-	-
Changes in net position	75,440	(43,129)	42,221	(20,295)
Net position – beginning of year	42,220	2,662,926	160,610	22,305
Net position – end of year	\$ 117,660	2,619,797	202,831	2,010

Continued on next page.

See accompanying notes to the basic financial statements

Prop 1 DACI Grant	Lake Elsinore Management	Prop 84 Grant Projects	Prop 1 Grant Projects	Total	
				2025	2024
-	142,100	-	-	142,100	153,460
-	142,100	-	-	142,100	153,460
163,799	152,100	-	-	2,660,903	3,104,665
163,799	152,100	-	-	2,660,903	3,104,665
(163,799)	(10,000)	-	-	(2,518,803)	(2,951,205)
-	10,000	-	-	1,548,500	1,612,000
532,195	-	5,607,441	5,688,600	13,399,755	7,044,996
-	-	-	-	174,380	137,433
(368,446)	-	(5,766,916)	(5,688,600)	(11,823,962)	(6,043,200)
163,749	10,000	(159,475)	-	3,298,673	2,751,229
(50)	-	(159,475)	-	779,870	(199,976)
-	-	-	-	(2,485,898)	3,108,842
(50)	-	(159,475)	-	(1,706,028)	2,908,866
-	1,330	870,583	106,333	8,902,880	5,994,014
(50)	1,330	711,108	106,333	7,196,852	8,902,880

See accompanying notes to the basic financial statements

STATISTICAL SECTION



Statistical Section

This part of the Authority's annual comprehensive financial report presents detailed information as a context for understanding what the information in the financial statements, note disclosures, and required supplementary information says about the Authority's overall financial health.

Contents

Page No.

Financial Trends 77 - 78

These schedules contain information to help the reader understand how the Authority's financial performance and well-being have changed over time.

Revenue Capacity 79 - 84

These schedules contain information to help the reader assess the factors affecting the Authority's ability to generate revenues.

Debt Capacity 85 - 89

These schedules present information to help the reader assess the affordability of the Authority's current levels of outstanding debt and the Authority's ability to issue additional debt in the future.

Demographic and Economic Information 90

This schedule offers demographic and economic indicators to help the reader understand the environment within which the Authority's financial activities take place.

Operating Information 91 - 92

This schedule contains service and infrastructure data to help the reader understand how the information in the Authority's financial report relates to the service the Authority provides.

**Table I – Net Position by Component
Last Ten Fiscal Years**

	2025	2024	2023	2022	2021 ⁽¹⁾	2020 ⁽¹⁾	2019	2018	2017	2016
Net Investment in Capital Assets	\$69,016,710	\$71,336,614	\$70,815,204	\$73,427,321	\$76,739,960	\$79,824,095	\$82,216,012	\$85,226,499	\$90,622,870	\$84,798,833
Restricted	3,589,363	3,329,772	2,960,560	4,253,579	2,960,560	2,960,560	2,960,560	2,960,560	3,921,155	3,923,403
Unrestricted	21,857,529	12,925,619	6,212,624	712,028	(6,375,015)	(9,458,946)	(13,617,096)	(19,510,100)	(24,155,787)	(21,554,491)
Total Net Position	\$94,463,602	\$87,592,005	\$79,988,388	\$78,392,928	\$73,325,505	\$73,325,708	\$71,559,476	\$68,676,959	\$70,388,238	\$67,167,745

(1) As restated for GASB Statement No. 87 Leases.

Source: Santa Ana Watershed Project Authority

**Table II – Changes in Net Position
Last Ten Fiscal Years**

Fiscal Year	Operating Revenue ⁽²⁾	Operating Expense ⁽³⁾	Operating Income/(Loss)	Total Non-Operating Revenue/(Expense)	Income/(Loss) Before Capital Contributions	Special Items ⁽⁴⁾⁽⁵⁾	Capital Contributions	Change in Net Position
2025	\$15,809,548	\$15,170,141	\$639,407	\$6,232,190	\$6,871,597	\$-	\$-	\$6,871,597
2024	15,714,684	15,556,519	158,165	6,277,382	6,435,547	(997,946)	2,166,016	7,603,617
2023	15,041,233	15,052,991	(11,758)	4,024,293	4,012,535	(2,677,507)	260,432	1,595,460
2022	14,748,232	15,373,429	(625,197)	1,671,492	1,046,295	4,021,128	-	5,067,423
2021 ⁽¹⁾	15,192,196	18,234,980	(3,042,784)	3,042,581	(203)	-	-	(203)
2020 ⁽¹⁾	14,251,066	17,228,552	(2,977,486)	4,743,719	1,766,233	-	-	1,766,233
2019	15,050,312	17,097,853	(2,047,541)	4,930,058	2,882,517	-	-	2,882,517
2018	13,665,500	19,212,739	(5,547,239)	4,763,383	(783,856)	(927,423)	-	(1,711,279)
2017	13,997,461	14,881,490	(884,029)	4,104,522	3,220,493	-	-	3,220,493
2016	12,049,027	12,762,714	(713,687)	2,846,874	2,133,187	-	-	2,133,187

(1) As restated for GASB Statement No. 87 Leases.

(2) See Table III for details of revenues.

(3) See Table IV for details of expenses.

(4) Reduction of net position from implementation of GASB 68 and GASB 75.

(5) Pension and Other Post-Employment Benefits related adjustments sourcing from current year valuations prepared by CalPERS and the Authority's OPEB actuaries and are due to CalPERS realized gains on investments and actuarial determined changes which affected the pension cost share pool and CERBT OPEB trust participants.

Source: Santa Ana Watershed Project Authority

Table III – Revenues by Source
(Excluding Capital Contributions and Special Items)
Last Ten Fiscal Years

Operating Revenues					Non-Operating Revenues						
Fiscal Year	WWT & Disposal	WWT & Disposal Capacity Rights	Other Operating	Total Operating Revenue	Member Contributions	Inter Governmental	Pension/ OPEB Income	Investment Income/Expense, net of fair value	Gain on Disposal of Asset	Total Non-Operating Income	Combined Revenue
2025	\$13,037,789	\$2,614,477	\$157,282	\$15,809,548	\$2,261,410	\$14,448,599	\$159,361	\$3,856,464	\$-	\$20,725,834	\$36,535,382
2024	13,047,884	2,510,154	156,646	15,714,684	2,308,275	7,903,442	273,301	3,438,677	-	13,923,695	29,638,379
2023	12,319,657	2,510,154	211,422	15,041,233	2,069,760	10,525,569	235,127	1,134,643	-	13,965,099	29,006,332
2022	12,040,521	2,510,154	197,557	14,748,232	1,581,845	13,673,784	4,021,128	(724,549)	-	18,552,208	33,300,440
2021 ⁽¹⁾	12,476,856	2,510,154	205,186	15,192,196	1,993,632	14,765,698	-	73,038	-	16,832,368	32,024,564
2020 ⁽¹⁾	11,547,220	2,510,154	193,692	14,251,066	2,105,955	9,466,587	-	1,496,354	-	13,068,896	27,319,962
2019 ⁽²⁾	12,334,346	2,510,154	205,812	15,050,312	1,909,415	29,011,794	-	1,660,061	-	32,581,270	47,631,582
2018	10,935,848	2,510,154	219,498	13,665,500	2,303,325	3,413,408	-	326,487	-	6,043,220	19,708,720
2017	11,273,024	2,519,533	204,904	13,997,461	2,307,624	4,795,478	-	193,157	-	7,296,259	21,293,720
2016	9,323,505	2,519,748	205,774	12,049,027	1,730,491	2,765,270	-	567,709	1,123	5,064,593	17,113,620

(1) As Restated for GASB Statement No. 87 Leases.

(2) GASB Statement No. 84 implemented in FYE 2021. FYE 2020 and 2019 were restated, however, prior years were not restated as the information was not readily available.

Source: Santa Ana Watershed Project Authority

**Table IV – Expenses by Function
Last Ten Fiscal Years**

Operating Expenses								
Fiscal Year	WWT & Disposal	General & Admin	Studies & Planning Costs	Depreciation	Amortization of WWT Rights	Total Operating Expenses	Total Non-Operating Expenses	Combined Expenses
2025	\$8,305,066	\$82,992	\$2,660,903	\$3,193,945	\$927,235	\$15,170,141	\$14,493,644	\$29,663,785
2024	8,038,986	399,828	3,104,667	3,085,805	927,235	15,556,611	8,644,258	24,200,869
2023	6,957,971	692,402	3,405,256	3,069,476	927,886	15,052,991	12,618,313	27,671,304
2022	6,863,027	523,272	2,578,723	3,693,764	1,714,643	15,373,429	12,859,588	28,233,017
2021 ⁽¹⁾⁽²⁾	7,055,339	762,713	5,020,667	3,840,251	1,556,010	18,234,980	13,789,787	32,024,767
2020 ⁽¹⁾⁽²⁾	6,670,902	989,568	4,396,714	3,770,450	1,400,918	17,228,552	8,325,177	25,553,729
2019 ⁽²⁾	6,545,654	1,326,428	4,082,052	3,742,801	1,400,918	17,097,853	8,423,326	25,521,179
2018	5,841,074	1,429,043	7,186,572	3,355,132	1,400,918	19,212,739	1,279,837	20,492,576
2017	6,421,150	591,686	3,293,487	3,174,253	1,400,914	14,881,490	3,191,737	18,073,227
2016	6,434,652	270,613	1,485,977	3,170,554	1,400,918	12,762,714	2,217,719	14,980,433

(1) As restated for GASB Statement No. 87 Leases.

(2) GASB Statement No. 84 implemented in FYE 2021. FYE 2020 and 2019 were restated, however, prior years were not restated as the information was not readily available.

Source: Santa Ana Watershed Project Authority

Chart I - Combined Expenses and Revenues
Last Ten Fiscal Years

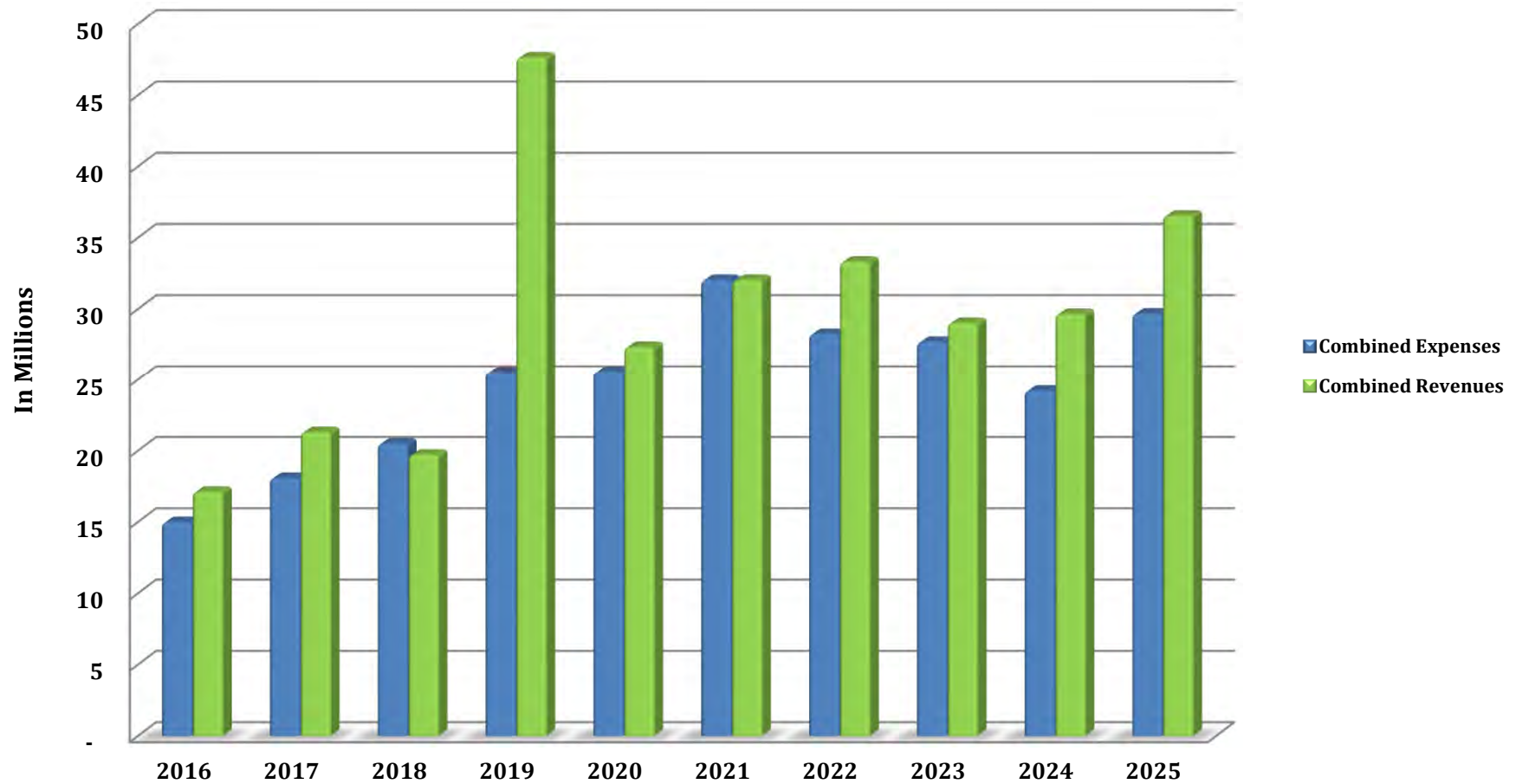


**Table V - Wastewater Discharge by Type
Last Ten Fiscal Years**

Discharge Type	2025	2024	2023	2022	2021	2020	2019	2018	2017	2016
Industrial *	234.3823	213.0132	205.6453	222.0080	187.3816	181.3119	146.2297	142.6609	182.3629	176.0173
Domestic *	449.5701	397.4078	390.9324	459.4311	372.6175	345.2252	365.5703	571.6977	605.6648	539.1186
Power Plant *	156.9984	160.7403	143.2049	136.2439	159.5573	174.6108	182.3315	168.1869	211.0939	203.7717
Water Supply/Desalter *	3,745.6746	3,761.3052	3,742.1344	3,169.4397	3,206.6906	3,286.5031	2,977.7296	2,862.8002	2,832.6086	2,789.4969
Temp/Emergency *	9.9798	7.4148	1.6801	1.5160	2.4556	5.4886	13.8265	0.0000	12.9104	4.7210
Truck Discharge *	41.2883	38.9906	43.4240	46.6620	40.6385	31.8486	32.1043	36.2431	29.9249	34.3066
Total	4,637.8935	4,578.8719	4,527.0211	4,035.3007	3,969.3411	4,024.9882	3,717.7919	3,781.5888	3,874.5655	3,747.4321

* MGD = million gallons per day

Source: Santa Ana Watershed Project Authority

**Table VI - Summary of Wastewater Treatment Rates
Last Ten Fiscal Years**

Fiscal Year	Flow per MGD*	BOD Charge (1,000 lbs)	TSS Charge (1,000 lbs)	Minimum Flow Charge	Monthly Fixed Pipeline Charge	Monthly Fixed Treatment Charge	Truck – Non-Brine (per gallon)	Truck – Tier 1 (per gallon)	Truck – Tier 2 (per gallon)	Truck – Tier 3 (per gallon)	Truck – Brine (per gallon)
2025	\$1,097	\$396	\$497	\$150	\$6,654	\$13,505	(1)	n/a	n/a	n/a	\$0.0164
2024	1,073	394	494	150	6,654	13,505	(2)	n/a	n/a	n/a	0.016
2023	1,049	353	520	150	6,654	13,505	(3)	n/a	n/a	n/a	0.016
2022	1,018	329	460	150	6,654	13,505	(4)	n/a	n/a	n/a	0.016
2021 ⁽⁵⁾	1,018	329	460	150	6,654	13,505	(7)	n/a	n/a	n/a	0.016
2021 ⁽⁶⁾	979	316	442	150	6,398	12,985	(8)	n/a	n/a	n/a	0.015
2020	979	316	442	150	6,398	12,985	(9)	n/a	n/a	n/a	0.015
2019	946	307	429	150	6,217	12,607	(9)	n/a	n/a	n/a	0.015
2018	901	307	429	150	5,921	12,007	(10)	0.017	0.035	(11)	0.012
2017	858	307	429	150	5,639	11,433	(10)	0.016	0.033	(12)	0.011
2016	817	301	420	150	5,370	10,888	(10)	0.015	0.032	(13)	0.010

* MGD – million gallons per day

- 1) Fiscal year 2025 rates from July 1, 2024 through June 30, 2025. Non-brine truck rate dischargers will be charged based on actual BOD and TSS concentrations over 100 mg/l using the following components: \$0.0164 per gallon, \$0.7995/pound of BOD, and \$0.7636/pound of TSS.
- 2) Fiscal year 2024 rates from July 1, 2023 through June 30, 2024. Non-brine truck rate dischargers will be charged based on actual BOD and TSS concentrations over 100 mg/l using the following components: \$0.016 per gallon, \$0.78/pound of BOD, and \$0.745/pound of TSS.
- 3) Fiscal year 2023 rates from July 1, 2022 through June 30, 2023. Non-brine truck rate dischargers will be charged based on actual BOD and TSS concentrations over 100 mg/l using the following components: \$0.016 per gallon, \$0.78/pound of BOD, and \$0.745/pound of TSS.
- 4) Fiscal year 2022 rates from July 1, 2021 through June 30, 2022. Non-brine truck rate dischargers will be charged based on actual BOD and TSS concentrations over 100 mg/l using the following components: \$0.016 per gallon, \$0.78/pound of BOD, and \$0.745/pound of TSS.
- 5) Fiscal year 2021 rates from January 1, 2021 through June 30, 2021.
- 6) Fiscal year 2021 rates from July 1, 2020 through December 31, 2020.
- 7) Fiscal year 2021 January 1, 2021 through June 30, 2021. - Non-brine truck rate dischargers will be charged based on actual BOD and TSS concentrations over 100 mg/l using the following components: \$0.016 per gallon, \$0.78/pound of BOD, and \$0.745/pound of TSS.
- 8) Fiscal year 2021 July 1, 2020 through December 31, 2020. - Non-brine truck rate dischargers will be charged based on actual BOD and TSS concentrations over 100 mg/l using the following components: \$0.015 per gallon, \$0.75/pound of BOD, and \$0.716/pound of TSS.
- 9) Fiscal year 2019 and fiscal year 2020 - Non-brine truck rate dischargers will be charged based on actual BOD and TSS concentrations over 100 mg/l using the following components: \$0.015 per gallon, \$0.75/pound of BOD, and \$0.716/pound of TSS.
- 10) Non-brine truck rate was divided into three tiers based on BOD and TSS Concentrations. Tier 1 = 100 to 999 mg/l, Tier 2 = 1,000 to 2,499 mg/l, and Tier 3 = 2,500 mg/l and higher.
- 11) Fiscal year 2018 – Tier 3 dischargers will be charged based on actual concentrations of the waste discharged using the following components: \$0.0029/gallon, \$0.729/pound of BOD, and \$0.695/pound of TSS.
- 12) Fiscal year 2017 – Tier 3 dischargers will be charged based on actual concentrations of the waste discharged using the following components: \$0.0027/gallon, \$0.695/pound of BOD, and \$0.662/pound of TSS.
- 13) Fiscal year 2016 – Tier 3 dischargers will be charged based on actual concentrations of the waste discharged using the following components: \$0.0026/gallon, \$0.694/pound of BOD, and \$0.661/pound of TSS.

Source: Santa Ana Watershed Project Authority

**Table VII - Principal Sewer Customers
Current Fiscal Year and Nine Years Prior**

Fiscal Year 2024-25

Customer Name	Discharge in MG ⁽¹⁾	Percentage of Total Discharge
Chino Desalter I	792.3824	17.1%
Temescal Desalter	587.0722	12.7%
Perris Desalter I	541.5926	11.7%
Chino Desalter II	487.8164	10.5%
Perris Desalter II	413.5648	8.9%
JCSD – Etiwanda ⁽²⁾	328.4460	7.1%
Menifee Desalter	313.4552	6.8%
Arlington Desalter	232.5901	5.0%
City of Beaumont	204.9174	4.4%
Yucaipa Valley Water District	154.7186	3.3%
Total Principal Customers	5,056.5557	90.7%
Other Customers	581.3378	9.3%
Total Discharge	4,637.8935	100.0%

Fiscal Year 2015-16

Customer Name	Discharge in MG ⁽¹⁾	Percentage of Total Discharge
Chino Desalter I	695.2283	18.6%%
Temescal Desalter	591.6925	15.8%
Chino Desalter II	455.9935	12.2%
Perris Desalter I	427.8471	11.4%
Arlington Desalter	325.4739	8.7%
Menifee Desalter	281.9421	7.5%
JCSD – Etiwanda ⁽²⁾	220.0239	5.9%
Mountainview Power Plant	150.9319	4.0%
Chino Institute for Women	127.8135	3.4%
Bonview	125.9067	3.4%
Total Principal Customers	3,402.8534	90.8%
Other Customers	344.5787	9.2%
Total Discharge	3,747.4321	100.00%

(1) MG – million gallons

(2) Jurupa Community Services District (JCSD) connections.

Source: Santa Ana Watershed Project Authority

**Table VIII - Debt Coverage Ratio
Last Ten Fiscal Years**

Fiscal Year	Debt Service Requirements					Debt to Expense Ratio
	Combined Expenses	SRF Loans ⁽³⁾	Member Loans ⁽⁴⁾	Leases Payable ⁽¹⁾	Total Debt	
2025	\$29,663,785	\$1,709,476	\$-	\$145,326	\$1,854,802	6.3%
2024	24,200,869	1,709,476	-	174,892	1,884,368	7.8%
2023	27,671,304	1,709,476	-	265,812	1,975,288	7.1%
2022	28,233,017	2,608,439	-	56,857	2,661,673	9.4%
2021 ⁽¹⁾⁽²⁾	32,024,767	2,835,753	-	53,601	2,889,354	9.0%
2020 ⁽¹⁾⁽²⁾	25,553,729	2,835,753	-	28,957	2,864,710	11.2%
2019 ⁽¹⁾	25,521,179	2,835,753	-	-	2,835,753	11.1%
2018	20,492,576	2,704,270	356,250	-	3,060,520	14.9%
2017	18,073,226	2,704,475	356,250	-	3,060,725	16.9%
2016	14,980,433	3,618,242	356,250	-	3,974,492	26.5%

The Authority does not receive property tax. All revenues are collected through rates and fees or agency contributions.

The Authority does not have any outstanding Revenue Bonds. The only debt of the Authority is SRF and member agency loans.

Notes:

(1) As restated for GASB Statement No. 87 Leases.

(2) GASB Statement No. 84 implemented in FYE 2021. FYE 2020 and 2019 were restated, however, prior years were not restated as the information was not readily available. Combined Expenses includes Proposition 1 and 84 pass throughs for those years.

(3) State Revolving Fund (SRF) Loans for construction of the Brine Line.

(4) Repurchase of Pipeline Capacity from Orange County Water District.

Source: Santa Ana Watershed Project Authority

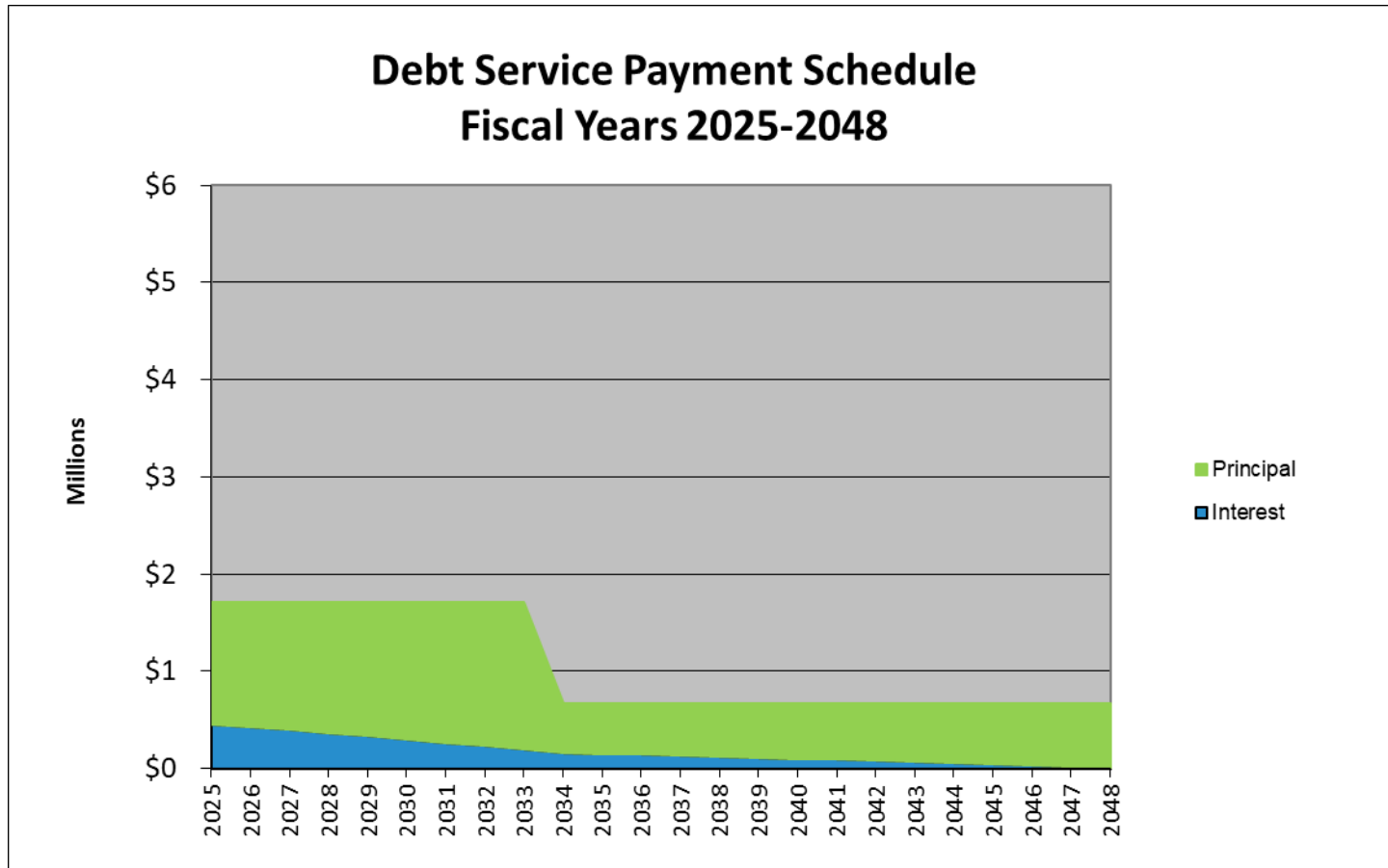
Table IX - Debt Service Payment Schedule
Fiscal Years 2025 – 2048

Fiscal Year	Interest	Principal	Total Payment	Remaining Principal
2025	\$457,181	\$1,252,295	\$1,709,476	\$19,757,624
2026	427,585	1,281,891	1,709,476	18,475,734
2027	397,276	1,312,199	1,709,476	17,163,534
2028	366,237	1,343,239	1,709,476	15,820,295
2029	334,449	1,375,027	1,709,476	14,445,268
2030	301,894	1,407,582	1,709,476	13,037,686
2031	268,553	1,440,923	1,709,476	11,596,763
2032	234,407	1,475,068	1,709,476	10,121,695
2033	199,437	1,510,039	1,709,476	8,611,656
2034	163,621	501,581	665,203	8,110,075
2035	154,091	511,111	665,203	7,598,964
2036	144,380	520,822	665,203	7,078,142
2037	134,485	530,718	665,203	6,547,424
2038	124,401	540,801	665,203	6,006,622
2039	114,126	551,077	665,203	5,455,546
2040	103,655	561,547	665,203	4,893,999
2041	92,986	572,217	665,203	4,321,782
2042	82,114	583,089	665,203	3,738,693
2043	71,035	594,167	665,203	3,144,526
2044	59,746	605,457	665,203	2,539,069
2045	48,242	616,960	665,203	1,922,109
2046	36,520	628,682	665,203	1,293,427
2047	24,575	640,627	665,203	652,799
2048	12,403	652,799	665,203	0

Does not include future lease payments.

Source: Santa Ana Watershed Project Authority

Chart II – Debt Service Payment Schedule



Source: Santa Ana Watershed Project Authority

**Table X – Ratio of Outstanding Debt by Type
Last Ten Fiscal Years**

Fiscal Year	SRF Loans	Member Loans	Leases Payable ⁽¹⁾	Total Debt	Percentage of Personal Income ⁽²⁾	Debt Per Capita ⁽³⁾
2025	\$19,757,624	\$-	\$145,326	\$19,902,950	17.32%	\$7.98
2024	21,009,919	-	174,892	21,184,811	18.96%	8.67
2023	22,233,314	-	265,812	22,499,126	20.79%	9.22
2022	23,428,489	-	56,857	23,485,346	22.47%	9.64
2021 ⁽¹⁾	25,471,969	-	109,145	25,581,114	25.19%	10.42
2020 ⁽¹⁾	27,686,941	-	55,379	27,742,320	28.12%	11.36
2019	29,847,481	-	-	29,847,481	31.16%	12.23
2018	31,849,863	-	-	31,849,863	34.32%	13.18
2017	26,087,852	855,267	-	26,943,119	29.88%	11.30
2016	24,184,502	1,677,567	-	25,862,069	29.76%	11.02

(1) As restated for GASB Statement No. 87 Leases.

(2) Based upon Riverside County personal income amounts.

See the personal income amounts on the Demographics and Economic Statistics schedule. Amounts for prior years are updated with the most recent available information.

(3) Based upon approximate population of Riverside County. See the Demographics and Economic Statistics schedule for amounts.

**Chart III – Outstanding Debt Per Capita
Last Ten Fiscal Years**

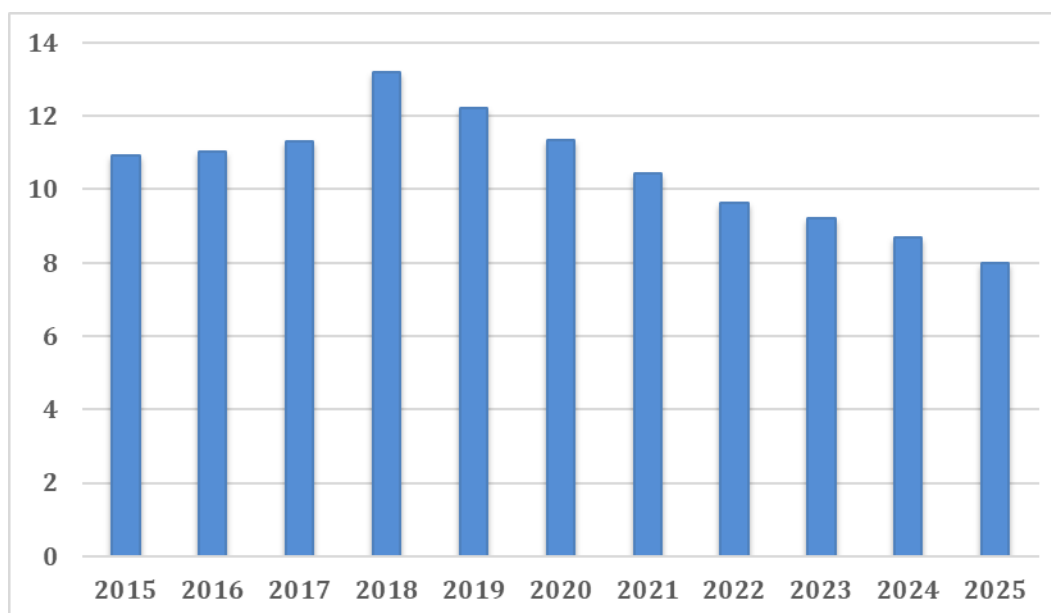


Chart IV – Capital Spending
Last Ten Fiscal Years

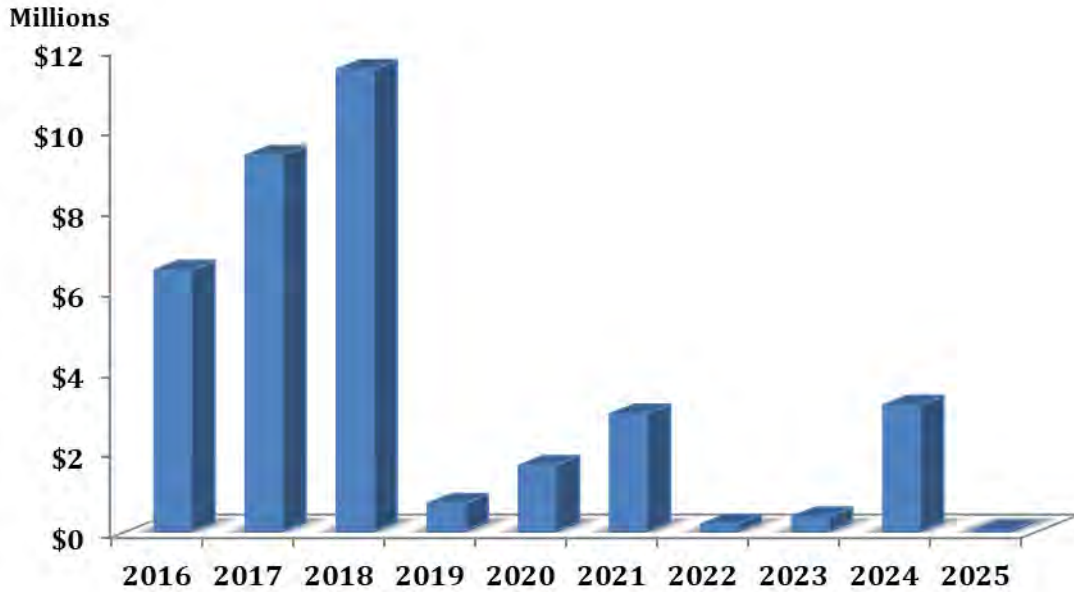
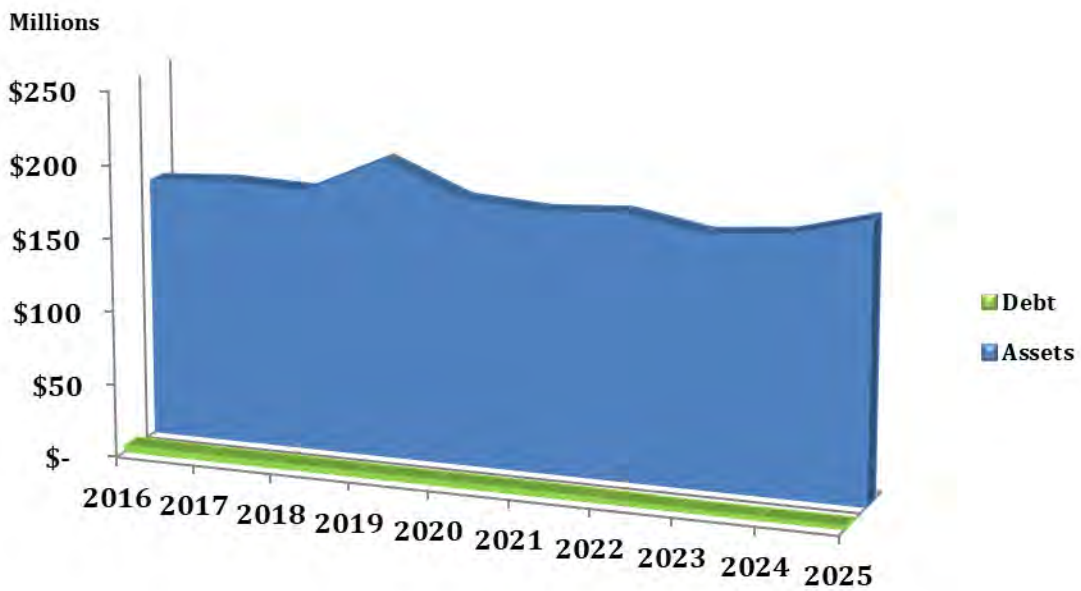


Chart V – Total Debt to Assets
Last Ten Fiscal Years



Source: Santa Ana Watershed Project Authority

**Table XI - Demographic and Economic Statistics
Last Ten Calendar Years**

Fiscal Year	Population County (3)	Personal Income (1) (thousands of dollars)	County Per Capita Personal Income	Unemployment Rate (June) ⁴ County State	
2025	2,495,640	\$114,889,968	\$42,460 (2)	6.0%	5.7%
2024	2,442,378	111,734,060	42,194 (2)	5.4%	5.3%
2023	2,439,234	108,216,003	41,064 (5)	5.0%	4.9%
2022	2,435,525	104,539,005	39,713 (5)	4.0%	4.0%
2021	2,454,453	101,553,770	38,822 (5)	7.9%	8.0%
2020	2,442,304	98,654,000	37,951 (5)	14.8% (6)	15.1% (6)
2019	2,440,124	95,775,000	37,074 (5)	3.6%	4.1%
2018	2,415,955	92,810,000	36,149 (5)	4.8%	4.5%
2017	2,384,783	90,160,000	35,286 (5)	5.7%	4.7%
2016	2,347,828	86,888,000	34,506 (5)	6.7%	5.4%

(1) Projected personal income based on Riverside County Per Capita Personal Income.

(2) Projected based on a ten-year running average.

(3) Source: January Revised Estimates, State Department of Finance.

(4) Source: CA Employment Development Department and US Dept. of Labor. County data as of June 2025.

(5) Source: County of Riverside Annual Comprehensive Financial Report.

(6) Unemployment rate spiked during fiscal year 2020 due to the economic impact of COVID-19.

**Table XII - Principal Employers
Current Fiscal Year and Nine Years Prior**

June 30, 2024 (1)

June 30, 2015 (1)

Employer	No of Employees	% of Total Labor Force	Employer	No of Employees	% of Total Labor Force
County of Riverside	23,772	2.2%	County of Riverside	20,684	2.2%
Amazon	14,317	1.3%	March Air Reserve Base	8,500	0.9%
University of California Riverside	8,593	0.8%	Stater Brothers	6,900	0.7%
State of California	8,398	0.8%	Wal-Mart	6,550	0.7%
Wal-Mart	6,465	0.6%	University of California Riverside	5,768	0.6%
Moreno Valley Unified School District	6,020	0.5%	Kaiser Permanente	5,300	0.6%
Kaiser Permanente	5,817	0.5%	Corona-Norco Unified School District	4,932	0.5%
Riverside Unified School District	5,431	0.5%	Pechanga Resort & Casino	4,000	0.4%
Stater Brothers Market	4,990	0.5%	Riverside Unified School District	3,871	0.4%
Mt. San Jacinto Comm. College District	4,638	0.4%	Hemet Unified School District	3,400	0.3%
Total	88,441	8.1%	Total	69,905	7.3%

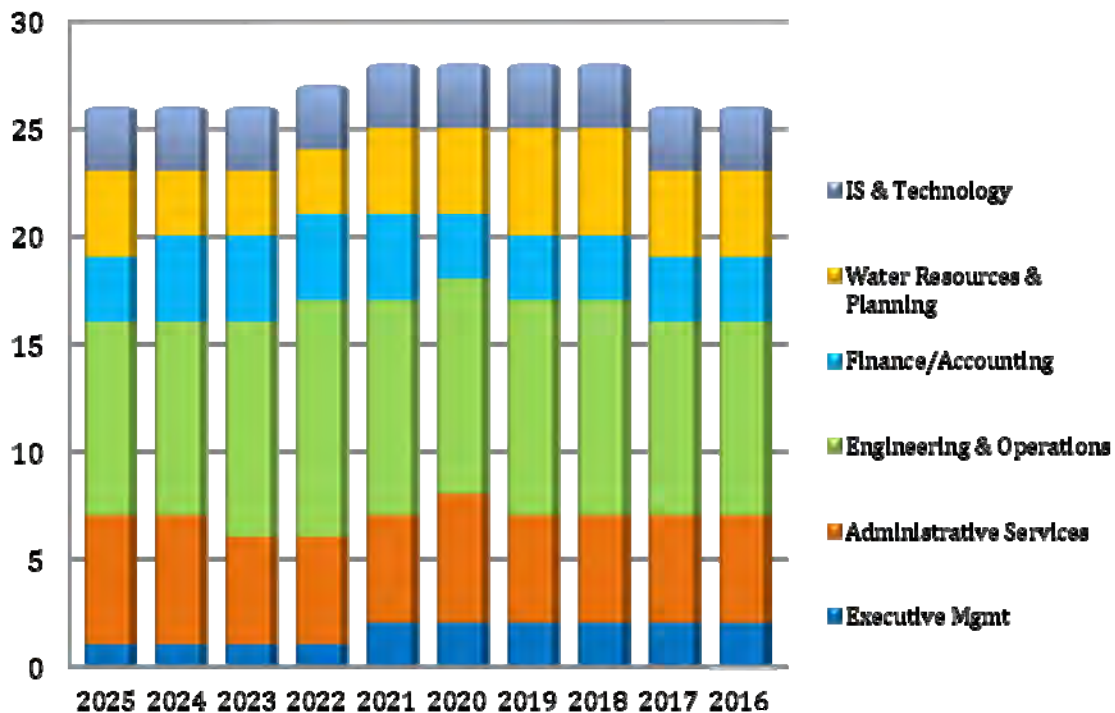
Sources: (1) County of Riverside Annual Comprehensive Financial Report. Data presented is the most current available at the time of preparation of this report.

Table XIII - Number of Employees
Last Ten Fiscal Years

Department	2025	2024	2023	2022	2021	2020	2019	2018	2017	2016
Executive Management	1	1	1	1	2	2	2	2	2	2
Administrative Services	6	6	5	5	5	6	5	5	5	5
Engineering & Operations	9	9	10	11	10	10	10	10	9	9
Finance/Accounting	3	4	4	4	4	3	3	3	3	3
Water Resources & Planning	4	3	3	3	4	4	5	5	4	4
Information Systems & Technology	3	3	3	3	3	3	3	3	3	3
Total	26	26	26	27	28	28	28	28	26	26

Notes: All managers are included with their divisions. Temporary and Interns are not included.

Chart VI – Total Employees
Last Ten Fiscal Years



Source: Santa Ana Watershed Project Authority

**Table XIV - Operating and Capital Indicators
Last Ten Fiscal Years**

	2025	2024	2023	2022	2021	2020	2019	2018	2017	2016
Total Meter Connections	43	43	43	43	43	43	40	41	51	48
Number of Air Release Valves	65	65	63	63	63	63	63	63	63	65
Miles of Sewer Lines	73	73	73	73	73	73	73	73	73	73
Total Flows for Fiscal Years (MG)	4,637.8935	4,578.8719	4,527.0211	4,035.30	3,969.34	4,024.99	3,717.79	3,781.59	3,874.56	3,747.43
Owned Treatment Capacity (MGs)	17	17	17	17	17	17	17	17	17	17

Miscellaneous Statistics

Year of Formation: 1975
 Governing Body: 5-Member Board of Commissioners (1 from each Member Agency elected Board of Directors)
 Form of Government: Joint Powers Authority
 Staff: 26 full-time equivalent employees
 Authority: Section 6500 et. Seq. Government Code
 Service: Waste Disposal, Watershed Planning, Task Force Facilitation
 Service Area (square miles): 2,840
 Total Population Served: Approximately 6 million

Source: Santa Ana Watershed Project Authority

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SAWPA

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Report on Internal Controls and Compliance

Working Draft Subject to Review

**Independent Auditor's Report on Internal Control Over Financial Reporting
and on Compliance and Other Matters Based on an Audit of Financial Statements
Performed in Accordance with *Government Auditing Standards***

Board of Commissioners
Santa Ana Watershed Project Authority
Riverside, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Santa Ana Watershed Project Authority (Authority) as of and for the fiscal year ended June 30, 2025, and the related notes to the financial statements, which collectively comprises the Authority's basic financial statements, and have issued our report thereon dated [ISSUE DATE].

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Authority's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or, significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Authority's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

**Independent Auditor's Report on Internal Control over Financial Reporting
and on Compliance and Other Matters Based on an Audit of Financial Statements
Performed in Accordance with *Government Auditing Standards*, continued**

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

C.J. Brown & Company, CPAs

Cypress, California

[ISSUE DATE]

Working Draft Subject to Review

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Santa Ana Watershed Project Authority

Management Report

June 30, 2025

Working Draft Subject to Review

Santa Ana Watershed Project Authority

Management Report

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Working Draft Subject to Review

Board of Commissioners
Santa Ana Watershed Project Authority
Riverside, California

Dear Members of the Board:

In planning and performing our audit of the financial statements of the Santa Ana Watershed Project Authority (Authority) as of and for the year ended June 30, 2025, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, we considered the Authority 's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we do not express an opinion on the effectiveness of the Authority 's internal control over financial reporting.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A reasonable possibility exists when the likelihood of an event occurring is either reasonably possible or probable as defined as follows:

- Reasonably possible. The chance of the future event or events occurring is more than remote but less than likely.
- Probable. The future event or events are likely to occur.

Our consideration of internal control was for the limited purpose described in the first paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses. Given these limitations, during our audit we did not identify any deficiencies in internal control over financial reporting that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Current Year Comment and Recommendation

Disclosure of Audit Adjustments and Reclassifications

As your external auditor, we assume that the books and records of the Authority are properly adjusted before the start of the audit. In many cases, however, audit adjustments and reclassifications are made in the normal course of the audit process to present the Authority 's financial statements in conformity with accounting principles generally accepted in the United States of America. For the Board of Commissioners to gain a full and complete understanding and appreciation of the scope and extent of the audit process we have presented these audit adjustments and reclassifications as an attachment to this letter. There can be very reasonable explanations for situations of having numerous adjustments as well as having no adjustments at all. However, the issue is simply disclosure of the adjustments and reclassifications that were made and to provide the Board.

Current Year Comment and Recommendation, continued

Management's Response

We have reviewed and approved all of the audit adjustment and reclassification entries provided by the auditor and have entered those entries into the Authority's accounting system to close-out the Authority's year-end trial balance as of June 30, 2025.

Prior Year Comment and Recommendation

Disclosure of Audit Adjustments and Reclassifications

As your external auditor, we assume that the books and records of the Authority are properly adjusted before the start of the audit. In many cases, however, audit adjustments and reclassifications are made in the normal course of the audit process to present the Authority's financial statements in conformity with accounting principles generally accepted in the United States of America. For the Board of Commissioners to gain a full and complete understanding and appreciation of the scope and extent of the audit process we have presented these audit adjustments and reclassifications as an attachment to this letter. There can be very reasonable explanations for situations of having numerous adjustments as well as having no adjustments at all. However, the issue is simply disclosure of the adjustments and reclassifications that were made and to provide the Board.

Management's Response

We have reviewed and approved all of the audit adjustment and reclassification entries provided by the auditor and have entered those entries into the Authority's accounting system to close-out the Authority's year-end trial balance as of June 30, 2024.

This communication is intended solely for the information and use of management, the Board of Commissioners, and others within the Authority, and is not intended to be, and should not be, used by anyone other than these specified parties. This restriction is not intended to limit the distribution of this letter, which is a matter of public record.

We appreciate the courtesy and cooperation extended to us during our examination. We would be pleased to discuss the contents of this letter with you at your convenience. Please do not hesitate to contact us.

C.J. Brown & Company, CPAs
Cypress, California
[ISSUE DATE]

APPENDIX

Santa Ana Watershed Project Authority

Finance Committee Letter

June 30, 2025

Working Draft Subject to Review

Board of Commissioners
Santa Ana Watershed Project Authority
Riverside, California

We have audited the financial statements of the business-type activities of the Santa Ana Watershed Project Authority (Authority) for the year ended June 30, 2025. and have issued our report thereon dated [ISSUE DATE]. Professional standards require that we advise you of the following matters relating to our audit.

Our Responsibility in Relation to the Financial Statement Audit

As communicated in our engagement letter dated [EL DATE-OBTAIN], our responsibility, as described by professional standards, is to form and express an opinion about whether the financial statements that have been prepared by management with your oversight are presented fairly, in all material respects, in accordance with accounting principles generally accepted in the United States of America. Our audit of the financial statements does not relieve you or management of your respective responsibilities.

Our responsibility, as prescribed by professional standards, is to plan and perform our audit to obtain reasonable, rather than absolute, assurance about whether the financial statements are free of material misstatement. An audit of financial statements includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control over financial reporting. Accordingly, as part of our audit, we considered the internal control of the Authority solely for the purpose of determining our audit procedures and not to provide any assurance concerning such internal control.

We are also responsible for communicating significant matters related to the audit that are, in our professional judgment, relevant to your responsibilities in overseeing the financial reporting process. However, we are not required to design procedures for the purpose of identifying other matters to communicate to you.

If any, we have provided our findings regarding significant control deficiencies over financial reporting and material noncompliance, and other matters noted during our audit in a separate letter to you dated [ISSUE DATE].

Planned Scope and Timing of the Audit

We conducted our audit consistent with the planned scope and timing we previously communicated to you.

Compliance with All Ethics Requirements Regarding Independence

The engagement team, others in our firm, as appropriate, our firm, and our network firms have complied with all relevant ethical requirements regarding independence.

An auditor that is not involved in the engagement performed an independent review of the financial statements that was prepared by us based on the information provided by management. This safeguard reduces the threat of self-review risk to an acceptable level.

Required Risk Assessment Procedures per Auditing Standards:

As auditors of the Authority, we are required per AU-C Section 240, "Consideration of Fraud in a Financial Statement Audit", to "ordinarily" presume and consider the following risks in designing our audit procedures:

- Management override of controls
- Revenue recognition

Qualitative Aspects of the Entity's Significant Accounting Practices

Significant Accounting Policies

Management has the responsibility to select and use appropriate accounting policies. A summary of the significant accounting policies adopted by the Authority is included in Note 1 to the financial statements. As of and for the year ended June 30, 2025, the Authority implemented the provisions of *GASB Statement No. 101 – Compensated Absences*. There have been no initial selection of accounting policies and no changes in significant accounting policies or their application during 2025. No matters have come to our attention that would require us, under professional standards, to inform you about (1) the methods used to account for significant unusual transactions and (2) the effect of significant accounting policies in controversial or emerging areas for which there is a lack of authoritative guidance or consensus.

Significant Accounting Estimates

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's current judgments. Those judgments are normally based on knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ markedly from management's current judgments. The most sensitive accounting estimates affecting the financial statements are as follows:

Management's estimate of the fair value of investments is based on information provided by financial institutions. We evaluated the key factors and assumptions used to develop the fair value of cash and investments in determining that it is reasonable in relation to the financial statements taken as a whole.

Management's estimate of capital assets depreciation is based on historical estimates of each capitalized item's useful life expectancy or cost recovery period. We evaluated the key factors and assumptions used to develop the capital asset depreciation calculations in determining that they are reasonable in relation to the financial statements taken as a whole.

Management's estimate of the other post-employment benefit plan's deferred outflows of resources, net OPEB liability, and deferred inflows of resources are based on an actuarial evaluation of these amounts which was conducted by a third-party actuary. We evaluated the basis, actuarial methods and assumptions used by the actuary to calculate these amounts for the Authority to determine that it is reasonable in relation to the financial statements taken as a whole.

Management's estimate of the defined benefit pension plan's deferred outflows of resources, net pension liability, and deferred inflows of resources are based on an actuarial evaluation of these amounts which was conducted by a third-party actuary. We evaluated the basis, actuarial methods and assumptions used by the actuary to calculate these amounts for the Authority to determine that it is reasonable in relation to the financial statements taken as a whole.

Financial Statement Disclosures

Certain financial statement disclosures involve significant judgment and are particularly sensitive because of their significance to financial statement users. The most sensitive disclosures affecting the Authority's financial statements relate to:

The disclosure of fair value of cash and investments in Note 2 to the financial statements represents amounts susceptible to market fluctuations.

The disclosure of capital assets, net in Note 4 to the financial statements is based on historical information which could differ from actual useful lives of each capitalized item.

The disclosure of the Authority's other post-employment benefit plan in Note 8 to the financial statements is based on actuarial assumptions which could differ from actual costs.

The disclosure of the Authority's defined benefit pension plan in Note 9 to the financial statements is based on actuarial assumptions which could differ from actual costs.

Significant Unusual Transactions

For purposes of this communication, professional standards require us to communicate to you significant unusual transactions identified during our audit. No significant unusual transactions were identified as a result of our audit procedures that were brought to the attention of management:

Identified or Suspected Fraud

We have not identified or have not obtained information that indicates that fraud may have occurred.

Significant Difficulties Encountered during the Audit

We encountered no significant difficulties in dealing with management relating to the performance of the audit.

Uncorrected and Corrected Misstatements

For purposes of this communication, professional standards also require us to accumulate all known and likely misstatements identified during the audit, other than those that we believe are trivial, and communicate them to the appropriate level of management. Further, professional standards require us to also communicate the effect of uncorrected misstatements related to prior periods on the relevant classes of transactions, account balances or disclosures, and the financial statements as a whole and each applicable opinion unit. There were no uncorrected misstatements whose effects in the current and prior periods, as determined by management, are immaterial, both individually and in the aggregate, to the financial statements taken as a whole.

In addition, professional standards require us to communicate to you all material, corrected misstatements that were brought to the attention of management as a result of our audit procedures. The attached schedule on pages 6 through 8 discloses all material misstatements that we identified as a result of our audit procedures that were brought to the attention of, and corrected by, management.

Disagreements with Management

For purposes of this letter, professional standards define a disagreement with management as a matter, whether or not resolved to our satisfaction, concerning a financial accounting, reporting, or auditing matter, which could be significant to the Authority's financial statements or the auditor's report. No such disagreements arose during the course of the audit.

Circumstances that Affect the Form and Content of the Auditor's Report

For purposes of this letter, professional standards require that we communicate any circumstances that affect the form and content of our auditor's report. There were no circumstances that affect the form and content of the auditor's report.

Representations Requested from Management

We have requested certain written representations from management, which are included in the attached letter dated [ISSUE DATE].

Other Information Included in Annual Reports

Pursuant to professional standards, our responsibility as auditors for other information, whether financial or nonfinancial, included in the Authority's annual reports, does not extend beyond the information identified in the audit report, and we are not required to perform any procedures to corroborate such other information. However, in accordance with such standards, we have read the information and considered whether such information, or the manner of its presentation, was materially inconsistent with its presentation in the financial statements.

Our responsibility also includes communicating to you any information which we believe is a material misstatement of fact. Nothing came to our attention that caused us to believe that such information, or its manner of presentation, is materially inconsistent with the information, or manner of its presentation, appearing in the financial statements.

We applied certain limited procedures to the management discussion and analysis, schedules of changes in the Authority's net OPEB liability and related ratios, schedules of the Authority's proportionate share of net pension liability, and the schedule of pension plan contributions, which are required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

We were engaged to report on combining schedules, which accompany the financial statements but are not RSI. With respect to this supplementary information, we made certain inquiries of management and evaluated the form, content, and methods of preparing the information to determine that the information complies with accounting principles generally accepted in the United States of America, the method of preparing it has not changed from the prior period, and the information is appropriate and complete in relation to our audit of the financial statements. We compared and reconciled the supplementary information to the underlying accounting records used to prepare the financial statements or to the financial statements themselves.

We were not engaged to report on the introductory and statistical information sections, which accompany the financial statements but are not RSI. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Conclusion

We appreciate the cooperation extended to us by Karen Williams, General Manager and Chief Financial Officer, and the rest of the Authority staff in the performance of our audit testwork. We will be pleased to respond to any questions you have about the foregoing. We appreciate the opportunity to continue to be of service to the Authority.

This report is intended solely for the information and use of the Board of Commissioners and management of the Authority and is not intended to be and should not be used by anyone other than the specified parties. This restriction is not intended to limit the distribution of this letter, which is a matter of public record.

C.J. Brown & Company, CPAs
Cypress, California
[ISSUE DATE]

Working Draft Subject to Review

*Santa Ana Watershed Project Authority
Schedule of Audit Adjusting Journal Entries
June 30, 2025*

Account	Description	Debit	Credit
Adjusting Journal Entries			
Adjusting Journal Entries JE # 1			
CPE - To record additional accounts payable accruals at June 30, 2025.			
504-04-60500-00	Program Expenses	5,733,085.87	
504-04-60500-00	Program Expenses	399,403.92	
504-04-20200-00	Accrued Accounts Payable		5,733,085.87
504-04-20200-00	Accrued Accounts Payable		399,403.92
Total		6,132,489.79	6,132,489.79
Adjusting Journal Entries JE # 2			
CPE - To record additional accounts receivable accruals at June 30, 2025.			
504-04-11021-00	Accrued Accounts Receivable	5,733,085.87	
504-04-11021-00	Accrued Accounts Receivable	399,403.92	
504-04-40102-04	State Grant Proceeds - Prop 84		5,733,085.87
504-04-40102-04	State Grant Proceeds - Prop 84		399,403.92
Total		6,132,489.79	6,132,489.79
Adjusting Journal Entries JE # 3			
CPE - To accrue accounts receivable for Fullerton Invoice #8.			
398-00-11021-00	Accrued Accounts Receivable	1,958.21	
398-00-40103-00	Other Grant Proceeds		1,958.21
Total		1,958.21	1,958.21
Adjusting Journal Entries JE # 4			
GASB 68 Entry #1 - To reclassify 2024 contributions to net pension liability at June 30, 2025.			
100-00-20700-00	Net Pension Liability	378,165.00	
100-00-98000-00	Deferred Outflows of Resources - Actuarial		378,165.00
Total		378,165.00	378,165.00
Adjusting Journal Entries JE # 5			
GASB 68 Entry #2 - To reclassify 2025 contributions to Deferred Outflows of Resources at June 30,			
100-00-98000-00	Deferred Outflows of Resources - Actuarial	524,278.00	
100-00-70106-01	Contra PERS Pension Plan		524,278.00
Total		524,278.00	524,278.00
Adjusting Journal Entries JE # 6			
GASB 68 Entry #3 - To record changes in pension liability during FY23/24 at June 30, 2025.			
100-00-70106-01	Contra PERS Pension Plan	488,209.00	
100-00-98000-00	Deferred Outflows of Resources - Actuarial	405,423.00	
100-00-20700-00	Net Pension Liability		282,285.00
100-00-99000-00	Deferred Inflows of Resources - Actuarial		611,347.00
Total		893,632.00	893,632.00
Adjusting Journal Entries JE # 7			
GASB 68 Entry #4 - To record changes in the deferred outflows and deferred inflows (amortization) during FY23/24 at June 30, 2025.			
100-00-70106-01	Contra PERS Pension Plan	686,855.00	
100-00-99000-00	Deferred Inflows of Resources - Actuarial	482,383.00	
100-00-98000-00	Deferred Outflows of Resources - Actuarial		1,169,238.00
Total		1,169,238.00	1,169,238.00

*Santa Ana Watershed Project Authority
Schedule of Audit Adjusting Journal Entries
June 30, 2025*

Account	Description	Debit	Credit
Adjusting Journal Entries JE # 8			
GASB 75 Entry #1 - To reclassify 2024 contributions made during the measurement period as of June 30, 2025 to Net OPEB Liability.			
100-00-20705-00	Net OPEB Liability	105,323.00	
100-00-98100-00	Deferred Outflows of Resources - OPEB		105,323.00
Total		105,323.00	105,323.00
Adjusting Journal Entries JE # 9			
GASB 75 Entry #2 - To defer the FY 2025 OPEB contributions to Deferred Outflows of Resources at June 30, 2025 (NOTE: These OPEB Contributions will be used to reduce Net OPEB Liability at June 30, 2025)			
100-00-98100-00	Deferred Outflows of Resources - OPEB	87,778.00	
100-00-81010-00	Retiree Medical Expense		87,778.00
Total		87,778.00	87,778.00
Adjusting Journal Entries JE # 10			
GASB 75 Entry #3 - To record changes in OPEB liability during FY23/24 at June 30, 2025.			
100-00-20705-00	Net OPEB Liability	154,268.00	
100-00-81010-00	Retiree Medical Expense		1,413.00
100-00-98100-00	Deferred Outflows of Resources - OPEB		52,087.00
100-00-99100-00	Deferred Inflows of Resources - OPEB		100,768.00
Total		154,268.00	154,268.00
Adjusting Journal Entries JE # 11			
GASB 75 Entry #4 - To record changes in the deferred outflows and deferred inflows (amortization) during FY23/24 at June 30, 2025.			
100-00-99100-00	Deferred Inflows of Resources - OPEB	78,000.00	
100-00-99100-00	Deferred Inflows of Resources - OPEB	122,988.00	
100-00-81010-00	Retiree Medical Expense		157,948.00
100-00-98100-00	Deferred Outflows of Resources - OPEB		43,040.00
Total		200,988.00	200,988.00
Adjusting Journal Entries JE # 12			
CPE - To adjust fund 398 receivables related to grants at June 30, 2025.			
398-00-11021-00	Accrued Accounts Receivable	2,034.71	
398-00-40103-00	Other Grant Proceeds	365.00	
398-00-11021-00	Accrued Accounts Receivable		365.00
398-00-40103-00	Other Grant Proceeds		2,034.71
Total		2,399.71	2,399.71

*Santa Ana Watershed Project Authority
Schedule of Audit Adjusting Journal Entries
June 30, 2025*

Account	Description	Debit	Credit
Adjusting Journal Entries JE # 13			
CPE - To adjust fund 398 payables related to grants at June 30, 2025.			
398-00-20200-00	Accrued Accounts Payable	365.00	
398-00-60500-00	Program Expenses	2,034.71	
398-00-20200-00	Accrued Accounts Payable		2,034.71
398-00-60500-00	Program Expenses		365.00
Total		2,399.71	2,399.71
	Total Adjusting Journal Entries	15,785,407.21	15,785,407.21
	Total All Journal Entries	15,785,407.21	15,785,407.21

Legend:

CPE	Client Prepared Adjusting Journal Entry
AJE	Audit Adjusting Journal Entry
GASB 68 Entry	GASB 68 Pension Adjusting Journal Entry
GASB 75 Entry	GASB 75 OPEB Adjusting Journal Entry

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COMMISSION MEMORANDUM NO. 2025.92

DATE: December 16, 2025

TO: SAWPA Commission

SUBJECT: Request for Qualifications on Groundwater Technical Assistance and Surface Water Reporting

PREPARED BY: Ian Achimore, Senior Watershed Manager

RECOMMENDATION

It is recommended that the Commission approve the list of qualified consultants for the following services in the Request for Qualifications on Groundwater Technical Assistance and Surface Water Reporting:

Service	Firms on Qualified Consultant List
Storage Model Technical Assistance	Water Systems Consulting, Inc. West Yost
Groundwater Data Consolidation	GEI Consultants Inc. West Yost
Implementation of 2026 Ambient Water Quality Recomputation	Water Systems Consulting, Inc. West Yost
Development of Santa Ana River Annual Water Quality Report	GEI Consultants Inc Larry Walker Associates, Inc. West Yost

DISCUSSION

SAWPA has served as the administrator of the Basin Monitoring Program (BMP) Task Force since the Commission approved the Task Force Agreement in August 2004. Over the past two decades, SAWPA has issued multiple Requests for Proposals (RFPs), Requests for Qualifications (RFQs), and managed consultant contracts on behalf of the Task Force. Most recently (and related to this item), on August 19, 2025, the Commission approved the issuance of an RFQ entitled *Groundwater Technical Assistance and Surface Water Reporting*. The need for the RFQ arose as the BMP Task Force is responsible for implementing ongoing surface and ground water quality monitoring as required by the Santa Ana Regional Water Quality Control Board's (RWQCB) Basin Plan. This monitoring effort primarily focuses on tracking two key pollutants: Total Dissolved Solids (TDS) and Nitrate-Nitrogen. A summary of these required monitoring tasks is provided in Table 1 below.

Table 1: BMP Task Force Monitoring Tasks

Monitoring Task	Description	Timeline for Completion
Ambient Water Quality Recomputation	Calculates TDS/Nitrogen concentrations in Santa Ana River Watershed's 35 groundwater management zones (using data from > 4,000 wells).	Performed every five years. Next due date October 31, 2028.

Annual Report of Santa Ana River Water Quality	Reports TDS/Nitrogen water quality data to inform compliance with the antidegradation objectives for Santa Ana River Reaches 2, 3, 4 and 5.	Performed annually. Next due date August 1, 2026.
Wasteload Allocation Model	Models the Santa Ana River's TDS/Nitrogen concentrations, and estimates those concentrations as recharge to underlying groundwater management zones or as discharge at Prado Dam.	Performed every ten years. Next due date June 2030.

As part of the first two ongoing monitoring tasks in Table 1 - (1) Ambient Water Quality Recomputation and (2) the Annual Report of Santa Ana River Water Quality - the BMP Task Force is responsible for several deliverables required by the RWQCB. These deliverables, along with their respective due dates, are summarized in Table 2 below.

To complete these tasks, the BMP Task Force requires consultant support. Each of the identified deliverables is included in the RFQ, organized under individual "Services" to summarize the work they entail.

Table 2: Services in RFQ

RFQ Service	Related Monitoring Task	Due Date to Regional Board
Storage Model Technical Assistance	Ambient Water Quality Recomputation	October 31, 2028.
Groundwater Data Consolidation		Annually.
2026 Ambient Water Quality Recomputation		October 31, 2028.
Development of Santa Ana River Annual Water Quality Report	Annual Water Quality Report	Annually (by August).

The RFQ had a deadline of September 30, 2025. Several consultants responded for each of the four services. These consultants are summarized by each of the four services in Table 3 below.

Table 3: Consultants Responding to Service

RFQ Service	Consultants Responding (Short List Recommendation in Bold)
Storage Model Technical Assistance	GEI Consultants Inc. Geoscience Support Services, Inc. Larry Walker Associates, Inc. Water Systems Consulting, Inc. West Yost
Groundwater Data Consolidation	GEI Consultants Inc. Geoscience Support Services, Inc. Horus Technology

	Larry Walker Associates, Inc. West Yost
Implementation of 2026 Ambient Water Quality Recomputation	GEI Consultants Inc. Geoscience Support Services, Inc. Larry Walker Associates, Inc. Water Systems Consulting, Inc. West Yost
Development of Santa Ana River Annual Water Quality Report	GEI Consultants Inc. Horus Technology Larry Walker Associates, Inc. West Yost

The BMP Task Force reviewed the six consultants proposals, and scored them by ranking their top selections in each service. The BMP Task Force recognized overlap in first three services related to groundwater, and the top two firms stood out in scorings for each service. The top three scoring firms had close scores for the Annual Report (surface water related) service. The BMP Task Force recognized that the surface water work was unique from the groundwater-related work, and wanted the short list to include the top three scoring firms.

If approved by the Commission, SAWPA will work with the top consultants on the short list to develop scope of works, budgets and schedules for each of the four services. Multiple consultants can be approached for each service since two (and three) firms would be on the short list for each service.

BACKGROUND

Pursuant to the Basin Plan, specifically the 2004 Plan Amendment, the BMP Task Force is responsible for several major deliverables to the Regional Board, as outlined in Table 1 above. The Task Force is composed of twenty water agency members, including agencies that operate publicly owned treatment works (POTWs). These agencies collaborate under the August 2004 Task Force Agreement to pool funding and technical resources. By working collectively, the parties streamline compliance with Basin Plan requirements, enabling the advancement of individual water resource projects, such as POTWs that recycle treated discharge water for beneficial reuse by agency customers.

RESOURCE IMPACTS.

The Task Force previously approved budgets for Fiscal Year Ending 2026 and 2027 that are sufficient to cover the cost of the proposed services. These budgets are funded by the Task Force agencies and are incorporated into the SAWPA Commission's adopted two-year budget, under Fund 374.

Attachments:

1. Presentation
2. Request for Qualifications
3. RFQ Responses from Six Consultants
 - I. GEI Consultants Inc.
 - II. Geoscience Support Services, Inc.
 - III. Horus Technology
 - IV. Larry Walker Associates, Inc.
 - V. West Yost
 - VI. Water Systems Consulting, Inc.

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Approval of Results from Request for Qualifications on Groundwater Technical Assistance & Surface Water Reporting

Ian Achimore

December 16, 2025

SAWPA Commission

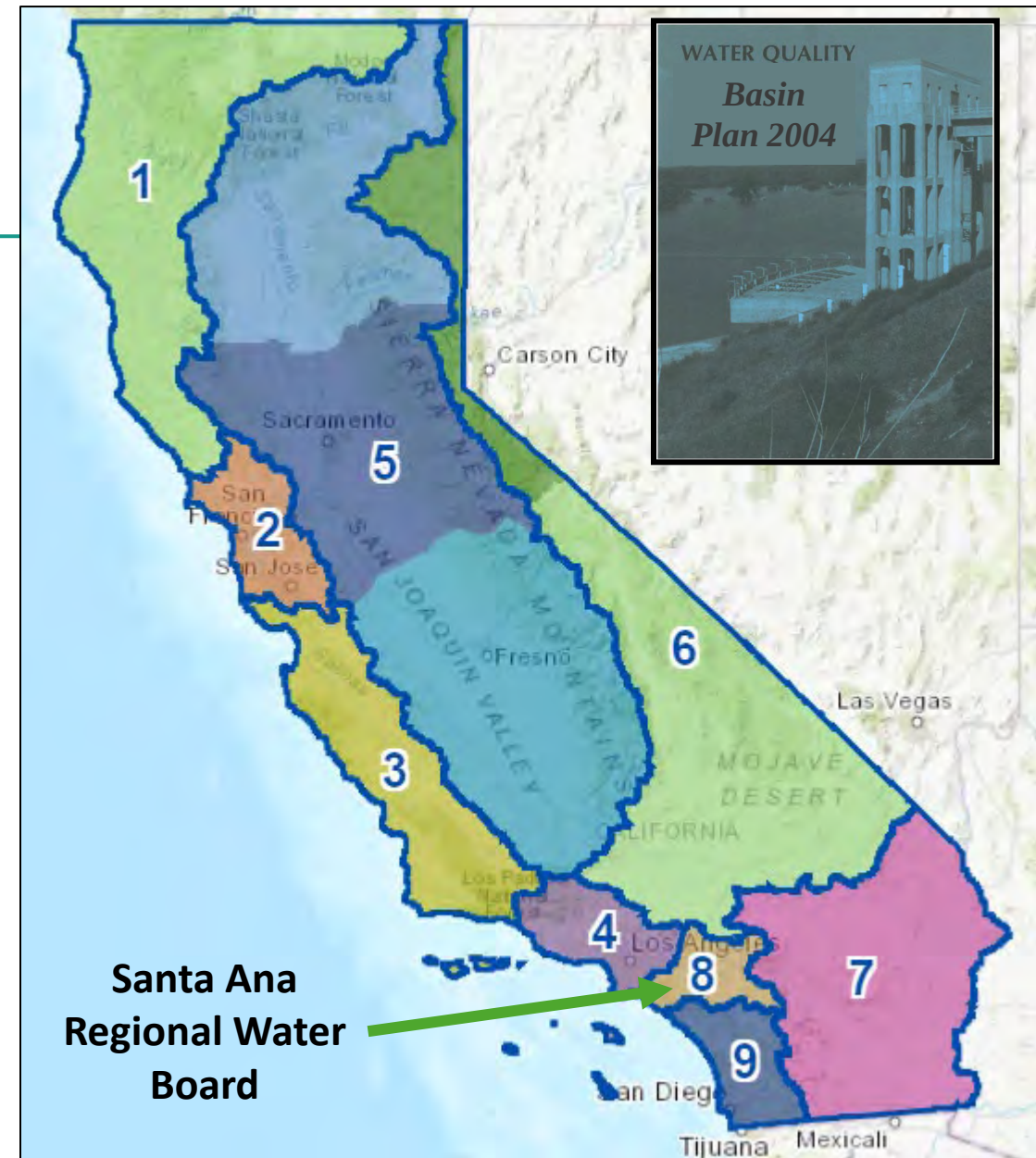
Recommendation

It is recommended that the Commission approve the list of qualified consultants for the following services in the Request for Qualifications on Groundwater Technical Assistance and Surface Water Reporting:

Service	Firms on Qualified Consultant List
Storage Model Technical Assistance	Water Systems Consulting, Inc. West Yost
Groundwater Data Consolidation	GEI Consultants Inc. West Yost
Implementation of 2026 Ambient Water Quality Recomputation	Water Systems Consulting, Inc. West Yost
Development of Santa Ana River Annual Water Quality Report	GEI Consultants Inc Larry Walker Associates, Inc. West Yost

Task Force Purpose

- The Task Force implements ongoing monitoring tasks that are required in the Santa Ana Regional Board's regulatory document, the Basin Plan.
- Various agencies are identified in the 2004 Basin Plan Amendment and thus responsible for this monitoring.
- These agencies formed the Task Force in 2004.



Task Force Members

Beaumont Cherry Valley Water District	Elsinore Valley Municipal Water District
Chino Basin Watermaster	Inland Empire Utilities Agency
City of Banning	Irvine Ranch Water District
City of Beaumont	Jurupa Community Services District
City of Corona	Orange County Water District
City of Redlands	San Bernardino Valley Municipal Water District
City of Rialto	San Gorgonio Pass Water Agency
City of Riverside	Temescal Valley Water District
Colton/San Bernardino Regional Tertiary Treatment and Wastewater Reclamation	Western Riverside Co Regional Wastewater Authority/Western Municipal Water District
Eastern Municipal Water District	Yucaipa Valley Water District
Santa Ana Regional Board - regulatory agency partner (non-funding member).	

Task Force Ongoing Monitoring

Monitoring Task	Description	Timeline for Completion
Ambient Water Quality Recomputation	Calculates salt and nutrient concentrations in Santa Ana River Watershed's 35 groundwater management zones.	Performed every five years. (note - was previously every three years)
Annual Report of Santa Ana River Water Quality	Reports water quality data to inform compliance for Santa Ana River Reaches 2, 3, 4 and 5.	Performed annually.
Wasteload Allocation Model	Models the Santa Ana River's salt and nutrients concentrations, and estimates those concentrations as recharge to underlying groundwater management zones or as discharge at Prado Dam.	Performed every ten years.

Note: Salt is regulated as the broader pollutant category of total dissolved solids (TDS), nutrients are regulated as Total Inorganic Nitrogen (TIN) and Nitrate-Nitrogen.

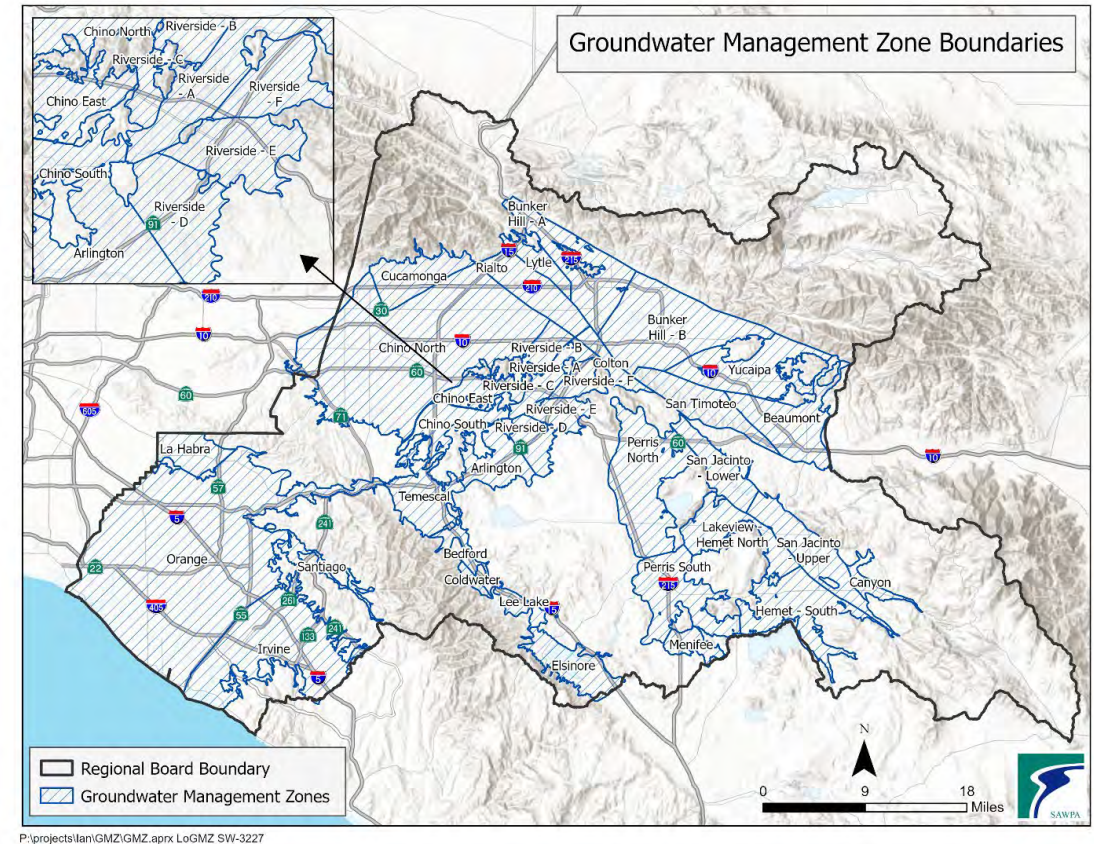
Services in RFQ

RFQ Service	Related BMP Ongoing Monitoring Task	Due Date for Service
Storage Model Technical Assistance	Ambient Water Quality Recomputation	October 31, 2028.
Groundwater Data Consolidation		Annually.
Implementation of 2026 Ambient Water Quality Recomputation		October 31, 2028.
Development of Santa Ana River Annual Water Quality Report	Santa Ana River Annual Water Quality Report	Annually (by August).

Purpose of the RFQ Groundwater Services

- The Regional Board agreed that a five-year frequency, instead of three, is appropriate for the ambient water quality recomputations.
- In exchange, the Regional Board required that the Task Force update the *aquifer storage properties data layer* of the 35 groundwater management zones (GMZs) using new hydrogeologic data.

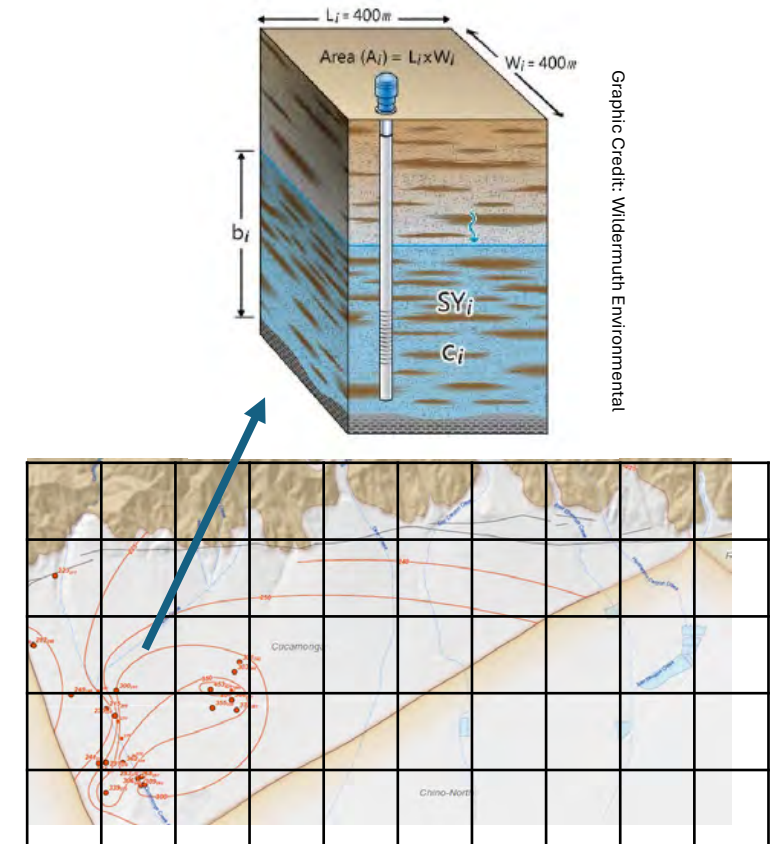
The Regional Board desires this since that layer used groundwater data from 2000, when the Task Force was working on the inaugural 2004 Basin Plan amendment.



Aquifer Storage Properties Data Layer Creation

- Ambient (current) groundwater water quality was first calculated in 2000 to prepare for the 2004 Basin Plan Amendment.
- New information from various groundwater models, developed by water agencies, exists in 2025.
- RFQ service involves consultant gathering this new information to produce contemporary ambient water quality calculations for the Task Force.

Visualization of Aquifer Layer



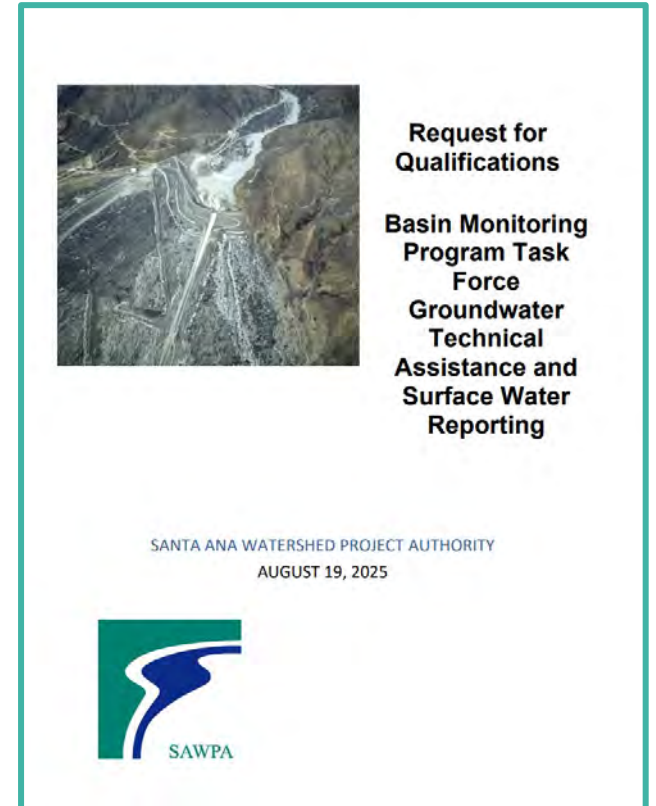
Purpose of the RFQ Surface Water Service

- The BMP Task Force's has a long-term obligation to produce the Annual Report of Santa Ana River Water Quality.
- Contained within this Report are water quality data necessary to determine compliance with Nitrogen and TDS water quality objectives for the following four Santa Ana River Reaches:
 - 2 (TDS Only)
 - 3
 - 4
 - 5.



RFQ Process

- **Short List:** The short list of qualified Consultants will remain valid for a minimum of five years from the “RFQ Proposals Due” date (September 30, 2025).
- **Project /Task Assignment:** Depending on the service needed, SAWPA will issue a request for a Scope of Work and Schedule (with due dates) to the Consultants on the short list.
- **Term of Services:** The term for applicable contracts is up to five years, beginning on the date that SAWPA enters into agreements with the selected qualified consultants, with the option to exercise an up to five-year extension (for a total of up to ten years).



RFQ Review Criteria

- The criteria for reviewing the Consultant proposals shall be based on, but not limited to, the following:
 - Qualifications and Experience (Firm and Personnel) – Consultant shall have a minimum of five years demonstrated experience related to the services they have selected.
 - Understanding of the Service(s) – As demonstrated in the completion of their Understanding of the Project and Approach, and other material.

Consultants Responding to Services

RFQ Service	Consultants Responding (Short List Recommendation in Bold)	
Storage Model Technical Assistance	GEI Consultants Inc. Geoscience Support Services, Inc. Larry Walker Associates, Inc.	Water Systems Consulting, Inc. West Yost
Groundwater Data Consolidation	GEI Consultants Inc. Geoscience Support Services, Inc. Horus Technology	Larry Walker Associates, Inc. West Yost
Implementation of 2026 Ambient Water Quality Recomputation	GEI Consultants Inc. Geoscience Support Services, Inc. Larry Walker Associates, Inc.	Water Systems Consulting, Inc. West Yost
Development of Santa Ana River Annual Water Quality Report	GEI Consultants Inc. Horus Technology	Larry Walker Associates, Inc. West Yost

Task Force Review of Consultants

- The BMP Task Force reviewed the six consultants proposals, and scored them by ranking their top selections in each service. The BMP Task Force recognized overlap in first three services related to groundwater, and the top two firms stood out in scorings for each service.
- The top three scoring firms had close scores for the Annual Report (surface water related) service. The BMP Task Force recognized that the surface water work was unique from the groundwater-related work, and wanted the short list to include the top three scoring firms.
- If approved by the Commission, SAWPA will work with the top consultants on the short list to develop scope of works, budgets and schedules for each of the four services.

Recommendation

It is recommended that the Commission approve the list of qualified consultants for the following services in the Request for Qualifications on Groundwater Technical Assistance and Surface Water Reporting:

Service	Firms on Qualified Consultant List
Storage Model Technical Assistance	Water Systems Consulting, Inc. West Yost
Groundwater Data Consolidation	GEI Consultants Inc. West Yost
Implementation of 2026 Ambient Water Quality Recomputation	Water Systems Consulting, Inc. West Yost
Development of Santa Ana River Annual Water Quality Report	GEI Consultants Inc Larry Walker Associates, Inc. West Yost

Questions

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Senior Watershed Manager

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Request for Qualifications

Basin Monitoring Program Task Force Groundwater Technical Assistance and Surface Water Reporting

SANTA ANA WATERSHED PROJECT AUTHORITY

AUGUST 20, 2025



SAWPA
REQUEST FOR QUALIFICATIONS (RFQ)
for
CONSULTING SERVICES
for

**Basin Monitoring Program Task Force Groundwater Technical Assistance and Surface
Water Reporting**

NOTICE TO SUBMITTING FIRMS

Proposals submitted in response to this RFQ as described herein, need to be submitted to Planet Bids at: <https://pbsystem.planetbids.com/portal/52676/portal-home>

1. Submit electronically, with Adobe Acrobat (PDF) file and attachments, with search capability to ensure readability and compatibility. PDF to **not be more than 25 pages long** (not including exhibits such as resumes). An Excel-based file is to be submitted for one item. It does not factor into the 25-page limit.
2. All proposals must be received by **5:00 p.m. (PST) on September 30, 2025**. Prospective Offerors are required to submit all RFQ questions, clarifications, or comments through Planet Bids' Q&A system at:
<https://pbsystem.planetbids.com/portal/52676/portal-home>.
Questions, clarifications, or comments must be received no later than **September 17, 2025 at 5:00 p.m. PST**.
3. Any changes to this RFQ are invalid unless specifically modified by SAWPA and issued as a separate addendum document. Should there be any question as to changes to the content of this document, SAWPA's copy shall prevail. It is the submitting firm's sole responsibility to ensure that their submittal, inclusive of any or all addenda, is received at the proper place at the proper time. SAWPA will not accept submittals after the due date/time listed above.

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SECTION 1 - PURPOSE OF RFQ

SAWPA is the administrator of the Basin Monitoring Program (BMP) Task Force. In its role, it is issuing this Request for Qualifications (RFQ) to identify qualified consultants or professionals (hereafter Consultants) to provide on-call services, as requested by the BMP Task Force. Examples of services to which qualified consultants may be called on to perform include the following:

- A. Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers
- B. Annual/Routine Groundwater Data Consolidation
- C. Recomputing Ambient Water Quality for Groundwater Management Zones for the Period of 2007 to 2026 ("2026 AWQ Recomputation")
- D. Development of the Annual Report of Santa Ana River Water Quality

Upon review of the RFQ response submittals, qualified Consultants will be identified, and from this list, the BMP Task Force will direct SAWPA staff which qualified Consultants should be engaged to perform the desired services.

The BMP Task Force is tasked with various regional water quality monitoring efforts which are focused on two constituents – Total Dissolved Solids (TDS) and Nitrogen in both surface and groundwater. The services to be performed under this RFQ are generally related to the assessment of groundwater ambient water quality (AWQ) and assimilative capacity for the Santa Ana Region's groundwater management zones (GMZs). This effort is referred to as the "AWQ Recomputation" and is now being required, per recent updates to the [Water Quality Control Plan for the Santa Ana River Basin \(Basin Plan\)](#), every five years. The next AWQ Recomputation which will cover the period of 2007 to 2026 is due to the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) by October 31, 2028.

The BMP Task Force's also has a long-term obligation to produce the Annual Report of Santa Ana River Water Quality (Annual Report), which is due to the Santa Ana Water Board on August 1st each year and is focused on four of the six Santa Ana River reaches. Contained within the Annual Report are water quality data necessary to determine compliance with Nitrogen, specifically Total Inorganic Nitrogen (TIN), and TDS water quality objectives¹ for the following four Santa Ana River Reaches:

- 2 (TDS Only),
- 3,
- 4 and
- 5.

This coordinated effort of submission of AWQ Recomputations and Annual Reports has occurred since the adoption of the 2004 Basin Plan Amendment (Basin Plan). Per the Basin Plan, the AWQ Recomputation performed every five years is required to include, among other things, the following:

- Determination of current TDS and Nitrate-Nitrogen ambient water quality in GMZs throughout the Santa Ana River Basin, and

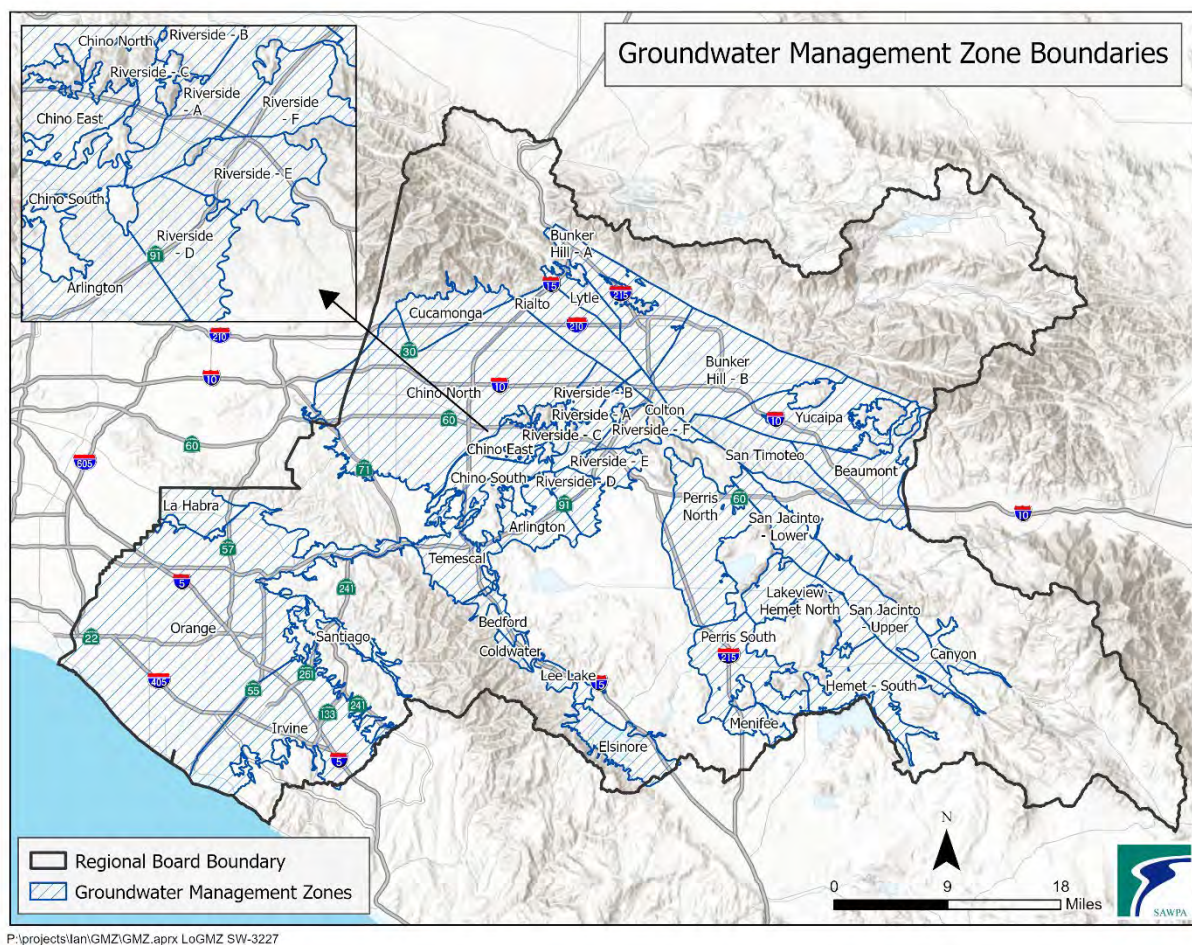
¹ Through the Basin Plan, the water quality objectives are defined as antidegradation objectives (historic ambient water quality).

- Determination of compliance with TDS and Nitrate-Nitrogen antidegradation objectives for those GMZs through an evaluation assimilative capacity.

A map of the GMZs is shown in Figure 1 below.

The Basin Plan (Chapter 5 – Implementation) states that the determination of current AWQ can be accomplished “using methodology consistent with that employed by the Nitrogen/TDS Task Force (20-year running averages) to develop the TDS and nitrogen water quality objectives included in the Basin Plan.” This methodology is summarized in the *TIN/TDS Phase 2A: Tasks 1 through 5, TIN/TDS Study of the Santa Ana Watershed* (Phase 2A Technical Memo prepared by Wildermuth Environmental Inc., 2000).

Figure 1: BMP Task Force GMZs



With respect to surface water monitoring, the Annual Report is prepared in accordance with the 2005 Santa Ana River Water Quality Work Plan² and the 2022 Santa Ana River Total Dissolved Solids and Total Inorganic Nitrogen Monitoring Work Plan³ (Annual Report Work Plans). These Annual Report Work Plans describe the monitoring that occurs throughout the calendar year,

² Approved by the Regional Board in Resolution No. R8-2005-0063.

³ Submitted to the Regional Board on March 30, 2023.

and how that data is reported. For example, for Santa Ana River Reach 5, the Annual Report Work Plans require sampling quarterly at Santa Ana River at E Street in order to capture a wide variety of conditions. And per the documents, the Reach 5 sampling data is to be documented in the Annual Report as an annual average of all these samples for TIN and TDS. The extents of each reach, and their TIN and TDS water quality objectives, are listed in the Basin Plan. A map of the reaches is shown in Figure 2 below.

Figure 2: Santa Ana River Reaches in Annual Report



SECTION 2 – HOW THE IDENTIFIED QUALIFIED CONSULTANTS WILL BE USED TO PERFORM VARIOUS SERVICES

SAWPA, on the recommendation of the BMP Task Force, will select the Consultants, based on their qualified expertise, to perform the services listed below and additional services identified by the BMP Task Force, as appropriate.

- A. Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers
- B. Annual/Routine Groundwater Data Consolidation
- C. Recomputing AWQ for GMZs for the Period of 2007 to 2026 (“2026 AWQ Recomputation”)

D. Development of the Annual Report of Santa Ana River Water Quality

Once RFQ Proposals are due, SAWPA will use the following process to identify the qualified consultants to perform the services listed above:

- Submittal Review: Using the review criteria described in Section 9, SAWPA will review and evaluate each submittal to determine if the Consultant is qualified to perform the services identified herein. Consultants who do not qualify for one or more of the identified services will be eliminated from further consideration.

A review committee of Task Force agency representatives will evaluate each submittal to determine whether the Consultant is qualified to perform the defined services. SAWPA may, at its discretion, conduct optional interviews with staff and the review committee. Based on the submittal review, the Consultants will be ranked according to the following:

- Short List: The short list of qualified Consultants will remain valid for a minimum of five years from the "RFQ Proposals Due" date. The option to extend existing agreements beyond this term is described in the below bullet titled "Terms of Services". SAWPA, with input from the BMP Task Force, may add and remove firms from the short list during the time frame, as determined necessary and appropriate.
- Project /Task Assignment: Depending on the service needed, SAWPA will issue a request for a Scope of Work and Schedule (with due dates) to the Consultants on the short list. The successful Consultants from the Short List will be issued a Task Order documenting the Scope of Work, Schedule and the negotiated fee (i.e. Budget), as well as a General Services Agreement (GSA). This will be done with input from the BMP Task Force. SAWPA will consider balanced distribution of Task Orders when appropriate but is not obligated to ensure equal workload or monetary allocation among Consultants.
- Term of Services: The term for applicable GSAs and Task Orders under this RFQ will be up to five years, beginning on the date that SAWPA enters into agreements with the selected qualified consultants, with the option to exercise an up to five year extension (for a total of up to ten years). The BMP Task Force will conduct milestone reviews which will provide a reference point when considering extensions.

SECTION 3 – ABOUT THE BASIN MONITORING PROGRAM TASK FORCE

This RFQ falls within the jurisdiction of the BMP Task Force, which SAWPA administers. The BMP Task Force includes over 20 water agencies and staff from the Santa Ana Water Board who have signed a [2004 agreement](#) to work together through shared funding and staff expertise.

The Santa Ana Water Board administers regulations per National and statewide water quality plans and policies, including the California Water Code and the Clean Water Act. The Santa Ana Water Board is an active collaborative partner in the Task Force. Most of the Task Force members, shown in the table below, operate Publicly Owned Treatment Works (POTWs) which discharge treated water to surface and groundwater bodies in the Santa Ana River Basin.

Table 1: Task Force Water Agency Members

Beaumont Cherry Valley Water District	Elsinore Valley Municipal Water District
Chino Basin Watermaster	Inland Empire Utilities Agency
City of Banning	Irvine Ranch Water District
City of Beaumont	Jurupa Community Services District
City of Corona	Orange County Water District
City of Redlands	San Bernardino Valley Municipal Water District
City of Rialto	San Geronio Pass Water Agency
City of Riverside	Temescal Valley Water District
Colton/San Bernardino Regional Tertiary Treatment and Wastewater Reclamation	Western Riverside County Regional Wastewater Authority/Western Municipal Water District
Eastern Municipal Water District	Yucaipa Valley Water District

Note: The Santa Ana Water Board is a non-funding Task Force member.

As described in Section 1, the next AWQ Recomputation from the BMP Task Force is due to the Santa Ana Water Board by October 31, 2028. Consistent with previous AWQ Recomputations, a GMZ lacks assimilative capacity when its current quality meets or falls below the antidegradation objectives. If the current quality is better than the antidegradation objectives, then that GMZ is determined to have assimilative capacity. In the latter case, the difference between the antidegradation objective and current quality is the amount of assimilative capacity available. The Santa Ana Water Board requires this assessment of ambient groundwater quality to determine if any new or revised regulatory actions (e.g., revisions to National Pollutant Discharge Elimination System permits or waste discharge requirements) are required to address the current water quality conditions.

As shown in Table 2 below, the Task Force has completed eight AWQ Recomputations since the original computation was done through the Phase 2A Technical Memo.

The Phase 2A Technical Memo published in 2000 used the “historical” time period of 1954 to 1973 for its 20-year period to set the “antidegradation” objectives for TDS and Nitrate-Nitrogen. Those antidegradation objectives were established to ensure that water quality is maintained pursuant to the State’s antidegradation policy, and thus, were termed “antidegradation” objectives.⁴

The Phase 2A Technical Memo also computed ambient AWQ for the period of 1978 to 1997 to assess compliance with the antidegradation objectives, and to determine the magnitude of assimilative capacity, if it existed, within individual GMZs.

The BMP Task Force analyzed the efficacy of the AWQ Recomputation method described in the original Phase 2A Technical Model as part of the 2021 AWQ (Pilot) Recomputation process.

⁴ Note, since 2000 in some GMZs, alternative “maximum-benefit” objectives have been established and coupled with GMZ-specific salt and nutrient management programs (e.g., Maximum Benefit SNMPs that allow the degradation of water quality relative to antidegradation objectives based on demonstrations by the sponsoring agencies that beneficial uses will be protected, and that the programs provide maximum benefit to the people of California).

Through that effort, the BMP Task Force agreed to implement the colloquially termed “Modified Standard Approach” going forward. This approach includes several changes from the initial Phase 2A Technical Model approach, such as simplifying the groundwater quality data collection to just TDS and Nitrate-Nitrogen, and not collecting other parameters such as Calcium, Sodium, Sulfate (i.e., general chemistry data used to calculate a cation-anion balance). The Modified Standard Approach also makes use of “interpretive tools” not described in the Phase 2A Technical Memorandum such as the use of the Mann-Kendal statistical analysis. Mann-Kendall statistical test is now used to analyze data to determine whether there are increasing or decreasing trends in TDS and Nitrate-Nitrogen concentrations at each well.

Table 2: List of BMP Task Force AWQ Recomputations

Recomputation Name	20-Year Period
Initial Computation in Phase 2A Technical Memo	1978 to 1997
2000 AWQ Recomputation	1981 to 2000
2003 AWQ Recomputation	1984 to 2003
2006 AWQ Recomputation	1987 to 2006
2009 AWQ Recomputation	1990 to 2009
2012 AWQ Recomputation	1993 to 2012
2015 AWQ Recomputation	1996 to 2015
2018 AWQ Recomputation	1999 to 2018
2021 AWQ (Pilot) Recomputation	2002 to 2021
2026 AWQ Recomputation (Not Begun)	2007 to 2026

SECTION 4 – ABOUT SAWPA

SAWPA was formed in 1968 as a joint power authority under California law and is composed of five member agencies: Eastern Municipal Water District, Inland Empire Utilities Agency, Orange County Water District, San Bernardino Valley Municipal Water District, and Western Municipal Water District. SAWPA's office is located at 11615 Sterling Avenue, Riverside, CA 92503. See the website at: <http://www.sawpa.gov>.

SAWPA focuses on a broad range of water resource issues in its service area, the Santa Ana River Basin (also known as the Santa Ana River Watershed). SAWPA's planning department [manages several task forces](#) (also known as “roundtables”) that include water agency members and regulatory agency partners. These task forces are often focused on complying with certain water quality related regulations and allow the members to pool resources to hire consultants to implement various watershed studies and regional compliance efforts (such as AWQ Recomputations).

SECTION 5 – SPECIFICATION OF SERVICES

The following section outlines the service objectives and focus areas currently identified by the BMP Task Force.

- Technical Assistance and Associated Updates Related to Groundwater Storage and Water Quality Modeling
- Groundwater Data Consolidation

- Recomputing AWQ for GMZs for the Period of 2007 to 2026 (“2026 AWQ Recomputation”)
- Development of the Annual Report of Santa Ana River Water Quality

Note that the examples of expected work are for illustrative purposes. See information regarding how a Scope of Work is executed with Consultants in Section 2 above.

Service: Technical Assistance and Associated Updates Related to Groundwater Storage and Water Quality Modeling

Focus of this Service: Research, contact, and request data from water agencies and related entities who have the most recent understanding of groundwater characteristics in their respective groundwater basins/subbasins. Groundwater characteristics of interest include items such as specific yield and bottom elevation of groundwater basins (basin geometry). Update existing storage properties model layers used for the Initial Computation in Phase 2A Technical Memo and past eight AWQ Recomputations as shown in Table 2.

Examples of Expected Work:

- Research available documents, that are available through separate salt and nutrient management planning and/or groundwater sustainability agency planning (not led by the BMP Task Force), to gain an understanding of which water agencies are involved in the various groundwater basins across the Santa Ana River Basin (see Figure 1 above).
- Conduct outreach to the water agencies and related entities who have done groundwater storage and water quality modeling.
- Request data from these water agencies and related entities regarding specific yield and bottom (average) elevation of groundwater basins.
- Catalogue the data in a database, such as Microsoft Access.
- Analyze a newly created database, such as Microsoft Access, that has the most recent groundwater properties information on various groundwater management zones.
- Update an existing storage properties layer using the newly created database.
- Perform quality control of the updated storage properties layer.

Service: Annual/Routine Groundwater Data Consolidation

Focus of Service: Acquire groundwater data, such as well elevation and water quality information, from well owners in all GMZs of interest to the BMP Task Force (see Figure 1). Tabulate acquired data and information using a BMP Task Force-provided database. Note this is separate groundwater data from the specific yield and bottom (average) aquifer elevation data described in the service above - Technical Assistance and Associated Updates Related to Groundwater Storage and Water Quality Modeling.

Example of expected work:

- Annually/routinely submit data request forms and data upload templates to entities with groundwater data and information.
- Annually/routinely meet with agency staff and well owners to verify the well information provided by them.
- Annually/routinely reformat and normalize data and information prior to incorporation into the BMP Task Force-provided database. This occurs due to some entities providing their data in a unique format.
- Execute non-disclosure agreement(s) as needed with parties for certain groundwater management zones. The data provided for these GMZs will thus not be used for any other projects or assessments unless written permission is obtained by the respective party.
- Make a recommendation(s) for tool development (such as data analysis script/code), and if approved by the BMP Task Force, implement tools that analyze groundwater data.
- Make a recommendation(s) for data management improvements (such as standardizing data across all AWQ Recomputations shown in Table 2), and if approved by the BMP Task Force, implement data management improvements.

Service: Recomputing AWQ for GMZs for the Period of 2007 to 2026 (“2026 AWQ Recomputation”)

Focus of this Service: Utilizing the detailed processes identified through the last [2021 AWQ Recomputation \(also known as the Pilot Study\)](#) and the [2022 Groundwater Monitoring Program](#), recompute AWQ for approximately 35 GMZs and determine their assimilative capacity. This service requires using the colloquially termed “Modified Standard Approach” for implementing the AWQ Recomputation for the 2007 to 2026 period. The Modified Standard Approach is highlighted in the Pilot Study linked above and is also described in Section 3 of the RFQ. Per the Pilot Study’s Section 4.1, the BMP Task Force declined to implement the “Simplified Approach” which was analyzed as an alternative to the Modified Standard Approach for AWQ Recomputations.

Examples of Expected Work:

- For each GMZ, utilize previous collected data, as well as newly collected data by the Task Force through the service described above, “Annual/Routine Groundwater Data Consolidation”, to calculate water quality statistics for each well over the 20-year timeline of 2007 to 2026.
- For each GMZ, ensure concentration values for TDS and Nitrate-Nitrogen from this 20-year time period are mapped to create iso-concentration contours of like values that depict the spatial distribution of TDS and Nitrate-Nitrogen.
- For each GMZ, ensure those contours are then saved as a surface raster, and that the raster utilizes a grid with 400x400 meter (m) cells.

- For each GMZ's grid cells, assign concentration values for TDS and Nitrate- Nitrogen by overlapping and interpolating the contour data mapped above.
- For each GMZ's grid cells, assign aquifer storage properties information (in addition to the concentration values previously assigned) to calculate the total value of water in the grid cells. The aquifer storage properties information to be provided by the Task Force. It will either utilize new data created through the service described above, "Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers", or be data from the first AWQ Recomputation implemented in the Phase 2A Technical Memo published in 2000.
- For each GMZ's grid cells, calculate the mass of TDS and Nitrate-Nitrogen based on the total volume of water attributed to each grid cell.
- For each GMZ, create a single concentration value of TDS and Nitrate-Nitrogen. Do this by summing the total mass of TDS and Nitrate-Nitrogen in the GMZs' grid cells. Then divide the total mass by the total volume of water.
- For each GMZ, determine the assimilative capacity for TDS and Nitrate-Nitrogen by taking the difference between the antidegradation objective in the Basin Plan for the GMZ and the 2026 AWQ Recomputations single concentration value. The antidegradation objectives are based on well data from the 1954 to 1973 historical time period.
 - o For GMZs where new storage properties were used, also recalculate the Basin Plan's historic single concentration values for TDS and Nitrate-Nitrogen for the 1954 to 1973 period using the same steps to compute AWQ for the 2006 to 2026 period. Instead of using 2007 to 2026 data, use 1954 to 1973 data provided by the BMP Task Force. The difference between the new historic period and the 2026 AWQ Recomputation values will help inform assimilative capacity findings.
- Utilize Interpretive Tools such as the Mann-Kendal statistical analysis. Utilize this test to analyze data to determine whether there are increasing or decreasing trends in TDS and Nitrate-Nitrogen concentrations at each well.
- Provide updates and presentations to the BMP Task Force as work progresses. Provide presentations that cover major milestones such as the draft data being calculated.

Service: Development of the Annual Report of Santa Ana River Water Quality

Focus of this Service: By compiling data from Orange County Water District (OCWD), the Santa Ana Water Board, the BMP Task Force, U.S. Geological Survey (USGS), and other data sources utilized in the State Water Resources Control Board's [Integrated Report](#), produce an Annual Report of Water Quality⁵ (note - the past versions of the report have been produced by SAWPA Staff). The data compiled will be for Reaches 2 through 5 and initially follow a format similar as the latest version – the 2024 Annual Report of Water Quality (Annual Report). Note that direction will be provided by BMP Task Force at the start of each calendar year regarding

⁵ These reports are posted under the "Resources" tab on the BMP Task Force webpage - <https://sawpa.gov/task-force/basin-monitoring-program-taskforce/>

any updates to the overall content of the document, including the data to include, water quality objectives, and methods to determine compliance with the water quality objectives.

Examples of Expected Work:

- Within the first quarter of a calendar year, contact OCWD, the Santa Ana Water Board, and SAWPA on data collected for Reaches 2 through 5 of the Santa Ana River in the past calendar year. SAWPA will provide the BMP Task Force data collected by its consultant.
- Within the first quarter of the calendar year, acquire water quality data for the three U.S. Geological Survey (USGS) stream gages along the Santa Ana River Reaches 2 through 5, which are 1) SAR Below Prado Dam, 2) SAR at MWD Crossing, and 3) SAR at E St near San Bernardino.
 - o Also acquire all flow data (in cubic feet per second) from the three USGS stream gages 1) SAR Below Prado Dam, 2) SAR at MWD Crossing, and 3) SAR at E St near San Bernardino in order to inform the various tables/figures in the Annual Report.
- Within the first and second quarter of the calendar year, calculate “baseflow conditions” in order to inform the reporting of the Reach 3 TDS and TIN data. This work includes collecting data from the USGS Gilbert Street Precipitation Gage San Bernardino, which is a requirement per the Annual Report Work Plans. Two methods for “baseflow conditions” calculations are currently used in the 2024 Annual Report, and will likely be required for the next several Annual Reports until a Basin Plan Amendment is adopted by the Santa Ana Water Board and approved by the California Office of Administrative Law.
- Within the first quarter of the calendar year, acquire data from the past calendar year that will be utilized for future State Water Resources Control Board Integrated Reports and the Clean Water Act Section 303(d) list determination. These data sources are highlighted in the State Water Resources Control Board’s 2024 Integrated Report [staff report in Section 2.1](#). Examples of the data sources are shown below (for a full list see Section 2.1 of the staff report).
 - o CEDEN data, which includes data from the SWAMP and other Water Board monitoring programs, ILRP, Southern California Coastal Water Research Project (“SCCWRP”), San Francisco Estuary Institute’s (“SFEI”) Regional Monitoring Program, citizen monitoring groups, academic institutions and other data providers.
 - o CIWQS data, which includes receiving water monitoring data from discharger monitoring reports.
 - o Data and information, including QAPPs, submitted through the California Integrated Report Upload Portal.
- Within the first and second quarters of the calendar year, compile the data in a similar format in the attached Excel Spreadsheets SAWPA used for the 2024 Annual Report.

- Within the first and second quarters of the calendar year, tabulate the acquired data into a format similar to the Appendix B used in the latest 2024 Annual Report⁶. Use a similar format for any new data categories that are to be included in future Integrated Reports.
- By the end of the second quarters of the calendar year, produce a draft report similar to the format of the 2024 Annual Report. Use the Annual Report Work Plans to guide how the sampling data is calculated (averaged) and reflected in the various tables/figures. The 2024 Annual Report also describes the calculations (averages), which are rooted in the Basin Plan.
- Receive comments from the BMP Task Force, including SAWPA and the Regulatory Facilitator consultant. Submit Annual Report to Santa Ana Water Board by the Basin Plan's deadline of August 1.

SECTION 6 - CONSULTANT PROPOSAL

Responses to this RFQ must be made according to the requirements set forth in this section for content and sequence. Failure to adhere to these requirements or to include conditions, limitations, or misrepresentations may be cause for rejection of the proposal. Any correction and resubmission by the proposer will not extend the time for evaluation of the proposal. Responses to this RFQ shall be prepared as concise as possible.

The proposal should be no more than 25 pages long and provided as a PDF document (pages sized 8.5" by 11"). Each page should be numbered. An Excel-based file is to be submitted for one item. It does not factor into the 25-page limit.

Submit proposal through the Planet Bids website:

<https://pbsystem.planetbids.com/portal/52676/portal-home>. Hard copies will not be reviewed.

All proposals must be received by **September 30 at 5:00 PM PST**. Proposals received after the stated time will not be considered.

If additional information is needed, use Planet Bids to pose questions to SAWPA staff.

Questions may be submitted at anytime until **September 17 at 5:00 PM PST**. A response document will be posted to Planet Bids and updated in a timely manner to address all questions received before that deadline. If questions are submitted up until the September 17 deadline, SAWPA will respond by September 24 at 5:00 PM PST to any final questions received.

All proposals must include the following information. When responding to this RFQ, please label each section using the bold text below:

1. **Cover Letter:** On the cover letter, the Consultants shall provide key details about their organization by completing Table 3 below. The Consultants' owner or principal staff with authority to execute documents such as a Task Order or General Services Agreement (see Appendix B) should be the individual signatory.

⁶ Provided on the BMP Task Force webpage - https://sawpa.gov/wp-content/uploads/2025/08/Appendix-B-SAR_WQ_2024.xlsx

The Consultants' signature on the Cover Letter, should they be awarded a contract as defined in this RFQ, signifies that they have fully read and understood this RFQ and will comply with all specifications, conditions, terms, and delivery noted unless otherwise described through their completion/submittal of Appendix A4 - Additions, Deletions and/or Exceptions.

Table 3: Table for Cover Letter

Proposer's Name:			
Authorized Signature:		Date:	
Name of Individual Signatory		Title of Individual Signatory	
Direct Phone #:		Mailing Address:	
E-Mail Address:		City, State, Zip	

- a. In addition to the cover letter, the Consultants shall complete Appendix A1 - Proposer's Business Information. This shall be provided in the submittal on the page after the Cover Letter.
2. **Executive Summary:** The Consultants shall provide a brief summary of the firm's origin, background, and size of the entity, an organizational chart, the overall capabilities of the organization, appropriate licenses and certifications (if applicable), and proximity of company's resources to SAWPA in Riverside, California.
3. **Identification of Services:** The Consultants shall select which services they are proposing on:
 - A. Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers
 - B. Annual/Routine Groundwater Data Consolidation
 - C. Recomputing AWQ for GMZs for the Period of 2007 to 2026 ("2026 AWQ Recomputation")
 - D. Development of the Annual Report of Santa Ana River Water Quality
4. **Qualifications and Experience:** The Consultants shall provide resumes of key team members and descriptions of similar projects that have been successfully completed in the past five years.

In this section of the proposal, the Proposer shall also demonstrate they:

- Have at least five years of experience in the service categories they selected in question 3 above.
- Have represented the interests and needs of California government agencies and/or non-profit organizations.

- State that the Consultants are willing to provide a client list to demonstrate that no other clients could negatively impact SAWPA.
5. **References:** Complete Appendix A2 to list three current/former references that the proposer has served in the past five years. California government or non-profit organization clients are preferred as references. Private clients for whom comparable services have been performed are acceptable.
 6. **List of Subcontractors:** The Consultants shall use Appendix A3 to provide a description of any subcontract arrangements that may be utilized for the services they have identified in question 3. Include a full description of the subcontractor's experience and personnel.
 7. **Fee Schedule:** The Consultants shall provide an Excel-based current schedule of hourly rates; rates for all frequently used sub-consultants (for similar work, if applicable), and percentage markup of reimbursable expenses (if applicable) be included. Please note that the rates provided are understood by SAWPA to be *current* Consultant rates, and not necessarily the rates used for implementation of future work under this RFQ. See Section 2 for the process of identification of a budget through a Task Order.
 8. **Understanding of the Project and Approach** – In response to the RFQ, which describes the purpose of the various four services, the Consultants shall provide a description of the BMP Task Force and the key elements of the service(s). In responding to question 8, the Consultant only needs to focus on the service(s) they have selected in question 3.
 9. **Additions, Deletions and/or Exceptions** - Compliance with SAWPA's contractual terms and/or RFQ requirements.

The Consultants shall utilize Appendix A4 to note any additions, deletions and/or exceptions to SAWPA's contractual terms and/or RFQ requirements. If there are no exceptions taken, note in writing that there are none.

SECTION 7 - GENERAL CONTRACT TERMS

Term of Services:

- A. SAWPA may make such investigations as it deems necessary to determine the ability of the firm to provide the goods and/or service as specified, and the firm shall furnish to SAWPA, as is commercially reasonable, all such information and data for this purpose. SAWPA may discuss or negotiate with one or more consultants prior to contract award and reserves the right to reject any submittal.
- B. SAWPA reserves the right to reject any or all qualification submittals, either separately or as a whole and to waive any informality in a qualification submittal or to accept any qualification submittal presented which it deems best suited to the interest of SAWPA and is not to be bound to accept the lowest price. SAWPA reserves the right to negotiate with any qualified source. SAWPA reserves the right to reject any or all proposals for any reason or for no reason at all. SAWPA reserves the right to decline any or all qualification submittals and retains the flexibility to implement a Request for Proposals process when it would more effectively meet project objectives..

- C. SAWPA reserves the right to have discretion to work with those identified through this RFQ process or utilize a separate process.
- D. This RFQ process is not inclusive of all of the BMP Task Forces' projects/deliverables (such as the Wasteload Allocation described in the Basin Plan).
- E. SAWPA reserves the right to request further information from the proposer either in writing or orally. Such a request will be addressed to that person or persons authorized by the proposer to represent the proposer.
- F. SAWPA reserves the sole right to judge the proposers' representations, either written or oral.
- G. The cost for developing the RFQ submittal is the sole responsibility of the firm. All submittals shall become the property of SAWPA.
- H. Be advised that all information contained in qualification submittals in response to this solicitation may be subject to the California Public Records Act (Government Code Section 6250 et seq.), and information's use and disclosure are governed by this Act. At such time as SAWPA's recommendation to the SAWPA Commission relative to proposal review appears on the SAWPA Commission agendas, all such proposals become a matter of public record, and shall be regarded as public records, with the exception of those parts of each proposal which are defined by the proposer as business or trade secrets, and so marked, as "confidential" or "proprietary" in the RFQ response from the proposer. All proposals submitted in response to this RFQ will become the exclusive property of SAWPA.
- I. Proposers understand and agree that submission of a proposal constitutes acknowledgement and acceptance of, and a willingness to comply with, all the terms, conditions, and criteria contained in this RFQ.
- J. False, incomplete, or unresponsive statements in connection with a proposal may be sufficient cause for the rejection of the proposal. The valuation and determination of the fulfillment of the above requirement will be SAWPA's responsibility and its decision shall be final.
- K. SAWPA reserves the right to interpret or change any provisions of this RFQ at any time prior to the proposal submission date. Such interpretations or changes will be in the form of an addenda to this RFQ. Such addenda will become part of this RFQ and may become part of any resultant Task Order and GSA. Such addenda will be made available on Planet Bids. Should such addenda require additional information not previously requested, a proposer's failure to address the requirements of such addenda might result in the proposal not being considered.
- L. If selected, conflict of interest disclosures may be requested as part of any comprehensive proposals submitted.

SECTION 8 - RFQ SCHEDULE

Action	Deadline
RFQ Published	August 20, 2025
Question Deadline	September 17 at 5:00 PM PST
SAWPA Responds to Final Question(s)	September 24 at 5:00 PM PST
RFQ Proposals Due	September 30 at 5:00 PM PST
Possible Interviews	October 8 through 15, 2025
SAWPA Commission Approval of Short List of Consultants	October 21 at 9:30 AM PST or November 4, 2025 at 9:30 AM PST

SECTION 9 – REVIEW CRITERIA

The criteria for reviewing the Consultant proposals shall be based on, but not limited to, the following:

1. Qualifications and Experience (Firm and Personnel) – Consultant shall have a minimum of five years demonstrated experience related to the services they have selected in question 3 in Section 6.
2. Understanding of the Service(s) – As demonstrated in the completion of their Understanding of the Project and Approach question 8 in Section 6 and other material.
3. Exceptions Taken to RFQ – As demonstrated in the completion of Appendix A4 – Additions, Deletions and/or Exceptions.

APPENDIX A1 - PROPOSER'S BUSINESS INFORMATION

All proposers shall submit the information as requested below.

1. Length of time your firm has been in business: _____
2. Length of time at current location: _____
3. List types and business license number(s): _____

4. California State Contractor's License number: _____
5. Names and titles of all officers of the firm: _____

6. Is your firm a sole proprietorship doing business under a different name?
YES ☐ or NO ☐
7. If yes, please indicate sole proprietorship name and the name you are
doing business under: _____

8. Please indicate your Federal Tax Number: _____
9. Is your firm incorporated? YES ☐ or NO ☐
10. Name and remittance address that will appear on invoices: _____

11. Physical Address: _____

APPENDIX A2 - REFERENCES

Instructions: Proposer shall provide two to three customer references.

REFERENCE #1	
NAME OF ENTITY	
ADDRESS	
CITY, STATE, ZIP CODE	
CONTACT NAME	
TELEPHONE #	()
E-MAIL ADDRESS	
PROJECT NAME	
COMPLETION DATE	
APPROX. COST	
REFERENCE #2	
NAME OF ENTITY	
ADDRESS	
CITY, STATE, ZIP CODE	
CONTACT NAME	
TELEPHONE #	()
E-MAIL ADDRESS	
PROJECT NAME	
COMPLETION DATE	
APPROX. COST	
REFERENCE #3	
NAME OF ENTITY	
ADDRESS	
CITY, STATE, ZIP CODE	
CONTACT NAME	
TELEPHONE #	()
E-MAIL ADDRESS	
PROJECT NAME	
COMPLETION DATE	
APPROX. COST	

APPENDIX A3 – SUBCONTRACTORS LIST

NAME UNDER WHICH SUBCONTRACT IS LICENSED	LICENSE NUMBER	ADDRESS AND PHONE NUMBER OF OFFICE, MILL OR SHOP	SPECIFIC DESCRIPTION SUBCONTRACT

APPENDIX A4 - ADDITIONS, DELETIONS AND/OR EXCEPTIONS

Please state any and all Additions, Deletions and Exceptions that you are taking to any portion of this RFQ, the General Services Agreement (GSA), and/or Task Order (shown in Appendix B – “Standard Contract Documents – Task Order and GSA”). If not addressed below, then SAWPA assumes that the Consultant will adhere to all terms and conditions listed.

SAWPA will issue a Task Order and GSA in its standard form to the successful Consultant for the services contemplated herein. Any deletion, exception, or modification taken to SAWPA contract terms and conditions will be evaluated, in addition to the specified criteria; and may, itself, result in non-acceptance by SAWPA. Any request for deletion, exception, or modification, if so taken, must be submitted at the time of the proposal.

[illegible]

APPENDIX B: Standard Contract Documents
Task Order and General Services Agreement (GSA)



SANTA ANA WATERSHED PROJECT AUTHORITY
TASK ORDER NO. _____

CONSULTANT: [Name]
[Address]

VENDOR NO.: XXX

COST: \$xxxx

PAYMENT: Upon Receipt of Proper Invoice

REQUESTED BY: [Manager], [Title] [Date]

FINANCE: _____
Alison Lewis, Controller Date

FINANCING SOURCE: Acct. Coding: xxx
Acct. Description: xxx

COMMITTEE AUTHORIZATION REQUIRED FOR THIS TASK ORDER: YES () NO ()
Authorization: [Date]; CM#2025.xx

This Task Order is issued upon approval and acceptance by the Santa Ana Watershed Project Authority (SAWPA) and _____ (Consultant) pursuant to the General Services Agreement between SAWPA and Consultant, entered into on [date], expiring [date].

I. PROJECT NAME OR DESCRIPTION
XXXX

II. SCOPE OF WORK / TASKS TO BE PERFORMED
Consultant shall provide all labor, materials, and equipment for services to provide...

III. PERFORMANCE TIME FRAME
Consultant shall begin work [date] and shall complete performance of such services by [date].

IV. SAWPA LIAISON
_____ shall serve as liaison between SAWPA and Consultant.

V. COMPENSATION
For all services rendered by Consultant pursuant to this Task Order, Consultant shall receive a total not-to-exceed sum of \$_____. Payment for such services shall be made monthly upon receipt of timely and proper invoices from Consultant, as required by the above-mentioned Agreement. Each such invoice shall be provided to SAWPA by Consultant within 15 days after the end of the month in which the services were performed. All such invoices shall be sent via-email to Apinvoices@sawpa.gov, or as otherwise directed in writing by SAWPA.

- a. The General Services Agreement by Independent Consultant/Consultant.
- b. The Task Order or Orders issued pursuant to the Agreement, in numerical order.
- c. Exhibits attached to each Task Order, which may describe, among other things, the Scope of Work and compensation therefore.
- d. Specifications incorporated by reference.
- e. Drawings incorporated by reference.

SANTA ANA WATERSHED PROJECT AUTHORITY

Date _____

Date _____

Print/Type Name and Title



SANTA ANA WATERSHED PROJECT AUTHORITY
GENERAL SERVICES AGREEMENT FOR SERVICES BY INDEPENDENT CONSULTANT

This Agreement is made this ____ day of _____, 20__ by and between the Santa Ana Watershed Project Authority ("SAWPA") located at 11615 Sterling Avenue, Riverside, CA, 92503 and _____ ("Consultant") whose address is _____.

RECITALS

This Agreement is entered into on the basis of the following facts, understandings, and intentions of the parties to this Agreement:

- SAWPA desires to engage the professional services of Consultant to perform such professional consulting services as may be assigned, from time to time, by SAWPA in writing;
- Consultant agrees to provide such services pursuant to, and in accordance with, the terms and conditions of this Agreement and has represented and warrants to SAWPA that Consultant possesses the necessary skills, qualifications, personnel, and equipment to provide such services; and
- The services to be performed by Consultant shall be specifically described in one or more written Task Orders issued by SAWPA to Consultant pursuant to this Agreement.

AGREEMENT

Now, therefore, in consideration of the foregoing Recitals and mutual covenants contained herein, SAWPA and Consultant agree to the following:

ARTICLE I

TERM OF AGREEMENT

1.01 This agreement shall become effective on the date first above written and shall continue until **December 31, 20__**, unless extended or sooner terminated as provided for herein.

ARTICLE II

SERVICES TO BE PERFORMED

2.01 Consultant agrees to provide such professional consulting services as may be assigned, from time to time, in writing by the Commission and the General Manager of SAWPA. Each assignment shall be made in the form of a written Task Order. Each such Task Order shall include, but shall not be limited to, a description of the nature and scope of the services to be performed by Consultant, the amount of compensation to be paid, and the expected time of completion.

2.02 Consultant may at Consultant's sole cost and expense, employ such competent and qualified independent professional associates, subcontractors, and consultants as Consultant deems necessary to perform each assignment; provided that Consultant shall not subcontract any work to be performed without the prior written consent of SAWPA.

ARTICLE III

COMPENSATION

3.01 In consideration for the services to be performed by Consultant, SAWPA agrees to pay Consultant as provided for in each Task Order.

3.02 Each Task Order shall specify a total not-to-exceed sum of money and shall be based upon the regular hourly rates customarily charged by Consultant to its clients.

3.03 Consultant shall not be compensated for any services rendered nor reimbursed for any expenses incurred in excess of those authorized in any Task Order unless approved in advance by the Commission and General Manager of SAWPA, in writing.

3.04 Unless otherwise provided for in any Task Order issued pursuant to this Agreement, payment of compensation earned shall be made in monthly installments after receipt from Consultant of a timely, detailed, corrected, written invoice by SAWPA's Project Manager, describing, without limitation, the services performed, when such services were performed, the time spent performing such services, the hourly rate charged therefore, and the identity of individuals performing such services for the benefit of SAWPA. Such invoices shall also include a detailed itemization of expenses incurred. Upon approval by an authorized SAWPA employee, SAWPA will pay within 30 days after receipt of a valid invoice from Consultant.

ARTICLE IV

CONSULTANT OBLIGATIONS

4.01 Consultant agrees to perform all assigned services in accordance with the terms and conditions of this Agreement including those specified in each Task Order. In performing the services required by this Agreement and any related Task Order Consultant shall comply with all local, state and federal laws, rules and regulations. Consultant shall also obtain and pay for any permits required for the services it performs under this Agreement and any related Task Order.

4.02 Except as otherwise provided for in each Task Order, Consultant will supply all personnel and equipment required to perform the assigned services.

4.03 Consultant shall be solely responsible for the health and safety of its employees, agents and subcontractors in performing the services assigned by SAWPA.

4.04 Insurance Coverage: Consultant shall procure and maintain for the duration of this Agreement insurance against claims for injuries or death to persons or damages to property which may arise from or in connection with the performance of the work hereunder and the results of that work by the Consultant, its agents, representatives, employees or sub-contractors.

4.04(a) Coverage - Coverage shall be at least as broad as the following:

- 1. Commercial General Liability (CGL)** - Insurance Services Office (ISO) Commercial General Liability Coverage (Occurrence Form CG 00 01) including products and completed operations, property damage, bodily injury, personal and advertising injury with limit of at least two million dollars (\$2,000,000) per occurrence or the full per occurrence limits of the policies available, whichever is greater. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (coverage as broad as the ISO CG 25 03, or ISO CG 25 04 endorsement provided to SAWPA) or the general aggregate limit shall be twice the required occurrence limit.
- 2. Automobile Liability** – (if necessary) Insurance Services Office (ISO) Business Auto Coverage (Form CA 00 01), covering Symbol 1 (any auto) or if Consultant has no owned autos, Symbol 8 (hired) and 9 (non-owned) with limit of one million dollars (\$1,000,000) for bodily injury and property damage each accident.
- 3. Workers' Compensation Insurance** - as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than \$1,000,000 per accident for bodily injury or disease.
- 4. Professional Liability** - (Also known as Errors & Omission) Insurance appropriate to the Consultant profession, with limits no less than \$1,000,000 per occurrence or claim, and \$2,000,000 policy aggregate.
- 5. Cyber Liability Insurance (Technology Professional Liability – Errors and Omissions)** – If Consultant will be providing technology services, limits not less than \$2,000,000 per occurrence or claim, and \$2,000,000 aggregate or the full per occurrence limits of the policies available, whichever is greater. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken by Consultant in this Agreement and shall include, but not be limited to, claims involving infringement of intellectual property, including but not limited to infringement of copyright, trademark, trade dress,

invasion of privacy violations, information theft, damage to or destruction of electronic information, release of private information, alteration of electronic information, extortion and network security. The policy shall provide coverage for breach response costs as well as regulatory fines and penalties as well as credit monitoring expenses with limits sufficient to respond to these obligations.

If the Consultant maintains broader coverage and/or higher limits than the minimums shown above, SAWPA requires and shall be entitled to the broader coverage and/or higher limits maintained by the Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to SAWPA.

4.04(b) If Claims Made Policies:

1. The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work.
2. Insurance must be maintained and evidence of insurance must be provided **for at least five (5) years after completion of the contract of work.**
3. If coverage is canceled or non-renewed, and not **replaced with another claims-made policy form with a Retroactive Date** prior to the contract effective date, the Consultant must purchase "extended reporting" coverage for a minimum of **five (5) years** after completion of contract work.

4.04(c) Waiver of Subrogation: The insurer(s) named above agree to waive all rights of subrogation against SAWPA, its elected or appointed officers, officials, agents, authorized volunteers and employees for losses paid under the terms of this policy which arise from work performed by the Named Insured for the Agency; but this provision applies regardless of whether or not SAWPA has received a waiver of subrogation from the insurer.

4.04(d) Other Required Provisions - The general liability policy must contain, or be endorsed to contain, the following provisions:

1. **Additional Insured Status:** SAWPA, its directors, officers, employees, and authorized volunteers are to be given insured status (at least as broad as ISO Form CG 20 10 10 01), with respect to liability arising out of work or operations performed by or on behalf of the Consultant including materials, parts, or equipment furnished in connection with such work or operations.
2. **Primary Coverage:** For any claims related to this project, the Consultant's insurance coverage shall be primary at least as broad as ISO CG 20 01 04 13 as respects to SAWPA, its directors, officers, employees and authorized volunteers. Any insurance or self-insurance maintained by the Member Water Agency its directors, officers, employees and authorized volunteers shall be excess of the Consultant's insurance and shall not contribute with it.

4.04(e) Notice of Cancellation: Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to SAWPA.

4.04(f) Self-Insured Retentions - Self-insured retentions must be declared to and approved by SAWPA. SAWPA may require the Consultant to provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or SAWPA.

4.04(g) Acceptability of Insurers - Insurance is to be placed with insurers having a current A.M. Best rating of no less than A: VII or as otherwise approved by SAWPA.

4.04(h) Verification of Coverage – Consultant shall furnish SAWPA with certificates and amendatory endorsements or copies of the applicable policy language effecting coverage required by this clause. All certificates and endorsements are to be received and approved by SAWPA before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Consultant's obligation to provide them. SAWPA reserves the right to require complete, certified copies of all required insurance policies, including policy Declaration pages and Endorsement pages.

4.04(i) Subcontractors - Consultant shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Consultant shall ensure that SAWPA, its directors, officers, employees and authorized volunteers are additional insureds on Commercial General Liability Coverage.

4.05 Consultant hereby covenants and agrees that SAWPA, its officers, employees, and agents shall not be liable for any claims, liabilities, penalties, fines or any damage to property, whether real or personal, nor for any personal injury or death caused by, or resulting from, or claimed to have been caused by or resulting from, any negligence, recklessness, or willful misconduct of Consultant. To the extent permitted by law, Consultant shall hold harmless, defend at its own expense, and indemnify SAWPA, its directors, officers, employees, and authorized volunteers, against any and all liability, claims, losses, damages, or expenses, including reasonable attorney's fees and costs, arising from all acts or omissions of Consultant or its officers, agents, or employees in rendering services under this Agreement and any Task Order issued hereunder; excluding, however, such liability, claims, losses, damages or expenses arising from SAWPA's sole negligence or willful acts.

4.06 In the event that SAWPA requests that specific employees or agents of Consultant supervise or otherwise perform the services specified in each Task Order, Consultant shall ensure that such individual(s) shall be appointed and assigned the responsibility of performing the services.

4.07 In the event Consultant is required to prepare plans, drawings, specifications and/or estimates, the same shall be furnished with a registered professional engineer's number and shall conform to local, state and federal laws, rules and regulations. Consultant shall obtain all necessary permits and approvals in connection with this Agreement, any Task Order or Change Order. However, in the event SAWPA is required to obtain such an approval or permit from another governmental entity, Consultant shall provide all necessary supporting documents to be filed with such entity, and shall facilitate the acquisition of such approval or permit.

4.08 Consultant shall comply with all local, state and federal laws, rules and regulations including those regarding nondiscrimination and the payment of prevailing wages, if required by law.

ARTICLE V

SAWPA OBLIGATIONS

5.01 SAWPA shall:

5.01a Furnish all existing studies, reports and other available data pertinent to each Task Order that are in SAWPA's possession;

5.01b Designate a person to act as liaison between Consultant and the General Manager and Commission of SAWPA.

ARTICLE VI

ADDITIONAL SERVICES, CHANGES AND DELETIONS

6.01 During the term of this Agreement, the Commission of SAWPA may, from time to time and without affecting the validity of this Agreement or any Task Order issued pursuant thereto, order changes, deletions, and additional services by the issuance of written Change Orders authorized and approved by the Commission of SAWPA.

6.02 In the event Consultant performs additional or different services than those described in any Task Order or authorized Change Order without the prior written approval of the Commission of SAWPA, Consultant shall not be compensated for such services.

6.03 Consultant shall promptly advise SAWPA as soon as reasonably practicable upon gaining knowledge of a condition, event, or accumulation of events, which may affect the scope and/or cost of services to be provided pursuant to this Agreement. All proposed changes, modifications, deletions, and/or requests for additional services shall be reduced to writing for review and approval or rejection by the Commission of SAWPA.

6.04 In the event that SAWPA orders services deleted or reduced, compensation shall be deleted or reduced by a comparable amount as determined by SAWPA and Consultant shall only be compensated for services actually performed. In the event additional services are properly authorized, payment for the same shall be made as provided in Article III above.

ARTICLE VII

CONSTRUCTION PROJECTS: CONSULTANT CHANGE ORDERS

7.01 In the event SAWPA authorizes Consultant to perform construction management services for SAWPA, Consultant may determine, in the course of providing such services, that a Change Order should be issued to the construction contractor, or Consultant may receive a request for a Change Order from the construction contractor. Consultant shall, upon receipt of any requested Change Order or upon gaining knowledge of any condition, event, or accumulation of events, which may necessitate issuing a Change Order to the construction contractor, promptly consult with the liaison, General Manager and Commission of SAWPA. No Change Order shall be issued or executed without the prior approval of the Commission of SAWPA.

ARTICLE VIII

TERMINATION OF AGREEMENT

8.01 In the event the time specified for completion of an assigned task in a Task Order exceeds the term of this Agreement, the term of this Agreement shall be automatically extended for such additional time as is necessary to complete such Task Order and thereupon this Agreement shall automatically terminate without further notice.

8.02 Notwithstanding any other provision of this Agreement, SAWPA, at its sole option, may terminate this Agreement at any time by giving 10 day written notice to Consultant, whether or not a Task Order has been issued to Consultant.

8.03 In the event of termination, the payment of monies due Consultant for work performed prior to the effective date of such termination shall be paid after receipt of an invoice as provided in this Agreement.

ARTICLE IX

CONSULTANT STATUS

9.01 Consultant shall perform the services assigned by SAWPA in Consultant's own way as an independent contractor, in pursuit of Consultant's independent calling and not as an employee of SAWPA. Consultant shall be under the control of SAWPA only as to the result to be accomplished and the personnel assigned to perform services. However, Consultant shall regularly confer with SAWPA's liaison, General Manager, and Commission as provided for in this Agreement.

9.02 Consultant hereby specifically represents and warrants to SAWPA that the services to be rendered pursuant to this Agreement shall be performed in accordance with the standards customarily applicable to an experienced and competent professional consulting organization rendering the same or similar services. Furthermore, Consultant represents and warrants that the individual signing this Agreement on behalf of Consultant has the full authority to bind Consultant to this Agreement.

ARTICLE X

AUDIT AND OWNERSHIP OF DOCUMENTS

10.01 All draft and final reports, plans, drawings, specifications, data, notes, and all other documents of any kind or nature prepared or developed by Consultant in connection with the performance of services assigned to it by SAWPA are the sole property of SAWPA, and Consultant shall promptly deliver all such materials to SAWPA. Consultant may retain copies of the original documents, at its option and expense. Use of such documents by SAWPA for project(s) not the subject of this Agreement shall be at SAWPA's sole risk without legal liability or exposure to Consultant. SAWPA agrees to not release any software "code" without prior written approval from the Consultant.

10.02 Consultant shall retain and maintain, for a period not less than four years following termination of this Agreement, all time records, accounting records, and vouchers and all other records with respect to all matters concerning services performed, compensation paid and expenses reimbursed. At any time during normal business hours and as often as SAWPA may deem necessary, Consultant shall make available to SAWPA's agents for examination of all such records and will permit SAWPA's agents to audit, examine and reproduce such records.

ARTICLE XI

MISCELLANEOUS PROVISIONS

11.01 This Agreement supersedes any and all previous agreements, either oral or written, between the parties hereto with respect to the rendering of services by Consultant for SAWPA and contains all of the covenants and agreements between the parties with respect to the rendering of such services in any manner whatsoever. Any modification of this Agreement will be effective only if it is in writing signed by both parties.

11.02 Consultant shall not assign or otherwise transfer any rights or interest in this Agreement without the prior written consent of SAWPA. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement.

11.03 In the event Consultant is an individual person and dies prior to completion of this Agreement or any Task Order issued hereunder, any monies earned that may be due Consultant from SAWPA as of the date of death will be paid to Consultant's estate.

11.04 Time is of the essence in the performance of services required hereunder. Extensions of time within which to perform services may be granted by SAWPA if requested by Consultant and agreed to in writing by SAWPA. All such requests must be documented and substantiated and will only be granted as the result of unforeseeable and unavoidable delays not caused by the lack of foresight on the part of Consultant.

11.05 SAWPA expects that Consultant will devote its full energies, interest, abilities and productive time to the performance of its duties and obligations under this Agreement, and shall not engage in any other consulting activity that would interfere with the performance of Consultant's duties under this Agreement or create any conflicts of interest. If required by law, Consultant shall file a Conflict of Interest Statement with SAWPA.

11.06 Any dispute which may arise by and between SAWPA and the Consultant, including the Consultants, its employees, agents and subcontractors, shall be submitted to binding arbitration. Arbitration shall be conducted by a neutral, impartial arbitration service that the parties mutually agree upon, in accordance with its rules and procedures. The arbitrator must decide each and every dispute in accordance with the laws of the State of California, and all other applicable laws. Unless the parties stipulate to the contrary prior to the appointment of the arbitrator, all disputes shall first be submitted to non-binding mediation conducted by a neutral, impartial mediation service that the parties mutually agree upon, in accordance with its rules and procedures.

11.07 During the performance of the Agreement, Consultant and its subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), age (over 40), marital status and denial of family care leave. Consultant and its subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Consultant and its subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code, Section 12290 et seq.) and the applicable regulations promulgated there under (California Code of Regulations, Title 2, Section 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 et seq., set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Agreement by reference and made a part hereof as if set forth in full. Consultant and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. Consultant shall include the

Statement of Qualifications

Basin Monitoring Program Task Force
Groundwater Technical Assistance and
Surface Water Reporting

SEPTEMBER 30, 2025

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Resumes Appendix A5

Cover Letter

September 30, 2025

Santa Ana Watershed Project Authority
Via PlanetBids

RE: Proposal for Basin Monitoring Program Task Force Groundwater Technical Assistance and Surface Water Reporting

Dear Members of the Selection Committee:

Thank you for considering the qualifications of our Team to provide technical assistance to the Basin Monitoring Program (BMP) Task Force. GEI Consultants, Inc. (GEI) and the subconsultants we have partnered with, H&H Water Resources and GeoChem Applications, are submitting our qualifications for all four service areas identified in the Request For Qualifications (RFQ).

The GEI Team has a proven track record supporting California water agencies with groundwater modeling, data collection and analysis, ambient water quality (AWQ) recomputation, and water quality reporting required for regulatory compliance.

Beyond its technical capability, our team brings a deep understanding of the watershed, which will help to deliver a product that we are confident will exceed your expectations. As the proposed Project Manager, Peter brings more than a decade of experience in the Chino Basin, including extensive interaction with the Santa Ana Watershed Project Authority (SAWPA). Steven Wolosoff and Chris Stransky of GEI have also provided water quality technical services throughout the watershed.

Our Team understands the importance of collaborative engagement with the Task Force members, regulatory agencies, and data providers and is committed to delivering high-quality technical work that supports SAWPA's mission of regional water quality stewardship.

We appreciate the opportunity to be considered for these important high profile programs.

Sincerely,

Peter Kavounas, PE
Vice President, Project Manager

Chris Petersen, PG, CHg
Vice President, Principal-in-Charge

TABLE 3. TABLE FOR COVER LETTER

Proposer's Name:	GEI Consultants, Inc.		
Authorized Signature:		Date:	September 30, 2025
Name of Individual Signatory:	Peter Kavounas, PE	Title of Individual Signatory:	Vice President, Project Manager
Direct Phone #:	661.644.8994	Mailing Address:	35 North Lake Ave., Suite 220
E-Mail Address:	pkavounas@geiconsultants.com	City, State, Zip	Pasadena, CA 91101

APPENDIX A1 – PROPOSER’S BUSINESS INFORMATION

1. **Length of time your firm has been in business:** 55 years
2. **Length of time at current location:** 15 years
3. **List types and business license number(s):** California Business License 1835910
4. **California State Contractor’s License number:** C1835910
5. **Names and titles of all officers of the firm:**
Scott Wallington, Chief Executive Officer
Tom Kahl, President/Chief Financial Officer
Ben Sawa, Chief Development Officer
Jon Mahoney, Chief Counsel
Dan Wanket, Director of Operations
6. **Is your firm a sole proprietorship doing business under a different name?**
YES ☐ or NO ☒
7. **If yes, please indicate sole proprietorship name and the name you are doing business under:**

8. **Please indicate your Federal Tax Number:** 04-2468348
9. **Is your firm incorporated?** YES ☒ NO ☐
10. **Name and remittance address that will appear on invoices:**
GEI Consultants, Inc.
400 Unicorn Park Drive, Third Floor
Woburn, MA 01801
11. **Physical Address:**
35 North Lake Ave., Suite 220
Pasadena, CA 91101

Executive Summary



GEI is a nationally recognized engineering and environmental sciences firm, specializing in water resources, environmental, geotechnical, and ecological services. Established in 1970, GEI has grown to over 1,500 employees across more than 55 offices throughout the United States and Canada, including six offices in California, with Pasadena and Carlsbad conveniently located near Riverside, to deliver the required services.



GEI California office locations relative to SAWPA

GEI has a distinguished reputation for addressing complex water resource challenges throughout California. We have developed comprehensive skills in groundwater management planning, including groundwater modeling, well design and construction, and managing groundwater data. Our team is well versed in using advanced analytical tools, creating models that integrate diverse data sources to assess hydrogeologic

conditions, and evaluate groundwater storage updates effectively.

GEI excels at ambient water quality re-computation and the development of annual water quality reports. We have comprehensive capabilities in monitoring programs that check for groundwater levels and quality, ensuring reliable data collection, which is crucial for informed decision-making in water resources management.

Additionally, GEI's expertise extends to designing and installing monitoring wells and stream gauging stations, incorporating advanced automated monitoring technologies. This knowledge facilitates efficient data acquisition, which is pivotal in updating groundwater storage and quality model layers.

Our team is experienced in assembly and interpretation of data related to environmental and water quality projects, contributing to efforts ranging from basic compliance monitoring to intricate studies involving the reevaluation of water quality standards and Total Maximum Daily Loads (TMDLs).

GEI's comprehensive experience and approach enables us to manage and execute extensive water resource projects effectively, making significant contributions to improving and safeguarding water quality and storage systems across diverse geographies.

Appropriate licenses and certifications are included in staff resumes in Appendix A5.

ORGANIZATIONAL CHART

GEI has assembled a highly skilled team of professionals with the knowledge and experience to effectively and efficiently provide the services outlined in the RFQ. Our team structure is illustrated in Figure 1. Organizational Chart. Bios for key personnel are included in the Qualifications and Experience section, and resumes for all team members are included in Appendix A5.

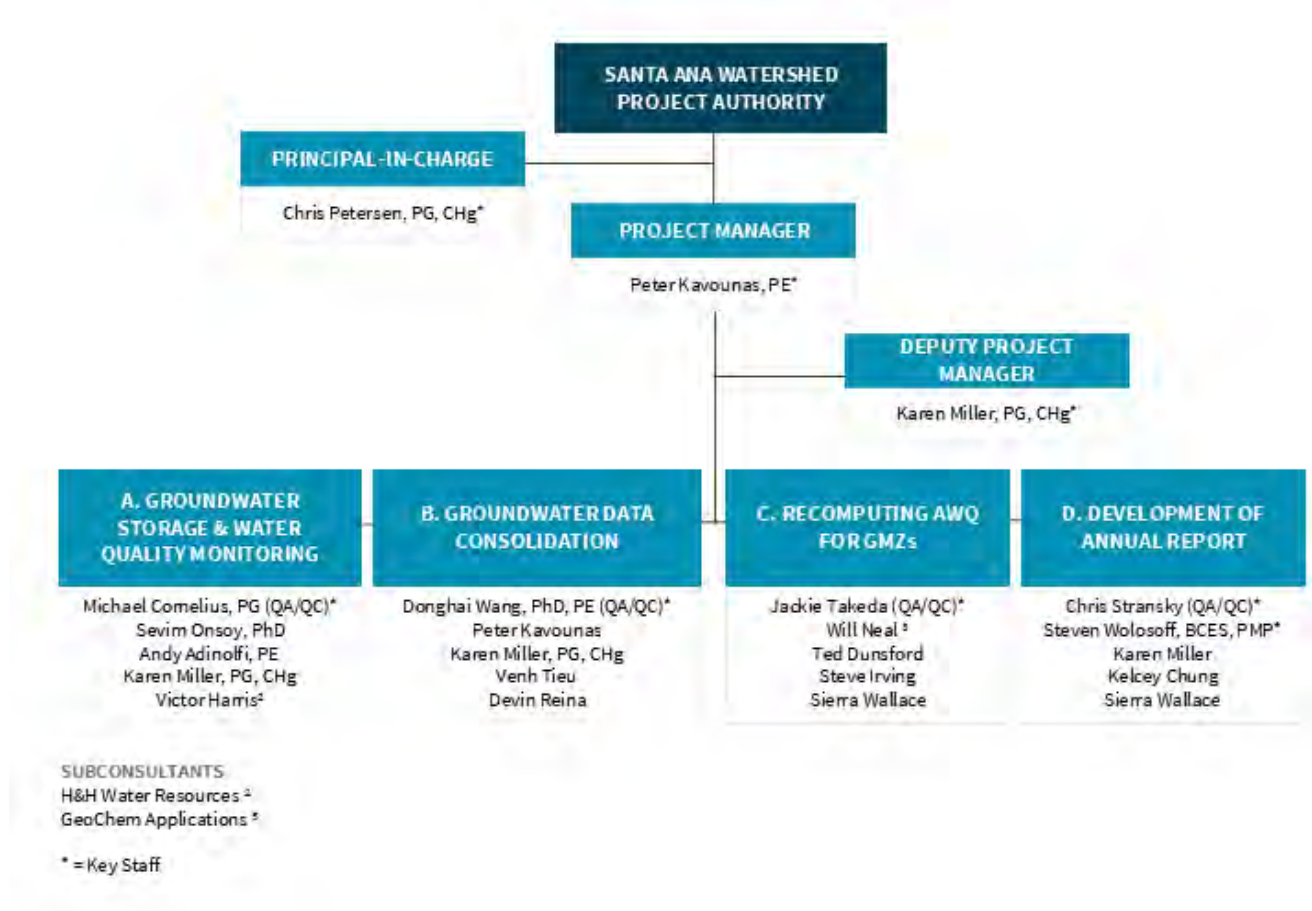


Figure 1. Organizational Chart

Identification of Services

The GEI Team would like to be considered for all four service areas. GEI has a long history of successful cooperation with other consultants. In case another consultant is selected for one or more of the listed services, we are confident that GEI can partner effectively with them to assist the BMP Task Force to meet its objectives.

- A. Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers
- B. Annual/Routine Groundwater Data Consolidation
- C. Recomputing AWQ for GMZs for the Period of 2007 to 2026 (“2026 AWQ Recomputation”)
- D. Development of the Annual Report of Santa Ana River Water Quality

Qualifications and Experience

GEI stands out as one of the few consulting firms in California with a specialized focus on the comprehensive study, monitoring, and reporting of the complex relationships between water, sediment, and ecological quality. The GEI Team brings decades of experience in categories A, B, C, and D with similar programs for characterizing groundwater and surface water in the Santa Ana River Watershed. This experience includes using and developing a variety of groundwater-surface water models, conducting hydrogeologic and water quality sampling efforts and analyses, site assessment and feasibility studies, recomputation and development of site-specific of Ambient Water Quality Criteria, developing data management systems to support sustainable groundwater programs, stakeholder engagement, regulatory compliance, and reporting and outreach to stakeholders, regulators, and the general public.

Our team is also experienced in analysis and reporting of physical characteristics and water chemistry in surface water and groundwater; use of efficient methods to integrate data from multiple sources; stream monitoring techniques, including extraction and analysis of U.S. Geological Survey (USGS) stream gauge data; State of California reporting formats and databases (California Environmental Data Exchange Network, SWAMP, California Integrated Water Quality System Project, California Integrated Report Upload Portal); special studies, including the development of site-specific objectives for TDS and nutrients; and data analysis and graphical displays using standard and innovative techniques to clearly convey key information. Our programs place a high priority on quality assurance/quality control (QA/QC) with an ability to identify anomalous results and come up with positive solutions. Further details on our qualifications and experience are provided in our key personnel bios and project descriptions herein.

KEY PERSONNEL



Peter Kavounas, P.E. | Project Manager

Peter is a highly qualified civil engineer with 38 years of experience in water resources

projects with an emphasis on groundwater management. He is a leader in sustainable management of groundwater resources with extensive experience in project and program management and directing technical work for basin management plans. As former General Manager of the Chino Basin Watermaster, Peter was responsible for ensuring compliance with the Judgment governing the adjudication of Chino Basin, implementation of the sustainable Basin Management Plan, and writing technical reports relying on groundwater data. During his time at Chino Basin Watermaster he worked

closely with the Executive Officer and staff of the Santa Ana Regional Water Quality Control Board to ensure compliance with the 2004 Basin Plan Amendment and worked to support the SAWPA BMP Task Force in its efforts.



Chris Petersen, P.G., C.Hg. |
Principal-in-Charge

Chris has 36 years of experience providing groundwater technical solutions for large

interdisciplinary water resources investigations and planning efforts. He has broad experience in the planning, design, and optimization of groundwater recharge techniques. Key to the success of every groundwater management planning effort is building trust and reaching consensus among project stakeholders, including the regulatory community. Chris has demonstrated success in this environment, resulting in projects that meet water supply needs while protecting the environment.



Karen Miller, P.G., C.Hg. |
Deputy Project Manager

Karen has 32 years of experience in water resources, hydrogeology, integrated

planning, water quality, feasibility studies, site assessment, watershed management, and regulatory agency coordination. Karen is well versed with California water supplies, constraints, and stakeholders, and has completed site-specific hydrogeologic studies and has water resources experience in many of Southern California's watersheds and groundwater basins. She has also developed a wide range of reports, technical memoranda, and other planning documents. Furthermore, Karen helps her clients identify strategic local, state, and federal funding for projects, and supports them by preparing grant funding memos & applications, as well as performing grant administration.



Michael Cornelius, P.G. |
QA/QC – Groundwater Storage and Water Quality Modeling

Michael has over 36 years of experience managing

groundwater storage and water quality modeling projects across California. He has led the development of numerous Groundwater Sustainability Plans (GSPs), management plans, and feasibility studies. His expertise includes building and applying integrated groundwater-surface water models (such as IGSM and C2VSIM), conducting hydrogeologic and water quality analyses, and developing data management systems to support sustainable groundwater programs.



Donghai Wang, Ph.D., P.E. |
QA/QC – Groundwater Data Consolidation

Donghai has 31 years of experience developing

information management systems for water resources agencies. He has led numerous groundwater data consolidation projects, including the design and implementation of local area Groundwater Data Management Systems (DMS) across California to support Sustainable Groundwater Management Act (SGMA) reporting and sustainable groundwater management. Dr. Wang specializes in integrating complex groundwater datasets—such as well information, water levels, and production data—into user-friendly platforms that streamline reporting, analysis, and decision-making for local, state, and federal agencies. His knowledge in database systems, GIS applications, and cloud-based solutions has been instrumental in creating tools that improve data accessibility, transparency, and long-term groundwater resource planning.



**Jackie Takeda | QA/QC –
Recomputing AWQ for
Groundwater Management Zones**

Jackie has 21 years of experience in water quality and regulatory

compliance, with experience managing projects that include AWQ for groundwater management zones. Her work on the CV-SALTS Nitrate Control Program across multiple subbasins—including Modesto, Turlock, Kings, Chowchilla, and Kern—demonstrates her ability to characterize groundwater quality, identify contamination plumes, and synthesize data from regulatory databases. Jackie has led efforts to develop Preliminary and Final Management Zone Proposals, Early Action Plans, and Implementation Plans, incorporating community engagement strategies and well testing programs. Her experience has been instrumental in establishing water quality baselines and informing sustainable groundwater management strategies under evolving regulatory frameworks.



**Chris Stransky | QA/QC –
Annual Reporting**

Chris has more than 30 years of experience in ecological risk assessment, water quality

monitoring, and regulatory compliance. He has led numerous surface water reporting initiatives, including the Lake Elsinore and Canyon Lake (LECL) Nutrient TMDL Monitoring Program, where he developed and implemented watershed-wide stormwater and in-lake sampling strategies, and real-time water quality data to assess nutrient loading and harmful algal blooms. His work has included groundwater-surface water related technical assistance through sediment oxygen demand studies and nutrient flux evaluations. Chris has a passion for characterizing the health of biological

communities, understanding the causes of impairment, and developing viable cost effective remedial solutions. He currently serves as Vice President of the North America Society of Environmental Toxicology and Chemistry.



**Steven Wolosoff, BCES, PMP |
Surface Water Modeling**

Steve has 25 years of water quality planning and surface water modeling experience,

including developing and applying watershed and hydrologic models to support TMDL implementation, urban stormwater management, and nutrient and bacteria reduction planning. Steve has led studies to evaluate hydrology, pollutant transport, and management strategies. He has worked closely with agencies, including SAWPA, Riverside and San Bernardino Counties, Orange County Public Works, and regional water districts, providing quantitative analyses that integrate regulatory requirements, best management practices, and water quality monitoring to improve watershed health and protect water supplies.

PROJECT EXPERIENCE

Some of our team's current and former clients include SAWPA, Riverside County Flood Control and Water Conservation District, San Bernardino County Flood Control District, San Bernardino Valley Municipal Water District, Elsinore Valley Municipal Water District, City of Lake Elsinore, City of San Diego, City of Escondido, City of Vista, City of Oceanside, City of Rancho Palos Verdes, County of San Diego, and Los Angeles County Department of Public Works.

GEl is able to provide a more comprehensive client list, if requested, to demonstrate that no other clients could negatively impact SAWPA.

The following table highlights projects successfully completed similar in scope to the services outlined in the RFQ. Project descriptions for select projects (marked with an ^{*}) follow the table.

Project Name and Client	Groundwater Modeling	Groundwater Data Collection, Analysis, and Management	Statistical Analysis of Ambient Water Quality	Surface Water Quality Modeling or Mass Balance Calculations	Within Past 5 Years
Revision of the Canyon Lake and Lake Elsinore TMDL; Lake Elsinore and San Jacinto Watersheds Authority [*]			●	●	●
Santa Ana River Regional Bacteria Monitoring Program Development; SAWPA [*]			●	●	●
Middle Santa Ana River Bacteria TMDL Implementation; SAWPA [*]			●	●	●
Central Valley Salinity Alternatives for Long-Term Sustainability Salt and Nitrate Control Program; Central Valley Salinity Coalition [*]		●			●
In-Lake Treatment Alternatives Study; Elsinore Municipal Water District [*]			●		●
Kern County Subbasin SGMA Support; 20 Groundwater Sustainability Agencies [*]		●	●		●
CV-SALTS Prioritization and Optimization Study; Central Valley Salinity Coalition	●	●	●	●	●
Tracy Groundwater Subbasin Groundwater Sustainability Plan; San Joaquin County Public Works	●	●			●
South American Subbasin Groundwater Sustainability Plan; Multiple Clients		●			●
Lake Elsinore Aeration and Mixing System Effectiveness Monitoring Program; SAWPA			●	●	●

Revision of the Canyon Lake and Lake Elsinore Nutrient TMDL

Santa Ana, California | Lake Elsinore and San Jacinto Watersheds Authority (LESJWA)

Since 2015 GEI has provided technical support to LESJWA and the LECL TMDL Task Force through the development of an innovative science-based approach to revise the regional nutrient-based TMDL. The technical approach employed for this TMDL revision is unique and based on a reference watershed condition that better represents naturally occurring temporal variability in lake water quality. The scientific basis for the TMDL revisions has required substantial technical and regulatory analysis and documentation involving a diverse set of disciplines, including water quality data analysis, regulatory interpretation, and development of models for watershed runoff and pollutant fate and transport, and in-lake hydrodynamics and water quality.



Post filtered water sample from Lake Elsinore for analysis of chlorophyll-a, a measure of algal density.

Throughout the TMDL revision, GEI has presented complex technical information to a large multiagency stakeholder group to make it understandable, and proposed interpretations of findings that considered years of regulatory amendments and guidance toward the development of an effective TMDL. The revised TMDL and associated Basin Plan amendment has recently been approved by the Santa Ana Regional Water Board and is currently under review at the State Board and EPA Region 9 for final adoption.

Since 2013 GEI has also provided key technical support leading the development and implementation of a Comprehensive Nutrient Reduction Plan (CNRP). The CNRP is a key component of the LECL nutrient TMDL to comply with wasteload allocations (WLAs) applicable to the Municipal Separate Storm Sewer System (MS4)s in the surrounding watersheds. The CNRP includes both permittee-specific BMPs and collaborative in-lake treatment projects such as the addition of alum to sequester phosphorus in Canyon Lake. Per the existing MS4 Permit, the CNRP provides the final water quality based effluent limits for the TMDL. GEI currently supports the Task Force with regional project implementation, cost share calculations, and compliance assessment. In 2023, GEI prepared and presented a slideshow for Santa Ana Regional Board permitting staff that synthesized watershed management work in the San Jacinto River watershed, beginning with the creation of the CNRP, implementation activities by the MS4 permittees, and a demonstration of TMDL compliance in 2020.

Santa Ana River Regional Bacterial Monitoring Program (RBMP) Development

Southern California | SAWPA

The RBMP is administered by SAWPA on behalf of Orange, Riverside, and San Bernardino County MS4 Programs to satisfy the surveillance/monitoring program requirements in the 2015-approved Recreation Standards for Inland Fresh Surface Waters Basin Plan amendment and the monitoring requirements included in the Middle Santa Ana River (MSAR) Bacteria TMDL. GEI led the development of the RBMP and manages the annual program that includes both dry weather and wet weather sample collection and required close coordination with the regional MS4 Programs, field sample collection teams, and laboratories. In addition, GEI leads the preparation of annual reports, updates to the RBMP Monitoring Plan and Quality Assurance Project Plan (QAPP), creation of a new online data dashboard, and delivered presentations on various topics related to fecal bacteria in inland surface waters in the Santa Ana Basin to the RBMP Task Force.

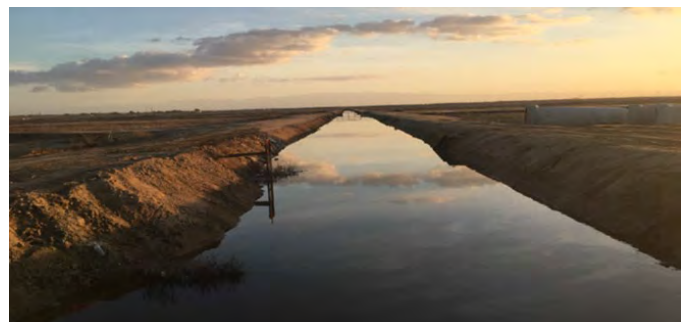


Middle Santa Ana River Bacteria TMDL Implementation

Middle Santa Ana River | SAWPA

The MSAR TMDLs became effective May 16, 2007. Stakeholders work collaboratively through the MSAR Task Force to implement the TMDLs and comply with waste load and load allocations (WLA/LA). The TMDLs require preparation of a Triennial Report every three years to assess the data collected for the preceding three-year period and evaluate progress towards achieving the WLAs/LAs in the MSAR TMDLs.

GEI led the development of the fifth Triennial Report in 2023, which synthesized 15 years of work to implement the TMDLs, including historical bacteria source control activities at Tier 1 MS4 outfalls and upstream within MS4 networks (i.e., Tier 2 sites), structural BMP effectiveness assessment (e.g., Mill Creek Wetlands), non-structural BMP deployments, and other key special studies in the MSAR watershed. The 2023 Report demonstrated that dry weather bacteria load reductions have met targets set in the MS4 Program Comprehensive Bacteria Reduction Plans (CBRP) and presented a refined prioritization of subwatersheds for focused bacteria source investigation based on multiple factors including dry weather flow, E. coli load, and human HF183 Bacteroides marker. Most recently, GEI prepared an update on the status of CBRP implementation that was included in the Riverside MS4 Program's Annual Report.



Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) Salt and Nitrate Control Program

Central Valley, CA | Central Valley Salinity Coalition (CVSC)

CVSC is a non-profit coalition of member stakeholders that works collaboratively with the CV-SALTS initiative, including providing additional funding support. Since 2012, GEI has worked with CV-SALTS and the CVSC to:

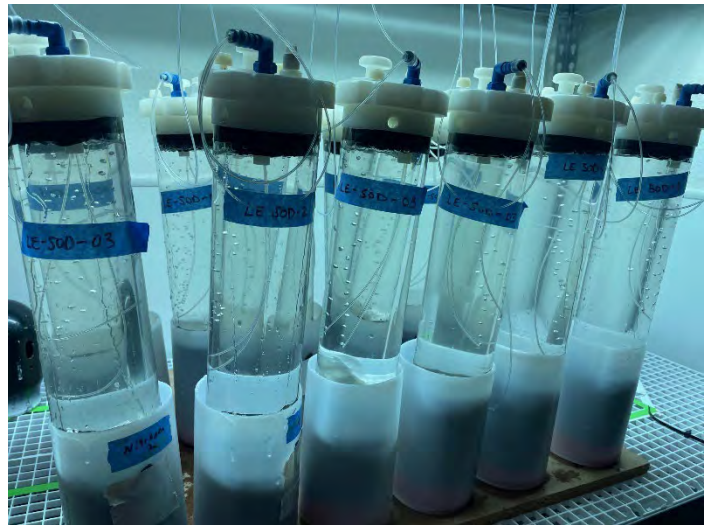
(a) ensure timely completion of technical studies needed to support a new approach to salt and nitrate management; (b) assist with the regulatory process to adopt a new Salt and Nitrate Control Program; (c) support permitted dischargers in their efforts to implement the new regulations; (d) conduct outreach to stakeholders to facilitate understanding of the new control programs; and (e) support the current Prioritization and Optimization Study. This multi-year effort has included the preparation of the 2017 Central Valley Salt & Nitrate Management Plan, which was based on the outcome of extensive policy discussions by stakeholders and findings from technical studies. Studies completed or overseen by GEI personnel included:

- Strategic Salt Accumulation Land and Transportation Study Reports that documented the magnitude of the salt problem, evaluated technologies and tools currently available to manage salt now, and developed and analyzed alternatives for achieving salt sustainability in the future.
- Evaluated the state of knowledge of the effects of elevated salinity on aquatic life and the need to develop salinity-related water quality objectives of the CV-SALTS effort.
- Comprehensive reviews on the effects of elevated salinity on the protection of municipal/domestic water supply and agriculture-related beneficial uses.

In-Lake Treatment Alternatives Study Lake Elsinore, CA | Elsinore Valley Municipal Water District

GEI is currently implementing a study to evaluate in-lake water quality treatment alternatives for Lake Elsinore to reduce nutrient loads within the lake to offset excess external loads and thereby meet the reductions required in the TMDL.

Lake management for Lake Elsinore faces multiple challenges such as hydrologic variability, evapo-concentration, lack of flushing, external nutrient loading, blooms dominated by blue-green algae, dynamic salinity condition and impact upon food webs, and repeated cycling of nutrients between the lake bottom and water column. Project concepts were developed for multiple configurations and systems for oxygenation, recirculating lake water treatment wetlands, algae biomass removal, and chemical addition.



Sediment Oxygen Demand and Nutrient Flux Column Study for Lake Elsinore using intact cores

Effectiveness of each project option to reduce nitrogen and phosphorus load was quantified using lake bottom sediment core-flux experimentation studies for oxygenation options, probabilistic analysis using literature values for treatment wetlands, pilot study data derived for physical algae harvesting, and sediment phosphorus fractionation analysis to assess

potential effectiveness of chemical addition. Bulk sediment samples were collected for analysis of nutrient enrichment, and intact sediment cores were collected in the field and brought to a laboratory to test and quantify sediment oxygen demand and nutrient flux rates into the overlying water column under both oxic and anoxic conditions. Life cycle cost analysis was completed to support evaluation of long-term cost for each alternative. Recommendations were developed based on a multi-factor ranking of options. Evaluation criteria and associated weights were determined throughout a collaborative process including the LECL TMDL Task Force.

Prior to the in-lake treatment study, GEI personnel led other projects for the LECL TMDL Task Force involving routine monitoring, effectiveness monitoring for lake and watershed BMPs, modeling of water quality in the lakes and watersheds, TMDL implementation support, fishery management, and general science advisory services.

Kern County Subbasin SGMA Support

Kern County, CA | 20 Groundwater Sustainability Agencies

The Kern County Groundwater Subbasin is a high-priority, critically overdrafted basin managed by 20 Groundwater Sustainability Agencies (GSAs). GEI is playing a key role in the coordinated efforts of the GSAs to develop amended GSPs that avoided SWRCB probation.

GEI provides program management and technical support for water district managers and policy makers representing the GSAs in the subbasin. GEI served as one of the lead consultants in organizing the Technical Working Group and developing a strategic approach to writing a Subbasin-wide Plan that complies with SGMA

requirements, demonstrating the Kern Subbasin is on track to achieve groundwater sustainability, and achieving the goal of transitioning the Subbasin from State Water Board intervention back to DWR oversight.

GEI held multiple lead roles for this project, including serving as the data manager, developing and coordinating a Subbasin-wide well inventory, leading the water quality subcommittee, and participating in the monitoring network and projects and management actions subcommittees. GEI routinely engaged with State Water Board staff and presented on behalf of the GSAs at State Water Board probationary hearings.

GEI also characterized groundwater quality, identified an initial set of representative monitoring wells, and established sustainable management criteria and defined undesirable results related to degraded groundwater quality.

In addition to technical services, GEI developed and maintains a subbasin-wide, web-based groundwater data management system (DMS). This system integrates and consolidates SGMA compliance data from multiple users and data sources, including GSAs, DWR, and GAMA. A centralized database supports the platform, and a comprehensive, permission-controlled web application enables users to visualize, search, download, and generate reports.

GEI is also working on GSA-level to support SGMA implementation for Southern San Joaquin Municipal Utility District, North Kern Water Storage District, Semitropic Water Storage District, and Buena Vista Water Storage District. Services include program management and technical support for GSP implementation, coordination with neighboring districts, program and policy development, and public outreach.

References

Per RFQ instructions, below are three references for clients for whom we have provided similar services in the past five years.

APPENDIX A2 - REFERENCES

REFERENCE #1	
NAME OF ENTITY	Lake Elsinore and San Jacinto Watersheds Authority (Rick Whetsel)
ADDRESS	11615 Sterling Avenue
CITY, STATE, ZIP CODE	Riverside, CA 92503
TELEPHONE #	951.354.4222
E-MAIL ADDRESS	rwhetsel@sawpa.gov
PROJECT NAME	Revision of the Canyon Lake and Lake Elsinore Nutrient TMDLs
COMPLETION DATE	2024
APPROX. COST	\$200,000
REFERENCE #2	
NAME OF ENTITY	Elsinore Valley Municipal Water District (Sudhir Mohleji)
ADDRESS	31315 Chaney Street
CITY, STATE, ZIP CODE	Lake Elsinore, CA 92530
TELEPHONE #	951.674.3146 ext. 8347
E-MAIL ADDRESS	smohleji@evmwd.net
PROJECT NAME	In-Lake Treatment Alternatives Study
COMPLETION DATE	June 2025
APPROX. COST	\$500,000
REFERENCE #3	
NAME OF ENTITY	Central Valley Salinity Coalition (Daniel Cozad)
ADDRESS	1501 Olive Avenue
CITY, STATE, ZIP CODE	Redlands, CA 92373
TELEPHONE #	909.747.5240
E-MAIL ADDRESS	dcozad@cvsalinity.org
PROJECT NAME	CV-SALTS Salt and Nitrate Control Program
COMPLETION DATE	Ongoing
APPROX. COST	\$800,000 to date

List of Subcontractors

GEI has partnered with H&H Water Resources and GeoChem Applications for this project. Firm overviews and personnel bios are provided following Table A3 – Subcontractor List.

APPENDIX A3 – SUBCONTRACTORS LIST

NAME UNDER WHICH SUBCONTRACTOR IS LISTED	LICENSE NUMBER	ADDRESS AND PHONE NUMBER OF OFFICE, MILL OR SHOP	SPECIFIC DESCRIPTION SUBCONTRACT
H&H Water Resources	N/A	1446 Highland Ave. Glendale, CA 91202 818.288.4880	H&H will assist with service category A.
GeoChem Applications	N/A	3941 Park Dr., Suite 20-249 El Dorado Hills, CA 95762 916.939.2307	GeoChem will assist with service category C.



H&H Water Resources, LLC (H&H)

(certified SBE) specializing in water resources planning and groundwater studies. Personnel from H&H bring over 50 years of combined worldwide experience in engineering consulting, project management, water resources planning, hydrology, and specialized groundwater studies. H&H specializes in watershed planning, groundwater basin management, managed aquifer recharge, groundwater modeling, surface and borehole geophysics, subsidence studies, expert review, production and monitoring well design and construction, aquifer testing, aquifer storage and recovery and groundwater quality studies. The firm is experienced with environmental site investigations involving groundwater contamination and remediation, and regulations regarding indirect potable reuse of reclaimed water. H&H personnel have conducted site-specific hydrogeologic studies and have water resources experience in many of Southern California's watersheds and groundwater basins.

Victor Harris, PG, CEG, CHG | Hydrogeologist

Victor is a seasoned expert with over 40 years of experience in water resources and hydrogeology, specializing in groundwater management, aquifer recharge, and environmental impact analysis. His work spans water quality assessment, stormwater capture, groundwater modeling, and well design, including the construction of more than 200 monitoring and production wells. He has led multidisciplinary teams on complex projects involving subsidence, ecological modeling, and the integration of groundwater and surface water systems. Victor's global experience includes managed aquifer recharge, ASR programs, and indirect potable reuse, making him a recognized leader in sustainable water resource development.



GeoChem Applications
is a specialized
consulting firm with over

35 years of experience in environmental geochemistry and statistical data analysis, focusing primarily on groundwater compliance monitoring. GeoChem supports regulatory programs under RCRA, CERCLA, and state-specific regulations like California's Title 27. Their expertise spans environmental data management, geochemical modeling, isotope analysis, laboratory data validation, and statistical hypothesis testing, using tools like Sanitas and DUMPStat to ensure rigorous, compliant, and scientifically sound evaluations.

**William Neal, MS, PG |
Geochemist/Geostatistician**

Will is a seasoned geoscientist with a strong foundation in both applied and theoretical geochemistry. He established GeoChem Applications in 1992 with the vision of applying geochemical principles to better understand groundwater quality within regulatory frameworks. His expertise spans statistical data analysis, laboratory testing, and quality control, all aimed at distinguishing natural background conditions from anthropogenic contamination. He has served as a technical panelist for the California Regional Water Quality Control Board and as a subject matter expert for the California Board for Geologists & Geophysicists.

Fee Schedule

Per RFQ instructions, an Excel-based schedule of hourly rates for GEI and its subconsultants and percentage markup of reimbursable expenses has been uploaded as a separate attachment.



Understanding of the Project and Approach

The GEI Team's proposed scope of work encompasses a comprehensive set of technical services aimed at supporting the BMP Task Force in groundwater data management, modeling, and reporting across the Santa Ana River Basin. In essence, the requested services are an implementation of the recommendations in Section 6 of the 2021 AWQ Pilot Study (Approach and Methods to Complete the 2026 Ambient Water Quality and Assimilative Capacity Assessment), along with preparation of the annual Santa Ana River (SAR) Water Quality Report that has been prepared by SAWPA staff until now.

The **BMP Task Force** was created to facilitate compliance with the January 2004 Nitrogen and TDS Basin Plan amendment and includes the Santa Ana Regional Water Quality Control Board as a member among twenty other water agencies.

Most of the agencies operate Publicly Owned Treatment Works, which discharge treated water to the Santa Ana River and local groundwater basins. The BMP Task Force collects and compiles monitoring data and evaluates the water quality of the Santa Ana River and the groundwater basins within the watershed. SAWPA administers the BMP Task Force on behalf of its members.

KEY ELEMENTS OF THE SERVICES AND GEI APPROACH

Services are structured into four key components, each with distinct objectives as described below.

A. Technical Assistance and Updates to Groundwater Storage and Water Quality Modeling

This task focuses on enhancing the understanding of groundwater basin characteristics, (i.e., specific yield and basin geometry), by engaging with water agencies and related entities that have studied their subbasins. The goal is to update existing model layers and corresponding storage properties used in prior AWQ recomputations. Key elements include:

- Research and identify relevant water agencies involved in groundwater modeling.
- Request and catalog updated basin geometry data, including specific yield and bottom elevations (i.e., of aquifers).
- Create a database (i.e., Microsoft Access) to analyze and inform model updates.
- Update and perform quality control on revised model layer properties.

Team members to deliver these services include:

- **Sevim Onsoy** 20 years of groundwater modeling experience
- **Andy Adinolfi** 30 years of groundwater modeling experience
- **Karen Miller** 32 years of water resources/hydrogeology experience, with strong emphasis on agency outreach, coordination, and data collection
- **Victor Harris** (H&H Water Resources) 40 years of groundwater modeling experience
- **Mike Cornelius** 36 years of experience (will provide QA/QC)

B. Annual/Routine Groundwater Data Consolidation

This task supports the ongoing acquisition and normalization of groundwater data (e.g., well elevation and water quality) from well owners across all Groundwater Management Zones (GMZs). Data will be formatted for integration into a BMP Task Force-provided database. Key elements include:

- Perform annual outreach and data requests, including verification meetings with data providers.
- Reformat data as-needed and standardize into a BMP Task Force-provided database.
- Execute NDAs where required.
- Develop recommendations for implementation (if approved by the BMP Task Force) of data analysis tools and management improvements.

The team members to deliver these services include:

- **Peter Kavounas** 38 years of experience with public agencies
- **Karen Miller** 32 years of water resources/hydrogeology experience with strong emphasis on agency outreach, coordination, and data collection
- **Venh Tieu** 24 years of database management experience
- **Devin Reina** 2 years of data crunching experience
- **Donghai Wang** 31 years of database management system development experience (will provide QA/QC)

C. Recomputing Ambient Water Quality (AWQ) for GMZs (2007–2026)

This task builds on methodologies from the 2021 Pilot Study and 2022 Monitoring Program and

involves recomputing AWQ for approximately 35 GMZs using the Modified Standard Approach.

The simplified approach to assessing assimilative capacity was applied to four GMZs through the preparation of six exhibits that evaluated trends, statistics, and spatial distributions of water quality data. These exhibits examined long-term and short-term trends in AWQ determinations for TDS and nitrate, comparing them to Basin Plan objectives. Analyses included time-history charts of AWQ determinations, well-specific comparisons to objectives, distribution of concentrations around objectives, Mann-Kendall trend analyses, and spatial mapping of concentration changes. Together, these exhibits provided a multi-faceted view of whether assimilative capacity had changed since the 2018 AWQ recomputation, recognizing that assimilative capacity is generally a binary condition—it either exists or it does not.

The approach was refined through detailed review and discussion with the Task Force, particularly for the Perris South and Yucaipa GMZs, and was presented in multiple Task Force meetings in 2023. The resulting evaluation offered insights into the viability of applying this simplified method more broadly, with the findings for all four GMZs documented in Section 4.1.3 of the 2021 Pilot Study and subsequent Task Force recommendations summarized in Section 4.1.4 of the 2021 Pilot Study.

The recomputation will determine assimilative capacity for TDS and Nitrate-Nitrogen. Key elements include:

- Calculate water quality statistics for each well over the last 20 years for each GMZ.
- Map and interpolate concentration data for TDS and nitrate-nitrogen to create iso-concentration contours saved as a surface raster using the specified grid. Assign concentration values for each cell of each GMZ.



Groundwater monitoring well sampling

- Assign aquifer storage properties (supplied by the BMP Task Force) and calculate mass of TDS and Nitrate-Nitrogen for each cell of each GMZ.
- Derive single concentration values and assimilative capacities of TDS and Nitrate-Nitrogen for each GMZ. Recalculate historic concentrations (1954–1973) where new storage properties data is used.
- Apply statistical trend analysis (e.g. Mann-Kendall) of TDS and nitrate-nitrogen at each well.
- Provide progress updates and milestone presentations to the BMP Task Force.

Team members to deliver these services include:

- **Will Neal** (GeoChem Applications) 40 years of experience statistical analyses for regulatory compliance
- **Sierra Wallace** 8 years of mapping and GIS experience
- **Jackie Takeda** 21 years of water quality and groundwater management experience (will provide QA/QC)

D. Development of the Annual Report of Santa Ana River Water Quality

This task involves compiling water quality and flow data from multiple agencies (OCWD, USGS, SAWPA, etc.) to produce an Annual Report for Reaches 2 through 5 of the Santa Ana River. The report will follow the format of the 2024 Annual Report and incorporate direction from the BMP Task Force. Key elements include:

- Acquire and compile water quality and flow data.
- Calculate baseflow conditions using precipitation data.
- Integrate data for State Water Resources Control Board reporting.
- Draft and finalize the Annual Report by August 1 deadline, with review and

comments from the BMP Task Force, SAWPA, and its consultant.

Team members to deliver these services include:

- **Steven Wolosoff** 25 years of water quality planning and management experience
- **Karen Miller** 32 years of water resources/hydrogeology experience with strong emphasis on technical writing and development of written deliverables (e.g. technical memoranda, reports, presentations)
- **Kelcey Chung** 7 years of report preparation and writing experience
- **Sierra Wallace** 8 years of mapping and GIS experience
- **Chris Stransky** over 30 years of aquatic science and water quality experience (will provide QA/QC)

Optional Task – Surface Water Quality Data Collection

Should there be a future need to collect samples during this program, the GEI Team is well qualified and prepared to provide these services as an optional task. The first step will be to ensure that a properly-vetted sampling analysis plan (SAP) and quality assurance project plan (QAPP) are in place, reviewed, and updated as necessary. The SAP and QAPP should be developed and agreed upon by all involved parties (stakeholders/clients, regulators, field teams, and analytical laboratories).

QA/QC for sampling processes must include proper collection techniques using standard published operating procedures to minimize the possibility of contamination and maintain integrity through collection, delivery, and analysis. Samples must be placed in laboratory-supplied and certified, contaminant-free sample bottles and field staff shall always wear powder-free nitrile gloves or equivalent at all times during sample collection.

Coordination must ensure that all samples collected can be delivered to the analytical laboratory within the proper temperature and hold time requirements, following procedures defined by the identified laboratory, and allow for adequate sample processing time at the laboratory on receipt. Routine collection of field and equipment blanks is a highly recommended practice, particularly when the constituents of concern are at environmentally low concentrations. Sample chain-of-custody (COC) forms must be prepared and reviewed to ensure that sample labels and proper documentation procedures are followed. Laboratory analytical methods must incorporate the QA/QC requirements following appropriate methods specified in the SAP and QAPP including standard methods such as the analysis of blanks, sample duplicates, matrix spikes, matrix spike duplicates, and performance reference compounds (where appropriate).

An additional recommended layer of QA/QC implemented by GEI includes the use of detailed field checklists that encompass all aspects of planning and execution of the field activities. Photographs of field conditions and samples is always highly recommended and routine for GEI-led programs.



In situ monitoring of water quality at Lake Elsinore, CA in support of the regional nutrient TMDL. John Rudolph of GEI.

QUALITY ASSURANCE AND QUALITY CONTROL

QA/QC practices are essential to ensure the reliability and accuracy of the data collected. High-level and continuous QA/QC review of all field monitoring and analytical data is a top priority for GEI. We are committed to implementing a comprehensive QA/QC structure.

- We recognize the intense scrutiny of data collected as part of this program, which can significantly impact stakeholders given the current complex and often contentious regulatory climate. Understanding the pressures on the BMP Task Force stakeholders to produce defensible data, we will make sure that all reported data withstands the highest level of scrutiny. We take great pride in our well-established and rigorous QA/QC program, which includes multiple layers of checks throughout the process including:
 - Independent Checking – by a qualified independent expert, including methodology, data, calculations, and presentation of results.
 - Quality Review by Designated In-House Reviewer (IHR) - perform an independent review of the work plan, work execution, results, recommendations, and
 - Technical Editor at the final stage to create high quality documents that are accurate, clear, concise, complete, and reflect GEI format, style, and appearance expectations.

By adhering to stringent QA/QC protocols, the GEI Team will:

- **Ensure Data Integrity:** Consistent calibration and validation of equipment helps to maintain the accuracy of the data, making it reliable for analysis and reporting.
- **Enhance Credibility:** Thorough QA/QC practices build trust with regulators by

demonstrating a commitment to high standards and meticulous attention to detail.

- **Facilitate Compliance:** Accurate and defensible data are essential for meeting regulatory requirements and demonstrating compliance with environmental standards.
- **Optimize Resources:** Effective QA/QC practices reduce the likelihood of errors and the need for costly re-sampling, ensuring efficient use of resources.
- **Support Decision-Making:** High-quality, defensible data provide a solid foundation for informed decision-making.

Although this program does not require the collection of new samples, our extensive hands on experience managing and performing routine and complex monitoring programs provides our Team the knowledge required to understand issues in the field or laboratory that can affect data quality and reportability. An important part of our QA/QC process is to carefully review applicable documentation related to the collection and analysis of all samples.

The reported results of all analyses, adherence to data quality objectives, and any associated flags provided by the analytical laboratory will be closely reviewed to ensure usability of the data.

Another important component of data QA/QC is a review for notable outliers and any unexpected results or trends based on current and past data that might indicate suspect results and warrant further investigation. In our experience many analytical results have “passed” standard QA/QC requirements but failed or were misreported due to issues outside the standard reported methods (e.g., improper decimal placement, mistakes associated with dilution factors, other calculation errors such as summed analytes and dry weight conversions, and mixed up samples despite proper labelling and COCs). This “reality check” of the data is an often critical missed step

in many programs we have encountered during third party reviews we have been hired to perform. All data summaries and associated calculations, tables, and figures will undergo a thorough 100% independent QA review by a qualified senior scientist prior to preparing the report. A final review will also be performed and documented by QA/QC leads assigned to the task. All reported results in the text and associated summaries and conclusions will also undergo a complete peer review by the designated IHR and QA/QC leads.

GEI’s robust QA/QC program has been developed and refined over many years for numerous municipal and agency monitoring programs and has always stood up to stringent review. QA/QC is a process that occurs throughout the entire life cycle of a project from planning and execution through analysis and reporting.

Our QA/QC program is designed to:

1. Verify that sample collection and testing adhere to applicable protocols and regulations, meeting all acceptability criteria.
2. Maintain test performance accuracy and precision.
3. Establish a clear data and reporting pathway with documented QA/QC checks and qualified peer review throughout the entire collection, analysis, and reporting process. Only experienced and properly trained staff will participate in data analysis and reporting efforts, and sample collection should this be a future required task.

This proven QA/QC approach of our team will ensure that all monitoring data are acquired in accordance with QAPP requirements, which in turn will allow the GEI project management team, as well as the BMP Task Force Agencies, to have the utmost confidence in the accuracy and validity of the monitoring results.

APPENDIX A4 – Additions, Deletions and/or Exceptions

Please state any and all Additions, Deletions and Exceptions that you are taking to any portion of this RFQ, the General Services Agreement (GSA), and/or Task Order (shown in Appendix B – “Standard Contract Documents – Task Order and GSA”). If not addressed below, then SAWPA assumes that the Consultant will adhere to all terms and conditions listed.

SAWPA will issue a Task Order and GSA in its standard form to the successful Consultant for the services contemplated herein. Any deletion, exception, or modification taken to SAWPA contract terms and conditions will be evaluated, in addition to the specified criteria; and may, itself, result in non-acceptance by SAWPA. Any request for deletion, exception, or modification, if so taken, must be submitted at the time of the proposal.

GEI notes the following additions, deletions and/or exceptions to SAWPA’s contractual terms and/or RFQ requirements. GEI has successfully negotiated contracts with clients and looks forward to discussing contract terms with you.

~~Strikeout:~~ Text requested to be removed

Highlight: Text requested to be added

4.05 Consultant hereby covenants and agrees that SAWPA, its officers, employees, and agents shall not be liable for any claims, liabilities, penalties, fines or any damage to property, whether real or personal, nor for any personal injury or death caused by, or resulting from, or claimed to have been caused by ~~or resulting from~~, any negligence, recklessness, or willful misconduct of Consultant. To the extent permitted by law, Consultant shall hold harmless, ~~defend at its own expense~~, and indemnify SAWPA, its directors, officers, **and** employees, ~~and authorized volunteers~~, against any and all liability, claims, losses, damages, or expenses, including reasonable attorney’s fees and costs, arising from all acts or omissions of Consultant or its officers, agents, or employees in rendering services under this Agreement and any Task Order issued hereunder; excluding, however, such liability, claims, losses, damages or expenses arising from SAWPA’s sole negligence or willful acts.

LIMITATION OF LIABILITY

To the fullest extent permitted by law, the total liability, in the aggregate, of Consultant and its officers, directors, employees, agents, and independent professional associates and consultants, and any of them, to SAWPA and any one claiming by, through or under SAWPA, for any and all injuries, claims, losses, expenses, or damages whatsoever arising out of or in any way related to Consultant's services, the project, or this Agreement, will not exceed the total compensation received by Consultant under the specific applicable project and/or task order, or Fifty Thousand Dollars (\$50,000) whichever is less. This limitation will apply regardless of legal theory, and includes but is not limited to claims or actions alleging negligence, errors, omissions, strict liability, breach of contract, breach of warranty of Consultant or its officers, directors, employees, agents, or independent professional associates or consultants, or any of them. SAWPA further agrees to require that all contractors and subcontractors

agree that this limitation of Consultant's liability extends to include any claims or actions that they might bring in any forum.

ARTICLE VIII

TERMINATION OF AGREEMENT

8.01 In the event the time specified for completion of an assigned task in a Task Order exceeds the term of this Agreement, the term of this Agreement shall be automatically extended for such additional time as is necessary to complete such Task Order and thereupon this Agreement shall automatically terminate without further notice.

8.02 Notwithstanding any other provision of this Agreement, SAWPA, at its sole option, may terminate this Agreement at any time by giving 10 day written notice to Consultant, whether or not a Task Order has been issued to Consultant.

8.03 In the event of termination, the payment of monies due Consultant for work performed prior to the effective date of such termination shall be paid after receipt of an invoice as provided in this Agreement.

8.04 This Agreement may be terminated by Consultant for cause upon thirty (30) days written notice to SAWPA.

11.04 Time is of the essence in the performance of services required hereunder. Extensions of time within which to perform services may be granted by SAWPA if requested by Consultant and agreed to in writing by SAWPA. All such requests must be documented and substantiated and will only be granted as the result of unforeseeable and unavoidable delays not caused by the lack of foresight on the part of Consultant. Consultant will be given enough time to work prudently and safely.

FORCE MAJEURE

- a) Force Majeure "Event of Force Majeure" means an event beyond the control of Consultant and SAWPA, which prevents a Party from complying with any of its obligations under this Agreement, including but not limited to, acts of God (such as, but not limited to, fires, explosions, earthquakes, drought, tidal waves and floods); war, hostilities, acts of terrorism, riot, commotion, strikes, go slows, lock outs or disorder, unless solely restricted to employees of Consultant or its subcontractors.
- b) Neither SAWPA nor Consultant shall be considered in breach of this Agreement to the extent that performance of their respective obligations (excluding payment obligations) is prevented by an event of Force Majeure. Either SAWPA or Consultant shall give written notice to the other upon becoming aware that an Event of Force Majeure.

APPENDIX A 5

RESUMES

Peter Kavounas, P.E.

Senior Civil Engineer

Peter Kavounas is a Senior Civil Engineer in GEI's Pasadena California office and is highly experienced in water resources with an emphasis on groundwater management. Peter is recognized as a leader in sustainable management of groundwater with extensive project, program, and executive management experience.

Prior to joining GEI Peter served as the General Manager of the Chino Basin Watermaster for eleven years and was responsible for ensuring compliance with the Judgment governing the adjudication of Chino Basin, implementation of the sustainable Basin management plan, and management of the organization. The work included the preparation of numerous technical reports relying on groundwater data. Peter worked closely with the Executive Officer and staff of the Santa Ana Regional Water Quality Control Board to ensure compliance with the 2004 Basin Plan Amendment and worked to support the SAWPA BMP Task Force in its efforts.

Peter served as the Assistant General Manager-Water for the City of Glendale's Glendale Water & Power Department for a period of eight years and was responsible for the day-to-day management of the Water Utility including maintenance, operations, water quality, engineering, and planning.

Prior to working for the City of Glendale, Peter worked for the Los Angeles Department of Water and Power for seventeen years, mostly in the Aqueduct Division and performed technical work and management functions to enhance the City's water supplies from the Eastern Sierras.

Peter was elected to the Board of Directors of the Castaic Lake Water Agency between 1999 and 2014. The Agency, now known as Santa Clarita Valley Water Agency, is a State Water Project Contractor and provides wholesale water to the Santa Clarita Valley in addition to providing local retail service to approximately 75,000 connections.

PROJECT EXPERIENCE

Willow Springs Water Bank (WSWB), CIM Group, Antelope Valley, CA. Project advisor for the development of a water bank in the Antelope Valley. WSWB seeks to implement a multi-benefit, conjunctive use project to operate with the State Water Project (SWP) by allowing the capture of additional or 'new' water during wet years in the existing surface reservoirs via reservoir reoperations. The WSWB has received a conditional award of \$126 million from Proposition 1 and to be established requires approval by the Antelope Valley Watermaster, among other obligations. Currently managing the effort to secure a storage agreement with the Antelope Valley Watermaster.

Water Resources Management Plan (WRMP) and Drought Contingency Plan (DCP) Preparation, Three Valleys Municipal Water District, Claremont, CA. Project advisor for the preparation of the WRMP and DCP for the District. The WRMP analyzed the



EDUCATION

M.S., Water Resources Engineering,
University of Southern California, 1996

M.E., Structural Engineering, University of
California, Berkeley College of
Engineering, 1985

B.S., Civil Engineering, University of
Minnesota, 1983

EXPERIENCE IN THE INDUSTRY

38 years

EXPERIENCE WITH GEI

Less than 1 year

REGISTRATIONS AND LICENSES

Professional Engineer, CA No. 44017

TRAINING AND CERTIFICATIONS

Leadership Southern California Class XII;
Southern California Leadership
Network

Civic Enterprise Leadership and
Management Program; UCLA
Anderson School of Management

Special District Leadership &
Management certification; Special
District Institute

Mediation Certification; County of Los
Angeles, Community and Senior
Citizen Services

AWARDS

Association of Metropolitan Water
Agencies (AMWA) 2009 Gold Award
for Exceptional Utility Performance

American Public Works Association
(APWA) 2010 BEST Project of the
Year award.

American Academy of Environmental
Engineers 2008 Research Grand Prize
award

baseline water demand and supply sources, and assessed the impact of drought, future growth, and climate change. The DCP evaluated existing drought response actions and developed a framework for regional coordination. Additionally, the WRMP identified four potential regional projects to enhance local reliability and ranked those based on a benefit-risk index. Development of the WRMP and DCP involved extensive outreach and interaction with stakeholders. Provided strategic advice in the preparation and presentation of information, participated in the benefit-risk analysis, and co-facilitated stakeholder workshops.

PRIOR EXPERIENCE

General Manager, Chino Basin Watermaster. The Chino Basin Watermaster is an entity appointed by the Superior Court to oversee the 1978 Judgment regarding groundwater pumping in the Chino Basin, one of the largest groundwater basins in the State of California. The Watermaster works with the Advisory Committee and the pooled interests of the water right holders to guide the use of the Basin. The Watermaster is a co-permittee with Inland Empire Utilities Agency and works closely with the Santa Ana Regional Water Quality Control Board to maintain compliance with the 2004 Basin Plan Amendment.

Key efforts include:

Chino Basin Safe Yield Recalculation. Directed the technical work to recalculate the Safe Yield of the groundwater basin for the first time since it was established in the 1978 Judgment. Coordinated stakeholder workshops, and supported the legal work necessary to secure Court adoption of the revised Safe Yield. The effort was repeated in 2020, again resulting in a revised Safe Yield.

Optimum Basin Management Program. Coordinated and led the effort to revise the Chino Basin OBMP after the first 20 years of its implementation. The effort included significant stakeholder outreach, technical, and legal work to identify the areas of the Basin management that worked well and additional stakeholder needs looking to the future. The Updated OBMP was adopted by the Watermaster Board in 2020.

Stakeholder Outreach. Coordinated studies with IEUA to maintain compliance with treated wastewater discharge requirements. Worked closely with the Santa Ana RWQCB staff to build knowledge and enhance communication. Worked with all stakeholders in Chino Basin to maximize the value of the resource.

Assistant General Manager – Water, Glendale Water and Power. Responsible for the operation of the water utility serving 34,000 connections. Leadership focused on strategic business planning, performance measurement, knowledge capture, and continuous improvement. Specific initiatives include AMI implementation, Asset Management and Water Quality Retooling initiatives, and organization-wide Succession Planning. During his tenure the Water Utility was awarded the AMWA 2009 Gold Award for Exceptional Utility Performance.

Los Angeles Department of Water and Power. Responsible for studies in the management of San Fernando groundwater basin, Owens Valley, and Mono Basin water resources.

Christian E. Petersen, P.G., C.Hg.
Senior Hydrogeologist

Chris Petersen has 36 years of experience providing groundwater technical expertise for large interdisciplinary water resources investigations and planning efforts, many of which involve conjunctive use. He has broad experience in the planning, design, and optimization of groundwater recharge techniques, an important element of most conjunctive use programs. Chris has assisted numerous clients in obtaining state and federal funding assistance for the development of managed aquifer recharge programs throughout California and in New Mexico. Key to the success of every groundwater management planning effort is building trust and reaching consensus among project stakeholders, including the regulatory community. Chris has demonstrated success in this environment, resulting in projects that meet water supply needs while protecting the environment.

Chris is GEI's West Region Groundwater Lead and has responsibility for overseeing and managing the groundwater projects and operations west of the Rocky Mountains. He worked at a global engineering consulting firm for over 20 years before joining GEI.

PROJECT EXPERIENCE

Project Hydrogeologist, Santa Ana Watershed Project Authority (SAWPA), Montclair, CA. Managed the field program for SAWPA in Chino Basin for the Chino Basin Desalinization Project. The project involved design and construction of 13 groundwater production wells for the purpose of extracting groundwater from high TDS/Nitrate zones for treatment and distribution. Salts including nitrates have accumulated in groundwater of the Chino Basin primarily due to agricultural practices in this area. Oversaw the drilling of exploratory borings, and prepared lithologic logs. Each pilot hole was then geophysically logged using tools to measure formation resistivity, natural gamma emission and spontaneous potential. Completed the well design based on this field data. Upon completion of well development, a 24-36-hour continuous pumping test was performed at each well while observing hydraulic response in observation wells. These data were evaluated and used in the construction of a hydrogeologic conceptual model and numerical model. The regional model was updated and recalibrated and then utilized in the determination of groundwater protection zones, as required under the California Department of Health Services' Drinking Water Source Assessment and Protection (DWSAP) Program.

Western Placer County Groundwater Management Plan, Cities of Roseville and Lincoln, California American Water Company, and Placer County Water Agency, Roseville, Lincoln, CA. Project Manager providing strategic planning and project management service for the plan partners involved in the development and implementation of the Western Placer County Groundwater Management Plan (GMP). Led the team involved in development of the GMP, which was adopted by the plan partners in 2007. In 2008, the team was successful in assisting the partnership in obtaining grant funding for the design



EDUCATION

M.S., Hydrology, University of Arizona
B.S., Geology, California State
University, San Jose
A.S., General Education, Modesto Junior
College

EXPERIENCE IN THE INDUSTRY

37 years

EXPERIENCE WITH GEI

10 years

REGISTRATIONS AND LICENSES

Professional Geologist, CA No. 6189
Certified Hydrogeologist, CA No. 463

and construction of three monitoring wells for the collection of groundwater level and groundwater quality data. Also assisted the plan partners with the implementation of management actions which support the GMP basin management objectives to avoid inelastic land subsidence, protect groundwater levels, basin sustainability, and groundwater quality. Responsible for designing three monitoring wells for the collection of groundwater level and groundwater quality data. Assisted the plan partners with the bidding of this work. Provided technical direction and supervised the site geologist during well construction activities. Also reviewed and stamped the well completion report in May 2011. This work was partially funded by DWR through the AB 303 grant program.

Groundwater Sustainability Program Support, California Department of Water Resources, Statewide, CA. Part of the leadership team for GEI in providing assistance to DWR in the development and implementation of the Groundwater Sustainability Program recently formed to implement the Sustainable Groundwater Management Act of 2014 (SGMA). Under this contract, GEI is providing technical consulting services to DWR in the development of new policy and regulations for basin boundary adjustments and groundwater sustainability plans. Involved in development of white papers and numerous stakeholder meetings designed to provide stakeholder input in the development of new regulations. Also involved in the development of graphics used in presentations and information guides designed to help stakeholders understand complex groundwater concept. Currently serving as GEI's task manager for the assisting DWR with the development of Best Management Practices (BMPs).

San Pasqual Groundwater Management Plan, City of San Diego, CA. Provided technical leadership in the development and implementation of the San Pasqual Groundwater Management Plan. This project is the City of San Diego's first effort to actively managing groundwater within the city limits. The City of San Diego is showing renewed interest in groundwater to reduce dependence on imported water, and to protect the local resource. Served as Project Manager, responsible for participating in client meetings to agree on the management goals and objectives for the basin, guided the compilation and review of groundwater data for San Pasqual Basin, and provided technical direction and leadership for all groundwater tasks and documents. Assisted in the public outreach and education process. The City of San Diego intends to develop conjunctive use projects within this basin and the GMP provided the necessary framework for development of these projects in a sustainable manner. During the implementation of the GMP, also managed the development of a salinity assessment for the entire basin. The salinity assessment inventoried all sources of salinity and nitrating loading to the groundwater system and then identified best management practices to be implemented at the surface to reduce the loading of salinity and nitrated into the groundwater system.

Data Management System and Groundwater Management Plan, U.S. Army Corps of Engineers (USACE) and Sacramento Groundwater Authority, Sacramento County, CA. Served as Technical Lead for the development of a groundwater data management system (DMS) and groundwater management plan (GMP). The DMS design included a graphical user interface to archive, retrieve and plot groundwater data including water quality, lithology, well construction, groundwater extraction, groundwater elevation and aquifer properties such as hydraulic conductivity and storability. This tool was developed under contract with the U.S. Army Corps of Engineers (USACE) and is available for use. The DMS has become a standard tool used by our California staff in the development of groundwater management plans and hydrogeologic investigations. Under the same contract, provided technical direction in the development of the Sacramento Groundwater Authority's GMP. Development of both the DMS and GMP were done in close coordination with the SGA's 14-member agencies including each of the municipalities overlying the North America Groundwater Basin, north of the America River to the county line. The GMP was adopted by the SGA and by signature with each of the 14-member agencies. Also developed the first two "State of the Basin" annual reports, documenting groundwater conditions within the basin. The DMS and GMP continue to be used by the SGA and its member agencies to protect groundwater and implement conjunctive use in the basin.

Karen Miller, P.G., C.HG.

Senior Groundwater Leader / Project Manager

Karen Miller is a water resources & planning professional with 30+ years of experience, including 27 years working on specialized studies in California. Her specialties include water resources, hydrogeology, integrated planning, environmental studies, water quality, feasibility studies, site assessment, watershed management, regulatory agency coordination, and building climate change sustainability/resiliency. Karen is well versed with California water supplies, constraints, and stakeholders, and has completed hydrogeologic investigations in many of the major southern California groundwater basins. In addition, her technical expertise is complemented by excellent technical writing skills, and she has developed a wide range of reports, technical memoranda, and other planning documents. Furthermore, Karen helps her clients identify strategic local/State/Federal funding for projects, and supports them by preparing grant funding memos & applications, as well as performing grant administration.

PREVIOUS PROJECT EXPERIENCE

Eastern Sierra Water Resources Management, Los Angeles Department of Water and Power (LADWP), Owens Valley, CA.

Served as Deputy PM for this 25-year project (2000 – 2025) that spanned multiple contracts. Work focused on helping LADWP manage & optimize its Eastern Sierra water resources in compliance with the Inyo/LA Long-Term Water Agreement in the Owens Valley. It included groundwater modeling of the City's Owens Valley wellfields, hydrogeologic evaluation, evaluation of groundwater in storage, water resources planning, new wells, well rehabilitation, water quality assessment, aquifer testing & analysis, groundwater banking, isotope sampling & analysis, drilling & soil sampling, and development of a groundwater management plan. From an environmental perspective, the project included vegetation monitoring, CEQA studies, annual reporting, and enhancement/mitigation projects. The project had significant public outreach, whereby technical information was shared with the public through meetings, white papers, and advertisements. Finally, the project required interface with the City's legal team and senior management, along with preparation of attorney/client privilege documents.

Rose Valley Groundwater Banking Evaluation, LADWP, Rose Valley, CA. Deputy PM for this groundwater banking evaluation in the Rose Valley to store excess water from the Los Angeles Aqueduct (ie, during wet years) for use in drought years. Work included detailed review of the geology, hydrogeology, infiltration rates, storage potential, and ambient groundwater quality. Groundwater modeling was conducted to simulate different recharge scenarios. Preliminary design, potential land acquisition needs, and analysis of CEQA compliance for recharge facility construction were also performed. Results of this work were documented in a feasibility study report, along with site figures, contour maps, and preliminary conceptual design drawings.



EDUCATION

M.S. Geology, Utah State University,
Logan, UT, 1995

B.S., Geology, Duke University, Durham,
NC, 1993

EXPERIENCE IN THE INDUSTRY

30 years

EXPERIENCE WITH GEI

Less than 1 year

REGISTRATIONS AND LICENSES

Professional Geologist, CA No. 7049

Professional Hydrogeologist, CA No. 719

Professional Geologist, WA No. 2842

Professional Geologist, UT No. 5282913-
2250

Groundwater Management Plan, Twentynine Palms Water District, Twentynine Palms, CA. Served as Project Manager responsible for preparation of the 2024 Groundwater Management Plan for the Twentynine Palms Water District. The document serves as a planning tool to assist the District with maintaining safe, sustainable, and high quality groundwater resources over the long term. It addresses both aquifer health and groundwater sustainability. Updated estimates of groundwater in storage were developed, and groundwater quality was characterized. Basin Management Objectives were defined to provide a pathway forward for reliable water supply.

Salt and Nutrient Management Plan for the Oxnard Plain and Pleasant Valley Groundwater Basins, City of Oxnard, Oxnard, CA. Helped to prepare with the City's updated Salt and Nutrient Management Plan (SNMP) to satisfy regulatory requirements (per the Los Angeles Regional Water Quality Control Board). The SNMP evaluated water quality in the basins and considered overlapping/parallel efforts described in the Groundwater Sustainability Plans, Basin Plan, and other related planning reports. The SNMP evaluation considered loading estimates, impact of recycled water projects, assimilative capacity analysis, basin-wide monitoring, and anti-degradation analysis (with regard to nitrates and TDS).

Owners Agent for the San Fernando Groundwater Basin Remediation, LADWP, San Fernando Basin (SFB), CA. Participated in both a Remedial Investigation and Feasibility Study to develop a comprehensive remediation and clean-up program for individual SFB wellfields. Work was conducted to characterize groundwater conditions (water quality, faulting, flow) and to understand flows and discharge in the LA River, all with the objective to design groundwater remediation facilities. This interdisciplinary project required an understanding of the ULARA Watermaster, the City's Urban Water Management Plan, the County's IRWMP, the Basin Plan, CERCLA, NCP, and more. Work conducted included risk assessment, site characterization, database review & analysis (ie, GeoTracker, EnviroStor), data management & consolidation, regulatory agency coordination, development of groundwater level and water quality contour maps, and technical reporting.

Drinking Water Source Assessment (DWSAP), San Francisco Public Utilities Commission (SFPUC), Daly City, CA. Conducted two DWSAPs for the SFPUC in 2025. Work and reporting were performed in compliance with California Division of Drinking Water regulations for DWSAPs. These assessments required delineation of the source areas and protection zones, a comprehensive inventory of possible contaminating activities (PCAs) within the protection zones, development of a risk matrix, and application of a vulnerability analysis to assess which PCAs pose the highest risk to the groundwater source. Appropriate documentation was prepared and submitted, after which results of the DWSAPs were used for water resources planning purposes.

Central Valley Salinity Prioritization and Optimization Study, Central Valley Salinity Coalition, Central Valley, CA. The Central Valley is facing salt and nitrate water quality challenges, whereby the CV-SALTS (Central Valley – Salinity Alternatives for Long-Term Sustainability) program develops and recommends policies and actions to address issues and includes representatives from growers, dairies, industries, local communities, government agencies, environmental and community organizations, and the Central Valley Regional Water Quality Control Board. Currently participating in this 10-year planning study to develop alternatives for salt management in the Central Valley. Part of a team of scientists and engineers working to identify and evaluate salt removal technologies. Results of this work are being synthesized into a report while related progress, and findings are being reported to the Executive Committee.

Wyandotte Creek Subbasin Regional Conjunctive Use Project, Wyandotte Creek Groundwater Sustainability Agency, Sacramento Valley/Wyandotte Creek Subbasin, CA. The Wyandotte Creek Groundwater Sustainability Plan (prepared in accordance with SGMA) identified this conjunctive use project as a project management action for implementation to address groundwater sustainability in the Wyandotte Creek Subbasin. Responsible for the preparation of two reports documenting results of two feasibility studies. 1) The Intra-Basin Water Exchange Feasibility Study Report evaluates potential areas for groundwater recharge in collaboration with water purveyors. 2) Follow-on work to this was an Agricultural Surface Water Supplies Feasibility Study and Report. This report assesses the feasibility of agricultural users in the Subbasin to utilize surface water and evaluates conjunctive use opportunities of in-lieu and direct recharge. It provides estimated benefits and costs for each alternative and compares groundwater and surface water costs.

Michael J. Cornelius, P.G.
Vice President and Principal Geologist

Michael Cornelius is a Principal Geologist with 36 years of experience in water resources management in California. His experience includes conducting and managing groundwater management, integrated regional water management (IRWMP), and flood management projects primary for the State of California and local agencies within the State.

PROJECT EXPERIENCE

Tracy Groundwater Subbasin Groundwater Sustainability Plan, San Joaquin County Public Works, San Joaquin County, CA.

Served as Principal-in-Charge for the preparation of the GSP Provided technical support during the development of the GSP that was completed and submitted to the California Department of Water Resources in January 2022. Since then, he has led the preparation of four GSP Annual Reports for the Tracy Subbasin for Water Years 2021 through 2024. These efforts have included applying DWR's C2VSIM modeling to the Tracy Subbasin.

Local Agency SGMA Support, Various Clients, Statewide, CA.

Supports GEI's SGMA efforts for its various Groundwater Sustainability Plans (GSPs). These include:

- Atascadero Basin GSP
- Kaweah Subbasin GSP
- North American Subbasin GSP
- San Luis Obispo Valley Basin

Mokelumne River Integrated Conjunctive Use Program

(MICUP), San Joaquin County Public Works, CA. Consulting team Project Manager for the MICUP water rights application for the flood flows on the Mokelumne River to support local groundwater recharge projects to reduce the long-term groundwater overdraft conditions in the critically overdrafted Eastern San Joaquin Groundwater Subbasin. In this role manages the consulting team and coordinates with San Joaquin County and the local districts that are developing recharge projects to utilize this supply.

Groundwater Modeling Experience, Various Clients. Has been involved in more than 10 Integrated Groundwater and Surface Water Model (IGSM) projects throughout California including:

- San Joaquin County (SJCIGSM)
- Sacramento County (SCNIGSM)
- Central Valley (CVGSM)
- Pajaro Valley (PVIGSM)
- Salinas Valley (SVIGSM)

Tracy Regional Groundwater Management Plan, City of Tracy, Tracy, CA. Served as the Project Manager for the preparation of the Tracy Regional Groundwater Management Plan (GMP) for the Tracy Subbasin. The project prepared an SB1938-compliant GMP for the Tracy Subbasin, a historically agricultural area that is undergoing rapid urban development. The GMP focused on actions to maintain and



EDUCATION

M.S., Civil Engineering, California State University, Sacramento
B.S., Geology, University of California, Davis

EXPERIENCE IN THE INDUSTRY

36 years

EXPERIENCE WITH GEI

21 years

REGISTRATIONS AND LICENSES

Professional Geologist, CA No. 6222

improve groundwater quality, which is the primary concern of the water users in the subbasin. The GMP included the preparation of the first hydrogeologic assessment of the entire basin, and a groundwater monitoring plan to allow monitoring of the proposed Basin Management Objectives. The GMP was prepared under the direction of the Groundwater Advisory Committee that consisted of local water purveyors, stakeholders, and local and state agencies.

Permanente Quarry Reservoir Feasibility Study, Valley Water, Santa Clara, CA Served as Project Manager for the multi-discipline feasibility level assessment to sue the quarry for raw water storage that included hydrogeologic and water quality analysis, hydrology and flood conditions assessment, water supply availability and facilities assessment and environmental and permitting evaluation. This information was used identify potential fatal flaws that could impact the feasibility of using the quarry for raw water storage.

Paso Robles Groundwater Basin Regional Groundwater Management Plan, City of Paso Robles, CA. Served as the Project Manager for the preparation of the Paso Robles Groundwater Basin Regional Groundwater Management Plan (Plan), which was completed in 2011. The preparation of the Plan was led by the by the City of Paso Robles and the San Luis Obispo County Flood Control and Water Conservation District (District) in coordination with the Groundwater Advisory Committee (GAC), which included stakeholder and other interested parties in the Basin, including agricultural, municipal, and rural groundwater interests.

Paso Robles Subbasin Groundwater Sustainability Plan, City of Paso Robles, CA. As a member of the consulting team, GEI provided technical and information management support for the development of a GSP. Led GEI efforts which included the development of hydrogeologic conceptual model and the groundwater conditions sections of the Groundwater Sustainability Plan (GSP). GEI also supported the development of the Communication and Engagement Plan (C&E Plan) and deployment of the Paso Robles Groundwater Communications Portal (GCP) to support the implementation of the C&E Plan.

Atascadero Subbasin Groundwater Sustainability Plan, Atascadero Mutual Water Company, CA. Served as the Project Manager for the preparation of a Groundwater Sustainability Plan (GSP) to meet the requirements of the SGMA. Efforts included assisting in the successful preparation of a Basin Boundary Modification application to DWR to form the Atascadero Area Subbasin from the Paso Robles Subbasin, and providing support in the formation of the Atascadero Area Subbasin Groundwater Sustainability Agency. Since then, he has led the preparation of four GSP Annual Reports for the Atascadero Basin for Water Years 2021 through 2024.

San Luis Obispo County IRWM Plan Update, San Luis Obispo County Flood Control and Water Conservation District, CA. Served as the Project Manager of the consulting team responsible for the preparation of the San Luis Obispo County IRWM Plan Update. The Plan Update incorporated additional information developed since the completion of the San Luis Obispo County 2007 IRWM Plan to comply with the new State's IRWM Guidelines. The stakeholder outreach process is expanded compared to the 2007 Plan to include more subregional input as well as input from DACs and NGOs.

Groundwater Banking Feasibility Study, County of San Luis Obispo, CA. Project Manager responsible for the preparation of this study to determine the feasibility of banking surplus State Water Project water in the Paso Robles Groundwater Basin in northern San Luis Obispo County. The initial project focus was to identify the technical (hydrogeologic and engineering) constraints which may limit water banking opportunities. Environmental considerations, groundwater management, and potential project partners and funding sources were identified.

Donghai Wang, Ph.D., P.E.
Principal Civil and Software Engineer



Donghai Wang is a principal software engineer and a registered civil engineer in California. He has more than 30 years of experience in web application development, system operation and maintenance, application integration, legacy application modernization, system integration and database management system (DMS) development. Dr. Wang oversees information management division at GEI and has delivered over one hundred water resources information management applications/tools for local, state, and federal water resources related agencies. The projects include SGMO Online Portal including ten applications/tools, Dry Well Reporting Systems, SGMA Data Viewer, local area Groundwater DMS, case/permit management system, document management system, GIS map viewers, GIS databases and applications, and water resources modeling based web applications hosted in cloud computing. He is proficient in various computer languages and software, such as Java, ASP.NET (C#), .NetCore (C#), Azure services, Microsoft SQL Server, Oracle, Python, GIS, FORTRAN, C, JavaScript/XHTML, Power BI, and Tableau.

EDUCATION

Ph.D., Hydrology and Water Resources,
University of Arizona
M.S., Civil and Environmental
Engineering, Tsinghua University

EXPERIENCE IN THE INDUSTRY
31 years

EXPERIENCE WITH GEI
17 years

REGISTRATIONS AND LICENSES
Professional Engineer, CA No. 69491

PROJECT EXPERIENCE

Basin Boundary Modification Request System (BBMRS), California Department of Water Resources (DWR, CA). BBMRS was developed for local agencies to submit their requests for Basin Modification. Technical leader for the system which was developed in a past pace. The system allows users to submit basin modification information, document and GIS files. All submitted requests were automatically combined and published.

Water Transfer Information Management System (WTIMS), Division of Operation and Maintenance, DWR, CA. WTIMS was developed for DWR to manage the water transfer. As the Project Manager, leading a programmer team to design and develop the system. A groundwater module was developed to manage water transfer groundwater wells which include groundwater well information, water elevation and production.

USACE Levee Screening Tool (LST) – USACE Risk Management Center (RMC). The LST is a web-based GIS enabled tool to evaluate, plan, and report the condition and associated risks of levees. The tool assists in determining the probability of the levee to perform as intend. It uses surface hydrologic models including HEC-RAS and HEC-LifeSim to simulate water depth and water travel time. It integrates data from various sources and uses GIS map as tool for users to define model input data, run models, view water control features, and visualize model results including animation of model results, hydrographs, tables, and charts. He is the PM and lead system developer responsible for design, model calibration and analysis.

Health River Landscape Transfer Information Management System (HRL-TIMS), Division of Operation and Maintenance, DWR, CA. HRL-TIMS is a DWR system for managing HRL water transfers (formerly “Volunteer Agreements”). As Project Manager, led

a programming team to design and develop the platform, which is scheduled for a release next year. I also directed the development of the groundwater transfer, crop idling, and reservoir operation modules, which support contribution and deployment planning, data sharing, review and approval workflows, and system visualization.

Local Area Groundwater Data Management System (DMS), Kern, Big Valley, North American, San Luis Obispo, Santa Ynez, Tracy, Atascadero, City of Roseville, Placer County, CA. The local area Groundwater DMS was developed for local agencies to support SGMA reports and groundwater management. Product manager to oversee the system design and development, and operation and maintenance.

Tisdale Weir Rehabilitation & Fish Passage Project (TWRFPF), Tisdale, CA. The TWRFPF is a web application for users to track changes in timing, extent, and magnitude of inundation, and subsequent effects on land use that could result from proposed changes in operation of the Tisdale Weir. The application is built on the .NET framework and is hosted at Azure app services. Acted as the project manager, responsible for task scheduling, technical supervision, resource allocation, and operational planning.

Flood Emergency Response Information Exchange (FERIX), California Department of Water Resources, Statewide, CA. Project Manager and Technical Lead for development of FERIX, a tool to help manage, disseminate, distribute, query, and visualize flood related data and maps. FERIX is a web-based GIS-enabled program that retrieves, analyzes, and displays geographic data in a sophisticated data management infrastructure. FERIX integrates information, maps and documents from various sources. It increases efficiency on extraction, analysis, and representation of data existing in a variety of formats; enhances information accessibility and sharing. FERIX integrates and shares data among Real-Time Data (CDEC), Local Maintaining Agency Reports, Levee Inspections and Logs, California Levee Database, Snow Courses Data and Documents, and Operation and Maintenance Manual Database.

Integrated Water Resources Information System (IWRIS), California Department of Water Resources, Statewide, CA. As Technical Director, was responsible for the architecture, interface design, and system development of a simple, cost-effective spatial data management tool. IWRIS is a web-based, statewide water resources information management system and serves as a platform for advanced GIS analysis. It integrates multi-disciplinary spatial data sources and provides access, visualization, retrieval, summarization, and query of Water Data Library, USGS stream flow, and CDEC.

CALFED Data Integration and Visualization Framework Development, CALFED, Statewide, CA. As the developer for this framework, customized JAVA application Gr tool to extract, display and visualize CALFED DSS, a common gateway to view and run different types of data and model from its interface. Conducted research on various software that could animate fish movement.

Hydrologic Database Management System (HDMS) Development, City of San Bruno, San Bruno, CA. As the developer for the web-based GIS HDMS for the City of San Bruno and the Westside Groundwater Basin, developed GIS tools for assessing groundwater data. In coordination with other staff members, deployed the system and provided user support and training.

IGSM2 Reservoir Operation Module, DWR, California. As the lead technical specialist, transferred the reservoir operations and water rights module from IGSM version 5.0 to IGSM2 (precedent of IWFm). The work consisted of modifying relevant sections of the model source code from IGSM version 5.0, incorporating it into the IGSM2 source code, testing the formulation on sample problems using historic data, MODFLOW, and IGSM2 results, and writing the project documentation.

Salinas Valley IGSM, Monterey County Water Resources Agency, California. As the Project Engineer, he was responsible for development and calibration of the groundwater simulation model for the Salinas Valley. The model was developed using the IGSM flow model, including code development and calibration of the reservoir operation module.

Jacqueline Takeda

Permitting and Water Quality Compliance

Jackie Takeda has over 20 years of experience in water quality, regulatory planning, and optimizing water system operations. She specializes in characterizing water quality and data trending, developing test protocols to evaluate the quality of various water sources, devising regulatory compliance strategies, evaluating treatment plant and distribution system performance, and identifying and implementing process improvements. Her experience extends from groundwater expertise from Southern California's West and Central Basins to Central Valley, Salinas Valley and Bay Area peninsula regions.

In addition to her water resources experience, Jackie has extensive operations management experience earned through her 12 years of employment with California Water Service (Cal Water). This experience enables her to develop reasonable solutions that match a water district's goals with current best available technologies. Her experience also includes helping small, mutual water systems identify sustainable solutions. She is well versed in developing compliance strategies and permitting projects with the regulatory agencies such as the State Water Quality Control Boards.

PROJECT EXPERIENCE

Development of CV-SALTS Nitrate Control Program Regulatory Documents for Priority 2 Subbasins, Valley Water Collaborative, Kern Water Collaborative, and Kings Water Alliance, Central Valley, CA. Assisted with development, preparation, and submittal of CV-SALTS Nitrate Control Program Preliminary Management Zone Proposal (PMZP) and Early Action Plan (EAP) for Delta-Mendota, Eastern San Joaquin, Madera, Merced, Yolo, Kern County (Westside South), Kern County (Poso), and Tulare Lake Subbasins. Identified and assisted Valley Water Collaborative (VWC), Kern Water Collaborative (KWC), and Kings Water Alliance (KWA) with outreach to dischargers, potential participants, and non-dischargers within the Management Zones. Prepared Community Engagement Strategy for EAP and attended community meetings. Developed Well Testing Program for EAP.

Development of CV-SALTS Nitrate Control Program Regulatory Documents for Priority 1 Subbasins, Valley Water Collaborative, Kings Water Alliance, and Chowchilla Management Zone, Central Valley, CA. Assisted with development, preparation, and submittal of CV-SALTS Nitrate Control Program Preliminary and Final Management Zone Proposals and EAP and Management Zone Implementation Plans for Modesto, Turlock, Kings, and Chowchilla Subbasins. Identified and assisted VWC, KWA, and Chowchilla Management Zone with outreach to dischargers, potential participants, and non-dischargers within the Management Zones. Prepared Community Engagement Strategy for EAPs and attended community meetings. Developed Well Testing Program for EAPs. Review discharger Waste Discharge Requirements (WDR) permits and



EDUCATION

B.S., Biological Sciences with Emphasis in Neurobiology, Physiology, and Behavior, University of California, Davis

EXPERIENCE IN THE INDUSTRY
21 years

EXPERIENCE WITH GEI
9 years

CERTIFICATIONS

Grade 2 Water Treatment Operator (CA State Water Board)
Grade 2 Water Distribution Operator (CA State Water Board)
Cross-Connection Control Specialist (CA-NV AWWA)

PROFESSIONAL ASSOCIATIONS
American Water Works Association, Member

evaluated preliminary nitrogen loading rates from permitted dischargers.

Environmental Planning Desalination Study, Santa Clara Valley Water District, Santa Clara County, CA.

As the Senior Water Quality Specialist, evaluated source water, water quality and intake alternatives within and surrounding Valley Water's service area in the South Bay and City of San Jose vicinity. It included an assessment of environmental conditions and regulatory requirements to: (1) develop informed recommendations for selecting an intake location and type, and (2) information on source water quality to evaluate environmental impacts and regulatory requirements. Alternatives for brine disposal were evaluated based on brine water quality, existing studies, environmental constraints, and regulatory requirements. Necessary permits for construction and subsequent operation of the desalination project such as, from State Water Resources Control Board, DDW and Regional Water Quality Control Board for point and non-point discharges and under the Clean Water Act and waste discharges under the Porter Cologne Water Quality Control Act, were identified based on project description and assumptions.

Extraction Barrier and Brackish Water Treatment Project, Screening Level Initial Study and Permitting Work Plan, United Water Conservation District, Oxnard, CA.

As the Senior Water Quality Specialist, evaluated the water quality characteristics of the potential discharge brine wastewater to potential receiving water bodies. Estimated discharge water quality characteristics were compared against drinking water standards, recycled water standards, TMDLs, and Basin Plan water quality objectives. Provided recommendations on additional water quality data needed to fill data gaps relevant to permitting and characterization. The project is an extraction barrier project to include construction and operation of groundwater wells acting as an extraction barrier to seawater intrusion. A reverse osmosis water treatment plant would treat the extracted brackish groundwater as an additional water supply source for drinking and irrigation water. Assisted with screening-level initial study and permitting work plan relevant to water quality.

Evaluation of Re-Using Drinking Water Treatment Plant Waste Stream for Ag Irrigation, Orange Grove RV Park, Bakersfield, CA.

Evaluated best drinking water treatment option where selected treatment option would bring the water system into compliance with the nitrate drinking water standard and also be cost-effective to re-use the treated waste stream for irrigation. Theoretical blending calculations were performed to determine the feasibility of re-using the treated waste stream. Worked with University of California Division of Agricultural and Natural Resources to determine the water quality thresholds of irrigation water for citrus crops. Worked with regulators within DDW and Central Valley Regional Board to permit a drinking water RO treatment plant and re-using RO reject water to blend with Arvin-Edison water, which is used as irrigation water for the orange trees.

Characterize Groundwater Quality in the Kern County and Kaweah Subbasins, Kern Groundwater Authority and Kaweah Sub-Basin Management Team, Kern and Tulare County, CA.

Characterizing of the groundwater quality in the Kern County Subbasin to determine the subbasin water quality baseline. Water quality data from regulated drinking water systems was pulled from various databases such as the Drinking Water Watch (SDWIS) and GeoTracker. Contamination plumes were identified using the GeoTracker and EnviroStor databases and USGS studies were also referenced. This water quality characterization was used in various Groundwater Sustainability Plans (GSPs) for the Kern County and Kaweah Subbasins.

Reuse and Reservoir Conversion Study, Moulton Niguel Water District, Aliso Viejo, CA.

Serving role of Senior Water Quality specialist in identifying options to maximize use of recycled water produced from Regional Wastewater Treatment Plant (RTP) to diversify District's water supply portfolio. Conducted water quality analysis from RTP and evaluated against existing Waste Discharge Order Permit and San Diego Basin Plan Water Quality Objectives. Evaluated feasibility of Direct Potable Reuse (DPR) using Laguna Niguel Lake Reservoir. Assisting with developing potential permitting pathways with DDW and Regional Water Quality Control Board for DPR project.

Palms Recovery Project, Buena Vista Water Storage District, Buttonwillow, CA.

Serving role as Senior Water Quality Specialist to evaluate feasibility of groundwater recharge project related to water quality. Responsibilities include characterization of groundwater quality from wells within project area and surface water from CA Aqueduct. Conducted theoretical blending scenarios and prepared technical memorandum for inclusion in CEQA justifying project will not cause significant impacts to groundwater or CA Aqueduct.

Chris Stransky
Senior Aquatic Scientist

Chris Stransky has more than 30 years of experience leading and supporting a wide variety of ecological risk assessment programs in support of regulatory compliance, as well as pushing the boundaries to develop and test new innovative methods for monitoring. Chris has a passion for characterizing the health of the biological communities along with understanding causes of impairment and viable cost effective remedial solutions.

Chris is a well-known expert in the environmental field and currently serves on the Board of Directors for the North America Society of Environmental Toxicology and Chemistry (SETAC). He is the current Vice President of this prestigious organization and will rotate to President in Nov. 2025. Chris also currently serves on the Board of Directors for the Boz Life Science Research and Teaching Institute affiliated with the University of California San Diego (UCSD). Locally he also participates on the Science Advisory Panel for the California Stormwater Quality Association (CASQA).

PROJECT EXPERIENCE

Lake Elsinore and Canyon Lake Water Quality Nutrient TMDL Monitoring Program Implementation, Lake Elsinore San Jacinto Watershed Authority (LESJWA), Lake Elsinore, CA. As Program Director, led the development and implementation of a Comprehensive Compliance Monitoring Plan in support of a TMDL for nutrients in Lake Elsinore and Canyon Lake. The TMDL program includes watershed-wide stormwater sampling to determine nutrient loading into both lakes from upstream watershed sources, as well as in-lake sampling to assess progress towards TMDL compliance. Satellite imagery was incorporated to better assess spatial patterns of turbidity and chlorophyll-a as a measure of algal blooms, and inclusion and analysis of real-time continuous water quality data provided by sondes owned and managed by the Elsinore Valley Municipal Water District in Lake Elsinore. As a part of this program, also oversaw the development of a complete historical database of water quality data collected in both Canyon Lake and Lake Elsinore since 2001. This data has subsequently been analyzed using a variety of innovative techniques to better evaluate trends between water quality conditions, chlorophyll-a, and toxins related to harmful algal blooms (HABs). These evaluations have been critical regarding understanding which appropriate TMDL water quality parameters and targets may be feasible and protective of beneficial uses in both lakes. Led a Prop 1 funded grant in coordination with the City of Lake Elsinore to pilot test in situ a variety of in-lake treatments to enhance lake water quality focusing on persistent elevated nutrients and cyanobacteria algal blooms in Lake Elsinore, the largest natural freshwater lake in southern California. In support of these programs also oversaw a special study to assess the conditions of the Lake Elsinore fishery and identify appropriate management measures for improving the fishery and supporting aquatic habitat. This evaluation included a large successful



EDUCATION

M.S., Marine Ecology, San Diego State University, 1998
B.A., Aquatic Biology, University of California, Santa Barbara, 1992

EXPERIENCE IN THE INDUSTRY
32 years

EXPERIENCE WITH GEI
1 year

TRAINING/CERTIFICATIONS
Environ. Specialist (ENV SP)
SCUBA (Scientific Diver Collection Permit)
OSHA 40-hour HAZWOPER
CA Safe Boater Certified
CPR/First Aid
Surface Water Ambient Monitoring
Program-California Rapid Assessment Method (SWAMP-CRAM) Estuarine and Riverine trained

PROFESSIONAL AFFILIATIONS
Society on Environmental Toxicology and Chemistry (SETAC), 1994
Southern California Academy of Sciences (SCAS), 1994
California Stormwater Quality Association (CASQA), 2005
Western Dredging Association (WEDA),
The Coastal and Estuarine Research Federation, 2005
California Estuarine Research Society, 2010

public outreach component bringing the public to the lake to learn and participate in the efforts. These efforts were highlighted by several news organizations providing high visibility.

Study to Evaluate Future Options for the Lake Elsinore Aeration and Mixing System, 2024, Elsinore Valley Municipal Water District (EVMWD), Lake Elsinore, CA. EVMWD operates the main component of the large aeration-mixing system in Lake Elsinore known as (Lake Elsinore Aeration-Mixing System, or LEAMS) whose purpose is to destratify the lake, mix oxygen levels in the lake water column, and offset the nitrogen and phosphorus (N and P) added to the lake from disinfected tertiary effluent discharged by EVMWD's Regional Water Reclamation Facility (RWRF). The purpose of the treated effluent addition is to provide water that helps stabilize the lake elevation and improve recreation and other benefits to the community, including water sports and fisheries. Together, the LEAMS Operating Committee, which consists of the EVWMD, City of Lake Elsinore, and the County of Riverside, is working collaboratively to ensure that LEAMS provides benefits to Lake Elsinore. Currently, the LEAMS Operating Committee seeks to evaluate the existing LEAMS, or alternatives to LEAMS, to benefit water quality conditions in Lake Elsinore. In 2024 As Project Manager and Senior Scientist led an innovative Sediment Oxygen Demand (SOD) Study at the environmental laboratory to help determine the type and degree of oxygenation required for Lake Elsinore, as well as effectiveness at reducing nutrient flux from the sediments under varying conditions.

Lake Elsinore Fisheries Management Support, LESJWA, Lake Elsinore, CA. Served as Program Manager and Senior Scientist to assess the conditions of the Lake Elsinore fishery and identify appropriate management measures for improving the fishery and supporting aquatic habitat. The purpose of the program was to conduct fish, zooplankton, and phytoplankton community surveys, and collect fish tissue data to provide updated information on the aquatic communities of Lake Elsinore. Results of these data collection efforts have been used to develop recommendations to improve the Lake Elsinore fishery focused on ways to benefit water quality through biological functions, support efforts towards the implementation of the revised nutrient TMDL, and to determine the need for additional harvesting of fish to control nuisance species impacting water quality (e.g., Asian carp). The project was divided into four main parts: 1) historical data review and monitoring plan development; 2) a survey of the Lake Elsinore aquatic fish community structure; 3) fish tissue collection for analytical chemistry; and 4) development of a future fishery management activities report outlining recommendations for beneficial management strategies and habitat improvements. A final report with recommendations was provided in 2020. Several recommendations were made that have improved the fishery since, although algae blooms remain a big challenge for the lake.

San Diego Regional Harbor Monitoring Program, Port of San Diego, CA. Selected by a stakeholder group led by the Port of San Diego to conduct one of the largest multidisciplinary, region-wide harbor monitoring programs of its kind in the U.S. referred to as the San Diego Regional Harbor Monitoring Program (RHMP). As Program Manager and Senior Scientist, led this program in 2013, 2018, and again during the planning and field sampling stages in 2023 before joining GEI where a Senior Technical Expert role has been retained. The RHMP began in 2008 and is conducted every 5 years in coordination with the southern California Bight Regional Monitoring Program. Embayments monitored by the RHMP include Dana Point Harbor, Oceanside Harbor, Mission Bay, and San Diego Bay. The collection of surface sediments is conducted at 75 locations for analysis of physical characteristics, chemistry, toxicity, and benthic infauna. Water column sampling, benthic fish and invertebrate community analyses (using trawls), and assessment of chemical contaminants in fish tissue to assess human health risk from consumption are also important integrated components of this comprehensive program. In 2018 an historical evaluation of fecal indicator bacteria (FIB) measured in the 4 harbors over the past 10-yr was also conducted to assess any trends and likelihood of risk to the public from water contact activities. An additional groundbreaking effort was successfully performed to identify causal impacts to impaired benthic infaunal communities at select locations. This large program requires an exceptionally well-organized trained team of scientific staff in addition to great writing, analytical, communication, and attention to detail skills. Results have been presented in detailed technical reports and through numerous presentations (stakeholders, public and the Regional Water Quality Control Board. A summary of the RHMP goals and objectives was also crafted into a public friendly flyer. The final technical reports for the 2013 and 2018 RHMP can be found via the following link: [San Diego Regional Harbor Monitoring Program - 2018 Final Report](#).

Steven Wolosoff, BCES, PMP
Senior Environmental Scientist

Steven Wolosoff is a water resources scientist with 25 years of experience involving water quality planning and project management. His work has covered a wide range of projects, including TMDL development and implementation planning, watershed plan development, receiving water quality studies, integrated resources plan development, hydrologic analysis, water systems analysis, hydraulic and hydrologic modeling, and surface water monitoring. For SAWPA, Steven has led multi-agency stakeholder groups in monitoring program oversight, regional project implementation, and TMDL development for freshwater lakes. He is an expert in the use of watershed models to simulate basin scale hydrology. He has developed many creative strategies to design special studies and interpret results to provide answers to complex scientific questions. His experience also has required an understanding of a wide range of environmental policies and regulations. Steven is proficient in several watershed modeling tools and served as editor and chapter author for the WEF Manual, "Stormwater, Watershed, and Receiving Water Quality Modeling".

PROJECT EXPERIENCE

Middle Santa Ana River (MSAR) Bacteria TMDL Implementation, Santa Ana Watershed Project Authority (SAWPA). Worked with SAWPA to support implementation of TMDL requirements applicable to urban stormwater. Developed Comprehensive Bacteria Reduction Plans (CBRPs) for MS4 Programs, which involved development of estimates of bacteria reduction targets for the MS4s to meet the TMDL wasteload allocations. Technical analyses required to develop bacteria reduction target estimates included a detailed assessment of dry weather flows, compilation and characterization of watershed GIS data, and prioritization of key MS4 outfalls to receiving waterbodies. Supported the implementation of the CBRPs through numerous special studies to assess sources of fecal bacteria in the watershed using microbial source tracking methods. The findings from these studies have been used to prepare a number of TMDL Triennial Reports (2013, 2016, 2020, [2023](#) 2023, actively working on 2026 update). Manages the annual bacteria monitoring program that includes both dry weather and wet weather sample collection and requires close coordination with the regional MS4 Programs, preparation of annual reports, development of QAPPs, creation of an online data dashboard, and presentation on various topics related to fecal bacteria to the stakeholder group.

Santa Ana River Regional Bacteria Monitoring Program (RBMP), SAWPA, Southern CA. The RBMP is administered by SAWPA on behalf of Orange, Riverside and San Bernardino County MS4 Programs to satisfy the surveillance/monitoring program requirements in the 2015-approved Recreation Standards for Inland Fresh Surface Waters Basin Plan amendment and the monitoring requirements included in the MSAR Bacteria TMDL. Served as technical lead in the development of the RBMP and managed [during time with previous



EDUCATION

M.P.S., Watershed Management, State University of New York (SUNY) College of Environmental Science and Forestry
B.A., Environmental Studies, Binghamton University

EXPERIENCE IN THE INDUSTRY
25 years

EXPERIENCE WITH GEI
3 years

REGISTRATIONS AND LICENSES
Project Management Professional (PMP)
Board Certified Environmental Scientist (BCES)

CERTIFICATIONS
Certificate - Introduction to HEC-RAS, CDMU, 2006
Certificate - Introduction to SWMM, CDMU, 2004

PROFESSIONAL AFFILIATIONS
Chair, Watershed Management Committee of New England Water Environment Association
American Academy of Environmental Engineers and Scientists
Watershed Management Committee, Water Environment Federation
California Stormwater Quality Association

employer] the annual program that includes both dry weather and wet weather sample collection and requires close coordination with the regional MS4 Programs, field sample collection teams and laboratories. In addition, Leads the preparation of annual reports, updates to the RBMP Monitoring Plan and Quality Assurance Project Plan, creation of a new online data [dashboard](#), and delivers presentations on various topics related to fecal bacteria in inland surface waters in the Santa Ana Basin to the RBMP Task Force.

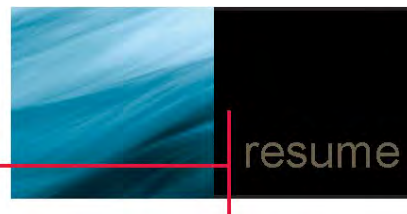
MS4 Permit Support, Riverside County Flood Control and Water Conservation District, Riverside County, CA. Provided support to the Riverside County MS4 Program since 2011. Key activities have included serving as the lead modeler for preparation of the Comprehensive Nutrient Reduction Plan (CNRP) for Lake Elsinore and Canyon Lake and the dry weather CBRP for the MSAR watershed. This effort included preparing the necessary reasonable assurance analyses to support the efficacy of the implementation plans including estimation of cost shares for MS4 participation in regional water quality controls involving alum addition to Canyon Lake and operation of an aeration and mixing system in Lake Elsinore. Steve has continued to serve RCFC&WCD by developing summaries of CBRP and CNRP implementation activities for the annual stormwater program reports in the past 5 years.

Revision of the Canyon Lake and Lake Elsinore Nutrient TMDLs, Lake Elsinore and San Jacinto Watersheds Authority (LESJWA), Southern CA. Manages a multi-stakeholder project to develop the technical basis for revisions to existing nutrient TMDLs in Canyon Lake and Lake Elsinore in the San Jacinto River watershed in the Santa Ana Region. The TMDL revisions include a combination of watershed and lake water quality modeling to (a) determine allowable external loads to the lakes; and (b) develop new numeric targets for dissolved oxygen, algae as chlorophyll-*a*, ammonia toxicity, and nutrients that when met will protect beneficial uses in each lake. To facilitate the TMDL revisions, he created a new watershed model for estimating external loads under multiple watershed development scenarios. Was the primary author for the recently completed draft of the technical support for TMDL revision, [LECL TMDL Technical Report](#). A key factor in the success of the project has been facilitating coordination among numerous subject matter experts and stakeholders in the development of reasonable policies that are measurable, achievable, and protective of lake beneficial uses. In recent years, Lake Elsinore and Canyon Lake have experienced harmful algal blooms resulting in cyanotoxins at levels above health advisories. To help address this issue as part of the TMDL revision process, coordinated with the LESJWA-administered TMDL Task Force to identify the most effective approaches to monitoring and public notification related to risk of exposure to cyanotoxins.

Lake Elsinore In-Lake Treatment Options Evaluation, Elsinore Valley Municipal Water District (EVMWD), Southern CA. Currently managing a study to evaluate in-lake water quality treatment options for Lake Elsinore. Previous modeling was used to determine the internal nutrient load that would need to be reduced to meet future TMDL allocations. The study has involved concept level engineering, comparison of cost, and recommendation. In addition, currently overseeing a sediment nutrient study that includes 1) estimation of oxygen demand, 2) nutrient core-flux experiments, and 3) sediment samples for chemical analysis.

Watershed Model Development, Orange County Public Works, North Orange County Watersheds, CA. Project lead working with OCPW on development of a watershed model for the North Orange County watersheds. The model is being used to evaluate value of potential projects to estimate water quality and other benefits (e.g. groundwater basin replenishment, environmental flow preservation) to support a watershed scale approach to TMDL implementation planning. The model was developed using the Stormwater Management Model (SWMM) and includes a continuous simulation of rainfall-runoff, pollutant buildup/washoff, key diversions and inputs. The model has provided a watershed improvement project subcommittee (consisting of Orange County and all other watershed cities) with a quantitative analysis of runoff capture and associated pollutant load reduction in existing regional and distributed stormwater BMPs.

Sevim Y. Onsoy, Ph.D.
Senior Water Resources Planner



Sevim Onsoy is a hydrologist and water resources planner with 20 years of diversified project experience in California. Dr. Onsoy has provided technical leadership and supported a wide range of local and regional water resources planning and management projects, including groundwater sustainability plan development and implementation support, groundwater sustainability and impact assessments, groundwater management and monitoring programs, groundwater basin characterization, integrated surface water and groundwater modeling, urban water management plans, water quality assessments, salt and nitrate impacts on groundwater, conjunctive use, groundwater direct, and in-lieu recharge projects. Dr. Onsoy developed, applied, and analyzed integrated surface water-groundwater models and performed comprehensive groundwater modeling analysis to evaluate potential project benefits and impacts on groundwater and surface water resources related to groundwater pumping and banking operations.

EDUCATION

Ph.D., Hydrologic Sciences, University of California, Davis, 2005
M.S., Hydrologic Sciences, University of California, Davis, 1998
B.S., Agricultural Engineering, Ankara University, Turkey, 1994

EXPERIENCE IN THE INDUSTRY

20 years

EXPERIENCE WITH GEI

1.5 year

PROJECT EXPERIENCE

Mokelumne River Integrated Conjunctive Use Program (MICUP), San Joaquin County Public Works, CA. Lead Modeler.

Conduct groundwater modeling analysis in support of the environmental impact report for evaluating potential impacts to groundwater resources from MICUP. The project will capture flood flows on the Mokelumne River up to 110,000 acre-feet during wet periods to support groundwater recharge activities in the Eastern San Joaquin Groundwater Subbasin (ESJGSB) to address the groundwater overdraft conditions in the basin as identified in the ESJGSB 2024 Amended Groundwater Sustainability Plan (GSP).

Tracy Subbasin GSP Implementation, CA. Lead Modeler. Conduct water budget analysis in support of the Tracy Subbasin GSP. Review and analyze model results from the latest California Central Valley Groundwater-Surface Water Model (C2VSim-FG) to update water budget representative of the Tracy Subbasin. Analyze groundwater budget, land and water use budget, and groundwater levels for the Tracy Subbasin and compare with the reported GSP data.

PREVIOUS PROJECT EXPERIENCE

Sterling Natural Resource Center Recycled Water Recharge (SNRC) Project Water Quality Assessment, East Valley Water District, San Bernardino, CA. Technical Lead.

Led the project team for evaluating potential total dissolved solids (TDS) and nitrate impacts from a proposed project SNRC—a groundwater replenishment project using recycled water within the San Bernardino Valley Subbasin. The project was implemented by East Valley Water District (EVWD) and San Bernardino Valley Municipal Water District (Valley District). Developed various discharge scenarios and evaluated potential impacts of TDS and nitrate over a 20-year planning horizon and collaborated with the Santa Ana Regional Water Quality Control Board for obtaining the necessary discharge permits for the project.

Well Replacement Program Groundwater Modeling and Sustainability Assessment, City of Sacramento, Sacramento, CA. Technical Lead and Modeler. Performed groundwater modeling analysis in support of the Environmental Impact Report (EIR) for the City of Sacramento Well Replacement Program that was initiated in the City's 2017 Groundwater Master Plan as long-term conjunctive use operations. Applied the existing CoSANA model - an Integrated Water Flow Model, and evaluated potential Program impacts and benefits in the context of the Sustainable Management Criteria established through the North and South American Subbasin Groundwater Sustainability Plans. Prepared a technical memorandum in the Draft EIR and addressed public comments in support of the Final EIR preparation.

Harvest Water Program Groundwater Modeling for Funding and Implementation, Sacramento Regional County Sanitation District (Regional San), Sacramento, CA. Lead Modeler. Developed and analyzed groundwater modeling scenarios under the 2030 and 2070 climate change conditions for the Harvest Water Program (formerly known as the South County Ag Project) - the largest water recycling program in California with potential to deliver up to 50,000 acre-feet per year of recycled water for crop irrigation, groundwater in-lieu recharge, habitat protection, and regional sustainability. Evaluated potential program benefits and impacts to groundwater resources and stream flow and ecosystem and supported a \$291M successful grant application through the Water Storage and Investigation Program.

CoSANA Model Development for South American, North American, and Cosumnes Subbasin Groundwater Sustainability Plans (GSPs), Sacramento Groundwater Authority and RWA, Sacramento, CA. Project Engineer. Assisted with the development of the CoSANA model. Prepared urban water demand and supply data for all water purveyors. Identified future proposed projects and specific plans and demand and supply projections in the entire model domain. Assisted with the development of the CoSANA Projected Conditions Baseline scenario for the North American, South American, and Cosumnes subbasin GSPs. Prepared the CoSANA model report sections as part of the GSP preparation.

Fremont Valley Groundwater Basin Salt and Nutrient Management Plan (SNMP), City of California, Fremont, CA. Technical Lead. Developed the Fremont Valley Groundwater Basin SNMP in support of the Fremont Basin Integrated Regional Management in accordance with the State's Recycled Water Policy. The SNMP was led by the City of California, in close coordination with the Antelope Valley East Kern Water Agency and the Mojave Public Utilities District, and other local and regional stakeholders. Assessed the basin historical and current conditions; identified potential sources of salt and nutrient loadings and determined assimilative capacity of the groundwater basin. A GIS-based loading analysis was developed to evaluate total dissolved solids and nitrate trends over a 25-year planning horizon for current and future scenarios. Proposed a groundwater monitoring plan to evaluate the effects of salt and nutrients sources in the basin. Identified management strategies and projects to reduce the impact of salt and nitrate on groundwater quality.

Poway Valley Groundwater Basin Salt and Nutrient Management Plan (SNMP), City of Poway and City of San Diego, Poway, CA. Technical Lead & Deputy Project Manager. Led the development of the Poway Valley Groundwater Basin SNMP in accordance with the State's Recycled Water Policy, from the proposal stage to project completion. The SNMP was led by the City of Poway and the City of San Diego, in close coordination with local and regional stakeholders. Developed a well sampling program with the City of Poway to collect additional data from private wells for the basin characterization. Identified potential sources of salt and nutrients and performed a GIS-based loading analysis. Proposed a groundwater monitoring program for future implementation. Developed management strategies and projects to maintain and improve the basin water quality.

State Water Project (SWP) Chloride Modeling Analysis, Castaic Lake Water Agency, Castaic, CA. Technical Lead & Modeler. Developed a spreadsheet-based mass balance model to simulate flow and chloride concentration along the entire California Aqueduct from the Banks Pumping Plant in the Delta to the end of the West Branch at Castaic Lake. Developed a historical model calibrated to 20 years of monthly measured data from 1990-2010 and applied the calibrated model as the basis to predict future chloride concentrations in Castaic Lake under the SWP operations. Prepared a technical memorandum to provide technical basis for consideration of lower cost compliance alternatives for chloride.

Andrew M. Adinolfi, P.E.

Project Engineer

Andrew Adinolfi is a senior environmental engineer specializing in hydrogeology and computational groundwater modeling for various applications and market sectors. His 20 years of modeling experience have supported site development, construction, permitting, remedial investigation and design, feasibility comparisons, and expert testimony. His models have been peer-reviewed by academic experts and have supported insurance litigation. He manages environmental field investigations, aquifer testing programs, permitting, and remediation projects; and regularly works with and presents to multidisciplinary teams and clients.

PROJECT EXPERIENCE

RiverRenew Tunnel System, AlexRenew, Alexandria, VA.

Developed 3-D groundwater model to assess hydraulic stresses and potential water table drawdown associated with constructing a 2-mile long, 100-foot-deep tunnel marine clays just above a productive aquifer. Oversight and planning of 200-gpm, 21-day aquifer pump test, including design of test well to also be used for construction-phase aquifer depressurization. Aquifer research and interpretation of multilevel water level data along riverfront. Aquifer characterization component of project geotechnical data report.

Construction Dewatering Estimate, Flood Control Structure, U.S. Army Corps of Engineers, Port Monmouth, NJ. 3-D

Groundwater modeling for construction-phase dewatering of a 40-foot-deep cofferdam excavation for flood-gate foundation in a tidal marsh. Estimated dewatering pumping rates and sump spacing requirements to lower water table to below slab elevation. Modeled aquifer included a 50-foot-thick estuarine sand unit. Modeled rate of upward seepage into cofferdam for pump design; optimized sump spacing.

Subsurface Drain Design, Capitol Region Education Council Public Safety Academy, Alfred Benesch & Company, Enfield, CT.

Site investigation and analysis of shallow water table aquifer. Computer modeling analysis to estimate groundwater seepage rates into subdrainage system for foundation proposed to be keyed into hillside. Estimates of flow rates for infiltration and state highway drain connection permit purposes.

Groundwater Modeling Study, Coal Ash Landfill, Dominion Power, Chesapeake, VA.

Hydrogeologic investigation and 3-D groundwater modeling to estimate aquifer properties and support dewatering rate estimates for proposed removal of ash below the water table. Modeled coastal three-aquifer system of 80-foot combined thickness. Oversight of planning and implementation of aquifer pump test (step test and constant rate), and slug testing in high-permeability formation. Calibrated 3-D model to highly localized aquifer recharge patterns resulting from landfill topography and impervious liner extent.



EDUCATION

M.S., Environmental Engineering,
University of Michigan

B.S., Civil Engineering, University of
Massachusetts

EXPERIENCE IN THE INDUSTRY

30 years

EXPERIENCE WITH GEI

25 years

REGISTRATIONS AND LICENSES

Professional Engineer, CT No. 31065

Professional Engineer, MA No. 41479

Professional Engineer, NH No. 14704

Groundwater Modeling, Silresim Superfund Site, Lowell, MA. MODFLOW model evaluation of contaminant conditions after decades of pump-and-treat, for purposes of evaluating adjustments for diminishing returns of contaminant mass removal. Transport modeling of contaminants in complex glaciolacustrine and bedrock aquifer system, to a 100-foot depth with extraction wells 40 feet deep. Evaluation of plume capture by sewer infiltration. MOPDPATH Particle-track analysis. Performed under a Site Assessment Remediation Support Services contract.

Groundwater Modeling Former Manufactured Gas Plant Site, Bronx, NY. Conceptual and 3-D numerical modeling of coastal aquifer system (marsh deposits underlain by estuarine sand and till). Aquifer testing and subsurface investigation including slug testing. Evaluation of effects of proposed in-situ stabilization and slurry wall cutoff including upgradient mounding and flow deflection predictions.

Groundwater Modeling for Manufactured Gas Plant (MGP) Site Remediation, National Fuel Gas, North Tonawanda, NY. Model prediction of effects of proposed in-situ stabilization (ISS) on groundwater flow at former MGP site. Developed and calibrated MODFLOW model. Model predictions of water table mounding, velocity changes, and flow deflection. Results supported a change in state Record of Decision to allow ISS in place of more costly excavation. Model also used to estimate multiphase interceptor trench infiltration rates and recharge rates.

Aquifer Modeling for U.S. Food and Drug Administration (FDA) Standard of Identity, Nestle Waters North America, TX. Developed groundwater model using Visual MODFLOW™ to estimate aquifer water balance and confirm aquifer continuity and thus demonstrate the water source can be labeled as spring water according to the FDA Standard of Identity designation. Planning/analysis of 100 gpm aquifer tests, and modeling to replicate pump test results to show connection to springs throughout aquifer.

Wellhead Protection Area Delineation, Southeastern Connecticut Water Authority, Ledyard and North Stonington, CT. Groundwater modeling and reporting for permit update for increased groundwater withdrawal, including delineation of wellhead protection (Level A) zones in a stratified-drift aquifer. Modeling included transient calibration to pumping test results and induced flow from surface water.

Groundwater Plume Attenuation Modeling, Northwest Park, Burlington, MA. Developed 3-D fate and transport model to support discontinuation of pump-and-treat system, after most of the source-area contaminant mass was removed, and downgradient municipal wells were taken offline. Modeled the effects of potential rebounding of source material to support regulatory approval of the discontinuation and inform a monitoring program.

Aquifer Storage and Recovery Model, AquaHelio Corp., Fremont Valley, CA. For aquifer storage and recovery permitting on behalf of solar energy developer, developed 3D groundwater model to estimate storage capacity of a 300-square-mile faulted aquifer. Transport modeling of dissolved solids associated with salt flats.

Wellfield Road Salt Study, Avon, CT. Evaluated whether increases in sodium detected at a public supply well may be caused by salt use on nearby roads, to support advocacy of reduced salt application. Performed 3D groundwater modeling, particle tracking, and upconing analysis to both identify potential sources and design pump test to assess feasibility of short-term aquifer flushing.

Groundwater Discharge Permit, Derby Street Shoppes, Hingham, MA. Modeled discharge to groundwater to predict water table elevation during discharge of commercial leaching field. Final elevation of the proposed leaching bed was based on a 5-foot clearance above the predicted mound. Prepared hydrogeologic report component of permit application.

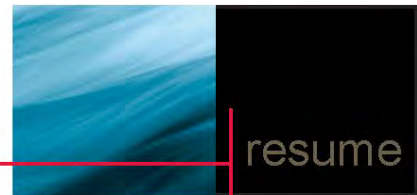
Venh Hoa Tieu
Senior Software Engineer

Venh Tieu's is a Senior Software Engineer in GEI's Sacramento office. His software development experience includes maintenance of systems, troubleshooting, and developing solutions such as implementing a security layer for a Web-based application. Mr. Tieu is proficient with various programming languages and software: Java, C++, C#, JavaScript, JQuery, HTML, Visual Basic, Perl, XML, ASP, ASP.NET, CSS, PHP, SQL Server, and Visual Studio.

PROJECT EXPERIENCE

Sustainable Groundwater Management Act (SGMA), California Department of Water Resources, Statewide, CA. GEI was task to assist DWR on implementing a portal to meet the Sustainable Groundwater Management Act. Lead development on SGMA data viewer to provide local agencies a mean to gather data and create report to meet SGMA. Implemented a web-based map application for agencies to search and find groundwater data to support their agencies reporting requirements. Provide resource for groundwater levels, groundwater storage, water quality, land subsidence, interconnected surface water, water budget, hydrogeologic conceptual model and boundaries. Lead development on integration with DWR enterprise groundwater data. Created Monitoring Network Module for reporting of SGMA wells. Created a method to migrate and manage SGMA wells to meet GSP reporting.

Flood Emergency Response Program (Phase I, Phase II), California Department of Water Resources, Statewide, CA. GEI is the prime consultant assisting DWR with a major, multi-year program to overhaul California's Flood Emergency Response Program. Lead development of FERIX application for Department of Water Resources (DWR). DWR requested for a need to share flood emergency data within the organization. GEI was tasks to create a web-based application to help support the data sharing effort. Division of Safety of Dams (DSOD) requested for a dam inundation mapping system to help share data. Inundation mapping of the dam share a host of data such as inundation area, dam info, documents and how to react to such an inundation. Dams' info is constantly added as data are provided. The DSOD map inundation is setup with a secure login. Burn Area application was developed to help with emergency when it rains in area that was just damage by fires. This application help tracks emergency routes and boundary through different data source such as CALFire, United States Geological Survey, California Department of Transportation and local agencies. Central Valley Floodplain Evaluation and Delineation (CVFED) requested a web-based application to provide a model output of flood inundation for specific levee breaches. The application was built on top of FERIX application and provided emergency staff to understand how a levee breach will affect the area. It provides a flood animation base on model runs by the hours. It helps staffs to effectively manage resource and provide supports where the breach will happen such as escape routes, where to



EDUCATION

B.S., Computer Engineering, California State University, Sacramento

EXPERIENCE IN THE INDUSTRY

24 years

EXPERIENCE WITH GEI

14 years

evacuate. GEI was also task to create a web-based mapping application to share data from Central Valley Hydrology Study (CVHS). Provided an easy map-based navigation to share data for the studies. DWR also task GEI to convert and create a Utility Crossing Inventory Program (UCIP) viewer. Under the guidance of UCIP staff, GEI migrated a desktop application to web-based map application and added easy navigation to access the data and creates reports. California Data Exchange Center task GEI to help support and maintain a portion of web application. Lead development on CDEC station locator. Provide a web-based map application to quickly navigate to a station. Filters were implemented to quickly identify specific station. Create metadata and quick link reference for each station.

DWR Comprehensive Flood Management Services, Department of Water Resources, Statewide, CA.

GEI is prime consultant assisting with DWR efforts. Lead development in Flood Performance Tracking System (FPTS) to assist in Central Valley Flood Protection Plan. Manage projects and provides flood system status report on overall system. Update Flood Maintenance Office (FMO) Maintenance Tracking System to version 2. Provide ability to manage and track changes down in a maintenance year. Provide Annual Maintenance Plan to California Department of Fish and Wildlife (CDFW).

Kern Subbasin Data Management System (DMS), Kern Groundwater Authority, Kern, CA. GEI tasked to create a web based data management system to facilitate data collection for Sustainable Groundwater Management Act. Interface Kern's local DMS to State SGMA portal. Provide Kern ability to monitor their groundwater basin in visual charts as well as exported data reports. Created features to manage minimum threshold exceedance.

North American Data Management System (DMS), City of Roseville, CA. GEI tasked to create a web based data management system to facilitate data collection for Sustainable Groundwater Management Act. Provide ability to report ASR data for non SGMA type well.

Household Water Supply Shortage Reporting System, California Department of Water Resources, Statewide, CA. Reporting information management system to maintain water supply shortage throughout California. As a member of the information management team, developed web interface for GIS map integration to form submission. Implemented functionality to support viewing of the report on a GIS web application.

Web and Map-Based Emergency Management Tool, Southern California Edison Company, Rosemead, CA. Dam management information system to maintain the data in a database structure and present the data in a web based application. Developed system to manage a set of dams' data.

Flood Emergency Response Program California Department of Water Resources, Statewide, CA.

Developed a GIS web application to retrieve data from map server to display data based on which active map layer is on. Map application consist of tools to add graphics, select data within a region, screen capture, export and print data from the result set. Created an advanced query builder to query data from map server. Developed and expand GIS web application on FERIX. Developed and implement GIS web application on Flood Emergency Management System (FEMS).

FloodSAFE California Program Management, California Department of Water Resources, Statewide, CA. Developed a GIS web application for CVHS and CVFED. The application brings in model area and allow user to retrieve data from those model area. In addition to the model area, a time series of dam break are shown on the map.

Mitigation Water Supply, Dos Palmas, MWH Americas, Inc., Sacramento, CA. This project is a hydrogeologic evaluation used to develop a water supply to maintain marsh and desert riparian vegetation in the Coachella Valley. Created server application in Java to pull data.

Data Integration for Valero Environmental Remediation (DIVR). Data management system to maintain and consolidate data. As a member of the information management team, developed web interface for GIS map and data integration. Implemented functionality to support viewing and retrieving data store in EQUIS. Application data source uses Microsoft SQL server 2008.

Devin Reina
Software Engineer

Devin Reina is a software engineer in GEI's Sacramento California office. Devin's technical skills include Java, Python, React, HTML5/CSS, JavaScript, jQuery, Docker, Swagger, Git, Spring Framework, REST API Development, Oracle Database, Plotly, ESRI/ArcGIS, Shapefile Editing with QGIS, JUnit Automated Testing, Gradle, System Testing/System Analysis, ADA Compliance, Networking, C/C++, Linux, Bootstrap, OOP, and Figma. Additional skills include Agile/Scrum, Jira, Confluence, Microsoft Excel, Word, PowerPoint, Teams, and Outlook.

GEI PROJECT EXPERIENCE

CWMS Data API

- Implementation of a robust REST API facilitating the retrieval of USACE Water Data through meticulous planning and execution.
- Designed and integrated Java controller endpoints to efficiently retrieve timeseries water data from a SQL database.
- Engineered Java Data Access Objects (DAOs) and Data Transfer Objects (DTOs) to optimize data storage and transmission between different layers of the application.
- Developed a Python client service to seamlessly interface with the Java application, fostering interoperability and expanding accessibility.
- Orchestrated comprehensive unit and integration testing using JUnit, ensuring the reliability and accuracy of the system under diverse scenarios.
- Implemented extensive documentation utilizing Swagger UI, maintaining clarity and accessibility for developers and stakeholders alike.
- Utilized Git for version control to systematically track changes and facilitate collaborative development efforts.
- Demonstrated adeptness in navigating complex cases and integrating constructive feedback, contributing to the continual improvement of project deliverables.
- Maintained detailed records and reports of work log activities to ensure transparency and accountability in project management processes.

CDEC PowerBuilder Conversion Suite

- Suite of web application developed with React, Typescript, Spring Boot, React Hooks, React Query, React Hook Form, and Zod Form Validation for use across various CDEC teams
- Utilize a set of custom-built components packaged into an Azure Artifacts npm library
- Built a dynamic user dashboard that creates links to the user's assigned projects



EDUCATION

B.S., Computer Science, University of California, Davis, Davis, CA, 2023
A.A., Computer Science, American River College, Sacramento, CA, 2021

EXPERIENCE IN THE INDUSTRY
2 years

EXPERIENCE WITH GEI
2 years

- Implemented a user module where admin users can track and assign roles to various projects from a suite of CDEC applications
- Developed an extensive API in Spring Boot to retrieve data efficiently and effectively from an Oracle database
- Used React Query to hit API endpoints and convert data to React objects
- Built custom features upon widely used public libraries such as React Table and React Router
- Maintained type safety by using Typescript along with Zod for data validation
- Presented work in Weekly coordination update to client while implementing client suggestions and feedback in a timely manner

Station Maintenance Network

- Web application developed with React, Typescript, Spring Boot, React Hooks, React Query, React Hook Form, and Zod Form Validation to track snow station maintenance
- Built reusable components in React that can be shared across a multitude of similar projects
- Developed an extensive API in Spring Boot to retrieve data efficiently and effectively from an Oracle database
- Ensured code quality, timely deliverables and managed other programmers working on the project
- Used React Query to hit API endpoints and convert data to React objects
- Incorporated many third-party libraries such as React Table, React Router, React Hook Form, Zod Form to simplify the codebase and speed up development time
- Implemented documentation using Swagger UI
- Maintained type safety by using Typescript along with Zod for data validation
- Designed a visually appealing and easy-to-use application UI
- Presented work in biweekly coordination update to client while implementing client suggestions and feedback in a timely manner

DWR CCSS Website and Data Visualization

- Led the development of a dynamic web platform and multiple data visualization applications tailored for the California Department of Water Resources (DWR) Climate Change Snow Survey (CCSS) initiative.
- Built a dynamic content management system using Java and jQuery that allows the CCSS team to manage their Python dashboard visualizations
- Implemented multiple data visualization applications using Python and Plotly, enabling intuitive exploration and analysis of snow data through interactive charts and graphs.
- Leveraged the Amazon S3 API to efficiently retrieve ASO (Airborne Snow Observatory) data from remote servers, automating the creation of shapefiles with Python, and processing raw data into organized CSV files categorized by location and data type.
- Developed an interactive 3D visualization module for snow data using TIFF files, providing users with immersive insights into spatial snow distribution patterns.
- Designed and implemented a complex user interface featuring dynamic updates of graphs and charts based on user interactions with a graphical map.
- Utilized QGIS to create shapefiles utilized within the application, ensuring accuracy and compatibility with geographic data standards.
- Engineered a multi-page full-stack website using Java, JavaScript, Plotly, HTML5, and CSS to showcase information about the CCSS team and provide daily updates on snow data
- Conducted biweekly client meetings to present project updates and solicit feedback, fostering iterative improvements and ensuring alignment with client expectations and requirements.

Harold A. Dunsford Jr., Ph.D.
Engineering Scientist

Dr. Harold (Ted) Dunsford is responsible for GIS programming, GIS analysis, and database and geodatabase development; especially with respect to the Flood Emergency Response program. Dr. Dunsford's range of services currently includes GIS Analysis, ArcGIS, programming (Java, JavaScript, JSP, Oracle, C#, ASP, VB.Net, VB6, VBA, C++, Fortran), developing GIS desktop software, GIS enabled web applications, geodatabase development, Excel, and Access automation (using VBA). He has extensive experience in open-source GIS software development in C#, having been the principal architect of the DotSpatial project, which serves as the core GIS library support for the Environmental Protection Agencies D4EM Project, as well as HydroDesktop run by the Consortium of Universities for the Advancement of Hydrologic Science (CUAHSI). He also developed original algorithms to speed up automatic watershed delineation, and a number of side projects that involve GIS and analysis.

PROJECT EXPERIENCE

Collect and Process Hydroclimate Information – Comprehensive Flood Management Services, California DWR, Statewide, CA.

Developed a java program specifically designed to extract data from BIL, and NetCDF data file sources, as well as tile image servers hosted on the web, reproject, clip and symbolize the data programmatically and create imagery appropriate for web display. The analysis included routines to perform analysis, aggregation, and create derivative analytical datasets that could be run on a Linux server on an Amazon AWS hosted server.

CDEC Support - Comprehensive Flood Management Services, California DWR, Statewide, CA. Provided consulting support for maintaining and developing new applications for the Central Data Exchange Center suite of web data serving applications. These consist of Spring webservices using Java, JSP, and JavaScript to allow users to directly download values from the CDEC database, presented in json, CSV, HTML and PDF formats.

DSIT Database Management Support, O&M South SWP Engineering Services, California DWR, Statewide, CA. Created a database to store instrument readings from piezometers and other sensors and VBA modules to import data from a SharePoint Power Apps application, JSON endpoints on the web and Excel data sources and then automated features to create charts from the data.

2020 GF-GEI JV Expert Services, U.S. Army Corps of Engineers (USACE), Sacramento, CA. GEI Computer Programmer/GIS Specialist. Developed Java web services suitable for creating flood model animations, symbolizing geotif data to create for web animations and visualizations and display from HEC-RAS model outputs, and computations for life-loss calculations related to flooding inundation.

IEPR JV Services to RMC and HQ, USACE, Statewide, CA.

Working as a Java developer, primarily on the back end, to manage



EDUCATION

Ph.D., Engineering and Applied Science,
Idaho State

M.S., Physics, Mississippi State University

B.S., Physics, Mississippi State University

EXPERIENCE IN THE INDUSTRY

21 years

EXPERIENCE WITH GEI

15 years

REGISTRATIONS AND LICENSES

Engineer-in-Training, ID No. E-6982

PROFESSIONAL AFFILIATIONS

American Water Resources Association

American Geophysical Union

hydrologic model runs, post-process 2D flow outputs for the web, and perform life loss simulation calculations on a windows server.

RTIM - Comprehensive Flood Management Services, California DWR, Statewide, CA. Developing and improving the Real-Time Inundation Tool Java desktop application designed to quickly download forecast datasets, update existing HEC-RAS models with new flow forecasts, and run the model. The tool can also visualize the post processed results, compare the model results to station observations and finally to display the values in an animated web map application. This application features a custom map control and custom flood animation post-processing.

HMs Console - Comprehensive Flood Management Services, California DWR, Statewide, CA. Developed and improved a Java desktop application that could read values from the California Data Exchange Center (CDEC) and feed them into a Hydrologic Modeling System (HMS) model, run the model and compare the results to observations from flow sensors. This application features a custom time slider control, map interface and plot controls.

CDEC Apps - Flood Emergency Response Program (Phase II), California DWR, Statewide, CA. Restructured about 25 existing PERL applications for the DWR as Java spring webservice. This involved creating a new Java back end architecture, JSP front end interfaces to match the previous pages in appearance, and database queries to match the previous outputs. In some case the design was altered to make the pages query for any time in the past, rather than just the present.

Levee Inspection System Tool, Sacramento, CA. GEI Computer Programmer. USACE inspects the flood control levees in California's Central Valley for encroachment and engineering deficiencies. The program generates a large amount of GIS data stored and managed in a Microsoft Access Personal geodatabase. Developed a C# application that could allow viewing, sorting, filtering and editing for these datasets. Created custom integrated GIS algorithms, allowing the tool to calculate levee miles from shapefile datasets. Designed thick client features to work with an online webservice for managing contact information. Created a system in C# to quickly design custom PDF reports. Developed custom image viewing features allowing panning, zooming and rotating images.

Levee E-GIS Development, USACE, Sacramento, CA. GEI Computer Programmer/GIS Specialist. Designed and coordinated preliminary GIS database content for USACE levee inspections. Designed custom java web services to export newly created shapefiles and KMZ files generated by users from the E-GIS ArcGIS API for JavaScript environment. Developed Java desktop software to translate latitude and longitude endpoints to linear features along a shapefile.

FERIX - Flood Emergency Response Program (Phase II), California DWR, Statewide, CA. Web developer/GIS Specialist. Designed and implemented several web GIS applications in GEI's WebGIS application toolkit. Some of these featured flooding animations, Snow Water Equivalent (SWE) model images, animated profile views for water surface elevations and many others.

Lidar Tools - Flood Emergency Response Program (Phase II), California DWR, Statewide, CA. GEI Computer Programmer. Developed a system of software tools to extract LiDAR data directly from the original LAS file format and generate tiled GIS contours, host those contours in an ESRI web map interface using the ESRI JavaScript API, and also to use HTML 5 and WebGL to rapidly display three dimensional representations of ESRI image tiles draped on top of the LiDAR elevations in a 3D viewer.

Stephen Irving
Senior GIS Analyst

Stephen (Steve) Irving is a highly skilled Senior GIS Analyst based in GEI's Sacramento office, with a focus on water resources, environmental planning and design projects. Steve's expertise lies in GIS based data management, spatial analysis, data visualization, and cartography. Steve's experience encompasses a diverse range of projects, including FERC relicensing, watershed assessments and environmental planning/design projects in California and the Western U.S. encompassing IRWMP, GMP, GSP, CEQA/NEPA and permitting efforts. He excels at collaborating with engineers, biologists, and fostering strong working relationships with diverse clients and agencies. Additionally, Steve provides valuable support for hydraulic modeling and demonstrates proficiency in managing spatial data libraries, GIS standards, as well as ArcGIS Online data, groups and field mapping efforts. Dedicated to delivering high-quality results, Steve is well positioned to contribute significantly to impactful projects in a GIS Analyst role.

PREVIOUS PROJECT EXPERIENCE

Kern Subbasin GSP, Kern Groundwater Authority, CA. Developed GIS standards and style guide for GSP data and figures. Developed exiting facilities, well sampling, surface/groundwater interaction and district boundary databases. Normalized, and consolidated field land cover, soils and evapotranspiration surveys and modeling results.

Kaweah Subbasin GSP, Mid-Kaweah GSA and Greater Kaweah GSA, CA. Developed GIS standards and style guide for GSP data and figures. Developed exiting facilities, well sampling, surface/groundwater interaction and district boundary databases. Normalized, and consolidated field land cover, soils and evapotranspiration surveys and modeling results.

Groundwater Management Planning Support, Yuba County Water Agency, Yuba County, CA. Analyzed groundwater monitoring data from well logs and online data libraries to create groundwater elevation surfaces and change analysis for water transfers and basin evaluation. Conducted annual review of data collection procedures to verify validity of QA/QC process.

Kern County Subbasin Groundwater GSP, Kern County, CA. Developed topologically correct member agency data set for entire subbasin. Created and managed database of representative monitoring wells for GSP area. Developed groundwater surfaces and regional contours of inciator threshold values. Prepared figures and data deliverables for the sustainability plan. Supported groundwater modeling and geologic mapping efforts.

Stockton East Water District Water Supply Master Plan, San Joquin County, CA. Lead GIS Analyst beginning in 2022. Consolidated spatial data (CAD, GIS, KMZ, etc.) from multiple sub-consultants to build and manage spatial databases in support of water supply planning and engineering decisions. Performed analyses to



EDUCATION
B.A., Philosophy, University of Colorado

EXPERIENCE IN THE INDUSTRY
23 years

EXPERIENCE WITH GEI
6 years

determine area of high groundwater recharge potential. Provided additional GIS analysis and cartographic support. Developed landcover/habitat/vegetation datasets. Created and maintained cartographic products for project descriptions and permitting efforts.

Farmington Groundwater Recharge Program, USACE Sacramento District (Federal Partner) and Stockton East Water District (Local Sponsor), San Joaquin County, CA. Lead GIS analyst in support of the Farmington Groundwater Recharge Program sponsored by Stockton East Water District with funding assistance provided by the US Army Corps of Engineers. This program helps reduce the overdraft by directing surface water and flooding parcels leased from local farmers with additional ancillary benefits of reducing salinity intrusion caused by severe groundwater overdraft in the basin and restoring seasonal habitat that is currently lacking in the area. GIS work involved the data preparation/creation, spatial analyses, and cartographic products in support increasing local interest, selecting optimal recharge locations, and performing demonstration scale recharge testing.

Blue Oaks Well and Woodcreek North Well site planning, City of Roseville, CA. GIS lead for preliminary analysis and mapping. Prepared groundwater elevation/depth to water surfaces and analysis. Examined site ownership and utilities to support CAD design work. Prepared site layout alternatives and analyzed relationship with existing infrastructure and planned development. Assembled final report figures and tabular summaries.

Central Valley Flood Management Planning Program, Department of Water Resources (DWR), Various Locations, CA. Developed GIS standards, style guide, spatial data requirements, objectives, and benchmarks prior to project initiation and supported a wide variety of geospatial analyses. Performed complex spatial analysis to associate floodplain depths with structure locations to support HEC-FDA modeling. Supported data and mapping components of ULE/NULE program.

Sacramento-San Joaquin Delta Natural Flows Study, Department of Water Resources (DWR), Sacramento, CA. Reconstructed pre-development San Joaquin Valley floor using historical maps and subsidence data to develop HEC-RAS cross-sections to model historical water surface profiles. Reconstructed decadal development of Central Valley irrigated lands (1850-1920). Acreages and areal extents were interpolated from two historical maps and decadal agricultural survey acreages using iterative automated python optimization routines.

FloodSAFE California Program, California Department of Water Resources, CA. Led GIS activities, including spatial data evaluation, geodatabase design, and cartographic visualization. Supervised GIS team in preparing report figures for the Regional Condition Summary Report (RCR). Managed production, storage, and analysis of environmental data to visually depict the natural diversity within the study areas. Successfully managed the delivery of more than 100 figures and map displays for public/stakeholder outreach workshops and numerous reports.

CalSim 3.0 Modeling Support, Department of Water Resources, CA. Assessed data for pre-processing of model inputs and construction and maintenance of a fully geo-referenced geoschematic of the model. Developed model input from National Hydrography Dataset, U.S. Census, DWR land/water use, Farmland Mapping and Monitoring, PRISM precipitation, and USGS DEMs. Demonstrated schematic using ArcScene and on-the-fly visualization.

State Water Project FERC Relicensing Support, Department of Water Resources, CA. Developed GIS standards and style guide for southern SWP FERC relicensing effort for use by multiple agencies and contractors. Developed exiting facilities database and ownership database. Normalized, and consolidated field land cover and recreation surveys into deliverable data sets.

Sierra Wallace
Environmental Scientist

Sierra Wallace is an environmental scientist in GEI's Carlsbad, CA office with 8 years of experience specializing in hydrology and water quality monitoring and leading scientific studies and water resource projects of all scales. Sierra's skills include water quality/quantity monitoring, data analysis, large-scale project coordination, project management, GIS analysis, microbial source tracking (MST) study design, installation of monitoring equipment, and technical writing.

PREVIOUS PROJECT EXPERIENCE

Bacteria TMDL Compliance Monitoring and Reporting, City of San Diego, CA. Assistant Project Manager, Senior Reviewer, Field Lead. Compliance monitoring and annual reporting for Mission Bay (Scripps and Tecolote Creek), San Diego Bay (Chollas Creek), San Dieguito, and Los Peñasquitos Bacteria TMDL programs. Post-storm wet weather monitoring was conducted at 19 monitoring locations throughout the watersheds. Annual reporting detailed compliance monitoring activities and results for wet and dry weather, compliance evaluations, and historical trends.

Water Quality Monitoring, Various Project Clients, Statewide, CA. Project Scientist/Manager. Water quality monitoring for flow source identification, nutrient total maximum daily loads (TMDLs), and post-fire water quality assessment. Prepared compliance monitoring reports, sampling and analysis plans, and investigation summary reports. Developed frameworks using GIS analysis to determine streams in the San Diego region that may be subject to biological objectives in the future. Designed and developed geodatabases to track permitted discharges in the San Diego region leveraged from the California Integrated Water Quality System Project (CIWQS). Digitized and updated stormwater infrastructure in GIS based on as-built documentation.

Water Quality Monitoring, Various Project Clients, Statewide, CA. Senior Environmental Scientist, Project Manager. Collected continuous flow data in stream channels, rivers, and storm drains using robust monitoring stations. Stream gauge and survey natural and urbanized channels to calibrate rating curves, flow equipment, and flow models. Conducted water quality monitoring for high priority water quality conditions. (HPWQCs) in San Diego Watersheds including TMDL compliance. Designed and implemented MST studies aimed at reducing human associated bacteria loads to receiving waters. Deployed and install stormwater monitoring equipment including flow meters, sensors, samplers, etc. Managed large datasets and create visualization tools for analysis and reporting. Wrote reports for routine compliance programs such as the Bacteria TMDL as well as special studies targeting specific sources of contamination. GIS analysis of watersheds including delineations, land use, soil type, impervious coverage, vegetation type, and general mapping for data visualization and reporting purposes. Prepared planning documents including Quality



EDUCATION

M.S. Watershed Science, San Diego State University, 2019

B.S., Environmental Science, San Diego State University, 2017

EXPERIENCE IN THE INDUSTRY

8 years

EXPERIENCE WITH GEI

Less than 1 year

Assurance Project Plans, Monitoring Plans, Sampling and Analysis Plans, Standard Operating Procedures for field work and safety protocols. Project management including development of cost estimates, scopes of work, subcontractor procurement, invoicing, and budget tracking. Project coordination including staffing for storm sampling events, delegating preparation tasks, coordinating large dry weather sampling programs, and correspondence with laboratories and clients.

MSAR *E. Coli* Characterization Study, Riverside County Flood Control and Water Conservation District, CA. Assistant Project Manager/Field Lead. Monitoring and reporting to characterize *E. Coli*, HF183, and flow at 16 of RCFC&WCD's Tier 1 outfalls. The study identified hotspots for human fecal contamination to aid in the prioritization of future source control measures.

Dry Weather HF183 Outfall Screening, County of San Diego Watershed Protection Program, San Diego and San Luis Rey Rivers, CA. Project Manager/Technical Lead. Continuous monitoring program to screen over 330 major outfalls in the County of San Diego's jurisdiction for HF183, twice yearly. The outfall screening was designed to identify outfalls where follow-up studies or corrective actions were needed. Dry weather monitoring was conducted during both the wet and dry seasons and included sampling for HF183, observations of potential sources of FIB/HF183, and flow tracking if active dry weather flows were observed. Additional sampling and flow source tracking was conducted at sites where HF183 concentrations exceeded action levels. Results from the program were incorporated into a dashboard that displayed HF183 concentrations, flow measurements, and follow-up studies at the 5 watersheds in the County of San Diego since the program's inception in 2016.

Water Quality Response Team Source Investigations, City of San Diego, CA. Assistant Project Manager and Field/Technical Lead. The City of San Diego developed the Water Quality Response Team to investigate dry weather sources of HF183, FIB, and flow. Outfalls were investigated according to a prioritization process that included historical data, potential for NOVs, inclusion in the Bacterial TMDL TSO, and referrals from other City departments. The prioritization process was conducted a minimum of yearly and required the screening out major MS4 outfalls for current conditions. Outfall investigations were site-specific and iterative in nature, with different techniques applied depending on outfall drainage area (CCTV, dye studies, continuous flow monitoring, etc). To date, in depth microbial source tracking studies and abatement of identified sources have been conducted at over 20 outfalls across various watersheds in the City's jurisdiction.

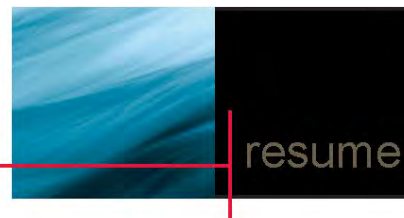
Chris Stransky
Senior Aquatic Scientist

Chris Stransky has more than 30 years of experience leading and supporting a wide variety of ecological risk assessment programs in support of regulatory compliance, as well as pushing the boundaries to develop and test new innovative methods for monitoring. Chris has a passion for characterizing the health of the biological communities along with understanding causes of impairment and viable cost effective remedial solutions.

Chris is a well-known expert in the environmental field and currently serves on the Board of Directors for the North America Society of Environmental Toxicology and Chemistry (SETAC). He is the current Vice President of this prestigious organization and will rotate to President in Nov. 2025. Chris also currently serves on the Board of Directors for the Boz Life Science Research and Teaching Institute affiliated with the University of California San Diego (UCSD). Locally he also participates on the Science Advisory Panel for the California Stormwater Quality Association (CASQA).

PROJECT EXPERIENCE

Lake Elsinore and Canyon Lake Water Quality Nutrient TMDL Monitoring Program Implementation, Lake Elsinore San Jacinto Watershed Authority (LESJWA), Lake Elsinore, CA. As Program Director, led the development and implementation of a Comprehensive Compliance Monitoring Plan in support of a TMDL for nutrients in Lake Elsinore and Canyon Lake. The TMDL program includes watershed-wide stormwater sampling to determine nutrient loading into both lakes from upstream watershed sources, as well as in-lake sampling to assess progress towards TMDL compliance. Satellite imagery was incorporated to better assess spatial patterns of turbidity and chlorophyll-a as a measure of algal blooms, and inclusion and analysis of real-time continuous water quality data provided by sondes owned and managed by the Elsinore Valley Municipal Water District in Lake Elsinore. As a part of this program, also oversaw the development of a complete historical database of water quality data collected in both Canyon Lake and Lake Elsinore since 2001. This data has subsequently been analyzed using a variety of innovative techniques to better evaluate trends between water quality conditions, chlorophyll-a, and toxins related to harmful algal blooms (HABs). These evaluations have been critical regarding understanding which appropriate TMDL water quality parameters and targets may be feasible and protective of beneficial uses in both lakes. Led a Prop 1 funded grant in coordination with the City of Lake Elsinore to pilot test in situ a variety of in-lake treatments to enhance lake water quality focusing on persistent elevated nutrients and cyanobacteria algal blooms in Lake Elsinore, the largest natural freshwater lake in southern California. In support of these programs also oversaw a special study to assess the conditions of the Lake Elsinore fishery and identify appropriate management measures for improving the fishery and supporting aquatic habitat. This evaluation included a large successful



EDUCATION

M.S., Marine Ecology, San Diego State University, 1998
B.A., Aquatic Biology, University of California, Santa Barbara, 1992

EXPERIENCE IN THE INDUSTRY

32 years

EXPERIENCE WITH GEI

1 year

TRAINING/CERTIFICATIONS

Environ. Specialist (ENV SP)
SCUBA (Scientific Diver Collection Permit)
OSHA 40-hour HAZWOPER
CA Safe Boater Certified
CPR/First Aid
Surface Water Ambient Monitoring
Program-California Rapid Assessment Method (SWAMP-CRAM) Estuarine and Riverine trained

PROFESSIONAL AFFILIATIONS

Society on Environmental Toxicology and Chemistry (SETAC), 1994
Southern California Academy of Sciences (SCAS), 1994
California Stormwater Quality Association (CASQA), 2005
Western Dredging Association (WEDA),
The Coastal and Estuarine Research Federation, 2005
California Estuarine Research Society, 2010

public outreach component bringing the public to the lake to learn and participate in the efforts. These efforts were highlighted by several news organizations providing high visibility.

Study to Evaluate Future Options for the Lake Elsinore Aeration and Mixing System, 2024, Elsinore Valley Municipal Water District (EVMWD), Lake Elsinore, CA. EVMWD operates the main component of the large aeration-mixing system in Lake Elsinore known as (Lake Elsinore Aeration-Mixing System, or LEAMS) whose purpose is to destratify the lake, mix oxygen levels in the lake water column, and offset the nitrogen and phosphorus (N and P) added to the lake from disinfected tertiary effluent discharged by EVMWD's Regional Water Reclamation Facility (RWRF). The purpose of the treated effluent addition is to provide water that helps stabilize the lake elevation and improve recreation and other benefits to the community, including water sports and fisheries. Together, the LEAMS Operating Committee, which consists of the EVWMD, City of Lake Elsinore, and the County of Riverside, is working collaboratively to ensure that LEAMS provides benefits to Lake Elsinore. Currently, the LEAMS Operating Committee seeks to evaluate the existing LEAMS, or alternatives to LEAMS, to benefit water quality conditions in Lake Elsinore. In 2024 As Project Manager and Senior Scientist led an innovative Sediment Oxygen Demand (SOD) Study at the environmental laboratory to help determine the type and degree of oxygenation required for Lake Elsinore, as well as effectiveness at reducing nutrient flux from the sediments under varying conditions.

Lake Elsinore Fisheries Management Support, LESJWA, Lake Elsinore, CA. Served as Program Manager and Senior Scientist to assess the conditions of the Lake Elsinore fishery and identify appropriate management measures for improving the fishery and supporting aquatic habitat. The purpose of the program was to conduct fish, zooplankton, and phytoplankton community surveys, and collect fish tissue data to provide updated information on the aquatic communities of Lake Elsinore. Results of these data collection efforts have been used to develop recommendations to improve the Lake Elsinore fishery focused on ways to benefit water quality through biological functions, support efforts towards the implementation of the revised nutrient TMDL, and to determine the need for additional harvesting of fish to control nuisance species impacting water quality (e.g., Asian carp). The project was divided into four main parts: 1) historical data review and monitoring plan development; 2) a survey of the Lake Elsinore aquatic fish community structure; 3) fish tissue collection for analytical chemistry; and 4) development of a future fishery management activities report outlining recommendations for beneficial management strategies and habitat improvements. A final report with recommendations was provided in 2020. Several recommendations were made that have improved the fishery since, although algae blooms remain a big challenge for the lake.

San Diego Regional Harbor Monitoring Program, Port of San Diego, CA. Selected by a stakeholder group led by the Port of San Diego to conduct one of the largest multidisciplinary, region-wide harbor monitoring programs of its kind in the U.S. referred to as the San Diego Regional Harbor Monitoring Program (RHMP). As Program Manager and Senior Scientist, led this program in 2013, 2018, and again during the planning and field sampling stages in 2023 before joining GEI where a Senior Technical Expert role has been retained. The RHMP began in 2008 and is conducted every 5 years in coordination with the southern California Bight Regional Monitoring Program. Embayments monitored by the RHMP include Dana Point Harbor, Oceanside Harbor, Mission Bay, and San Diego Bay. The collection of surface sediments is conducted at 75 locations for analysis of physical characteristics, chemistry, toxicity, and benthic infauna. Water column sampling, benthic fish and invertebrate community analyses (using trawls), and assessment of chemical contaminants in fish tissue to assess human health risk from consumption are also important integrated components of this comprehensive program. In 2018 an historical evaluation of fecal indicator bacteria (FIB) measured in the 4 harbors over the past 10-yr was also conducted to assess any trends and likelihood of risk to the public from water contact activities. An additional groundbreaking effort was successfully performed to identify causal impacts to impaired benthic infaunal communities at select locations. This large program requires an exceptionally well-organized trained team of scientific staff in addition to great writing, analytical, communication, and attention to detail skills. Results have been presented in detailed technical reports and through numerous presentations (stakeholders, public and the Regional Water Quality Control Board. A summary of the RHMP goals and objectives was also crafted into a public friendly flyer. The final technical reports for the 2013 and 2018 RHMP can be found via the following link: [San Diego Regional Harbor Monitoring Program - 2018 Final Report](#).

Steven Wolosoff, BCES, PMP
Senior Environmental Scientist

Steven Wolosoff is a water resources scientist with 25 years of experience involving water quality planning and project management. His work has covered a wide range of projects, including TMDL development and implementation planning, watershed plan development, receiving water quality studies, integrated resources plan development, hydrologic analysis, water systems analysis, hydraulic and hydrologic modeling, and surface water monitoring. For SAWPA, Steven has led multi-agency stakeholder groups in monitoring program oversight, regional project implementation, and TMDL development for freshwater lakes. He is an expert in the use of watershed models to simulate basin scale hydrology. He has developed many creative strategies to design special studies and interpret results to provide answers to complex scientific questions. His experience also has required an understanding of a wide range of environmental policies and regulations. Steven is proficient in several watershed modeling tools and served as editor and chapter author for the WEF Manual, "Stormwater, Watershed, and Receiving Water Quality Modeling".

PROJECT EXPERIENCE

Middle Santa Ana River (MSAR) Bacteria TMDL Implementation, Santa Ana Watershed Project Authority (SAWPA). Worked with SAWPA to support implementation of TMDL requirements applicable to urban stormwater. Developed Comprehensive Bacteria Reduction Plans (CBRPs) for MS4 Programs, which involved development of estimates of bacteria reduction targets for the MS4s to meet the TMDL wasteload allocations. Technical analyses required to develop bacteria reduction target estimates included a detailed assessment of dry weather flows, compilation and characterization of watershed GIS data, and prioritization of key MS4 outfalls to receiving waterbodies. Supported the implementation of the CBRPs through numerous special studies to assess sources of fecal bacteria in the watershed using microbial source tracking methods. The findings from these studies have been used to prepare a number of TMDL Triennial Reports (2013, 2016, 2020, [2023](#) 2023, actively working on 2026 update). Manages the annual bacteria monitoring program that includes both dry weather and wet weather sample collection and requires close coordination with the regional MS4 Programs, preparation of annual reports, development of QAPPs, creation of an online data dashboard, and presentation on various topics related to fecal bacteria to the stakeholder group.

Santa Ana River Regional Bacteria Monitoring Program (RBMP), SAWPA, Southern CA. The RBMP is administered by SAWPA on behalf of Orange, Riverside and San Bernardino County MS4 Programs to satisfy the surveillance/monitoring program requirements in the 2015-approved Recreation Standards for Inland Fresh Surface Waters Basin Plan amendment and the monitoring requirements included in the MSAR Bacteria TMDL. Served as technical lead in the development of the RBMP and managed [during time with previous



EDUCATION

M.P.S., Watershed Management, State University of New York (SUNY) College of Environmental Science and Forestry
B.A., Environmental Studies, Binghamton University

EXPERIENCE IN THE INDUSTRY
25 years

EXPERIENCE WITH GEI
3 years

REGISTRATIONS AND LICENSES
Project Management Professional (PMP)
Board Certified Environmental Scientist (BCES)

CERTIFICATIONS
Certificate - Introduction to HEC-RAS, CDMU, 2006
Certificate - Introduction to SWMM, CDMU, 2004

PROFESSIONAL AFFILIATIONS
Chair, Watershed Management Committee of New England Water Environment Association
American Academy of Environmental Engineers and Scientists
Watershed Management Committee, Water Environment Federation
California Stormwater Quality Association

employer] the annual program that includes both dry weather and wet weather sample collection and requires close coordination with the regional MS4 Programs, field sample collection teams and laboratories. In addition, Leads the preparation of annual reports, updates to the RBMP Monitoring Plan and Quality Assurance Project Plan, creation of a new online data [dashboard](#), and delivers presentations on various topics related to fecal bacteria in inland surface waters in the Santa Ana Basin to the RBMP Task Force.

MS4 Permit Support, Riverside County Flood Control and Water Conservation District, Riverside County, CA. Provided support to the Riverside County MS4 Program since 2011. Key activities have included serving as the lead modeler for preparation of the Comprehensive Nutrient Reduction Plan (CNRP) for Lake Elsinore and Canyon Lake and the dry weather CBRP for the MSAR watershed. This effort included preparing the necessary reasonable assurance analyses to support the efficacy of the implementation plans including estimation of cost shares for MS4 participation in regional water quality controls involving alum addition to Canyon Lake and operation of an aeration and mixing system in Lake Elsinore. Steve has continued to serve RCFC&WCD by developing summaries of CBRP and CNRP implementation activities for the annual stormwater program reports in the past 5 years.

Revision of the Canyon Lake and Lake Elsinore Nutrient TMDLs, Lake Elsinore and San Jacinto Watersheds Authority (LESJWA), Southern CA. Manages a multi-stakeholder project to develop the technical basis for revisions to existing nutrient TMDLs in Canyon Lake and Lake Elsinore in the San Jacinto River watershed in the Santa Ana Region. The TMDL revisions include a combination of watershed and lake water quality modeling to (a) determine allowable external loads to the lakes; and (b) develop new numeric targets for dissolved oxygen, algae as chlorophyll-*a*, ammonia toxicity, and nutrients that when met will protect beneficial uses in each lake. To facilitate the TMDL revisions, he created a new watershed model for estimating external loads under multiple watershed development scenarios. Was the primary author for the recently completed draft of the technical support for TMDL revision, [LECL TMDL Technical Report](#). A key factor in the success of the project has been facilitating coordination among numerous subject matter experts and stakeholders in the development of reasonable policies that are measurable, achievable, and protective of lake beneficial uses. In recent years, Lake Elsinore and Canyon Lake have experienced harmful algal blooms resulting in cyanotoxins at levels above health advisories. To help address this issue as part of the TMDL revision process, coordinated with the LESJWA-administered TMDL Task Force to identify the most effective approaches to monitoring and public notification related to risk of exposure to cyanotoxins.

Lake Elsinore In-Lake Treatment Options Evaluation, Elsinore Valley Municipal Water District (EVMWD), Southern CA. Currently managing a study to evaluate in-lake water quality treatment options for Lake Elsinore. Previous modeling was used to determine the internal nutrient load that would need to be reduced to meet future TMDL allocations. The study has involved concept level engineering, comparison of cost, and recommendation. In addition, currently overseeing a sediment nutrient study that includes 1) estimation of oxygen demand, 2) nutrient core-flux experiments, and 3) sediment samples for chemical analysis.

Watershed Model Development, Orange County Public Works, North Orange County Watersheds, CA. Project lead working with OCPW on development of a watershed model for the North Orange County watersheds. The model is being used to evaluate value of potential projects to estimate water quality and other benefits (e.g. groundwater basin replenishment, environmental flow preservation) to support a watershed scale approach to TMDL implementation planning. The model was developed using the Stormwater Management Model (SWMM) and includes a continuous simulation of rainfall-runoff, pollutant buildup/washoff, key diversions and inputs. The model has provided a watershed improvement project subcommittee (consisting of Orange County and all other watershed cities) with a quantitative analysis of runoff capture and associated pollutant load reduction in existing regional and distributed stormwater BMPs.

Kelcey Chung
Aquatic Ecologist

Kelcey Chung is an aquatic ecologist in GEI's Carlsbad California office with experience in field sampling in aquatic and marine habitats, water chemistry laboratory analyses, project management, and report/manuscript preparation and writing. Her experience also includes developing a novel method for assessing biological impacts of ocean acidification for the Bight Regional Monitoring Program and conducting habitat and population assessments for endangered black abalone in Southern California.

PROJECT EXPERIENCE

Lake Elsinore Canyon Lake TMDL Monitoring Program, Lake Elsinore, CA. Serves as the field technical lead for the Lake Elsinore and Canyon Lake TMDL Monitoring Program. Responsible for conducting in-situ monitoring using a pre-calibrated hand-held YSI field meter, collecting depth-integrated samples using a peristaltic pump and grab samples using a Van Dorn sampler.

Middle Santa Ana Region Bacteria Monitoring Program, Santa Ana Watershed, CA. Serves as a task leader for updates to the MSAR Monitoring Plan and QAPP. Also oversees the implementation of field crews and laboratories, provides support for data analysis and preparation of annual reports, and coordinates logistics for special synoptic studies to characterize microbial source tracking markers for human sources of bacteria being discharged into TMDL waterbodies from MS4 outfalls.

Seven Oaks Dam Post Fire Monitoring, Highlands, CA. Served as a technical lead for water and sediment quality monitoring at three upper watershed sites during the dry weather season. The upper watershed has been severely affected by the Line Fire and both fire retardant and organic burned debris were accumulated in the wet weather runoff. Responsible for collecting water quality measurements using a YSI field meter, grab samples for water and sediment, and creating an elutriate for further sediment analysis.

Lake Elsinore Pre and Post Phoslock Application Monitoring, Lake Elsinore, CA. Served as a technical lead for in-situ water and sediment quality monitoring at three identified Phoslock treatment areas in Lake Elsinore. Responsible for collecting water quality measurements using a YSI field meter, grab samples for water and sediment using a Van Dorn sampler and Ponar grab sampler, and coordinating sample transport with laboratory couriers.

Lake San Marcos Monitoring, Lake San Marcos, CA. Providing technical support for the in-lake monitoring work for the Lake San Marcos and San Marcos Creek Risk Assessment. Helped with collecting water quality measurements with a YSI field meter and grab samples from a Van Dorn sampler that will yield important data on nutrient loading and other pollutants from the watershed to Lake San Marcos. Also conducted bioassessment surveys in the Upper San Marcos Creek



EDUCATION

M.S., Conservation and Restoration Science, University of California - Irvine, 2020

B.S., Global Environmental Science, University of Hawaii at Manoa, 2017

EXPERIENCE IN THE INDUSTRY
7 years

EXPERIENCE WITH GEI
Less than one year

TRAINING AND CERTIFICATIONS
PADI Open Water Diver Certification

watershed and organized and facilitated a community outreach fishing for science event that collected fish species in Lake San Marcos for fish tissue bioaccumulation analysis.

Sediment Quality Investigative Orders for San Diego Bay, City of San Diego, San Diego, CA. Provided technical support for two different sediment quality Investigative Orders (IOs) located in San Diego Bay including: 1) the Tenth Avenue Marine Terminal IO; and 2) the Continental Maritime of San Diego (CMSD) IO. The objective of both IO's is to determine whether the surface sediment meet the CA Bays and Estuaries Plan, including the Sediment Quality Provisions and specifically the narrative sediment quality objectives (SQOs) that protect the beneficial uses designated for the Bay. These efforts include an evaluation of chemistry, toxicity, and benthic community (for direct biological effects), in addition to fish and invertebrate tissue chemistry to support an indirect assessment of risk to both ecological communities (birds and fish), and humans consuming seafood from the bay. Helped with data management and benthic SQO calculations for each of the IO's, with analysis and reporting efforts currently underway.

PREVIOUS EXPERIENCE

Research, Scripps Institute of Oceanography, La Jolla, CA. Served as a chemist at Scripps Institute of Oceanography Data Facility (ODF) sampling and conducting water chemistry analysis for salinity, oxygen, nutrients, and chlorophyll. The ODF at Scripps Institute of Oceanography provides high-quality technical services and equipment to government agencies, educational institutions, and private organizations throughout the world. Analyzed water chemistry samples for nutrients, dissolved oxygen, and chlorophyll from local areas such as Scripps Pier, Tijuana River National Estuary, Newport Pier, and San Pedro Bay as well as sampled from a rosette for nutrients, dissolved oxygen, and salinity, and analyzed those samples on research expeditions to the Indian Ocean, Pacific Ocean, and Southern Ocean.

Research, Southern California Coastal Water Research Project, Costa Mesa, CA. Served as a field coordinator and technical lead for biological sampling efforts for the ocean acidification (OA) component of the Southern California Bight Regional Monitoring Program. The OA component focused on enhancements to chemical monitoring to improve data quality and develop the first Southern California Bight assessment of biological impacts of OA. Responsible for coordinating sample transport with member agencies from the field to the lab, sampling from bongo nets, analysis of water chemistry and biological data, and training others to conduct sampling and analysis.

SUMMARY

Victor has over 40 years of experience in a wide range of water resources and hydrogeology-related projects. His project responsibilities have included water quality characterization, stormwater capture, construction dewatering, groundwater basin analysis, development of groundwater and watershed management plans, aquifer testing, artificial recharge, aquifer storage and recovery (ASR), groundwater modeling, production and injection well design and construction, well efficiency testing, evaluation and design of managed aquifer recharge using reclaimed water, analysis of groundwater contamination, analysis of coastal saltwater intrusion, groundwater resource development, and environmental impacts of construction projects to groundwater regimes.

His progressively responsible experience includes management of a variety of multi-disciplinary water resources planning projects and teams involving subsidence evaluation, environmental impact analysis, aquifer testing, groundwater modeling, ecological modeling and engineering. He has worldwide experience with managed aquifer recharge, ASR programs, stormwater capture, indirect potable reuse, and conjunctive use of groundwater and surface water. He has designed and supervised the construction of over 200 monitoring and production wells.

EDUCATION

MS, Hydrogeology, San Diego State University
BS, Geology, San Diego State University

REGISTRATIONS

Professional Geologist #4364, State of California
Certified Engineering Geologist #1363, State of California
Certified Hydrogeologist #848, State of California
Certified Professional Geologist #10177, Nationwide

SELECTED PROJECT EXPERIENCE

High Desert Water Bank (HDWB), Palmdale, California (Chief Hydrogeologist)

Victor was responsible for overseeing a team of hydrogeologists to design and construct the HDWB for the Antelope Valley East Kern Water Agency. The water bank is designed to store up to 70,000 acre-feet per year with a total capacity of 280,000 acre-feet of water from the California State Water Project. Water will be recharged using engineered basins, while recovery of the water will be facilitated using approximately 30 18-inch production wells. A groundwater model has been developed to evaluate storage and recovery capacity and effects on local hydrology. Ten pilot recovery wells and several multi-completion monitoring wells have been constructed, which will be utilized for step testing and long-term constant rate testing. The project is funded by the Metropolitan Water District of Southern California.

Groundwater Banking Along the Los Angeles Aqueduct (LAA), California (Project Manager)

Victor was responsible for feasibility studies to store excess water from the LAA in the Rose Valley, Indian Wells, Fremont, and Antelope Valley Groundwater Basins for the Los Angeles Department of Water and Power. The work included detailed hydrogeologic evaluation of proposed storage areas, evaluation of environmental and institutional constraints, and cost estimating. The total volume and timing of recharged water and necessary extraction facilities were identified for each basin. Focused studies continued in the Indian Wells and Antelope Valley groundwater basins consisting of review of institutional details and coordination with basin stakeholders. Potential land acquisition was reviewed and preliminary analysis of CEQA compliance was also included in the work.

Owens Lake Groundwater Evaluation Project (OLGEP), Los Angeles Department of Water and Power (Project Manager)

Victor was responsible for overseeing the conceptual and numerical groundwater model development for the Owens Lake groundwater basin. The project involved review and compilation of over 20 years of detailed hydrologic studies performed by others, and construction of 28 deep monitoring wells up to 1,600 feet deep for the purpose of gathering data to support a detailed groundwater model of this saline lake. The model development was overseen by several stakeholder agencies and a blue-ribbon committee of modeling and ecological experts from around the country. Upon completion of the model, it was utilized to evaluate the potential to use Owens Lake groundwater for dust control. Over 90 simulations were completed. Victor was also charged with the development of a stakeholder outreach program

and the presentation of study progress and results to stakeholders. The project involved review of subsidence potential and design of a subsidence monitoring network.

Santa Ana River Recharge Optimization Study, San Bernardino, California (Project Manager)
San Bernardino Valley Water Conservation District and San Bernardino Valley Municipal Water District

Victor was responsible for overseeing a detailed field investigation involving geologic mapping, sonic drilling and monitoring well installation, trenching, flow testing and hydraulic and groundwater modeling, to identify the current capabilities of the diversion, conveyance, and percolation facilities in the Upper Santa Ana River watershed. The study identified several factors limiting percolation rates in the current facilities and provided a design of enhanced recharge facilities that would meet the goals of the Integrated Regional Water Management Plan. Detailed operational and maintenance recommendations were provided to optimize infiltration capacity and minimize clogging of the surface recharge facilities.

West Coast Basin Injection Barrier Study, Manhattan Beach, California (Project Hydrogeologist)
Client: Los Angeles County Department of Public Works

Victor was responsible for detailed evaluation of the hydrogeology of the WCBBP for the purposes of development of a finite element flow and particle tracking groundwater model to optimize artificial recharge in the West Coast Basin. He was also responsible for evaluation of the efficiency of injection wells and recommendations to eliminate saltwater intrusion using new injection wells. The primary purpose of this work was to evaluate means to increase the efficiency of the barrier operations and prevent saltwater intrusion past portions of the barrier.

Hazardous, Toxic, and Radiological Waste (HTRW), U.S. Corps of Engineers

Victor managed two Indefinite Delivery contracts for Hazardous, Toxic, and Radiological Waste (HTRW) at various locations with a total contract value of \$36 million. These studies have involved remedial investigations, soil sampling, monitoring well installation, groundwater and surface water sampling for a wide range of contaminants such as hydrocarbons, dioxins, pesticides, herbicides, chlorinated solvents, and PCBs. The program has included delivery orders for extensive community relations programs, remedial design, risk assessment, and engineering evaluation/cost analysis in accordance with CERCLA guidance. Innovative work produced under this program includes the development of interactive digital deliverables, project information websites, and the production of chemical data quality reports.

Aquifer Storage and Recovery, and Groundwater Banking Project, Fresno, California (Project Hydrogeologist)

Victor conducted detailed analysis of hydrogeology in the central basin of California for the purposes of evaluating the feasibility of conjunctive use of surface water and ground water. The recharge technologies evaluated included aquifer storage and recovery wells, dedicated injection wells, surface spreading, in-lieu recharge, and vadose zone injection wells. Based on hydrostratigraphy, groundwater elevation, and groundwater quality, the most feasible type of recharge technology was recommended. This recommendation was based on geologic conditions, capital, and operation and maintenance cost of each technology in the vicinity of London. Victor developed an investigative plan to implement ASR operations in accordance with local regulations.

Water Resources Program, Palestine, United States Agency for International Development (USAID, Group Manager)

Victor was responsible for planning aspects of the USAID-funded Water Resources Program for the West Bank and Gaza, Palestine. This 40-million-dollar program involved design and construction of 27 deep production and monitoring wells to depths of 3,000 feet, 2-5,000 cubic meter reservoirs with booster stations, and 120 kilometers of pipeline. He was responsible for completion of 5 regional groundwater flow and transport models, aquifer testing of 27 high-capacity production wells, and development of an integrated water resources management plan involving stormwater capture, recharge with treated wastewater, groundwater, and desalinated brackish groundwater and/or ocean water. Victor developed a regional monitoring program of groundwater and surface water resources and provided oversight on well construction. Victor was also responsible for training hydrogeologists from the Palestinian Water Authority.

William L. Neal, M.S., P.G.

Principal Geochemist & Statistician

GeoChem Applications

Geochemical and Statistical Data Analysis

3941 Park Drive • Suite 20-249

El Dorado Hills, CA 95762

geochemapplications.com

916-939-2307

EXPERIENCE OVERVIEW

William Neal has 37 years of environmental program management and geoscience consulting experience, with specialized expertise in environmental statistics and the application of geochemistry to water quality issues and groundwater protection programs. Mr. Neal has performed detailed statistical and/or geochemical evaluations of soil, groundwater, and surface water data at more than fifty Title 27-regulated facilities in California, including landfills, mines, and wastewater treatment facilities. He has extensive permitting and regulatory compliance experience as it pertains to California and federal groundwater regulations (Title 27 and Subtitle D, respectively). Mr. Neal also has experience performing geochemical evaluations in support of RCRA and CERCLA environmental investigations (RI/FS and SI-EE/CA, respectively).

Mr. Neal's experience includes a 15-year consulting role as co-program manager and lead groundwater scientist for a groundwater RI/FS in the West Coast Basin of southern California, which included analysis of the effect of the Dominguez Gap Seawater Intrusion Barrier Project on project data. On behalf of his clients, Mr. Neal routinely interacts with California Regional Water Quality Control Board (RWQCB) and Department of Toxic Substances Control (DTSC) staff and management. He has authored or co-authored hundreds of groundwater monitoring program plans, water quality protection standard reports, and compliance monitoring reports and is a recognized expert on groundwater monitoring program data analysis and statistics.

SPECIFIC EXPERTISE

Groundwater Protection and Compliance Monitoring

- Monitoring Program Strategy and Implementation
- Compliance Monitoring Statistics/Background Limits
- RWQCB-issued Waste Discharge Requirements
- CCR Title 22, Title 23, and Title 27; RCRA Subtitle C and D
- Water Quality Protection Standards (WQPS)

Water Quality and Water Resources

- Groundwater & Drinking Water Quality Assessment
- EPA Radionuclide Rule/Natural Radioactivity in Water
- Seawater Intrusion Delineation and Barrier Performance

Mining and Related Environmental Expertise

- Mine Reclamation Compliance
- Acid-Rock/Acid-Mine Drainage
- Naturally Occurring Arsenic and other Trace Metals
- Exploration Geochemistry/Ore-Body Delineation

Statistical/Quantitative Data Analysis

- Statistical Probability Analysis/Hypothesis Testing
- Statistical Sampling Design
- Laboratory Data Quality Control and Data Validation

Geochemistry and Radiochemistry

- Contaminant Fate and Transport/Plume Stability Analysis
- Geochemical Equilibria Modeling
- Radioactivity in Landfill Leachate
- Geochemical Analysis of Geologic Samples in the Laboratory

CAREER SUMMARY

GeoChem Applications (El Dorado Hills, CA) <i>Founder and Principal Geochemist/Statistician</i>	1992 - Present
EMCON Associates (San Jose, CA) <i>Senior Scientist, Project Manager, Staff Supervisor</i>	1988 - 1992
Rockwell & Westinghouse Hanford Operations (Richland, WA) <i>Geochemist & Project Manager, Basalt Waste Isolation Project</i>	1986 - 1988
Harmon Engineering and Testing Co. (Auburn, AL) <i>Environmental Laboratory Chemist</i>	1985 - 1986

EDUCATION

- **Master of Science, Geology, Auburn University** **1986**
- **Artium Baccalaurei, Earth and Planetary Science, Washington University** **1983**

PROFESSIONAL REGISTRATIONS

- **Licensed Professional Geologist, State of California**
- **Licensed Professional Geologist, State of Florida**

OTHER CERTIFICATIONS

- **Certified 40-hour and 8-hour refresher training in Hazardous Waste Operations & Emergency Response (OSHA 29 CFR 1910.120(e) and 8 CCR 5192 (e))**
- **Hazardous Materials/Waste Coordinator Certification**

SELECTED PRESENTATIONS and PUBLICATIONS

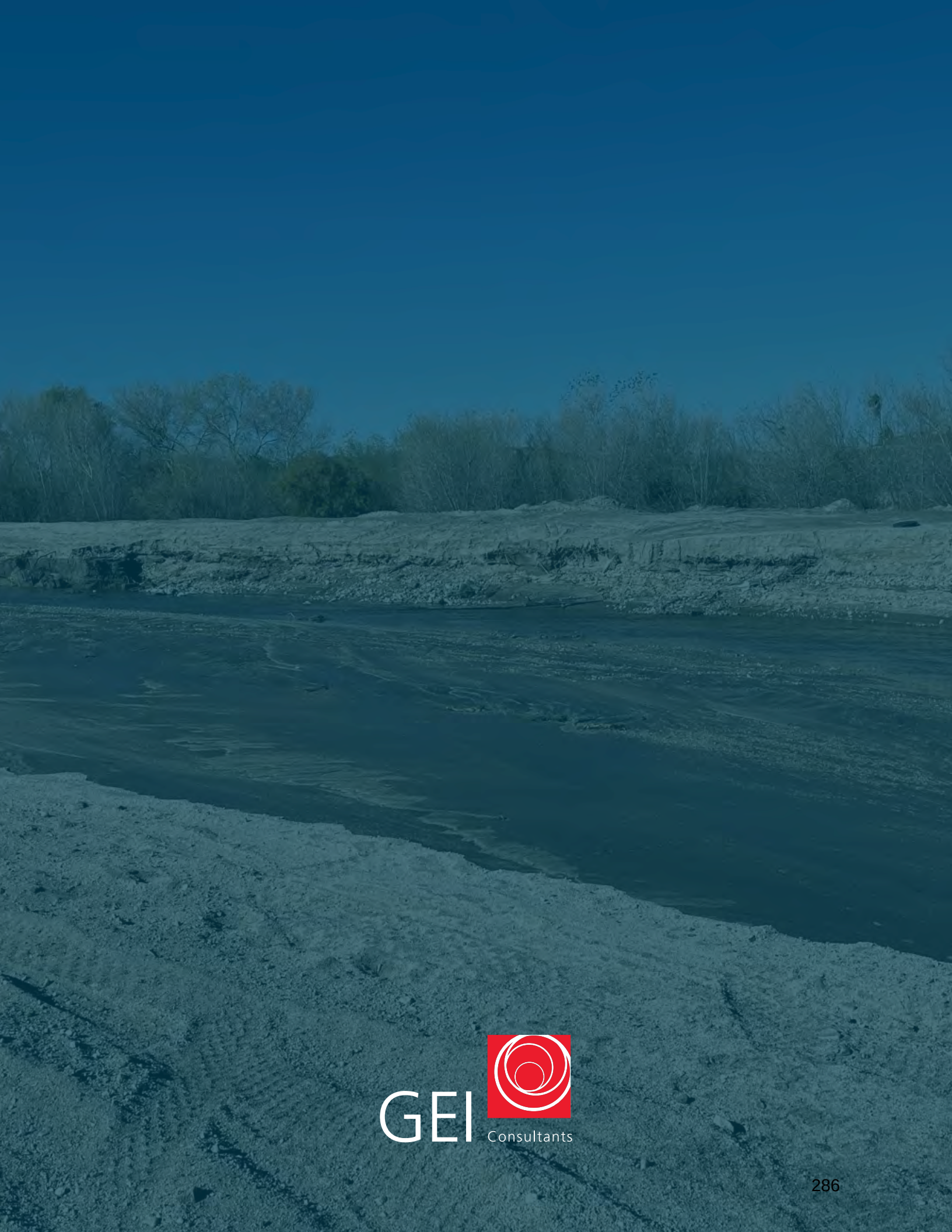
Natural Acidic Groundwater-Surface Water Occurrence, Ladera Sandstone, San Mateo County, California. Neal, William L., Kenneth D. Ehman, Susan Witebsky, Helen M. Nuckolls, and Dwight W. Harbaugh, 2005, Geological Society of America Abstracts with Programs, Vol. 37, No. 4, p. 36.

Results and Evaluation of Radiochemical Sampling at Six Waste Management, Inc. California Landfills. Prepared for California State Water Resources Control Board and Regional Water Quality Control Boards. 2003. (<https://www.energy.gov/sites/default/files/2022-12/RadiochemistryFinal.pdf>)

The Integration of Hydrochemistry and Sequence Stratigraphy to Identify a Groundwater Contaminant Plume: a Case Study from the Dominguez Gap Area of the West Coast Basin, Southern California. Presentation at Pacific Section Convention of AAPG-SEPM-SEG-SPWLA. 1998.

Geochemistry at the Tallapoosa and Lowe Mines, Goldville District, Tallapoosa County, Alabama. Neal, William L., Robert B. Cook, and Travis A. Paris, 1989, in: Gold and Related Trace Metal in Gold Deposits of Alabama, Geological Survey of Alabama Bulletin 136, p. 115-132.

Radionuclide Release Behavior of Light Water Reactor Spent Fuel under Hydrothermal Conditions. Neal, William L., Shirley A. Rawson, and William M. Murphy, 1988, in: Scientific Basis for Nuclear Waste Management XI, Elsevier Science Publishers, New York, p. 505-515.



Statement of Qualifications

BASIN MONITORING PROGRAM TASK FORCE GROUNDWATER TECHNICAL ASSISTANCE & SURFACE WATER REPORTING

Presented to:

Santa Ana Watershed Project Authority

September 30, 2025

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Appendix: Detailed Resumes

September 30, 2025

Santa Ana Watershed Project Authority
11615 Sterling Avenue
Riverside, CA 92503

RE: Statement of Qualifications for Basin Monitoring Program Task Force Groundwater Technical Assistance and Surface Water Reporting

To whom it may concern,

Geoscience Support Services, Inc. (Geoscience) is pleased to submit this statement of qualifications to the Santa Ana Watershed Project Authority (SAWPA) to provide technical assistance and surface water reporting for SAWPA's Basin Monitoring Program Task Force. For more than 45 years, our firm has had one mission: to help our clients sustainably manage their groundwater resources. The Geoscience team has been involved in numerous groundwater and surface water monitoring programs, including sampling, testing, and reporting. Each member of the Geoscience team brings several years of relevant experience including the ability to supply quality on-going technical data and deliverables, as well as offer a cost-efficient, knowledgeable, and reliable team to provide hydrogeology services that can cover the full spectrum of tasks of this project, including updating and recalibrating the surface water and groundwater models, compiling and consolidating groundwater data, and characterizing hydrologic conditions for compliance reporting. We know by experience, and by completing numerous groundwater management studies, the importance of efficient and accurate data collection and presentation of monitoring data for compliance reporting. Geoscience uses a rigorous set of Quality Assurance and Quality Control (QA/QC) standards that we have developed in similar projects to collect and ensure the accuracy and quality of data in our reports. For example, Geoscience has supported the development of the Upper San Luis Rey Valley Subbasin GSP and provided annual reporting, as well as supporting the Pauma Valley GSA in their efforts to address data gaps in the area with new monitoring points. As such, we have closely considered the needs of your project and have assembled a team and approach that will help you successfully complete this project. Our team offers SAWPA the following benefits:

More than four decades of Groundwater Expertise

Our team has completed numerous groundwater projects in the watershed, including hydrogeological basin studies, sustainable yield studies, water supply well design and construction, and well condition assessments and rehabilitation. We also have a significant depth of expertise in groundwater modeling, and our team's knowledge of Southern California basins and stakeholders can provide you with reliable and robust tools for your current and future efforts, if needed. *Our knowledge of the local area and the watershed, our track record of successfully providing identical services, and our focus on long-term cost savings will help you reduce long term costs, while meeting your project goals.*

Depth of Experience within the Santa Ana Watershed

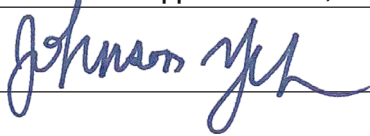
Geoscience has history of more than 45 years working in the Santa Ana River Tributary Watershed area. We have performed more than 1,250 projects within the Watershed and nearly 1,000 projects within the 46 Management Zones, including the most recent update of SAWPA's Wasteload Allocation Model and development of the Integrated Santa Ana River Model - two key models to be evaluated for use as part of this project. *Because we have significant experience in the watershed and have successfully completed more than 1,250 hydrogeological studies and development projects, we can provide more certainty on a successful project outcome.*

A qualified and experienced team to provide comprehensive technical assistance

Your groundwater monitoring program is more than just a "report", it's an opportunity to continually understand the watershed's conditions and recognize what is possible to improve your water supply's quality and sustainability. For more than 45 years, Geoscience has only done one thing: help our clients sustainably manage their groundwater resources. Since 1997, we have completed numerous groundwater projects in the Santa Ana River Watershed, including one of

the first integrated groundwater models in the area. *We will leverage our depth of expertise in groundwater modeling and management, and our knowledge of your watershed to provide defensible technical assistance, as well as reliable model updates to facilitate your continued sustainable management of the watershed.*

As requested by SAWPA, we have provided our firm details and contact information for Geoscience Support Services, Inc. in the table below. In addition, Geoscience takes no exceptions to SAWPA's contract under the terms and conditions prescribed by this RFQ and in the sample GSA. This proposal is valid for ninety (90) days from the submission date.

Proposer's Name:	Geoscience Support Services, Inc.		
Authorized Signature:		Date:	9/30/25
Name of Individual Signatory:	Johnson Yeh, PhD, PG, CHG	Title of Individual Signatory:	Principal Modeler
Direct Phone No.:	(909) 451-6642	Mailing Address:	P.O. Box 220
Email Address:	jyeh@geoscience-water.com	City, State, Zip:	Claremont, CA 91711

We are committed to continuing our partnership with SAWPA. The experience acquired during our history of working with you and other California water districts and agencies allows us to provide the hydrogeological capabilities that you require to complete your future projects. If you have any questions regarding our qualifications or need any additional information, please contact me at (909) 451-6650 or via email at lwicks@geoscience-water.com.

Regards,



Lauren Wicks, PG
Sr. Geohydrologist and Project Manager



Johnson Yeh, PhD, PG, CHG
Principal Modeler and Technical Advisor

APPENDIX A1 - PROPOSER'S BUSINESS INFORMATION

All proposers shall submit the information as requested below.

1. Length of time your firm has been in business: 47 years
2. Length of time at current location: 4 years
3. List types and business license numbers(s): State of CA: 836171; City of San Dimas: 19003714;
City of Tucson, AZ: T3069901; City of Whittier: 117381; City of Santa Monica: 246011; City of Riverside:
12318595; City of San Bernardino: 976353; City of Redlands: 08124215; City of Pismo Beach: 26010311
4. California State Contractor's License number: NA
5. Names and titles of all officers of the firm: _____
Dennis Williams, PhD, PG, CHG and Virginia Williams - Owners
Dennis Williams, PhD, PG, CHG - President
Mark Williams, PhD, PE - CEO, CFO, and Secretary
6. Is your firm a sole proprietorship doing business under a different name?
 YES ☐ or NO ☒
7. If yes, please indicate sole proprietorship name and the name you are doing business under:

8. Please indicate your Federal Tax number: 95-3200498
9. Is your firm incorporated? YES ☒ or NO ☐
10. Name and remittance address that will appear on invoices: Geoscience Support Services, Inc.
Accounts Receivable, PO Box 220, Claremont, CA 91711
11. Physical Address: 160 Via Verde, Ste. 150, San Dimas, CA 91773

STATEMENT OF QUALIFICATIONS

EXECUTIVE SUMMARY

FIRM BACKGROUND & HISTORY

Founded in 1978 by Dr. Dennis Williams, Geoscience Support Services, Inc. (Geoscience) was one of the first hydrogeology firms in California established to provide consulting services to the groundwater industry. We are a leading groundwater consulting firm, working with water utilities, government agencies, and private industry to overcome the most complex challenges in developing, managing, and preserving groundwater resources. Our firm is a trusted advisor to industry professionals and stakeholders—delivering solutions to groundwater supply, development, management, and protection challenges that meet the changing needs of our clients.

Throughout our history, we have accomplished several “firsts” in the industry:

- ◆ **First** numerical groundwater model of the Orange County area
- ◆ **First** SCADA-controlled wellfield in the Middle East
- ◆ **First** ocean water injection well barrier in the Middle East
- ◆ **First** artificially gravel packed slant well
- ◆ One of the **first** to study and quantify well design and production efficiency
- ◆ Helped develop aquifer zone testing for water quality sampling in wells

For more than four decades, Geoscience has been serving the water districts and municipalities of Southern California, performing work in nearly every basin, completing more than 3,000 groundwater projects, with more than 1,250 of those projects within the Santa Ana River Watershed. Geoscience is one of the first, and today is one of the largest, groundwater-focused consultancies in the state. We are also world-renowned for well expertise, assisting in the development of the national standards for well design and performing design and construction inspection/observation on more than 1,050 wells in California and worldwide.

GEOSCIENCE *by the Numbers*

Legal Name: Geoscience Support Services, Inc.

Company Headquarters:

160 Via Verde, Suite 150, San Dimas, CA 91773

P: 909.451.6650 E: email@geoscience-water.com

Mailing Address:

PO Box 220, Claremont, CA 91711

Contact:

Johnson Yeh, PhD, PG, CHG

P: 909.451.6642

E: jyeh@geoscience-water.com

Type of Business Organization: Corporation (CA)

Number of years in business: 47

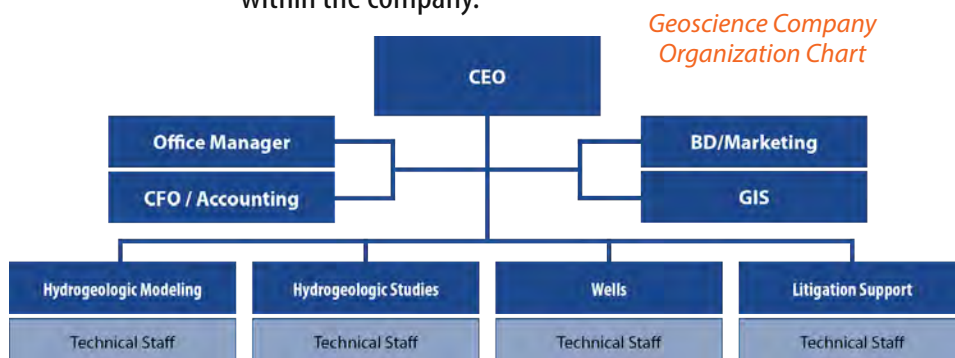
Number of staff: 25

Practice Disciplines:

- ◆ Hydrogeological/Basin Studies
- ◆ Groundwater/Surface Water Modeling
- ◆ Well Siting & Design
- ◆ Well Construction Management & Inspection
- ◆ Hydrogeological Litigation Support

Our Organization

The firm organization structure for Geoscience is shown below, demonstrating the service lines of our company, as well as support divisions which include our administrative staff members. The organization chart also shows an overview of the lines of communication and responsibility within the company.



Our Overall Capabilities

Since our business at Geoscience deals with all things groundwater, our focus from the beginning has been on helping our clients identify, manage, and protect their groundwater resources. Our hydrogeological services include four main areas:

Reliable Groundwater Production (wells)

- ◆ Well siting and construction specifications;
- ◆ Well operation modeling and scenario development;
- ◆ Well Design;
- ◆ Well Rehabilitation;
- ◆ Construction observation and inspection;
- ◆ Final well development;
- ◆ Inland and ocean desalination subsurface intakes; and
- ◆ Slant wells.

Augment Groundwater Supply (recharge basins and desalination)

- ◆ Design and test recharge basins;
- ◆ Injection wells and recovery (extraction) wells;
- ◆ Artificial recharge;
- ◆ Conjunctive use, storage, and recovery;
- ◆ Groundwater and lithologic model development;
- ◆ Facility placement and design; and
- ◆ Tracer testing.

Sustainable Groundwater Management and Modeling (basin studies and modeling)

- ◆ Groundwater and surface water modeling using MODFLOW, GSFLOW, HSPF, Petrel, and others;
- ◆ Geohydrological assessments and analyses;
- ◆ Groundwater flow and solute transport models;
- ◆ Groundwater basin models;
- ◆ Travel time studies;
- ◆ Groundwater Sustainability Plans; and
- ◆ Performing geohydrological assessments and investigations.

- ◆ Assessment of climate change impacts;
- ◆ Calculating sustainable/perennial yield of water basins; and
- ◆ Urban groundwater management plans.

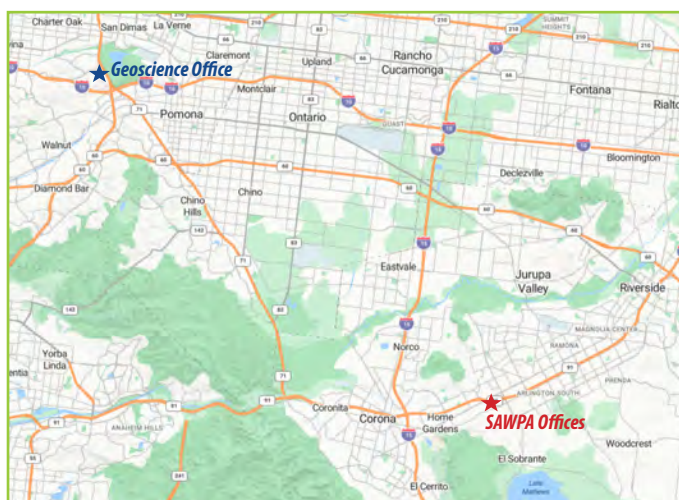
Defend Groundwater Rights (litigation support)

- ◆ Develop technically defensible groundwater studies to support determination of water rights at the local, regional, and state level; and
- ◆ Expert witness services.

Each of these areas is critical to successfully provide safe and reliable water supplies to every community.

Office Location & Proximity to District Offices

Geoscience is located in San Dimas, CA, approximately 28 miles from SAWPA offices in Riverside, CA. The majority of our staff members listed on the organization chart below are located in our San Dimas office, less than an hour's drive of SAWPA's office. Two of our team members (noted with a * in the organization chart) are employed in one of our satellite offices located in Tucson, AZ.



IDENTIFICATION OF SERVICES

Geoscience is proposing on providing assistance for each service listed in SAWPA's RFQ. Specifically, we are providing qualifications and experience for the following services:

- A. Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers
- B. Annual/Routine Groundwater Data Consolidation
- C. Recomputing AWQ for GMZs for the Period of 2007 to 2026 ("2026 AWQ Recomputation")

QUALIFICATIONS & EXPERIENCE

For more than 47 years, Geoscience has focused on only one thing; **groundwater**. We were one of the first firms in the State to focus solely on groundwater modeling, studies, and groundwater production wells. During this time, we have completed more than **3,000** groundwater projects and played a lead role in solving water resource problems for cities and water districts throughout Southern California. Geoscience is among the leaders in the development and use of groundwater and surface water models as a tool to assist in the interaction between surface water and groundwater, and water resource planning and management. We are well-versed in the application of models used in conjunction with geohydrological studies, basin management and planning, and in litigation support.

Our hydrogeologic modelers have substantial experience with the use of surface and groundwater flow models to better understand groundwater level changes, safe yield and groundwater flow movement. We also bring deep technical knowledge and expertise in the use of conceptual hydrological modeling for evaluating the movement of contaminants in surface water and groundwater, having developed models to identify, track and predict the contaminant flow in geohydrological investigations, groundwater basin studies and in water quality studies. Our modeling team also conducts and incorporates model updates, refinements, and recalibrations into current projects, thus capitalizing on existing data sets for more effective use as a planning tool. The reputation of the modeling team at Geoscience is evidenced by numerous peer reviews and training on the use of models to regulators, including the USEPA and the USGS. Our team members have completed numerous hydrogeologic modeling projects in 23 basins throughout Southern California.

Successful basin management requires a thorough knowledge of basin geohydrology, understanding environmental issues and concerns, collecting accurate and comprehensive data, and developing adequately calibrated models. We know by experience, and completing numerous groundwater management studies, the importance of efficient and accurate data collection and presentation of monitoring data for compliance reporting. We use a rigorous set of Quality Assurance and

OUR EXPERIENCE *by the Numbers*

MORE THAN **100**

Groundwater modeling projects completed in Southern CA

Our experience with developing models can help you confirm that planned projects provide accurate and sufficient information to assess potential water quality issues

MORE THAN **1,250**

Projects completed in the Santa Ana River Watershed

Our expert background with the local geology and watershed basin can help jump-start the project and keep it on schedule.

MORE THAN **30** YEARS

Experience conducting groundwater monitoring programs

proven knowledge of groundwater monitoring data collection, consolidation, and reporting

Quality Control (QA/QC) standards that were developed in similar projects to collect and ensure the accuracy and quality of data in our reports.



SIMILAR QUALIFYING EXPERIENCE



GROUNDWATER SUSTAINABILITY PLAN FOR THE UPPER SAN LUIS REY VALLEY SUBBASIN

Yuima, California

In 2014, the Sustainable Groundwater Management Act (SGMA) was signed, providing California with a framework for sustainable groundwater management for the first time in its history. Recognizing that groundwater is most efficiently managed at the local level and each groundwater basin is different, the intent of SGMA is to facilitate and strengthen local control and management of groundwater basins.

Since the Upper San Luis Rey (USLR) Valley Groundwater Subbasin, which includes the Pauma and Pala basins, is a low-priority basin, the Upper San Luis Rey Groundwater Management Authority was formed and tasked with developing and implementing a Groundwater Sustainability Plan (GSP). The Upper San Luis Rey GMA consists of Yuima Municipal Water District, Pauma Municipal Water District, Pauma Valley Community Services District, San Luis Rey Municipal Water District, and the Upper San Luis Rey Resource Conservation District. The goal of the GSP is to ensure that groundwater continues to be available to everyone who uses it far into the future.

Geoscience prepared the GSP for the Upper San Luis Rey GMA that included an introduction to the GSP, objectives and organization of the GSP; a description of the geographic setting, including existing water resources planning and programs, relationship of the GSP to other general-plan documents within the basin area, and additional GSP components (land use plans, well and project permitting processes, etc.); and a description of the physical components of the USLR Valley Groundwater Subbasin.

Geoscience also provided a hydrogeologic conceptual model for the understanding of groundwater conditions in the subbasin and development of groundwater budgets through construction and calibration of an integrated surface water and groundwater model. The

plan includes a description of the sustainability goals set by the GMA, that included undesirable results (URs), minimum thresholds (MTs), measurable objectives (MOs), and interim milestones (IMs). In addition to the sustainability goals, our team provided a framework to achieve the sustainability goal for the USLR Valley Groundwater Subbasin by listing potential management actions and/or projects that may be utilized to ensure long-term sustainability, mitigate potential undesirable results, and potentially increase sustainable yield of the subbasin. The plan also included a description of the initial monitoring network established and monitored during development of the GSP, recommendations for modifications to the monitoring network following GSP implementation, an evaluation of impacts from proposed projects and management actions, and an outline for monitoring protocols and field sampling procedures once the plan has been implemented. The GSP also includes an implementation plan that describes the process, including estimated costs, sources of funding, a preliminary schedule, methodology for annual and five-year reporting, and how progress evaluations will be made over time.

Geoscience was also responsible for the design and construction of two (2) monitoring wells to fill data gaps within the Pauma subbasin of the San Luis Rey Groundwater Basin, thereby increasing the hydrogeologic understanding of the area and providing important information on specific conditions for future inclusion to updates of the District's GSP.

Geoscience provides continued services to the Upper San Luis Rey GMA preparing GSP Annual Reports and monitoring services.



GROUNDWATER BASIN MODELING, PLANNING, & MANAGEMENT SERVICES

San Bernardino, CA

Geoscience has been providing hydrogeological services, including groundwater modeling, basin studies, and well services, that have contributed to San Bernardino Valley Municipal Water District's (District) water resources planning activities for more than 20 years.

These projects have included many of the same services needed to provide a GSP update, such as the development of groundwater modeling tools, evaluating potential impacts of various water diversion scenarios, providing testimony in support of the District's water rights, sustainable yield studies, recharge feasibility studies, development of a salt balance lumped-parameter model and a mass balance model for several management zones over a 20-year predictive period. In addition to these projects, Geoscience has provided detailed descriptions of a few select projects for the District that demonstrate our groundwater modeling expertise.

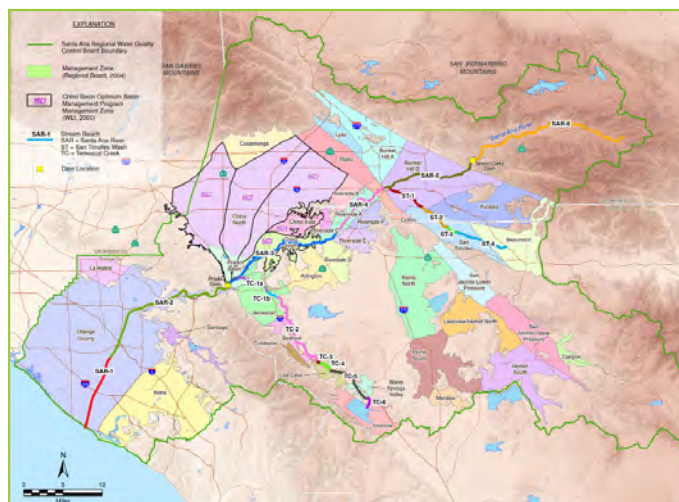
Integrated Santa Ana River Model

The Santa Ana River (SAR) watershed is the largest in Southern California and home to some of the fastest population growth in the country. The communities in the upper watershed from the Seven Oaks Dam upstream, to the Prado Dam downstream, rely on groundwater for much of their water supply. Currently, the SAR passes over four (4) groundwater basins in the area, multiple water districts, and nine (9) separate groundwater and watershed models—making it difficult to identify current conditions and potential impacts that planned projects could have on groundwater and the watershed as a whole. San Bernardino Valley Municipal Water District formed a joint effort with multiple agencies to develop a combined model for the SAR to determine baseline hydrological conditions and the potential effects of proposed projects. The goals of the project were:

- ◆ Help riparian habitat and endangered species protection efforts

- ◆ Identify how areas of shallow groundwater are affected by current and proposed projects
- ◆ Enhance the Habitat Conservation Plan (HCP) baseline condition to include both streamflow and groundwater levels
- ◆ Better understand how current projects impact flow in the SAR and groundwater levels
- ◆ Predict how proposed projects (including groundwater recharge and extraction projects) will impact flow in the SAR and groundwater levels, storage, and qualities in the area

Geoscience's team was able to use the existing groundwater and surface water models to develop an integrated watershed model and groundwater model. The resulting Upper SAR Integrated Model (or Integrated SAR Model) has been used and will be used in the future to determine what factors may contribute to declines SAR flows and assess cumulative effects on SAR surface flows and groundwater levels, storage and qualities from approved, outstanding, and proposed projects, including Upper SAR Habitat Conservation Plan Covered Activities.



Map of the SAR GW Management Zones included in the integrated model

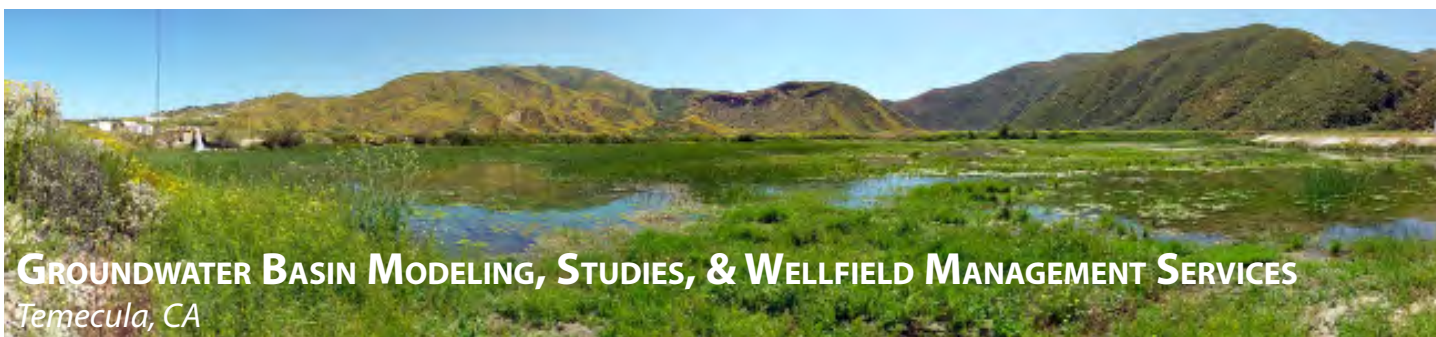
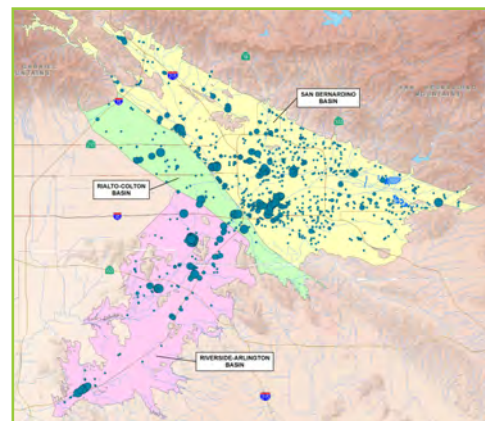
San Bernardino Basin Salt & Nutrient Plan

Geoscience, as part of a team, assisted in the development of a Salt and Nutrient Management Plan (SNMP) to scientifically evaluate, permit and implement various water resource management projects in the San Bernardino Basin Area (SBBA). The SNMP evaluates projects on an individual groundwater management zone basis, and a combined SBBA groundwater management zone. The groundwater management zones (GMZ) that are being modeled include the Lytle GMZ, Bunker Hill-A GMZ, Bunker Hill-B GMZ, a portion of the Yucaipa GMZ, and a portion of the San Timoteo GMZ. The Rialto GMZ, the Colton GMZ and the Riverside-A GMZs will also be included in the evaluation and analyses, although not included in the SBBA.

Our team's SNMP approach combines the technical effort with a deep understanding of current and proposed recharge projects and with a robust stakeholder outreach process. The input data to the Integrated SAR Model will be used to develop information on background conditions, the basin characterization, and potential sources of salt and nutrient loadings. This method takes advantage of previous work and knowledge within our team to efficiently evaluate the existing conditions and projected conditions and to identify associated salt and nutrient loadings. Further, usage of the existing data collected and analyzed for the modeling effort will maintain consistency between the modeling analysis performed and the SNMP

process. The output from the Integrated SAR Model will be used to derive the estimates of Management Zone concentrations of salts and nutrients over time and to support point estimates of concentrations at specific locations, to evaluate local conditions such as downstream wells.

During Phase 1, our team combined GMZs or portions of GMZs into a single GMZ. As noted above, the objective of this project was to determine if the combined SBBA would result in added regulatory options for increasing groundwater in storage through water reuse and stormwater capture projects. In Phase 2, Geoscience used the Integrated SAR Model and added a solute transport model to evaluate the water quality impacts to the underlying groundwater basins described above. Our team also evaluated the projects identified during Phase 2 with scenarios run from the model. The final phase involves the development of a draft and final SNMP that, after review and concurrence from the stakeholders, will be submitted to the Regional Board for consideration of adoption.



GROUNDWATER BASIN MODELING, STUDIES, & WELLFIELD MANAGEMENT SERVICES

Temecula, CA

Geoscience has been providing hydrogeological services, including groundwater modeling, basin studies, and well and wellfield management services, to Rancho California Water District (RCWD) since 1987. These projects have included many of the same services needed to provide a GSP update, such as the development of groundwater modeling tools, preparing annual reports detailing land subsidence, conducting annual water audits to

recommend groundwater production, and preparing and implementing monitoring plans. Geoscience has also provided safe yield studies, artificial recharge feasibility studies, and the siting and construction of more than 30 large-scale production wells.

In addition to these projects, Geoscience has provided detailed descriptions of a few select projects for the district that demonstrate our relevant experience.

Surface & Groundwater Model of the Murrieta-Temecula Groundwater Basin

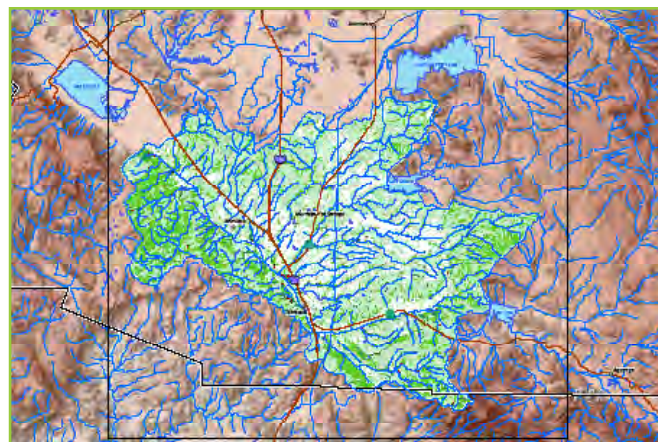
Geoscience was responsible for the development of an Integrated Groundwater and Streamflow Model for RCWD. Our team worked with a technical panel that included several stakeholders including RCWD, USGS, U.S. Marine Corps, Camp Pendleton, Stetson Engineers, Santa Margarita Watermaster, and Geoscience. The technical panel was formed to avoid litigation between RCWD and the Camp Pendleton Marine Base. Geoscience also conducted GSFLOW, soluble transport, and sustainable yield model runs to prepare a groundwater model plan in support of the Cooperative Water Resource Management Agreement (CWRMA) between the United States, on behalf of Marine Corps Base Camp Pendleton, and RCWD. The purpose of CWRMA is to allow Camp Pendleton and RCWD to effectively manage the water resources consistent with prior rights and entitlements while avoiding potential conflicts.

Annual Water Audits

Geoscience has been conducting annual water audits for RCWD since 1992. The purpose of the annual water audit review is to recommend a groundwater production program for the period of one fiscal year and is performed using the most current data from the previous water year ending in September. The groundwater production recommendations are based primarily on a review of individual well production and historical hydrographs and includes input from a workshop that discusses actual well production rates, instantaneous yield, natural and artificial recharge, water quality issues, pump settings and well maintenance factors.

Land Surface / Subsidence Monitoring

Geoscience conducts annual subsidence reporting for the district and reviews current hydrogeological data to recommend actions needed to mitigate land subsidence. Our team provide groundwater modeling, research and data compilation to support the annual subsidence report. The purpose of the annual subsidence monitoring is to monitor the land level, water level, and aquifer thickness for the period of one fiscal year and is performed using the most current data from the previous water year ending in September. The results of the program are summarized in two technical memorandums, one for each reporting period. Based on data collected and observations during collection, conclusions are made concerning non-recoverable aquifer compaction, normally occurring



Distribution of Groundwater Recharge in the Murrieta-Temecula Groundwater Basin

aquifer compression, and rebound due to water level changes.

Temecula Valley Salt & Nutrient Management Plan Update

Geoscience provided groundwater modeling for RCWD's update to their current Salt & Nutrient Management Plan (SNMP) for the Temecula Valley Groundwater Basin to address the protection of beneficial uses of groundwater and meeting the overall water supply needs of the region. Long-term water quality was analyzed using a mass-balance spreadsheet model. The spreadsheet model simulated concentrations over a 20-year period based on loading parameters and groundwater flow conditions. Groundwater flow terms were derived from the existing conditions baseline of the Cooperative Water Resources Management Agreement Model (CWRMA Model). Given uncertainties in the analysis, an analysis of long-term historical data was also performed to investigate long-term historical trends that could be expected to continue into the future.

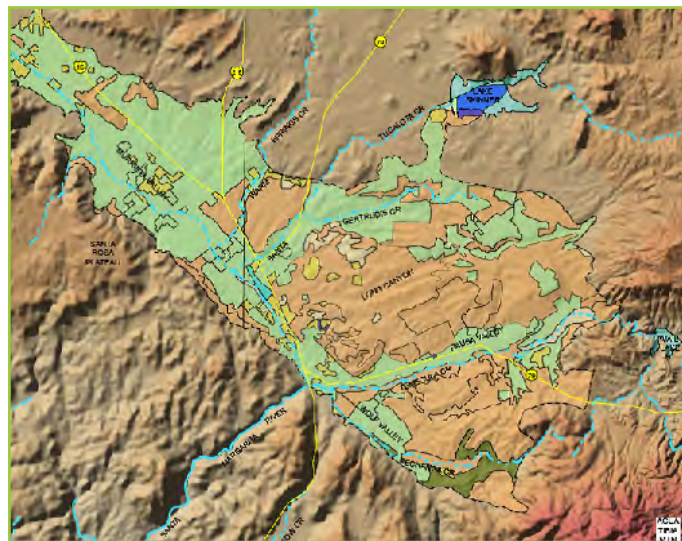
Groundwater is an important component for providing a high-quality, affordable, reliable water supply for the Temecula Valley. RCWD is integrating this Salt and Nutrient Management Plan into their overall water management strategies, allowing for appropriate monitoring, prevention, and planning to manage salts and nutrients in the basin and contributing to sustainable groundwater use.

Wellfield Management Data Collection & Processing

Water wells operate at the intersection of two curves - the head capacity curve of the installed pump and the head capacity curve of the well and aquifer system. The flow rate is a function of the total dynamic head, which includes aquifer loss, well loss, interference from other

pumping wells, lift from static water to ground surface, friction losses, and system pressure. Performance of the electromechanical system (pumps and distribution systems) is typically monitored with a SCADA system. Aquifer parameters and well interferences are estimated with groundwater flow models. Geoscience is working with RCWD to link their SCADA system, business-side database, and aquifer calculations in their groundwater flow model by updating the instrumentation collecting these data, adjusting the data collection intervals, and developing new database queries and scripts.

Coupling the data collected by SCADA with the analysis tools in a groundwater flow model will allow RCWD to forecast the results of rehabilitating a well, the return on invest (ROI), the interference impacts of change flow



Solute Transport Model

rates of a single well or wellfield, and the ability to utilize measured water levels as leading performance indicators of basin sustainability.



The Cadiz Water Project aims to supply 50,000 acre-feet annually to the various Southern California areas, particularly aiding disadvantaged areas. In 1997, the County of San Bernardino approved the initial Groundwater Management Plan for the agricultural side or the Cadiz, Inc. (Cadiz). Santa Margarita Water District has since taken charge of environmental compliance, culminating in the endorsement of the updated Groundwater Management, Monitoring, and Mitigation Plan (GMMMP) in 2012. This revised plan, which surpasses the original in scope, particularly in its monitoring requirements, marks a strategic shift from agricultural groundwater use to the project's demands. The report not only adheres to the initial monitoring protocols but also integrates enhanced oversight mechanisms in anticipation of a full transition to the new management guidelines. Complementarily, the Geoscience team has provided various services including extensive hydrogeologic studies and environmental assessments have been conducted to understand and mitigate the project's impacts on local ecosystems and groundwater resources, thereby

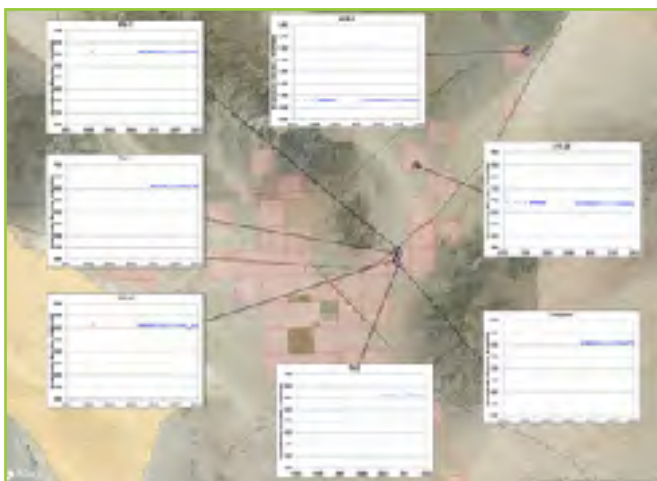
supporting the project's advancement and regulatory compliance. Geoscience is currently updating the Monitoring Plan working collaboratively with a Technical Review Panel which is made up of representatives from the County, Lead Agency of the EIR and the Mutual Water Company. Some of these studies have been to map and test the various hard-rock aquifer systems of the fanglomerates, carbonates, and fractured Jurassic granitics for production potential.

Since 1997, the Geoscience team has significantly contributed to the continuous and growing monitoring efforts for the Cadiz Water Project. Our team has developed and implemented groundwater monitoring protocols along with design and field oversight for monitoring and production wells. The wells are all equipped with pressure transducers providing a continuous record of water level and conductivity data and 49 monitoring wells (8 of which have pressure transducers), which are located within three (3) watersheds across approximately 2,000 square miles. Geoscience staff visit each site quarterly to collect hand

water level, transducer data and select water quality samples. Our team also performs visual observations of various springs throughout the area. Water quality isotopes, and surface wetting fronts are among the monitoring efforts associated with the springs. Geoscience conducts regular maintenance of all the monitoring points every quarter including,

- Transducer cleaning
- Inspection and repair of monitoring wells
- Repair or replace sounder or transducer cables

In compliance with the GMMMP, land surface monitoring is also required each year to help track any potential subsidence associated with pumping. Geoscience assists Cadiz in contracting surveyors each year to perform land surface monitoring, while also reviewing the State's InSAR data to further assist in this analysis.



Water Level Monitoring Hydrographs

Water quality sampling of the monitoring well network have been collected since 1997. Quarterly water quality samples are collected from all the pumping wells and a select monitoring wells up- and down-gradient of the wellfield. Geoscience processes the collected monitoring data and prepares annual and cumulative five-year (5 yr.) groundwater monitoring reports which are submitted to the County of San Bernardino and compare and analyze changes for the last five (5) years. These also require re-analysis of storage and recharge values for the aquifer system. The transducer data requires processing before it can be plotted using the instruments software. Water levels are compensated for barometric effect using local barometric data and conductivity values are normalized to specific conductivity values (conductivity at 25 degrees C). Groundwater level and conductivity data are plotted and



Site Map and Monitoring Feature

presented in the project reports.

In addition to the groundwater monitoring efforts, Geoscience team members have designed and provided construction oversight of nine (9) high-capacity production wells for agricultural operations and drilled and completed the design of a high-capacity (over 3,000 gpm) combo well. This well was drilled and tested in both alluvium and carbonate formations. In concert with the production wells, monitoring wells were drilled and completed in the various hard-rock units to help understand the various aquifer properties in those units as along with the Carbonate and alluvial aquifers. Another well was located and



Screenshot of Cavernous Carbonates Fully Saturated

designed to perform a pilot recharge test which concluded that the material would be perfect for surface spreading. Each of the wells were designed with custom louvered screens and filter pack based on the observed and analyzed borehole lithologic samples collected during the drilling phase. The wells were then developed and tested to understand the well efficiency and aquifer parameters at each location. Geoscience has continued to collect daily groundwater level and quarterly water quality data in all pumping production wells providing more than 20 years of data representing both wet and dry hydrologic periods. Geoscience continues to provide as-needed expert opinion and assistance as requested by Cadiz review team to aid in clarifying and presenting complex technical information in one of the most stringent monitoring plans in all of California.



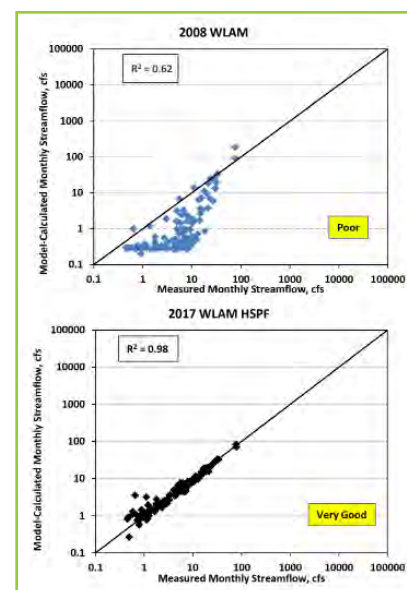
The Santa Ana Watershed Project Authority (SAWPA) and Basin Monitoring Program Task Force (Task Force) retained Geoscience to update, calibrate, and apply their Waste Load Allocation Model (WLAM) to estimate the projected total dissolved solids (TDS) and Nitrate-N concentrations of the Santa Ana River recharge water and discharge at Prado Dam. The update also incorporated an expansion of the most recent WLAM to include additional reaches of the Santa Ana River within Orange County, update the percolation basins in Orange County, and develop several new tools, to provide for a more robust analysis.

Geoscience updated the WLAM by developing and calibrating a watershed model using the Hydrological Simulation Program - Fortran (HSPF) computer code. During the course of developing this watershed model (2017 WLAM HSPF), the previous WLAM boundary was expanded to include additional reaches of the Santa Ana River within Orange County. The 2017 WLAM HSPF was then used to estimate the projected total dissolved solids (TDS) and total inorganic nitrogen (TIN) concentrations of the SAR recharge water and discharge at Prado Dam.

SAWPA is using the results from the updated WLAM for

water quality regulatory purposes by the Santa Ana Regional Water Quality Control Board, satisfying the monitoring and analysis requirements in the Water Quality Control Plan for the Santa Ana River Basin. In addition, the tools developed from this Project are being used by Regional Board staff, SAWPA staff, and other users to continually analyze alternative allocation scenarios. Our services for this WLAM update included:

- ◆ Update the data used in the WLAM
- ◆ Update and recalibrate the WLAM
- ◆ Evaluate Waste Load Allocation scenarios for major stream segments
- ◆ Estimate off-channel recharge from natural precipitation
- ◆ Run the WLAM in Retrospective Mode, using historical discharge data, to estimate the quantity and quality of recharge that actually occurred
- ◆ Compile the WLAM into a Run-Time Software Simulation package
- ◆ Draft task reports, draft report, and final report
- ◆ Pilot evaluation of the doppler data compared to precipitation gauge data



Monthly Streamflow 2008 vs. 2017



Waste Load Allocation Model Area Boundaries

PROJECT TEAM QUALIFICATIONS

Since the late 1970s, Geoscience has focused solely on groundwater consulting, resulting in a team with extensive experience in groundwater modeling, sampling, and monitoring. Our assigned team has nearly 85 years of combined experience in groundwater modeling and monitoring, as well as data consolidation, hydrogeological studies, and annual reporting.

Lauren Wicks, PG will serve as our assigned project manager. She has assisted in or completed numerous hydrogeological studies and groundwater sustainability projects and is currently working on two basin adjudication projects in Southern California. Lauren will be supported by a technical advisor, Johnson Yeh, PhD, PG, CHG, who has extensive hydrogeological and groundwater modeling experience. Johnson is available to provide

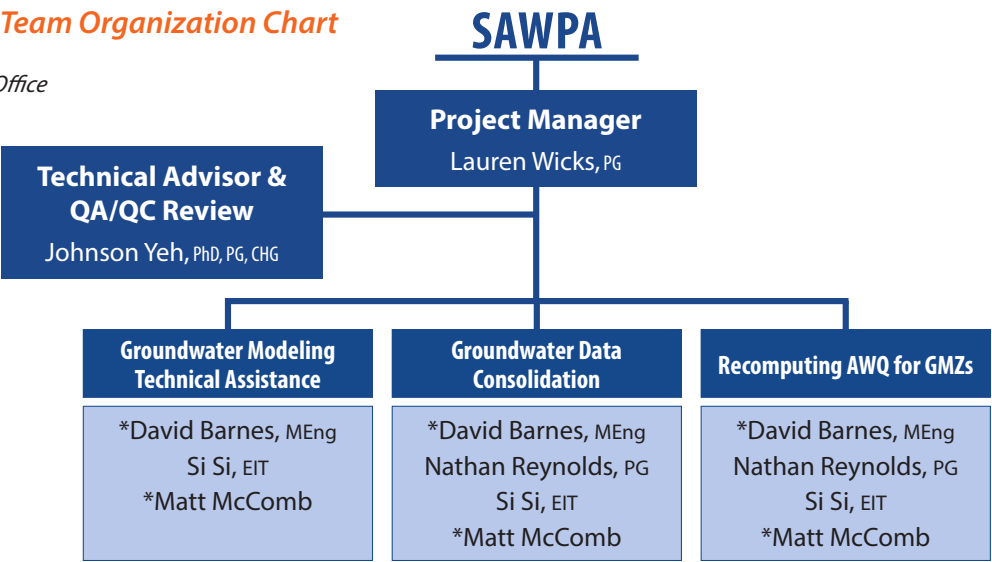
backup support to Lauren, if needed, QA/QC review, and can be available to address any modeling or development issues if they occur.

The organization chart below lists our assigned staff and their role on this contract, as well as the lines of communication. We have also included their detailed resumes in an appendix to this SOQ. In addition, personnel assigned to this project will not be changed for the duration of the project without the advance written approval of SAWPA.

Our team members are located in one of two offices, our headquarters in San Dimas, CA or in our branch office in Tucson, AZ. We have noted those staff located in our branch office on the organization chart. All other participating staff are located in our San Dimas office.

Proposed Team Organization Chart

* Tucson Office



Key Team Members

Team Member & Role		Specific Expertise
	Lauren Wicks, PG Senior Geohydrologist and Project Manager	More than 10 years of experience supporting groundwater modeling, sustainable yield studies, and calculating water budgets - helping to provide more accurate and thorough models and studies to present basin sustainability improvement options
		Performs groundwater flow and transport modeling, hydrogeologic investigations, groundwater basin and water quality studies, artificial recharge projects, and has experience in GIS mapping, watershed management, database development and management

Team Member & Role	Specific Expertise
 Johnson Yeh, PhD, PG, CHG Principal Modeler Technical Advisor & QA/QC Review	◆ Specializes in watershed and groundwater modeling, hydrogeologic investigations, groundwater basin and water quality studies, and artificial recharge ◆ Develops detailed and thorough groundwater models that help inform future groundwater management strategies and decisions
 David Barnes, MEng Sr. Modeler	◆ More than 14 years of experience performing groundwater modeling and studies for municipal clients and public agencies, specializing in the development of groundwater and hydrogeologic models, data processing, and GIS ◆ Experienced in well design and construction processes with wide-ranging experience in field hydrology, aquifer testing, and characterization methods
 Nathan Reynolds, PG Project Geohydrologist	◆ More than 20 years of experience completing hydrogeologic investigations, source contaminant analysis, ground water quality studies, artificial recharge projects, water well test drilling programs, and construction observation for a variety of drilling projects ◆ Experience includes both monitoring and groundwater studies—helping to verify data that aid in the development of groundwater models and studies that reflect basin conditions. ◆ Manages the data collection, and long-term reporting of extensive monitoring well networks, with special focus on water quality database creation and management
 Si Si, MS, EIT Project Modeler	◆ Nearly a decade of experience in groundwater and environmental investigations, specializing in groundwater modeling ◆ Has conducted groundwater flow and solute transport modeling, hydrogeologic investigations, groundwater basin and water quality studies, watershed modeling and management, groundwater waste discharge permitting, GIS mapping, and database development and management
 Matthew McComb Associate Modeler	◆ Supports our modeling team specializing in the collection and evaluation of geological, hydrogeological information, in combination with spatial data ◆ Experience in GIS mapping and database support - using these tools to transform and display complex information and aerial distributions ◆ Also performs field work including data collection and sampling, drilling, well installation, system maintenance, aquifer testing, and construction oversight

REFERENCES

APPENDIX A2 - REFERENCES

Instructions: Proposer shall provide two to three customer references.

REFERENCE #1	
NAME OF FIRM	San Bernardino Valley Municipal Water District
ADDRESS	380 E. Vanderbilt Way
CITY, STATE, ZIP CODE	San Bernardino, CA 92408
TELEPHONE #	(909) 387-9247
CONTACT	Wen Huang, Principal Engineer
E-MAIL ADDRESS	wenh@sbvmwd.com
PROJECT NAME	Integrated Santa Ana River Watershed Model
COMPLETION DATE	February 2022
APPROX. COST	\$ 2,005,980
REFERENCE #2	
NAME OF FIRM	Rancho California Water District
ADDRESS	42135 Winchester Rd.
CITY, STATE, ZIP CODE	Temecula, CA 92590
TELEPHONE #	(951) 296-6954
CONTACT	Rich Ottolini, Director of Water Operations
E-MAIL ADDRESS	ottolinir@ranchowater.com
PROJECT NAME	Groundwater Basin Modeling, Studies and Wellfield Management Services
COMPLETION DATE	Ongoing (<i>Geoscience is the District On-Call Hydrogeologist</i>)
APPROX. COST	\$ 1.6 M (<i>approximate - includes District on-call work except well projects</i>)
REFERENCE #3	
NAME OF FIRM	Yuima Municipal Water District
ADDRESS	34928 Valley Center Rd.
CITY, STATE, ZIP CODE	Pauma Valley, CA 92061
TELEPHONE #	(760) 742-3704
CONTACT	Amy Reeh, General Manager
E-MAIL ADDRESS	amy@yuimamwd.com
PROJECT NAME	Upper San Luis Rey GSP
COMPLETION DATE	May 2022 - Monitoring and Annual Reporting are ongoing
APPROX. COST	\$ 928,769

LIST OF SUBCONTRACTORS

APPENDIX A3 - SUBCONTRACTORS LIST

NAME UNDER WHICH SUBCONTRACT IS LICENSED	LICENSE NUMBER	ADDRESS AND PHONE NUMBER OF OFFICE, MILL OR SHOP	SPECIFIC DESCRIPTION SUBCONTRACT
None			

UNDERSTANDING OF THE PROJECT AND APPROACH

OVERALL PROJECT UNDERSTANDING

The Basin Monitoring Program Task Force (BMPTF), administered by SAWPA, plays a critical role in maintaining regulatory compliance with the Santa Ana Regional Water Quality Control Board Basin Plan through periodic recomputations of ambient groundwater quality, updates to groundwater storage and quality model layers, and annual data consolidation.

Our team has decades of experience in the Santa Ana River Watershed and has successfully completed numerous groundwater modeling, water quality assessments, and database development projects for SAWPA and its member agencies. Our deep familiarity with BMPTF methodologies and proven ability to manage complex groundwater datasets and surface water or groundwater models makes us well positioned to deliver consistent, defensible technical products for Service Areas A through C that support the BMPTF's regulatory obligations and provide reliable information for future basin management decisions.

PROJECT APPROACH

The following outlines our anticipated approaches for Service Areas A through C. Each will be further refined in coordination with SAWPA and the BMPTF to ensure the scope, methods, and deliverables align with project priorities and stakeholder needs as work arises.

A. Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Model Layers

The physical model for the GMZs used in AWQ recomputations consists of the specific yield and elevation of the effective base of aquifer for each model grid cell. The average current AWQ for each GMZ is then calculated by a GIS-based volume weighting averaging across grid cells within the GMZ. However, the specific yield and elevation of the effective base of aquifer included was developed in the late 1990s, which is the physical model for the initial AWQ computation and past eight AWQ recomputations. Updates to groundwater storage parameters and basing geometry (including the bedrock elevation) would allow the model to reflect the most recent understanding of groundwater characteristics in each groundwater basin/subbasin. Work associated with this update would include:

- ◆ **Data Acquisition & Outreach** – We will identify and contact agencies responsible for groundwater modeling, Salt and Nutrient Management Plans (SNMPs), and GSP efforts to obtain the latest data on aquifer geometry and storage properties.
- ◆ **Database Development** – Newly acquired basin characteristics will be cataloged in a structured database (e.g., MS Access), enabling integration with existing AWQ datasets.

- ◆ **Model Layer Updates** – The existing storage property layer will be updated with the most recent groundwater properties information and subjected to rigorous QA/QC. This will ensure that the updated layer can be directly incorporated into future AWQ recomputation efforts and that the basin volumes, mass balance calculations, and assimilative capacity determinations are accurate and defensible.
- ◆ **Deliverables & Collaboration** – Updated GIS layers, metadata documentation, and QA/QC reports will be provided to SAWPA/BMPTF for review. Interim findings will be presented at BMPTF meetings for feedback and refinement.

B. Annual/Routine Groundwater Data Consolidation

Accurate and comprehensive groundwater quality datasets are essential for both interim assessments and five-year recomputations. Given the diverse sources of data across 29+ entities in the watershed, routine consolidation and normalization are critical to maintaining a reliable AWQ database. Our typical approach to routine data compilation and management includes:

- ◆ **Data Requests & Coordination** – For annual data collection, we will submit standardized data request templates to well owners and agencies, ensuring consistency across reporting entities.
- ◆ **Data Standardization & QA/QC** – Data provided in various formats (electronic databases, lab reports, spreadsheets) will be reformatted, normalized, and validated through systematic QA/QC checks. Conversion of nitrate forms, unit conversions, and removal of duplicates will be performed.
- ◆ **Confidentiality & Compliance** – Where required, non-disclosure agreements will be executed with data providers. Sensitive data will be managed securely and only applied within the scope approved by the respective party.
- ◆ **Database Integration** – Updated groundwater quality, water level, and well information will be uploaded to the BMPTF's master database, with well-by-well time series charts prepared for review.
- ◆ **Continuous Improvement** – We will recommend and implement enhancements to data management tools, such as automated data cleaning scripts and standardization methods, to increase efficiency across future recomputations. Geoscience has an in-house software developer that can be readily consulted to solve database needs as they arise.

C. Recomputing Ambient Water Quality for GMZs, 2007–2026 (“2026 AWQ Recomputation”)

We understand that the next recomputation of ambient water quality (AWQ) for groundwater management zones (GMZs), covering the 2007–2026 period, must use the “Modified Standard Approach” refined during the 2021 Pilot Recomputation. This process emphasizes robust groundwater data collection, normalization, statistical evaluation, and contouring of TDS and Nitrate-Nitrogen concentrations to determine assimilative capacity in each GMZ. We foresee the following approach being required for the recomputation:

- ◆ **Data Integration** – Consolidated groundwater data (from Service Area B) will be used alongside updated storage property layers (from Service Area A) to establish the 2007–2026 dataset. A time series review of TDS and nitrate data will also be completed, consistent with the modified approach outline in the Pilot Recomputation.
- ◆ **Statistical Analysis** – Well-level TDS and nitrate-N statistics will be computed (means, standard deviations, outlier screening) following BMPTF-approved methodologies (e.g., Shapiro-Wilk and Mann-Kendall tests for normality and trends).
- ◆ **Spatial Mapping & Interpolation** – Iso-concentration contours for each GMZ will be developed, digitized into raster grids (400m x 400m cells), and the concentration distributions will be interpolated across basin storage volumes.
- ◆ **Assimilative Capacity Calculation** – Volume-weighted single concentration values will be derived for each GMZ, compared against antidegradation objectives (1954–1973 baseline), and the assimilative capacity will be calculated. For zones with updated storage properties, historical baseline values will be recomputed for consistency.
- ◆ **Trend & Interpretive Tools** – Mann-Kendall and time-series analyses will be applied to assess trends and identify drivers of change. Statistical trend analyses will be applied at all wells to help

identify and interpret changes between recomputation cycles more clearly. Change maps will be developed to illustrate where AWQ has improved or declined since the last recomputation. New charts and tables will also be developed, consistent with recommendations in the Pilot Recomputation (e.g., percent change in well statistics since the prior recomputation and the number of wells above/below Basin Plan objectives).

- ◆ **Stakeholder Engagement** – Draft results and interpretive tools will be presented at BMPTF meetings for review, refinement, and consensus building.
- ◆ **Deliverables** – Final deliverables are expected to include: a technical memorandum summarizing methodology, AWQ findings, and assimilative capacity results; GIS shapefiles of contours and grids; database updates and QA/QC documentation, as needed; well-by-well and GMZ-level charts and tables.

ADDITIONS, DELETIONS, AND/OR EXCEPTIONS

APPENDIX A4 - ADDITIONS, DELETIONS AND/OR EXCEPTIONS

Please state any and all Additions, Deletions and Exceptions that you are taking to any portion of this RFQ, the General Services Agreement (GSA), and/or Task Order (shown in Appendix B - "Standard Contract Documents - Task Order and GSA"). If not addressed below, then SAWPA assumes that the Consultant will adhere to all terms and conditions listed.

SAWPA will issue a Task Order and GSA in its standard form to the successful Consultant for the services contemplated herein. Any deletion, exception, or modification taken to SAWPA contract terms and conditions will be evaluated, in addition to the specified criteria; and may, itself, result in non-acceptance by SAWPA. Any request for deletion, exception, or modification, if so taken, must be submitted at the time of proposal.

Geoscience has no additions or deletions and takes no exceptions to SAWPA's RFQ, nor GSA, nor the Task

Order shown in Appendix B of the RFQ and will adhere to the terms and conditions listed.

GEOSCIENCE

The First Name in Groundwater

Santa Ana Watershed Project Authority (SAWPA)
Attn: Basin Monitoring Program Task Force (BMPTF) – RFQ
11615 Sterling Avenue
Riverside, CA 92503

Re: Statement of Qualifications — BMPTF Groundwater Technical Assistance & Surface Water Reporting

Dear Selection Committee,

Interesting Interests, Inc. (dBa Horus Technology) is pleased to submit our Statement of Qualifications in response to the BMPTF RFQ for Groundwater Technical Assistance and Surface Water Reporting. Consistent with our remote-first, cloud-based operating model, we propose to perform Service B: Annual/Routine Groundwater Data Consolidation and Service D: Annual Report of Santa Ana River Water Quality. Our submission includes the required narratives and forms, a fee schedule, and references demonstrating successful delivery of data engineering, quality assurance/quality control, and regulatory reporting support for public-sector programs.

Horus Technology specializes in building reproducible, audit-ready data pipelines and reporting workflows on secure cloud infrastructure (AWS). For Services B and D, our approach emphasizes structured data consolidation, transparent QA/QC, and clear documentation that streamlines annual BMPTF deliverables while maintaining traceability and compliance. We will coordinate closely with SAWPA/BMPTF staff and participating agencies; while our delivery is primarily remote, we remain available for on-site meetings or presentations upon request.

Thank you for your consideration. We would welcome the opportunity to support BMPTF's ongoing monitoring and reporting objectives and are available to provide any additional information the evaluation team may require.

Table 3: Table for Cover Letter

Proposer's Name:	Interesting Interests Inc. (dBa. Horus Technology)		
Authorized Signature:	<i>Michael Walker</i>	Date:	09/30/2025
Name of Individual Signatory	Michael Walker	Title of Individual Signatory	CEO
Direct Phone #:	(480) 269-0424	Mailing Address:	4720 Moccasin Place
E-Mail Address:	michael@horustech.dev	City, State, Zip	San Diego, California, 9211

Audit trail

Details		
FILE NAME	00 Cover Letter.pdf	
STATUS	Signed	
STATUS TIMESTAMP	2025/09/30 21:23:24 UTC	

Activity		
SENT	vinicio@horustech.dev sent a signature request to: Michael Walker (michael@horustech.dev)	2025/09/30 13:22:25 UTC
SIGNED	Signed by Michael Walker (michael@horustech.dev)	2025/09/30 21:23:24 UTC
COMPLETED	This document has been signed by all signers and is complete	2025/09/30 21:23:24 UTC

The email address indicated above for each signer may be associated with a Google account, and may either be the primary email address or secondary email address associated with that account.



Proposal

09 - 30 - 2025

Proposed by:

**Horus Technology
Power by Interesting
Interests Inc**

Office:
4720 Moccasin Place
San Diego, CA 92117



HORUS TECHNOLOGY

+1 (480) 269-0424
proposals@horustech.dev

Section 1.0 Executive Summary

Purpose and Alignment. Interesting Interests, Inc. (dba Horus Technologies) submits this Technical Proposal to support the Basin Monitoring Program Task Force (BMPTF) in two service areas: Service B – Annual/Routine Groundwater Data Consolidation and Service D – Annual Report of Santa Ana River Water Quality. Our proposed solution is aligned with the solicitation’s objectives to maintain high-quality, transparent datasets and timely regulatory reporting that informs basin management decisions.

Approach Overview. We will implement a reproducible, auditable data lifecycle leveraging secure, FedRAMP-aligned practices on AWS: (1) ingestion of validated source datasets; (2) automated schema and unit checks; (3) QA/QC with documented exception handling; (4) version-controlled transformations; and (5) generation of standardized analytical outputs and publication-ready tables/figures for the Annual Report. All processing steps will be documented in data dictionaries and SOPs to facilitate handoffs, reviews, and long-term maintainability.

Key Outcomes.

- A single source of truth for BMPTF groundwater and surface water inputs, with traceability from raw ingest to final report artifacts.
- Cycle-time reduction for annual consolidation and reporting through automation and templated workflows.
- Consistent formatting and cross-year comparability of metrics, tables, and figures, enabling efficient regulatory and stakeholder review.

Team and Capacity. Our core team combines public-sector data engineering, environmental analytics, and technical writing expertise, supported by senior QA/QC oversight. We will staff a Proposal/Project Manager (single point of contact), a Lead Data Engineer (AWS), an Environmental Data Analyst, and a Technical Writer/Editor; subject-matter specialists can be added as needed for data interpretation and report integration.

Risk Management and QA/QC. We will maintain a living risk register and apply stage-gated QA (data structure checks, plausibility ranges, and reconciliation against historical series). Deliverables will undergo independent technical review prior to submittal, with comment resolution logs retained for auditability.

Program Management and Communication. Horus will maintain a master schedule keyed to solicitation milestones, hold cadence meetings (status/working sessions), and coordinate closely with SAWPA/BMPTF for data cutoffs, change requests, and review periods. While our delivery model is remote-first, we are prepared to participate in onsite meetings or briefings at SAWPA upon request.

Compliance and Exceptions. We will perform the work under SAWPA Task Orders in accordance with the RFQ's submission, evaluation, and contractual requirements. Unless otherwise indicated in the designated exceptions form, no exceptions are taken.

Section 2.0 Project Understanding

2.1 Objectives and Outcomes

- **Service B (Annual/Routine Groundwater Data Consolidation):** Establish and maintain a unified, validated dataset that consolidates participating agencies' groundwater (and related) submissions into a consistent structure suitable for analysis and reporting.
- **Service D (Annual Report of Santa Ana River Water Quality):** Produce the annual report package—narrative, standardized tables, and figures—based on the consolidated datasets and in accordance with the solicitation's stated reporting needs and schedule.

2.2 Scope Boundary

- **In-Scope:** Data intake; schema harmonization; QA/QC; version-controlled transformations; preparation of report-ready analytical outputs; drafting the annual report sections specified by the solicitation; and coordination with SAWPA/BMPTF during review cycles.
- **Out-of-Scope:** Groundwater model development or re-calibration, and ambient water quality recomputation for GMZs (Service A/C) unless expressly authorized via Task Order and supported by an approved teaming arrangement.

2.3 Stakeholders and Interfaces

- **SAWPA/BMPTF Program Management:** Sets priorities, approves schedules, and provides direction, templates, and review comments.
- **Participating Agencies and Data Providers:** Supply source files and clarifications; respond to data queries during QA/QC; confirm agency-specific context for the annual report.

2.4 Data Landscape (Working Assumptions Based on RFQ)

- **Source Types:** Agency-submitted spreadsheets/workbooks and structured exports; agency documentation that defines field meanings and collection methods.
- **Canonical Working File(s):** The RFQ references a standard Excel-based structure for surface-water reporting workflows; Horus will map and validate agency submissions to this canonical structure and maintain data dictionaries.
- **Quality Considerations:** Expect heterogeneous formats, periodic revisions, and historical series requiring reconciliation (naming, units, and periodic completeness). Our process anticipates iterative clarification with data owners.

2.5 Constraints, Risks, and Mitigations

- **Schedule Compression:** Annual reporting timelines can be tight; we mitigate with a master schedule, early data-cutoff checkpoints, and staged QC runs.
- **Data Variability:** Differences in agency schemas and units are managed via transformation rules, unit libraries, and automated conformance checks with exception logs.
- **Change Management:** Late data corrections are common; we employ versioning, change logs, and re-buildable pipelines to minimize rework and preserve traceability.

2.6 Success Criteria

- **Traceable Data Lineage:** Each report value can be traced to a vetted source record and documented transformation.
- **On-Time, Review-Ready Deliverables:** Draft and final report packages are submitted according to the RFQ schedule, with documented comment resolution.
- **Consistency Across Years:** Standardized tables/figures enable year-over-year comparability and faster subsequent cycles.

Section 3.0 Technical Approach

3.1 Methodology Overview

Horus will implement a documented, repeatable lifecycle from data intake through publication: (1) intake & inventory; (2) validation & conformance; (3) transformation & enrichment; (4) analytical outputs; and (5) reporting and production. Each stage is governed by standard operating procedures (SOPs), with entry/exit criteria and quality gates aligned to the solicitation's requirements and BMPTF review cadence.

3.2 Service B — Annual/Routine Groundwater Data Consolidation

- **Data Intake & Control:** Establish a submission calendar and intake checklist; register each agency file with metadata (provider, period, schema version, units). Maintain a master inventory and receipt log to confirm completeness against the RFQ's expected datasets.
- **Schema Harmonization:** Map source fields to the canonical structure referenced by the RFQ; apply unit normalization, code-list resolution (e.g., station IDs, analyte codes), and temporal alignment rules.
- **Validation & QA/QC:** Run structural and content checks (required fields, ranges, duplicates, temporal gaps) with exception tickets routed to data owners for disposition. All exceptions are tracked to closure.
- **Versioning & Lineage:** Store raw, conformed, and curated tiers; assign dataset versions per cycle; maintain change logs to ensure traceability from source to final values.
- **Outputs:** Curated, analysis-ready datasets and companion documentation (data dictionary, methods memo, and exception summary) delivered to support Service D and agency review.

3.3 Service D — Annual Report of Santa Ana River Water Quality

- **Analytical Framework:** Use the consolidated datasets to compute the metrics, tables, and figures prescribed by the solicitation and historical reporting conventions. Ensure methods are consistent year-over-year, with any departures clearly documented.
- **Drafting & Production:** Prepare the annual narrative organized per RFQ section order, integrating QA'd tables/figures and captions. Maintain an editorial style sheet and figure/table list to ensure consistent labeling and cross-referencing.
- **Review & Finalization:** Conduct internal technical review, incorporate BMPTF/SAWPA comments via a tracked comment-resolution matrix, and produce a clean final package in the requested formats.

3.4 Quality Assurance / Quality Control (Both Services)

- **QA Plan:** A project-specific QA Plan will define checks at each lifecycle stage, acceptance thresholds, and approval authorities.
- **Automated & Manual Checks:** Combine automated validations (schema, ranges, unit conversions, reconciliation to historical series) with targeted subject-matter review for outliers or trends.
- **Auditability:** Every reported value is reproducible from source files using documented transformations; maintain a reproducible build script and archive of input artifacts for audit.

3.5 Data Governance, Security, and Records

- **Access Control & Roles:** Principle of least privilege for project repositories and workspaces; named roles for intake, curation, analysis, and publication.
- **Records Management:** Retain raw submissions, curated datasets, QC artifacts, and comment logs per the RFQ's records requirements and Task Order guidance.
- **Confidentiality:** Protect any sensitive or agency-restricted information in accordance with RFQ and Task Order terms.

3.6 Schedule Integration and Task Orders

- **Master Schedule:** Align intake windows, QC cycles, draft issuance, and final submittal with the RFQ timeline and Task Order milestones.
- **Change Control:** Handle late submissions or corrections through controlled re-runs; document impacts and updated delivery dates for SAWPA approval.

3.7 Staffing and Communication

- **Key Roles:**
 - Project Manager (single point of contact) — schedule, risk, and stakeholder coordination.
 - Lead Data Engineer — data architecture, automation, and QA tooling.

- Environmental Data Analyst — conformance rules, unit libraries, and analytical outputs.
- Technical Writer/Editor — narrative drafting, figure/table integration, and production.
- **Meetings & Reporting:** Kickoff, recurring status meetings, data intake checkpoints, and pre-draft/draft/final review sessions; brief written status reports summarizing progress, issues, and next steps.

3.8 Risks and Mitigations

- **Late or Incomplete Data:** Mitigate via early completeness checks and rolling intakes; escalate gaps with clear deadlines and impact notes.
- **Schema Drift Across Years:** Maintain mapping specifications and regression tests to detect breaking changes; version-control the canonical structure.
- **Compressed Review Windows:** Pre-build standardized report components and reserve production buffers; stage-gated internal reviews to reduce rework.

Section 4.0 Management & Staffing Plan

4.1 Organization and Governance

Horus will deliver Services B and D under a single-project governance structure led by a Project Manager (PM) who serves as the Contract Manager and primary point of contact with SAWPA/BMPTF. The PM oversees scope, schedule, budget, risk, and quality controls, and has authority to allocate resources and approve deliverables. A concise Responsibility Assignment Matrix (RAM) defines decision rights and escalation paths for intake, QA/QC, analysis, reporting, and production.

4.2 Roles and Responsibilities

- **Project Manager (PM):** Overall delivery, stakeholder coordination, master schedule, change control, and risk management.
- **Lead Data Engineer:** Data architecture, intake tooling, schema harmonization, versioning, automation, and reproducibility.

- **Environmental Data Analyst:** Conformance rules, unit normalization libraries, analytical computations, and trend verification.
- **Technical Writer/Editor:** Narrative development, integration of tables/figures, style consistency, and production.
- **Quality Lead (Independent Reviewer):** Stage-gate reviews, checklist compliance, and comment-resolution verification.
- **(If applicable) Subcontractor Liaison:** Coordinates any specialty tasks per Task Order; ensures alignment with QA/QC and schedule.

4.3 Staffing Availability and Capacity

Core staff are assigned at project initiation with defined base-level availability keyed to the annual reporting calendar and BMPTF milestones. Surge capacity is maintained for data-intake peaks and pre-submittal production windows through cross-trained alternates and on-call support, ensuring schedule adherence without degradation of quality controls.

4.4 Communication and Coordination

- **Kickoff & Planning:** Confirm scope boundaries for Services B/D, submission calendars, templates, and review checkpoints.
- **Recurring Status:** Biweekly (or as directed) status sessions with action-item logs, schedule updates, and risk reviews.
- **Data Intake Checkpoints:** Timed around agency submissions to resolve schema/units questions promptly.
- **Review Cycles:** Structured pre-draft, draft, and final reviews with tracked comment-resolution matrices and version control.
Meeting notes and decisions are archived in the project record; all deliverables follow the RFQ's file/section order and naming conventions.

4.5 Quality Management

Quality is governed by a project-specific QA Plan that specifies acceptance criteria, required checklists, and approval authorities at each lifecycle stage (intake → conformance → analysis → reporting). Automated validations (schema, required fields, unit ranges, historical reconciliations) are paired with independent technical review before submittal. Nonconformities trigger corrective actions with root-cause documentation and re-verification.

4.6 Schedule Control and Change Management

The PM maintains a master schedule aligned to solicitation milestones and Task Orders. Changes to scope, data cutoffs, or review timelines are processed via documented change requests that assess schedule/budget impact and define updated deliverable dates. Late or corrected data is handled through controlled re-runs with transparent lineage and updated exception summaries.

4.7 Risk Management

A living risk register identifies probability, impact, and mitigation/contingency measures for items such as late agency submissions, schema drift, data gaps, or compressed review windows. High-priority risks receive early-warning indicators (e.g., completeness checks) and predefined response plans to protect critical path activities.

4.8 Subcontracting (If Applicable)

Should Task Orders authorize specialty support, Horus will onboard subcontractors under a defined scope, deliverable schedule, and QA/QC obligations. Subcontractor performance is managed through the RAM, with the Subcontractor Liaison ensuring artifact compatibility (schemas, units, templates) and adherence to review gates.

Section 5.0 Work Plan & Schedule

5.1 Work Plan Overview

Horus will execute Services B and D through a phased plan synchronized to the solicitation's annual cycle and Task Order milestones. Each phase concludes with a quality gate and a defined artifact (e.g., validated datasets, draft report package) to ensure transparency, traceability, and timely review.

5.2 Phases, Activities, and Outputs

Phase 1 — Initiation & Planning

- Confirm scope boundaries for Services B/D, deliverable list, templates, and review cadence; finalize communication plan and roles.
- Output: Project Management Plan (PMP) summary, risk register baseline, master schedule, data intake calendar.

Phase 2 — Data Intake & Inventory (Service B)

- Receive/register agency submissions; log provenance/periods; verify completeness against intake checklist; issue early data gap notices.
- Output: Intake inventory, receipt log, initial completeness assessment.

Phase 3 — Conformance & QA/QC (Service B)

- Apply schema mapping, unit normalization, and structural/content validations; resolve exceptions with data owners; version datasets.
- Output: Curated, analysis-ready datasets; data dictionary; exception resolution summary.

Phase 4 — Analysis & Derivative Outputs (Service D)

- Compute required metrics; assemble standardized tables/figures; confirm methods align to solicitation conventions and prior-year comparability.
- Output: Validated analytical tables, figures, methods memo.

Phase 5 — Draft Report Production (Service D)

- Compile narrative with integrated tables/figures; perform internal technical and editorial review; prepare draft for BMPTF/SAWPA.
- Output: Draft Annual Report package.

Phase 6 — Review & Finalization

- Track and resolve comments; update datasets/figures if needed; complete final formatting and accessibility checks.
- Output: Final Annual Report package and archive set (datasets, QC artifacts, comment log).

5.3 Milestones & Schedule Controls

Milestone	Description	Owner	Quality Gate / Evidence
M1: Kickoff & PMP	Scope, roles, schedule confirmed	PM	PMP summary, risk register v1

M2: Intake Complete	All expected submissions received/logged	PM + Data Engineer	Receipt log, completeness check
M3: Curation Complete	Conformance and QC closure	Data Engineer	Curated datasets, exception log closed
M4: Analytics Ready	Tables/figures validated	Analyst	Methods memo, reproducibility check
M5: Draft Issued	Draft report to BMPTF/SAWPA	Writer/Editor	Internal tech review sign-off
M6: Final Submitted	Final report & archive delivered	PM	Comment-resolution matrix, final QC

Schedule Control: The master schedule fixes planned dates for M1–M6 per Task Order. Any late data or scope adjustments are handled via change control, with documented impacts and revised milestone dates.

5.4 Assumptions & Dependencies

- Participating agencies provide data by agreed intake deadlines and respond to QC queries within review windows.
- Templates and reporting conventions remain materially consistent year-to-year; any changes are communicated before Phase 4.
- Task Order timing aligns review periods to permit full comment incorporation before final delivery.

Section 6.0 Qualifications & Experience

6.1 Organizational Qualifications for Services B & D

Horus Technologies specializes in remote-first, cloud-enabled data engineering and regulatory reporting for public-sector programs. Our internal controls, documentation standards, and auditability practices are designed to support annual consolidation cycles and recurring compliance reports consistent with the solicitation’s requirements.

6.2 Core Competencies Mapped to the Scope

- **Service B (Data Consolidation):** Schema harmonization across heterogeneous agency submissions; unit normalization; validation rule sets; lineage-preserving transformations;

and curated, analysis-ready datasets with companion data dictionaries.

- **Service D (Annual Reporting):** Standardized metrics computation; reproducible tables/figures; narrative integration; editorial QA; and controlled versioning to maintain cross-year consistency.

6.3 Key Personnel Competencies

- **Project Manager:** Public-sector program coordination; schedule/risk/change control; stakeholder communications; compliance packaging per solicitation section order.
- **Lead Data Engineer:** Data architecture on AWS; automated validations; versioning strategies; reproducible workflows; performance and security best practices.
- **Environmental Data Analyst:** Conformance rules and unit libraries; time-series QA; reconciliation to historical series; trend verification and methods documentation.
- **Technical Writer/Editor:** Government-facing technical writing; figure/table integration; style and citation consistency; comment-resolution tracking through final.

6.4 Quality, Security, and Records Practices

We apply a documented QA Plan with stage-gated checks from intake through publication, ensuring every reported value can be traced to a vetted source and documented transformation. Records (raw submissions, curated datasets, QC artifacts, and comment logs) are retained per the solicitation and Task Order guidance.

6.5 Tools, Methods, and Reproducibility

Our workflows emphasize scripted, version-controlled processes so that datasets, tables, and figures can be rebuilt deterministically for audit and future cycles. We maintain a canonical data structure, mapping specifications, and regression checks to detect schema drift and protect year-over-year comparability.

6.6 Past Performance (Synopsis)

Horus has delivered public-sector data consolidation and recurring reporting packages of comparable complexity, emphasizing auditability, timeliness, and adherence to prescribed templates. Detailed references and contact information are provided in the required forms and attachment sections of this submission.

6.7 Subcontractors (If Applicable)

If specialty support is authorized by Task Order, Horus will engage pre-identified partners under a defined scope, schedule, and QA/QC regimen. Subcontractor roles, responsibilities, and experience are documented in the designated subcontractor section of this submission.

Section 7.0 Identification of Services

7.1 Services Proposed

Horus Technologies proposes to perform the following service areas identified in the solicitation:

- Service B — Annual/Routine Groundwater Data Consolidation**
 Consolidate, harmonize, and quality-assure participating agencies' submissions into a curated, analysis-ready data asset that supports annual reporting and stakeholder review.
- Service D — Annual Report of Santa Ana River Water Quality**
 Produce the annual report package—narrative, standardized tables, and figures—derived from the consolidated datasets and prepared in accordance with the solicitation's structure and schedule.

Note: Services **A (Groundwater technical assistance/modeling)** and **C (2026 AWQ recomputation for GMZs)** are **not included** in this proposal. If SAWPA/BMPTF requests these services via Task Order, Horus can participate through a defined teaming arrangement that meets the solicitation's experience requirements.

7.2 Summary of Roles, Outputs, and Acceptance

Service	Primary Roles	Core Outputs	Acceptance Basis
B — Data Consolidation	Lead Data Engineer; Environmental Data Analyst; PM (oversight)	Curated datasets; data dictionary; exception resolution log; methods memo	Successful completion of schema/units conformance; closure of QC exceptions; reproducible lineage from source to curated tiers
D — Annual Report	Technical Writer/Editor; Environmental Data Analyst; PM (coordination)	Draft and final report; standardized tables/figures; comment-resolution matrix; archival package	Delivery per section order and format; incorporation of BMPTF/SAWPA comments by agreed milestones; internal QA and independent technical review sign-offs

7.3 Coordination and Review Cadence

- **Service B:** Rolling intake checkpoints, mid-cycle QC review, and a curation completion review prior to analytics.
- **Service D:** Pre-draft planning check, Draft submittal with tracked edits, and Final submittal after comment resolution.

Section 8.0 Quality Assurance & Risk Management

8.1 Quality Assurance Plan (QAP)

Horus will implement a project-specific Quality Assurance Plan governing Services B and D, aligned to the solicitation's requirements and Task Order directives. The QAP defines quality objectives, roles and approval authorities, checklists by lifecycle stage (intake → conformance → analysis → reporting), acceptance thresholds, and documentation artifacts required for each quality gate.

8.2 QA Procedures by Lifecycle Stage

- **Intake & Inventory:** Verify file provenance, reporting periods, schema version, and unit declarations; log receipt against the intake checklist and flag any missing components for early resolution.
- **Conformance & Validation:** Apply structural checks (required fields, datatypes), content checks (ranges, duplicates, temporal gaps), and unit normalization with auditable rules; all exceptions are captured in a ticketed log and resolved with data owners prior to curation completion.
- **Analysis & Derivatives:** Reconcile computed metrics against historical series and reference calculations; run regression tests on standardized tables/figures to detect unintended changes.
- **Reporting & Production:** Conduct independent technical review, editorial review, and format verification; maintain a cross-walk of figures/tables to data sources and transformation steps to ensure full traceability.

8.3 Documentation & Traceability

Every reported value must be reproducible from source artifacts using documented transformations. We maintain: (1) a data dictionary for the canonical structure; (2) mapping specifications for each agency feed; (3) versioned transformations; and (4) a

comment-resolution matrix linking review feedback to revisions in datasets, figures, and narrative.

8.4 Nonconformance & Corrective Action

Nonconformities identified at any gate trigger a Corrective Action Request (CAR) capturing root cause, remedial steps, responsible owner, and verification evidence. CARs remain open until verified by the Quality Lead; lessons learned are incorporated into SOP updates to prevent recurrence.

8.5 Risk Management Process

We maintain a **living risk register** tracking probability, impact, triggers, and responses. Risks are reviewed at status meetings, and high-priority items have early-warning indicators and predefined contingencies. The PM owns escalation to SAWPA/BMPTF when risk exposure could affect milestones or deliverable quality.

8.6 Key Risks and Mitigations (Services B & D)

- **Late or Incomplete Agency Submissions:** Mitigate with early completeness checks, rolling intakes, and targeted escalation; reserve production buffer in the schedule.
- **Schema/Unit Variability:** Maintain mapping specs and unit libraries; enforce automated conformance checks and regression tests across years.
- **Compressed Review Windows:** Pre-stage standardized figures/tables; schedule internal gate reviews before BMPTF/SAWPA reviews to minimize rework.
- **Change Requests Near Finalization:** Apply change control with impact notes; rerun pipelines in a controlled environment with updated lineage and re-validation.

Section 9.0 Data Management, Security & Records

9.1 Data Governance Framework

Horus will manage all datasets for Services B and D under a documented data governance framework that defines ownership, roles, and approval authorities across intake, curation, analysis, and publication. Governance artifacts include the data dictionary for the canonical structure, mapping specifications by agency feed, and versioning conventions for raw, conformed, and curated tiers.

9.2 Access Control and Least-Privilege

Access to project repositories, working folders, and publishing locations will follow a least-privilege model with named user accounts, role-based permissions, and periodic entitlement reviews. Administrative actions (create/modify/delete in controlled locations) are restricted to designated stewards and audited through activity logs retained with the project record.

9.3 Data Integrity and Lineage

All transformations are scripted and version controlled to ensure deterministic rebuilds of tables and figures used in the annual report. We maintain end-to-end lineage from source submissions to curated outputs, including change logs and exception-resolution records so that any reported value can be traced to its source and method.

9.4 Security Practices

Project data at rest and in transit will be protected in accordance with solicitation and Task Order requirements using encryption, authenticated channels, and controlled sharing. Configuration baselines and patching practices are documented; secrets (e.g., credentials/tokens for secure exchanges) are stored using controlled mechanisms and rotated per policy.

9.5 Records Management and Retention

Horus will retain raw submissions, curated datasets, QC artifacts, methods memoranda, review comments, and final deliverables per the solicitation and Task Order direction. We will provide an **archive package** at closeout that includes final report files, underlying validated tables, and the audit trail necessary to reproduce published values.

9.6 Data Exchange and Formats

Unless otherwise directed, agency submissions will be received in their provided formats (e.g., spreadsheets/workbooks) and transformed into the canonical structure for analysis. Deliverables to SAWPA/BMPTF will follow the RFQ's required file formats and section order; tabular outputs will be provided in machine-readable formats alongside report-ready figures where applicable.

9.7 Continuity and Backup

Working datasets and project artifacts are regularly backed up according to documented schedules, with integrity checks to verify recoverability. In the event of corrupted inputs or required rollbacks, we restore to the last validated checkpoint and re-execute transformations to regenerate dependent outputs.

APPENDIX A1 - PROPOSER'S BUSINESS INFORMATION

All proposers shall submit the information as requested below.

1. Length of time your firm has been in business: 10 years
2. Length of time at current location: 1 year 4 month
3. List types and business license number(s): City of San Diego Business Tax Certificate – No. B2022011194; Business Type: Consulting Services; Location: 4720 Moccasin Pl, San Diego, CA 92117; Valid 01/01/2025 – 12/31,
4. California State Contractor's License number: _____
5. Names and titles of all officers of the firm: Michael Huy Walker — Chief Executive Offi

6. Is your firm a sole proprietorship doing business under a different name?
YES ☐ or NO ☒
7. If yes, please indicate sole proprietorship name and the name you are doing business under: _____

8. Please indicate your Federal Tax Number: 47-5285423
9. Is your firm incorporated? YES ☒ or NO ☐
10. Name and remittance address that will appear on invoices: _____
Interesting Interests, Inc. (dba Horus Technology)
4720 Moccasin Pl, San Diego, CA 92117
11. Physical Address: 4720 Moccasin Pl, San Diego, CA 92117

APPENDIX A2 - REFERENCES

Instructions: Proposer shall provide two to three customer references.

REFERENCE #1	
NAME OF ENTITY	FORD CREDIT
ADDRESS	300 Eagleview Boulevard, Suite 200
CITY, STATE, ZIP CODE	Exton, PA 19341
CONTACT NAME	Ashok Shenoy, Document Management Solutions
TELEPHONE #	(610)296-8000
E-MAIL ADDRESS	ashok.shenoy@ricoh-usa.com
PROJECT NAME	Automated Document Routing System
COMPLETION DATE	November 2022
APPROX. COST	\$ 2,645,000.00
REFERENCE #2	
NAME OF ENTITY	Porsche Digital
ADDRESS	Groenerstrasse 11/1
CITY, STATE, ZIP CODE	71636 Ludwigsburg, Germany
CONTACT NAME	Michele Zorzella, Head of Development
TELEPHONE #	() +49 711 911 89213
E-MAIL ADDRESS	michele.zorzella@porsche.digital
PROJECT NAME	Vehicle Shipping Manifest Automation
COMPLETION DATE	March 2023
APPROX. COST	\$1,280,000
REFERENCE #3	
NAME OF ENTITY	Avue Technologies
ADDRESS	3560 Bridgeport Way W #3b
CITY, STATE, ZIP CODE	University Place, WA 98466
CONTACT NAME	Trish Carroll
TELEPHONE #	(253)573-1877
E-MAIL ADDRESS	indigo@avuetech.com
PROJECT NAME	Resume Classification, Website Document Ingestion
COMPLETION DATE	August 2024
APPROX. COST	\$3,620,000

APPENDIX A3 – SUBCONTRACTORS LIST

NAME UNDER WHICH SUBCONTRACT IS LICENSED	LICENSE NUMBER	ADDRESS AND PHONE NUMBER OF OFFICE, MILL OR SHOP	SPECIFIC DESCRIPTION SUBCONTRACT

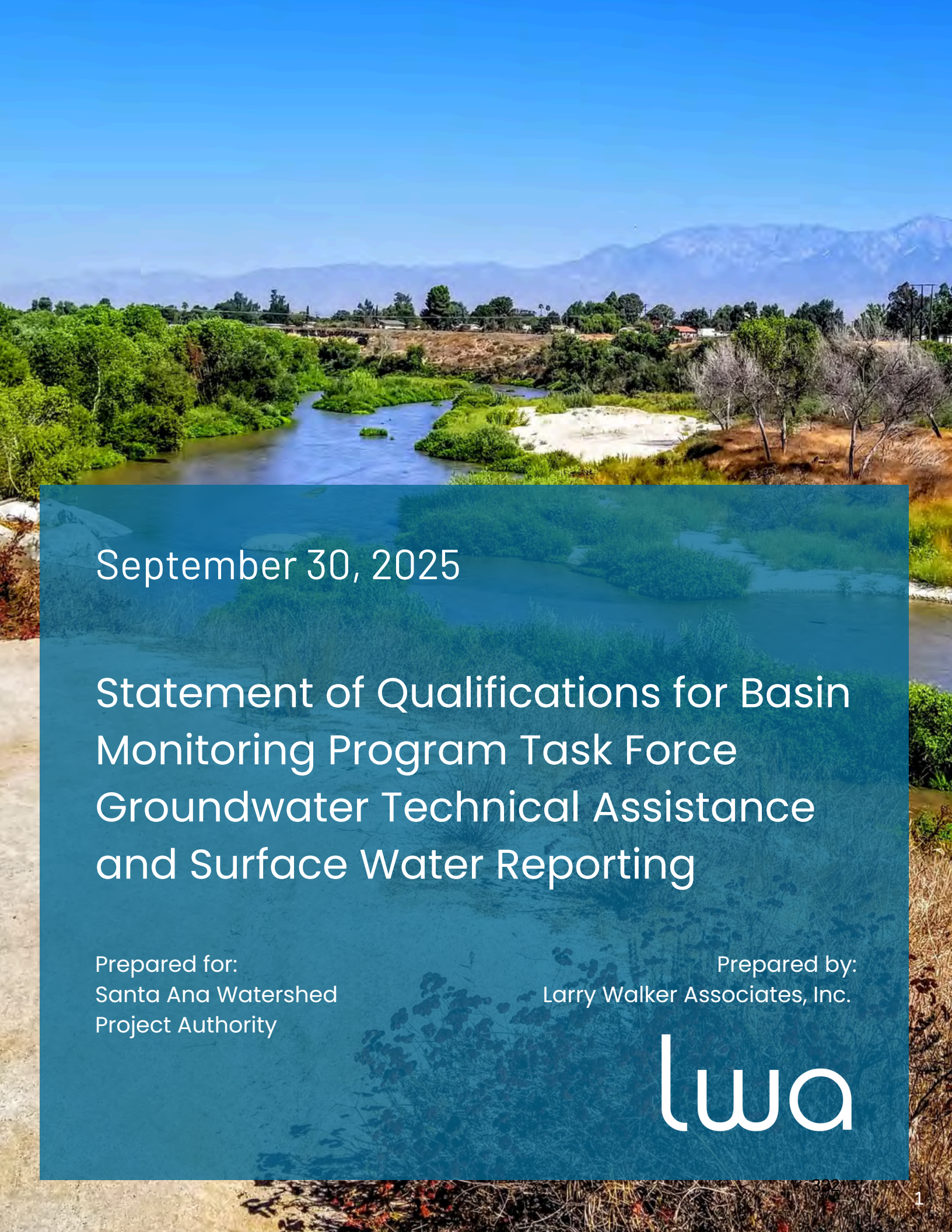
APPENDIX A4 - ADDITIONS, DELETIONS AND/OR EXCEPTIONS

Please state any and all Additions, Deletions and Exceptions that you are taking to any portion of this RFQ, the General Services Agreement (GSA), and/or Task Order (shown in Appendix B – “Standard Contract Documents – Task Order and GSA”). If not addressed below, then SAWPA assumes that the Consultant will adhere to all terms and conditions listed.

SAWPA will issue a Task Order and GSA in its standard form to the successful Consultant for the services contemplated herein. Any deletion, exception, or modification taken to SAWPA contract terms and conditions will be evaluated, in addition to the specified criteria; and may, itself, result in non-acceptance by SAWPA. Any request for deletion, exception, or modification, if so taken, must be submitted at the time of the proposal.

No Exceptions Taken.

~~Interesting Interests, Inc. (dba Horus Technology) takes no additions, deletions, or exceptions to the RFQ, the General Services Agreement (GSA), and/or the Task Order documents referenced in Appendix B. We agree to perform the services in full accordance with all terms and conditions as issued. If SAWPA requires any administrative clarification at Task Order award (e.g., points of contact or invoicing remittance details), we will provide them without modifying the contractual terms.~~



September 30, 2025

Statement of Qualifications for Basin Monitoring Program Task Force Groundwater Technical Assistance and Surface Water Reporting

Prepared for:
Santa Ana Watershed
Project Authority

Prepared by:
Larry Walker Associates, Inc.

lwa

COVER LETTER

September 30, 2025

Santa Ana Watershed Project Authority
Submitted via [Planet Bids](#)

Subject: Statement of Qualifications for Basin Monitoring Program Task Force Groundwater Technical Assistance and Surface Water Reporting

To Whom It May Concern:

Larry Walker Associates, Inc. (LWA) is pleased to submit this Statement of Qualifications (SOQ) in response to the Santa Ana Watershed Project Authority (SAWPA)'s *Request for Qualifications (RFQ) for Basin Monitoring Program Task Force (BMPTF) Groundwater Technical Assistance and Surface Water Reporting*. In response to this RFQ, we have assembled a team of qualified individuals with the necessary experience and specialized capabilities to support SAWPA and the BMPTF, as outlined in the proposed scope of services.

LWA brings deep expertise in the specific technical areas required by this Request for Qualifications (RFQ), including use of groundwater data to calculate assimilative capacity and develop management targets, trends analysis, groundwater storage and quality modeling, compliance with Santa Ana Regional Water Quality Control Board (Santa Ana Regional Board) requirements, consolidation, analysis, and reporting of large datasets, and coordination of multiple stakeholders. Our team also has direct experience working with groundwater management zones (GMZs), antidegradation analyses, and the complex data management essential to basin monitoring programs. We have successfully managed similar basin-wide monitoring programs, developed Groundwater Sustainability Plans (GSPs) under the Sustainable Groundwater Management Act (SGMA), and provided technical assistance to water agencies throughout California. LWA's proven track record includes extensive experience with the preparation of technical reports and work products that meet strict regulatory deadlines and requirements for both groundwater and surface water. We currently develop 25+ Annual Reports on behalf of stakeholders, the majority of which are municipal agencies, and provide groundwater quality modeling, data analysis, and/or reporting for 10+ clients.

We submit this SOQ as both an expression of interest and a commitment to providing SAWPA and the BMPTF with the guidance and resources for regional water surface and groundwater quality monitoring efforts focused on total dissolved solids (TDS) and nitrogen. This SOQ responds to and is structured in accordance with the requirements outlined in Section 6 of the RFQ. RFQ Appendix A1 follows this page; additional required forms are provided in **Appendix 1. Required Forms**.

We appreciate the opportunity to submit this SOQ for consideration and look forward to working with you. If you have any questions or need further information, please contact me at your convenience. As President of LWA, I am authorized to execute Task Order documents or Agreements. LWA acknowledges receipt of answers released on September 15 and 17, 2025.

Proposer's Name:		Larry Walker Associates, Inc.	
Authorized Signature		Date	9/30/25
Name of Individual Signatory	Ashli Desai	Title of Individual Signatory	President
Direct Phone Number	310-394-1036 x198	Mailing Address	2525 Ocean Park Blvd, Suite 216
E-Mail Address	ashlid@lwa.com	City, State, Zip:	Santa Monica, CA 90405

Sincerely,

Ashli Desai, President
Larry Walker Associates, Inc.

APPENDIX A1 - PROPOSER'S BUSINESS INFORMATION

All proposers shall submit the information as requested below.

1. Length of time your firm has been in business: 45 years
2. Length of time at current location: 2 years at 2525 Ocean Park Blvd, 216 Santa Monica, CA 90405
3. List types and business license number(s): City of Riverside: 12339107
4. California State Contractor's License number:
5. Names and titles of all officers of the firm: Ashli Desai, President
Brian Laurensen, Executive Vice President Tom Grovhoug, Senior Executive
Karen Ashby, Vice President Chris Minton, Vice President Laura Foglia, Vice President
Sandy Mathews, Vice President Jeffrey Walker, Owner Kathryn Walker, Owner
Joan Walker, Owner Susan Walker, Owner
6. Is your firm a sole proprietorship doing business under a different name?
YES ☐ or NO ☒
7. If yes, please indicate sole proprietorship name and the name you are doing business under:
8. Please indicate your Federal Tax Number: 942610668
9. Is your firm incorporated? YES ☒ or NO ☐
10. Name and remittance address that will appear on invoices: Ashli Desai
1480 Drew Avenue, Suite 100, Davis, CA 95618
11. Physical Address: 1480 Drew Avenue, Suite 100, Davis, CA 95618

1 EXECUTIVE SUMMARY

1.1 LWA's Origin, Background, Size and Organizational Chart

LWA was established in 1979 and headquartered in Davis, CA, with regional offices located in Santa Monica, San Diego, Ventura, San Luis Obispo, Berkeley, and Yreka, California as well as Seattle, Washington. LWA's Santa Monica office is conveniently located approximately 70 miles from SAWPA's offices. Our team has extensive experience working with clients within the Santa Ana Regional Board's jurisdiction and possesses in-depth knowledge of the regional regulatory environment and local conditions. **Figure 1** illustrates the proximity of LWA offices and resources to SAWPA in Riverside, CA. We have 25 staff members in the Southern California region.

Over the last four decades, LWA has leveraged its water quality expertise to assist public sector clients throughout California in developing pragmatic solutions that comply with the requirements of the United States Environmental Protection Agency (USEPA), the State Water Resources Control Board (State Water Board), and the Regional Board(s). LWA employs more than 80 professional and support staff who provide consulting services ranging from highly specialized groundwater, surface water, and wastewater quality management and regulatory support to traditional program implementation and reporting.



Figure 1. Map of LWA Offices Relative to SAWPA

LWA does not have any parent or holding companies and is a privately owned S corporation that employs a flat organizational structure, as demonstrated in Figure 2. Staff are organized by function and grouped by level of expertise and experience. Additionally, teams of subject-matter experts are grouped to complete the work requested by our clients. This organizational structure enables LWA to efficiently identify key staff members with the specialized expertise and qualifications necessary to deliver the specific requirements of each project or service, thereby meeting our clients' needs. Additional information about LWA's capabilities is provided in **Section 4**.

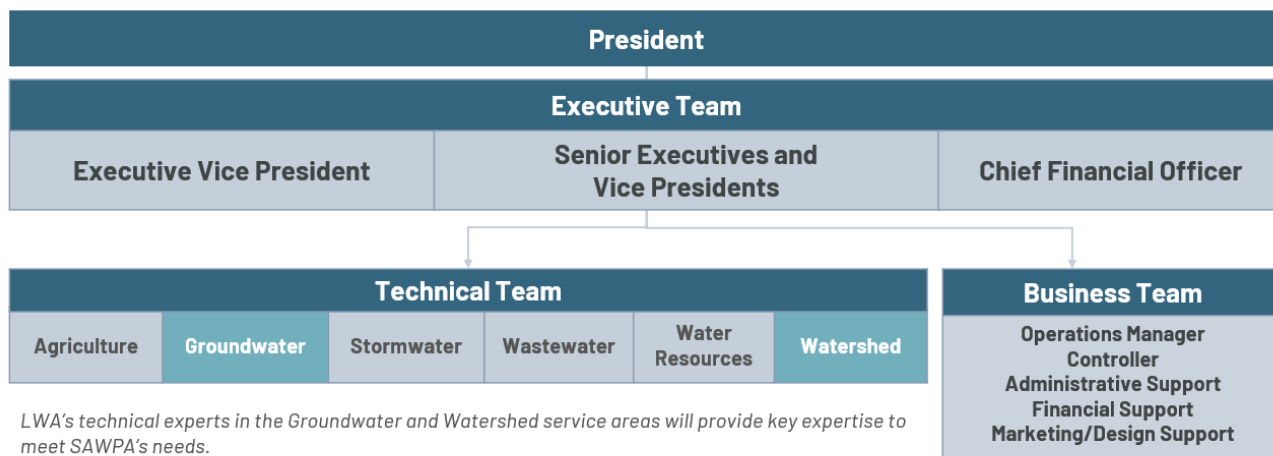


Figure 2. LWA's Organizational Structure

1.2 Firm Licenses and Certifications

LWA is a certified Women-Owned Business Enterprise (WBE2100325) and is registered with the Department of Industrial Relations (DIR Number 100007476).

2 IDENTIFICATION OF SERVICES

LWA proposes to provide all four services identified by SAWPA:

- A. Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers
- B. Annual/Routine Groundwater Data Consolidation
- C. Recomputing AWQ for GMZs for the Period of 2007 to 2026 ("2026 AWQ Recomputation")
- D. Development of the Annual Report of Santa Ana River Water Quality

3 QUALIFICATIONS AND EXPERIENCE

LWA's proven experience in the delivery of high-quality work products for complex surface water and groundwater compliance projects is evidenced by our years of experience with each scope item as follows:

- A. Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers: **15 years**
- B. Annual/Routine Groundwater Data Consolidation: **15 years**
- C. Recomputing AWQ for GMZs: **45 years**
- D. Development of Annual Reports: **45 years**

As evidenced by our heavily California-focused footprint (Section 2.1), LWA possesses the qualifications and experience necessary to represent the interests and needs of California government agencies such as SAWPA. Over the past 45 years, LWA has served more than 350 municipal/public clients in California. LWA has direct experience working with 6 of the 20 BMPTF members (**Figure 3**). We are also currently working extensively with the Santa Ana Regional Board on behalf of the 60 municipal separate storm sewer system (MS4) Copermittees in the Santa Ana Region.

LWA is willing to provide an active client list to demonstrate that there is no conflict of interest with SAWPA and has a conflict of interest policy and procedures that will be used to identify and resolve any potential conflicts of interest.

3.1 Representative Projects

As demonstrated in **Table 1**, LWA has significant, long-term experience (exceeding the five-year requirement) in providing the same types of regulatory and technical services as those requested by SAWPA.

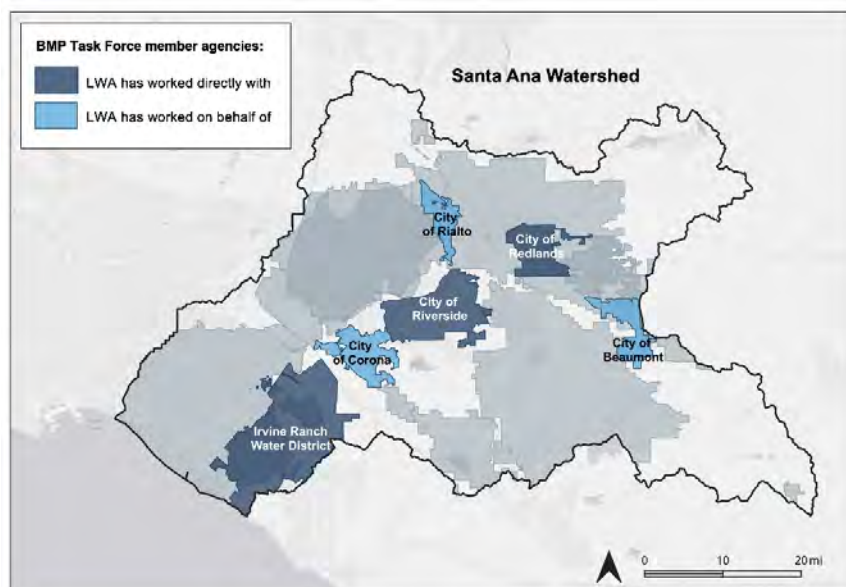


Figure 3. LWA's Experience Working with BMPTF Members in the Santa Ana Region

Table 1. Representative Projects and Experience

Relevant Projects	Local Experience		Experience Directly Relevant to BMPTF Service Areas				Relevant Expertise												
	Southern California	Santa Ana Region	Service A. Technical Assistance and Associated Updates Related to Groundwater Storage and Water Quality Modeling	Service B. Annual/Routine Groundwater Data Consolidation	Service C. Recomputing AWQ for GMZs for the Period of 2007 to 2026	Service D. Development of the Annual Report of Santa Ana River Water Quality	Document Research	Stakeholder Outreach/Coordination	Data Acquisition	Confidential Datasets/ NDAs	Data Management/Databases	Model Update/Review	QA/QC	Tool and Process Improvements	Summary Statistics and Trends Analysis	Assimilative Capacity Analysis	Anti-degradation Assessment	Compliance Assessment	Annual Report Development
Project 1. Calleguas Creek Watershed Salt and Nutrient Management Plan	•			•	•		•	•	•		•		•	•	•	•	•		
Project 2. City of Fillmore Regulatory Assistance and Groundwater Impact Evaluation	•			•	•		•	•	•		•	•	•		•	•	•	•	
Project 3. Groundwater Sustainability Plan Development and Implementation for Scott Valley, Shasta Valley, and Butte Valley Groundwater Basins			•	•			•	•	•	•	•	•	•	•	•			•	•
Project 4. Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) Prioritization & Optimization Study			•	•	•		•	•					•						
Project 5. Calleguas Creek Watershed TMDL Development and Implementation	•			•		•	•	•	•		•	•	•	•	•			•	•
Project 6. VCAILG Conditional Waiver and TMDL Compliance	•				•	•		•	•		•		•	•	•			•	•
Project 7. San Diego Region Water Quality Improvement Plan Annual Reporting	•					•	•	•	•				•	•	•			•	•
Project 8. Santa Ana Region – Tri County Group Regional MS4 Permit Renewal Support	•	•					•	•											

Highlights of key projects demonstrating similar services requested in this RFQ are provided below. LWA currently develops 25+ Annual Reports on behalf of clients and stakeholder groups, the majority of which are municipal agencies. Additionally, we currently provide groundwater modeling, data analysis, and/or annual reporting to 10+ clients.

Project 1. Calleguas Creek Watershed Salt and Nutrient Management Plan

Client Name	Stakeholders Implementing TMDLs in the Calleguas Creek Watershed
Years of Service	2011-Present

LWA is leading the development of a Salt and Nutrient Management Plan (SNMP) for six groundwater basins underlying the Calleguas Creek Watershed (Simi Valley, Arroyo Las Posas, Tierra Rejada, Conejo Valley, Arroyo Santa Rosa, and Pleasant Valley basins). Initially, LWA assisted stakeholders in evaluating the regulatory requirements of an SNMP, identifying existing management plans that could be used to meet SNMP requirements, and reviewing and compiling recycled water projects and goals. By 2018, LWA had developed a preliminary SNMP for six basins that included the analysis of available assimilative capacity, the development of an approach to assessing the antidegradation requirements, and the preparation of a preliminary draft SNMP. The assimilative capacity analysis involved the compilation of groundwater basin characteristics and groundwater quality data from multiple water and groundwater management agencies that provided information in different data formats. Collected data were used to develop iso-concentration contours of TDS, chloride, and nitrate. The iso-concentration contours were used to calculate area-weighted concentrations that were compared to the anti-degradation Basin Plan objectives to determine available assimilative capacity.

Based on the 2019 revision of the State Recycled Water Policy (Policy), LWA prepared a Basin Condition Assessment report to support a required reconsideration of SNMP requirements for the CCW basins by the Los Angeles Regional Board. The report ranked the importance of salt and nitrate planning for the Simi Valley, Arroyo Las Posas, Tierra Rejada, Conejo Valley, and Arroyo Santa Rosa basins. Criteria and scoring methods were developed consistent with guidance in the revised Policy and applied to existing information in areas such as groundwater quality, imported and recycled water use, reliance on groundwater pumping, density and number of on-site wastewater treatment systems, and hydrogeologic factors. The results enabled a prioritization of the CCW basins for the more labor-intensive evaluations to come, such as fate and transport modeling. In 2022, the Pleasant Valley Basin was added to LWA's SNMP scope of work.

Current work includes further prioritization of basins and constituents using criteria in the revised Policy, updated assessments of assimilative capacity to narrow the focus of the SNMP, and fate and transport modeling of nitrate and salts, where appropriate. This phase of work will be leveraging new outcomes from several regulatory silos, such as SGMA, the State Irrigated Lands Program, and implementation of the Calleguas Creek Watershed Salts TMDL. Pertinent outcomes include rapidly evolving water resources project portfolios included in pertinent GSPs and associated hydrogeologic model output, incorporation of recently built and planned regional groundwater desalters in salt balances, and new nitrogen management and reporting requirements for Ventura County growers in the 2023 Waste Discharge Requirements for Discharges from Irrigated Lands within the Los Angeles Region (LA Ag Order). This project includes presentations to provide updates to the Stakeholders Implementing TMDLs in the Calleguas Creek Watershed and coordination with the Los Angeles Regional Board.

Project 2. City of Fillmore Regulatory Assistance and Groundwater Impact Evaluation

Client Name	City of Fillmore
Years of Service	2022-Present
Since 2022, LWA has provided technical and regulatory support to the City of Fillmore in response to Waste Discharge Requirements (WDRs) for the City's Water Recycling Plant (WRP). Compliance with the Los Angeles Regional Board's WDR is challenging because the City's groundwater naturally contains elevated ambient concentrations of chloride and boron. To assist the City, LWA prepared a Discharge Impact Evaluation and Antidegradation Analysis that reviewed beneficial uses and water quality objectives, calculated ambient groundwater quality, and evaluated the Fillmore Groundwater Basin's assimilative capacity for chloride and boron. This work utilized a groundwater mixing model to assess the potential impact of the WRP's effluent on groundwater quality and demonstrate the effectiveness of the City's effluent management plan. Data used for the evaluation was a combination of publicly available groundwater data from the State Water Board's Groundwater Ambient Monitoring and Assessment (GAMA) database, and groundwater data and effluent data collected by WRP personnel. Inputs to the mixing model included hydrogeologic properties including an estimate of the saturated thickness in the region of the WRP, and groundwater gradients. The analysis of WRP effluent impacts on groundwater quality demonstrated that the discharge complies with the State Water Board's Antidegradation Policy (Order No. 68-16). In accordance with the Antidegradation Policy, the numerical groundwater limits used in the evaluation were calculated based on the ambient groundwater quality plus 10% of the available assimilative capacity. Using this approach, LWA was able to communicate to the Regional Board that the WRP's operation has minimal impact on the groundwater basin and that current operations are protective of beneficial uses. To objectively assess the impact of the discharge on groundwater, LWA used historical groundwater and surface water quality data to demonstrate to the Regional Board that elevated boron and chloride concentrations have persisted in the region for more than 60 years. Findings of the work, including model outputs, were utilized by the Regional Board in the most recent WDR. LWA also prepared an Alternative Potable Water Supply Source Evaluation that identified and assessed potential new groundwater wells, imported water, and stormwater capture projects as potential potable water supplies and documented the associated costs and feasibility. Most recently, LWA completed an Effluent Limit Feasibility Study to address new permit provisions requiring compliance with mass-based effluent limits for chloride and boron. The study evaluated potential compliance strategies including expanded recycled water use, source control measures, and advanced treatment alternatives. The report concluded that imported water and treatment options were infeasible due to cost and environmental impact, and recommended expansion of recycled water use and source control as the most practical compliance pathway.	

Project 3. Groundwater Sustainability Plan Development and Implementation for Scott Valley, Shasta Valley, and Butte Valley Groundwater Basins

Client Name	Siskiyou County Flood Control and Water Conservation District
Years of Service	2018-Present

Siskiyou County Flood Control & Water Conservation District (County) received grant funding in 2018 and 2020 to develop GSPs through Proposition 1 and 68 grants, in compliance with SGMA. LWA developed three GSPs for basins managed by the County. As the lead consultant, LWA led the project in coordination with the County, and alongside team members including the University of California Davis, Resource Conservation Districts, and other consultants. This collaboration enabled the team to develop three GSPs, conduct stakeholder outreach, complete annual reports, design and implement monitoring networks for water level and water quality, initiate comprehensive monitoring programs, complete targeted studies, and satisfy regulatory requirements. LWA developed groundwater models for two of the three basins, and runs model scenarios for the third basin. The models utilize existing data collected in the basins, as well as geologic and hydrologic data collected by the LWA team. The models are used to evaluate groundwater resources under different management and climate scenarios and support recharge pilot studies and regulatory requirements related to minimum streamflow targets.

LWA implemented basin-specific geochemical approaches to identify water sources and groundwater-surface water interactions. In Scott Valley, radon sampling identified gaining and losing reaches of the Scott River, supporting managed aquifer recharge assessments. Dual isotope studies (O18/deuterium) helped distinguish surface and groundwater sources across all basins. In Shasta and Butte Valleys, LWA established basin-wide water quality networks utilizing isotope analysis and major ion chemistry to create unique "fingerprints" for different water sources and aquifer systems. Sampling occurred twice annually to compare recharge conditions against high-stress periods, revealing hydrogeological dynamics and interconnected surface water relationships. Notable findings include the identification of high-elevation recharge sources in Shasta Valley's Big Springs region, sourced from Mt. Shasta. Additionally, LWA oversees the annual reporting of the GSP constituents, which include TDS and nitrate.

Monitoring networks designed and implemented by the team rely upon existing wells and newly installed wells with telemetry for web-based access to results. LWA developed data management systems handling both continuous datasets (groundwater levels and quality, stream stage, meteorological data) and discrete measurements (water quality, manual measurements). This data pipeline includes automated data normalization, quality assurance and quality control (QA/QC) protocols, data flagging, calibration procedures, and secure storage with confidentiality controls. Data integration supports automated visualization tools and ongoing database expansion to incorporate water quality datasets as a standardized repository.

Tasks Include:

- Implementation of Monitoring Programs, Protocols, and Networks
- Water Budget Development and Groundwater Modeling
- Geochemical Studies and Water Source Identification
- Data Collection, Management, and Analysis
- Public Outreach and Engagement
- Development of Sustainability Criteria

Project 4. Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) Prioritization & Optimization Study

Client Name	Central Valley Salinity Coalition (CVSV)
Years of Service	2021-Present

Since 2021, LWA has been one of the prime contractors leading a consultant team in the development of a long-term salt planning study for the Central Valley. Work has included development of a Baseline Characterization Report, quantification of salt sources, selection of a suite of modeling tools, development and refinement of watershed and groundwater modeling tools, and performance of archetype studies to establish salinity planning targets. LWA has worked closely with the Central Valley Salinity Coalition, Central Valley Regional Board, and other CV-SALTS stakeholders in the performance of this work, which has set the stage for understanding the spatial and temporal conditions and trends for salt accumulation in the Central Valley over the next 150 years. This information is crucial for prioritizing and optimizing salt management solutions in the Central Valley, the ultimate goal of this planning effort.

Tasks Include:

- Extensive compilation and documentation of the following data: surface water quality, groundwater quality, surface water flows and hydrology, groundwater hydrology, salt sources, water supply sources, land use, crop types, and crop salinity thresholds and yield.
- Use of modeling tools to estimate salinity in crop root zone and identification of common salt-sensitive crops and thresholds for protection of crop yields.
- Use of modeling tools to evaluate current and future salinity management practices, SGMA activities, and planned large-scale water projects on the achievement of salinity planning targets under a range of future climate change scenarios.
- Preliminary evaluation of salt management practices and treatment technologies that could support the long-term management of salt accumulation in the Central Valley Region.
- Development of Baseline Characterization Report (year 2020) summarizing salt conditions in the Central Valley Region using data compiled by the consultant team.
- Development of Central Valley hydrologic conceptual model.
- Selection and refinement of models and tools to characterize and predict surface and groundwater conditions in the Central Valley Region.
- Identification of water use and water management activities that impact salt conditions in surface water and groundwater.
- Recommendation to subdivide the Central Valley Region into Salt Management Regions (SMRs) to provide the foundation for development of long-term salt management alternatives.
- Establishment of numeric salt management targets to protect existing beneficial uses in surface waters and groundwaters in the Central Valley Region.
- Use of modeling tools to estimate salt accumulation in SMRs and determination of salt sustainability gap (salt to be managed to achieve salinity planning targets) in each area.
- Use of modeling tools to perform a preliminary assessment of the effectiveness of both planned and potential management actions to reduce the salt sustainability gap estimated for each SMR.
- Support establishment of relevant policies to support salinity target development and salt management.
- Establishment of archetype study areas for the development of numeric salt targets that will protect existing beneficial uses in the study area for 100 years or more.

Project 5. Calleguas Creek Watershed TMDL Development and Implementation

Client Name	Stakeholders Implementing TMDLs in the Calleguas Creek Watershed
Years of Service	1998-Present

LWA has been working with the Stakeholders in the Calleguas Creek Watershed (CCW) to provide watershed planning, monitoring, Total Maximum Daily Load (TMDL) development and implementation, and regulatory support since 1998. The large, diverse Stakeholder group includes agricultural dischargers, seven municipal stormwater permittees, five wastewater treatment plants, three water agencies, the Navy, and Caltrans. CCW has multiple impairments and TMDLs, including nitrogen, salts, metals, bacteria, toxicity, organochlorine pesticides, polychlorinated biphenyls, sediment, and trash. TMDL reports developed by LWA for the CCW Stakeholders have, to date, formed the basis for five Third-Party TMDLs adopted by the State Water Board and USEPA, demonstrating LWA's experience in facilitating stakeholder-led regulatory processes. The Stakeholders chose to develop third-party TMDLs to identify alternative approaches to addressing salts impairments that would have required installation of reverse osmosis treatment at several of the wastewater treatment plants if a traditional TMDL approach had been taken.

Since 2006, LWA has been coordinating the schedules and implementation of all TMDLs in the CCW. LWA is responsible for developing and implementing TMDL special studies, monitoring, and annual reporting requirements.

Regulatory Support Tasks include:

- Comment letters, meeting attendance, and coordination with the Los Angeles Regional Board, State Water Board, and USEPA.
- Regulation and policy review including the State Water Board's Recycled Water Policy updates, USEPA's 2012 Recreational Water Quality Criteria and Water Quality Standards updates, and Los Angeles Regional Board's SNMP guidance and Basin Plan amendments.
- Municipal stormwater, wastewater and agricultural order adoption support and implementation. This support includes assisting the wastewater treatment plants with negotiating permit conditions to avoid desalting requirements to meet the salts TMDL requirements.

TMDL Implementation Tasks include:

- Conducting a salt balance analysis to meet a requirements of the Salts TMDL at three prescribed intervals during the TMDL implementation period. The salt balance calculation involved gathering water use and groundwater data from multiple water and wastewater agencies, reconciling and compiling the data and calculating loads. The salt loads entering the watershed through the water supply (imported and groundwater), were compared to the salt loads leaving the watershed in the surface water during dry weather to evaluate progress towards balancing the salt load entering and leaving the watershed.
- Development and implementation of a multi-pollutant TMDL monitoring program covering TMDL monitoring requirements for all CCW Stakeholders. This first-of-its-kind approach in Southern California integrated multiple TMDL compliance monitoring requirements into one single, cohesive program. LWA identified opportunities to consolidate efforts and worked with the CCW Stakeholders to gain Regional Board support for the integrated approach.
- Annual Reporting to document the monitoring efforts and results of the multi-TMDL monitoring program. Annual Reporting includes data compilation, QC, and comparison of the TMDL monitoring data to TMDL targets and allocations and a trends analysis.
- Development and implementation of special studies to address data gaps or identify solutions to compliance challenges. In Fiscal Year 2025-2026, LWA will be conducting a salts study to evaluate potential changes in averaging periods and development of site-specific objectives. This study will include evaluation of compiled groundwater and surface water data and an assessment of locations of beneficial uses and the salt concentrations that could impact those beneficial uses.

Project 6. Conditional Waiver and TMDL Compliance

Client Name	Ventura County Agricultural Irrigated Lands Group (VCAILG)
Years of Service	2004-Present

Since 2004, LWA has provided regulatory assistance to the Ventura County agricultural community through the local Farm Bureau for compliance with the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Conditional Ag Waiver). LWA provided assistance with negotiating the terms of all three Conditional Ag Waivers adopted by the Los Angeles Regional Board. Following adoption of the first Conditional Ag Waiver, LWA coordinated the formation of the discharger group (VCAILG) and developed a membership database, which is currently maintained for over 1,400 enrollees, over 3,200 parcels, and more than 81,000 irrigated acres. Upon adoption of each Conditional Ag Waiver, LWA compiled membership statistics and information regarding cultural practices to complete VCAILG's Notices of Intent (NOI). Included in the NOI submittals to the Regional Board were the Quality Assurance Project Plan (QAPP) and Monitoring and Reporting Program (MRP) Plan. LWA developed the monitoring strategy to meet the requirements of the Conditional Ag Waiver and the TMDLs, which were incorporated into the Waiver, and also coordinated with other applicable monitoring programs to leverage those efforts and data. Additionally, LWA contributes to education meetings, informing farmers of their responsibilities for Conditional Ag Waiver compliance as well as summarizing the water quality monitoring data. Finally, LWA plans, executes, and reports on special studies required by the Conditional Ag Waiver.

Tasks Include:

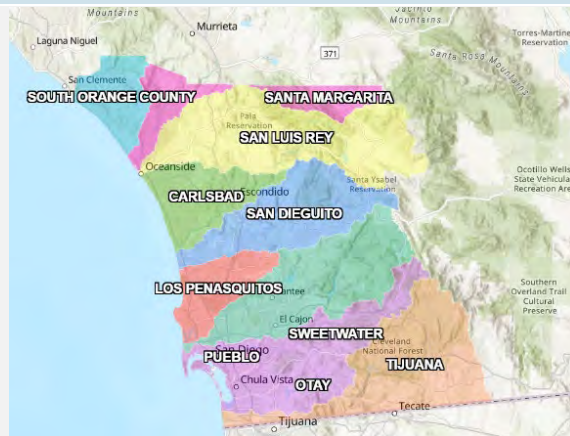
- Evaluating groundwater trends, impacts to groundwater quality, and associated annual reporting.
 - o A major addition to the 2016 Conditional Ag Waiver was the inclusion of certain groundwater requirements including the tracking of groundwater trends (including for nitrogen) and the evaluation of management practices impact in protecting groundwater quality. LWA produced the required plan approach documents for both types of groundwater reports. The LWA team has produced Groundwater Quality Trend Annual Monitoring Reports since 2017. In 2020, the LWA Team coordinated and implemented the groundwater well monitoring needed for the Groundwater Management Practice Evaluation Report. This study considered the presence of sewage markers and dual stable isotope signatures of nitrate in groundwater well samples collected in a groundwater basin with a significant irrigated agricultural land area overlying it. The groundwater monitoring results were then considered in correlation with BMP results from overlying farms.
- Developing and implementing Conditional Ag Waiver monitoring and annual reporting.
 - o In developing the QAPP and MRP Plan, LWA assisted with the selection of all monitoring sites within the 3 major Ventura County watersheds and conducted site assessments to verify relevance to the monitoring program and safe access. LWA has led the Conditional Ag Waiver monitoring effort since commencement in 2007; specific requirements have changed over the iterations of the Conditional Ag Waiver. LWA compiles and presents monitoring data in the VCAILG Annual Monitoring Report.
- Developing and maintaining a comprehensive database for enrollment, parcel, ownership, grower records, and the results of surveys of agricultural best management practice (BMP) implementation.
- Development and implementation of:
 - o Water Quality Management Plans triggered by exceedances of water quality "benchmarks". LWA provides outreach and guidance in areas that could be improved to attain compliance.
 - o Special studies to fulfill requirements of the Conditional Ag Waiver by characterize discharges and identify sources where exceedances were occurring and increasing concentration trends were evident.

Project 7. San Diego Region Water Quality Improvement Plan Annual Reporting

Client Name	Various San Diego Regional MS4 Copermittees, including Riverside Flood Control and Water Conservation District
Years of Service	2015-Present

Water Quality Improvement Plan (WQIP) Annual Reporting in the San Diego Region includes compilation and assessment of multiple data types including precipitation, flow, chemistry, biological, and field water quality data from multiple sources. The data assessment is used to evaluate progress to water quality goals; strategies supporting water quality improvement and adaptive management to improve progress to goals or address data gaps is also presented.

LWA led development of the WQIP Annual Reporting framework for San Diego Region Copermittees in all nine watersheds in 2015. LWA has also supported the development of Annual Reports in multiple Watershed Management Areas (WMAs). Recently, LWA drafted a letter to the San Diego Regional Board on behalf of Copermittees requesting permission to provide a streamlined 2024-2025 WQIP Annual Report; LWA is also currently leading the development of an innovative, streamlined, visual report in the San Luis Rey River WMA that incorporates feedback from San Diego Regional Board staff and Copermittees alike.



Project 8. Santa Ana Region – Tri County Group Regional MS4 Permit Renewal Support

Client Name	Tri-County Group (County of Orange, Riverside County Flood Control and Water Conservation District, San Bernardino Flood Control District)
Years of Service	2021-Present

In 2021, the Santa Ana Regional Board initiated the adoption of a region-wide Phase I municipal stormwater Permit for the 60 Permittees in Orange County, Riverside County, and San Bernardino County. LWA is assisting the County of Orange, Riverside County Flood Control and Water Conservation District, and San Bernardino Flood Control District (Tri-County Group - TCG) in leading the permit renewal process on behalf of the MS4 permittees. LWA is identifying issues and alternative approaches, developing presentation materials, crafting redline strikeout permit language, and preparing formal written comments. Tasks to date include:

- Overall meeting facilitation and support for the TCG
- Organized, led and developed materials for TCG internal meetings.
- Organized and led the TCG Focus Group with the development of permit redlines.
- Coordinated with the Facilitator [Participation by Design] to support and participate in Regional Board/TCG meetings to discuss specific permit sections and alternative approaches and/or language.
- Developed preparatory (agenda, slide decks, meeting handouts, etc.) and follow-up materials (meeting summary, action items, etc.) for the Regional Board- TCG meetings.
- Provided updates to the TCG to track the various action items.
- Provided direct support for Permittees in the identification of issues and talking points for the various Regional Board and Copermittee-specific meetings
- Developed draft and final comment letters identifying issues with the permit language and proposed alternative approaches and language.
- Participated in Regional Board workshops and permit hearings throughout the permit adoption process.

3.2 Staff Qualifications

LWA is comprised of skilled technical professionals who possess the qualifications and experience to support SAWPA and the BMPTF. The proposed organizational chart illustrating the compositional and functional relationships of the team supporting each scope item is provided in **Figure 4**. Resumes detailing these qualifications for key staff are provided in **Appendix 2. Resumes**.

In addition to their technical expertise, LWA's designated project managers have a strong track record in delivering projects on time and within budget, which is supported by robust internal procedures as well as oversight by the Principal-in-Charge and Senior Advisors.

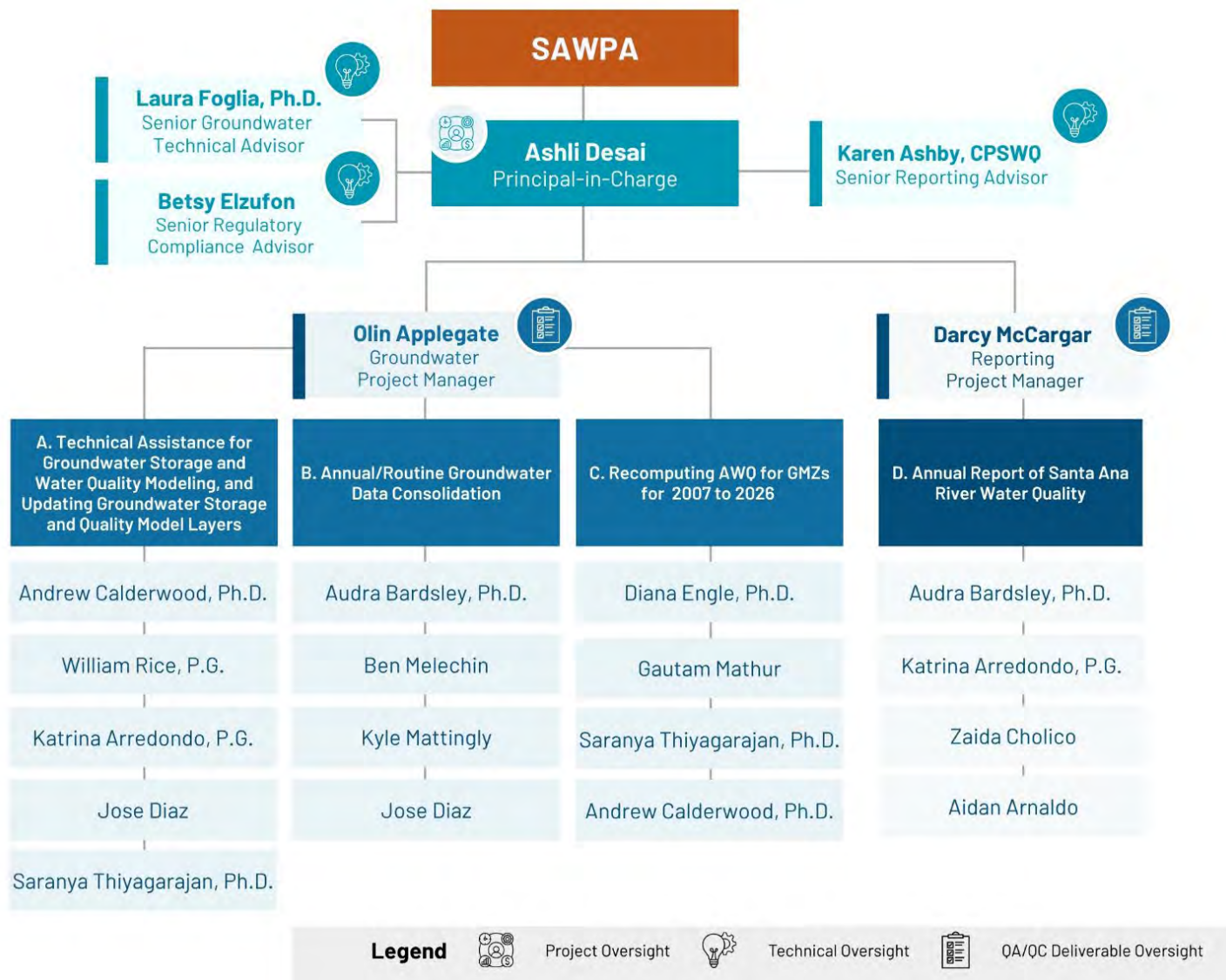


Figure 4. LWA BMPTF Organizational Chart

4 REFERENCES

LWA's reputation is a direct result of our professional and qualified staff, as well as our commitment to fostering long-term relationships built on trust with our clients. In accordance with the RFQ, the Reference form, Appendix A2 of the RFQ, is provided in **Appendix 1. Required Forms**.

5 LIST OF SUBCONTRACTORS

LWA proposes to complete the requested scope of work without the use of subcontractors and has indicated that Appendix A3 of the RFQ is not applicable in **Appendix 1. Required Forms**.

6 FEE SCHEDULE

Per requirements in the RFQ, LWA has prepared a separate Excel-based fee schedule, which includes current hourly rates and reimbursable expenses. These are provided in **Attachment 1. Fee Schedule**.

7 UNDERSTANDING OF THE PROJECT AND APPROACH

7.1 BMPTF

The BMPTF was established in 2004 through a multi-agency agreement as a result of early work completed by the Nitrogen and TDS Task Force; the BMPTF's initial purpose was to implement nitrogen and TDS monitoring and analysis required by a Basin Plan Amendment adopted earlier in 2004. SAWPA was selected as the Task Force Administrator; SAWPA's collaborative approach that incorporates regulators and regulated parties as well as SAWPA member agencies provides effective regional leadership to the BMPTF. The stakeholders in the BMPTF include the Santa Ana Regional Board as well as key wastewater agencies that operate publicly owned treatment works (POTWs) that discharge treated effluent with the potential to impact surface and/or groundwater in the Santa Ana River Basin (Basin).

In addition to implementing required monitoring (including annual monitoring and reporting for the Santa Ana River Reaches 2 through 5 and groundwater monitoring and assessment every 5 years), the BMPTF has advised on the development of permits and other regulations for recycled water, led updates to the waste load allocation model (WLAM), developed and piloted modified methodologies for computing ambient water quality (AWQ), and conducted additional studies to evaluate trends or address other data gaps on an as-needed basis. For example, the BMPTF recently initiated development of a special study to investigate fluctuations in TDS concentrations in Santa Ana River Reach 3. The BMPTF also works with the Imported Water Recharge Group and the Emerging Constituents Program Task Force to ensure water quality in the Basin is monitored and protected.

Through the past two decades of collaborative effort, the BMPTF has achieved the following:

- Continuous reduction of total nitrogen concentrations in Santa Ana River Reach 2
- Strengthened relationships with partner agencies
- Cost savings through
 - o joint implementation of studies
 - o avoidance of up to \$100 million of unneeded additional wastewater treatment (desalting)
 - o avoidance of litigation

LWA proposes to support the BMPTF's continued success with each service as described in Section 8.2.

7.2 Approach to Providing Services

Service A. Technical Assistance and Associated Updates Related to Groundwater Storage and Water Quality Modeling

LWA understands that the BMPTF requires the acquisition of groundwater characteristics information to update aquifer storage property layers in the model for use in assessments, including AWQ recomputations (Service C). LWA understands Service A to require researching existing datasets, conducting agency outreach, collecting and cataloging specific yield (Sy) and aquifer bottom elevation data, updating groundwater storage property layers, and implementing QC measures to deliver reproducible results.

Technical Implementation Approach

Research, Outreach, and Data Acquisition

LWA will review relevant documents and existing datasets/databases, including SNMPs and Technical Memoranda as well as GSPs prepared by Groundwater Sustainability Agencies (GSAs), to acquire relevant data and identify the agencies responsible for groundwater management, data collection, and analysis within the Santa Ana River Basin. We will conduct outreach to water agencies and related entities that have completed groundwater storage and water quality modeling to request Sy and aquifer bottom elevation data. Once data are obtained, we will catalog the datasets into a robust relational database to track sources, maintain version control, and ensure data traceability. Selection of the specific relational database will be contingent on LWA's review of existing BMPTF databases and their capabilities. If new relational databases for structured data are needed, we will consider Microsoft SQL Server, PostgreSQL, or another alternative based on input from the BMP task force. For small-scale or desktop applications, Microsoft Access may also be considered. LWA has extensive experience collaborating with a wide range of water management agencies and is well qualified to coordinate with the required agencies to obtain the necessary information. We understand efficiency is key during this process as agency staff and resources are limited.

Update Groundwater Storage Properties

Using the newly created relational database, the existing MODFLOW storage properties layer will be updated. LWA employs a range of technical tools to complete tasks similar to this, including Leapfrog Works which processes Airborne Electromagnetic (AEM) survey data in conjunction with lithologic logs and well completion reports to generate three-dimensional geologic models of groundwater basin bottom elevations. These geometries are integrated into MODFLOW models to improve characterization of aquifer boundaries and connectivity. The Team is prepared to ensure that the technical output completed for this task is transferable to the work conducted for Service C (2026 AWQ Recomputation).

QA/QC

LWA will implement a multi-step QA/QC process including automated anomaly detection, statistical validation, and expert review. Additionally, LWA quality control of the updated storage properties layer includes a robust QA/QC review to ensure updated layers align with historic SAWPA modeling efforts.

Deliverables

Deliverables anticipated to be included under this service include:

- Updated MODFLOW-ready storage property layers for Sy and aquifer bottoms.
- QA/QC documentation and metadata.
- Interactive maps and dashboards for agency review.
- Narrative summaries of methodology and findings.
- Meeting agendas and presentation slides inviting collaboration and communicating key findings.

Example Schedule

Assuming Notice to Proceed (NTP) by November 2025, we have provided an example schedule for Service A in **Table 2**.

Table 2. Example Schedule for Technical Assistance and Associated Updates to Groundwater Storage and Water Quality Modeling (Service A)

Phase	Date	Key Deliverables
Data Acquisition, Technical Document Review, and Outreach	December 2025 – June 2026	Identify and contact agencies to obtain Sy and aquifer bottom elevation data
Database Development	December 2025 – June 2026	Catalog and structure acquired data into a relational database
Model Layer Update	April 2026 – September 2026	Update MODFLOW-ready groundwater storage property layers
QA/QC Review	December 2025 – December 2026	Validate data and updated model layers

Service B. Annual/Routine Groundwater Data Consolidation

LWA understands the BMPTF requires annual acquisition of various types of groundwater data from well owners across the 35 GMZs to support AWQ recomputations as well as other related efforts.

Groundwater data to be acquired includes well elevation, depth to groundwater, and water quality information. LWA understands Service B to include submission of data request forms to relevant entities, meeting with entities to discuss and validate groundwater data, normalization of data to fit the BMPTF's database, execution of non-disclosure agreements, and consulting on data management and analytical tools including potential improvements. LWA's Service B team combines field expertise, modern analytics, and institutional knowledge to deliver transparent, efficient, and secure data consolidation for SAWPA.

Technical Implementation Approach

Annual Data Requests and Verification

Each year, LWA will issue standardized data request forms and data upload templates to participating entities. Our team will conduct annual meetings with agency staff, stakeholders, and well owners to verify information, including well locations, screen intervals, measurement techniques, reporting accuracy, reporting units, and QA/QC measures. Field data will be reviewed for potential issues, and anomalies may be discussed with the reporting entities. LWA staff have experience in inheriting historical datasets as well as datasets derived from public sources for incorporation into long-term monitoring and reporting programs. We understand that these diverse sources often require follow-up or confirmation with the collecting entity, research into methods used, and QA/QC measures to determine the compatibility and validity in the long-term dataset.

Data Normalization and Integration

LWA proposes to use Python or R-based pipelines to normalize incoming datasets, flag anomalies, and integrate results into the BMPTF-provided database. This code-based approach has been successfully implemented for SGMA clients with similar multi-origin datasets, including unique formats. The approach minimizes manual data handling and reduces the labor associated with repetitive tasks that may increase the potential for error while also improving efficiency.

Confidentiality and Secure Handling

As needed, LWA will execute and manage non-disclosure agreements (NDAs) for sensitive GMZ data, and confidential data will be stored securely. We have experience handling sensitive groundwater datasets for SGMA projects as well as regional water quality programs. Our existing groundwater data management framework accommodates the handling of confidential information, with classification protocols based on client requirements, data source, and other defined methods. Data are tagged and treated as confidential end-to-end throughout the normalization and QA/QC pipelines. LWA works with several confidential clients in the execution of their regulatory or investigative programs. Data management protocols include a range from entirely confidential to partially confidential, which requires the distinction of data as confidential or public within a single program.

Continuous Improvement and Tool Development

LWA will coordinate with the BMPTF to make recommendations for and/or implement process improvements such as the use of new statistical tools, trend analysis scripts, and data management enhancements. Upon approval, these improvements will be implemented to standardize data across future data consolidation cycles. Relevant examples include the development of site- and parameter-specific dashboards, applied internally and in conjunction with web-based tools and reporting platforms to enhance data interpretation and visualization. Additionally, we have experience developing new tools to automate the receipt, normalization, and QA/QC of remotely collected, real-time data. These tools automatically flag QA/QC issues and send notifications to staff with easy-to-interpret data summaries and data concerns.

Deliverables

Deliverables anticipated to be included under this service include:

- Updated, QA/QC-validated BMPTF database.
- Documentation of data request and verification steps.
- Recommendations for tool development and standardization.

Example Schedule

Assuming NTP by December of the preceding year, we have provided an example annual schedule for Service B in **Table 3**.

Table 3. Example Schedule for Annual/Routine Groundwater Data Consolidation (Service B)

Phase	Date	Task
Annual Data Requests	January – March annually	Distribute standardized data request forms and templates
Data Verification & Consolidation	January – June annually	Meet with agency staff/well owners; normalize and format data; execute NDAs if required; integrate into BMP database
Data Normalization & Integration	April – September annually	Normalize and integrate data into BMPTF database
Data Management Tools	July – September annually	Recommend and implement improvements (scripts, dashboards, standardization across AWQ recomputations).

Service C. Recomputing AWQ for GMZs for the Period of 2007 to 2026 (“2026 AWQ Recomputation”)

LWA understands that the BMPTF requires recomputation of Ambient Water Quality (AWQ) every 5 years per the updated requirements of the Basin Plan and the results will be used by the Regional Board to determine ambient groundwater quality, evaluate assimilative capacity, and determine if regulatory actions are needed to address current water quality conditions. Using the processes identified in the 2021 AWQ Pilot Study (also known as the Pilot Study) and the 2022 Groundwater Monitoring Program, LWA will recompute the AWQ for the 35 GMZs and determine their assimilative capacity. The AWQ Recomputation for the period 2007 to 2026 will be conducted using the “Modified Standard Approach”, described in the Pilot Study as well as the RFQ. The approach includes “interpretive tools” to support interpretation of results, including statistical trend analysis. Throughout the completion of this service, LWA will follow the methodology as directed by the BMPTF. All technical steps required for the AWQ Recomputation, including data analysis, spatial processing, and reporting will be consistent with the 2021 Pilot Study and BMPTF protocols. We will also leverage our expertise in developing fully scripted workflows that integrate data analysis, spatial analysis, reporting, and QA/QC to provide a transparent and reproducible AWQ recomputation.

Technical Implementation Approach

Water Quality Evaluation, Aquifer Storage, and Ambient Water Quality

LWA will coordinate with the BMPTF to acquire the data for TDS, nitrate, and groundwater elevation for the period 2007-2026 (see also LWA’s approach to Services A and B). For each well with concentration

data in the 20-year period, the LWA team will compute AWQ summary statistics and apply the Mann-Kendall trend test to evaluate the well's concentration trends.

Iso-concentration contours for TDS and nitrate concentrations, as well as water level, will be developed for each GMZ to visualize spatial changes in concentration and water level across the GMZs. LWA has experience with interpolation techniques across a range of hydrogeologic settings to develop digitized contours that accurately represent real-world conditions at both site-specific and regional scales. The concentration and water level contours will be used to assign values to rasters with cells of 400x400 meters. The delineation of the grid cells will be coordinated with the effort conducted for Service A to ensure the raster grid of concentrations and the raster grid of aquifer properties have the same discretization. In addition to the cell's concentration value and water level, each cell will be assigned aquifer storage information, provided by the BMPTF, that will be used to estimate the volume of water in the grid cell.

The aquifer storage information will either be new information created through Service A or be data from the first AWQ Recomputation implemented in the Phase 2A Technical Memo published in 2000. The mass of TDS and nitrate will be estimated for each grid cell using the volume of water in storage and the concentration. This calculation will also be conducted for the entire GMZ by summing the volume of water in storage for each grid cell or partial cell that overlaps the GMZ. In instances where multiple aquifer layers are present, the grid cells comprising the aquifer layers will be summed. The GMZ's volume-weighted estimate of TDS and nitrate will then be calculated by summing the total mass of TDS or nitrate in the GMZ's grid cells and dividing this mass by the GMZ's volume of water in storage.

Assimilative Capacity Analysis

The assimilative capacity of each GMZ will then be calculated by subtracting the 2026 AWQ Recomputation single value from the GMZ's antidegradation objective specified in the Basin Plan. The antidegradation objectives are based on well data from the period 1954 to 1973. In instances where updated aquifer storage properties are used to calculate the volume of water in the GMZ, the Basin Plan's single concentration value for TDS and nitrate will be recalculated using data provided by the BMPTF for the period 1954 to 1973. The difference between the updated 2007 to 2026 AWQ and the 1954 to 1973 AWQ will inform assimilative capacity findings and influence the understanding of the relative magnitude of degradation. These potential recalculations of baseline conditions will provide a more accurate assessment and understanding of TDS and nitrate impacts for the BMPTF and the Regional Board.

To evaluate how water quality is changing over time, the 2026 AWQ statistics will be summarized and compared to past recomputations. This interpretive analysis will include a summary of the number of wells in each GMZ with TDS and nitrate objectives above or below the Basin Plan objectives, a summary of concentration trends for wells in the GMZ, and the percent change in AWQ statistics at wells in each GMZ from 2021 to 2026. As detailed in Section 6.5 of the Pilot Study, maps will visualize the spatial change in TDS and nitrate concentrations in each GMZ from 2021 to 2026, and the Mann-Kendall statistical trends analysis at wells will also describe temporal changes in concentrations of TDS and nitrate.

Communication and Coordination with the BMPTF

LWA recognizes that consistent and transparent communication with the BMPTF is critical to the success of the 2026 AWQ Recomputation. We will provide regular updates at BMPTF meetings, deliver interim technical materials for review, and incorporate feedback at key milestones. We will also leverage our proven experience communicating results and conclusions of complex technical studies to diverse audiences. The accuracy and clarity of these results, and the way they are presented, are critical to the Regional Board's interpretation of compliance, as well as to stakeholders' and the public's understanding of SAWPA's efforts and success. LWA will work with the agencies and stakeholders to tailor updates and presentations for the maximum benefit of the audience, ensuring results are communicated not only for understanding, but also to initiate actionable response if needed.

Deliverables and Schedule

LWA is committed to completing the work in coordination with the BMPTF's direction, and delivering the 2026 AWQ recomputation by the October 31, 2028, deadline, with internal milestones scheduled to allow

for BMPTF review and approval prior to submittal. The recomputation of the AWQ is due to the Regional Board in October 2028. **Table 3** shows the deliverables under Service C and an example schedule.

Table 3. LWA's Schedule and Deliverables for the 2026 AWQ Recomputation (Service C)

Phase	Date	Task	Key Deliverables
Kickoff	December 2025	Coordination with BMPTF, data handoff & QA plan	- Kickoff meeting agenda/notes - QA/QC plan
Data Preparation	January 2026 – October 2027	Compile groundwater data (2007–2026), compute well-level statistics, and apply Mann-Kendall trend analysis	- Well-level statistics tables - Mann-Kendall trend tables/figures
Spatial Analysis	October 2027 – January 2028	Generate iso-concentration contours for TDS & nitrate, overlay aquifer storage properties (Service 1/Phase 2A)	Raster Surface Contour shapefiles
Mass Balance & GMZ Values	October 2027 – January 2028	Calculate cell total volumes and masses, compute GMZ single concentration values, recompute 1954–1973 values if storage properties updated	- GMZ single concentration tables - Assimilative capacity tables - Historic recomputation memos - Presentation of results to the BMPTF and relevant stakeholders
Interpretive Tools	January 2028 – April 2028	Develop tables, charts, and maps comparing 2026 to past AWQs. summarize wells above/below Basin Plan objectives, map Mann-Kendall trend results	- Interpretive exhibits (tables, maps, charts) - Draft interpretive appendix - Presentation of results to the BMPTF and relevant stakeholders
Draft Reporting	April 2028 – June 2028	Present draft results to BMPTF, receive comments and revise	- Draft 2026 AWQ Report - Presentation of results to the BMPTF and relevant stakeholders
Final Reporting	By October 31, 2028	Finalize 2026 AWQ recomputation results, submit report to Regional Board by Oct 31, 2028	- Final 2026 AWQ Report - Geodatabase (rasters, GMZ values, storage layers) - QA/QC documentation

Service D. Development of the Annual Report of Santa Ana River Water Quality

LWA understands that the BMPTF is required to develop and submit an Annual Report of Santa Ana River Water Quality to the Santa Ana Regional Board on or before August 1 for data collected the preceding calendar year. The annual report, which has historically been produced by SAWPA staff, is developed pursuant to the Basin Plan Amendment and in accordance with the 2005 Santa Ana River Water Quality Work Plan and the 2022 Santa Ana River TDS and Total Inorganic Nitrogen Monitoring Work Plan.

Technical Implementation Approach

We are deeply familiar with the complexity of coordinating and compiling data collected across multiple waterbodies and agencies as is the case with this Annual Report. Data from Reaches 2, 3, 4, and 5 of the Santa Ana River collected by multiple agencies including the Santa Ana Regional Board, the BMPTF (and designated contractors), Orange County Water District, the United States Geological Survey (USGS), and other local water agencies must be combined with additional data that may be utilized in the State Water Board's Integrated Report and 303(d) Listing Analysis. These additional data can pose a unique challenge as they originate from multiple and potentially redundant sources (e.g. direct from agencies, CIWQS, CEDEN). We will work with SAWPA and the BMPTF to acquire these data using an approach that is consistent with the historical approaches and provides a complete and accurate dataset.

While the Annual Report primarily fulfills a routine regulatory compliance requirement, LWA understands that the analysis presented provides an important "check-up" on overall status of water quality in the Basin. We also understand the critical importance of accurate baseflow determinations, particularly for Reach 3 compliance assessments where TDS concentrations have periodically approached water quality objectives. This information is critical to estimating potential future regulatory implications including new Clean Water Act 303(d) Listings as well as anticipating potential future requirements that could require advance planning. Additionally, the report must effectively consider and communicate the status of ongoing work, including special studies to address data gaps (e.g. the Santa Ana River Reach 3 Special Study) and potential future Basin Plan Amendments which may include revisions or clarifications to base flow characterization methodology. We will provide the BMPTF with rigorous QA of compiled data and assessments and provide preliminary compliance status updates to inform stakeholders and facilitate discussion prior to full draft report submittals.

An overview of LWA's technical implementation approach and schedule, which includes three phases, is provided in **Table 4**. This schedule is proposed annually assuming Notice to Proceed by the end of the prior calendar year. LWA proposes to agree on specific dates of submittals and meetings with the BMPTF and SAWPA based on their preference and convenience.

LWA understands that the RFQ requests that, at least initially, the Annual Report follow a similar format and process to historical Annual Reporting efforts. However, we have identified potential opportunities to provide added value to the BMPTF for Annual Reporting services. These include but are not limited to:

- More frequent results or compliance status updates for progress reporting purposes and early identification of issues, for example, to review preliminary Santa Ana River Reach 3 results in the fourth quarter following completion of baseflow monitoring.
- Automation of data acquisition and initial review using customized Python and R scripts to reduce transcription errors and processing time.
- Implementation of statistical trend analysis to quantify water quality changes over time.
- Development of a streamlined annual report that potentially includes:
 - A graphical executive summary to clearly communicate compliance status by Reach;
 - Reduced narrative text (potentially removed to an appendix); and/or
 - Additional or enhanced figures and infographics to visualize data and quickly communicate key results and findings.

Table 4. LWA's Approach and Schedule for Annual Report Development (Service D)

Phase	Date	Task	Notes
Data Acquisition and Quality Control	January	Initial data request submitted to the Santa Ana Regional Board, OCWD, SAWPA and other local agencies as needed.	Early initial requests with follow-up facilitate expedited receipt of data.
	February	Data acquired from: - USGS for the three Santa Ana River stream gages and one precipitation gage; and - Additional sources with potential for use in 303(d) analysis via CEDEN, CIWQS, and the Integrated Report Data Portal.	LWA is intimately familiar with the complexities of data compilation, especially when derived from (or from other databases that input to) CEDEN. We will work with the project team to agree the specific acquisition approach of these data for consistency with past queries, completeness, and accuracy.
	March	Comprehensive QA/QC of acquired data; follow up as needed.	Early QA/QC provides time to address concerns.
Compliance Assessment and Draft Report Development	April	Data compilation and formatting consistent with historical Annual Report Appendix B completed. Calculations completed, compared to WQOs, and QC'd as follows: - Reach 2: Volume-weighted moving average TDS by both 5-year (Primary/Basin Plan) and 60-month (Alternative) approaches - Reach 3: Baseflow arithmetic means for multiple constituents by both Primary/Basin Plan and Alternative baseflow definitions - Reach 4 and 5: Arithmetic means for multiple constituents.	A graph of Santa Ana River Reach 3 historical TDS and flow data will be developed for inclusion in Appendix A based on BMPTF Comment 2 on the 2024 Annual Report
	May	Preliminary compliance assessment update provided at BMPTF Meeting.	Results preview provides opportunity to address initial questions/concerns.
	Mid-June	Draft Annual Report submitted.	Results preview from May should help streamline review (no surprise results).
Report Finalization and Submittal	Early July	Stakeholder comments incorporated.	
	Mid-July	Optional meeting to discuss comments.	Opportunity to confirm consensus on final report.
	On/before August 1	Final Annual Report submitted to Santa Ana Regional Board.	

8 ADDITIONS, DELETIONS AND/OR EXCEPTIONS

LWA has provided the requested Additions, Deletions and/or Exceptions form, Appendix A4 of the RFQ, in **Appendix 1. Required Forms**.

APPENDIX A2 - REFERENCES

Instructions: Proposer shall provide two to three customer references.

REFERENCE #1	
NAME OF ENTITY	Farm Bureau of Ventura County
ADDRESS	5156 McGrath St
CITY, STATE, ZIP CODE	Ventura, CA 93003
CONTACT NAME	Jodi Switzer
TELEPHONE #	(805) 289-0155
E-MAIL ADDRESS	jodie@farmbureauvc.com
PROJECT NAME	Calleguas Creek Watershed Salt and Nutrient Management Plan
COMPLETION DATE	2011-Present
APPROX. COST	\$286,000
REFERENCE #2	
NAME OF ENTITY	City of Palm Springs/Veolia North America (WWTP Operator)
ADDRESS	4375 Mesquite Ave
CITY, STATE, ZIP CODE	Palm Springs, CA 92264
CONTACT NAME	Doug Loar
TELEPHONE #	(760) 323-8166
E-MAIL ADDRESS	douglas.lor@veolia.com
PROJECT NAME	Regulatory Assistance and Groundwater Impact Evaluation
COMPLETION DATE	2008-Present
APPROX. COST	\$174,840
REFERENCE #3	
NAME OF ENTITY	Siskiyou County Flood Control and Water Conservation District
ADDRESS	1312 Fairlane Road
CITY, STATE, ZIP CODE	Yreka, CA 96097
CONTACT NAME	Matt Parker
TELEPHONE #	(530)842-8005
E-MAIL ADDRESS	mparker@siskiyou.ca.us
PROJECT NAME	GSP Development & Implementation for Scott Shasta and Butte Valley Basins
COMPLETION DATE	2018-Present
APPROX. COST	\$2.7M

APPENDIX A3 – SUBCONTRACTORS LIST

NAME UNDER WHICH SUBCONTRACT IS LICENSED	LICENSE NUMBER	ADDRESS AND PHONE NUMBER OF OFFICE, MILL OR SHOP	SPECIFIC DESCRIPTION SUBCONTRACT
N/A None			

APPENDIX A4 - ADDITIONS, DELETIONS AND/OR EXCEPTIONS

Please state any and all Additions, Deletions and Exceptions that you are taking to any portion of this RFQ, the General Services Agreement (GSA), and/or Task Order (shown in Appendix B – “Standard Contract Documents – Task Order and GSA”). If not addressed below, then SAWPA assumes that the Consultant will adhere to all terms and conditions listed.

SAWPA will issue a Task Order and GSA in its standard form to the successful Consultant for the services contemplated herein. Any deletion, exception, or modification taken to SAWPA contract terms and conditions will be evaluated, in addition to the specified criteria; and may, itself, result in non-acceptance by SAWPA. Any request for deletion, exception, or modification, if so taken, must be submitted at the time of the proposal.

LWA Requests consideration of the following modifications to the GSA.

Article IV Consultant Obligations

4.01 Consultant agrees to perform all assigned services in accordance with the terms and conditions of this Agreement including those specified in each Task Order. In performing the services required by this Agreement and any related Task Order Consultant shall endeavor to comply with all local, state and federal laws, rules and regulations. Consultant shall also obtain and pay for any permits required for the services it performs under this Agreement and any related Task Order.

4.05 Consultant hereby covenants and agrees that SAWPA, its officers, and employees, ~~and agents~~ shall not be liable for any claims, liabilities, penalties, fines or any damage to property, whether real or personal, nor for any personal injury or death caused by, or resulting from, or claimed to have been caused by or resulting from, but only to the extent they are caused by any negligence, recklessness, or willful misconduct of Consultant. To the extent permitted by law, Consultant shall hold harmless, ~~defend at its own expense, but not defend~~, and indemnify SAWPA, its directors, officers, employees, and authorized volunteers, against any and all liability, claims, losses, damages, or expenses, including reasonable attorney's fees and costs, arising from all negligent acts or omissions of Consultant or its officers, agents, or employees in rendering services under this Agreement and any Task Order issued hereunder; excluding, however, such liability, claims, losses, damages or expenses arising from SAWPA's sole negligence or willful acts.

Article XI Miscellaneous Provisions

11.06 Any dispute which may arise by and between SAWPA and the Consultant, including the Consultants, its employees, agents and subcontractors, shall be subject to a meet-and-confer session as a condition precedent to mediation.

SAWPA and the Consultant shall endeavor to resolve claims, disputes, and other matters in question during the meet-and-confer session. The meet-and-confer session shall include participation by representatives of SAWPA and the Consultant holding sufficient authority to resolve the dispute. The meet-and-confer session shall take place within thirty (30) days after a request by either Party, unless the Parties mutually agree otherwise. Prior to the meet-and-confer session, the Parties shall exchange relevant information that will assist in resolving the claim, dispute, or controversy. If the Parties reach a mutually acceptable resolution, they shall prepare appropriate documentation memorializing the resolution.

If the Parties cannot reach a mutually acceptable resolution through the meet-and-confer session, they shall proceed to mediation using a mutually agreed upon mediator. Such mediation shall be completed within forty-five (45) days of CLIENT and CONSULTANT's written demand, with each party to bear its share of the mediation fees and its own respective costs. If the dispute cannot be resolved through mediation, it shall be resolved in a court of competent jurisdiction.

~~submitted to binding arbitration. Arbitration shall be conducted by a neutral, impartial arbitration service that the parties mutually agree upon, in accordance with its rules and procedures. The arbitrator must decide each and every dispute in accordance with the laws of the State of California, and all other applicable laws. Unless the parties stipulate to the contrary prior to the appointment of the arbitrator, all disputes shall first be submitted to non-binding mediation, conducted by a neutral, impartial mediation service that the parties mutually agree upon, in accordance with its rules and procedures.~~

Ashli Desai

President

Professional Experience

Education

M.S., Civil Engineering-
Environmental Engineering
and Science, 1996,
Stanford University,
Stanford, CA

B.S., Earth Systems-
Environmental Technology,
1995, Stanford University,
Stanford, CA

Years of Experience

With LWA: 29
With Other Firms: 1

Professional Affiliations

California Stormwater
Quality Association
(CASQA), Board of Directors

Stormwater Representative,
Stakeholder Advisory Group
for Statewide
Biointegrity/Biostimulatory
Plan Development

Registrations

CA E.I.T. XE100093

Ms. Desai is a water quality and regulatory expert with extensive experience in watershed management, wastewater permitting, surface water monitoring, and Total Maximum Daily Load (TMDL) implementation across California. She has led numerous projects involving ambient water quality assessments, assimilative capacity evaluations, site-specific objectives, and development of Salt and Nutrient Management Plans (SNMPs). She has extensive experience with salt and nitrogen monitoring, data consolidation and analysis, antidegradation analysis, and annual water quality reporting for regulatory agencies. Ms. Desai excels at facilitating coordination between municipal agencies, stakeholder groups, and regulatory agencies to address complex water resource management issues.

Watershed

Calleguas Creek Watershed Management Plan TMDL Implementation, Stakeholders Implementing TMDLs in the Calleguas Creek Watershed. 2007 – Present. Ventura County, CA.

Project Manager responsible for implementing all aspects of the effective TMDLs for toxicity, organochlorine pesticides and polychlorinated biphenyls (PCBs), sediment, metals and selenium, nutrients, and salts in the Calleguas Creek watershed. Responsibilities include development and conduct of special studies, identification of implementation actions, coordination with stakeholders and Regional Water Board, incorporation of TMDL requirements into NPDES permits, and management of monitoring and reporting requirements. As part of this effort, Ms. Desai managed a watershed-wide implementation effort to meet implementation requirements for watershed TMDLs, MS4 permit, wastewater permit and agricultural order requirements. This effort considered local Salt and Nutrient Management Plan, Groundwater Sustainability Plan, and Stormwater Resource Plan efforts to maximize multiple benefits, minimize duplicative efforts, and maximize funding opportunities. She is currently managing projects to develop a seasonal suspension for bacteria objectives and site-specific objectives for salts. She is also managing a project to identify opportunities for regional project coordination between municipal stormwater and agricultural discharges in the watershed. She led development of a revised Quality Assurance Project Plan (QAPP) for the TMDL monitoring program to align with the Coordinated Integrated Monitoring Program (CIMP) for the stormwater permittees and Agricultural Order and manages the development of the TMDL annual report.

Calleguas Creek Watershed and City of Oxnard Salt and Nutrient Management Plans (SNMPs), Stakeholders Implementing TMDLs in the Calleguas Creek Watershed. 2015 – Present. Ventura County, CA.

Principal in Charge of developing a SNMP for the Calleguas Creek Watershed. Assisted stakeholders with evaluating regulatory requirements of the SNMP, identifying existing management plans that can be used to meet the SNMP requirements, and reviewing and compiling recycled water projects and goals. Overseeing analysis of available assimilative capacity, developing an approach to assessing antidegradation requirements, and preparing the draft SNMP. Oversaw development of an assessment of the basins requiring a SNMP in accordance with the revised recycled water policy. Also, supported the City of Oxnard's SNMP in adjacent groundwater basins and facilitated coordination between adjacent basins. As subcontractor to Carollo Engineers, responsible for supporting SNMP approach, source assessment, and conceptual model development in the adjacent basins.

Calleguas Creek Wastewater Treatment Plant Permit Assistance, Cities of Simi Valley and Thousand Oaks and Camarillo Sanitary District. 2008 – Present. Ventura County, CA.

Senior Advisor assisting three wastewater treatment plants in the Calleguas Creek Watershed with renewal of their NPDES permits. Primarily responsible for reviewing and commenting on the incorporation of TMDL requirements and adopted site-specific objectives into NPDES permit provisions. Additionally, provided support for time schedule orders, enforcement orders, and other regulatory requests from the Los Angeles Regional Water Quality Control Board. Currently supporting the development of a compliance schedule for the Calleguas Creek Salts TMDL. Conducted data analysis to evaluate compliance with revised salts effluent limitations, determined actions that would be needed to meet the revised effluent limitations, and developed a plan to evaluate regulatory options, including a site-specific objective, to help reduce the required implementation actions.

Wastewater NPDES Permit Support, City of Santa Paula. 2017 – 2022. Santa Paula, CA.

Senior Advisor facilitating coordination with the Regional Water Board on the adoption of Waste Discharge Requirements (WDR) for discharges to groundwater for the City of Santa Paula. Assisted with permit negotiations and providing comments on the tentative WDR. Following adoption of the WDR, assisted with implementation of a cease-and-desist order to address chloride effluent limitations. The support provided by LWA included an evaluation of impacts of the discharge on the groundwater basin using a simple groundwater mixing model, evaluation of the impacts of the discharge on beneficial uses, assessment of assimilative capacity using findings from the Lower Santa Clara River Salt and Nutrient Management Plan and developing options to address identified impacts.

Permit Renewal and Chloride Special Study Support, Las Virgenes Municipal Water District. 2015 – 2024. Calabasas, CA.

Project Manager responsible for assisting the District with strategies for incorporating the TMDL developed by U.S. Environmental Protection Agency (EPA) for benthic macroinvertebrates into the NPDES permit. Assisted with developing strategies for incorporating the TMDL into the permit, evaluating alternatives and potential studies, and providing comments on the tentative permit. Following permit adoption, served as a Senior Advisor to support implementation of the time schedule order for chloride. Work included advising on the development of a site-specific objective for chloride for the Los Angeles River. Provided input and review of the technical work supporting the site-specific objective, including analysis of the potential impacts on groundwater basins and other beneficial uses in the Los Angeles River. Advised on the coordination with the Regional Water Board and reviewed comment letters developed for the Los Angeles Regional Water Board and State Water Board on the site-specific objectives. The site-specific objectives have been adopted and are awaiting EPA approval.

Riverside County Flood Control and Water Conservation District On-Call Regulatory Assistance, County of Riverside. 2019 – Present. Riverside County, CA.

Senior advisor providing on-call regulatory support to Riverside County Flood Control and Water Conservation District (District). Support includes reviewing Clean Water Act Section 303(d) impaired water body listings, preparing delisting letters, reviewing and preparing comments on regional and state policies, and providing strategic assistance for compliance with permit and TMDL requirements. Supported development of strategies for implementation of the amendments and review and comment on the San Diego Region biological objectives.

Lower Santa Clara River Salt and Nutrient Management Plan (SNMP), County of Ventura, City of Fillmore, and City of Santa Paula. 2014 – 2015. Ventura County, CA.

Project Manager responsible for developing a SNMP for the Lower Santa Clara River. Responsible for facilitating the stakeholder process, outlining the SNMP approach, compiling potential management measures, developing the monitoring plan, preparing the antidegradation analysis, reviewing the assimilative capacity analysis for multiple groundwater basins, and compiling technical work from multiple subcontractors into the final SNMP, and coordinating with the Los Angeles Regional Water Quality Control Board to ensure approval of the SNMP.

Upper Santa Clara River Chloride TMDL, County Sanitation Districts of Los Angeles County. 2007 – 2013. Santa Clarita, CA.

Provided facilitation and coordination services to the Los Angeles County Sanitation Districts to develop reasonable and cost-effective implementation of the Upper Santa Clara River Chloride TMDL. Assisted with negotiations with the Regional Water Board on proposed implementation actions and developed regulatory support documents to allow implementation of solutions proposed by the Districts. Assisted with communication and coordination with adversarial stakeholders. Developed a chloride site-specific objective and associated antidegradation analysis using results generated from a groundwater/surface water interaction model evaluating impacts on downstream groundwater basins from wastewater treatment plant discharges. The site-specific objective and anti-degradation analysis included a maximum benefit analysis and was adopted by the Regional Water Board as part of a TMDL update.

Laura Foglia, Ph.D.

Vice President

Professional Experience

Education

Ph.D. in Environmental Engineering, 2006, ETH Zurich, Zurich, Switzerland

M.S., Physics, 1999, University of Milan, Italy, Milan, Italy

Years of Experience

With LWA: 8

With UC Davis: 10

With Other Firms: 3

Professional Affiliations

American Geophysical Union

European Geophysical Union

IAHS, International Association of Hydrological Sciences

Secretary of International Commission of Groundwater, IAHS

Dr. Foglia is a Vice President with Larry Walker Associates (LWA) where she assists with projects in the areas of hydrological modelling, groundwater management assistance, and TMDL development. At LWA, she is leading the groundwater services for the Ukiah basin Groundwater Sustainability Agency and for Siskiyou County for the development of their Groundwater Sustainability Plans. She is also involved in the development of the pilot groundwater recharge project for the Omochumne-Hartnell Water districts, and she collaborated on a project with SCGA to develop a continuous monitoring network for groundwater levels in the South American Subbasin. Dr. Foglia worked with Prof. Steffen Mehl on behalf of Sacramento County Water Agency for the development of the testimony regarding the potential impact of the California WaterFix project on the groundwater resources in the South American Basin. She was involved in the first Pilot Project in 2009 that promoted by the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) coalition, a collaborative basin planning effort aimed at protecting vulnerable and essential water resources. Since January 2016, Dr. Foglia is also an Adjunct Faculty Staff in the Land, Air, and Water Resources (LAWR) Department at University of California, Davis where she teaches a graduate class on model calibration.

Siskiyou County Groundwater Sustainability Plan. 2018-Present. Various Locations, CA.

Dr. Foglia is working with Siskiyou County staff and with UC Davis for the development of the GSPs for three basins: Scott valley, Shasta valley and Butte Basin. All the basins are defined as medium priority and their plans are due in January 2022. As in Ukiah, the main focus is on understanding river/aquifer interactions, and groundwater dependent ecosystems. Dr. Foglia is managing the project and playing an active role in the stakeholders engagement process as well as in the development of the numerical model.

CV-SALTS Salt & Nitrate Sources Pilot Implementation Study. Central Valley, CA.

Dr. Foglia managed and performed analysis of salt loads in the Central Valley aquifers for the completion of a Salt and Nitrate Sources Pilot Implementation Study on behalf of the Central Valley Salinity Coalition (CVSC) to help develop a Basin Plan Amendment (BPA) to address the issue of salt and nutrient management in California's Central Valley. The resulting methodology provided a defensible means to relate downstream impacts to upstream sources in watersheds. The objectives were to develop and document procedures and methodologies to quantify the significant salt and nitrate sources in the Central Valley and to pilot test them by applying them in three areas to validate the region-wide applicability.

Ukiah Valley Basin Groundwater Sustainability Plan. 2018-Present.

Dr. Foglia is engaged with the Ukiah Valley Groundwater Sustainability Agency for the development of their GSP. The plan for the Ukiah valley was submitted in January 2022 and it focuses on river/aquifer interactions, groundwater dependent ecosystems, and decrease in water levels as possibly most important undesirable results. Dr. Foglia is managing the project and playing an active role in the development of the numerical model.

Scott Valley Groundwater Study. 2018-Present. Scott Valley, CA.

As part of the LAWR Department at UC Davis, Dr. Foglia provided research services for the Scott Valley groundwater/surface water management project, funded by the North Coast Regional Water Quality Board. The aim of the project is to assist the Scott Valley community

with the development of a groundwater management plan that can lead to better streamflow conditions mainly during the summer months, preserving the water needed for agriculture activity. Dr. Foglia assisted with the development of a new GIS-based, irrigation driven, conceptual model for the analysis of the soil and water balance in the Scott Valley watershed. She worked closely with the stakeholders, communities, and landowners.

California WaterFix Groundwater Modeling Impact Assessment Support, Sacramento County Water Agency.

Dr. Foglia teamed with Prof. Steffen Mehl to support the Sacramento County Water Agency in the Evaluation of the potential impact of the California WaterFix project on the groundwater system in South American Subbasin. Existing models for the entire Central Valley (CVHM) and for the Delta region (CVHM-D) have been extensively used and results analyzed to demonstrate whether the potential impact of the project on water resources (mostly river/aquifer interactions) has been properly considered by the Petitioners. A testimony and a surrebuttal testimony have been submitted as results of this study.

On-call Engineering Services, Omoichumne-Hartnell Water District.

Dr. Foglia is managing the in-call engineering services contract with OHWD. Work includes the repurpose of an existing Proposition 84 grant Integrated Regional Water Management to design an off-season irrigation project to enhance aquifer recharge to the underlying groundwater aquifer and the South American and Cosumnes groundwater basins. The project includes repurpose of the grant, development of the RFPs for the construction services, groundwater monitoring design, stakeholder coordination.

Omoichumne-Hartnell Water District and Sloughhouse Resource Conservation District Basin Boundary Adjustment. CA.

Dr. Foglia, together with the LWA team, assisted Omoichumne-Hartnell Water District (OHWD) and Sloughhouse conservation district (SRCD), in putting together and submitting a jurisdictional and scientific basin boundary adjustment request for the Cosumnes Subbasin's northern boundary, located along the Cosumnes River, to DWR in 2016. The project involved the development of technical material as well as the preparation of stakeholders meetings to support the boundary adjustment request.

Work History

Larry Walker Associates, Inc., Senior Engineer, 2007-present

Adjunct Professor, Land Air and Water Resources, UC Davis, Jan. 2016 - present

Technical University of Darmstadt, Germany, Assistant Professor w/o tenure track, research group of Prof. Christoph Schueth, March 2013-Dec. 2015

Department of Land, Air and Water Resources Davis, Post-Doctoral Associate, (Prof. Tim Ginn) 2007-2009, (Prof. Thomas Harter) Aug. 2011-June 2013

Betsy Elzufon

Associate Engineer

Professional Experience

Education

M.S., Chemical Engineering,
1983, University of
California, Berkeley,
Berkeley, CA

B.S., Chemical Engineering,
1981, Cornell University,
Ithaca, NY

Years of Experience

With LWA: 32

With Other Firms: 11

Professional Affiliations

WateReuse, Member

GRA, Member

Ms. Elzufon has over 40 years' experience in private industry in the areas of chemical engineering, industrial processes, regulatory assistance, and pollution prevention. She coordinates wastewater permit renewal for discharges to surface water (National Pollutant Discharge Elimination System, NPDES) and discharges to land (Waste Discharge Requirements, WDRs) and permit implementation efforts for clients throughout California, including Los Angeles, Central Coast, Central Valley, and Lahontan regions. She also assisted in the development and implementation of the Groundwater Sustainability Plan (GSP) for the Sierra Valley Groundwater Management District as required by the Sustainable Groundwater Management Act (SGMA) and continues to provide grant and project management support for GSP groundwater recharge and other implementation tasks. Ms. Elzufon has provided regulatory assistance for power plants operated by the California Department of Water Resources (DWR). She also assists municipalities with obtaining Water Recycling Permits (individual Water Reclamation Requirements, WRRs, and coverage under the Statewide General Order). She has conducted source identification studies and developed pollution prevention and outreach programs for several stormwater and wastewater programs in California. She has also assisted several municipalities in evaluating and updating various elements of their pretreatment programs. She has managed national studies on source control and program effectiveness measurement for the Water Environment Research Foundation and the National Association of Clean Water Agencies (NACWA).

Groundwater

GSP Development, Sierra Valley Groundwater Management District. 2020 – Present. Sierra County, CA.

Project Manager for GSP development. Assisted with project and grant management, stakeholder outreach and communication, grant administration, preparation of GSP content to meet SGMA requirements and evaluation of water quality impacts leading to a GSP approved by DWR. Currently, she assists with managing a consultant team to conduct GSP implementation tasks including groundwater recharge, GSP updates, and other program elements. Managed effort to prepare and submit successful applications for SGMA Implementation Grants under California Proposition 68 along with grants from the California Department of Fish and Wildlife and the Plumas Watershed Forum.

Regulatory Assistance, City of Palm Springs. 2017 – Present. Palm Springs, CA.

Project Manager for WDR permit negotiation and implementation of technical studies evaluating groundwater monitoring network adequacy and sources of nitrogen and salts to the treatment plant. Permit negotiation included successfully reducing the scope of the special studies to focus on factors most likely to impact local groundwater. LWA is currently assisting with evaluation of the adequacy of the monitoring network for bacteria and determining approaches for compliance with TDS effluent limits.

East Bay Municipal Utility District (EBMUD). 2017 – Present. Oakland, CA.

Project Manager for the evaluation of groundwater monitoring networks around the Camanche Reservoir in the Central Valley. Work included determining if the current network adequately represented upgradient and downgradient conditions as well as recommending changes to the monitoring network. More recent work has included reporting as required by WDRs for the upcountry facilities in the Central Valley

Wastewater

Regulatory Assistance, City of Fillmore. 2022 – Present. Fillmore, CA.

Project Manager for WDR permit renewal and update of Recycled Water Program Title 22 Engineering Report. WDR permit renewal involved development of a groundwater impact and antidegradation analysis as well as assessment of compliance approaches for boron and chloride. This included evaluation of localized groundwater impacts and approaches to expanding recycled water uses. The Title 22 Engineering Report was updated to reflect changes in the Recycled Water Policy and additional recycled water uses since the Engineering Report was prepared in 2010.

Regulatory Assistance, Victor Valley Wastewater Reclamation Authority (VWVRA). 2008 – Present. Hesperia, CA.

Project Manager for regulatory assistance including issuance of WDRs/WRRs for its Subregional Facilities, implementation of its 2008 NPDES permit, and technical and regulatory assistance associated with its December 2010 sewer line breach. LWA also assisted with obtaining a WDR for additional percolation ponds at its main facility and NPDES permit renewals in 2013 and 2020. Assists with implementation of VWVRA's NPDES permit including overseeing annual reporting and implementation of WRRs under the Statewide General Order to cover all its facilities. Successful permit negotiation has relied heavily on analysis of impacts to groundwater including an antidegradation analysis for groundwater. In 2018, she led a team to provide training for VWVRA, Hesperia, and Town of Apple Valley staff for the startup and implementation of their recycled water programs.

NPDES Permit Renewal and Regulatory Support, City of Davis. 2006 – Present. Davis, CA.

Project Manager for NPDES permit renewal and implementation. As part of the 2013 permit renewal process, LWA assessed beneficial use designations for the City's two discharge points and determined that Municipal and Domestic Supply (MUN) is not applicable to either discharge point. In addition, worked with the City to address permit requirements and obtain Time Schedule Orders to allow for extra time to comply with effluent limits. During the 2018 permit renewal, LWA assisted with evaluating implications of its plant upgrade on future regulatory requirements and identifying more representative receiving water monitoring locations. LWA is also assisting with evaluation of Nitrate Control Program pathways for the City including groundwater monitoring to evaluate impacts of the wastewater discharge.

NPDES Permit Renewals, Multiple Clients. 2007 – Present. Multiple Locations, CA.

Project Manager for numerous NPDES permit renewals throughout California. Involves coordination of LWA staff to prepare the Report of Waste Discharge (ROWD), compilation of data sets, preparation of comments on draft permits, and working with Regional Water Board staff (2007-present). Assisted with permit renewals for the Cities of Burbank (2012 and 2017), San Luis Obispo (2012, 2017, and 2024), Vacaville (2019), Watsonville (2019), Thousand Oaks and Simi Valley and Camarillo Sanitary District (2014 and 2019), Lompoc (2011), Redding (2018 and 2023), Tracy (2017-2018), and the Calleguas Municipal Water District (2018).

Work History

Larry Walker Associates Inc., Associate Engineer, 1994-Present

Regulatory Assistance. 1992-1993. Alexandria, VA.

Assisted New Jersey Department of Environmental Protection and Energy (NJDEPE) in drafting the rules and regulations for New Jersey Pollution Prevention Act.

Team member in preparation of Environmental Protection Agency report on industrial toxics and pollution prevention for the Office of Pollution Prevention and Toxics.

Research and Development. 1983-1992. Columbia, MD.

Research Engineer working in research and development for Fortune 100 specialty chemicals company. Five years' experience evaluating photopolymers and coating processes used in printed circuit board fabrication which includes experience in metal finishing. Three years' experience in fermentation and amino acid production at the pilot plant scale. Worked in process design, engineering research and development, and chemicals research groups gaining exposure to several aspects of the hydroprocessing industry.

Karen Ashby, CPSWQ

Vice President

Professional Experience

Education

B.S., Biological Sciences,
1991, University of
California, Irvine,
Irvine, CA

Years of Experience

With LWA: 23

With Other Agencies: 13

Professional Affiliations

CASQA Leadership Award
2018

Executive Program
Committee Effectiveness
Assessment
Co-Chair, CASQA
2015–2020

Chair, CASQA,
Jan 2004–Dec 2005

Vice Chair, CASQA,
Nov 2001–Dec 2003

Board of Directors, CASQA
September 2002–Dec 2008

Member
1999–Present

Registration

Certified Professional in
Storm Water Quality, 2004,
CPSWQ, Inc. #0081

Hazardous Materials
Management Certificate,
1997, University of
California, Irvine

Ms. Ashby is a Vice President and serves as a Project Manager for LWA's work in the stormwater and watershed management fields. She has over 30 years of experience in the development, implementation, assessment, and reporting associated with watershed and stormwater management programs (Phase I and Phase II) as well as Total Maximum Daily Loads (TMDLs) throughout California. She has also successfully led/facilitated numerous discussions and groups addressing complex environmental, regulatory, or compliance issues. She has been responsible for facilitating permit renewals, reviewing and commenting on numerous policies, guidance materials and regulatory documents, developing and implementing watershed and stormwater management programs and TMDLs, developing and submitting various grant applications, conducting assessments and developing implementation plans to comply with the Trash Amendments, developing program effectiveness assessment strategies and evaluating the effectiveness of stormwater programs, developing program expenditure and revenue analyses for various funding initiatives, developing cost reporting frameworks, developing and providing adult learning-based training modules, and preparing numerous technical and annual reports. In 2018, the California Stormwater Quality Association (CASQA) recognized her contributions to the stormwater profession with its Leadership Award. Representative experience and projects are presented below.

Santa Ana Region – Regional Municipal Stormwater Permit Renewal Support, Multi-Agency (Orange County, Riverside County, San Bernardino County), 2022-Present.

Project Manager responsible for working with a Tri County Group (TCG) consisting of the Orange County Stormwater Permittees, Riverside County Permittees, and the San Bernardino County Permittees (60 agencies in total) to review the proposed Regional Municipal Stormwater Permit for the Santa Ana Region. Work efforts included a) providing overall meeting facilitation and support for the TCG; b) organizing, leading and developing materials for TCG internal meetings; c) organizing and leading the TCG Focus Group (TCG-FG) with the development of permit redlines and alternative language; d) coordinating directly with the Meeting Facilitator to organize and assist with the Regional Water Board – TCG meetings; e) establishing and participating in the series of Regional Water Board – TCG meetings to discuss the various permit sections and alternative approaches; f) providing weekly updates to the TCG to track the various action items for that week; g) providing direct support for the Orange County and Riverside County Principal Permittees and Permittees in the identification of issues and talking points for the various meetings; and h) developing draft and final comment letters identifying issues with the permit language and proposed alternative language.

Central Valley-Wide Salt and Nitrate Management Plan (Project Phase II), Central Valley Salinity Coalition. 2013–2015. Sacramento, CA.

Consultant Team Project Manager for the development of a Preliminary Draft Central Valley-wide Salt and Nitrate Management Plan (SNMP). Consistent with the overarching goals of CV-SALTS and the Recycled Water Policy for the State of California, overseeing the development of a comprehensive SNMP and working with multiple stakeholders and regulatory and partner agencies to identify the approach and establish the basis for the short- and long-term management of salt and nitrate in the Central Valley region. The knowledge base, technical analyses, and associated documentation developed as part of the SNMP will form the basis for corresponding Basin Plan Amendments (BPAs) to the Water Quality Control Plans (Basin Plans) for the Sacramento/San Joaquin Basin and

Tulare Lake Basin. The technical work developed as a part of this project will also provide information to support more detailed, sub-regional analyses that may be undertaken in the future by local stakeholder groups if they choose to develop local SNMPs.

Conceptual Model for a Central Valley-Wide Salt and Nitrate Management Plan (Project Phase I), Central Valley Salinity Coalition. 2012–2013. Sacramento, CA.

Consultant Team Project Manager for the development of an initial conceptual model (ICM) for a Central Valley-wide Salt and Nitrate Management Plan (SNMP) as well as geographic information systems (GIS) technical services. The ICM, which was developed in a collaborative setting with multiple stakeholders and regulatory and partner agencies, is the first phase of work that needs to be completed to fully develop the Central Valley SNMP. The work effort included obtaining surface water and groundwater data throughout the valley and/or Region 5 jurisdiction, establishing zones throughout the valley floor for the analyses, establishing methods for the salt and nitrate water quality analyses, performing the high-level analysis of salt and nitrate conditions throughout the valley floor, and preparing a report with the findings of the analyses and recommendations for the development of the final Central Valley SNMP.

2022 Professional Services On-Call List – Watershed Protection Programs, Riverside County Flood Control and Water Conservation District, 2022–Present. Riverside, CA.

Program Manager and primary LWA contact for work that is requested by the District for Watershed Protection Programs. To date, LWA has assisted the District with seven Task Orders including, but not limited to, assistance with the Santa Ana Region, San Diego Region, and Whitewater Region Stormwater Permits, as well as the aquatic pesticides permit.

Stormwater Management Program Implementation Assistance, County of Orange. 2003–Present. Orange, CA.

Project Manager since 2003 for the development, revision and implementation of the Orange County area-wide stormwater management program (for 36 Permittees). Efforts include regulatory and technical support for several permit renewals (for two separate municipal stormwater permits – Santa Ana Region and San Diego Region) including the review of permit language, development of alternative approaches or language, development of comment letters with recommendations, and participation in public meetings/workshops and one on one meetings with Regional Water Board staff.

Efforts also include development of on-going updates for the programs and supplemental tools and guidance materials, the development of an overall training strategy and provision of multiple training modules, assistance with annual reporting, and the development of program effectiveness strategies and assessments.

Streamlining Annual Reporting, Southern California Stormwater Monitoring Coalition (SMC) (2021-2023)

Ms. Ashby was the Project lead for the Southern California Stormwater Monitoring Coalition (SMC) Streamlining Annual Reporting project with Paradigm Environmental (Project Team) to identify key metrics that are the essence of program effectiveness, create a data platform for incorporating the data necessary to track and calculate the key metrics, and generate a user interface for automating Annual Reports using key metrics as the focal point for the report. Although this initial effort was a “proof of concept” to demonstrate how high value metrics can be identified and reported on regionally and in a user-friendly manner to show the state of the environment within Southern California, the overarching, future intent of this project is to further streamline the Annual Reporting for each SMC member agency while producing more actionable information.

Development of Stormwater Resource Plans, Various

Project Manager responsible for the development of Storm Water Resource Plans (SWRPs) for the County of San Joaquin Region (County of San Joaquin, City of Stockton, City of Tracy, City of Lodi, and City of Manteca), City of Yuba City and Marin County. Work efforts included 1) repackaging of existing data and resources into the various SWRP components, 2) developing and utilizing a quantitative, metric-based methodology for identifying and prioritizing projects, 3) quantifying the benefits of the projects and developing a list of priority projects that can achieve multiple benefits in the five benefit categories identified by the SWRP Guidelines, 4) developing a stakeholder list and conducting stakeholder outreach throughout the development of the SWRP, and 5) developing a draft and final SWRP.

Southern California Stormwater Monitoring Coalition – 2019 Research Agenda Panel Member, November 2019

Monitoring and Assessment lead on the Southern California Stormwater Monitoring Coalition (SMC) Expert Panel to help develop a five-year research agenda (2020 – 2024). The SMC is a collaboration of 14 member agencies which include five state and federal regulatory agencies, eight state, county, and city regulated stormwater agencies, and the Southern California Coastal Water Research Project. The Expert Panel consisted of ten leaders representing 10 different areas of expertise.

Darcy Ebentier McCargar

Associate Scientist I

Professional Experience

Education

M.S., Civil & Environmental Engineering, 2012, University of California, Los Angeles, Los Angeles, CA

B.A., Health & Humanity, 2009, University of Southern California, Los Angeles, CA

Years of Experience

With LWA: <1
With Other Firms: 18

Professional Affiliations

CASQA, Member

Ms. McCargar is an Associate Scientist I in the San Diego office. Over her 18 years of professional practice, she has developed a strong technical background with co-authorship on 10+ peer-reviewed journal articles and technical presentations at state and national water quality conferences. Ms. McCargar has honed her skills in applied monitoring and reporting approaches as well. She has over ten years of experience in managing TMDL compliance monitoring and reporting programs, especially related to indicator bacteria, and is passionate about developing reports that are both scientifically defensible and easy to understand. Her technical leadership and experience in developing and implementing monitoring programs has also equipped her to provide crucial support for clients navigating the complex environmental compliance landscape in development of regulatory support documents.

Calleguas Creek TMDL Special Studies, Calleguas Creek Watershed Stakeholder Group, 2025-Present. Ventura County, CA.

Project Manager for four special studies that are being implemented in FY 2025-2026 on behalf of Calleguas Creek Watershed Stakeholders to support compliance with the Metals, Bacteria, and Salts TMDLs. The diverse stakeholder group includes water, wastewater, stormwater, and agriculture agencies. The Salts special study will include a technical analysis to support the development of alternative averaging periods or site-specific objectives for salts in reaches of potential concern for compliance. The analysis will be documented in a technical memorandum with potential revised objectives to discuss with the Los Angeles Water Board.

San Luis Rey River Water Quality Improvement Plan Annual Reporting, San Luis Rey River Watershed Management Area Participating Agencies. 2025-Present. San Diego County, CA.

Project manager for the County of San Diego and Cities of Vista and Oceanside for the 2024-2025 San Luis Rey River Watershed Management Area (WMA) Water Quality Improvement Plan (WQIP) Annual Report, due in January 2026. Ms. McCargar is leading development of a streamlined Annual Report to effectively communicate compliance status based on feedback from Participating Agencies and regulators alike. The streamlined format communicates key results and overall compliance in a clear and visual format; the report length has been reduced by over 50% while still meeting a multitude of MS4 Permit compliance requirements.

***Middle Santa Ana River Bacteria TMDL Tier 2 Bacteria Source Investigation – Arlington Area, SAWPA. 2017-2018. City of Riverside, CA.**

Assistant Project Manager and Technical Lead (at previous employer) for the bacteria source investigation of a Tier 2 outfall and its upstream drainage area in the Arlington area of the City of Riverside. Tasks included development of a monitoring plan, sample collection at multiple locations in the drainage area to characterize HF183 and FIB, and synthesis of findings in a technical memorandum. Ms. McCargar supported study design, field implementation, and data analysis and reporting.

San Luis Rey River and Spring Valley SDA-1 Provision B.3.C Compliance Option and WQIP Update, County of San Diego. 2025-Present. San Diego Region, CA.

Project support for the County of San Diego for development of the Provision B.3.C Compliance Option and associated WQIP Update for the San Luis Rey River WMA and Spring Valley SDA-1 in the San Diego Bay WMA. Ms. McCargar provides support for development of technical memorandums summarizing modeling results and led update of an existing monitoring plan for SDA-1 to provide baseline data.

***Dry Weather E. coli and HF183 Survey, Riverside County Flood Control and Water Conservation District (2023-2024). Riverside County, CA.**

Project Manager (at previous employer) for the Riverside County Flood Control and Water Conservation District's characterization of dry weather *E. coli* and HF183 concentrations at Tier 1 outfalls. Ms. McCargar worked with the client to develop an efficient study design, applied an existing prioritization process using the results to rank the outfalls, and summarized results in a technical memorandum.

As-Needed Stormwater Monitoring Services, City of San Diego 2013-Present. San Diego, CA.

Project Manager (at prior firm) and current Technical Advisor/Reporting Manager for Task Orders under the City of San Diego's As-Needed Stormwater Monitoring Services contract. Ms. McCargar has managed or supported a variety of monitoring, reporting, and regulatory support projects within the City including:

- Bacteria TMDL compliance monitoring and reporting programs for multiple watersheds (Project Manager from 2015-2014). Included Annual Report development for multi-stakeholder watershed groups and engagement with San Diego Water Board staff regarding methodologies and compliance evaluations.
- Water Quality Response Team as-needed source investigation support (Project Manager and/or Technical Advisor from 2016-2025)
- Bacteria TMDL Time Schedule Order review, implementation, and compliance reporting. (Project Manager and/or Technical Advisor from 2023-present)
- WQIP Annual Reporting for multiple watersheds (Technical Reviewer from 2016-2024).

Bacteria TMDL Time Schedule Order Implementation, 2024-Present. City of San Diego (San Diego, CA):

Project Manager (at prior firm) and current Technical Advisor/Reporting Manager for Bacteria TMDL Time Schedule Order implementation for 3 watersheds including development and submittal of required Monitoring Plans, Microbial Source Identification/Abatement Work Plans, Pollution Prevention Plans, and Compliance Reports. Ms. McCargar provides critical continuity and guidance for TSO development and implementation tasks initiated while at previous employer.

Bacteria TMDL Reopener and San Diego River Investigative Order Support, City of San Diego. 2024-Present. San Diego, CA.

Project Manager (at prior firm) and current Technical Advisor for the City of San Diego for the ongoing Bacteria TMDL reopener efforts and follow up to the San Diego River Investigative Order (SDRIO). Ms. McCargar leverages extensive first-hand experience with Bacteria TMDL and SDRIO monitoring and data assessment.

* Denotes experience at prior firm

Olin Applegate

Senior Scientist II

Professional Experience

Education

M.S., Hydrologic Science,
2014,
University of California at
Davis

B.S., Environmental Policy
Analysis and Planning,
2010,
University of California,
Davis

Years of Experience

With LWA: 11
UC Davis Research: 3

Professional Affiliations

Member, Groundwater
Resources Association of
California; National
Groundwater Association

Specialized Tools

ArcGIS, Spatial Analyst,
QGIS, R

Mr. Applegate is a Senior Scientist and hydrologist with work experience at LWA in the groundwater, agriculture, watershed, and stormwater service areas. Mr. Applegate's experience at LWA includes assisting clients with SGMA compliance, completion of groundwater technical reports, monitoring and reporting programs, water quality assessments, Regional Water Board negotiation during Waste Discharge Requirements renewals, stormwater permit compliance, TMDL compliance assistance, and NPDES permit assistance. Mr. Applegate provides a range of services including data management and evaluation, participation in monitoring and special studies, compliance and communication with Regional Waterboards, and regulatory analysis. He has expertise in designing and implementing groundwater quality monitoring networks to evaluate both regional and site-specific water quality conditions to satisfy regulatory requirements. Prior to LWA, Mr. Applegate modeled impacts to groundwater quality from agricultural production in the Central Valley.

County of Siskiyou GSP Implementation, Siskiyou County Flood Control and Water Conservation District, 2021-Present. Siskiyou County, CA.

Assistant project manager overseeing implementation of SGMA in two basins in Siskiyou County. For each basin, the project responsibilities include GSP implementation, Periodic Evaluations, Annual Reporting, site specific technical evaluations, stakeholder engagement and DWR grant oversight. Implementation projects include well inventories, groundwater-surface water connectivity studies, evaluations of upland management, and assistance with irrigation ditch recharge projects. Additional assistance includes site specific water quality investigations, revisions of sustainable management criteria, coordination between the GSA, stakeholders, and regulatory agencies.

WDR Technical Studies, City of Palm Springs. 2017-Present. Palm Springs, CA.

In response to Colorado Regional Board requirements Mr. Applegate completed a series of technical reports that evaluated the potential impact to groundwater from the City's WWTP percolation ponds. Work included completion of a groundwater technical report that characterized ambient and impacted groundwater quality in the region of the WWTP, a fate and transport investigation of nitrogen, and an evaluation of the monitoring network's ability to track the evolving effluent plume. An estimate of ambient groundwater quality, and an assimilative capacity evaluation were completed to characterize the overall impact of the WWTP on the groundwater basin, and the results were accepted by the Regional Water Board. Mr. Applegate also analyzed groundwater dynamics monitored from wells surrounding the WWTP to determine if the network accurately monitored the impacts of the recharge. As part of the effort, he decommissioned monitoring wells based on results of a statistical analysis, and recommended the location and design of new wells. Assessments included a non-parametric analysis of groundwater quality data, and groundwater quality mixing model to determine if the percolation ponds cause impairments in receiving groundwater. Most recently, Mr. Applegate is assisting the City in evaluating the network's ability to detect bacteria.

Groundwater Antidegradation Support, Las Virgenes Municipal Water District. 2022-2024. Western Los Angeles County, CA.

Per requirements of the Water Quality Control Policy for Recycled Water, Mr. Applegate completed an antidegradation analysis regarding the potential impacts to groundwater quality based on the Water District's recycled water uses and the Water Quality Objectives

for the impacted groundwater basins. As part of the multi-phase project, Mr. Applegate served as the Assistant Project Manager to oversee the development of a technical report evaluating LVMWD's recycled water irrigation practices. This report included an evaluation of groundwater assimilative capacity for multiple constituents of concern, and agronomic and hydraulic estimates to determine potential impacts to groundwater. As part of this effort, Mr. Applegate communicated project findings to Regional Water Board Staff, and negotiated reporting requirements.

Waste Discharge Requirements Assistance - Percolation, City of Fillmore. 2022-Present. Fillmore, CA.

Completed a discharge impact evaluation and antidegradation analysis as required by the Los Angeles Regional Water Quality Control Board for renewal of the Fillmore Water Recycling Plant's Waste Discharge Requirements. Mr. Applegate created a site-specific mixing model to evaluate the impact of the Water Recycling Plant's percolation ponds on groundwater quality. The model was used to evaluate the timeframe that groundwater quality degradation would occur if elevated effluent concentrations were discharged. As part of the effort, Mr. Applegate regularly met with members of the Los Angeles Regional Board to communicate progress, negotiate reporting and modeling requirements, and clarify technical requirements of the antidegradation analysis.

South American Subbasin GSP Development and Implementation, South American Subbasin. 2020-Present. Sacramento County, CA.

GSP development and implementation for the South American Subbasin. Served as the task manager for technical work including basin wide water quality evaluation and water quality monitoring network development. As part of the GSP's implementation, Mr. Applegate coordinates the consultant team to produce the annual report and provides final submittal to DWR. This includes coordinating monitoring activities, refining the water level network, and ensuring submittal of groundwater monitoring components to DWR's Monitoring Network Module. Currently, Mr. Applegate is beginning to update the GSP as part of the 2027 required evaluation. This includes review of water quality data gaps, and revisions to the water level and water quality monitoring networks.

Groundwater Fee Study and Parcel Water Balance Database, Napa County Groundwater Sustainability Agency. 2023-Present. Napa, CA.

Mr. Applegate is the project manager and technical lead working to develop parcel scale water balances to implement the groundwater fee study to fund sustainable groundwater planning efforts in the Napa Basin. Mr. Applegate led the technical team to develop water balances that could be applied at a parcel scale. This included coordination with the GSA, subconsultants, and stakeholder groups to ensure methodology was accurate. Refinement of field scale applied water estimates for grapes were an integral part of the evaluation. Additionally, land use evaluation with the use of multi spectral satellite imagery were employed to determine the impact of different land use elements on the water budget.

Western Heights Water Company, Santa Ana Regional Water Quality Control Board. 2021-2023. Yucaipa, CA

Developed the project approach for a potable aquifer storage and recovery project. Specific tasks included acquiring concept support from multiple water districts involved in the project, as well as satisfying operational permit requirements as mandated by the Santa Ana Regional Water Quality Control Board.

Calleguas Creek Watershed Regulatory Support, Stakeholders Implementing TMDLs in the Calleguas Creek Watershed. 2022-2023 Ventura County, CA

Served as task lead to update the Calleguas Creek Watershed TMDLs Quality Assurance Project Plan (QAPP) to satisfy the requirements of a Coordinated Integrated Monitoring Program (CIMP) for compliance with the 2021 Los Angeles County MS4 Permit. Mr. Applegate evaluated existing monitoring programs and permit requirements, assessed analytical components, and developed the monitoring approach to satisfy TMDL requirements for all stakeholders and MS4 receiving water permit requirements.

Central Valley-Wide Salt and Nitrate Management Plan, Central Valley Salinity Coalition. 2014-2019. Central Valley, CA

Contributed to the production of the Central Valley Salt and Nitrate Management Plan, including surface water quality characterization, analyses of water sources and demands, overview of beneficial uses and water quality objectives, description of delivered and imported water, and physical characterization of the Central Valley. Mr. Applegate compiled surface water quality data throughout irrigation districts, performed research on future projects, and analyzed historical and simulated Lower San Joaquin EC levels.



SANTA ANA WATERSHED PROJECT AUTHORITY

Basin Monitoring Program Task Force Groundwater Technical Assistance and Surface Water Reporting

SEPTEMBER 26, 2025



September 26, 2025

Emily Fuentes

Santa Ana Watershed Project Authority
11615 Sterling Ave
Riverside, CA, 92503
951.840.0230
efuentes@sawpa.gov

25 Edelman
Suite 120
Irvine, CA 94566

949.517.9060 phone
westyost.com

RE: Qualifications for Basin Monitoring Program Task Force Groundwater Technical Assistance and Surface Water Reporting

Dear Emily,

West Yost is pleased to submit this proposal to provide Groundwater and Surface Water Technical Assistance and Reporting to the Santa Ana Watershed Project Authority (SAWPA) on behalf of the Basin Monitoring Program Task Force (BMP Task Force). **Our team has partnered with SAWPA and the BMP Task Force for more than two decades, and we remain committed to delivering responsive, high-quality support that advances the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) and sustains long-term compliance.**

We have carefully reviewed the Request for Qualifications (RFQ) and have prepared a proposal that addresses all requirements and qualifications to perform the requested services. **West Yost's approach is built on three strengths that uniquely position us to serve SAWPA and the BMP Task Force:**

- **Proven Track Record with SAWPA** - West Yost has a history partnering with SAWPA and the BMP Task Force for more than 20 years, including technical and regulatory leadership on the development of the 2004 Basin Plan Amendment, numerous ambient water quality recomputations, the 2022 updates to the Surface Water and Groundwater Monitoring Programs, the 2021 Ambient Water Quality Pilot Study, and the 2023 Data Gaps Framework.
- **Leaders in Data Management and Analysis** - We are experts in designing basin-wide databases and custom tools that streamline reporting, modernize workflows, and improve transparency across multi-agency monitoring programs.
- **Regulatory Expertise in the Santa Ana Region** - Our team has success developing salt and nutrient management plans (SNMPs), performing antidegradation analyses, advancing Basin Plan amendments, and preparing compliance reports for agencies across the Santa Ana River Watershed. Our work has been consistently adopted and relied upon by the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board).

Our proposed team—led by Contract and Project Manager **Veva Weamer, MS**, and Principal-in-Charge **Samantha Adams, MESM**—bring unmatched familiarity with the Santa Ana Basin Plan regulatory framework and decades of combined experience in salt and nutrient management planning, groundwater modeling, data management, and regulatory compliance reporting. With local staff based in Irvine, we are ready to provide responsive, on-call support backed by a multi-disciplinary team of specialists. Our contact information (address, email, website, and telephone numbers) is in the header and signature blocks of this letter should you need to reach out for additional information.

Sincerely,



Samantha Adams, MESM
Principal-In-Charge, Business Sector Leader
530.792.3220 | sadams@westyost.com



Veva Weamer, MS
Contract and Project Manager
949.600.7520 | vweamer@westyost.com

Proposer's Name:	West Yost		
Authorized Signature:		Date:	9.26.2025
Name of Individual Signatory:	Greg Chung	Title of Individual Signatory:	Vice President
Direct Phone #:	925.949.5804	Mailing Address:	2020 Research Park Drive Suite 100
E-Mail Address:	gchung@westyost.com	City, State, Zip:	Davis, CA 95618

All proposers shall submit the information as requested below.

1. Length of time your firm has been in business: 35 Years
2. Length of time at current location: <1 Year: In current building (25 Edelman Suite 120, Irvine, CA)
Lake Forest/Irvine Area: 18+ Years
3. List types and business license number(s): Engineering Consulting
4. California State Contractor's License number: N/A
5. Names and titles of all officers of the firm: President - Charles Duncan
Chief Financial Officer - Ernie Liu VP/ Director of Operations Design: Greg Chung
Director of Operations, Planning - Chuck Greely Business Development Director - Abigail Madrone
Strategic Initiatives Director - Lindsay Smith Business Services Director - Chris Leister
Board of Directors: Andrew Rodgers, Lindsay Smith, Stan Simmons, Jeff Wanless, Ellen Cross, Kathryn Gies, Corrie Moolenkamp
6. Is your firm a sole proprietorship doing business under a different name?
YES ☐ or NO ☒
7. If yes, please indicate sole proprietorship name and the name you are
doing business under: N/A
8. Please indicate your Federal Tax Number: 68-0370826
9. Is your firm incorporated? YES ☒ or NO ☐
10. Name and remittance address that will appear on invoices: _____
West Yost & Associates, Inc., PO Box 2158, Davis, CA 95617
11. Physical Address: _____
Irvine Office - 25 Edelman Suite 120, Irvine, CA 94566
Headquarter Office (Billing) - 2020 Research Park Drive, Suite 100, Davis, CA 95618

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2 EXECUTIVE SUMMARY

Firm Origin and Size

West Yost is a consulting engineering firm founded in 1990 and headquartered in Davis, California. With over 250 staff members across 11 offices, we bring together hydrogeologists, engineers, scientists, planners, and regulatory specialists to deliver integrated water solutions. We are small enough to be responsive and provide personalized attention, while having the capacity to provide extensive expertise and resources to deliver innovative and impactful solutions to meet your needs. Our team will be led and managed from our Irvine office, just a short distance from SAWPA's Riverside location, promoting easy access to stakeholders and site access alike.

Services

Our focus is exclusively water, wastewater, recycled water, groundwater, surface water, and stormwater. We have broad experience providing planning, design, regulatory compliance, and program management services in these areas. West Yost has built a reputation as a trusted partner to water districts, municipalities, dischargers, regulators, and others in the water community by providing innovative and yet practical solutions with a focus on sustainable resource utilization.

Capabilities

The West Yost team of geologists, scientists, and engineers is uniquely qualified to serve SAWPA based on our team's combined experience and successes over the last 25 years in providing hydrogeologic analysis, groundwater and surface water modeling, water quality analysis, and regulatory compliance services to SAWPA's BMP Task Force. Our proposed Contract/Project Manager has over 15 years of experience working on projects with the BMP Task Force.

Overall Firm Capabilities Our staff includes certified or registered professionals in chemical, civil, control systems, electrical, environmental, and mechanical engineering; wastewater treatment and regulatory compliance; geology, engineering geology, and hydrogeology; architecture; GIS; cybersecurity and risk management; asset management and condition assessment; project management; and construction management and inspection services.

Dedication to Client Service

West Yost is dedicated to providing exceptional client service and high-quality work products. Our success at meeting ongoing client needs is exemplified by our long-term relationships and repeat work, including with agencies across the Santa Ana River Watershed. West Yost will manage projects proactively, providing responsive service and timely work products.



Proximity to SAWPA

West Yost 25 Edelman, Suite 120, Irvine, CA

32.8 mi

SAWPA 11615 Sterling Ave., Riverside, CA

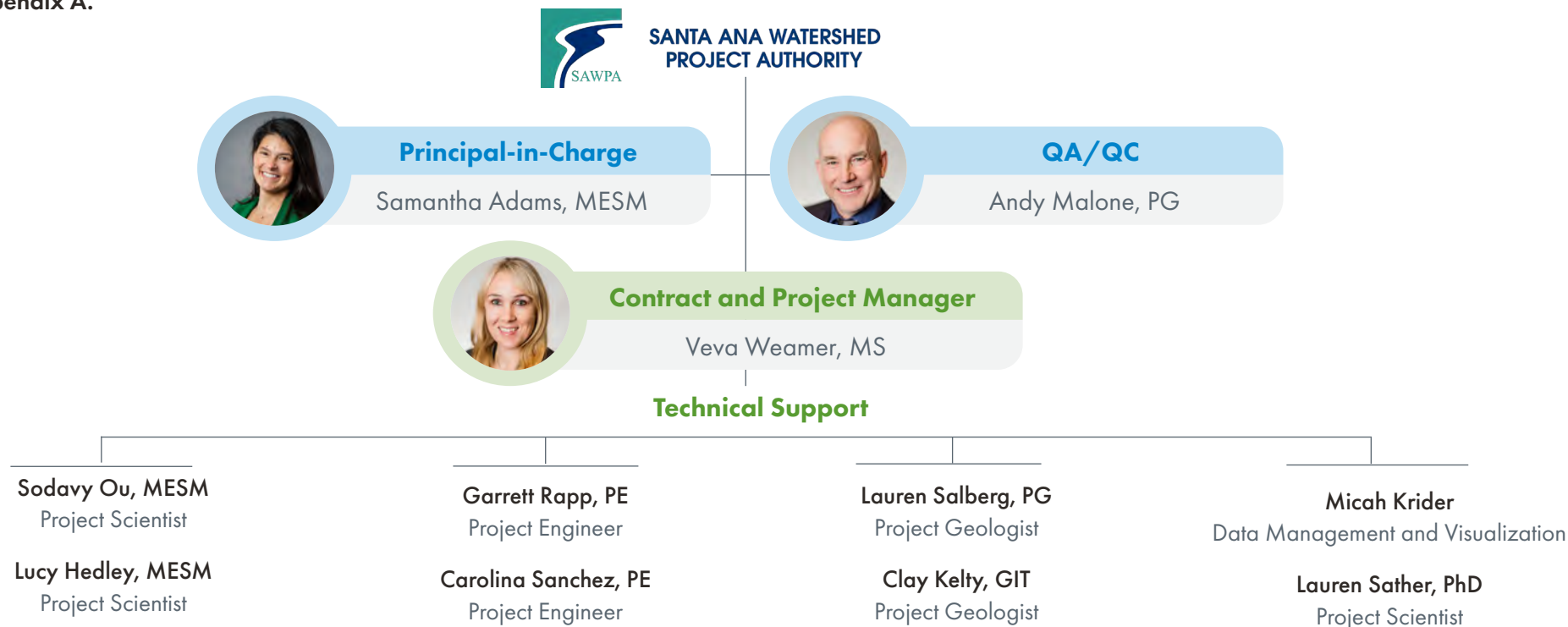


Relevant Licenses/Certifications

Andy Malone, PG	Professional Geologist, CA # 8700
Carolina Sanchez, PE	Professional Civil Engineer CA # 85598
Garrett Rapp, PE	Professional Civil Engineer CA # 86007
Lauren Salberg, PG	Professional Geologist CA #10327
Clay Kelty, GIT	Geologist-in-training CA # 1273

2 /// EXECUTIVE SUMMARY | FIRM ORGANIZATION

Introduction to the Team The following organization chart illustrates key staff that will provide on-call services requested by the BMP Task Force. Our team includes scientists, geologists, and engineers with experience in data collection, management, and analysis; regulatory compliance; and groundwater modeling. Many of our team members have experience supporting past BMP Task Force projects, as well as related projects for agencies throughout the watershed. Our team will be led by Contract and Project Manager Veva Weamer, MS, who has worked with SAWPA and the BMP Task Force on a wide-range of projects for over 15 years. Brief staff bios highlighting relevant experience are provided in Section 5, and resumes demonstrating selected relevant experience of our key team members are provided in **Appendix A**.



3 /// IDENTIFICATION OF SERVICES

West Yost brings the knowledge, technical expertise, and proven experience to deliver all four services listed in the SAWPA RFQ. We are fully committed to supporting the BMP Task Force, and our team stands ready to apply these capabilities to drive successful outcomes across the following services:

- A. Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers
- B. Annual/Routine Groundwater Data Consolidation
- C. Recomputing AWQ for GMZs for the Period of 2007 to 2026 ("2026 AWQ Recomputation")
- D. Development of the Annual Report of Santa Ana River Water Quality

4 // QUALIFICATIONS AND EXPERIENCE

West Yost brings decades of expertise in data collection, monitoring, management, and analysis to support salt and nutrient management and regulatory compliance within the Santa Ana River Watershed. Our team provides continuity, technical innovation, and regulatory expertise to support the BMP Task Force. Our team's qualifications are grounded in three core strengths:

- We have a proven record of technical and regulatory leadership with the BMP Task Force, from the 2004 Basin Plan Amendment to the 2023 Data Gaps Framework.
- We are recognized leaders in data management, having developed basin-wide databases and dashboards that streamline multi-agency reporting.
- We bring unmatched regulatory experience in the Santa Ana Region, with SNMPs and compliance programs consistently adopted by the Santa Ana Water Board.

The six project summaries on the following pages showcase recent examples of our capability to fulfill the requirements of the four categories of services in the RFQ.

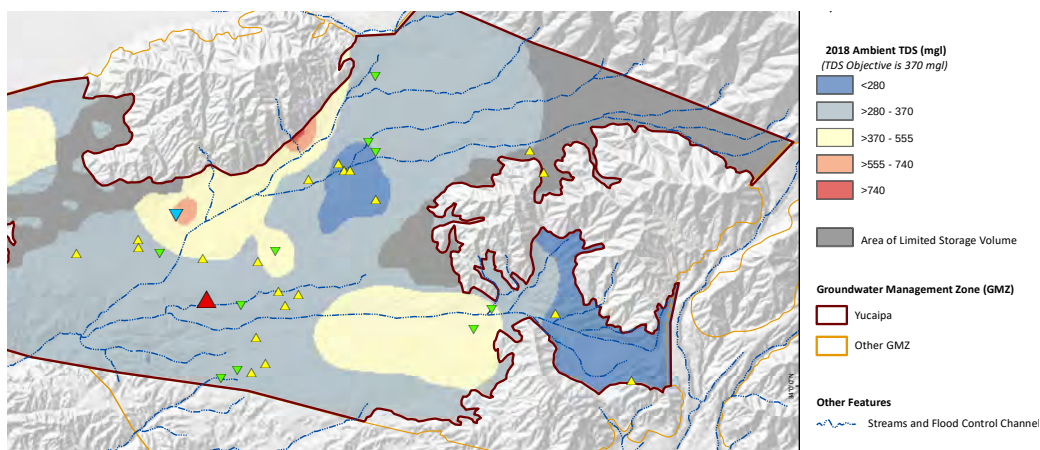
We encourage you to contact our references, and **we are willing to provide a client list to demonstrate that no other clients could negatively impact SAWPA.**

The below matrix shows how our six projects align with the qualifications and requirements outlined in the RFQ, demonstrating our direct experience in the areas most important to the BMP Task Force.

	Clients					
	Chino Basin Watermaster	Santa Ana Watershed Project Authority	Elsinore Valley MWD	San Juan Basin Auth.		
Projects	Data Management, Interactive Data Analysis and Reporting	Integrated GW, SW Modeling for Safe Yield Evaluations	Updated SW and GW Monitoring Programs to Support Santa Ana River Basin Plan	Ambient Water Quality Pilot Study and Data Gaps Framework	Implementation of Maximum Benefit SNMP for Elsinore GMZ	SNMP Monitoring and Reporting Programs for the San Juan Creek Watershed
Outreach and data acquisition from agencies	■	■	■	■	■	■
Understanding of Groundwater Basins, Aquifer Properties, and Storage Model Layers		■	■	■	■	■
Compilation and Integration of Data from Multiple Sources	■	■	■	■	■	■
Routine Data Collection, Normalization, And Verification	■			■		■
Proficiency in Database Management	■	■		■	■	■
Development of Tools to Streamline Data Analysis and Reporting	■	■		■		■
Computing Ambient Water Quality and Determination of Assimilative Capacity			■	■	■	
Analysis of Surface Water and Groundwater Datasets	■	■	■	■	■	■
Preparation of Annual Reports and Regulatory Reports	■		■	■	■	■
Interaction and Collaboration with BMP Task Force Members			■	■	■	

QUALIFICATIONS RELATED TO RFQ SERVICE OBJECTIVES

4 /// QUALIFICATIONS AND EXPERIENCE | PROJECT EXPERIENCE



The Pilot Study quantified and compared the volume of groundwater in storage for select GMZs for the physical models used to compute AWQ in the late 1990s, versus updated physical models.

Ambient Water Quality Pilot Study, and Data Gaps Framework SANTA ANA WATERSHED PROJECT AUTHORITY RIVERSIDE, CA

Project Setting: The BMP Task Force is responsible for periodic recomputations of AWQ across 35 GMZs in the Santa Ana River Watershed. These values are critical for assessing assimilative capacity and demonstrating compliance with the Santa Ana Basin Plan and the State Water Board's 2019 Recycled Water Policy. Recognizing the need for more robust technical methods and improved monitoring coverage, the BMP Task Force initiated a 2021 Pilot Study to test updated approaches and followed with a 2023 Data Gaps Framework to strengthen long-term monitoring.

Project Description and Services: West Yost, in collaboration with Water Systems Consulting, and Daniel B. Stephens & Associates, led in the following work:

2021 AWQ Pilot Study

- Compiled groundwater TDS and nitrate data (2019–2021) across all 35 GMZs.
- Tested alternative and simplified methods for assessing AWQ.
- Piloted updates to storage properties in the Yucaipa GMZ, comparing historic and current AWQ determinations.
- Developed a roadmap and schedule for completing the 2026 five-year AWQ and assimilative capacity recomputation, due in 2028.

2023 Data Gaps Framework

- Defined criteria to identify monitoring network gaps, assign agency responsibilities, and confirm the existence of true data gaps.
- Conducted GMZ-specific meetings with local agencies to refine data needs and responsibilities.
- Outlined cost-effective approaches for agencies to resolve monitoring deficiencies and strengthen compliance with the Basin Plan.

Under both efforts, West Yost conducted regular BMP Task Force workshops and meetings with SAWPA and the Santa Ana Water Board staff to support alignment with policy and technical expectations.

RELEVANCE

Demonstrates West Yost's ability to:

- Turn complex watershed data into actionable methods and strategies that reduce workload, close monitoring gaps, and produce results trusted by regulators.

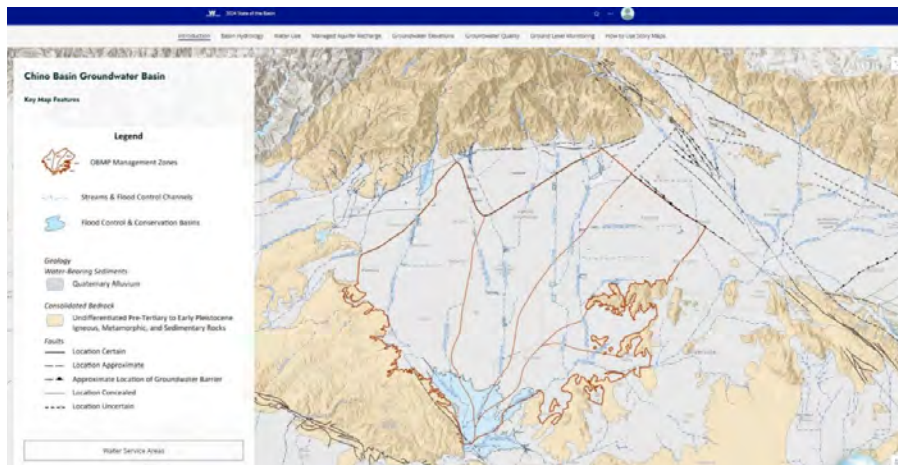
TEAM Samantha Adams, Veva Weamer, Sodavy Ou, Lauren Sather

PROJECT DATES 2022 – 2023

SUCCESSFUL OUTCOMES:

- Delivered streamlined, defensible methods for future AWQ recomputations, reducing workload while maintaining scientific credibility.
- Developed a basin-wide strategy to identify and resolve groundwater data gaps across 35 GMZs, facilitating long-term monitoring viability.
- Delivered a clear plan and schedule for completing the 2026 AWQ recomputation over the next five years, positioning the BMP Task Force for compliance with the Santa Ana Water Board requirement.

4 /// QUALIFICATIONS AND EXPERIENCE | PROJECT EXPERIENCE



The 2024 State of the Basin was developed as an interactive online GIS StoryMaps dashboard.

RELEVANCE

Demonstrates West Yost's ability to:

- Manage large datasets.
- Develop tools to streamline data visualization & reporting.
- Develop and utilize tools to streamline communication of groundwater conditions.

TEAM Veva Weamer, Lucy Hedley, Carolina Sanchez, Sodavy Ou, Lauren Sather, Clay Kelty

DATES 2002 – Ongoing

Data Management and Interactive Data Analysis

CHINO BASIN WATERMASTER RANCHO CUCAMONGA, CA

Project Setting: In 1999, the Chino Basin Watermaster developed the Chino Basin Optimum Basin Management Program (OBMP) to guide long-term basin management, and it required a comprehensive monitoring program to support program implementation and track progress over time. West Yost, serving as Watermaster Engineer, led the design and implementation of this monitoring program and has prepared twelve biennial State of the Basin Reports based on the data since 2002. Over the years, our team recognized the need for a streamlined data management system to support analysis, and reporting.

Project Description and Services: West Yost served as the Watermaster Engineer during development of the OBMP and through its implementation. A critical component of OBMP implementation is conducting the routine comprehensive basin-wide data collection program. Through the process of collecting and managing data for over a thousand wells and 50 surface water stations, we identified a need to streamline data management and analysis to support reporting. To address this, West Yost designed and built a comprehensive relational database which has a web-based graphical user interface to view, analyze, and output the data in customized formats immediately after it is loaded onto the database.

SUCCESSFUL OUTCOMES:

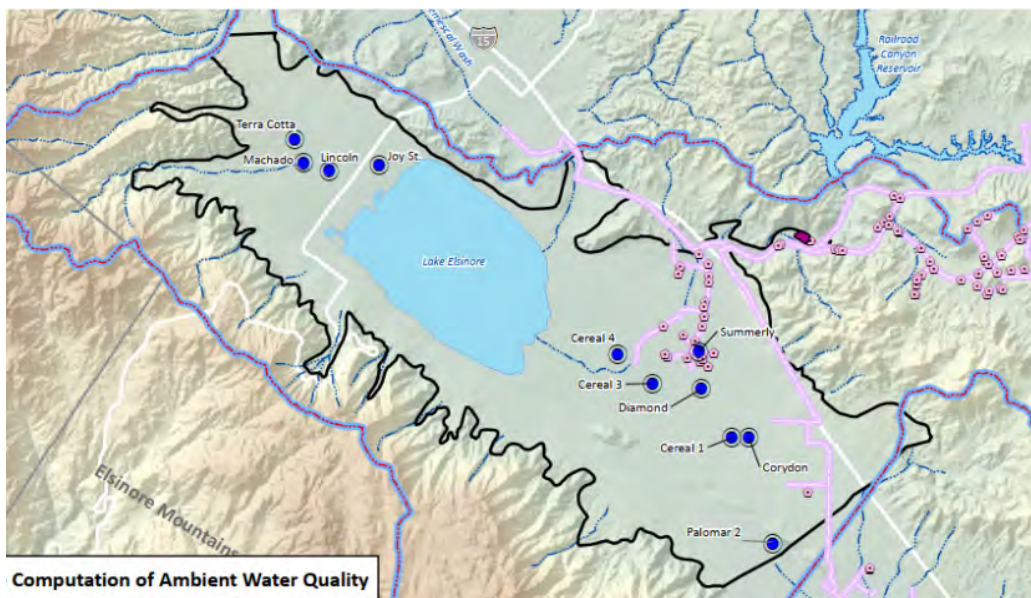
- Created a centralized, robust relational database system that integrates decades of groundwater and surface water monitoring data at over 1,300 sites.
- Developed a variety of automated tools to streamline data uploads, data visualization, analysis, and reporting.
- Modernized approach to reporting that has enhanced stakeholder understanding of the state of the basin through the use of online GIS interactive mapping tools.

West Yost created and continually maintains this database, which hosts all groundwater and surface water monitoring data: wells, groundwater quality and levels, groundwater pumping, surface water stations, surface water quality and flow, and precipitation. Built in tools ensure data standardization and quality assurance and control during uploads. West Yost has also developed a suite of Python scripts to streamline data extraction from the database and automate the generation of figures and tables, enhancing the efficiency and consistency of reporting. The database supports all CBWM reports

that are prepared by West Yost, including the biannual State of the Basin Report.

Most recently, West Yost completed the 2024 State of the Basin Report on basin conditions, including hydrology, groundwater production and recharge, groundwater levels, groundwater quality, and land subsidence. The 2024 edition introduced a modernized reporting format, transitioning from a traditional atlas-style book to an interactive online GIS StoryMaps dashboard. This new dashboard format enhances accessibility, visualization, and user engagement with the data, and allows for efficient updates as new data becomes available.

4 /// QUALIFICATIONS AND EXPERIENCE | PROJECT EXPERIENCE



Map of the ambient groundwater quality monitoring network defined in the Work Plan.

Maximum Benefit Salt and Nutrient Management Plan for the Elsinore Groundwater Management Zone

ELSINORE VALLEY MUNICIPAL WATER DISTRICT LAKE ELSINORE, CA

Project Setting: In 2012, AWQ computations showed that the Elsinore GMZ had no assimilative capacity for TDS, creating a significant compliance challenge for Elsinore Valley Municipal Water District (EVMWD). Recycled water from the Railroad Canyon WRF exceeded both Basin Plan objectives and, at times, permit limits. The Santa Ana Water Board indicated that treatment would be required to meet compliance standards—an approach that would have imposed major near-term costs and long-term operational burdens on the District. Instead, EVMWD turned to West Yost to develop a compliance strategy that relied on regulatory and technical innovation rather than new infrastructure. A solution would require not only strong regulatory negotiations, but also robust data review and analysis to integrate groundwater, surface water, and recycled water quality data into a defensible technical case.

Project Description and Services: For the development and implementation of the Maximum Benefit SNMP, West Yost:

- Evaluated historic and current AWQ results and methods, and projected TDS and nitrate concentrations under multiple compliance scenarios using fate and transport modeling.
- Demonstrated that a maximum benefit approach provided equivalent or greater water quality protection compared to new treatment facilities.
- Led development of a Basin Plan amendment incorporating maximum benefit water quality objectives and management actions for the Elsinore GMZ.
- Designed and implemented a Monitoring Work Plan to compile and analyze relevant data sets and report on compliance.

RELEVANCE

Demonstrates West Yost's ability to:

- Manage and assess large groundwater and surface water data sets.
- Prepare rigorous compliance reports that support long-term regulatory approvals.

TEAM Samantha Adams, Sodavay Ou, Carolina Sanchez, Clay Kelty

DATES 2015 – Ongoing

SUCCESSFUL OUTCOMES:

- Basin Plan amendment adopted with full Santa Ana Water Board support in 2023
- Alternative compliance strategy provided substantial cost savings by avoiding new infrastructure while maintaining regulatory approval.
- Timely annual reporting to the Santa Ana Water Board, demonstrating compliance and program successes.

4 /// QUALIFICATIONS AND EXPERIENCE | PROJECT EXPERIENCE



Salt and Nutrient Management Plan Monitoring and Reporting for the San Juan Creek Watershed

SAN JUAN BASIN AUTHORITY RANCHO SANTA MARGARITA, CA

Project Setting: To address local water supply reliability, the agencies overlying the San Juan Creek Watershed developed a SNMP. At the time, limited existing surface and groundwater quality data were available, requiring the creation of a comprehensive watershed-wide surface and groundwater monitoring program to evaluate current conditions, project future changes, and determine the impacts of recycled water reuse

Project Description and Services: In 2016, West Yost worked with regional agencies to develop the SNMP Monitoring and Data Collection Work Plan and has implemented monitoring efforts since. Work has included:

- Establishing and operating monitoring networks at 30+ sites.
- Managing cooperative data collection and management, including QA/QC processes.
- Compiling datasets into a relational database for analysis and reporting.
- Preparing annual reports documenting compliance status, monitoring results, and water quality trends.

The data also supports related regulatory efforts, including water rights compliance reporting and basin-scale flow modeling to evaluate recharge and reuse projects.

RELEVANCE

Demonstrates West Yost's ability to:

- Design and sustain long-term SNMP monitoring programs.
- Manage large cooperative datasets.
- Deliver regulatory reporting that supports recycled water use and basin management

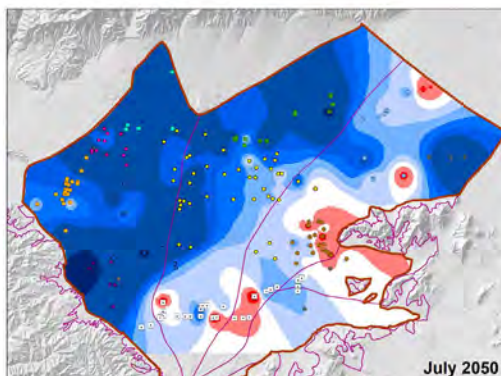
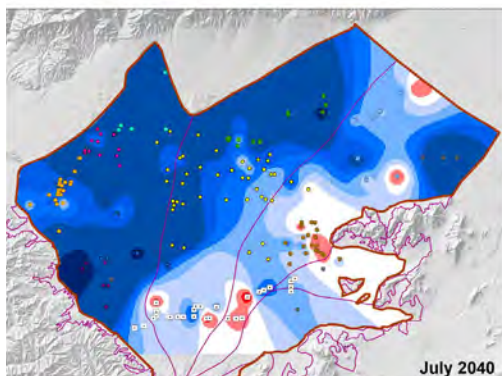
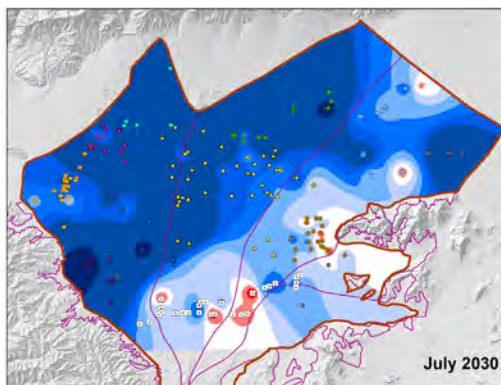
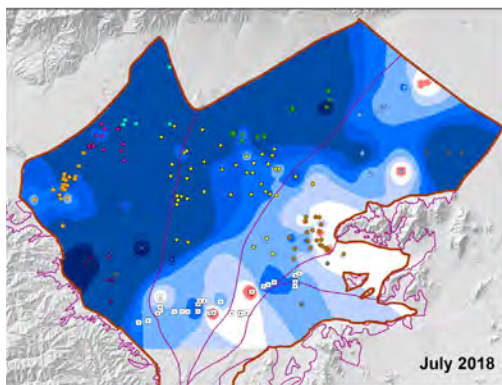
TEAM Samantha Adams,
Carolina Sanchez
Veva Weamer, Lucy
Hedley, Lauren Sather

PROJECT DATES 2015 – Ongoing

SUCCESSFUL OUTCOMES:

- Built nearly a decade of continuous groundwater and surface water datasets to support SNMP implementation.
- Submitted nine annual reports documenting monitoring results and compliance status.
- Used watershed-wide data to assess TDS trends, drivers of loading, and assimilative capacity in subareas of the watershed.

4 /// QUALIFICATIONS AND EXPERIENCE | PROJECT EXPERIENCE



Integrated Groundwater and Surface Water Modeling for Safe Yield Evaluations

CHINO BASIN WATERMASTER RANCHO CUCAMONGA, CA

Project Setting: The Chino Basin Watermaster (Watermaster) is responsible for determining the Safe Yield of the Chino Basin under its adjudication. Since the early 2000s, West Yost, as Watermaster's Engineer, has developed and refined an integrated groundwater model, now called the Chino Valley Model (CVM), to calculate the Safe Yield and support basin management.

The CVM simulates watershed processes, recharge basin operations, applied water, vadose zone dynamics, and saturated groundwater flow. Originally developed in 2007, the CVM has undergone multiple updates to incorporate new data, cultural changes, and evolving climate conditions. In 2022, following technical peer and stakeholder review, the Court approved a revised methodology to explicitly quantify and account for model uncertainty. West Yost began applying this methodology in 2023 for the 2025 Safe Yield Reevaluation.

Project Description and Services: For the 2025 Safe Yield Reevaluation, West Yost:

- Updated the hydrogeologic conceptual model of the Chino Basin based on new data.
- Applied advanced geostatistical methods to estimate aquifer properties from physical data.
- Generated high-resolution estimates of agricultural pumping and aerial recharge using a daily surface-water model.
- Implemented PESTPP-IES to calibrate over 300 realizations of the CVM and quantify parameter uncertainty.
- Led stakeholder and peer review to define multiple climate and cultural scenarios, including municipal agency responses to regulatory drivers.
- Produced an ensemble of 45 models across calibration and projection scenarios.
- Developed Python-based tools to streamline model construction, execution, processing, review, and reporting.
- Prepared comprehensive water budgets, recharge and pumping estimates, and Safe Yield values for multiple base periods.

RELEVANCE

Demonstrates West Yost's ability to:

- Develop complex hydrogeologic conceptual models.
- Quantify and communicate uncertainty using modern ensemble.

TEAM Andy Malone, Garrett Rapp
Lauren Sather, Veva Weamer
Lauren Salberg

PROJECT DATES 2002 –Ongoing

SUCCESSFUL OUTCOMES:

- Delivered a transparent, defensible approach to Safe Yield that integrates stakeholder and technical review.
- Enhanced uncertainty analysis through cutting-edge implementation of a new parameter estimation tool from the PEST suite.
- Project demonstrations provide for robust decision making related to future water supply and demand variability.

4 /// QUALIFICATIONS AND EXPERIENCE | PROJECT EXPERIENCE



Updated Surface Water and Groundwater Monitoring Programs to Support the Santa Ana River Basin Plan

SANTA ANA WATERSHED PROJECT AUTHORITY RIVERSIDE, CA

Project Setting: The Basin Plan was amended in 2004 to establish a watershed-wide SNMP, set TDS and nitrate objectives for surface water and groundwater, and require monitoring programs to track compliance. The BMP Task Force agencies were designated as the responsible parties for implementing the monitoring and reporting programs. A 2021 Basin Plan Amendment updated these requirements, directing the BMP Task Force to strengthen the surface water and groundwater monitoring programs in line with the State Water Board's 2019 Recycled Water Policy.

Project Description and Services: From 2021 to 2023, West Yost led the update of the surface water and groundwater monitoring programs through an extensive stakeholder process. Our services included:

- Reviewing regulatory requirements with BMP Task Force members and Santa Ana Water Board staff.
- Evaluating existing monitoring networks and identifying data gaps.
- Developing updated surface water and groundwater monitoring programs with clearly defined methods and responsibilities.
- Facilitating workshops to build consensus and align technical methods with regulatory expectations.
- Delivering final work plans that were practical, scientifically sound, and broadly supported by stakeholders.

RELEVANCE

Demonstrates West Yost's ability to:

- Lead stakeholder-driven processes to meet regulatory requirements
- Precisely define technical approaches to evaluate compliance with available data
- Provide long-term solutions for demonstrating and maintaining compliance

TEAM Samantha Adams, Sodavy Ou, Garrett Rapp
Veva Weamer

PROJECT DATES 2021 – 2023

SUCCESSFUL OUTCOMES:

- Clearly defined the required data and methodologies, to effectively implement monitoring and reporting activities in support of the Basin Plan SNMP.
- Addressed critical surface water monitoring data gaps necessary for assessing regulatory compliance, in part by strategically leveraging existing datasets.
- Set up a clear strategy for critical follow-on work to periodically address data gaps for the groundwater monitoring program.
- Stakeholder education and collaboration that built consensus, and delivered practical, cost-effective, and widely supported.

4 /// QUALIFICATIONS AND EXPERIENCE | STAFF BIOS



Experience 17 Years
West Yost 5 Years

Veva Weamer, MS

Contract and Project Manager

Veva is recognized for her ability to keep projects on schedule and budget while building knowledge and trust among project stakeholders and regulators.

Veva will serve as the Contract and Project Manager and will be SAWPA's primary point of contact. Veva has 17 years of professional consulting experience in environmental and geological sciences and has expertise with groundwater management planning, design of groundwater and surface water monitoring programs, analysis of groundwater dependent ecosystems (GDEs), water quality monitoring and analysis, and salt and nutrient management planning. In 2021-2023, Veva led the recent effort to prepare an updated watershed-wide surface monitoring program and develop the 2022 Santa Ana River Total Dissolved Solids and Total Inorganic Nitrogen Monitoring Work Plan. Her direct experience with SAWPA will provide seamless coordination and timely delivery of defensible work products.



"I've spent much of my career supporting SAWPA and the BMP Task Force, and I'm proud of collaborative solutions we've built together. This work matters to me because it's not just about meeting regulatory requirements—it's about understanding and protecting water quality in the watershed I call home." - Veva Weamer, MS



Experience 19 Years
West Yost 5 Years

Samantha Adams, MESM

Principal-in-Charge

Samantha brings nearly two decades of trusted partnership with the BMP Task Force, combining specialized regulatory insight with a talent for translating complex technical information into actionable strategies. She has developed, negotiated, and implemented SNMPs for several agencies in the Santa Ana River Watershed, including the BMP Task Force, Chino Basin Watermaster, Elsinore Valley Municipal Water District, and Eastern Municipal Water District.

Most recently, Samantha managed the 2023 Data Gap Framework and AWQ Pilot Study. As Principal-in-Charge, she will provide leadership and strategic oversight to the team, drawing on her track record of advancing SNMPs and regulatory compliance programs throughout the Santa Ana River Watershed. She is especially passionate about this work because it brings together her two strengths—technical communication and stakeholder engagement—to advance solutions that not only achieve compliance, but also strengthen long-term water management in the watershed.



Experience 28 Years
West Yost 5 Years
Professional
Geologist CA #8700

Andy Malone, PG

QA/QC

Andy, with nearly 30 years of experience in hydrogeology and groundwater management, will serve the team as a technical advisor and will provide QC/QC of all project deliverables. Andy served as the lead geologist supporting the development of the 2004 TDS and Nitrogen Management Plan, specifically on the watershed-wide delineation of groundwater management zones and computation of ambient water quality.

Today, Andy continues to support regional water agencies, including the Chino Basin Watermaster, where he oversees hydrogeologic modeling and groundwater management programs. He is particularly energized by the opportunity to return to work with SAWPA and the BMP Task Force on projects that shape how science drives regulatory decisions—work that he finds both professionally rewarding and essential to protecting the watershed for future generations.

4 /// QUALIFICATIONS AND EXPERIENCE | STAFF BIOS



Experience 8 Years
West Yost 5 Years

Sodavy Ou, MESM

Project Scientist

Sodavy is an Associate Scientist with eight years of professional experience in water resources management. She provides agencies with regulatory support and compliance solutions for recycled water discharge and reuse, management of field groundwater and surface water monitoring programs, analysis of water quality data, and utilization of tools to analyze multi-variate datasets. She played a key role in developing SAWPA's updated watershed-wide surface and groundwater monitoring programs and the 2023 Data Gap Framework and AWQ Pilot Study. Our clients value her ability to turn raw monitoring data into clear insights for decision makers. Sodavy is energized by work that connects field data with real-world regulatory outcomes—helping agencies meet requirements while building practical, lasting management strategies.



Experience 11 Years
West Yost 5 Years
Professional Engineer
CA # 86007

Garrett Rapp, PE

Project Engineer

Garrett is a Senior Engineer with 11 years of experience in water resources engineering and groundwater management. He has managed complex surface and groundwater modeling efforts for the Chino Basin and has direct experience utilizing SAWPA's Wasteload Allocation Model, which supported the 2022 Santa Ana River Monitoring Work Plan. Garrett has a talent for making complex modeling results understandable to decision makers, bridging the gap between technical analysis and regulatory needs. Garrett is especially interested in advancing cutting-edge modeling solutions, data visualization, and coding to make complex analyses more efficient and transparent. His work brings modern tools into the service of agencies like SAWPA, helping them adapt technical methods to today's data-driven decision-making.



Experience 7 Years
West Yost 3 Years
Professional Geologist
CA # 10327

Lauren Salberg, PG

Project Geologist

Lauren is a geologist with expertise in groundwater modeling, monitoring program implementation, hydrogeologic analysis, and regulatory compliance reporting. Lauren is skilled at synthesizing groundwater level and quality data, interpreting lithologic logs, and integrating results into clear, visual outputs. Lauren puts these skills in action supporting groundwater management compliance reporting for the Borrego Springs Watermaster, where she is responsible for annual data collection, analysis, and computations of change in groundwater storage. She brings value to the team through her meticulous attention to large, complex datasets, helping to catch critical details and strengthen the accuracy and defensibility of project results.



Experience 20 Years
West Yost 1 Year

Micah Krider

Data Management and Visualization

Micah brings two decades of experience designing real-time, web-based visualizations that transform technical datasets into decision-ready insights for agencies and stakeholders. He brings a strategic approach to data analytics and system integration, building durable systems such as databases, dashboards, and pipelines, that streamline data compilation and analysis to make regulatory reporting more efficient. For SAWPA and the BMP Task Force, Micah's strength lies in creating tools that not only meet immediate needs, but also give agencies flexible platforms for future analysis. He is motivated by helping clients move from data overload to decision-making with confidence.

4 /// QUALIFICATIONS AND EXPERIENCE | STAFF BIOS



Experience 12 Years
West Yost 5 Years
Professional Engineer
CA # 85598

Carolina Sanchez, PE

Project Engineer

Carolina has 12 years of experience in groundwater management, salt and nutrient management, recharge master planning, surface water modeling, and leading multi-stakeholder groups through decision making processes. Carolina serves as the lead project engineer for various salt and nutrient management planning and groundwater management efforts for the agencies in Southern California, including the Eastern Municipal Water District, the Elsinore Valley Municipal Water District, and Coachella Valley Water District. Known for her attention to detail, Carolina thrives on turning complex information into compliance reports that are clear, concise, and precisely aligned with regulatory requirements—making it straightforward to demonstrate that obligations are met.



Experience 6 Years
West Yost 5 Years

Lauren Sather, PhD

Project Scientist

Lauren's six years of professional experience have focused on groundwater and surface water modeling, statistical analysis, and advanced coding. She has supported SAWPA and the BMP Task Force through the 2023 Data Gap Framework and AWQ Pilot Study, applying Python-based workflows to streamline analysis and create decision-ready visuals. Lauren enjoys translating complex datasets into clear graphics and concise outputs that help agencies and regulators work with the same foundational understanding. Her approach makes technical findings accessible, improving collaboration and confidence in management decisions.



Experience 7 Years
West Yost 5 Years

Lucy Hedley, MESM

Project Scientist

Lucy has seven years of experience in groundwater management with expertise in water quality analysis, GIS and geospatial analysis, data management and visualization, and compliance reporting. Lucy leads the effort to maintain and QA/QC the comprehensive basin-wide groundwater and surface water database for the Chino Basin, which houses records for thousands of wells. She recently led the modernization of the Chino Basin State of the Basin Report, shifting it into a fully online, interactive GIS-based platform. Lucy enjoys bringing both precision and creativity to her work turning complex monitoring data into reliable, accessible insights that support both watershed-scale decision making and stakeholder communication.



Experience 4 Years
West Yost 2 Years
Geologist n Training
CA # 1273

Clay Kelty, GIT

Project Geologist

Clay is a geologist with experience in groundwater and surface water monitoring, subsidence studies, and hydrogeologic analysis. He has supported compliance and monitoring programs for the Borrego Springs and Chino Basin Watermasters, including expanding monitoring networks, managing field programs, and evaluating well performance. Clay is skilled in GIS, QA/QC of monitoring data, and interpreting field results to support basin-scale management decisions. He brings value to the team by combining strong field expertise with careful data analysis, ensuring monitoring results are both accurate in the field and meaningful in regulatory reporting.

5 // REFERENCES

Reference #1	
NAME OF ENTITY	Chino Basin Watermaster
ADDRESS	9641 San Bernardino Road
CITY, STATE, ZIP CODE	Rancho Cucamonga, CA 91730
CONTACT NAME	Edgar Tellez Foster, Water Resources Management and Planning Director
TELEPHONE #	909.484.3888
E-MAIL ADDRESS	etellezfoster@cbwm.org
PROJECT NAME	Data Management and Interactive Data Analysis and Reporting
COMPLETION DATE	2002- Currently Ongoing
APPROX. COST	\$3M+ per year services contract for comprehensive Watermaster Engineering Services
Reference #2	
NAME OF ENTITY	Elsinore Valley Municipal Water District
ADDRESS	31315 Chaney Steet
CITY, STATE, ZIP CODE	Lake Elsinore, CA 92530
CONTACT NAME	Parag Kalaria, Director of Water Resources Elsinore Valley Municipal Water District
TELEPHONE #	951.674.3146 Ext. 8201
E-MAIL ADDRESS	pkalaria@evmwd.net
PROJECT NAME	Implementation of Maximum Benefit Salt and Nutrient Management Plan for the Elsinore Groundwater Management Zone
COMPLETION DATE	2015 - Currently Ongoing
APPROX. COST	\$254,190 (2-Year total fee for 2024 and 2025). Work is continuously performed over continuous multi-year contracts.
Reference #3	
NAME OF ENTITY	San Juan Basin Authority
ADDRESS	26111 Antonio Parkway
CITY, STATE, ZIP CODE	Rancho Santa Margarita, CA 92688
CONTACT NAME	Micheal Blazevic, Hydrogeologist
TELEPHONE #	949.459.6591
E-MAIL ADDRESS	michaelb@smwd.com
PROJECT NAME	Salt and Nutrient Management Monitoring and Reporting Programs
COMPLETION DATE	2014- Currently Ongoing
APPROX. COST	\$131,605 (Current contract value. Work has been performed each year over multiple contracts since 2014).

6 // LIST OF SUBCONTRACTORS

West Yost will not be utilizing any subcontractors for this contract. Our firm has the capacity and resources to complete all four services identified in Section 3 (Identification of Services)

7 // FEE SCHEDULE

An Excel-based schedule of hourly rates has been attached to the submittal of this qualifications package per the instructions in the RFQ.

8 // UNDERSTANDING AND APPROACH

Project Understanding

West Yost's approach to supporting SAWPA and the BMP Task Force is built on three strengths:

- Proven track record of technical and regulatory leadership with the BMP Task Force, from the 2004 Basin Plan Amendment to the 2023 Data Gaps Framework.
- Reognized leaders in data management, having developed basin-wide databases and dashboards that streamline multi-agency reporting.
- Unmatched regulatory experience in the Santa Ana Region, with SNMPs and compliance programs consistently adopted by the Santa Ana Water Board.

With more than two decades of continuous involvement in Basin Plan implementation, we understand the technical framework, regulatory context, and collaborative process that drive the BMP Task Force's success. Since the 2004 Basin Plan, West Yost has continued to support the BMP Task Force and watershed agencies through a wide range of technical services to implement the TDS and nitrogen management plan. Key efforts have included:

- Calculating ambient TDS and nitrate concentrations in GMZs for the years 2003, 2006, 2009, and 2012
- Updating the Wasteload Allocation Model (WLAM) in 2008 to 2015
- Conducting a salt budget assessment in Reach 3 of the Santa Ana River to investigate rising TDS levels (2015)
- Developing additional maximum benefit SNMPs for the San Jacinto GMZ (2006–2007) and Elsinore GMZ (2015–2020)
- Implementation support for all maximum benefit SNMPs (2005 to the present)
- Creating technical and policy strategies for salt and nutrient management in the Upper Temescal Valley GMZ (2013–present)
- Designing the 2022 Surface Water and Groundwater Monitoring Programs for the watershed
- Conducting the 2021 AWQ Pilot Study
- Developing the 2023 Data Gaps Framework

The following pages describe our approach to each service area identified in the RFQ, as well as our streamlined process for providing responsive, on-call support. In the following pages, we provide a brief overview of our understanding and approach to each of the four service categories identified in the RFQ. As the BMP Task Force identifies specific projects for implementation, West Yost will develop and submit a detailed approach, including scope of work, schedule, and budget in accordance with the approach to on-call services described later in this section.

A

Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers

Accurate aquifer storage properties are essential to the Basin Plan's technical framework for assessing ambient water quality. The BMP Task Force is required to review and update, if necessary, the basin characteristics for all GMZs in the Santa Ana Watershed to support reliable AWQ recomputations.

West Yost has hands-on experience developing and refining the groundwater basin storage models for the Chino, Elsinore, Upper Temescal Valley, and other basins across the Santa Ana River Watershed. Our team understands how basin geometry, specific yield, and groundwater elevation data must be integrated into a defensible storage properties model. Building on our role in the 2021 AWQ Pilot Study, we bring both the institutional knowledge and technical expertise to deliver results that regulators can trust.

8 /// UNDERSTANDING AND APPROACH | UNDERSTANDING

Our approach will include:

- **Data Coordination:** Engage directly with water agencies and their consultants to obtain the most current aquifer property datasets (groundwater models, GIS files, groundwater elevation data).
- **Model Updates:** Incorporate the refined data into the existing AWQ storage properties model, applying rigorous QA/QC and cross-checking against prior storage model properties.
- **Assess Regulatory Impact of Updates:** Recompute AWQ based on the revised storage model to determine if the storage model updates change past regulatory conclusions.
- **Documentation & Transparency:** Prepare clear technical documentation showing assumptions, methods, and comparison with historical results to support regulatory review.

KEYS TO SUCCESS: The key to success lies in carefully evaluating whether new aquifer property data represents meaningful differences from the original model layers, and applying updates only when they improve accuracy and defensibility without introducing unnecessary complexity.

B

Annual/Routine Groundwater Data Consolidation

The BMP Task Force depends on consistent, high-quality groundwater data to support AWQ recomputations and annual regulatory reporting. Bringing together datasets from dozens of agencies and well owners across the watershed is not just an administrative task — the work product serves as the backbone of assessing Basin Plan compliance.

West Yost understands the complexities and challenges of building and maintaining basin-wide relational databases that integrate data from thousands of wells and surface water sites. Our team brings both technical depth and practical experience in outreach to data providers, normalization of diverse formats, and careful QA/QC to preserve data integrity. We have developed custom tools and workflows from automated scripts to interactive dashboards to data management platforms, that streamline data consolidation and make results readily accessible to agencies, stakeholders, and regulators.

Our approach will include:

- **Outreach and Coordination:** Work directly with agency staff and well operators to secure complete, timely data submittals.
- **Data Normalization and QA/QC:** Standardize formats, check for quality issues, and integrate into the BMP Task Force's database.
- **Workflow Improvements:** Recommend process refinements that reduce duplication of effort and improve long-term data usability.
- **Evaluation of Tools:** Where appropriate, evaluate and recommend enhancements to existing database or visualization platforms (e.g., HydroDaVE, dashboards, or automated scripts) to improve reporting efficiency and transparency.

KEYS TO SUCCESS: This approach delivers reliable, defensible groundwater datasets that support AWQ recomputations and annual reporting, while also positioning the BMP Task Force to adopt improved tools and workflows if modernization is desired.

C

Recomputing AWQ for GMZs for the Period of 2007 to 2026 ("2026 AWQ Recomputation")

Recomputing AWQ is a cornerstone of the Basin Plan, directly informing assimilative capacity estimates and compliance evaluations for GMZs. Because these values are used to guide regulatory decisions, the recomputation process must be transparent, defensible, and closely aligned with Task Force-approved methods.

West Yost has extensive experience with AWQ recomputations, having led this work in 2003, 2006, 2009, and 2012, and co-led the 2021 Pilot Study that introduced the Modified Standard Approach. That effort demonstrated our ability to work collaboratively with the Task Force to test and refine methods before they are applied watershed-wide. We recognize that established methodologies form the foundation for recomputations, and any new approaches must be carefully evaluated and adopted through consensus.

Our approach will include:

- **Data Integration:** Compile groundwater quality, elevation, and aquifer property data from agency submittals and Task Force monitoring programs.
- **Application of Established Methods:** Apply Task Force-approved approaches consistently to ensure comparability with past recomputations.
- **Evaluation of Potential Refinements:** Where refinements could add value, present options to the BMP Task Force, build consensus, and document decisions before implementation.
- **Transparency and QA/QC:** Provide clear documentation of methods, assumptions, and results, with interim updates to the BMP Task Force throughout the process.

KEY TO SUCCESS: Applying BMP Task Force–approved methods consistently, while working collaboratively to consider refinements through consensus, so that the recomputation results are economical to prepare, technically sound, and broadly supported by the BMP Task Force.

D

Development of the Annual Report of Santa Ana River Water Quality

The Annual Report of Santa Ana River Water Quality is relied on by the Santa Ana Water Board to evaluate compliance with Basin Plan objectives and by stakeholders to understand watershed-wide water quality trends. Preparing this report requires more than compiling data—it demands accuracy, consistency, and clarity so that technical findings can be readily understood and trusted.

West Yost led the development of the 2022 Santa Ana River TDS and TIN Work Plan, giving us detailed knowledge of the data sources, reporting requirements, and regulatory expectations that guide this effort. Our team's experience managing large, multi-agency datasets and creating interpretive tools allows us to move efficiently from raw monitoring data to clear, defensible reporting.

Our approach will include:

- **Data Compilation:** Coordinate early with agencies such as Orange County Water District, United States Geological Society, and SAWPA to secure complete, timely datasets.
- **Data Processing and QA/QC:** Normalize and integrate data across sources, apply rigorous QA/QC, and document all steps for transparency.

8 /// UNDERSTANDING AND APPROACH | UNDERSTANDING

- **Analysis and Interpretation:** Calculate baseflow conditions, assess trends in TDS and nitrogen, and develop graphics and tables that present results clearly.
- **Drafting and Review:** Deliver a high-quality draft to the BMP Task Force on schedule, allowing for collaborative review and timely submittal to the Santa Ana Water Board.

KEYS TO SUCCESS: Successful outcomes will depend on striking the right balance between technical detail and clarity, compiling data with accuracy and rigor while presenting results in a way that is concise, transparent, and useful for regulatory review and decision-making.

Approach to On-Call Services

Our approach to on-call services has proven to be extremely successful and follows a collaborative process that emphasizes effective communication with our clients. When a project is identified by the BMP Task Force, West Yost's Contract and Project Manager, Veva Weamer, MS, will identify the appropriate project team, and set up a meeting with the SAWPA to develop a proposed approach, scope, schedule, and budget through our proven processes:



Define Project Needs and Objectives

We will develop a precise articulation of the goals and desired outcomes

Adhere to the questions that need to be answered

Consider both short-term needs and how it integrates into the broader watershed objectives



Identify Data, Tools, and Criteria

Identify the data and tools needed to support the project

Define technical approach

Establish criteria to evaluate outcomes

This process considers how we adapt based on outcomes



Define any Gaps

Identify any gaps in data and analytical tools that may impede achievement of project objectives

If deemed necessary by SAWPA, develop an investigation work plan to address gaps



Prepare Detailed Scope

Develop detailed scope, schedule, and fee with involvement and buy-in from client

Confirm key objectives will be met

Define key milestones

Approach to Project Management and Quality Assurance

Our streamlined, proven process gives the BMP Task Force a responsive partner that can adapt quickly to new priorities while delivering consistently high-quality results.

Mobilize the Right Team: Assign staff with the right skills, and direct experience with similar efforts. This provides for immediate efficiency.



Communicate

Communicate Clearly: Provide timely progress updates and translate complex technical findings into concise information for BMP Task Force discussions and regulatory needs.

Apply Senior Review: Principal-level experts, including Andy Malone and Samantha Adams, provide QA/QC so that work products are both technically rigorous and defensible.

Review

Stay Accountable

Stay Accountable: Track scope, schedule, and budget closely, flagging issues early and collaborating with SAWPA staff to resolve them.

Close the Loop: Capture lessons learned and carry them forward to strengthen future Task Force projects.

Close the Loop

9 // EXCEPTIONS

APPENDIX A4 - ADDITIONS, DELETIONS AND/OR EXCEPTIONS

Please state any and all Additions, Deletions and Exceptions that you are taking to any portion of this RFQ, the General Services Agreement (GSA), and/or Task Order (shown in Appendix B – “Standard Contract Documents – Task Order and GSA”). If not addressed below, then SAWPA assumes that the Consultant will adhere to all terms and conditions listed.

SAWPA will issue a Task Order and GSA in its standard form to the successful Consultant for the services contemplated herein. Any deletion, exception, or modification taken to SAWPA contract terms and conditions will be evaluated, in addition to the specified criteria; and may, itself, result in non-acceptance by SAWPA. Any request for deletion, exception, or modification, if so taken, must be submitted at the time of the proposal.

West Yost does not have any additions, deletions, or exceptions to any portion of the RFQ, General Services Agreement, and/or Task Order (shown in Appendix B - “Standard Contract Documents - Task Order and GSA”).

Veva Weamer, MS Contract and Project Manager

Samantha Adams, MESM Principal-in-Charge

Andy Malone, PE QA/QC

Sodavy Ou, MESM Project Scientist

Garrett Rapp, PE Project Engineer

Lauren Salbeg, PG Project Geologist

Micah Krider Data Management and Visualization

Carolina Sanchez, PE Project Engineer

Lauren Sather, PhD Project Scientist

Lucy Hedley, MESM Project Scientist

Clay Kelty, GIT Project Geologist



Veva Weamer, MS
CONTRACT AND PROJECT MANAGER

Staff Title: Principal Scientist I

Office Location: Irvine, CA

Years of Experience: 17

Years with West Yost: 5

Education

- MS, Environmental Studies, California State University, Fullerton, December 2007
- BS, Geological Sciences, California State University, Fullerton, June 2005

Professional Affiliations

- Groundwater Resources Association of California

Veva's professional experience is in environmental and geological science. She is a supervising scientist with a focus on managing the implementation of various regulatory compliance programs for agencies in Southern California. Her areas of expertise include database management, data analysis, water quality monitoring and analysis, salt and nutrient analysis, geographical information systems (GIS), and groundwater and surface water monitoring program implementation and evaluation. Veva's master's research involved the quantification of groundwater movement and aquifer characterization of the Harper Lake Basin located in Mojave Desert, California, using GIS tools and bore log data. Veva was awarded the 2006 Prem K. Saint award for outstanding work in hydrogeology for her research.

EXPERIENCE

FY 2021/22 Basin Planning Priorities to Update the Santa Ana River Watershed SNMP, Basin Monitoring Program Task Force (administered by the Santa Ana Watershed Project Authority), Riverside County, CA: Project Manager and Senior Scientist. Veva provides regulatory and technical support through a stakeholder process to assess the Santa Ana River Basin Plan Salt and Nutrient Management Plan (SNMP) for compliance with the 2019 Recycled Water Policy. For this project, West Yost prepared an updated watershed-wide groundwater monitoring program, a surface water monitoring program, and recommendations for updated technical methods to assess assimilative capacity through periodic computation of ambient water quality. Veva was the Project Manager leading the development and preparation of the updated 2020 Santa Ana River Total Dissolved Solids (TDS) and Total Inorganic Nitrogen (TIN) Monitoring Work Plan. The surface water monitoring program in this Work Plan is to assess compliance with the TDS and TIN surface water objectives in the Basin Plan for the Santa Ana River Reaches 2, 3, 4, and 5.

Maximum-Benefit Monitoring Program, Chino Basin Watermaster, Rancho Cucamonga, CA: Project Manager. Veva led the Chino Basin Watermaster's Maximum-Benefit Monitoring Program. The objective of this program is to demonstrate that the management of the Chino Basin's groundwater resources prevents poor quality groundwater with high TDS and nitrogen concentrations from impacting downstream beneficial uses. To receive the assimilative capacity afforded by the maximum-benefit objectives for TDS and nitrogen in the Chino-North Groundwater Management Zone, the Santa Ana Water Board requires that

the Chino Basin Watermaster and Inland Empire Utilities Agency implement a set of projects and programs known as the Chino Basin Maximum Benefit Commitments. Veva is responsible for managing the surface and groundwater monitoring programs that produce the data required to demonstrate hydraulic control of Chino-North groundwater, managing the collection of all other data needed to demonstrate compliance with the Maximum Benefit Commitments, and writing an annual report that demonstrates compliance to the Santa Ana Water Board.

Triennial Recomputation of Ambient Water Quality, Santa Ana Watershed Project Authority, Orange County, CA:

Project Scientist. Veva provided QA/QC and assisted with the Recomputation of Ambient Water Quality for the Santa Ana Watershed for the 1987-2006 and 1990-2009 periods and was the Project Manager for 1993-2012 period effort. In this study, ambient water quality determinations in Santa Ana River Watershed's Groundwater Management Zones were calculated and compared to water quality objectives, which are used by the Santa Ana Water Board to assess assimilative capacity as part of the basin monitoring program required by the Santa Ana Region Basin Plan. This study involved a thorough and stringent technical approach to collect, QA/QC, and analyze data to quantify ambient total dissolved solids (TDS) and nitrogen concentrations in Groundwater Management Zones. For the 1993-2012 effort, Veva was responsible for overseeing the collection, compilation, and QA/QC of the data used in the analysis; managing the development of water quality contours and spatiotemporal estimates of TDS and nitrogen; calculating the ambient TDS and nitrate concentrations for every Groundwater Management Zone in the Santa Ana Watershed; preparing descriptive technical maps on how and where ambient water quality is changing; and preparing a technical report documenting the results of the analysis.

Prado Basin Habitat Sustainability Program, Prado Basin Habitat Sustainability Committee, Chino Basin Watermaster, Rancho Cucamonga, CA:

Project Manager. Veva leads the Prado Basin Habitat Sustainability Program (PBHSP), which is implemented by the Prado Basin Habitat Sustainability Committee (PBHSC). The PBHSC is comprised of Chino Basin Stakeholders. The key element of the PBHSP is an adaptive monitoring program intended to characterize the historical, current, and future extent and quality of the riparian habitat in the Prado Basin Management Zone in the southern portion of the Chino Basin, and to provide information on the cause(s) of riparian habitat degradation if documented. Data from the monitoring program will aid in the development of efficient and effective mitigation measures if the cause(s) of degradation are conclusively attributed to Peace II Implementation. The monitoring program consists of integrated programs for the monitoring of riparian habitat and monitoring of factors that can potentially affect riparian habitat, which include groundwater, surface water, weather, and climate. Data from the monitoring program is analyzed, interpreted, and reported on annually. The annual reporting and analysis form the basis to adjust the monitoring program, if necessary, to achieve the objectives of the PBHSP. Veva is responsible for managing all components of the monitoring program for the PBHSP. Veva is also responsible for writing an annual report that discusses and interprets the monitoring data and any related groundwater-modeling results, describes recommended measures to mitigate significant adverse impacts to the riparian habitat (if applicable), and recommends activities for the subsequent year monitoring program. Veva presents the annual report contents to the PBHSC to facilitate Stakeholder input and suggested revisions for the recommendations for the monitoring program and mitigation measures, if necessary. Veva is also responsible for preparing the subsequent fiscal year budget for the PBHSP based on the recommendations for modifications to the monitoring program in the annual report.



Samantha Adams, MESM
PRINCIPAL-IN-CHARGE

Staff Title: Scientist Manager I

Office Location: Irvine, CA

Years of Experience: 19

Years with West Yost: 5

Education

- Master of Environmental Science and Management (MESM), Water Resources Management, Donald Bren School of Environmental Science and Management, University of California, Santa Barbara, 2006
- BS, Environmental Science, University of Notre Dame, 2002

Professional Affiliations

- Groundwater Resources Association of California (GRA)
 - Co-chair, Technical Committee
- WaterReuse Association -- California

Samantha's professional experience in water resources management includes salt and nutrient management planning, groundwater management planning, Watermaster services, regulatory support and compliance reporting, and development and implementation of field monitoring programs.

Samantha has extensive experience leading multi-stakeholder groups through collaborative decision-making processes that rely on complex technical information and regulatory compliance considerations. She has managed, developed and negotiated, and/or implemented salt and nutrient management compliance plans for the Santa Ana Watershed Project Authority, Eastern MWD, Elsinore Valley MWD, Chino Basin Watermaster, Inland Empire Utilities Agency, City of Beaumont, and Coachella Valley Water District.

EXPERIENCE

Basin Planning Priorities to Update the Santa Ana River Watershed Salt and Nutrient Management Plan (2021-2023), Basin Monitoring Program Task Force (administered by the Santa Ana Watershed Project Authority), Riverside County, CA: Principal Scientist leading regulatory and technical support to assess the Santa Ana River Basin Plan Salt and Nutrient Management Plan (SNMP) for compliance with the 2019 Recycled Water Policy. For this project, West Yost prepared an updated watershed-wide groundwater monitoring program, a surface water monitoring program for the Santa Ana River, and recommendations for updated technical methods to assess groundwater assimilative capacity on a periodic basis to support recycled water permitting and Basin Plan compliance. This included performing an assessment of data gaps in the monitoring network and developing a framework for the Task Force agencies to address the data gaps in a cost-effective manner. Samantha also led the follow-on technical work to implement the recommended Pilot Study to test alternative approaches to assessing assimilative capacity for total dissolved solids and nitrate. The Pilot Study report included a recommendation for a five-year scope of work for the Task Force to achieve compliance with all SNMP requirements set forth by the Santa Ana Water Board.

Upper Temescal Valley Salt and Nutrient Management Plan (SNMP) (2013 – ongoing), Elsinore Valley Municipal Water District (EVMWD) and Eastern Municipal Water District (EMWD), Lake Elsinore and Perris, CA: Project Manager and Lead Scientist. Leads the development of the Upper Temescal Valley SNMP. The Santa Ana Water Board required EVMWD and EMWD to prepare a SNMP to support their recycled

water discharge and reuse plans in the Upper Temescal Valley. The purpose of this project is to establish scientifically based antidegradation objectives for the Upper Temescal Valley groundwater management zones (these objectives currently do not exist); estimate current ambient water quality and assimilative capacity; project future TDS and nitrogen concentrations based on the water resources management plans of local water supply agencies; identify the regulatory challenges posed by the recycled water reuse and discharge plans of the EVMWD and EMWD; and develop an SNMP that addresses these challenges. Samantha was responsible for developing the technical basis of the demonstration, developing a long term compliance strategy, leading negotiations with the Santa Ana Water Board, and stakeholder outreach. The plan was approved for incorporation into the Basin Plan by the Executive Officer in November 2017 and the team is supporting the process to prepare an amendment to the Basin Plan to incorporate the SNMP. Also, Samantha serves as the current Principal in Charge for the team of scientists managing the implementation of the SNMP.

Maximum Benefit Demonstration for the Elsinore Groundwater Management Zone (2014 – present), Elsinore Valley Municipal Water District (District), Lake Elsinore, CA: Project Manager and Lead Scientist. Samantha led the development of a maximum benefit demonstration to raise the total dissolved solids (TDS) and nitrate groundwater concentration objectives for the Elsinore GMZ. The District was seeking new, maximum benefit based TDS and nitrate objectives so it can have the flexibility to develop and invest in a water resources plan that optimizes the management and use of all its water supply assets to achieve a reliable water supply in an environmentally sound manner. The District's maximum benefit proposal was designed to facilitate the maximum reuse of recycled water, to protect the beneficial uses of groundwater in the Elsinore GMZ and downstream GMZs for future generations, and to be consistent with Executive Order 68-16, Water Code Section 13241, and State Board orders and policies that promote recycled water reuse. Samantha was responsible for: developing the technical basis of the demonstration; developing salinity management alternatives for evaluation; managing a team of scientists that are using numerical groundwater modeling tools to develop TDS and nitrate concentration projections for the Elsinore GMZ; developing a long term compliance strategy to verify that the beneficial uses of the Elsinore GMZ are protected; leading negotiations with the Santa Ana Water Board; and stakeholder outreach. The proposal was accepted by the Santa Ana Water Board staff in February 2020 and formally incorporated in the Basin Plan in July 2023. Samantha now serves as the Principal-in-Charge of the team leading the implementation phase, which includes a surface and groundwater water monitoring program and annual reporting of compliance.

Water Rights Compliance and Basin Management Monitoring and Reporting Program (2010 – ongoing), San Juan Basin Authority (SJBA), Various, CA: Technical advisor and previously served as the Project Manager (2013 – 2019) and Project Scientist (2010 – 2012) for the SJBA's water rights compliance and basin management monitoring and reporting programs from. The objectives of the program are to collect, analyze, and report on the data used to demonstrate compliance with the SJBA's water rights diversion permit, estimate groundwater storage and recommend annual pumping limits, evaluate the threat of seawater intrusion, and assess riparian vegetation health along San Juan Creek. As the project manager, Samantha directed the design and implementation of the field and cooperative data collection program, supported the preparation of the annual report of compliance to the State Board, managed biology subconsultants, managed the implementation of a watershed wide surface and groundwater monitoring program in support of the Salt and Nutrient Management Plan for the San Juan Creek, participated in Technical Advisory Group meetings, supported the development of the annual budget, and gave monthly presentations to the Board of Directors. In 2016, she managed the development of the Adaptive Pumping Management Plan, a first of its kind report for the San Juan Basin, that sets annual sustainable pumping limits based on current basin storage and climate conditions.



**Andrew (Andy) Malone, PG
QA/QC**

Staff Title: Principal Geologist II

Office Location: Irvine, CA

Years of Experience: 29

Years with West Yost: 5

Professional Registrations

- Professional Geologist,
California No. 8700

Education

- MS, Geological Sciences, Indiana
University Bloomington
- BA, Geological Sciences, University
of California, Santa Barbara
- BA, Environmental Studies,
University of California, Santa
Barbara

Professional Affiliations

- National Ground Water Association
- Groundwater Resources
Association of California (GRA)
- South Coast Geological Society

Andy is a hydrogeologist with nearly 30 years of experience in groundwater consulting and geologic sciences. He has led major efforts in basin characterization, groundwater/surface water interactions, land subsidence, and salt and nutrient management planning. His skills include hydrogeologic and hydrologic analysis, aquifer mechanics, GIS applications, and database design to support large-scale water resource investigations. Currently, he manages engineering services for the Chino Basin Watermaster, supports the Six Basins and Borrego Springs Watermasters, and is developing a Salt and Nutrient Management Plan in the Coachella Valley. Earlier in his career, Andy served as lead geologist in developing the Chino Basin conceptual model, which became the foundation for its widely used numerical groundwater flow model. He is also recognized for mentoring the next generation of hydrogeologists and guiding technical teams through complex investigations.

EXPERIENCE

Hydraulic Control Monitoring Program, Chino Basin Watermaster, Riverside, San Bernardino and Orange Counties, CA:

Project Manager. Andy is conducting ongoing investigations to determine the state of groundwater outflow from the Chino Basin as rising groundwater in the Santa Ana River. Crucial groundwater management practices, such as the recharge of recycled water, are dependent upon the demonstration that Chino Basin producers are controlling groundwater outflow. Through an extensive literature review and analyses of geologic, geophysical, and hydrologic data, Andy generated a conceptual hydrogeologic model of the Chino Basin near the river. Based on this model, he developed a detailed groundwater monitoring program that included the construction of nine nested, multiple depth monitoring wells. The data derived from this monitoring program has characterized the three-dimensional hydraulic gradients in this part of the basin over time and in response to specific management practices and the hydraulic relationships between the groundwater basin and the river.

Nitrogen/Total Dissolved Solids Studies, Santa Ana Watershed Project Authority N/TDS Task Force, Orange County, CA:

Lead Hydrogeologist. Andy conducted studies to revise the water quality objectives for groundwater subbasins throughout the Santa Ana River Watershed. The result of this study was a comprehensive update to the SNMP for the entire Santa Ana River Watershed. For this effort, Andy developed revised subbasin boundaries—based on a

reassessment of hydrogeology, groundwater flow paths, and groundwater quality—to create “management zones” for more effective management and stewardship of these groundwater systems. This effort also included the development and testing of sophisticated statistical techniques to set new TDS and nitrate groundwater quality objectives based on historical water quality data. He has since directed four subsequent recomputations of ambient water quality in the groundwater management zones, which were compared to the objectives and used by the San Diego Regional Board to assess the existence and magnitude of assimilative capacity.

Coachella Valley Salt and Nutrient Management Plan (SNMP) Update, Coachella Valley Water District, Coachella, CA:

Project Manager and Principal Geologist. The State Water Board’s Recycled Water Policy requires the stakeholders in the Coachella Valley to develop an SNMP that sustainably manages salt and nutrient loading in the Coachella Valley Groundwater Basin (Basin) to protect its beneficial uses. In 2015, the Coachella Valley stakeholders submitted an SNMP to the Colorado River Regional Board (2015 SNMP); however, the Colorado River Regional Board found the 2015 SNMP insufficient. Of concern to the Colorado River Regional Board was the insufficiency of the proposed monitoring program to fill data gaps and adequately characterize the spatial and vertical distribution of water quality conditions; lack of an antidegradation analysis to support salt and nutrient loading from the use and recharge of Colorado River water; and the absence of proposed implementation measures to manage salt and nutrient loading on a sustainable basis. Of concern to the Coachella Valley stakeholders was the ability for continued use and recharge of Colorado River water, which is a critical source of supplemental water to support the sustainability of the Basin and the economy of the Coachella Valley. In 2020/21, Andy led a multi stakeholder effort, including the Colorado River Regional Board staff, in the development of a workplan to update the 2015 CV SNMP (CV SNMP Development Workplan). The workplan includes a major redesign of the SNMP groundwater monitoring program and a technical process to set numeric TDS objectives for the Basin. The Colorado River Regional Board approved the proposed groundwater monitoring program in February 2021 and approved the CV SNMP Development Workplan in October 2021. Currently, Andy is leading a multi-stakeholder effort to update the CV-SNMP pursuant to the workplan.

Investigation of the Cause(s) of Recent Exceedances of the TDS Concentration Objective for Reach 3 of the Santa Ana River, Santa Ana Watershed Project Authority – Basin Monitoring Program Task Force, Orange County, CA:

Lead Hydrogeologist. Andy conducted a study to characterize the causes of an increasing trend in the total dissolved solids (TDS) concentration of Reach 3 of the Santa Ana River (SAR). The increasing trend had resulted in summertime exceedances of the TDS objective for Reach 3 in the Basin Plan. The purpose of the investigation was to provide the Santa Ana Water Board with insight as it reviews and revises its approach to regulating SAR water quality. The study employed a mass balance analysis and sensitivity study of the inflows and outflows to Reach 3 during the summertime months of 2004–2012. The investigation showed that the observed summertime increases in the TDS concentration of the SAR from 2004–2012 was correlated with a decrease in Publicly Owned Treatment Works (POTW) discharges with relatively low TDS concentrations. In other words, the TDS concentration of the SAR is diluted by these POTW discharges. The decrease in summertime POTW discharge resulted from increased recycled water reuse, decreased wastewater influent due to the 2008-2009 economic recession, and implementation of indoor water conservation measures.



Sodavy Ou, MESM
PROJECT SCIENTIST

Staff Title: Associate Scientist II

Office Location: Irvine, CA

Years of Experience: 8

Years with West Yost: 5

Education

- Master of Environmental Science and Management (MESM), Bren School of Environmental Science & Management, University of California, Santa Barbara
- BA, Environmental Studies, emphasis in Biology, University of California, Santa Cruz

Professional Affiliations

- Groundwater Resources Association of California
- Clean Water SoCal

Sodavy is an Environmental Scientist with experience in water resources industry. Her areas of expertise include management of field groundwater and surface water monitoring programs, analysis of water quality data, implementation of salt and nutrient management plans, analysis of salt offset requirement and compliance, utilization of visual tools to analyze the interactions between surface water and groundwater, regulatory support and compliance reporting, and database management. As a Project Scientist and Manager, Sodavy works with the regional and local governments to ensure that the science-based approaches employed in technical reports prepared for her clients comply with the strict criteria of the regional government. Sodavy is an advanced user of geographical information systems (GIS), Grapher, and HydroDaVESM.

EXPERIENCE

Recomputation of Ambient Groundwater Quality in the Santa Ana Watershed, Basin Monitoring Program Task Force (administered by the Santa Ana Watershed Project Authority), Riverside County, CA: Project Scientist. The Task Force is responsible for the periodic assessment of the ambient water quality and assimilative capacity of groundwater basins in the Santa Ana Watershed to support compliance with the Water Board's Salt and Nutrient Management Plan. West Yost performed the most recent analysis for the Task Force, which included a Pilot Study to test alternative approaches to assessing assimilative capacity for Total Dissolved Solids and nitrate. As a project scientist, Sodavy was responsible for coordinating with dozens of water and wastewater agencies to collect groundwater data, processing and loading the data into a centralized database, performing a pilot statistical analysis of ambient water quality trends in four groundwater management zones (GMZs), and supporting our subconsultant in performing the ambient water quality calculations in seven priority GMZs. As part of this effort, Sodavy also led the assessment of data gaps in the ambient water quality monitoring network and supported the development of a framework for the agencies to address the data gaps in a cost-effective manner.

Upper Temescal Valley Salt and Nutrient Management Plan (SNMP) Monitoring and Reporting Programs, Elsinore Valley Municipal Water District (EVMWD) and Eastern Municipal Water District (EMWD), Upper Temescal Valley Watershed, CA: Project Manager and Scientist. Sodavy led the implementation of the monitoring

and reporting programs for the Upper Temescal SNMP. The Santa Ana Regional Water Quality Board (Santa Ana Water Board) requires EVMWD and EMWD to prepare the SNMP to support their recycled water discharge and reuse plans in the Upper Temescal Valley. The SNMP establishes water quality objectives for TDS and nitrate nitrogen (nitrate) and management actions for the Upper Temescal Valley groundwater management zone (GMZ). The Upper Temescal Valley SNMP was adopted and approved by the Santa Ana Water Board and the California State Water Resources Control Board (State Board) in December 2020 and June 2021, respectively, for incorporation into the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan). Sodavy played a key role in ensuring the successful adoption of the Upper Temescal Valley SNMP including compiling the Staff Report and other documents to meet the strict guidelines for Basin Plan amendment and provided as needed supports to the Santa Ana Water Board staff to prepare for the public hearing on the SNMP. As a project manager and scientist, Sodavy is responsible for the ongoing implementation of the management actions listed in the SNMP including field surface water and groundwater monitoring programs, collection of additional monitoring data in the Upper Temescal Valley, and annual compliance reporting of the SNMP.

Assist the Basin Monitoring Program Task Force (Task Force) to Implement its 2021, 2022 Planning Priorities, Santa Ana Watershed Project Authority, Santa Ana Watershed, CA: Project Scientist. Provides support for collection of groundwater monitoring data and analysis of the adopted SNMPs in the Santa Ana Watershed. The State Board has required that all Regional Boards with an approved SNMP perform a “Five Year Assessment” of the current SNMP and recommend changes as appropriate to comply with the SNMP requirements in the 2019 Recycled Water Policy. The five-year assessment was completed by the Santa Ana Water Board by the required deadline of April 2024. Sodavy provided support for the data collection and analysis effort to prepare updated surface water and groundwater work plans for the Task Force to implement in support of the SNMP review and update. Sodavy also supported the follow-on work to address data gaps in the groundwater monitoring network and develop a framework for the Task Force agencies to address the data gaps.

Development and Implementation of Surface Water Monitoring Program in Chino Creek, Inland Empire Utilities Agencies and Chino Basin Watermaster, Chino Basin, CA: Project Manager and Scientist. Sodavy led the effort to review the 2024 California Integrated Report, assess the requirements for data to be evaluated in the California Integrated Reports, and develop a surface water monitoring program for Chino Creek. Pursuant to the Federal Clean Water Act Section 303(d) and 305(b), the California State Water Resources Control Board and the Regional Boards assess surface water conditions and report on the conditions relative to the established water quality objectives defined for the water bodies periodically. This report is known as the California Integrated Report. The 2024 California Integrated Report included Chino Creek 1B in the 305(d) Category 3, which defined that there is insufficient data to make water quality finding in Chino Creek 1B but the limited data indicates that water quality may be potentially impaired. Without more data, Chino Creek 1B could be listed as impaired in future California Integrated Reports, which will require an extensive, multi-stakeholder effort to develop and implement a Total Maximum Daily Loads (TMDL) program and could impact recycled water permits and uses in the Chino Basin. The objectives of this work are to collect water quality data from Chino Creek that meet the data requirements for assessment in future California Integrated Reports and characterize the salt loading into Chino Creek. Sodavy led the development of the monitoring program for Chino Creek, which includes monthly surface water quality sampling, data processing and management, and annual data evaluation to characterize water quality and trends. As a project manager and scientist, Sodavy is currently responsible for implementing the recommended surface water monitoring program in Chino Creek.



Garrett Rapp, PE
PROJECT ENGINEER

Staff Title: Senior Engineer II

Office Location: Sacramento, CA

Years of Experience: 11

Years with West Yost: 5

Professional Registrations

- Professional Civil Engineer, California, No. 86007

Education

- MS, Hydrology, University of Arizona
- BS, Civil Engineering, University of Virginia

Professional Affiliations

- California Water and Environmental Modeling Forum
- Groundwater Resources Association of California

Garrett Rapp's technical expertise includes surface and groundwater hydrology and hydraulics and water resources planning and management. Garrett is skilled in surface and groundwater computer simulation modeling and software development. Garrett has experience designing aquifer storage and recovery programs and developing groundwater management plans with diverse stakeholder groups. He has expertise in ground-level monitoring, water rights, and regulatory compliance. Additionally, he assesses surface water and groundwater quality, evaluates the impacts of municipal recycled water discharge.

EXPERIENCE

FY 2021/22 Basin Planning Priorities to Update the Santa Ana River Watershed SNMP, Basin Monitoring Program Task Force (administered by the Santa Ana Watershed Project Authority), Riverside County, CA:

Project Engineer. Garrett provided technical support through a stakeholder process to assess the Santa Ana River Basin Plan Salt and Nutrient Management Plan (SNMP) for compliance with the 2019 Recycled Water Policy. For this project, West Yost prepared an updated watershed-wide groundwater monitoring program, a surface water monitoring program, and recommendations for updated technical methods to assess assimilative capacity through periodic computation of ambient water quality. Garrett supported the development and preparation of the updated 2020 Santa Ana River Total Dissolved Solids (TDS) and Total Inorganic Nitrogen (TIN) Monitoring Work Plan, as well as initiating an investigation of the causes of TDS exceedances for Reach 3 of the Santa Ana River. Garrett's role included analyzing and comparing assumptions and results of two regional groundwater-surface water models and the 2020 Wasteload Allocation Model to identify critical data gaps.

2025 Safe Yield Reevaluation, Chino Basin Watermaster, Rancho Cucamonga, CA:

Project Manager and Engineer. Garrett is leading the technical and stakeholder process to update the Chino Basin groundwater model and reevaluate the Safe Yield of the Chino Basin. The groundwater model update includes revising the hydrogeologic conceptual model based on new data, recalibrating the model, and conducting an uncertainty analysis using PESTPP-IES. Garrett is leading the stakeholder and peer review processes to gather input and feedback on the modeling work. In addition, Garrett is leading the process to implement a Robust Decision Making framework to develop multiple scenarios for future water supply plans and climates to capture the predictive uncertainty in future basin conditions.

Revision of the Big Valley Basin Groundwater Sustainability Plan, Modoc and Lassen Counties, California: Project Lead and Engineer. Garrett led the process to revise the Big Valley Basin (BVB) Groundwater Sustainability Plan (GSP) after the California Department of Water Resources (DWR) determined that the GSP was incomplete in October 2023. Garrett's responsibilities were to work with the GSAs and the BVB stakeholders to address the deficiencies that the DWR identified related to overdraft conditions, groundwater levels, and groundwater quality. Garrett was responsible for compiling and analyzing data, developing proposed revisions to the charts, text, and projects included in the GSP, and preparing for and leading meetings with DWR, County staff, and BVB stakeholders. Garrett led the process to revise and submit the revised GSP within just over four months to meet the DWR's deadline for revision and resubmittal.

Calculation of the Change in Groundwater Storage for Water Years 2015 and 2016, Cucamonga Valley Water District, Rancho Cucamonga, CA: Project Engineer. Garrett collaborated on the calculation of the change in storage of the Cucamonga Groundwater Basin, an adjudicated basin that must report this calculation to the Department of Water Resources each year pursuant to the Sustainable Groundwater Management Act. Garrett's duties included choosing water levels representative of the regional groundwater levels in the Cucamonga Basin, developing contour maps to characterize the change in groundwater levels, and preparing graphics to accompany the technical memoranda.

Preparation of Salt and Nutrient Management Plan (SNMP) Water Quality and Antidegradation Analysis for the Middle San Juan (MSJ) Hydrologic Sub-Area (HSA), Santa Margarita Water District, Rancho Santa Margarita, CA: Project Engineer. The South Orange County Wastewater Authority (SOCWA) completed an SNMP in 2014 to comply with State regulations for maximizing recycled water reuse and recharge. The purpose of the SNMP was to characterize and manage salts and nutrients, ensure water quality objectives are met, and protect beneficial uses of groundwater. To support the characterization of surface water flow, recharge, and salt and nutrient loading in the MSJ HSA, Garrett collaborated on the development of a surface water model using Hydrological Simulation Program – Fortran (HSPF Model). Garrett constructed, calibrated, and used the model to estimate the deep infiltration of applied water and precipitation, stream flow, and streambed infiltration in the MSJ HSA under current and buildout land use conditions. Garrett developed charts and tables to characterize the model results and guide their use in the water quality and antidegradation analysis. This work was foundational in enabling SOCWA to expand its use of recycled water in its service area.



Lauren Salberg, PG
PROJECT GEOLOGIST

Staff Title: Associate Geologist I

Office Location: Irvine, CA

Years of Experience: 7

Years with West Yost: 3

Professional Registrations

- Professional Geologist, California No. 10327

Education

- MS, Geological Sciences, University of Colorado, Boulder
- BS, Geology, Carleton College, Northfield, MN

Professional Affiliations

- Groundwater Resources Association of California
- American Geophysical Union

Lauren's water resources industry expertise includes analyzing groundwater level and water quality data, interpreting lithologic logs, developing contour maps of groundwater flow systems, modeling groundwater flow and groundwater-surface water interactions, using field data in the development of numerical models, assessing the direction of groundwater flow and solute transport, and conveying findings through visual mediums. Through this experience, Lauren is proficient in Lauren is skilled in numerical groundwater flow models (MODFLOW, MODPATH, MT3D), Python, Excel, ArcGIS, gINT, Grapher, Illustrator, and technical writing. For her master's research, Lauren worked on an NSF-funded investigation to model groundwater-surface water interactions in a critical zone observatory in Colorado.

EXPERIENCE

Evaluation of a Groundwater Storage Management Plan for the Chino Basin

Watermaster, Rancho Cucamonga, CA: Geologist/Modeler. The Groundwater Storage Management Plan is a comprehensive investigation to assess the groundwater basin response to the planned use of managed storage in the Chino Basin, including potential storage and recovery projects. For the addendum, Lauren evaluated a new storage and recovery scenario, and compared it's results to those from the baseline and previously evaluated scenarios. Lauren updated the Chino Valley Model numerical groundwater flow model to incorporate the new storage and recovery scenario and performed contaminant transport modeling using MT3D and particle tracking modeling using MODPATH. Her analysis of the storage and recovery scenario involved assessing potential impacts of future behavior on land subsidence, production sustainability, and the overall balance of recharge and discharge in the basin. Lauren also collaborated on the report of this investigation, developing text, tables, and charts to characterize and document the results of the various model scenarios.

One-Dimensional Model Simulation of Aquifer-System Deformation at the PX and MVWD-28 Sites, Chino Basin Watermaster, Rancho Cucamonga, CA:

Support Modeler for numerical, one-dimensional, aquifer-system-compaction models. Two models were constructed and calibrated using the lithology data of the PX and MVWD-28 sites located in the northwestern portion of the Chino Basin (Northwest MZ-1) — an area that has experienced gradual and persistent subsidence for decades. The objective of the models is to explore the future occurrence of subsidence in Northwest MZ-1 under various basin-management scenarios of groundwater production and artificial recharge, and to identify

potential subsidence-mitigation strategies. Lauren performed a sensitivity analysis on the PX and MVWD-28 models to determine the sensitivity of the model to historical head values assigned to the aquifer layers. As part of this sensitivity analysis, she performed a statistical analysis of the 24 model versions developed and ultimately, recommended a model version to use for future investigations. Lauren also collaborated on the report of this investigation, developing text, tables, and charts to characterize and document the results of the sensitivity analysis.

Data Collection and Evaluation for the Chino Basin Fiscal for Fiscal Year 2020/21, Chino Basin Watermaster, Rancho Cucamonga, CA: Support Staff for the groundwater pumping section of the first annual Data Collection and Evaluation Report, a court-ordered document prepared pursuant to the Safe Yield Recalculation of the Chino Basin. Lauren processed and evaluated actual groundwater pumping from parties in the Basin and water supply plans and compared the actual groundwater pumping to projections of groundwater pumping used in the 2020 Safe Yield Recalculation Report (SYR). She developed Python scripts, bar charts, figures, and spatial density maps to visualize the comparison of actual and projected groundwater pumping, which were used to identify the potential for new undesirable results, such as increased land subsidence, pumping sustainability challenges, and/or groundwater contamination. Lauren also collaborated on the development of the annual report, developing text, tables, and charts to characterize and document the results of the pumping comparison.

Calculation of the Change in Groundwater Storage for Spring 2020 to Spring 2021, Technical Advisory Committee of the Borrego Springs Watermaster, Borrego Springs, CA: Project Geologist collaborating on the calculation of the change in storage of the Borrego Springs Groundwater Subbasin, an adjudicated basin that must report this calculation to the Department of Water Resources each year pursuant to the Sustainable Groundwater Management Act. West Yost inherited this project from another consulting firm. For the storage change calculation from Spring 2020 to 2021, the first step in the calculation was to verify that the previous consultants' methods and estimated change in storage could be reproduced. Lauren successfully reproduced the previous storage change calculation using the predecessor's methods. Lauren then collaborated on identifying ways to improve the method for estimating groundwater storage in the Subbasin, which were presented to the Technical Advisory Committee (TAC). Using the selected method to estimate groundwater storage change for Spring 2021 to 2022 Lauren's duties included choosing water levels representative of the regional groundwater levels in the Cucamonga Basin, developing rasters and contour maps to characterize the change in groundwater levels, computing estimates of change in storage, and preparing graphics to accompany the WY 2021 Annual Report submitted to the DWR.

Recalculation of the Chino Basin Safe Yield, Chino Basin Watermaster, Rancho Cucamonga, CA: Groundwater Modeler. Lauren is supporting the technical and stakeholder process to update the Chino Basin groundwater model and reevaluate the Safe Yield of the Chino Basin. The groundwater model update includes revising the hydrogeologic conceptual model based on new data, recalibrating the model, and conducting an uncertainty analysis using PESTPP-IES. Lauren is supporting the technical update of the Chino Basin groundwater model by revising the hydrogeologic conceptual model and generating updated cross-sections based on newly available data, including well logs, geologic interpretations, and aquifer test results. Lauren supported improvements to the representation of subsurface conditions and aquifer architecture to enhance the model's accuracy and performance. Additionally, she developed custom Python scripts to post-process model results, automate comparisons of simulated groundwater levels to sustainability management thresholds, and visualize Basin responses under various stress conditions. Lauren supported the analysis of the predictive uncertainty in future basin conditions, which incorporated a range of projected water supply and climate assumptions. This work is supporting the reevaluation of the Basin's Safe Yield and the subsequent long-term groundwater planning and Basin management decisions.


Micah Krider
DATA MANAGEMENT AND VISUALIZATION
Staff Title: Data Strategy & Analytics

Office Location: Remote, FL

Years of Experience: 20

Years with West Yost: 1

Education

- Bachelor of Science, Electrical Engineering, University of Florida
- Master of Science, Energy Engineering, University of Massachusetts, Lowell

Certifications

- Security+, Certified Ethical Hacker, Certified Test Foundation Level

Awards

- *Business Achievement Award*; Environment Business Journal
- *"Beyond If" Innovation Award*; Jacobs Engineering Group, Inc.

Micah Krider is a technology-driven leader with over 20 years of experience in data strategy, automation, and analytics across sectors such as defense, water, wastewater, and industrial services. Before joining West Yost, he built and led multidisciplinary teams and developed an award-winning data platform that scaled from a three-person concept to a 40-person operation, significantly improving operational efficiency, safety, and decision-making. His work has produced industry-recognized innovations, including patented solutions and widely adopted best practices. At West Yost, Micah leads enterprise data strategy, developing a modern data warehouse, robust data pipelines, and BI/AI tools that support both internal operations and client decision-making.

EXPERIENCE

Water Information Management System Visualizations, City of Baton Rouge, Louisiana: Project Manager and architect for solution which modernized the availability of data from Hach WIMS Windows/Virtual Machine based system to a real time web application. The solution created a data pipeline to load Hach data into a data warehouse. Custom dashboards were created to give access to real-time KPI metrics for both north and south plants. This data was available on any web browser and utilized role-based access control to maintain secure access to the information for both the plant's operational contractor staff and the client.

Remote Well Monitoring, City of Las Campanas, New Mexico: Project Manager and Architect on system which used low-cost commercial off the shelf electronics coupled with custom firmware to transmit critical well information using a cellular network to a centralized database. The centralized database used custom dashboards to display well information to the client and provided alerts using text messaging, emails, and application push notifications.

SCADA Visualizations, City of Rio Rancho, New Mexico: Project Manager and Architect for solution which allowed the client to view data from their aging SCADA system on custom web dashboards without needed to upgrade their existing system. The solution created a data pipeline protected in a Virtual Private Network tunnel to extract data from a historian using legacy communication protocols and load the data into a data warehouse. Custom dashboards were created to give access to real time pump status/flow information and water tank level information for all pumps and water tanks in

their system. This data was available on any web browser and utilized role-based access control to maintain secure access to the information for both the plant's operational contractor staff and the client.

Employee Attendance Tracking, Atlanta Airport Terminal Corporation: Project Manager and Architect on system to track the attendance of employees by position category. This system read the encrypted hash on the employee badge and compared it to a database of employee ids, position, and name. This was referenced against the employee schedule to determine if the employee was clocking in on the correct day/time and worked the appropriate hours. This data was used to ensure a contract company achieved their contract requirements of 80% of each of the position categories were present throughout the three shifts in a day.



Carolina Sanchez, PE
PROJECT ENGINEER

Staff Title: Senior Engineer II

Office Location: Irvine, CA

Years of Experience: 12

Years with West Yost: 5

Professional Registrations

- Professional Civil Engineer, California, No. 85598

Education

- MS, Civil and Environmental Engineering, Stanford University
- BS, Civil Engineering, Loyola Marymount University, Los Angeles

Professional Affiliations

- Groundwater Resources Association of California
- Technical Board, Thirst Project

Carolina's experience in the water resources industry includes groundwater management planning, recharge master planning, salt and nutrient management planning, Watermaster services, and surface water modeling, and leading multi-stakeholder groups through decision making processes. As a Senior Engineer, Carolina is involved in a variety of projects. Her projects include administration of a Watermaster Board operating pursuant to Court-ordered water rights adjudications; planning, analysis and reporting for SGMA implementation; conducting hydrologic analyses of groundwater recharge using imported, recycled, and storm waters; and developing a regulatory compliance strategy to comply with State Board's Recycled Water Policy.

EXPERIENCE

Coachella Valley Salt and Nutrient Management Plan (SNMP) Update, Coachella Valley Water District, Coachella, CA: Project Engineer. The State Water Board's Recycled Water Policy requires the stakeholders in the Coachella Valley (CV) to develop an SNMP that sustainably manages salt and nutrient loading in the Coachella Valley Groundwater Basin to protect its beneficial uses. In 2015, the CV stakeholders submitted an SNMP to the Colorado River Regional Board, however, the Regional Board found it insufficient, citing concerns on the lack of an antidegradation analysis to support the use and recharge of Colorado River water. The CV stakeholders cite concerns on the ability for use and recharge of Colorado River water, which is a critical source of supplemental water to support basin sustainability and the economy of the CV. In 2020/21, West Yost developed a workplan to update the 2015 CV SNMP (CV SNMP Development Workplan) through a multistakeholder process, which the Regional Board approved in October 2021. Carolina is the project manager for the implementation of the CV-SNMP Development Workplan, which among the technical tasks, includes stakeholder outreach and facilitation of public meetings. The work is expected to be completed in 2027.

Upper Temescal Valley Salt and Nutrient Management Plan (SNMP), Elsinore Valley Municipal Water District (EVMWD) and Eastern Municipal Water District (EMWD), Lake Elsinore and Perris, CA: Project Engineer. The Santa Ana Water Board required the EVMWD and EMWD to prepare an SNMP to support their recycled water discharge and reuse plans in the Upper Temescal Valley. The

objectives of this project were to establish technically based antidegradation objectives for the Upper Temescal Valley groundwater management zones (these objectives currently do not exist), estimate current ambient water quality and assimilative capacity, project future TDS and nitrogen concentrations based on the water resources management plans of the local water supply agencies, identify the regulatory challenges posed by the recycled water reuse and discharge plans of the EVMWD and EMWD, and develop a SNMP that addresses these challenges. Carolina was responsible for collecting, organizing, and managing the data compilation and management efforts, and analyzing data to estimate historical and future irrigation return flows and associated TDS and nitrate concentrations from historical and projected land use and period-appropriate irrigation and fertilizer practices. Carolina was also the project engineer in the development of the 2020 update to the 2017 SNMP. In 2022, Carolina led the development of the Salt Mitigation Framework and is now leading its implementation, which includes using a numerical model to quantify salt loading impacts from discharge exceedances and enable the development of feasible mitigation strategies to address the impacted receiving water bodies.

Triennial Water Supply, Discharge, and Salinity Management Plan Reporting, Elsinore Valley Municipal Water District (EVMWD), Upper Temescal Valley, CA: Project Engineer. Carolina supported the preparation of the 2021 and 2024 Triennial Analysis of Water Supply, Discharge, and Salinity Management for EVMWD. The triennial update is a requirement of the Upper Temescal Valley SNMP which was approved by the Santa Ana Water Board for incorporation into the Basin Plan in December 2020. The Basin Plan requires EVMWD to implement specific management actions in the Upper Temescal GMZ to ensure that groundwater quality is protected from degradation. One of the implementation actions requires EVMWD to assess the TDS and nitrate concentrations in the source water supply and recycled water in its service area, and report on the progress of the management actions every three years. The triennial report provides a comprehensive overview of the regulatory environment, the EVMWD's potable water and wastewater supply operations and associated water quality, the nexus of these source waters to groundwater quality, EVMWD's recycled water discharge in the Upper Temescal Valley, and EMWD's existing and planned salinity management activities.

2020 Update of the Chino Basin Optimum Basin Management Program (OBMP), Chino Basin Watermaster, Rancho Cucamonga, CA: Project Engineer. The OBMP is the Chino Basin's sustainable groundwater management plan. The 2000 OBMP was developed in a collaborative public process that identified the needs and wants of all stakeholders, described the physical state of the groundwater basin, developed a set of management goals, identified impediments to those goals, developed a series of actions that could be taken to remove those impediments and achieve the management goals, and developed agreements to implement the OBMP. West Yost collaborated with Watermaster staff to develop the 2020 OBMP Update using the same process employed for the 2000 OBMP. The objective of the 2020 Update was to address current and projected challenges to water supply reliability from climate change, limitations in imported water supply and its reliability, new water quality challenges, and evolving understanding of basin salinity, land subsidence, and groundwater dependent ecosystems. As the Project Engineer, Carolina worked collaboratively with the OBMP Update team to prepare and deliver a series of eight public listening sessions that guided the development of basin management activities. Carolina was responsible to present technical information to the stakeholders, document stakeholder feedback, lead breakout sessions, and develop the 2020 OBMP Update Report.



Lauren Sather, PhD
PROJECT SCIENTIST

Staff Title: Associate Scientist I

Office Location: Remote, CO

Years of Experience: 6

Years with West Yost: 5

Education

- PhD, Civil Engineering,
University of Colorado, Boulder
- MS, Civil Engineering,
University of Colorado, Boulder
- BA, Mathematics,
University of California, Berkeley

Lauren has six years of professional experience in the water resources industry. Her technical expertise includes surface and groundwater computer simulation modeling, water resources and water quality statistical analysis, Geographical Information Systems (GIS) and geospatial analysis. She is experienced in conducting uncertainty analyses of model results using tools like PESTPP-IES to support decision-making under deep uncertainty, updating hydrogeological conceptual models with new data, evaluating Storage and Recovery Programs, and developing Python-based tools to automate complex workflows. Lauren applies statistical methods, such as the Mann-Kendall trend test, to analyze historical and predict future water quality trends, and employs kriging to estimate spatially distributed groundwater contaminant concentrations. She is proficient in key programming languages (Python, R, FORTRAN, MATLAB, Visual Basic) and the major numerical models for surface water and groundwater (MODFLOW, One-Water, IWFM, BCM, MODPATH, MT3D, HSPF). Her passion lies in leveraging computational tools to create efficient, automated workflows that deliver robust and reproducible modeling results. During her Doctorate, Lauren contributed to an NSF-funded project focused on enhancing the efficacy of in-situ groundwater remediation through numerical and experimental research.

EXPERIENCE

Implementation of the Upper Temescal Valley Salt and Nutrient Management Plan, Elsinore Valley Municipal Water District and Eastern Municipal Water District, Riverside County, CA: Groundwater Modeler. The Santa Ana Regional Water Quality Control Board required the EVMWD and EMWD to prepare an SNMP to support their recycled water discharge and reuse plans in the Upper Temescal Valley. In 2022, West Yost developed the UTV Salt Mitigation Framework (Framework), which recommends developing and using a numerical water quality model to quantify salt loading impacts from recycled water discharges and enable the development of feasible, right-sized mitigation strategies to address the impacted receiving water bodies. Lauren is supporting the implementation of the Framework. Her work includes a detailed review of the Elsinore Subbasin Groundwater Sustainability Plan (GSP) groundwater and surface water flow models, a detailed description of the data needs to develop a transport model that will meet the objectives of the Framework, and currently developing a recommendation and scope for the numerical transport model.

Prado Basin Habitat Sustainability Program, Prado Basin Habitat Sustainability Committee, Chino Basin Watermaster, Rancho Cucamonga, CA: Project Scientist. Provided technical support for the preparation of the Prado Basin Habitat Sustainability Program (PBHSP) Water Year 2020 Annual Report. Performed the Mann-Kendall statistical trend test on the average growing-season normalized difference vegetation index (NDVI) metrics for the period of 1984 to 2020. The Mann-Kendall test was utilized to evaluate whether the average growing-season NDVI increased, decreased, or remained stable over time.

2025 Safe Yield Reevaluation, Watermaster Engineering Services, Chino Basin Watermaster, Rancho Cucamonga, CA: Project Scientist/Groundwater Modeler. Lauren is supporting the technical and stakeholder process to update the Chino Basin groundwater model and reevaluate the Safe Yield of the Chino Basin. The groundwater model update includes revising the hydrogeologic conceptual model based on new data, recalibrating the model, and conducting an uncertainty analysis using PESTPP-IES. Lauren is participating in the stakeholder and peer review processes to gather input and feedback on the modeling work. She also developed multiple scenarios for future water supply plans and climates to capture the predictive uncertainty in future basin conditions. Her work included integrating the recently enacted Urban Water Use Objectives legislation (AB 1668 and SB 606) into demand projections. Given the significant uncertainty around customer responses to the Conservation Regulation and its impact on demand, Lauren collaborated with stakeholders to develop three response scenarios to that capture the range of possible outcomes.

Chino Basin Optimum Basin Management Program State of the Basin Report, Chino Basin Watermaster, Rancho Cucamonga, CA: Project Scientist. Supported the water quality section of The Chino Basin State of the Basin Report, a court-ordered document, prepared pursuant to the Chino Basin Optimum Basin Management Plan and subsequent implementation plans and agreements. Estimated the spatially distributed VOC plume concentrations through kriging using measured concentrations and local groundwater flow patterns.

Development of a Groundwater Storage Management Plan for the Chino Basin Watermaster, Rancho Cucamonga, CA: Project Scientist/Modeler. Provided analysis for the development of the Chino Basin Storage Management Plan. With the help of the client, developed the four storage and recovery scenarios to be analyzed. Updated the Chino Valley Model numerical groundwater flow model to incorporate the storage and recovery scenarios. Performed contaminant transport modeling using MT3D and particle tracking modeling using MODPATH. Performed analysis assessing potential impacts of future behavior on land subsidence, production sustainability, hydraulic control, and the overall balance of recharge and discharge in the basin and making recommendations to mitigate any undesirable impacts. Collaborated on the report of this investigation, developing text, tables, and charts to characterize and document the results of the various model scenarios.

Salt and Nutrient Management Planning, Chino Basin Watermaster, Rancho Cucamonga, CA: Project Scientist. Lauren was involved in the implementation of the Watermaster's salt and nutrient management planning efforts and technical study to support the regulatory process to change the averaging period used to determine compliance with total dissolved solids (TDS) discharge limitations. Developed a procedure to predict the quarterly variations in the TDS concentration of State Water Project (SWP) water. The procedure was developed based on the relationship between the April 1st SWP allocation and the TDS concentration in SWP water for the four quarters following April 1st of each year. Use of this new predictive tool provides a greater temporal resolution of SWP water TDS concentrations, which directly influences the model-projected TDS concentrations in wastewater effluent.



Lucy Hedley, MESM
PROJECT SCIENTIST

Staff Title: Associate Scientist II

Office Location: Remote, CO

Years of Experience: 7

Years with West Yost: 5

Education

- Master of Environmental Science and Management (MESM), Bren School of Environmental Science and Management, University of California, Santa Barbara
- BS, Biology, Minor in Economics and Specialization in Environmental Studies, Davidson College

Professional Affiliations

- Groundwater Resources Association of California

Lucy's water resources expertise includes data management, water quality analysis, GIS and geospatial analysis, and implementation of groundwater and surface water monitoring programs. She has experience managing large water quality databases, estimating spatially distributed groundwater contaminant concentrations through kriging, and analyzing Landsat NDVI data for vegetation monitoring. Her field background includes groundwater and surface water sampling, groundwater level measurement, and installation and data retrieval from pressure transducers. While pursuing her master's degree, Lucy was awarded a Sustainable Water Markets Fellowship to study innovative approaches to multi-benefit water management. For her thesis, she collaborated with Legacy Works Group and Friends of the Teton River to develop a watershed management plan for the Teton Valley, Idaho, and create a program to enhance incidental groundwater recharge.

EXPERIENCE

Prado Basin Habitat Sustainability Program, Prado Basin Habitat Sustainability Committee (PBHSC), Chino Basin Watermaster, Rancho Cucamonga, CA:

Scientist. Lucy serves as a project scientist for the Prado Basin Habitat Sustainability Program (PBHSP). The key element of the PBHSP is an adaptive monitoring program intended to characterize the historical, current, and future extent and quality of the riparian habitat in the Prado Basin Management Zone in the southern portion of the Chino Basin, and to provide information on the cause(s) of riparian habitat degradation, if documented. Data from the monitoring program will aid in the development of efficient and effective mitigation measures if the cause(s) of degradation are conclusively attributed to groundwater management practices in the Chino Basin. The program consists of monitoring of riparian habitat and the factors that can potentially affect riparian habitat health, which include groundwater levels/quality, surface water, weather, climate, invasive species, and fire. Each year, data from the monitoring program is analyzed, interpreted, and reported. The annual reporting and analysis form the basis to adapt the monitoring program, if necessary, to achieve the objectives of the PBHSP. Lucy is responsible for managing the field program data, collecting and analyzing other relevant data, including Landsat radar data and vegetation monitoring data. These data are used to prepare explanatory charts and maps of the health of the Prado Basin vegetation. Lucy contributes interpretation of the

integrated data sets and any related groundwater-modeling results; and presents the annual report conclusions to the PBHSC to facilitate Stakeholder input to the PBHSP.

Chino Basin Optimum Basin Management Program State of the Basin Report, Chino Basin Watermaster, Rancho Cucamonga, CA: Project Manager. Lucy was the project manager for the preparation of the 2022 and 2024 State of the Basin Report, in which she managed a team of scientists, engineers, and geologists to prepare the six sections of the report. The report is a court-ordered document, prepared pursuant to the Chino Basin Optimum Basin Management Program (OBMP) and subsequent implementation plans and agreements. The State of the Basin Report demonstrates: the current physical state of the Chino Basin with regard to climate, basin production, groundwater recharge, groundwater levels, groundwater quality, and land subsidence. It is intended to demonstrate the Watermaster's, progress in implementing the OBMP since July 2000 when the Chino Basin Watermaster commenced implementation of the investigations, monitoring programs, and management strategies defined in the OBMP. The report features detailed exhibits that characterize and interpret key hydrogeologic conditions. Lucy is also responsible for preparing the data and analysis within the reports groundwater quality section, which includes analysis of potential contaminants of concern in the Basin, a geospatial analysis of multiple point-source contamination plumes, and exhibits characterizing the ambient TDS and nitrate concentrations in the Basin.

Salt and Nutrient Management Plan Monitoring Program (SNMP), San Juan Basin Authority, Various, CA: Project Manager Lucy is responsible for the implementation of the watershed wide groundwater and surface water monitoring program that supports the San Juan Creek SNMP. The work plan for this monitoring program was completed in 2016 and included over 30 surface and groundwater monitoring sites throughout the watershed. Lucy is responsible for the field implementation of the program, as well as the data analysis and project reporting. As part of the field implementation of the program, Lucy is responsible for working with field staff to coordinate the collection of samples in the field; reviewing the data in the HydroDaVESM database; and modifying the monitoring program to meet its objectives and to improve field implementation logistics for long term implementation. Lucy is also responsible for collecting, compiling, and checking recycled water, surface water, and groundwater data collected from other entities performing monitoring in the watershed. Lucy prepares annual reports on the analysis and interpretations of the data collected for the program.

Chino Basin Watermaster Groundwater and Surface Water Database, Chino Basin Watermaster, Rancho Cucamonga, CA: Lucy is responsible for the management and maintenance of the Chino Basin Watermaster's database. She manages a team of scientists that collect, compile, and upload all publicly available datasets online, and coordinates with public and private entities within the Chino Basin on a routine basis to keep the database up to date. Lucy is responsible for the review and QA/QC of all data collected and uploaded to the database. The Chino Basin Watermaster database is critical to support a variety of Watermaster functions, such as reporting for various regulatory requirements and analyses to understand changes in the basin as groundwater management strategies are implemented over time.



Clay Kelty, GIT
PROJECT GEOLOGIST

Staff Title: Geologist II

Office Location: Irvine, CA

Years of Experience: 4

Years with West Yost: 2

Professional Registrations

- Geologist in Training, California No. 1273

Education

- MS, Geological Sciences, California State University, Long Beach
- BS, Geosciences, University of Arizona

Certifications

- OSHA 40-hour HAZWOPER
- CPR and First-Aid Training
- 8-Hour Confined Space Entry

Clay's consulting experience includes groundwater and surface water monitoring, well rehabilitation, fluvial and tectonic geomorphology investigations, and borehole drilling using downhole geophysical methods. He is also proficient in GIS applications, water quality sampling techniques, quality assurance/quality control, and data analysis of groundwater-level and -quality trends used in groundwater management.

EXPERIENCE

Field Engineering Services, Southern California: Clay has led various field programs throughout Southern California. His work has encompassed the implementation and management of monitoring programs, the collection of surface and groundwater quality samples, data management from groundwater pressure transducers, and the rehabilitation and conversions of groundwater wells.

These field engineering services have been implemented with the following clients:

- Borrego Springs Watermaster
- Chino Basin Watermaster
- Eastern Municipal Water District
- San Juan Basin Authority
- Six Basins Watermaster
- Western Riverside County Regional Wastewater Authority

Development of the 2023/2024 Annual Report of the Ground-Level Monitoring Committee, Watermaster Engineering Services, Chino Basin Watermaster, Rancho Cucamonga, CA: Staff Geologist for the development of the the 2023/2024 and 2024/2025 Annual Reports of the Ground-Level Monitoring Program. Clay's role was to analyze Interferometric synthetic-aperture radar (InSAR) data to determine relationships and trends in land movement and to make recommendations as to future monitoring activities. Clay developed maps, ground-level contours, and charts to depict relationships between the vertical data throughout Chino Basin.

Watermaster Technical Services, Borrego Springs Watermaster, Borrego Springs, CA: The Borrego Springs Watermaster oversees monitoring programs for groundwater levels and quality in the Borrego Springs Subbasin (Basin) in

accordance with the Stipulated Judgment and the Groundwater Management Plan (GMP). The Watermaster must demonstrate progress toward the GMP's Sustainability Goal, which aims to ensure that by 2040, the Basin operates within its Sustainable Yield without causing Undesirable Results. The primary Undesirable Results to be avoided include significant and unreasonable occurrences of the following Sustainability Indicators: chronic lowering of groundwater levels, reductions in groundwater storage, and degradation of groundwater quality. Clay's role in providing technical services for the Borrego Springs Watermaster includes implementing and managing field monitoring programs, calculating changes in groundwater storage, developing groundwater level contours, cataloging pumping data, and preparing graphics for Annual Reports submitted to the DWR.

WE SUPPORT OUR COMMUNITIES
WE ARE WATER FOCUSED
WE TAKE PRIDE IN WHAT WE DO
WE STRIVE TO BECOME OUR BEST
WE DO WHAT'S RIGHT
WE BELIEVE IN QUALITY
WE LISTEN
WE SOLVE CHALLENGING PROBLEMS
WE SEE THE BIGGER PICTURE
WE TAKE OWNERSHIP
WE COLLABORATE
WE HAVE FUN
WE ARE WEST YOST





Basin Monitoring Program Task Force Groundwater Technical Assistance and Surface Water Reporting

SEPTEMBER 2025

SANTA ANA WATERSHED PROJECT AUTHORITY





September 30, 2025

Emily Fuentes

Santa Ana Watershed
Project Authority
11615 Sterling Avenue
Riverside, CA 92503

**Water Systems
Consulting, Inc.**

3602 Inland Empire Blvd.
Suite C230
Ontario, CA 91764

Michael Cruikshank PG, CHG
Project Manager & PIC
P: (714) 721-7298
E: mcruikshank@wsc-inc.com

**Statement of Qualifications for Basin Monitoring Program Task Force
Groundwater Technical Assistance and Surface Water Reporting**

Dear Emily,

We are pleased to submit our proposal to support the Santa Ana Watershed Project Authority (SAWPA) and Basin Monitoring Program Task Force (BMP Task Force) by providing on-call services for Groundwater Technical Assistance and Surface Water Reporting.

WSC is proposing to provide services for the following categories:

A. Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers.

C. Recomputing Ambient Water Quality for Groundwater Management Zones for the Period of 2007 to 2026 (2026 AWQ Recomputation).

Our team at WSC brings specialized expertise in hydrogeology and a deep understanding of the Santa Ana River watershed to provide responsive service that efficiently builds on past work and integrates with on-going efforts.

Why partner with WSC?

Unmatched Santa Ana River Watershed Expertise. Our team has decades of direct involvement in the Santa Ana River Watershed and a comprehensive understanding of its regulatory, political, and geographic context. Of the nine Ambient Water Quality (AWQ) determinations completed, WSC team members played key roles in five. The same senior staff proposed for the 2026 AWQ Recomputation determination led recent recomputations, ensuring consistency, accuracy, and continuity.

Proven Commitment to Task Force Collaboration. WSC's proposed Project Manager, Michael Cruikshank, has over 15 years of experience supporting the BMP Task Force. He has managed complex projects in multi-stakeholder environments and contributed to the development of models that guide critical regional decisions. Supported by trusted partners, Michael provides steady leadership and ensures that BMP Task Force priorities will be met efficiently and effectively.

Strategic and Data-Driven Solutions. WSC applies proven BMP Task Force technical methods, advanced analytical tools, and a consensus-based approach to deliver practical, defensible outcomes. We are committed to meeting the Regional Water Quality Control Board's expectations while advancing long-term watershed sustainability.

We appreciate the opportunity to submit this proposal and believe our expertise, innovative approach, and commitment to collaboration make WSC an ideal partner for completing tasks associated with categories A and C. We welcome the opportunity to further discuss our approach and answer any questions from SAWPA and the BMP Task Force at your convenience.

Sincerely,

Water Systems Consulting, Inc.

Proposer's Name:	Water Systems Consulting, Inc. (WSC)		
Authorized Signature:		Date:	9/30/2025
Name of Individual Signatory:	Michael Cruikshank	Title of Individual Signatory:	Project Manager & Principal in Charge
Direct Phone #:	(714) 721-7298	Mailing Address:	25201 Paseo De Alicia Suite 290
E-mail Address:	mcruikshank@wsc-inc.com	City, State, Zip:	Laguna Hills, CA 92653

APPENDIX A1 - PROPOSER'S BUSINESS INFORMATION

All proposers shall submit the information as requested below.

1. Length of time your firm has been in business: 17 years
2. Length of time at current location: WSC's Ontario office was established 11 years ago and relocated to its current address more than a year ago.
3. List types and business license number(s):
City of Riverside Business License (No. 0145940)
City of San Bernardino Business License (No. 070102)
4. California State Contractor's License number: 1000048177
5. Names and titles of all officers of the firm: Jeffery Szytel – CEO & President
Jeroen Olthof – CFO
Vice Presidents:
Michael Cruikshank, Laine Carlson, Jon Ganz, Jeff Lawrence, Scott Duren, Robert Natoli,
Rob Morrow, Dylan Wade, Justin Pickard, Jannette Garrett, Dianne Lee
6. Is your firm a sole proprietorship doing business under a different name?
YES ☐ or NO ☒
7. If yes, please indicate sole proprietorship name and the name you are doing business under:

8. Please indicate your Federal Tax Number: 26-1507694
9. Is your firm incorporated? YES ☒ or NO ☐
10. Name and remittance address that will appear on invoices: _____
Water Systems Consulting, Inc.
805 Aerovista Place, Suite 201, San Luis Obispo, CA 93401
11. Physical Address: 3602 Inland Empire Blvd. Suite C 230, Ontario, CA 91764

Executive Summary

WSC's expert team of hydrogeologists, engineers, planners, operators, and communications professionals are committed to providing SAWPA with responsive, quality service.

WSC is a full-service civil and environmental engineering and hydrogeology firm that specializes in the planning, design, construction, and optimization of drinking water, recycled water, wastewater, and water supply solutions. We offer a purpose-built team that combines deep technical knowledge of local conditions, a One Water philosophy, and sustained stakeholder engagement to deliver compelling, relevant solutions to our clients and the communities they serve.

WSC was founded in 2007 with a mission to provide high-quality and responsive consulting services to water and wastewater agencies and municipalities. We have grown to include hydrogeologists, operators, construction, and communications professionals operating out of six offices. We are organized to work collaboratively with our clients to apply proven approaches, state-of-the-art tools, and knowledge-driven innovation to deliver truly outstanding results.

WSC and our staff hold the necessary licenses and certifications to provide SAWPA with the hydrologic services outlined in the RFP. Our project manager and principal in charge possess professional licenses and certifications from the State of California, including Professional Geologist (PG) and Certified Hydrogeologist (CHG) credentials.

About WSC

Type of Corporation:

S-Corporation

Date of Incorporation:

December 4, 2007

Location of Incorporation:

California

Size of Company:

70 employees

WSC Organizational Chart:

Jeffery Szytel – CEO & President
 Jeroen Olthof – CFO
 Michael Cruikshank – Vice President
 Laine Carlson – Vice President
 Jon Ganz – Vice President
 Jeff Lawrence – Vice President
 Scott Duren – Vice President
 Robert Natoli – Vice President
 Rob Morrow – Vice President
 Dylan Wade – Vice President
 Justin Pickard – Vice President
 Jannette Garrett – Vice President
 Dianne Lee – Vice President

Local Offices:

WSC Inland Empire (20 miles)
 3602 Inland Empire Blvd, Suite C230
 Ontario, CA 91764

WSC Orange County (36 miles)
 25201 Paseo De Alicia, Suite 290
 Laguna Hills, CA 92653

Identification of Services

WSC is proposing to provide on-call services Categories A and C as defined below. WSC staff have provided these services to SAWPA for nearly 15 years, including playing important roles on five AWQ Recomputations. WSC also leads many other related efforts in the Santa Ana River Watershed that make up much of the basis of the work required in Categories A and C. This familiarity with the data, water agencies, basins, conditions, and Regional Water Quality Control Board means we will be able to complete tasks efficiently and effectively.

A. Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers.

If selected, WSC will research, contact, and request data from water agencies and related entities with the most up-to-date understanding of groundwater characteristics in their respective basins and subbasins. Key parameters of interest include specific yield and basin bottom elevations (basin geometry). This information will be used to update the storage property model layers originally developed in the Phase 2A Technical Memorandum and applied in the past eight AWQ recomputations.

The WSC team has successfully completed this scope of work for the BMP Task Force and some of its members in the Chino Basin Groundwater Management Zones (GMZs), including the San Bernardino Basin Area GMZs, and Yucaipa GMZs. We are also actively engaged in other GMZs and bring current knowledge of updated conceptual models in areas such as the Coldwater GMZ, San Jacinto Basin GMZs, Arlington Basin GMZs, and Riverside Basin GMZs.

C. Recomputing Ambient Water Quality for Groundwater Management Zones for the Period of 2007 to 2026 (2026 AWQ Recomputation)

If selected to provide these services, WSC will use the processes identified through the last 2021 AWQ Recomputation (also known as the Pilot Study) and the 2022 Groundwater Monitoring Program, recompute AWQ for approximately 35 GMZs and determine their assimilative capacity. The “Modified Standard Approach” will be used for implementing the 2026 AWQ Recomputation. WSC helped develop the modified standard approach to streamline the process after successfully recomputing the ambient water quality over five 20-year periods.

Qualifications & Experience

Qualifications for key staff are provided below and resumes for all team members are provided in the appendix.

Our team has a comprehensive understanding of the regulatory, political, and geographical elements of the Santa Ana River Watershed. There has been a total of nine AWQ determinations for the BMP Task Force, including the water quality objective-setting period (1954 to 1973) and the first AWQ determination (1978 to 1997) conducted under the direction of the N/TDS Task Force. At least one key staff member from the WSC team played a critical role in five of those nine AWQ determinations. The key staff members proposed to execute the 2026 AWQ Recomputation determination worked together seamlessly on the recent iterations.

Team Qualifications

Michael Cruikshank PG, CHG

Principal in Charge and Project Manager

Michael is a certified hydrogeologist who has spent his entire career working in the Santa Ana River Watershed, including over 15 years as a consultant to the SAWPA facilitated BMP Task Force. He has extensive experience managing projects in complex stakeholder environments and has contributed to the development of groundwater and surface water models that support critical decision-making in the region. His work includes the recomputation of AWQ in GMZs, the development of recharge master plans, the Wasteload Allocation Model for the Santa Ana River and the preparation and implementation of Groundwater Sustainability Plans (GSPs).

Michael will serve as our primary point of contact with SAWPA, coordinating and overseeing the performance of the WSC team, including our subconsultants, Geo-Logic Associates, and Santiago Water Strategies. As project manager, He will actively participate in routine meetings, address project challenges, and effectively allocate resources. Committed to client service, Michael will provide steady leadership throughout the project, ensuring that objectives are met while guiding the team to exceed expectations.

Joe Kingsbury PG, CHG **Senior Hydrogeologist**

Joe Kingsbury, brings over 25 years of experience leading a diverse range of hydrogeology studies and projects. With a strong track record managing projects for public agencies across southern California, he excels at anticipating challenges and delivering effective solutions.

Organizational Chart



Jessica Chomyn PG, PMP

Project Hydrogeologist

Jessica has over 11 years of hydrogeology experience focused on groundwater and environmental projects. She has developed and executed groundwater monitoring programs which included well design specifications, monitoring well construction and abandonment, and groundwater sampling and reporting. She is a Project Management Professional and provides technical and managerial proficiency across a broad range of operational environments.

Irvin Matamoros

Staff Hydrogeologist

Irvin is a staff hydrogeologist with practical expertise in hydrogeologic field investigations. He contributed to a regional groundwater monitoring program for a local water agency, gaining hands-on experience in groundwater sampling with submersible and peristaltic pumps, installing and troubleshooting pressure transducer and remote telemetry systems, and performing QA/QC on water quality data. He has also managed aquifer pumping test data to provide accurate analysis and interpretation.

Eric Fregoso, GIT

Staff Hydrogeologist

Eric has four years of experience in the water resources and hydrogeological field. Eric has provided support in the 2021 AWQ Pilot Study, and has worked on projects involving analyzing, processing, managing, and interpreting groundwater data for reporting. Eric is experienced at using ArcGIS for geospatial analysis and for the creation of maps and figures.

Hannah Erbele PG,

Hydrogeologist, Geo-Logic Associates

Hannah has eight years of experience as an environmental scientist for hydrogeology and environmental projects. She manages projects that implement industry-standard GIS and statistics to analyze and interpret data related to groundwater quality. Hannah is experienced working with regulators, coalitions, and task force members. She was a technical lead for the 2015, 2018, and 2021 AWQ efforts and has detailed knowledge of the project.

Tom McCarthy PE, PG,

Technical Advisor, Santiago Water Strategies

Tom is a Principal at Santiago Water Strategies. He has over 25 years of professional experience working with private consulting firms and public agencies. Most recently he served as the Kern County Water Agency General Manager. His expertise includes water resources planning, numerical modelling, and data management. The bulk of Tom's experience has been concentrated in leading water management agencies and consulting on water resources management and planning, specifically with the optimization of operations and storage programs considering operational constraints such as regulatory constraints, water quality conditions, ecologic conditions, and or legal constraints. He was the project manager for the BMP Task Force's 2008 Santa Ana River Wasteload Allocation Model Report.

Team Experience

WSC will leverage our expertise in hydrogeology and understanding of Santa Ana River Watershed management programs to serve as a trusted partner, providing SAWPA with the technical support needed to achieve its goals.

Our Experience Provides Valuable Insight and Expertise

WSC's key team members have led many projects with similar scopes in the past five years. We will use this experience to deliver projects that achieve your goals and objectives.

	GROUNDWATER MANAGEMENT	HYDROGEOLOGICAL STUDIES	HYDROLOGY STUDIES	SURFACE WATER MANAGEMENT	GROUNDWATER MONITORING PROGRAMS	GROUNDWATER RECHARGE AND CONJUNCTIVE USE	GROUNDWATER TREATMENT REGULATORY COMPLIANCE	GROUNDWATER MODELING AND MODELING SUPPORT	SGMA COMPLIANCE SERVICES	PREPARATION OF TECHNICAL REPORTS	REGULATORY AGENCY SUPPORT	COORDINATION WITH OUTSIDE AGENCIES
Santa Ana River Watershed Ambient Water Quality Recomputation Santa Ana Watershed Project Authority	✓	✓			✓		✓			✓	✓	✓
Perris North Program Eastern Municipal Water District	✓	✓			✓		✓			✓	✓	✓
Upper Santa Ana River Watershed Salt and Nutrient Management Plan San Bernardino Valley Municipal Water District	✓	✓			✓	✓	✓	✓		✓	✓	✓
Bunker Hill Regional Recycled Water Salinity Management Feasibility Study San Bernardino Valley Municipal Water District and Regional Partners	✓	✓				✓	✓			✓	✓	✓
San Bernardino Basin Optimization and Stewardship Program Western Municipal Water District and San Bernardino Valley Municipal Water District	✓					✓				✓		✓
Groundwater Characterization and Revised Nitrogen-Loss Coefficient Report City of San Bernardino Municipal Water Department		✓		✓	✓	✓	✓			✓	✓	✓
Santa Ana River Reach 3 TDS Study Santa Ana Watershed Project Authority		✓	✓	✓	✓					✓	✓	✓
Water Supply Studies for Jensen-Alvarado Historic Ranch and Louis Robidoux Parkland San Bernardino Valley Municipal Water District		✓	✓	✓								✓
Chino Basin Program PUT and TAKE Facilities Inland Empire Utilities Agency	✓	✓				✓	✓			✓		
Perris II ROTF Program Eastern Municipal Water District	✓	✓			✓		✓			✓	✓	✓
Groundwater Atlas City of Riverside Public Utilities	✓	✓			✓		✓			✓		
Bedford-Coldwater GSA Administrator Elsinore Valley Municipal Water District	✓				✓				✓		✓	✓
Arlington Basin GSP Western Municipal Water District	✓	✓			✓				✓	✓	✓	✓
Hydrogeologic Conceptual Model Refinement Eastern Municipal Water District	✓	✓						✓	✓			

AWQ Recomputation for the Santa Ana River Watershed

Basin Monitoring Program Task Force, SAWPA, Riverside, CA

The Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin requires implementation of a watershed-wide total dissolved solids (TDS) and nitrogen (N) groundwater monitoring program to determine AWQ in groundwater, assess compliance with groundwater quality objectives, and determine if assimilative capacity exists in groundwater management zones. The Basin Plan requires that the AWQ be computed every three years. WSC computed current AWQ for TDS and nitrate-nitrogen in all 40 groundwater management zones (GMZ) in the Santa Ana River watershed. The recomputation involved collecting, processing, and storing in a centralized database all groundwater quality and groundwater levels data from over 6,000 wells. From the database, point statistics were developed for nitrate and TDS, and groundwater quality and groundwater elevation contour maps were prepared in the management zones with requisite data. The volume-weighted ambient TDS and nitrate-nitrogen concentrations were computed using data generated from the contour maps. WSC prepared interpretive tools that included a spatial analysis of groundwater quality change, temporal analysis of groundwater change comparing basin-scale trends to trends observed in key well locations, and a forward-looking well attrition analysis.

Key WSC Team Staff: Michael Cruikshank (Project Manager), Hannah Erbele (Project Hydrogeologist), Eric Fregoso (Staff Hydrogeologist)

Santa Ana River Reach 3 Special Study of Total Dissolved Solids

Basin Monitoring Program Task Force, SAWPA, Riverside, CA

WSC is supporting SAWPA and the BMP Task Force by developing the Special Study of TDS for Santa Ana River (SAR) Reach 3. The purpose of the study is to identify the factors driving fluctuations in TDS concentrations during baseflow conditions at the downstream terminus of the SAR Reach 3. This study aims to enhance understanding of groundwater-SAR baseflow interactions, support the BMP Task Force's long-term objective of improving future calibration of the Waste Load Allocation Model (WLAM), and determine locations, sources, and other information regarding TDS fluctuations in Reach 3 of the Santa Ana River.

During the study, WSC's team is updating the mass-balance calculation for baseflow conditions, coordinating with groundwater managers, and developing a monitoring plan. Through the management of the study, WSC team members meet regularly with SAWPA, BMP Task Force members, stakeholders, and regulators.

Key WSC Team Staff: Michael Cruikshank (Principal in Charge), Joe Kingsbury (Project Manager), and Irvin Matamoros (Project Hydrogeologist)

Upper Santa Ana River Watershed Salt and Nutrient Management Plan

San Bernardino Valley Municipal Water District, San Bernardino, CA

WSC led the Upper Santa Ana River Watershed stakeholders group through a study providing the key technical analyses required for the development of a Salt and Nutrient Management Plan (SNMP). This study established a scientific framework for objectively evaluating various projects and management strategies for potential inclusion in the SNMP, with the goal of enhancing the region's water supply reliability. The SNMP analyzed projects both at the individual groundwater management zone (GMZ) level (e.g., Bunker Hill-A, Bunker Hill-B, Lytle) and across a combined GMZ.

Groundwater quality impacts from recycled water recharge at the Weaver Basin, including contributions from the East Valley Water District's Sterling Natural Resource Center and the San Bernardino Municipal Water Department's Tertiary Treatment System, were assessed regionally at the GMZ and localized effects on down-gradient production wells.

The first phase of the project focused on ambient water quality characterization and a technical workplan to document nitrogen losses during recycled water recharge in the Upper Santa Ana Watershed. In the second phase, an integrated groundwater-surface water model was employed to evaluate the impacts of these recycled water projects on both the underlying and downstream GMZs. This phase also explored the potential benefits of combining the San Bernardino Basin Area's Bunker Hill-A and -B and Lytle GMZs for improved basin management.

WSC developed a regulatory strategy to support the creation of a formal sub-regional SNMP. The WSC team developed and analyzed four groundwater model scenarios: (1) baseline scenario; (2) baseline plus proposed recycled water projects at operating limits; (3) proposed recharge projects, including stormwater capture and imported water; and (4) worst-case scenario with recycled water projects discharging at permit limits and dry-year State Water Project recharge available.

The final phase of SNMP development is contingent on the results of the ongoing Bunker Hill-B Regional Recycled Water Salinity Management Feasibility Study, which is evaluating construction of a groundwater desalter and implementation of a sub-regional SNMP to address increased salt load from recycled water recharge.

Key WSC Staff: Michael Cruikshank (Principal Hydrogeologist/Project Manager), Joe Kingsbury (Senior Technical Advisor)

Perris North Basin Groundwater Contamination Protection and Recovery Program (Perris North Program)

Eastern Municipal Water District, CA

The Perris North Program aims to remediate co-mingled contaminants—including volatile organic compounds, perchlorate, and nitrate—in a portion of the San Jacinto Groundwater Basin. The remediation strategy involves extracting contaminated groundwater through a network of extraction wells and conveying it via pipelines to a centralized treatment facility. Dedicated nested monitoring wells will be used to track groundwater levels and quality across the project area. WSC has been instrumental in supporting the District through the planning and implementation phases of this program. WSC developed a technical memorandum for monitoring well siting, a Monitoring and Reporting Plan, a Groundwater Extraction Pumping Plan, and technical specifications for the bid set to construct the monitoring wells. WSC's senior hydrogeologist, Joe Kingsbury, is serving as technical advisor, providing field oversight and final well design reviews during construction of the nested monitoring wells.

Key WSC Staff: Joe Kingsbury (Project Manager/Senior Hydrogeologist), Michael Cruikshank (Senior Hydrogeologist/Technical Advisor), Jessica Chomyn (Project Hydrogeologist), Eric Fregoso (Staff Hydrogeologist)

WSC is willing to provide our client list to demonstrate that no other clients could negatively impact SAWPA.

References

APPENDIX A2 - REFERENCES

Instructions: Proposer shall provide two to three customer references.

REFERENCE #1	
NAME OF ENTITY	Santa Ana Watershed Project Authority
ADDRESS	11615 Sterling Ave
CITY, STATE, ZIP CODE	Riverside, CA 92503
CONTACT NAME	Ian Achmore, Interim Planning Department Manager/Senior Watershed Manager
TELEPHONE #	(951) 354-4233
E-MAIL ADDRESS	iachmore@sawpa.org
PROJECT NAME	Recomputation of Ambient Water Quality in the SAR Watershed
COMPLETION DATE	June 2020
APPROX. COST	\$366,273
REFERENCE #2	
NAME OF ENTITY	Eastern Municipal Water District
ADDRESS	2270 Trumble Road
CITY, STATE, ZIP CODE	Perris, CA 92572
CONTACT NAME	Tom Henderson, Principal Engineering Geologist
TELEPHONE #	(951) 928-3777
E-MAIL ADDRESS	hendersont@emwd.org
PROJECT NAME	Perris North Basin Groundwater Contamination Protection and Recovery Program
COMPLETION DATE	N/A
APPROX. COST	N/A
REFERENCE #3	
NAME OF ENTITY	San Bernardino Valley Municipal Water District
ADDRESS	380 E Vanderbilt Way, San Bernardino, CA 92408
CITY, STATE, ZIP CODE	San Bernardino, CA 92408
CONTACT NAME	Greg Woodside, Chief of Planning and Watershed Resilience
TELEPHONE #	(909) 387-9241
E-MAIL ADDRESS	gregw@sbsvmwd.com
PROJECT NAME	Upper Santa Ana River Salt and Nutrient Management Plan
COMPLETION DATE	February 2024
APPROX. COST	\$473,072

List of Subcontractors

APPENDIX A3 – SUBCONTRACTORS LIST

NAME UNDER WHICH SUBCONTRACT IS LICENSED	LICENSE NUMBER	ADDRESS AND PHONE NUMBER OF OFFICE, MILL OR SHOP	SPECIFIC DESCRIPTION SUBCONTRACT
Santiago Water Strategies	B20250161025	1201 24th St., B110-370, Bakersfield, CA 93301	Subconsultant, Technical Advisor
Geo-Logic Associates	1572000	2777 E Guasti Rd, Suite 1 Ontario, CA 91761	Subconsultant, Hydrogeologist Support

Understanding of the Project Approach

The Santa Ana River Watershed encompasses regions within San Bernardino, Riverside, Los Angeles, and Orange counties, covering an area of 2,840 square miles and supporting a population exceeding six million residents. The primary watercourse, the Santa Ana River, extends 96 miles from its origin near Big Bear to its outlet at Huntington Beach.

SAWPA is a joint powers authority comprising five member agencies: Eastern Municipal Water District, Inland Empire Utilities Agency, Orange County Water District, San Bernardino Valley Municipal Water District, and Western Municipal Water District. SAWPA's mission is to promote watershed sustainability through evidence-based planning, informed decision-making, regional and multijurisdictional coordination, and the innovative development of policies, programs, and projects (SAWPA, 2011).

In December 1995, a Task Force formed by 22 water resources agencies within the watershed was established to assess the impacts and implications of salinity—as measured by TDS—and total inorganic nitrogen (TIN) in the groundwater basins on the long-term viability of groundwater supply. SAWPA administered all contracts related to this study, managing agreements with consulting firms and the Santa Ana Regional Water Quality Control Board (RWQCB). The RWQCB's consistent input and oversight were essential to achieving the objectives of the TIN/TDS Task Force. Active engagement from decision makers across all Task Force members was also critical in building consensus on scientific methodology and formulating an updated Salt and Nutrient Management Plan (SNMP).

Recomputing Ambient Water Quality for Groundwater Management Zones for the Period of 2007 to 2026

The process adopted within the Santa Ana River Watershed received commendation in a 2009 report by the Little Hoover Commission. The initial project concluded in mid-2003, and on January 22, 2004, the RWQCB integrated the findings of the Nitrogen TDS Task Force into a Basin Plan Amendment addressing Nitrogen and TDS. The Task Force agencies were designated as responsible for conducting various monitoring programs and analyses in support of the outcomes specified in the Basin Plan Amendment (Task Force, 2004).

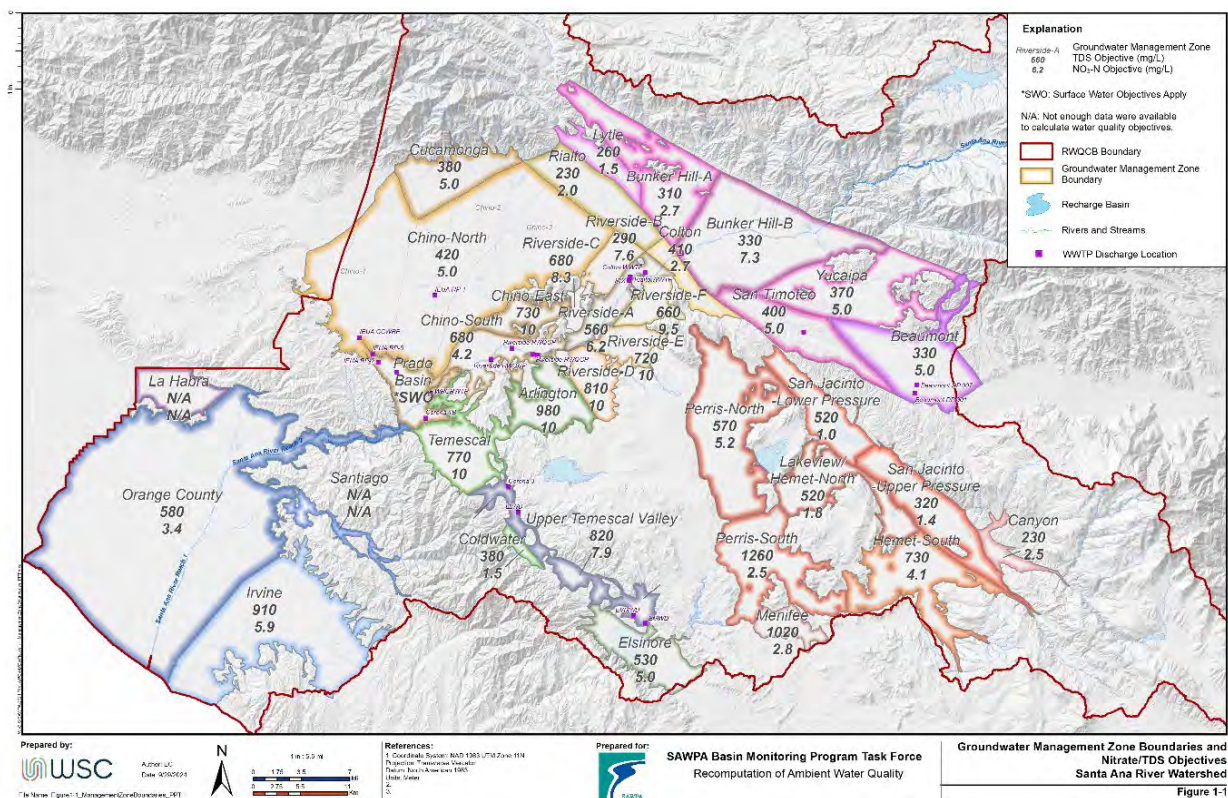
The TDS and nitrate objectives established by the RWQCB in the 1975, 1984, and initial 1995 Basin Plans were formulated using available groundwater data collected between 1968 and 1972. Initial estimates of AWQ relied on non-volume-weighted average concentrations from wells within each groundwater basin during this period.

During Phase 2A (SAWPA Task Order 1998-W0 20-1616-03), the TIN/TDS Task Force undertook a comprehensive re-evaluation of groundwater basin and sub-basin boundaries, as well as the underlying dataset used to set objectives, to determine whether more robust methodologies could be applied to develop more representative groundwater quality objectives. The project team redefined sub-basin boundaries based on an updated assessment of hydrogeology and water quality, thereby establishing GMZs to enhance environmental

stewardship strategies. Historical AWQ for GMZs was derived through an extensive search for data spanning the 1954 to 1973 period, effectively expanding the temporal scope for determining groundwater quality objectives from five years (1968–1972) to twenty years (1954–1973). The TIN/TDS Task Force implemented advanced statistical methods, complemented by geospatial analysis tools, to estimate volume-weighted AWQ for both historical and contemporary periods.

As stated in the Basin Plan (RWQCB, 2016), "TDS and nitrate-nitrogen water quality objectives for each management zone are based on historical concentrations of TDS and nitrate-nitrogen from 1954 through 1973 and are referred to herein as the 'antidegradation' objectives." This timeframe encompasses 1968, the year the State Water Resources Control Board (State Water Board) adopted the state's antidegradation policy (Resolution No. 68-16, "Policy with Respect to Maintaining High Quality Waters"), which serves as a benchmark for evaluating and authorizing any degradation of water quality.

The figure below displays the groundwater quality objectives for both TDS and Nitrate for each GMZ.



Furthermore, the January 2004 Nitrogen and TDS Basin Plan Amendment (Resolution No. R8-2004-0001) requires recomputation of AWQ for all GMZs within the watershed, where sufficient data are available.

The AWQ determinations for each period are used to evaluate compliance with water quality objectives and to identify if assimilative capacity is present for each GMZ. Assimilative capacity is defined as the difference between the water quality objective and the current AWQ: if the current quality of a GMZ meets a higher standard than the objective, assimilative capacity is considered present. If the current quality is equal to or lower than the objective, assimilative capacity is not present.

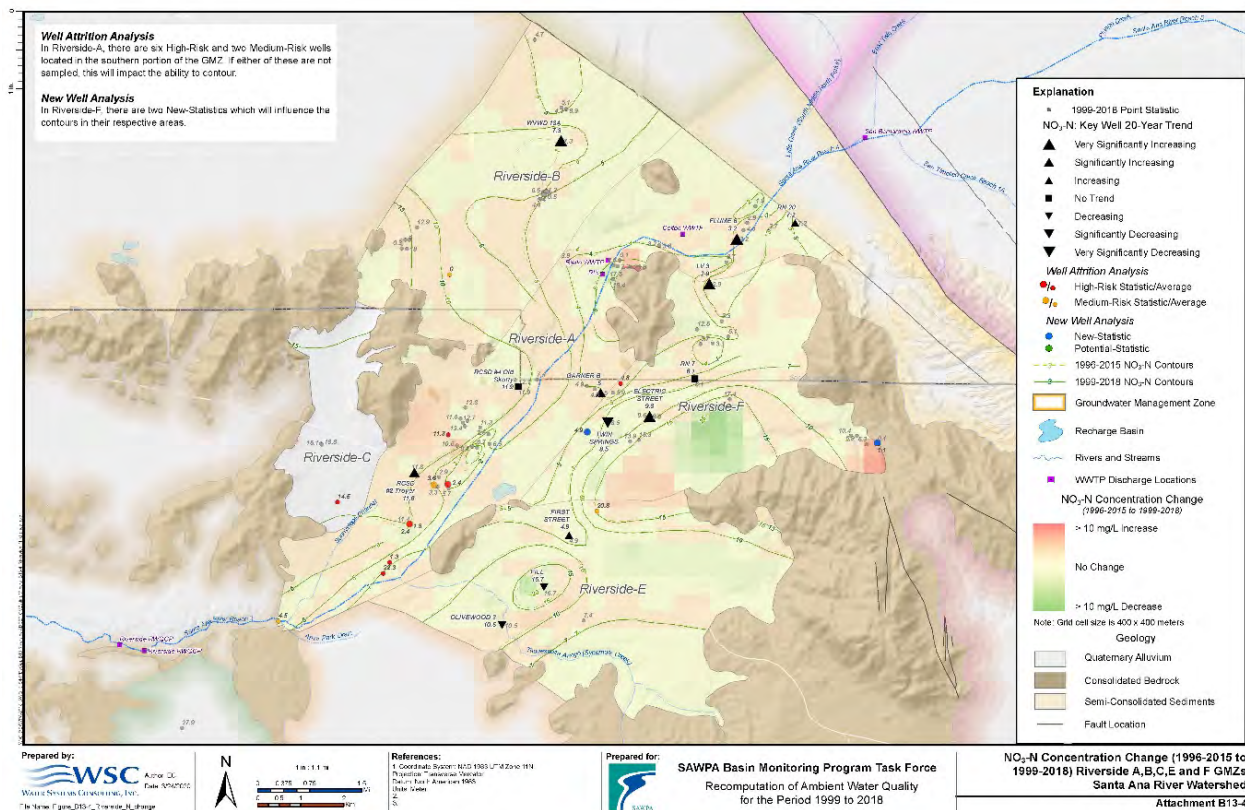
According to the Basin Plan (RWQCB, 2016a), when a GMZ has little or no assimilative capacity:

“The Regional Board addresses such situations by providing dischargers with the opportunity to participate in TDS offset programs, such as the use of desalters, in lieu of compliance with numerical TDS limits. These offset provisions are incorporated into waste discharge requirements ... An alternative that dischargers might pursue in these circumstances is revision of the TDS or nitrogen objectives, through the Basin Plan amendment process. Consideration of less stringent objectives would necessitate comprehensive antidegradation review, including the demonstrations that beneficial uses would be protected and that water quality consistent with maximum benefit to the people of the State would be maintained ... a number of dischargers have pursued this ‘maximum benefit objective’ approach, leading to the inclusion of ‘maximum benefit’ objectives and implementation strategies in this Basin Plan. Discharges to areas where the “maximum benefit” objectives apply will be regulated in conformance with these implementation strategies.”

Implementation of certain projects and programs by specific dischargers as part of their maximum benefit demonstrations is required for the continued application of the “maximum benefit” objectives.

As part of the 2021 AWQ Pilot Recomputation process, the methods described above—and in the Phase 2A work—were evaluated for effectiveness and refined from the Phase 2A approach. The Phase 2A approach computed AWQ on a three-year basis nine times since the initial computation for the 20-year period from 1978 to 1997. The updated approach allowed for the recomputation to be computed every 5 years beginning with the 2007 to 2026 time period. It streamlined groundwater quality data collection by focusing on TDS and Nitrate-Nitrogen and introduced the Mann-Kendall statistical test, which was incorporated by members of the WSC team. This test is now applied to assess whether TDS and Nitrate-Nitrogen concentrations at each well exhibit statistically significant upward or downward trends.

The figure below illustrates the change in Nitrate as Nitrogen between the 2015 and 2018 recomputations in the Riverside GMZs using interpretive tools and highlights the Mann-Kendall analysis results for key wells. The addition of the Mann-Kendall analysis was a well-received advancement to the suite of interpretive tools.



WSC intends to perform the following scope of work:

- For each GMZ, use previous collected data, as well as newly collected data by the Task Force through the service described above, “Annual/Routine Groundwater Data Consolidation”, to calculate water quality statistics for each well over the 20-year timeline of 2007 to 2026.
- For each GMZ, ensure concentration values for TDS and Nitrate-Nitrogen from this 20-year time period are mapped to create iso-concentration contours of like values that depict the spatial distribution of TDS and Nitrate-Nitrogen.
- For each GMZ, ensure those contours are then saved as a surface raster, and that the raster utilizes a grid with 400-by-400-meter cells.
- For each GMZ’s grid cells, assign concentration values for TDS and Nitrate-Nitrogen by overlapping and interpolating the contour data mapped above.

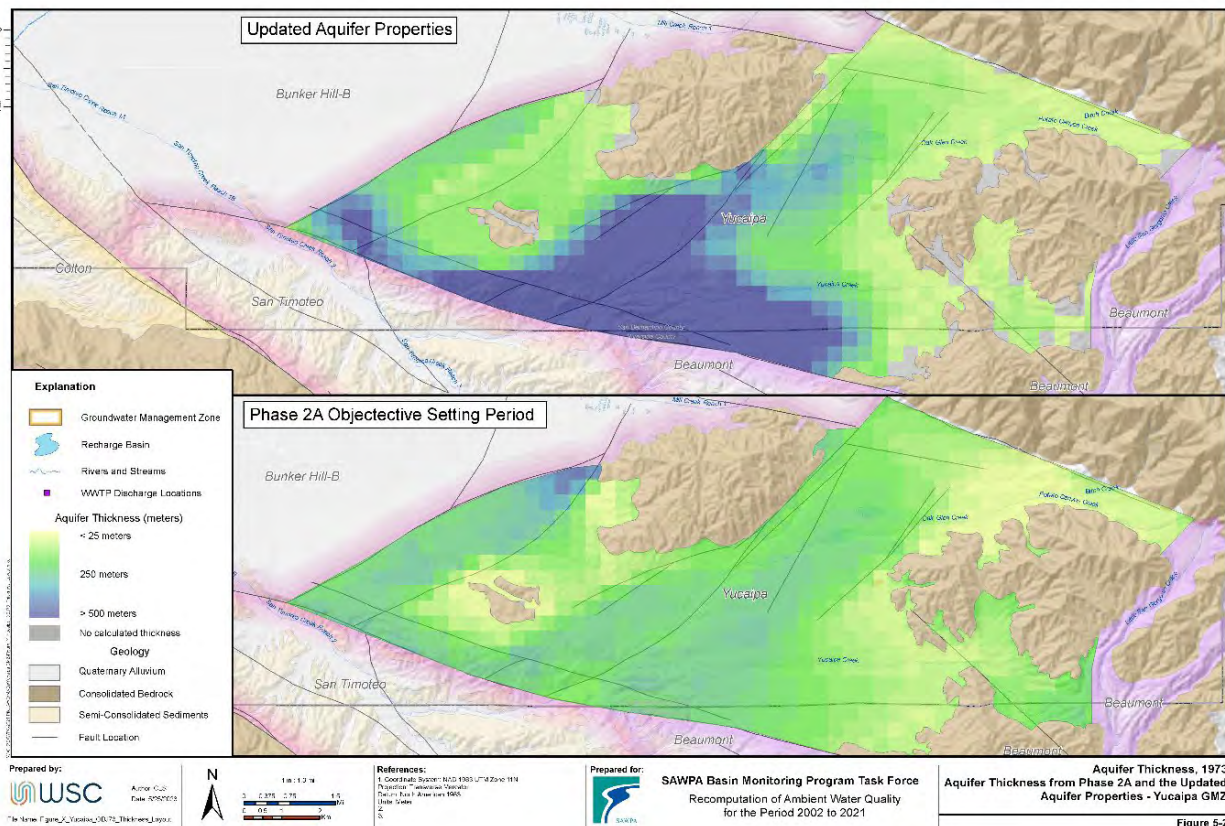
- For each GMZ's grid cells, assign aquifer storage properties information—in addition to the concentration values previously assigned—to calculate the total value of water in the grid cells. The aquifer storage properties information to be provided by the Task Force. It will either use new data created through the service described above, “Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers”, or be data from the first AWQ Recomputation implemented in the Phase 2A Technical Memo published in 2000.
- For each GMZ's grid cells, calculate the mass of TDS and Nitrate-Nitrogen based on the total volume of water attributed to each grid cell.
- For each GMZ, create a single concentration value of TDS and Nitrate-Nitrogen. Do this by summing the total mass of TDS and Nitrate-Nitrogen in the GMZs' grid cells. Then divide the total mass by the total volume of water.
- For each GMZ, determine the assimilative capacity for TDS and Nitrate-Nitrogen by taking the difference between the antidegradation objective in the Basin Plan for the GMZ and the 2026 AWQ Recomputations single concentration value. The antidegradation objectives are based on well data from the 1954 to 1973 historical time period.
 - o For GMZs where new storage properties were used, also recalculate the Basin Plan's historic single concentration values for TDS and Nitrate-Nitrogen for the 1954 to 1973 period using the same steps to compute AWQ for the 2006 to 2026 period. Instead of using 2007 to 2026 data, use 1954 to 1973 data provided by the BMP Task Force. The difference between the new historic period and the 2026 AWQ Recomputation values will help inform assimilative capacity findings.
- Utilize Interpretive Tools such as the Mann-Kendal statistical analysis. Use this test to analyze data to determine whether there are increasing or decreasing trends in TDS and Nitrate-Nitrogen concentrations at each well.
- Provide regular updates and presentations to the BMP Task Force, including key milestones such as the calculation of draft data.

Technical Assistance Related to Groundwater Storage and Water Quality Modeling, and Updating Groundwater Storage and Quality Model Layers

The physical models of the GMZs have not been modified since the TIN/TDS Study – Phase 2A of the Santa Ana Watershed published in July 2000. Since July 2000, hundreds of wells have been drilled, groundwater models have been developed and updated, and new hydrogeologic studies have been performed in the GMZs throughout the Santa Ana Watershed, improving the understanding of aquifer properties and aquifer geometry of the management zones. For example, the US Geological Survey (USGS) and others have done a significant amount of work in the Rialto-Colton GMZs related to the contaminated sites. WSC team members have performed this analysis for the BMP Task Force or members of the BMP Task Force for the Chino Basin GMZ's in 2015, the Bunker Hill and Lytle GMZ's in 2022 and the Yucaipa GMZ as part of the 2021 AWQ Pilot Study.

The Yucaipa GMZ was evaluated with respect to the effect the physical model has on AWQ determinations as part of the 2021 AWQ Pilot Study. To demonstrate the impacts on updating the storage model for the Yucaipa GMZ, the AWQ during the objective-setting period (1954 to 1973) and the current AWQ were recalculated utilizing the updated aquifer properties.

The figure below illustrates the change in the updated physical model and effective base of the aquifer in the Southern portion of the Yucaipa GMZ.



WSC will apply the same approach successfully used for the Chino Basin GMZs, San Bernardino Basin Area GMZs, and Yucaipa GMZs over the years. Together, the BMP Task Force and WSC team will identify GMZs where significant updates have been made to the underlying physical models. The scope of work will focus on compiling the most current groundwater basin characteristics and updating storage property model layers using data from recent groundwater modeling efforts or other hydrogeologic conceptual model studies, such as the work currently underway by Eastern Municipal Water District and its consultant team for the GMZs in the San Jacinto Basin.

Proposed Work Includes:

- Research available documents from SNMPs and GSPs to identify relevant water agencies.
- Conduct outreach to agencies and entities with recent groundwater storage and water quality modeling.
- Request updated data on groundwater basin characteristics, including specific yield and bottom elevation.
- Compile and manage the data in a structured geodatabase
- Analyze and update the existing storage properties model layers with the new information.
- Perform QA/QC on the updated storage properties layer to ensure accuracy.

APPENDIX A4 - ADDITIONS, DELETIONS AND/OR EXCEPTIONS

Please state any and all Additions, Deletions and Exceptions that you are taking to any portion of this RFQ, the General Services Agreement (GSA), and/or Task Order (shown in Appendix B – "Standard Contract Documents – Task Order and GSA"). If not addressed below, then SAWPA assumes that the Consultant will adhere to all terms and conditions listed.

SAWPA will issue a Task Order and GSA in its standard form to the successful Consultant for the services contemplated herein. Any deletion, exception, or modification taken to SAWPA contract terms and conditions will be evaluated, in addition to the specified criteria; and may, itself, result in non-acceptance by SAWPA. Any request for deletion, exception, or modification, if so taken, must be submitted at the time of the proposal.

WSC has read and is in substantial agreement with the sample Agreement for Services provided by SAWPA with the RFP. We respectfully request SAWPA's consideration of the requested changes outlined on the following pages.

We are confident that we can quickly come to mutually agreeable terms as we have in the past.

invasion of privacy violations, information theft, damage to or destruction of electronic information, release of private information, alteration of electronic information, extortion and network security. The policy shall provide coverage for breach response costs as well as regulatory fines and penalties as well as credit monitoring expenses with limits sufficient to respond to these obligations.

If the Consultant maintains broader coverage and/or higher limits than the minimums shown above, SAWPA requires and shall be entitled to the broader coverage and/or higher limits maintained by the Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to SAWPA.

4.04(b) If Claims Made Policies:

1. The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work.
2. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract of work.
3. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the contract effective date, the Consultant must purchase "extended reporting" coverage for a minimum of five (5) years after completion of contract work.

4.04(c) Waiver of Subrogation: The insurer(s) named above agree to waive all rights of subrogation against SAWPA, its elected or appointed officers, officials, designated agents, authorized volunteers and employees for losses paid under the terms of this policy which arise from work performed by the Named Insured for the Agency; ~~but this provision applies regardless of whether or not SAWPA has received a waiver of subrogation from the insurer.~~

4.04(d) Other Required Provisions - The general liability policy must contain, or be endorsed to contain, the following provisions:

1. **Additional Insured Status:** SAWPA, its directors, officers, employees, and authorized volunteers are to be given Additional insured status on the General Liability (at least as broad as ISO Form CG 20 10 10 01), with respect to liability arising out of work or operations performed by or on behalf of the Consultant including materials, parts, or equipment furnished in connection with such work or operations.
2. **Primary Coverage:** For any claims related to this project, the Consultant's General Liability insurance coverage shall be primary at least as broad as ISO CG 20 01 04 13 as respects to SAWPA, its directors, officers, employees and authorized volunteers. Any insurance or self-insurance maintained by the Member Water Agency its directors, officers, employees and authorized volunteers shall be excess of the Consultant's insurance and shall not contribute with it.

4.04(e) Notice of Cancellation: Each insurance policy required above shall provide that coverage shall not be canceled, except with 30 days notice to SAWPA.

4.04(f) Self-Insured Retentions - Self-insured retentions must be declared to and approved by SAWPA. SAWPA may require the Consultant to provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or SAWPA.

4.04(g) Acceptability of Insurers - Insurance is to be placed with insurers having a current A.M. Best rating of no less than A: VII or as otherwise approved by SAWPA.

4.04(h) Verification of Coverage - Consultant shall furnish SAWPA with certificates and amendatory endorsements or copies of the applicable policy language effecting coverage required by this clause. All certificates and endorsements are to be received and approved by SAWPA before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Consultant's obligation to provide them. SAWPA reserves the right to require complete, certified copies of all required

4.04(i) Subcontractors - Consultant shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Consultant shall ensure that SAWPA, its directors, officers, employees and authorized volunteers are additional insureds on Commercial General Liability Coverage.

4.05 Consultant hereby covenants and agrees that SAWPA, its officers, employees, and agents shall not be liable for any claims, liabilities, penalties, fines or any damage to property, whether real or personal, nor for any personal injury or death ~~caused by, or resulting from, or claimed to have been to the extent~~ caused by or resulting from, any negligence, recklessness, or willful misconduct of Consultant. To the extent permitted by law, Consultant shall hold harmless, defend (except for professional liability and workers comp claims) at its own expense, and indemnify SAWPA, its directors, officers, employees, and authorized volunteers, against any and all liability, claims, losses, damages, or expenses, including reasonable attorney's fees and costs, ~~arising from all to the extent caused by the negligent~~ acts or omissions of Consultant or its officers, designated agents, or employees in rendering services under this Agreement and any Task Order issued hereunder; excluding, however, such liability, claims, losses, damages or expenses arising from SAWPA's sole negligence or willful acts. Consultant shall not be required to defend any indemnitee against professional liability claims but shall reimburse the indemnitee for reasonable attorneys' fees and legal costs to the extent any such claim is caused by Consultant's negligence or willful misconduct. In no event shall the cost of defense charged to the Consultant exceed the Consultant's proportionate percentage of fault.

4.06 In the event that SAWPA requests that specific employees or agents of Consultant supervise or otherwise perform the services specified in each Task Order, Consultant shall ensure that such individual(s) shall be appointed and assigned the responsibility of performing the services.

4.07 In the event Consultant is required to prepare plans, drawings, specifications and/or estimates, the same shall be furnished with a registered professional engineer's number and shall conform to local, state and federal laws, rules and regulations. Consultant shall obtain all necessary permits and approvals in connection with this Agreement, any Task Order or Change Order. However, in the event SAWPA is required to obtain such an approval or permit from another governmental entity, Consultant shall provide all necessary supporting documents to be filed with such entity, and shall facilitate the acquisition of such approval or permit.

4.08 Consultant shall comply with all local, state and federal laws, rules and regulations including those regarding nondiscrimination and the payment of prevailing wages, if required by law.

ARTICLE V SAWPA OBLIGATIONS

5.01 SAWPA shall:

5.01a Furnish all existing studies, reports and other available data pertinent to each Task Order that are in SAWPA's possession;

5.01b Designate a person to act as liaison between Consultant and the General Manager and Commission of SAWPA.

ARTICLE VI ADDITIONAL SERVICES, CHANGES AND DELETIONS

6.01 During the term of this Agreement, the Commission of SAWPA may, from time to time and without affecting the validity of this Agreement or any Task Order issued pursuant thereto, order changes, deletions, and additional services by the issuance of written Change Orders authorized and approved by the Commission of SAWPA.

6.02 In the event Consultant performs additional or different services than those described in any Task Order or authorized Change Order without the prior written approval of the Commission of SAWPA, Consultant shall not be compensated for such services.

6.03 Consultant shall promptly advise SAWPA as soon as reasonably practicable upon gaining knowledge

10.02 Consultant shall retain and maintain, for a period not less than four years following termination of this Agreement, all time records, accounting records, and vouchers and all other records with respect to all matters concerning services performed, compensation paid and expenses reimbursed. At any time during normal business hours and as often as SAWPA may deem necessary, Consultant shall make available to SAWPA's agents for examination of all such records and will permit SAWPA's agents to audit, examine and reproduce such records.

ARTICLE XI

MISCELLANEOUS PROVISIONS

11.01 This Agreement supersedes any and all previous agreements, either oral or written, between the parties hereto with respect to the rendering of services by Consultant for SAWPA and contains all of the covenants and agreements between the parties with respect to the rendering of such services in any manner whatsoever. Any modification of this Agreement will be effective only if it is in writing signed by both parties.

11.02 Consultant shall not assign or otherwise transfer any rights or interest in this Agreement without the prior written consent of SAWPA. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement.

11.03 In the event Consultant is an individual person and dies prior to completion of this Agreement or any Task Order issued hereunder, any monies earned that may be due Consultant from SAWPA as of the date of death will be paid to Consultant's estate.

11.04 Time is of the essence in the performance of services required hereunder and Consultant shall perform its services as expeditiously as possible, consistent with the professional standard of care and the orderly progress of the Project. Extensions of time within which to perform services may be granted by SAWPA if requested by Consultant and agreed to in writing by SAWPA. All such requests must be documented and substantiated and will only be granted as the result of unforeseeable and unavoidable delays not caused by the lack of foresight on the part of Consultant.

11.05 SAWPA expects that Consultant will devote its full appropriate energies, interest, abilities and productive time to the performance of its duties and obligations under this Agreement, and shall not engage in any other consulting activity that would interfere with the performance of Consultant's duties under this Agreement or create any conflicts of interest. If required by law, Consultant shall file a Conflict of Interest Statement with SAWPA.

11.06 Any dispute which may arise by and between SAWPA and the Consultant, including the Consultants, its employees, agents and subcontractors, shall be submitted to binding arbitration. Arbitration shall be conducted by a neutral, impartial arbitration service that the parties mutually agree upon, in accordance with its rules and procedures. The arbitrator must decide each and every dispute in accordance with the laws of the State of California, and all other applicable laws. Unless the parties stipulate to the contrary prior to the appointment of the arbitrator, all disputes shall first be submitted to non-binding mediation conducted by a neutral, impartial mediation service that the parties mutually agree upon, in accordance with its rules and procedures.

11.07 During the performance of the Agreement, Consultant and its subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), age (over 40), marital status and denial of family care leave. Consultant and its subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Consultant and its subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code, Section 12290 et seq.) and the applicable regulations promulgated there under (California Code of Regulations, Title 2, Section 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 et seq., set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Agreement by reference and made a part hereof as if set forth in full.

Michael Cruikshank PG, CHG

PROFESSIONAL EXPERIENCE

Michael is a proven manager, certified hydrogeologist, and water resource planner with more than 20 years of professional experience. He has managed projects in large diverse stakeholder environments for a variety of water resource projects including the development of groundwater sustainability plans (GSPs), salt and nutrient management plans (SNMPs), and indirect potable reuse (IPR) projects. He has technical expertise in water resource planning, hydrogeologic basin analysis, and the development of integrated groundwater and surface water models that are used to make important water resource management decisions on a watershed scale.

REPRESENTATIVE PROJECTS

2021 Ambient Water Quality Pilot Study, Basin Monitoring Program Task Force, Santa Ana Watershed Project Authority, Santa Ana River Watershed, CA. Principal Hydrogeologist. Led the WSC Team in the preparation of the 2021 AWQ Pilot Study as identified in the 2022 Groundwater Monitoring Program Plan. Responsible for assessing the ambient water quality and assimilative capacity in the seven GMZs with Maximum Benefit SNMPs including: Beaumont, Chino North, Cucamonga, Elsinore, San Jacinto Upper Pressure, San Timoteo, and Yucaipa. Leading the technical team in determining the ambient water quality and assimilative capacity in the Yucaipa GMZ using updated aquifer geometry and aquifer properties for the objective setting period (1954-1973) and the current period and presenting the results to the Regional Board.

Recomputation of Ambient Water Quality for the Period 1996 to 2015 and for the Period 1999 to 2018, Basin Monitoring Program Task Force, Santa Ana Watershed Project Authority, Santa Ana River Watershed, CA. Project Manager/Senior Hydrogeologist. Oversaw four ambient water quality determinations, including the 1996 to 2015 version that developed point statistics for nitrate and TDS, prepared groundwater quality and groundwater elevation contour maps in the management zones with requisite data, and computed the volume-weighted ambient TDS and nitrate-nitrogen concentrations using the data generated from the contour maps. Led the development of the interpretive tools which included a spatial analysis

of groundwater quality change, a temporal analysis of groundwater change comparing basin-scale trends to trends observed in key well locations, and a forward looking well attrition analysis. The Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin requires the implementation of a watershed-wide total dissolved solids (TDS) and nitrogen groundwater monitoring program to determine ambient water quality in groundwater, assess compliance with groundwater quality objectives, and determine if assimilative capacity exists in groundwater management zones. The Basin Plan requires that the ambient water quality (AWQ) be computed every three years.

Upper Santa Ana River Watershed Salt and Nutrient Management Strategy Study, San Bernardino Valley Municipal Water District, San Bernardino, CA. Project Manager. As Project Manager and Facilitator for the Upper Santa Ana River Watershed Stakeholders, led a study providing critical technical analyses for the development of a SNMP. The study established a scientific framework to evaluate projects and management strategies for enhancing regional water supply reliability. It assessed groundwater quality impacts from recycled water recharge at the Weaver Basin, including contributions from the Sterling Natural Resource Center and the San Bernardino Municipal Water Department's Tertiary Treatment System, focusing on both regional and localized effects on groundwater management zones. Oversaw the development and analysis of four groundwater model scenarios and worked closely with stakeholders to evaluate salinity management strategies. He advanced key phases of the project,



EDUCATION

MS, Civil and Environmental Engineering, California State University, Fullerton, CA.

BS, Geology, California State University, Fullerton, CA.

PROFESSIONAL REGISTRATIONS

Professional Geologist, California, No. 8854

Certified Hydrogeologist, No. 994

Engineer-in-Training No. 142007

"I take a multidisciplinary approach to every project to deliver forward-looking solutions for sustained community value."

Michael Cruikshank

including ambient water quality characterization, nitrogen loss assessments, and integrated groundwater-surface water modeling. Additionally, he guided efforts to explore regulatory strategies and the potential for a regional desalter facility, positioning the project for future SNMP development and compliance with regional water management goals.

Bunker Hill Basin Regional Recycled Water Salinity Management Feasibility Study, Regional Recycled Water Coalition, San Bernardino Valley, CA. Regulatory Strategy and Basin Context Lead. East Valley Water District, San Bernardino Municipal Water Department, and the City of Redlands are advancing near-term recycled water projects and seeking discharge permits for beneficial use in the Bunker Hill B Groundwater Management Zone (GMZ). San Bernardino Valley has partnered with these agencies to develop a regional recycled water system for recharging the Bunker Hill B GMZ. Together, these four entities formed the Bunker Hill Basin Regional Recycled Water Coalition (the Coalition) to coordinate permitting efforts and explore viable salinity management strategies for both immediate and long-term goals in the basin. Collaborated with the Coalition and Regional Board staff through a series of workshops to develop, evaluate, and select a preferred salinity management approach. This process explored several options, including a regional desalter facility and a sub-regional SNMP. Desalter facilities at the Tertiary Treatment System and Sterling Natural Resource Center were assessed based on cost, proximity to existing operations, water quality benefits, and site constraints. Evaluated the development of a sub-regional SNMP, which could provide Coalition members access to over 20% of the available assimilative capacity, potentially deferring the desalter timeline.

On-Call Hydrogeological Services, Eastern Municipal Water District, Perris, CA. Principal Hydrogeologist/Technical Advisor. Supported the EMWD Water Resources and Facilities Planning Group in a variety of groundwater resources projects. Tasks include the Perris II Reverse Osmosis Treatment Facility monitoring and reporting program, Perris North Groundwater Program preliminary design of 16 monitoring wells in Moreno Valley, review of groundwater modeling reports, and other hydrogeologic tasks.

Rialto-Colton Drought Contingency Plan, City of Rialto, Rialto, CA. Hydrogeology Lead. Supported the groundwater components of the DCP. The DCP systematically outlines drought monitoring, vulnerability assessment, mitigation actions, and a framework for response actions. Response actions defined in each WSCP were compiled in the DCP and will inform Drought Task Force discussions about how the suppliers can work together to implement a coordinated response.

Rapid Infiltration and Extraction (RIX) Nitrogen Loss Workplan, San Bernardino Municipal Water Department, San Bernardino, CA. Principal in Charge. WSC developed and implemented a Sampling and Analysis Plan for the RIX facility. The project focused on assessing nitrogen transformation within and down-gradient of the facility's percolation basins, with the goal of understanding nitrogen loss during wastewater treatment and ensuring compliance with regulatory standards. Key responsibilities included project management, coordinating quarterly meetings, overseeing field operations for sampling events, and preparing comprehensive quarterly and annual reports.

2020 Groundwater Atlas, City of Riverside Public Utilities, Riverside, CA. Project Manager. Led the development of an updated Groundwater Atlas for RPU. The atlas is designed to report the water quality and quantity conditions of the groundwater basins that provide potable and non-potable water supplies to RPU's customers. The Atlas will support groundwater management strategies and activities related to managing water supplies in a sustainable and resilient manner. The Atlas illustrates the current condition of the four groundwater basins RPU produces from (Bunker-Hill, Rialto-Colton, Riverside North, and Riverside South Basins) with respect to hydrology, production, recharge, groundwater levels, and groundwater quality. The purpose of this Atlas is to 1) Characterize groundwater basin conditions and how they change over time 2) Provide readable and reliable data to customers, elected officials, executive management, and staff, and 3) Provide information and analysis to RPU staff for use in managing the City's water supply.

Groundwater Sustainability Plan, Arlington Basin, Western Municipal Water District, Riverside, CA. Senior Hydrogeologist. Assisted in the development of the GSP for the very low priority Arlington Basin for the GSA led by Western Municipal Water District (WMWD). The Arlington Basin's very low prioritization does not require the development of a GSP, but WMWD believes in good basin management and made the decision to continue the process of meeting with stakeholders and creating a plan for the Basin. The GSP describes and assesses the groundwater condition of the Arlington Basin, develops quantifiable management objectives that account for the interests of the Basin's beneficial groundwater uses and users, and identifies a group of projects and management actions that will allow the Basin to achieve and maintain sustainability in the future.

Bedford-Coldwater Groundwater Sustainability Plan Administrator, Bedford-Coldwater Groundwater Sustainability Agency, Temescal Valley, CA. GSP Administrator. Responsible for the facilitation of all aspects of the Implementation Plan through the first five years up to the completion of the 5-year update. Worked with personnel from the three BCGSA agencies (Corona, EVMWD, and TVWD) and contracted firms to perform some of the activities related to implementing the projects and management actions. Responsible for administrative activities including the development of Board packets, presentations, budgeting, and the coordination and facilitation of RFP's and the associated specialty consultant services in conjunction with staff from the BCGSA agencies.

Drought Contingency Plan, East Valley Water District, Highland, CA. Hydrogeology Lead. Worked on the groundwater components of a comprehensive Drought Contingency Plan (DCP) for East Valley Water District to enhance resilience against drought. The DCP establishes a robust drought monitoring framework to identify when to initiate specific drought responses and incorporates a suite of mitigation activities and projects drawn from the District's Water Shortage Contingency Plan (WSCP). These actions include both existing initiatives and newly conceptualized strategies designed to address vulnerabilities and build long-term drought resilience. The DCP included EDUCATION MS, Civil and Environmental Engineering, California State University, Fullerton, CA. BS, Geology, California State University, Fullerton, CA. assessing the District's groundwater production wells to evaluate their performance, reliability, and role in drought response efforts.

Joe Kingsbury PG, CHG

PROFESSIONAL EXPERIENCE

Joe is a Professional Geologist and Certified Hydrogeologist with 25 years of diversified experience with groundwater, geotechnical, and environmental projects performed for numerous municipalities, state agencies, and private clients throughout California. His recent project expertise includes well siting assessments, preliminary and final municipal well designs, construction management and inspection for municipal supply and injection wells, and well rehabilitation prioritization plans. Joe has a keen ability to recognize how and when to initiate leadership and effective communication needed to maintain successful collaboration among groups consisting of technical and non-technical participants alike on water supply projects.

REPRESENTATIVE PROJECTS

On-Call Hydrogeological Services, Eastern Municipal Water District, Perris, CA. Project Manager. Since 2019, Joe has provided on-call hydrogeologic and management services to the District's Groundwater Development group on a variety of projects/programs, such as groundwater resource studies, groundwater monitoring programs, well condition assessments, well permitting, Drinking Source Water Drinking Water Source Assessment and Protection (DWSAP), and well installations. Additionally, the District relies on his technical expertise and support to develop and update Standard Operational Procedures for field groundwater sampling methods, technical specifications for well drilling, construction and testing, and design and selection of groundwater monitoring and sampling trailers and equipment. One highlight includes the Perris II Reverse Osmosis Treatment Facility project which Joe:

- Participated in Technical Advisory Committee meetings and assisted with finalizing the Monitoring and Reporting Plan (MRP).
- Developed a sampling plan and summary report for a pilot program to demonstrate the use of sonde technology to vertically profile TDS and nitrate concentrations in wells.
- Managed groundwater sampling activities and prepared summary reports for two baseline monitoring events, and quarterly and annual operational reports.

Another highlight includes Joe's role with the Perris North Program, which he:

- Developed the MRP and preliminary pumping plan in accordance with the requirements of the Proposition 1 grant agreement.
- Assisted during development of specifications and reports for groundwater extraction wells.
- Technical team member during the siting, preliminary design, and development of bid packages (specifications) for nested and clustered monitoring wells at 15 sites.

Upper Santa Ana River Habitat Conservation Plan, San Bernardino Valley Municipal Water District, Riverside, CA. Role. The primary purpose of the Habitat Conservation Plan (HCP) is to give the Upper SAR water agencies the ability to construct identified public infrastructure projects that would impact endangered species and require take coverage under the Federal Endangered Species Act (FESA).

Drought Contingency Plan, East Valley Water District, Highlands, CA. Senior Hydrogeologist. In 2023-24 served as primary lead for development of multiple studies for new drinking water supplies and groundwater well sites, including a Site Feasibility for New Groundwater Production Well, a Detailed Project Plan for Proposed New Well 129, a Siting Study for New Groundwater Production Wells, and a Well Modification and



EDUCATION

BA, Geology, The Ohio State University

PROFESSIONAL REGISTRATIONS

Professional Geologist, California, No. 8680

Certified Hydrogeologist, California, No. 1019

"I strive to provide my clients the type of service that I would expect: responsive, informed and committed to their success. The reward comes with identifying effective ways to reduce costs and working through technical challenges."

Joe Kingsbury

Replacement Prioritization Plan. The work included compilation and review of well construction and equipping details, historical groundwater monitoring and well operational and maintenance data, well performance trends, and developing criteria used to assess, score, and rank (prioritize) potential sites for future water supply wells and existing wells in need of modifications and replacement.

Chino Basin Program Preliminary Design Report, Inland Empire Utilities Agency, Chino, CA. Hydrogeologist. During development of the preliminary design report for the Chino Basin Program, Joe assisted with developing the preliminary design and planning level costs for proposed groundwater recharge injection wells. Joe is currently tasked with leading the preparation of a detailed siting study for project injection and monitoring wells, which includes compiling and evaluating large sets of data and information, preparing stratigraphic cross sections to evaluate the proposed injection well field, reviewing construction details and long-term performance for nearby wells, reviewing permitting and regulatory requirements for new wells, developing well siting criteria, and identifying, evaluating and ranking potential well sites. He is also developing a preliminary design report for the project injection and monitoring wells. This report will provide a basis of design and preliminary operational strategy for injection wells, and an opinion on probable construction and operational costs.

Well Siting and Water Supply Study, Jensen-Alvarado Historic Ranch and Louis Robidoux Nature Center, San Bernardino Valley Municipal Water District, Riverside, CA. Project Manager. Joe led a water supply assessment and well siting study for two potential groundwater production wells in the Jurupa Valley. The well feasibility and siting portion of the study was completed at a conceptual level for the purpose of developing water supply options for the proposed farming and habitat restoration components of the project. Joe completed an extensive search and review of Water Well Reports, groundwater levels, and historical groundwater quality data. This information was used to estimate the yield and water quality, including parameters required for aquatic habitat restoration, for new wells installed at the project sites. Potential well sites were located at each property in centralized locations to maximize water use efficiency and run lengths for irrigation systems.

Annual Groundwater Assessment Report, City of Riverside Public Utilities, Riverside, CA. Hydrogeologist. Joe supported the development of a Groundwater Atlas which reports the water quality and quantity conditions of the groundwater basins that provide potable and non-potable water supplies to RPU's customers. The Atlas supports RPU's groundwater management strategies and activities related to managing water supplies in a sustainable and resilient manner. The Groundwater Atlas illustrates the current condition of the four groundwater basins RPU produces from (Bunker- Hill, Rialto-Colton, Riverside North, and Riverside South Basins) with respect to hydrology, production, recharge, groundwater levels, and groundwater quality.

As-Needed Hydrogeological and Engineering Services, Helendale Community Services District, Helendale, CA. Project Manager. Joe provides as-needed hydrogeological services to the District. Through the on-call, Joe supported the District in acquiring a well site and completing

the report for the test boring of a new production well. Tasks included developing a pre-design technical memorandum that evaluated the well site layout, pipeline alignment, discharge location, electrical and SCADA requirements, preliminary pump sizing, and permitting requirements.

Sterling Natural Resource Center, San Bernardino Valley Municipal Water District and East Valley Water District, San Bernardino, CA.

Project Manager. Joe served as project manager and senior hydrogeologist for all groundwater aspects of a feasibility study conducted for a regional wastewater reclamation plant and groundwater recharge program (Sterling Natural Resource Center). His duties included use of an existing regional groundwater flow and solute transport model to evaluate various recycled water recharge scenarios. Performed analysis to determine groundwater characteristics (including amount of groundwater available as a source of diluent water) which was used by engineering team to identify needed level of source water treatment. Participated in meetings with the Regional Water Quality Control Board and Division of Drinking Water.

Cooperative Agreement to Protect Water Quality in the Santa Ana River Basin, San Bernardino Valley Municipal Water District, San Bernardino, CA. Hydrogeologist.

Joe's primary role was to support the senior groundwater modeler with the collection and analysis of geohydrologic and water quality data. He participated in project meetings and prepared initial and secondary documents to report to Regional Water Quality Control Board compliance with salinity objectives for the Bunker Hill, Lytle Creek, Rialto, Colton, Yucaipa and San Timoteo Management Zones.

Paso Robles Groundwater Basin Model Update and Supplemental Water Supply Options Study, San Luis Obispo County Flood Control and Water Conservation District, Paso Robles, CA. Project Manager.

Joe completed the role of project manager for the update, refinement and recalibration of the Paso Robles Groundwater Basin Model. He assisted the lead modeler to update the Baseline model run following completion of model refinements and provided support for 15 additional predictive simulations used to evaluate various supplemental water supply options designed to stabilize the basin by the year 2040. He maintained substantial collaboration with County officials, members of the Basin Advisory Committee and Modeling Subcommittee, and other consulting hydrogeologists and water supply engineers. Joe was the primary author assisted by a secondary consultant to complete all technical reports and supporting documents.

Central Coast Blue Proposition 1 Planning Grant Activities, Multiple Agencies, Pismo Beach, CA. Hydrogeologist.

Joe served as lead hydrogeologist for the planning and implementation of project injection and monitoring wells. For the initial phase, he prepared the technical plans and specifications and provided construction management services (CMS) and final design for a test injection well and associated nested monitoring well. He recently completed a siting study for the remaining Phase 1 & 2 injection wells and is currently updating planning level cost estimations for construction and CMS of six injection wells and nine nested monitoring wells.

Jessica Chomyn^{PG, PMP}

PROFESSIONAL EXPERIENCE

Jessica Chomyn is a Professional Geologist with over 10 years of experience in contamination assessment and remediation projects across diverse land use settings and sensitive ecological environments. She has significant experience in developing and executing groundwater monitoring programs, including well design specifications, monitoring well construction and abandonment, and conducting groundwater sampling and reporting. She has proven her ability to manage complex projects for a broad range of clients. She is skilled in delivering technical solutions that meet regulatory requirements and client expectations. Jessica is a Project Management Professional and has considerable experience in all aspects of project management including scheduling, finance and budgetary management, and staff management. This experience enables her to provide substantial technical and managerial proficiency across a broad range of operational environments.

REPRESENTATIVE PROJECTS

Perris North Program Monitoring and Reporting Plan, Eastern Municipal Water District, Perris, CA. Associate Hydrogeologist. Supported the development of the proposed monitoring well network, including preparing the Monitoring and Reporting Plan which will form the basis for monitoring and evaluating the performance of the groundwater treatment system. The project is Grant funded through the Prop 1 Groundwater Grant Program.

On-Call Hydrogeologic Services, Eastern Municipal Water District, Perris, CA. Associate Hydrogeologist. Provided hydrogeologic and project management services to the Eastern Municipal Water District (EMWD) Groundwater Development group, supporting a variety of programs including groundwater monitoring and compliance, pressure transducer data management, and equipment troubleshooting. Supported the development of Standard Operating Procedures for field groundwater sampling methods, as well as technical specifications for well drilling, construction, and testing. A key project highlight included the Perris II Reverse Osmosis Treatment Facility project, where she participated in the implementation of

the Monitoring and Reporting Plan, supported groundwater sampling activities, and prepared summary reports for monitoring events contributing to quarterly and annual operational reports.

RIX Nitrogen Loss Demonstration Project and Workplan, San Bernardino Municipal Water Department, San Bernardino, CA. Project Manager, Associate Hydrogeologist. At the request of the City of San Bernardino Municipal Water Department, developed and implemented a Sampling and Analysis Plan for the Rapid Infiltration and Extraction (RIX) facility. The project aimed to assess nitrogen transformation within and downgradient of the RIX facility's percolation basin, focusing on understanding nitrogen loss from wastewater treatment and ensuring compliance with regulatory standards. Responsibilities included project management, coordinating quarterly meetings, overseeing field operations for sampling events, and preparing detailed quarterly and annual reports. The project spanned 14 months and involved optimizing nitrogen loss management practices and evaluating the impact of the RIX facility discharge on groundwater quality through close collaboration with SBMWD and RIX staff.



EDUCATION

BS, Geology, California State Polytechnic University, Humboldt, CA

PROFESSIONAL REGISTRATIONS

Professional Geologist, CA No. 10212

Project Management Professional, No. 2819275

"I enjoy working with multidisciplinary teams to cultivate creative solutions and address our client's unique needs, as working together brings diverse skills, knowledge, and perspectives to achieve aligned goals."

Jessica Chomyn

Chino Basin Program Hydrogeologic Investigation, Inland Empire Utilities Agency, Chino Basin, CA. Associate Hydrogeologist. Assisting in the preparation of bid documents and technical specifications of three monitoring wells approximately 1,200 feet in depth. Acted as the lead field hydrogeologist during the construction and aquifer testing phase of the project. The hydrogeological investigation will support the Chino Basin Program in the siting of an injection well field designed to inject 15,000 AFY of advanced treated recycled water.

PCE Proposition 1 Round 3 Implementation, City of San Luis Obispo, CA. Project Manager, Associate Hydrogeologist. As Project Manager for the City of San Luis Obispo's PCE Plume Characterization Project, led efforts to characterize and remediate a tetrachloroethylene (PCE) contamination plume in the San Luis Valley Subarea of the San Luis Obispo Valley Groundwater Basin. The project is funded by the California State Water Resources Control Board under Proposition 1 Groundwater Grant Program. Her responsibilities included developing a Monitoring and Reporting Plan, Drinking Water Well and Monitoring Well Siting Technical Memos, preparing invoices and progress reports, and presenting quarterly status updates to the Technical Advisory Committee. She also prepared bid design specifications and packages for the installation of monitoring and extraction wells, including equipping treatment wells with granular activated carbon (GAC) treatment systems for PCE removal. Acted as a liaison between the City and the State Water Board, Regional Water Quality Control Board, and Division of Drinking Water to ensure grant compliance and successful achievement of project objectives.

Montecito Indirect Potable Reuse Groundwater Modeling Support, Montecito Water District, Montecito, CA. Project Manager, Associate Hydrogeologist. As project manager, led Montecito Water District's (MWD) Groundwater Augmentation Project, which aims to inject purified recycled water into the Carpinteria Groundwater Basin. Conducted a GIS-based injection well siting analysis in the unconfined aquifer area to aid MWD's decision-making and discussions with Carpinteria Valley Water District. Work included analyzing aquifer properties such as transmissivity and depth to water for the primary water-producing zones. Data from MWD's MODFLOW groundwater model, including hydraulic conductivity, aquifer thickness, and groundwater elevation, was used to map favorable transmissivity zones and identify potential injection well sites. The analysis provided key insights for future groundwater model scenarios and alternatives.

Preliminary Per- and Polyfluoroalkyl Substances (PFAS) Investigation, Southern California Logistics Airport, CA. Lead Hydrogeologist and Project Coordinator. A robust field sampling and analysis program which included the installation, development, and sampling of multiple groundwater monitoring wells to assess potential impact of PFAS to groundwater. Assisted in the preparation of a detailed work plan including well design specifications, proposed field methodology, and sampling and analysis plan. The investigation included the installation of eight groundwater monitoring wells, all of which were sampled via low flow methods following their completion/ development. Authored the subsequent site investigation report detailing findings, conclusions and recommendations procured from the fieldwork.

Supplementary PFAS Investigation, Oxnard Airport, CA. Project Manager and Lead Hydrogeologist. Further delineation of identified PFAS contamination in groundwater as directed by the Regional Water Board. Delineation works included the installation of temporary groundwater wells and the collection of grab groundwater samples. Low flow groundwater samples were also collected from an existing monitoring well network. Jessica authored the site investigation work plan, as well as the site investigation report detailing findings, conclusions and recommendations procured during the fieldwork. Was the lead point of contact for client engagement, controlled budget and schedule, and managed subcontractors and field staff for the duration of the project.

Remedial Pilot Study and Injection Test, 4635 East Valley Boulevard, CA. Project Manager and Field Hydrogeologist. Scope of work included the installation of injection wells and implementation of a pilot study for the purposes of evaluating groundwater characteristics and the potential for an expanded groundwater injection program as it pertained to the planned injection of groundwater remediation chemicals for in-situ chemical oxygenation. On-going groundwater monitoring of existing monitoring well network was conducted quarterly. Authored the Remedial Action Work Plan outlining the proposed scope, managed subcontractors and field staff, controlled budget and schedule and was the point of contact for both regulatory and client engagement.

Service Station ESA and Remediation Works, Ampol Bulk Fuel Depot, VIC., Australia Project Manager/ Field Hydrogeologist. Following a significant loss of fuel from the onsite underground petrol storage system, acted as project manager, field lead and technical report author for an extensive site investigation including the assessment of groundwater and the characterization and delineation of an LNAPL plume. Controlled the scope, budget and schedule, managed field staff and contractors and worked closely with the client to achieve project goals. Following the completion of the investigation, was responsible for the development of a Remedial Action Workplan which included a multi-phase extraction pilot trial. Prior to the implementation of the remedial phase of work, managed onsite operations to support Ampol in meeting conditions required for the relinquishment of its site lease. Site operations included the demolition of eight 80kL above ground storage tanks, a fill gantry, associated fuel lines and bowzers, five underground fuel storage tanks and an onsite building/ storage facility. Remediation efforts which included multi-phase extraction, excavation, and bio-piling of impacted soils, were conducted following the demolition and removal of the fuel related infrastructure.

Groundwater Remedial Action and Monitoring, Private Investor, Brunswick, VIC, Australia. Project Coordinator and Field Hydrogeologist. Coordinated and led field activities for the remediation of groundwater and ongoing monitoring requirements for a residential development with an identified chlorinated DNAPL plume in a fractured rock aquifer. Remediation work included the injection of substrate to enhance the existing anaerobic bioremediation process so as to reduce contaminate mass in the aquifer.

Eric Fregoso ^{GIT}

HYDROGEOLOGY SUPPORT

Eric is a Geologist-in-Training with 4 years of experience in the water resources and hydrogeological field. Eric's experience includes a variety of environmental and hydrogeological projects involving soil and groundwater investigations for sampling and remediation, Phase II Environmental Site Assessments, soil vapor extraction systems, in-situ treatment, PFAS investigations, and more. At WSC, Eric has provided support in well siting, design, and construction oversight, and has worked on projects involving analyzing, processing, managing, and interpreting groundwater data for reporting. Eric is a key contributor at the WSC Hydrogeology team and uses ArcGIS for geospatial analysis and for the creation of maps and figures. Eric is a current graduate student at California State University, Fullerton, and is completing his degree in Civil Engineering, specializing in Water Resources.

REPRESENTATIVE PROJECTS

Recomputation of Ambient Water Quality, Basin Monitoring Program Task Force, Santa Ana Watershed Project Authority, Santa Ana River Watershed, CA. Staff Hydrogeologist. Analyzed and interpreted ambient water quality data of a major watershed utilizing advanced GIS methods. Contoured water levels, and concentrations of ambient nitrate and TDS for over a dozen management zones to create raster grids to calculate the water quality objective. The Santa Ana Region Basin Plan requires ambient water quality recomputation as part of the basin monitoring. Ambient nitrate and TDS determinations in Santa Ana River Watershed groundwater management zones are compared to water quality objectives and used by the Regional Board to assess assimilative capacity.

Bunker Hill Basin Regional Recycled Water Salinity Management Feasibility Study, San Bernardino Valley Municipal Water District, San Bernardino, CA. Staff Hydrogeologist. East Valley Water District, San Bernardino Municipal Water Department, and the City of Redlands are advancing near-term recycled water projects and seeking discharge permits for beneficial use in the Bunker Hill B Groundwater Management Zone (GMZ). San Bernardino Valley partnered with these agencies to develop a regional recycled water system for recharging the Bunker Hill B GMZ.

Together, these four entities formed the Bunker Hill Basin Regional Recycled Water Coalition to coordinate permitting efforts and explore viable salinity management strategies for both immediate and long-term goals in the basin. This process explored several options, including a regional desalter facility and a sub-regional Salt and Nutrient Management Plan (SNMP). Desalter facilities at the TTS and SNRC were assessed based on cost, proximity to existing operations, water quality benefits, and site constraints. Additionally, the team evaluated the development of a sub-regional SNMP, which could provide Coalition members access to over 20% of the available assimilative capacity, potentially deferring the desalter timeline. Eric has used ArcGIS to analyze data and create maps highlighting groundwater data in the Bunker Hill Basin for this project.

RIX Nitrogen Loss Demonstration Project and Workplan, San Bernardino Municipal Water Department, Inland Empire, CA. Staff Hydrogeologist. Prepared hydrogeologic cross sections to develop a workplan for the installation and sampling of lysimeters to assess nitrogen transformation and loss as a result of the natural soil aquifer treatment within the Rapid Infiltration and Extraction (RIX) percolation basins. Eric executed the workplan by coordinating with RIX personnel to conduct quarterly groundwater sampling, analyzed data, and prepared reports.



EDUCATION

MS, Civil Engineering, California State University, Fullerton (In Progress)

BS, Geology, California State University, Fullerton

PROFESSIONAL REGISTRATIONS

Geologist in Training

Geographic Information Systems

40-Hour HAZWOPER

“My experience allows me to see what our clients find valuable and how we can deliver the best experience with competent, modern, and science-driven solutions.”

Eric Fregoso

Bedford-Coldwater Administrator, Elsinore Valley Municipal Water District, Lake Elsinore, CA. Staff Hydrogeologist. Provided support for groundwater sampling and collecting transducer groundwater data for various wells within the Temescal Valley area.

On-Call Hydrogeologic Services, Eastern Municipal Water District, Perris, CA. Staff Hydrogeologist. Provided on-call hydrogeologic and management services to the District's Groundwater Development group on a variety of projects and programs, such as groundwater resource studies, groundwater monitoring programs, well condition assessments, well permitting, Drinking Water Source Assessment and Protection (DWSAP) documentation, and well installations. Eric has provided support for these programs by:

- Processing and analyzing a database of groundwater data for the Perris II Reverse Osmosis Treatment Facility (ROTF) quarterly and annual operational reports.
- Using ArcGIS in the preparation of construction site layouts and plans for the construction of new wells.
- Assisting with the preparation of bid packages and specifications for nested and clustered monitoring wells.

Chino Basin Program Preliminary Design Report (CBP PDR), Inland Empire Utilities Agency, Chino Basin, CA. Staff Hydrogeologist.

Supporting preliminary design and siting of approximately 16 injection wells, and 20 extraction wells. The program includes alternative model runs to evaluate sustainability criteria in existing production wells, determination of hydraulic control, and migration of known groundwater contaminate plumes. Eric prepared siting packages of approximately 16 injection wells with the aid of ESRI ArcGIS, including detailed well site layouts, APN and property ownership information, and drilling constructability.

Metropolitan Water Resources Plan, City of Fresno Public Utilities, Fresno, CA. Staff Hydrogeologist. Compiled and analyzed historical groundwater elevation data to prepare maps with GIS defining aquifer characteristics of the greater Fresno region. The analyzed data are used to provide information for the development and implementation of the Metropolitan Water Resources Management Plan that will provide a road map for the City's water supplies, water infrastructure, and sustainable growth.

Drought Contingency Plan, New Production Well Siting, East Valley Water District, Highland, CA. Staff Hydrogeologist. Identified potential sites to construct new production wells per EVWD's Drought Contingency Plan in accordance with California Title 22 standards and regulatory setbacks. Compiled and analyzed local geology, historical groundwater and well data of the site vicinity to create site plans and layouts with ArcGIS. Prepared a technical memorandum discussing well siting results.

PCE Plume Delineation and Groundwater Development Program & Fieldwork, City of San Luis Obispo, San Luis Obispo, CA. Staff Geologist. Supported the development of the Proposition 1 Groundwater Grant Program conceptual planning proposal to characterize the PCE plume impacting many of the City of San Luis Obispo's production wells. As part of the Groundwater Development Program, Eric created cross sections and provided support in the preparation of standard monitoring well specifications using mud rotary method.

Well 129 Drilling Design and Construction Management, East Valley Water District, Highland, CA. Staff Hydrogeologist. Using the Site Feasibility Study and Project Plan prepared by WSC, Eric supported the preparation of the contract documents and technical specifications that the District advertised for the selection of a drilling contractor to install Well 129. Eric used ArcGIS to create site maps and plans in accordance with regulatory and construction requirements. Scope he was responsible for includes providing construction management and field oversight services during the drilling, construction, development, and testing of the new well.

Sunflower Well #1 Replacement, Golden State Water Company, Glendora, CA. Staff Hydrogeologist. Assisted in preparation of well design and specifications of a replacement production well, including data analysis, interpretations, and creation of a well construction report.

Indian Valley Development, Water Quality Analysis, San Miguel Community Services District, Paso Robles, CA. Staff Hydrogeologist. Compiled and analyzed groundwater and well data to determine whether existing wells were feasible for water supply production of a new residential development.

PFAS Investigation, Southern California Logistics Airport, Victorville, CA. Staff Geologist. Conducted field work involving contractor oversight of construction of multiple groundwater monitoring wells, drilled with hollow stem auger, groundwater sampling, soil sampling and logging. Assisted on reporting of results, data analysis and interpretations.

PCE Remediation, Former NuWay Dry Cleaners, City of Victorville, CA. Staff Geologist. Coordinated and conducted field work involving groundwater and soil vapor extraction system monitoring, indoor air sampling, and in-situ chemical oxidation testing. Completed various reporting and permitting activities, including soliciting bids from prospective contractors and prepare a proposal, and Remedial Action Plan to the City of Victorville and respective regulating agencies.

Irvin Matamoros

HYDROGEOLOGY SUPPORT

Irvin Matamoros is a proficient Staff Hydrogeologist with hands-on expertise in a range of hydrogeologic field activities. His experience includes contributing to a local water agency's regional groundwater monitoring program, where he honed skills in groundwater sampling using submersible and peristaltic pumps, installing and troubleshooting transducer and telemetry systems, and conducting QA/QC on water quality data. He is also experienced in managing aquifer test data to support groundwater investigations. His Master's thesis used UAV-based thermal infrared imagery to detect groundwater flux and seepage in surface water bodies and integrated these insights with traditional field techniques.

REPRESENTATIVE PROJECTS WITH WSC

Arlington Groundwater Sustainability Agency Administrative Services, Western Municipal Water District, Riverside, CA. Staff Hydrogeologist.

Assisted in the development of the Groundwater Sustainability Plan (GSP) for the very low priority Arlington Basin for the GSA led by Western Municipal Water District (WMWD). The Arlington Basin's very low prioritization does not require the development of a GSP, but WMWD believes in good basin management and made the decision to continue the process of meeting with stakeholders and creating a plan for the Basin. The GSP describes and assesses the groundwater condition of the Arlington Basin, develops quantifiable management objectives that account for the interests of the Basin's beneficial groundwater uses and users, and identifies a group of projects and management actions that will allow the Basin to achieve and maintain sustainability in the future.

Bedford-Coldwater Groundwater Sustainability Agency Administrative Services, Elsinore Valley Municipal Water District, Lake Elsinore, CA. Staff Hydrogeologist.

Assisted in the development of the Groundwater Sustainability Plan (GSP) for the very low priority Arlington Basin for the GSA led by Western Municipal Water District (WMWD). The Arlington Basin's very low prioritization does not require the development of a GSP, but WMWD believes in good basin management and made the decision to continue the process of meeting with stakeholders and creating a plan

for the Basin. The GSP describes and assesses the groundwater condition of the Arlington Basin, develops quantifiable management objectives that account for the interests of the Basin's beneficial groundwater uses and users, and identifies a group of projects and management actions that will allow the Basin to achieve and maintain sustainability in the future.

2024 Groundwater Atlas, City of Riverside Public Utilities (RPU), Riverside, CA. Staff Hydrogeologist.

Supported development of an updated Groundwater Atlas for RPU. The atlas is designed to report the water quality and quantity conditions of the groundwater basins that provide potable and non-potable water supplies to Riverside Public Utilities' customers. The Atlas will support RPU's groundwater management strategies and activities related to managing water supplies in a sustainable and resilient manner. The Groundwater Atlas illustrates the current condition of the four groundwater basins RPU produces from (Bunker-Hill, Rialto-Colton, Riverside North, and Riverside South Basins) with respect to hydrology, production, recharge, groundwater levels, and groundwater quality. The purpose of this Groundwater Atlas is to 1) Characterize groundwater basin conditions and how they change over time 2) Provide readable and reliable data to customers, elected officials, executive management, and staff, and 3) Provide information and analysis to RPU staff for use in managing the City's water supply.



EDUCATION

MS, Geology, California State University, Fullerton (In Progress)

BS, Geology, University of California, Los Angeles

PROFESSIONAL REGISTRATIONS

Remote Pilot, Part 107 – Federal Aviation Administration

40-Hour HAZWOPER

Irvin Matamoros continued...

Chino Basin Program – Preliminary Design Report, Inland Empire Utilities Agency, Chino Basin, CA. Staff Hydrogeologist. Supported preliminary design of the PUT and TAKE well facilities first identified in the technical feasibility study and further refined in a detailed well siting study. The PDR will include the preliminary design for approximately 16 injection wells about 1,000 ft-bgs located in the northeastern portion of the Chino Basin in the City of Rancho Cucamonga. The PDR contains basis for design, construction logistics, operational strategy, and planning level cost estimates.

REPRESENTATIVE PROJECTS WITH WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA

Regional Groundwater Monitoring Program, Water Replenishment District of Southern California, Los Angeles County, CA. Hydrogeology Intern. He assisted full-time Hydrogeology Department staff in quarterly and annual groundwater monitoring and sampling events. He also collected water level data and groundwater samples across a network of 354 monitoring wells at 63 sites in the District's service area composed of the Westcoast and Central Basin. He performed data entry and analysis to monitor regional groundwater elevations and quality control of groundwater quality results/data for graphical visuals and maps used in the District's reporting to state and federal agencies. He also assisted in tracer study site setup and down-hole pump installations. He updated and created well-data visuals and profiles using Strater. He performed well-accessory installation and maintenance for district-wide key wells. Prepared weekly groundwater hydrograph updates for Long Beach Water.

Dominguez Gap/Alamitos Barrier Project, Replenishment District of Southern California, Los Angeles County, CA. Hydrogeology Intern. He conducted data entry and analysis to track groundwater elevations and ensure the accuracy of groundwater quality data, contributing to the effective management of the Dominguez Gap and Alamitos Barrier Project. These projects are critical components of the Water Replenishment District's efforts to prevent seawater intrusion and maintain groundwater levels in the Los Angeles Basin by injection of blended recycled and advanced treated water. His work involved creating detailed graphical representations and maps used in the District's compliance reporting to state and federal agencies. Additionally, he updated and developed well-data visuals and profiles using Strater, and performed installation and maintenance of well accessories for critical monitoring wells, ensuring the integrity of the groundwater management systems.

Contamination Prevention Program, Replenishment District of Southern California, Los Angeles County, CA. Hydrogeology Intern. Compiled information of environmental compliance reports from cleanup sites as part of WRD's Contamination Prevention Program to assist preparations for presentations/reports at Central and West Coast Basin Groundwater Contamination Forums with stakeholders that include the USEPA, California Department of Toxic Substances Control, and Los Angeles Regional Water Quality Control Board. Performed key maintenance rounds of data logging equipment and data collection at monitoring/extraction wells used to monitor the remediation of a perchlorate contamination plume through a new pump-and-treat facility.



EDUCATION

BS, Earth and Environmental Science (minor in Education), University of California, Irvine, 2010

PROFESSIONAL REGISTRATIONS

Professional Geologist, California, No. 9961

PROFESSIONAL TRAINING

OSHA 40-Hour HAZWOPER Training

Ms. Erbele is an experienced environmental scientist and water resources specialist with extensive experience in groundwater quality assessment, environmental data analysis, regulatory compliance, and watershed management across California. Demonstrated expertise in ambient water quality recomputation, nitrate and total dissolved solids (TDS) monitoring, and development of technical memorandums in compliance with Regional Water Quality Control Board mandates. Proficient in managing large environmental datasets, developing GIS-based groundwater models, conducting statistical trend analyses, and technical documentation.

Recomputation of Ambient Water Quality, Basin Monitoring Program Task Force, Santa Ana Watershed Project Authority, Santa Ana River Watershed, California

The Santa Ana River Basin Regional Water Quality Control Board requires the implementation of a watershed-wide total dissolved solids (TDS) and nitrogen groundwater monitoring program to determine ambient water quality in groundwater, assess compliance with groundwater quality objectives, and determine if assimilative capacity exists in groundwater management zones. Ms. Erbele was an integral team member for the 1996 to 2015 and 1999 to 2018 technical memorandums. Ms. Erbele collected and formatted data from the 22 Basin Monitoring Program Task Force agencies, managed the database team, helped develop a new statistical tool to more accurately remove outliers, and applied GIS analysis to contour and interpret the data to calculate the current ambient water quality.

Eastern Municipal Water District Waste Discharge Requirements from Agricultural Operations for the San Jacinto Coalition, Perris, California

Ms. Erbele has managed and implemented annual reports Waste Discharge Requirements for the San Jacinto Coalition since 2018. The Board Order requires groundwater monitoring to ensure that current agricultural practices are not contributing to the degradation of ambient water quality. Ms. Erbele worked with the Regional Board, Eastern Municipal Water District, and Coalition members to develop the Water Quality Monitoring Program Plan to monitor ambient water quality of nitrate and TDS in the groundwater to comply with the Board Order.

Chino Basin Project, Aquifer Replenishment, Rancho Cucamonga, California

Ms. Erbele provided technical support for borehole investigation and monitoring well installation in preparation for a regional aquifer replenishment project which plans to directly inject advanced treated water into the local aquifers. Ms. Erbele developed a static subsurface geologic model using Leapfrog Works 3D ground modeling software and interpreted and correlated geologic units from newly installed monitoring wells using Petra® geophysical well correlation software.

Groundwater Recharge Basin Infiltration Rate Analysis, Fontana, California

Ms. Erbele estimated infiltration rates into a 13-acre groundwater recharge basin prior to, during, and following muddy water inflows from stormwater runoff of a land development construction site and prepared summary presentations documenting the muddy water inflows, explaining the reduction of infiltration rates due to the muddy water inflows, and estimating the financial damages associated with the reduced infiltration rates.

Evaluation of Long-Term Trends and Variations in the Average Total Dissolved Solids Concentration in Wastewater and Recycled Water, Southern California Salinity Coalition, Southern California

During the 2011 to 2015 California drought, various wastewater treatment facilities in Southern California experienced difficulty meeting discharge permit limits. Ms. Erbele examined the impacts that water conservation, self-regenerating water softeners, drought, and long-term climate have on total dissolved solids (TDS) in wastewater across a region extending from Los Angeles to San Diego County. Analyzed data monthly flow and concentration data from over 20 treatment facilities, developing statistical models to represent trends, and determining the impact conservation has on wastewater treatment plants.

Central Valley-Salinity Alternatives for Long-Term Sustainability, Nitrate Surveillance and Monitoring Program, Central Valley, California

Ms. Erbele participated in a program under the guidance of Central Valley-Salinity Alternatives for Long-Term Sustainability (CV-SALTS), Central Valley Regional Water Quality Control Board, the State Water Resources Control Board, the Central Valley Salinity Coalition, and other stakeholders, to develop a comprehensive regulatory and programmatic approach to the management of salt and nitrate in the Central Valley. Assisted in the development of a cost-effective monitoring program that will allow for statistically-defensible ambient water quality determinations and trend analyses for management zone in the Central Valley. Calculated the volume weighted average nitrate and TDS for each groundwater basin. The project team used a Monte Carlo approach to determine a subset of wells that could represent a monitoring network that when calculated was within 15 percent of the determined basin volume weighted average.

CV-SALTS Nitrate Implementation Measures Study, Central Valley, California

Ranked salt and nitrate disposal mitigation measures in the Central Valley groundwater basins, and the development of potential long-term salt treatment and management disposal alternatives, such as regional treatment plants and brine lines, through research and GIS analysis. The objective of this study was to identify the range of viable Central Valley alternatives for salt disposal to provide input for consideration during development of the Salt and Nitrate Management Plan.

Salinity Economic Impact Model Update, U.S. Bureau of Reclamation, Lower Colorado River Basin

Managed a team of subconsultants and stake holders to validate and update the Salinity Economic Impact Model (SEIM) for then-current economic conditions, expand the model to identify new input data, and create new impact functions not currently in the model. The SEIM was developed by the U.S. Bureau of Reclamation, estimates the quantified damages due to the salinity of the Colorado River. The model covers seven economic sectors; agriculture, residential, commercial, water utilities, industrial, groundwater, recycling/publicly owned treatment works in five regions: Central Arizona, Mainstem Arizona, Mainstem Nevada, Mainstem California, and the Metropolitan Water District service area.



Thomas (Tom) McCarthy **SANTIAGO** WATER STRATEGIES

Senior Technical Review QA/QC

Mr. McCarthy is a Principal at Santiago Water Strategies. He has over 25 years of professional experience working with private consulting firms and public agencies. Most recently he served as the Kern County Water Agency General Manager. His expertise includes water resources planning, numerical modeling, and data management. The bulk of Mr. McCarthy's experience has been concentrated in leading water management agencies and consulting on water resources management and planning, specifically with the optimization of operations and storage programs considering operational constraints such as regulatory constraints, water quality conditions, ecologic conditions, and or legal constraints.

EDUCATION

Public Sector Leadership Certificate, Cornell University

BS/BSc, Geological Sciences, University of Oregon

MS/MSc, Civil and Environmental Engineering, University of California, Los Angeles

LICENSES/REGISTRATIONS

Professional Engineer (Civil) – CA

Professional Geologist – CA

Relevant Project Experience

General Manager, Kern County Water Agency, Bakersfield, CA

Mr. McCarthy was responsible for the day to day operations of the Kern County Water Agency (KCWA). He was responsible for the management, development and implementation of Agency strategies, policies, and programs. In addition, he was responsible for the administering the annual budget of nearly \$500M and all other financial functions. The primary focus of the KCWA is to coordinate management of the water supplies of the San Joaquin Valley portion of Kern County, with particular emphasis on State Water Project supplies, in order to enhance the local economy. Mr. McCarthy was also responsible for the operation of three groundwater banks. He served on the Kern Water Bank Authority Board of Directors, State Water Project Board of Directors, and several Groundwater Sustainability Agency boards.

Staff participant in the Kern Subbasin Groundwater Management Plan Preparation, Bakersfield, CA

Mr. McCarthy represented multiple GSAs in the development of the Amended Kern County Subbasin Groundwater Sustainability Plan (GSP) that was prepared by 20 GSAs. The GSP represents a significant advancement in groundwater sustainability planning for the Kern Subbasin, offering a cohesive and more protective approach to sustainable management. The team revised methodologies and updated methodologies, resulting in consistent and robust definitions for Sustainable Management Criteria and Undesirable Results. These revised definitions address deficiencies previously identified by the Department of Water Resources and incorporate feedback from the State Water Resources Control Board, establishing higher minimum thresholds and ensuring better protection of groundwater users. The GSP also enhances the monitoring network by expanding coverage and improving data quality, supporting more accurate assessments and adaptive management.

Program Representative, DWR Municipal Water Quality Investigation (MWQI) Program, Sacramento, CA

DWR's municipal water quality monitoring program studies the effect the Delta has on quality, treatability, and reliability of source waters for municipal use. Discrete water quality samples are collected monthly and biweekly throughout the Delta. The Real

Time Data and Forecasting-Comprehensive Program (RTDF-CP) collects continuous data at 5 key locations in the Delta, State Water Project and Central Valley Project, coalesces the data into graphs, and provides model-based water quality forecasts. Mr. McCarthy has represented the interests of Kern County and Mojave Water Agency.

General Manager and Chief Engineer, Mojave Water Agency, Apple Valley, CA

Mr. McCarthy was responsible for operations of the Mojave Water Agency, providing oversight and support to all departments. He ensured that policy decisions set by the Board of Directors was carried out by the staff, and that strategic goals of the Agency were implemented. Additionally, Mr. McCarthy led the effort to bring groundwater modeling in-house, as well as initiated the Long-Term Water Management/Water Banking Program.

Project Manager, Coachella Valley Salt and Nutrient Management Plan, Coachella Valley Water District, Indio Water Authority, Desert Water Agency, Palm Desert, CA

Mr. McCarthy planned, directed, and coordinated the planning project evaluating first long term salt balance within the Coachella Valley. He was responsible for delivery of a plan consistent with water supply strategies and the updated Recycled Water Policy. The team established seven management zones for regulatory oversight and developed methods to estimate ambient water quality and assimilative capacity for each management zone. Mr. McCarthy's role was to oversee technical work and interface with agencies, including working with the Regional Water Quality Control Board, and propose future water quality policy. The plan sets the bar for all wastewater discharge permitting and water supply planning in the Coachella Valley.

Project Manager/Task Manager/Location Manager, Owens Valley (Basin) Natural Resources Project, Los Angeles Department of Water and Power, Owens Valley, CA

Mr. McCarthy served as the local project and groundwater task order lead. He was part of a multi-national team that worked to develop alternative long-term management strategies that balance the need for a safe and reliable drinking water source with environmental protection in the Owens Valley. This 9-year project included technical work in a variety of subject areas: hydrology, geohydrology, groundwater, numerical modeling, geochemistry, plant ecology, botany, soil science, geomorphology, vegetation monitoring, GIS, public outreach, environmental studies, regulatory compliance, annual reporting, Mono Basin studies, and update of the local surface and groundwater models.

Project Manager, Development of Wasteload Allocation Model for the Santa Ana River, TIN/TDS Task Force, Santa Ana Watershed Project Authority, Riverside, CA

Mr. McCarthy led the Wasteload Allocation Model development and evaluation project. This project involved the development and implementation of surface water modeling to evaluate the current wasteload allocation for total inorganic nitrogen (TIN) and total dissolved solids (TDS) for municipal recycled water plants that discharge to the Santa Ana River and its tributaries. This project required working closely with the Santa Ana TIN/TDS Task Force and Santa Ana Regional Water Quality Control Board staff. In this investigation, the Basin Plan objectives for TIN and TDS were reset based on the best available data and scientific methods. Mr. McCarthy managed data collection, model scenario development, numerical modeling, and model post processing. Mr. McCarthy also worked directly with Santa Ana River dischargers to determine their estimated 2010 and 2020 discharge and recycled water re-use.

Project Manager, Chino Basin Peace II Agreement Environmental Impact CEQA Analysis, Chino Basin Watermaster, Rancho Cucamonga, CA

The Peace II agreement is an agreement among Chino Basin Watermaster parties that expands the current Chino Basin desalting program and institutes Basin re-operation. The expansion of the desalter program will increase groundwater pumping for the desalters to about 40,000 acre-ft/yr. Groundwater production removes high groundwater of poor water quality and maintains hydraulic control of the system. The strategic reduction in storage will increase the recharge from the Santa Ana River and thereby increase the yield of the Basin. The project was evaluated for the ability to maintain hydraulic control in the Basin, losses from storage, changes in direction and speed of groundwater contaminant plumes, impact on water levels, increased electrical cost, impact to riparian habitat, and increased potential for subsidence. Mr. McCarthy was responsible for overseeing all technical work, project controls, and interfacing with project stakeholders.

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COMMISSION MEMORANDUM NO. 2025.93

DATE: December 16, 2025

TO: SAWPA Commission

SUBJECT: SAWPA 50th Anniversary Celebration – Budget and Funding Strategy

PREPARED BY: Karen Williams, General Manager

RECOMMENDATION

That the Commission review and discuss the update on the detailed budget and funding strategy for SAWPA's 50th Anniversary celebration and receive and file.

BACKGROUND

At its October 7, 2025, meeting, the Commission authorized staff to move forward with planning and implementation of activities recognizing SAWPA's 50th Anniversary. The Commission supported the following commemorative elements:

- A full-color commemorative book and e-book;
- A professionally produced 10 to 15 minute anniversary video;
- A celebratory dinner for Commissioners, member agency leaders, and regional partners;
- Development of a 50th Anniversary logo and related outreach materials; and
- Exploration of additional celebratory elements such as challenge coins, plaques, and community engagement components.

Since October, staff have refined project scopes, evaluated production and event needs, and developed a draft funding strategy for Commission review.

DISCUSSION

At that meeting, staff planned to bring a detailed budget and funding strategy to the Commission for review. The following elements are included in the budget below:

1. Commemorative Book & E-Book

The coffee-table style book will chronicle SAWPA's history from the 1969 Santa Ana River Judgment through five decades of watershed achievements.

Budget Category: Commemorative Book

Includes:

- Writing and editorial services (done in-house to save costs)
- Graphic design and layout
- Printing of physical copies
- Conversion to downloadable e-book format

2. 50th Anniversary Video

The professionally produced video (10–15 minutes) will include archival imagery, historical timelines, interviews with Commissioners and regional partners, and future-looking themes.

Budget Category: Video

Includes:

- Videography and production crew
- Script development
- Editing, voiceover, and licensing
- On-site interviews and location shooting

This video will premiere at the Anniversary Dinner and serve as a lasting public outreach asset.

3. 50th Anniversary Commemorative Dinner

The celebratory event is scheduled for Thursday, January 22, 2026, at Crestmore Manor, pending final scheduling confirmation. Staff anticipates 120 attendees representing SAWPA Commissioners, member agencies, regional partners, past leaders, regulatory agencies, and invited guests. We are requesting suggested guests by 12/17/25 so the invitation can be sent out.

Budget Category: 50th Anniversary Dinner

Includes:

- Venue rental
- Catering
- Audio/visual and event production support
- Décor, signage, and event materials
- Printing/distribution of the commemorative book
- Premiere of the 50th Anniversary video

This event will be the primary public celebration of SAWPA's 50-year legacy.

FUNDING STRATEGY

Given the significance of this milestone and the desire to minimize cost impacts to SAWPA member agencies, staff recommend a multi-pronged funding approach:

1. Sponsorship Outreach

Staff will begin distributing sponsorship letters to regional partners, watershed collaborators, nonprofit organizations, consulting firms, and others who have benefited from SAWPA's programs.

Sponsorship tiers will be developed to support:

- Video production
- Book printing
- Anniversary Dinner and event materials

Sponsor recognition may include:

- Name or logo in the event program
- Recognition in the anniversary digital materials
- Recognition on event signage
- Event signage or program acknowledgment
- Reserved table and name and logo on table placard
- Certificate of appreciation

2. Use of Existing Outreach & Communications Budget

Where appropriate, portions of existing outreach line items may be used to support design, printing, and media development.

3. Cost-Sharing Through Partner Contributions

Where feasible, staff will explore opportunities for partner agencies to contribute content, photography, historical materials, or in-kind assistance that may reduce overall project costs.

BUDGET

Category	Amount
Commemorative Book & E-Book	
SG Creative LLC – Book Design	\$9,840
Printing	2,500
Total	\$12,340
50th Anniversary Video	
CV Strategies – videography	\$30,000
Total	\$30,000
50th Anniversary Commemorative Dinner	
Venue – Crestmore Manor	\$3,500
Food	5,000
Videographer	2,000
Photographer	1,500
Stage design	2,000
Décor	2,000
AV/DJ	3,000
Printing	2,000
Swag items	5,000
Miscellaneous	2,000
Total	\$29,000
Grand Total	\$71,340
Alcohol	\$2,000
Misc	3,000
Total	\$5,000

Items for the dinner are estimates. Many of these costs may not be necessary and will probably be much lower. We also anticipate receiving more donations from sponsors.

RESOURCE IMPACTS

For costs that are not covered by sponsors, there are funds available in the FYE 2026 budget.

Attachments:

1. Presentation

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SAWPA 50th Anniversary Celebration Budget & Funding Strategy

Karen Williams, General Manager

December 16, 2025

Staff Recommendation

Staff recommends that the Commission review and discuss the update on the detailed budget and funding strategy for the 50th Anniversary celebration and receive and file.

Purpose of Today's Item

- **Present draft budget framework for key celebration components**
- **Review funding strategy and sponsorship approach**
- **Ensure all materials remain on schedule for January 22, 2026**
- **Guest list**



Key Components

- **Commemorative Book & E-Book (history, timeline, photos)**
- **Anniversary Video (10-15 min, archival & interviews)**
- **Dinner Event (January 22, 2026 - Crestmore Manor)**
- **SAWPA 50th Anniversary Logo**
- **Outreach, challenge coin**



Project Components Overview

- **Commemorative Book & E-Book**
 - **Coffee-table style history book**
 - **Archival photos, narratives, watershed story**
- **50th Anniversary Video**
 - **10 – 15 minutes, interviews + archival footage**
- **Anniversary Dinner**
 - **Commissioners, member agencies, watershed partners**
 - **Premier of video + book distribution**

Commemorative Book

Scope Includes:

- **Writing, research, and editorial work done in-house to save on costs.**
- **Graphic design and layout**
- **Printing of physical copies**
- **E-book conversion**

Benefits:

- **High-quality legacy publication**
- **Lasting educational and outreach tool**

Anniversary Video

Scope Includes:

- **Script development**
- **Filming/interviews (Commissioners, partners, staff, former staff)**
- **Editing, graphics, voiceover**

Purpose:

- **Showcase SAWPA's 50-year legacy**
- **Inspire future watershed collaboration**
- **Debuts at January 22, 2026 dinner**

50th Anniversary Dinner

Event Summary:

- **Date: January 22, 2026**
- **Location: Crestmore Manor**
- **Attendees: Commissioners, GMs, partners, past leaders, staff**

Elements Included:

- **Venue & catering**
- **Event production & A/V**
- **Décor, programs, signage**
- **Video premiere & book release**

Preliminary Budget

Commemorative Book & E-Book	Amount
SG Creative LLC – Book Design	\$9,840
Printing	2,500
Total	\$12,340

Preliminary Budget

50th Anniversary Video	Amount
CV Strategies	\$30,000
Total	\$30,000

Preliminary Budget

50th Anniversary Dinner Event	Amount
Venue – Crestmore Manor	\$3,500
Food	5,000
Videographer	2,000
Photographer	1,500
Stage design	2,000
Décor	2,000
AV/DJ	3,000
Printing/Signage	2,000
Swag items/gift bags	5,000
Miscellaneous	2,000
Total	\$29,000

Preliminary Budget

Category	Amount
Commemorative Book & E-Book	\$12,340
50 th Anniversary Video	30,000
50 th Anniversary Dinner Event	29,000
Total	\$71,340

Sponsorships

Category	Amount
Platinum • Logo placement in the SAWPA 50th Anniversary event program • Recognition on SAWPA's 50th Anniversary digital materials • Recognition on all SAWPA 50th Anniversary event signage • Reserved table and name and logo placement on table placard • Certificate of appreciation presented at 50th Anniversary event	\$3,000
Gold • Logo placement in the SAWPA 50th Anniversary event program • Recognition on SAWPA's 50th Anniversary digital materials • Recognition on all SAWPA 50th Anniversary event signage • Name and logo placement on table placard	\$2,000
Silver • Logo placement in the SAWPA 50th Anniversary event program • Recognition on SAWPA's 50th Anniversary digital materials • Recognition on all SAWPA 50th Anniversary event signage	\$1,000
Bronze • Logo placement in the SAWPA 50th Anniversary event program • Recognition on SAWPA's 50th Anniversary digital materials	\$500
Open Contribution • SAWPA welcomes custom sponsorship amounts. • At minimum, logo placement in the SAWPA 50th Anniversary event program.	

We will be sending out sponsor letters and hope to receive more in donations

Funding Strategy Overview

- **Sponsorship Campaign**
- **Use of Outreach/Communications Funds**
- **In-kind partner contributions where available**

Goal: Minimize financial impact while producing high-quality commemorative materials.

Sponsorship Approach

Sponsorship Letters:

- **Target: consulting firms, watershed partners, collaborators**
- **Scheduled for release immediately**

Sponsor Recognition May Include:

- **Logo/name in event program**
- **Acknowledgment on screen during event**
- **Event signage**
- **Reserved table**

Proposed Schedule

Milestone	Target Date
Book and Video Production	November – January
Venue and Food Vendor Selection	November - December
Event Preparation	December – January
Anniversary Dinner	January 22, 2026

Next Steps

- **Issue sponsorship letters**
- **Finalize production work (book & video)**
- **Develop event program**
- **Create guest list**
 - **Please provide any requested guests by EOD 12/17/2025. We are looking at a 120 person guest list.**
- **Send invitations**
- **Prepare/finalize January 22 celebration materials**

Staff Recommendation

Staff recommends that the Commission review and discuss the update on the detailed budget and funding strategy for the 50th Anniversary celebration and receive and file.

Questions/Feedback

Karen Williams
General Manager

kwilliams@sawpa.gov

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Santa Ana Watershed Project Authority
Cash Transaction Report
Month of October 2025

Below is a summary of cash transactions completed during the month in the Authority's checking account with US Bank. Attached are summaries by major revenue and expense classifications.

Cash Receipts and Deposits to Account	\$ 1,302,975.29
Net Investment Transfers	(2,767,329.62)
Cash Disbursements	<u>(2,154,636.20)</u>
Net Change for Month	\$ (3,618,990.53)
Balance at Beginning of Month	<u>5,356,362.42</u>
Balance at End of Month per General Ledger	<u>\$ 1,737,371.89</u>
Collected Balance per Bank Statement	<u><u>\$ 1,752,167.25</u></u>

ACCOUNTS PAYABLE RECONCILIATION

Accounts Payable Balance @ 09/30/2025	\$ 9,405,096.24
Invoices Received for October 2025	1,346,411.60
Invoices Paid by check/wire during October 2025 (see attached register)	<u>(1,724,129.51)</u>
Accounts Payable Balance @ 10/31/2025	<u><u>\$ 9,027,378.33</u></u>

CASH RECEIPTS

Brine Line Operating Revenues	\$ 1,142,121.41
Other Agency Contributions	147,998.00
LESJWA Admin Reimbursement	11,859.91
Other	<u>995.97</u>
Total Receipts and Deposits	\$ 1,302,975.29

INVESTMENT TRANSFERS

Transfer of Funds:	
From (to) US Bank Money Market	\$ (3,000,000.00)
From (to) LAIF	-
From (to) Legal Defense Fund	-
From (to) LESJWA	-
From (to) Investments	<u>232,670.38</u>
Total Investment Transfers	\$ (2,767,329.62)

CASH DISBURSEMENTS

By Check or ACH:	
Payroll	\$ -
Operations	<u>1,724,129.51</u>
Total Checks Drawn	\$ 1,724,129.51
By Cash Transfer:	
Payroll	\$ 291,620.07
Payroll Taxes	<u>138,886.62</u>
Total Cash Transfers	\$ 430,506.69
Total Cash Disbursements	<u><u>\$ 2,154,636.20</u></u>

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Santa Ana Watershed Project Authority
Check Detail
Oct-25

Category	Check #	Check Date	Type	Vendor	Check Amount
Asset	EFT07054	10/2/2025	CHK	CHA Consulting, Inc.	\$ 16,788.00
Asset	EFT07102	10/23/2025	CHK	Gillis & Panichapan Architects	\$ 3,050.00
Asset Total					\$ 19,838.00
Audit Fees	EFT07067	10/9/2025	CHK	C.J. Brown & Company CPAs	\$ 80.00
Audit Fees Total					\$ 80.00
Auto Expense	6124	10/9/2025	CHK	County of Riverside	\$ 1,142.83
Auto Expense Total					\$ 1,142.83
Benefits	6126	10/23/2025	CHK	Mutual Of Omaha	\$ 3,473.93
Benefits	EFT07091	10/23/2025	CHK	ACWA JPIA	\$ 55,378.00
Benefits	EFT07092	10/23/2025	CHK	Aflac	\$ 482.71
Benefits	EFT07109	10/30/2025	CHK	HealthEquity, Inc.	\$ 152.00
Benefits	P049209	10/2/2025	WDL	CalPERS Supplemental Income	\$ 5,301.69
Benefits	P049210	10/2/2025	WDL	Public Employees' Retirement	\$ 27,782.66
Benefits	P049211	10/2/2025	WDL	MissionSquare	\$ 4,547.45
Benefits	P049278	10/16/2025	WDL	CalPERS Supplemental Income	\$ 5,301.69
Benefits	P049279	10/16/2025	WDL	Public Employees' Retirement	\$ 27,782.66
Benefits	P049280	10/16/2025	WDL	MissionSquare	\$ 4,547.45
Benefits	P049339	10/30/2025	WDL	CalPERS Supplemental Income	\$ 5,301.72
Benefits	P049340	10/30/2025	WDL	Public Employees' Retirement	\$ 26,732.03
Benefits	P049341	10/30/2025	WDL	MissionSquare	\$ 5,137.45
Benefits	WDL000007494	10/7/2025	WDL	WageWorks	\$ 52.60
Benefits	WDL000007495	10/7/2025	WDL	WageWorks	\$ 290.91
Benefits	WDL000007496	10/8/2025	WDL	WageWorks	\$ 10.00
Benefits	WDL000007501	10/9/2025	WDL	WageWorks	\$ 249.42
Benefits	WDL000007509	10/15/2025	WDL	WageWorks	\$ 5.00
Benefits	WDL000007510	10/15/2025	WDL	WageWorks	\$ 1,176.90
Benefits	WDL000007511	10/16/2025	WDL	WageWorks	\$ 195.60
Benefits	WDL000007512	10/17/2025	WDL	WageWorks	\$ 4,273.49
Benefits	WDL000007542	10/21/2025	WDL	WageWorks	\$ 1,260.00
Benefits	WDL000007551	10/23/2025	WDL	WageWorks	\$ 572.53
Benefits	WDL000007552	10/24/2025	WDL	WageWorks	\$ 600.00
Benefits	WDL000007564	10/28/2025	WDL	WageWorks	\$ 605.00
Benefits	WDL000007565	10/28/2025	WDL	WageWorks	\$ 62.08
Benefits Total					\$ 181,274.97
Building Lease	6127	10/23/2025	CHK	Wilson Property Services, Inc	\$ 2,425.06
Building Lease	6128	10/23/2025	CHK	Wilson Property Services, Inc	\$ 2,737.92
Building Lease	6129	10/23/2025	CHK	Wilson Property Services, Inc	\$ 2,664.00
Building Lease Total					\$ 7,826.98
Cloud Storage	EFT07082	10/16/2025	CHK	VC3, Inc.	\$ 3,018.75
Cloud Storage Total					\$ 3,018.75
Consulting	EFT07055	10/2/2025	CHK	Trussell Technologies, Inc.	\$ 5,702.50
Consulting	EFT07056	10/2/2025	CHK	Woodard & Curran Inc.	\$ 8,411.25
Consulting	EFT07057	10/2/2025	CHK	JPW Communications	\$ 4,096.50
Consulting	EFT07065	10/9/2025	CHK	CDM Smith, Inc.	\$ 10,852.71
Consulting	EFT07071	10/9/2025	CHK	Water Systems Consulting	\$ 7,420.00
Consulting	EFT07072	10/9/2025	CHK	Kahn Soares & Conway	\$ 4,988.00
Consulting	EFT07082	10/16/2025	CHK	VC3, Inc.	\$ 3,400.68
Consulting	EFT07086	10/16/2025	CHK	GEI Consultants	\$ 94,076.80
Consulting	EFT07089	10/16/2025	CHK	Kahn Soares & Conway	\$ 3,483.00
Consulting	EFT07094	10/23/2025	CHK	West Coast Advisors	\$ 9,750.00
Consulting	EFT07110	10/30/2025	CHK	Sol Media	\$ 9,370.00
Consulting Total					\$ 161,551.44
Credit Cards	P049313	10/9/2025	WDL	US Bank	\$ 12,990.81
Credit Cards Total					\$ 12,990.81
Director Costs	EFT07079	10/16/2025	CHK	Eastern Municipal Water District	\$ 889.80
Director Costs	EFT07080	10/16/2025	CHK	Western Municipal Water District	\$ 570.10
Director Costs	EFT07084	10/16/2025	CHK	Jasmin Hall	\$ 36.40
Director Costs	EFT07085	10/16/2025	CHK	T. Milford Harrison	\$ 37.10
Director Costs	EFT07090	10/16/2025	CHK	Gilbert Botello	\$ 88.90
Director Costs Total					\$ 1,622.30
Employee Reimbursement	EFT07075	10/9/2025	CHK	Daniel Vasquez	\$ 1,199.00
Employee Reimbursement	EFT07078	10/16/2025	CHK	Richard Whetsel	\$ 121.25
Employee Reimbursement	EFT07083	10/16/2025	CHK	Ian Achimore	\$ 45.43

Santa Ana Watershed Project Authority
Check Detail
Oct-25

Category	Check #	Check Date	Type	Vendor	Check Amount
Employee Reimbursement	EFT07087	10/16/2025	CHK	Haley Gohari	\$ 227.12
Employee Reimbursement	EFT07096	10/23/2025	CHK	Alison L Lewis	\$ 1,963.69
Employee Reimbursement	EFT07103	10/23/2025	CHK	Natalia Gonzalez	\$ 20.65
Employee Reimbursement Total					\$ 3,577.14
Equipment Expensed	EFT07100	10/23/2025	CHK	Total Plan Business Interior	\$ 11,966.85
Equipment Expensed Total					\$ 11,966.85
Equipment Rented	EFT07050	10/2/2025	CHK	Konica Minolta - Rental	\$ 1,403.07
Equipment Rented	EFT07105	10/30/2025	CHK	Konica Minolta - Rental	\$ 1,403.07
Equipment Rented Total					\$ 2,806.14
Facility Repair & Maintenance	EFT07058	10/2/2025	CHK	Pacific Shore Pest Control	\$ 135.00
Facility Repair & Maintenance	EFT07059	10/2/2025	CHK	PE Instruments	\$ 1,250.00
Facility Repair & Maintenance	EFT07066	10/9/2025	CHK	TNT Elevator Inc	\$ 300.00
Facility Repair & Maintenance	EFT07069	10/9/2025	CHK	Riverside Cleaning Systems	\$ 1,800.00
Facility Repair & Maintenance	EFT07111	10/30/2025	CHK	Pacific Shore Pest Control	\$ 135.00
Facility Repair & Maintenance Total					\$ 3,620.00
HVAC	EFT07074	10/9/2025	CHK	Magnolia Heating and Cooling	\$ 1,750.00
HVAC Total					\$ 1,750.00
Insurance Expense	EFT07070	10/9/2025	CHK	Zenith Insurance Company	\$ 5,573.00
Insurance Expense Total					\$ 5,573.00
Lab Costs	EFT07052	10/2/2025	CHK	Babcock Laboratories, Inc.	\$ 435.00
Lab Costs	EFT07064	10/9/2025	CHK	Babcock Laboratories, Inc.	\$ 5,031.45
Lab Costs	EFT07081	10/16/2025	CHK	Babcock Laboratories, Inc.	\$ 435.00
Lab Costs	EFT07095	10/23/2025	CHK	Babcock Laboratories, Inc.	\$ 435.00
Lab Costs	EFT07107	10/30/2025	CHK	Babcock Laboratories, Inc.	\$ 1,695.00
Lab Costs Total					\$ 8,031.45
Landscape Maintenance	EFT07053	10/2/2025	CHK	Green Meadows Landscape	\$ 1,175.00
Landscape Maintenance	EFT07068	10/9/2025	CHK	Sims Tree Health Specialists	\$ 935.00
Landscape Maintenance	EFT07108	10/30/2025	CHK	Green Meadows Landscape	\$ 825.00
Landscape Maintenance Total					\$ 2,935.00
Legal Expense	EFT07088	10/16/2025	CHK	Lagerlof, LLP	\$ 9,082.50
Legal Expense	EFT07101	10/23/2025	CHK	Lagerlof, LLP	\$ 32,334.71
Legal Expense Total					\$ 41,417.21
Maintenance Labor	EFT07061	10/9/2025	CHK	Orange County Sanitation District	\$ 3,877.24
Maintenance Labor Total					\$ 3,877.24
Office Expense	EFT07051	10/2/2025	CHK	Staples Business Credit	\$ 471.77
Office Expense	EFT07060	10/2/2025	CHK	AFS Printing	\$ 70.69
Office Expense	EFT07106	10/30/2025	CHK	Staples Business Credit	\$ 673.57
Office Expense Total					\$ 1,216.03
Other Professional Services	EFT07077	10/9/2025	CHK	SG Creative. LLC	\$ 360.00
Other Professional Services Total					\$ 360.00
Payroll	WDL000007473	10/3/2025	WDL	Direct Deposit 10/3/2025	\$ 95,514.42
Payroll	WDL000007477	10/3/2025	WDL	PR Tax - Federal	\$ 36,371.99
Payroll	WDL000007478	10/3/2025	WDL	PR Tax - State	\$ 9,402.05
Payroll	WDL000007479	10/3/2025	WDL	PR Tax - State AZ	\$ 112.42
Payroll	WDL000007493	10/17/2025	WDL	Direct Deposit 10/17/2025	\$ 100,249.05
Payroll	WDL000007506	10/17/2025	WDL	PR Tax - Federal	\$ 37,527.37
Payroll	WDL000007507	10/17/2025	WDL	PR Tax - State	\$ 9,595.20
Payroll	WDL000007508	10/17/2025	WDL	PR Tax - State AZ	\$ 112.42
Payroll	WDL000007513	10/22/2025	WDL	PR Tax - State	\$ 141.44
Payroll	WDL000007560	10/31/2025	WDL	Direct Deposit 10/31/2025	\$ 95,856.60
Payroll	WDL000007561	10/31/2025	WDL	PR Tax - Federal	\$ 36,126.98
Payroll	WDL000007562	10/31/2025	WDL	PR Tax - State	\$ 9,384.33
Payroll	WDL000007563	10/31/2025	WDL	PR Tax - State AZ	\$ 112.42
Payroll Total					\$ 430,506.69
Permit Fees	6125	10/9/2025	CHK	City of Riverside	\$ 150.00
Permit Fees Total					\$ 150.00
Prop 84	6115	10/2/2025	CHK	Riverside County Flood Control	\$ 1,111,050.24
Prop 84 Total					\$ 1,111,050.24

Santa Ana Watershed Project Authority
Check Detail
Oct-25

Category	Check #	Check Date	Type	Vendor	Check Amount
Safety	6118	10/2/2025	CHK	Cintas	\$ 510.81
Safety	EFT07063	10/9/2025	CHK	Underground Service Alert	\$ 294.32
Safety Total					\$ 805.13
Shipping/Postage	EFT07049	10/2/2025	CHK	General Logistics Systems US	\$ 8.87
Shipping/Postage	EFT07062	10/9/2025	CHK	General Logistics Systems US	\$ 34.78
Shipping/Postage	EFT07093	10/23/2025	CHK	General Logistics Systems US	\$ 17.74
Shipping/Postage Total					\$ 61.39
Software	EFT07076	10/9/2025	CHK	Klir, Inc.	\$ 63,242.00
Software	EFT07082	10/16/2025	CHK	VC3, Inc.	\$ 1,273.20
Software Total					\$ 64,515.20
Utilities	6116	10/2/2025	CHK	Southern California Edison	\$ 23.57
Utilities	6117	10/2/2025	CHK	Burrtec Waste Industries, Inc	\$ 225.70
Utilities	6119	10/2/2025	CHK	Charter Communications	\$ 146.23
Utilities	6120	10/9/2025	CHK	Riverside Public Utilities	\$ 274.24
Utilities	6121	10/9/2025	CHK	Riverside Public Utilities	\$ 2,065.87
Utilities	6122	10/9/2025	CHK	AT&T	\$ 245.49
Utilities	6123	10/9/2025	CHK	Southern California Edison	\$ 159.92
Utilities	6130	10/30/2025	CHK	AT&T	\$ 245.49
Utilities	6131	10/30/2025	CHK	Charter Communications	\$ 146.23
Utilities	EFT07073	10/9/2025	CHK	Verizon Connect	\$ 104.70
Utilities	EFT07097	10/23/2025	CHK	Verizon Wireless Services LLC	\$ 1,073.96
Utilities	EFT07098	10/23/2025	CHK	Verizon Wireless Services LLC	\$ 394.06
Utilities	EFT07099	10/23/2025	CHK	Verizon Wireless Services LLC	\$ 143.59
Utilities Total					\$ 5,249.05
WIP - Construction	EFT07104	10/23/2025	CHK	Bridgerock Construction, Inc	\$ 65,822.36
WIP - Construction Total					\$ 65,822.36
Grand Total					\$ 2,154,636.20
		Accounts Payable			
Checks		\$ 1,589,350.37			
Wire Transfers		\$ 134,779.14			
		<u>\$ 1,724,129.51</u>			
Other		\$ -			
Payroll		\$ 430,506.69			
Total Disbursements for October 2025		<u><u>\$ 2,154,636.20</u></u>			

Santa Ana Watershed Project Authority
Consulting
Oct-25

Check #	Check Date	Task #	Task Description	Vendor Name	Total Contract	Check Amount	Remaining Contract Amount	Notes/Comments
EFT07065	10/9/2025	CDM377-02	PFAS Regional Analysis for Upper Santa Ana River Watershed - Phase 2	CDM Smith	\$ 494,335.00	\$ 10,852.71	\$ 7.03	
EFT07086	10/16/2025	GEI384-02	MSAR TMDL - Limited Basin Plan Amendment Revisions	GEI Consultants	\$ 153,530.00	\$ 11,340.00	\$ 37,838.75	
EFT07086	10/16/2025	GEI384-03	MSAR TMDL - 2026 Triennial Report and Synoptic Study	GEI Consultants	\$ 182,213.00	\$ 27,719.49	\$ 121,712.32	
EFT07086	10/16/2025	GEI386-02	Santa Ana River Regional Bacteria Monitoring Program	GEI Consultants	\$ 1,203,462.00	\$ 55,017.31	\$ 667,531.47	
EFT07057	10/2/2025	JPW392-03	Emerging Constituents Program Public Relations Consultant Support	JPW Communications	\$ 134,624.00	\$ 4,096.50	\$ 115,418.25	
EFT07072	10/9/2025	KSC384-04	MSAR Pathogen TMDL TF Regulatory Support	Kahn, Soares, & Conway	\$ 141,500.00	\$ 3,053.00	\$ 130,535.00	
EFT07072	10/9/2025	KSC377-02	PFAS Regional Analysis for Upper SAR - Phase 2	Kahn, Soares, & Conway	\$ 18,000.00	\$ 1,935.00	\$ 13,770.00	
EFT07089	10/16/2025	KSC374-04	Basin Monitoring Program TF Regulatory Support	Kahn, Soares, & Conway	\$ 148,900.00	\$ 1,383.00	\$ 141,197.00	
EFT07089	10/16/2025	KSC392-04	Emerging Constituents Program	Kahn, Soares, & Conway	\$ 65,070.00	\$ 2,100.00	\$ 60,578.00	
EFT07110	10/30/2025	SOL100-22	Web Services 25-26	Sol Media	\$ 31,680.00	\$ 2,640.00	\$ 21,120.00	
EFT07110	10/30/2025	SOL100-23	SAWPA Web Hosting	Sol Media	\$ 4,120.00	\$ 4,120.00	\$ -	
EFT07110	10/30/2025	SOL386-01	SAWPA Python VM Web Hosting Renewal	Sol Media	\$ 2,610.00	\$ 2,610.00	\$ -	
EFT07055	10/2/2025	TRU240-27	Brine Line Billing Formula Update Study	Trussell Technologies	\$ 154,390.00	\$ 5,702.50	\$ 18,944.81	
EFT07082	10/16/2025	ACS100-26	IT Services	VC3, Inc.	\$ 288,000.00	\$ 3,400.68	\$ 32,718.49	
EFT07071	10/9/2025	WSC374-02	Monitoring Plan - Special Study of TDS for Santa Ana River Reach 3	Water Systems Consulting	\$ 159,602.00	\$ 3,615.50	\$ 106,971.25	
EFT07071	10/9/2025	WSC373-04	FYE 2026 and 2027 Roundtable of Regions Network Coordinator	Water Systems Consulting	\$ 100,600.00	\$ 3,804.50	\$ 86,710.63	
EFT07094	10/23/2025	WCA100-03-07	State Legislative Consulting Services	West Coast Advisors	\$ 117,000.00	\$ 9,750.00	\$ 9,750.00	
EFT07056	10/2/2025	W&C376-01	Climate Adaptation and Resilience Plan	Woodard & Curran	\$ 329,885.00	\$ 8,411.25	\$ 256,452.50	
					<u>\$ 161,551.44</u>			

COMMISSION MEMORANDUM NO. 2025.94

DATE: December 16, 2025
TO: SAWPA Commission
SUBJECT: Inter-Fund Borrowing – October 2025
PREPARED BY: Karen Williams, DGM/CFO

RECOMMENDATION

Receive and file.

DISCUSSION

On December 13, 2005, the Commission approved Resolution No. 452, Inter-Fund and Inter-Project Loan Policy. Staff were directed to bring back an accounting of the loans each month for review when the total exceeded \$250,000 in aggregate.

The following projects, with negative cash flow, are listed below with the amounts borrowed from SAWPA General Fund Reserves in October 2025. The total amount borrowed is over the aggregate \$250,000 amount recommended in Resolution No. 452, Inter-Fund and Inter-Project Loan Policy. The Commission has requested that this item be brought back each month as an informational item when the loan amount is over the \$250,000 aggregate amount.

Fund	Fund Name	09/30/2025 Balance	Loan Receipts	New Charges	10/31/2025 Balance
145	Proposition 84 Admin R4	\$658,735.09	(\$0.00)	\$14,052.72	\$672,787.81
150	Proposition 1 R1 – Admin	98,042.36	(0.00)	8,594.29	106,636.65
155	Proposition 1 R2 - Admin	177,989.08	(0.00)	47,414.65	225,403.73
376	ICARP	112,481.80	(0.00)	10,567.42	123,049.22
397	WECAN - Riverside	58,657.23	(0.00)	5,461.84	64,119.07
398	DCI 2021 Drought Relief	22,777.47	(0.00)	7,403.14	30,180.61
477	LESJWA Administration	10,528.82	(11,859.91)	14,360.44	13,029.35
	Total Funds Borrowed	\$1,139,211.85	(\$11,859.91)	\$107,854.50	\$1,235,206.44
	General Fund Reserves Balance		\$2,996,688.50		
	Less Amount Borrowed		<u>1,235,206.44</u>		
	Balance of General Fund Reserves		\$1,761,482.06		

The following table lists each fund that has a negative cash flow, the source of funding for the fund, how often the fund is billed, and the projected rate of payment for the fund.

NEGATIVE CASH-FLOW FUNDS

Fund No.	Source of Funding	Billing Frequency	Projected Payment Time
145,150, 155 – Proposition 1 & 84 Admin	DWR – Proposition 1 & 84 Grant	Monthly/Quarterly	Up to 4 months
376 – ICARP	Governor’s Office of Land Use and Climate Innovation Grant	Quarterly	Up to 4 months
397 – WECAN - Riverside	City of Riverside Grant	Quarterly	Up to 4 months
398 – DCI 2021 Drought Relief	DWR – Grant	Monthly	Up to 4 months
477 – LESJWA Admin	Reimbursement from LESJWA	Monthly	2 to 4 weeks
504 – Proposition 84 SARCCUP Projects	DWR – Proposition 84 Grant	Monthly/Quarterly	Up to 4 months

Fund 145

This fund is for the administration of Proposition 84 Round 2015 grant funds. These funds will be billed quarterly and 10% will be withheld for retention.

Fund 150

This fund is for the administration of Proposition 1 Round I grant funds. Once the contract has been signed by DWR these funds will be billed quarterly and 10% will be withheld for retention.

Fund 155

This fund is for the administration of Proposition 1 Round II grant funds. Once the contract has been signed by DWR these funds will be billed quarterly and 10% will be withheld for retention.

Fund 376

This fund is for the administration of the Integrated Climate Adaptation and Resilience Program. These funds will be billed on a quarterly basis.

Fund 397

This fund is for the transformative climate communities grant provided by a sub-recipient agreement between SAWPA and the City of Riverside. These funds will be billed on a quarterly basis.

Fund 398

This fund is for the DCI 2021 Drought Relief Grant. These funds will be billed monthly and 10% will be withheld for retention.

Fund 477

Each month LESJWA bills the cost for administering the JPA. Once the bill is received, LESJWA submits payment within two weeks.

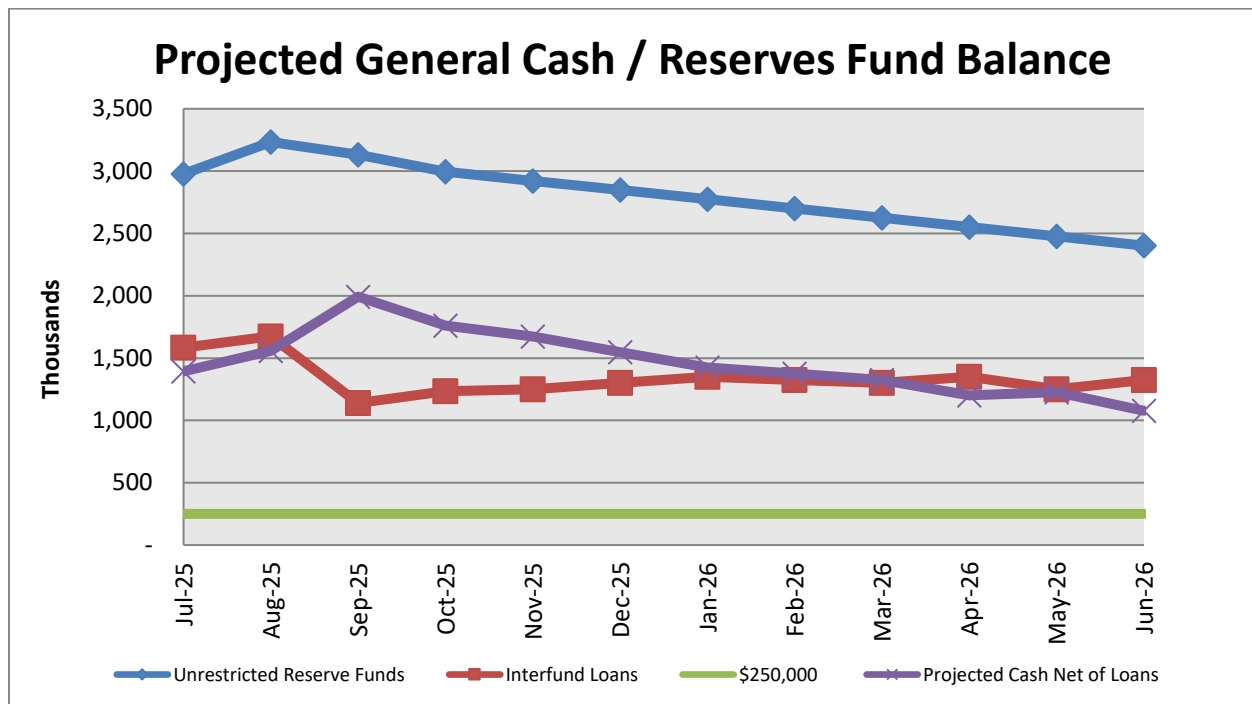
Fund 504

This fund is for the implementation of SARCCUP projects which are administered through PA22 and PA23.

The following graph shows the total budget, total project costs to date, and the amount remaining on each grant.

Fund	Fund Name	Total Budget	Costs Through 10/31/2025	Remaining Grant Budget
145	Proposition 84 Admin R4	\$3,213,384	(\$3,110,238)	\$103,146
150	Proposition 1 R1 Admin	1,157,000	(962,696)	194,304
155	Proposition 1 R2 Admin	1,352,928	(391,314)	961,614
376	ICARP Grant	644,190	(211,580)	432,610
378	Prop 1 – R2 Cloud Seeding	861,400	(242,662)	618,738
397	WECAN – City of Riverside	592,417	(308,308)	284,109
398	DCI 2021 Drought Grant	100,000	(85,622)	14,378
504	Prop 84 – 2015 Round (SARCCUP)	1,543,810	(987,266)	556,544
505	Prop 1 – Round 1 Capital Projects	500,000	(362,114)	137,886
Totals		\$9,965,129	(\$6,661,800)	\$3,303,329

The following graph shows projected inter-fund loan balances, total unrestricted General Fund Reserves available for loans, and projected cash net of loans through June 2026. The projected loan balance is expected to remain over the \$250,000 aggregate limit through June 2026 because of Proposition 1 and 84 grants but can be covered by General Fund Reserves without a major impact on cash flow.



RESOURCE IMPACTS

The funds borrowed from the General Fund Reserves will be paid back with interest when the funding is received. Interfund loans for grants are not charged interest unless the grant contract specifically states that interest is eligible for reimbursement. There is sufficient cash available to cover proposed borrowings and to pay budgeted expenditures for the General Fund.

Attachments:

1. Resolution No. 452 | Amending the Inter-Fund, Inter-Project and Inter-Agency Loan Policy

RESOLUTION NO. 452

A RESOLUTION OF THE COMMISSION OF THE SANTA ANA WATERSHED PROJECT AUTHORITY AMENDING THE INTER-FUND, INTER-PROJECT AND INTER-AGENCY LOAN POLICY

WHEREAS, the Commission of the Santa Ana Watershed Project Authority (hereafter "SAWPA") previously adopted, by minute action taken on August 3, 1996, an "Inter-Fund/Inter-Project Loan Policy" to regulate loans from one SAWPA Fund or Project to another SAWPA Fund or Project; and

WHEREAS, the Commission desires to amend the "Inter-Fund Fund/Project Loan Policy" by formally adopting such Policy, by way of this Resolution, regulating how and in what manner such inter-fund or inter-project loans are to take place and mandating that all such loans require Commission approval in advance as contemplated by the policy adopted on August 3, 1996.

NOW, THEREFORE, BE IT RESOLVED that the Commission of the Santa Ana Watershed Project Authority hereby amends the following Loan Policy for any loan from one SAWPA Fund or Project to another SAWPA Fund or Project:

1. Loans from any SAWPA Fund or Project to another SAWPA Fund, Project or another public agency shall be approved in advance by the SAWPA Commission. The approval shall be in written format and include documentation of the specifics of the transaction. The approval shall include a finding that the loan will not expose the lending SAWPA Fund or Project to significant financial or operational risk.
2. Unless otherwise provided for by the Commission, the borrowing Fund, Project or public agency shall be required to repay the loan within a specific period of time and at a rate of interest as determined by the Commission. For the purposes of this policy, SAWPA's calculated quarterly rate of return may be used as the basis for interest payable on the outstanding principal for any loan. The period for repayment of the loan shall be determined by the Commission, but shall be no longer than the life of the lending Fund or Project.
3. The borrowing Fund's, Project's or public agency's repayment source shall be identified and included in the approval action by the Commission and the "loan documentation". The "loan documentation" shall include a written agreement, resolution or other document approved by the Commission setting forth all of the foregoing terms and conditions.

4. Loans to reimbursable SAWPA grant contract projects and related efforts for short-term (i.e., current fiscal year) operating cash flow purposes may be borrowed from the SAWPA General Fund Reserve without prior Commission approval. But all such loans shall be reported to the Commission within 30 days of each such loan. Such loans shall be paid off on a continuous basis. The total funds loaned for all such grant contract projects and related efforts shall not exceed \$250,000.00 in the aggregate for each fiscal year, without prior written approval by the Commission. Payment of interest will be based on the actual interest that would have been earned by the SAWPA General Fund Reserve had those funds not been borrowed. Cash flow and receivables will be reported at least quarterly to forecast needs and demonstrate compliance.
5. Prior to June 30th of each year, staff shall provide to the Commission an annual written report of all such Inter-fund, Inter-project or Inter-agency loans, amounts repaid and any outstanding loan balances.

ADOPTED this 13th day of December 2005.

SANTA ANA WATERSHED PROJECT AUTHORITY

By: _____

Mark Bulot, Chair



COMMISSION MEMORANDUM NO. 2025.95

DATE: December 16, 2025

TO: SAWPA Commission

SUBJECT: Performance Indicators and Financial Reporting – October 2025

PREPARED BY: Karen Williams, DGM/CFO

RECOMMENDATION

Receive and file.

DISCUSSION

The attached reports have been developed to keep the Commission informed as to SAWPA's business and budget performance. These reports are categorized into the following groups: financial reporting, cash and investments, and performance indicators. They are explained in detail below. As new reports are developed, they will be added for the Commission's review.

Financial Reporting

Balance Sheet by Fund Type	Lists total assets, liabilities, and equity by fund type for a given period.
Revenue & Expense by Fund Type	Lists total revenue and expenses by fund type for a given period.
Receivables Management	Shows total outstanding accounts receivable by age.
Open Task Order Schedule	Shows SAWPA's total outstanding obligation for open task orders.
List of SAWPA Funds	Shows each SAWPA Fund with the fund description and fund group.
Debt Service Funding Analysis	Shows total annual income by source used to make debt service payments through debt maturity at FYE 2048.
Debt Service Payment Schedule	Shows total debt service interest and principal payments through debt maturity at FYE 2048.

Cash and Investments

Total Cash and Investments (chart)	Shows the changes in cash and investments balance for the last twelve months.
Cash Balance & Source of Funds	Shows total cash and investments for all SAWPA funds and the types of investments held for each fund.
Cash & Investments (pie chart)	Shows total cash and investments for all SAWPA funds and the percentage of each investment type.
Reserve Account Analysis	Shows changes to each reserve account for the year and projected ending balance for each.

Twelve Month Security Schedule (chart)	Shows the maturity dates for securities held and percentage of securities in each category.
Treasurer's Report	Shows book and market value for both Treasury strips and securities held by the Agency.

Performance Indicators

Average Daily Flow by Month	Shows total flow in the Brine Line System by month compared to total treatment capacity owned. This is an indicator of the available capacity in the line. As we add yearly flows, it will show trends in flow throughout the year.
Summary of Labor Multipliers	Summarizes the information generated from the following two reports and compares the actual benefit and Indirect Cost Allocation rates to the total budgeted rates.
General Fund Costs	Lists total Fund No. 100 costs to date and the amount of those costs recovered through the Indirect Cost Allocation and member contributions.
Benefit Summary	Lists total employee benefit costs actual to budget and projects them through the end of the year. This report compares how the actual benefit rate compares to the budgeted rate.
Labor Hours Budget vs. Actual	Shows total budgeted hours for each project and compares them to the actual hours charged to each.

RESOURCE IMPACTS

Staff expects minimal impacts to SAWPA or its member agencies related to this effort.

Attachments:

1. Balance Sheet by Fund Type
2. Revenue & Expense by Fund Type
3. Accounts Receivable Aging Report
4. Open Task Order Schedule
5. List of SAWPA Funds
6. Debt Service Funding Analysis
7. Debt Service Payment Schedule
8. Total Cash and Investments (chart)
9. Cash Balance & Source of Funds
10. Reserve Account Analysis
11. Twelve-Month Maturity Schedule - Securities
12. Treasurer's Report
13. Average Daily Flow by Month
14. Summary of Labor Multipliers
15. General Fund Costs
16. Benefits
17. Labor Hours Budgeted vs. Actual

Santa Ana Watershed Project Authority
Balance Sheet by Fund Type
For the Three Months Ending Tuesday, September 30, 2025

	General Fund	Brine Line Enterprise	Capital Projects	OWOW Projects	Roundtable Projects	Fund Totals
Assets						
Current Assets						
Cash and Investments	\$3,447,190.90	\$74,821,823.80	\$0.00	\$2,987,524.52	\$3,126,346.96	\$84,382,886.18
Accounts Receivable	0.00	2,281,611.45	0.00	9,082,782.77	927,480.41	12,291,874.63
Prepays and Deposits	48,811.67	236,852.18	0.00	0.00	0.00	285,663.85
Total Current Assets	3,496,002.57	77,340,287.43	0.00	12,070,307.29	4,053,827.37	96,960,424.66
Fixed Assets						
Property, Plant & Equipment						
less accum depreciation	1,646,325.92	67,821,913.08	0.00	0.00	0.00	69,468,239.00
Work In Process	339,921.73	0.00	705,217.16	0.00	0.00	1,045,138.89
Total fixed assets	1,986,247.65	67,821,913.08	705,217.16	0.00	0.00	70,513,377.89
Other Assets						
Wastewater treatment/disposal						
rights, net of amortization	0.00	18,679,071.27	0.00	0.00	0.00	18,679,071.27
Inventory - Mitigation Credits	0.00	0.00	0.00	0.00	1,910,560.00	1,910,560.00
Leased Assets, net of amortization	59,561.37	84,120.44	0.00	0.00	0.00	143,681.81
Total Other Assets	59,561.37	18,763,191.71	0.00	0.00	1,910,560.00	20,733,313.08
Total Assets	<u>\$5,541,811.59</u>	<u>\$163,925,392.22</u>	<u>\$705,217.16</u>	<u>\$12,070,307.29</u>	<u>\$5,964,387.37</u>	<u>\$188,207,115.63</u>
Liabilities and Fund Equity						
Current Liabilities						
Accounts Payable/Accrued						
Expenses	\$3,553,279.06	\$1,106,489.10	\$0.00	\$8,997,463.45	\$187,553.92	\$13,844,785.53
Accrued Interest Payable	0.00	155,464.18	0.00	0.00	0.00	155,464.18
Noncurrent Liabilities						
Long-term Debt	0.00	19,757,624.04	0.00	0.00	0.00	19,757,624.04
Lease Liability	59,611.03	85,714.65	0.00	0.00	0.00	145,325.68
Deferred Revenue	0.00	57,019,629.27	0.00	0.00	0.00	57,019,629.27
Total Liabilities	3,612,890.09	78,124,921.24	0.00	8,997,463.45	187,553.92	90,922,828.70
Fund Equity						
Contributed Capital	0.00	20,920,507.03	0.00	0.00	0.00	20,920,507.03
Retained Earnings	2,661,985.03	63,684,182.02	705,217.16	1,983,175.34	5,040,762.83	74,075,322.38
Revenue Over/Under Expenditures	(733,064.03)	1,195,782.43	0.00	1,089,668.50	736,070.62	2,288,457.52
Total Fund Equity	1,928,921.00	85,800,471.48	705,217.16	3,072,843.84	5,776,833.45	97,284,286.93
Total Liabilities & Fund Equity	<u>\$5,541,811.09</u>	<u>\$163,925,392.72</u>	<u>\$705,217.16</u>	<u>\$12,070,307.29</u>	<u>\$5,964,387.37</u>	<u>\$188,207,115.63</u>

Santa Ana Watershed Project Authority
Revenue & Expenses by Fund Type
For the Three Months Ending Tuesday, September 30, 2025

	General Fund	Brine Line Enterprise	Capital Projects	OWOW Projects	Roundtable Projects	Fund Totals
Operating Revenue						
Discharge Fees	\$0.00	\$3,414,664.91	\$0.00	\$0.00	\$0.00	\$3,414,664.91
Grant Proceeds	884.00	0.00	0.00	(5,231,390.16)	(162,109.60)	(5,392,615.76)
Financing Proceeds	0.00	0.00	0.00	0.00	35,240.67	35,240.67
Total Operating Revenue	884.00	3,414,664.91	0.00	(5,231,390.16)	(126,868.93)	(1,942,710.18)
Operating Expenses						
Labor	605,577.67	368,452.57	0.00	141,021.77	40,172.65	1,155,224.66
Benefits	161,077.14	148,486.39	0.00	56,831.79	16,189.58	382,584.90
Indirect Costs	0.00	626,369.38	0.00	239,737.03	68,293.51	934,399.92
Education & Training	8,154.64	265.00	0.00	0.00	0.00	8,419.64
Consulting & Professional Services	130,113.98	38,969.00	0.00	(40,203.56)	296,071.63	424,951.05
Operating Costs	3,409.49	1,024,107.19	0.00	0.00	0.00	1,027,516.68
Repair & Maintenance	29,871.88	10,021.10	0.00	0.00	0.00	39,892.98
Phone & Utilities	15,480.66	2,805.01	0.00	0.00	0.00	18,285.67
Equipment & Computers	99,915.23	91,690.69	0.00	0.00	0.00	191,605.92
Meeting & Travel	6,992.81	0.00	0.00	50.55	141.74	7,185.10
Other Administrative Costs	73,169.54	27,474.25	0.00	10,443.38	10,991.72	122,078.89
Indirect Costs Applied	(919,351.48)	0.00	0.00	0.00	0.00	(919,351.48)
Other Expenses	21,625.75	69,998.85	0.00	0.00	0.00	91,624.60
Construction	0.00	0.00	0.00	(5,178,239.62)	0.00	(5,178,239.62)
Total Operating Expenses	236,037.31	2,408,639.43	0.00	(4,770,358.66)	431,860.83	(1,693,821.09)
Operating Income (Loss)	(235,153.31)	1,006,025.48	0.00	(461,031.50)	(558,729.76)	(248,889.09)
Nonoperating Income (Expense)						
Member Contributions	733,400.00	0.00	0.00	1,510,000.00	70,000.00	2,313,400.00
Other Agency Contributions	0.00	0.00	0.00	40,700.00	1,177,871.00	1,218,571.00
Interest Income	0.00	(33,911.54)	0.00	0.00	0.00	(33,911.54)
Other Income	859.37	125,100.20	0.00	0.00	0.00	125,959.57
Retiree Medical Benefits	(19,079.48)	0.00	0.00	0.00	0.00	(19,079.48)
Total Nonoperating Income (Expense)	715,179.89	91,188.66	0.00	1,550,700.00	1,247,871.00	3,604,939.55
Excess Rev over (under) Exp	<u>\$480,026.58</u>	<u>\$1,097,214.14</u>	<u>\$0.00</u>	<u>\$1,089,668.50</u>	<u>\$689,141.24</u>	<u>\$3,356,050.46</u>

Aging Report
Santa Ana Watershed Project Authority
Receivables as of
October 31, 2025

Customer Name	Project	Total	0-30 Days	31-60 Days	61 and Over
Beaumont, City of	Brine Line	2,399.88		2,399.88	
Chino Basin Watermaster	MSAR TMDL	16,863.00		16,863.00	
Corona, City of	Basin Monitoring	9,889.00			9,889.00
Department of Water Resources	Prop 84, Prop 1	8,703,974.76	7,403.14	484,081.99	8,212,489.63
Eastern Municipal Water District	Brine Line	264,232.78		264,232.78	
Eastvale, City of	MSAR TMDL	22,484.00		22,484.00	
Elsinore Valley Municipal Water District	Emerging Constiutents	13,757.00			13,757.00
Inland Empire Utilities Agency	Brine Line	116,820.39		116,820.39	
Jurupa Community Services District	Basin Monitoring	7,608.00			7,608.00
Lake Elsinore & San Jacinto Watersheds Authority	JPA Administration	15,260.44	15,260.44		
Norco, City of	MSAR TMDL	22,484.00		22,484.00	
Orange County Water District	Basin Monitoring, SA Sucker	24,889.00			24,889.00
Redlands, City of	Basin Monitoring	7,608.00			7,608.00
Rialto, City of	Basin Monitoring	9,889.00			9,889.00
Rialto Bioenergy Solutions	Brine Line	8,896.88	8,896.88		
Riverside, City of	Basin Monitoring, SA Sucker, MSAR TMI	100,569.83		22,484.00	78,085.83
SB Industrial Vacuum Services	Brine Line	250.00			250.00
San Bernardino Valley Municipal Water District	Brine Line, SA Sucker	190,302.81		181,302.81	9,000.00
Temescal Valley Water District	EC, Basin Monitoring	21,590.00			21,590.00
Triumvirate Environmental	Brine Line	250.00			250.00
Western Riverside County Regional Wastewater Authority	Emerging Constituents	13,757.00			13,757.00
Total Accounts Receivable		9,573,775.77	31,560.46	1,133,152.85	8,409,062.46

Santa Ana Watershed Project Authority Open Task Orders Oct-25 (Reflects Invoices Received as of 11/18/2025)											
Task Order No. Project Contracts	Fund No.	Vendor Name	Task Description	Begin Date	End Date	Original Contract	Change Orders	Total Contract	Billed To Date	Contract Balance	SAWPA Manager
ACS100-26	100-00	VC3, Inc.	IT Services	01/01/2023	12/31/2026	\$ 288,000.00	\$ -	\$ 288,000.00	\$ 255,281.51	\$ 32,718.49	Dean Unger
CJB100-01	100-00	C.J. Brown & Company	Professional Audit Services	02/12/2025	06/30/2027	\$ 44,510.00	\$ -	\$ 44,510.00	\$ 18,791.00	\$ 25,719.00	Karen Williams
CVS100-02	100-00	CV Strategies	SAWPA 50th Anniversary Video	10/14/2025	01/31/2026	\$ 30,000.00	\$ -	\$ 30,000.00	\$ -	\$ 30,000.00	Emily Fuentes
ENSO100-01	100-00	Endeavour Solutions, Inc.	GP Study and Support FY 2024-2025	07/01/2024	12/31/2025	\$ 18,385.00	\$ -	\$ 18,385.00	\$ 18,350.00	\$ 35.00	Dean Unger
FALC100-02	100-00	Falcon Engineering Services	Lobby Security Improvements Construction Management & Inspection Services	04/01/2025	06/30/2026	\$ 142,140.00	\$ -	\$ 142,140.00	\$ 122,100.00	\$ 20,040.00	David Ruhl
FOST100-03	100-00	Foster & Foster	Professional Audit Services	03/06/2025	06/30/2026	\$ 1,700.00	\$ -	\$ 1,700.00	\$ -	\$ 1,700.00	Karen Williams
GPA100-02	100-00	Gillis & Panichapan Architects	Lobby Security Improvements - Bid Documents and Support	04/19/2023	12/31/2025	\$ 74,600.00	\$ -	\$ 74,600.00	\$ 72,960.00	\$ 1,640.00	David Ruhl
GPA100-03	100-00	Gillis & Panichapan Architects	Lobby Security Improvements - Services During Construction	04/01/2025	06/30/2026	\$ 27,000.00	\$ -	\$ 27,000.00	\$ 22,370.00	\$ 4,630.00	David Ruhl
KON100-12	100-00	Konica Minolta - Rental	New Copiers 2024-2028	09/01/2024	09/01/2028	\$ 66,228.96	\$ -	\$ 66,228.96	\$ 20,607.76	\$ 45,621.20	Dean Unger
LSGK100-14	100-00	Lagerlof, LLP	Legal Services	07/01/2025	06/30/2026	\$ 108,900.00	\$ -	\$ 108,900.00	\$ 41,226.01	\$ 67,673.99	Karen Williams
NSL100-04	100-00	Nate Sassaman Leadership	SAWPA Executive Coaching	07/17/2024	12/31/2025	\$ 2,000.00	\$ -	\$ 2,000.00	\$ 1,624.00	\$ 376.00	Shavonne Turner
SGC100-01	100-00	SG Creative. LLC	SAWPA 50th Anniversary Book	09/25/2025	06/30/2026	\$ 9,840.00	\$ -	\$ 9,840.00	\$ 1,440.00	\$ 8,400.00	Shavonne Turner
SOL100-22	100-00	Sol Media	Web Services 2025-2026	07/01/2025	06/30/2026	\$ 31,680.00	\$ -	\$ 31,680.00	\$ 10,560.00	\$ 21,120.00	Dean Unger
BMH100-05	100-03	Bell, McAndrews, & Hiltachk	FPPC Lobby Reporting	07/01/2025	06/30/2026	\$ 1,400.00	\$ -	\$ 1,400.00	\$ 695.00	\$ 705.00	Karen Williams
WCA100-03-07	100-03	West Coast Advisors	State Legislative Consulting Services	01/01/2025	12/31/2025	\$ 117,000.00	\$ -	\$ 117,000.00	\$ 107,250.00	\$ 9,750.00	Karen Williams
WO2026-24	240	E S Babcock	Wastewater Sample Collection and Analysis - Routine	07/01/2025	06/30/2026	\$ 94,319.00	\$ -	\$ 94,319.00	\$ 27,907.36	\$ 66,411.64	David Ruhl
WO2026-25	240	E S Babcock	Wastewater Sample Collection and Analysis - Special	07/01/2025	06/30/2026	\$ 21,000.00	\$ -	\$ 21,000.00	\$ -	\$ 21,000.00	David Ruhl
DUDK240-13	240	Dudek	SCADA Design Specification and Work Plan	05/06/2025	06/30/2026	\$ 155,924.00	\$ -	\$ 155,924.00	\$ 15,187.50	\$ 140,736.50	David Ruhl
INN240-06	240	Innerline Engineering	Brine Line Pipeline Cleaning Services	07/01/2024	06/30/2026	\$ 316,700.00	\$ -	\$ 316,700.00	\$ 31,245.00	\$ 285,455.00	Daniel Vasquez
INN240-07	240	Innerline Engineering	On-Call CCTV	07/01/2024	06/30/2026	\$ 102,530.00	\$ -	\$ 102,530.00	\$ 12,323.79	\$ 90,206.21	Daniel Vasquez
PE240-01	240	PE Instruments	Brine Line Flow Meter Calibration Services	07/01/2024	06/30/2026	\$ 19,950.00	\$ -	\$ 19,950.00	\$ 6,400.00	\$ 13,550.00	Daniel Vasquez
TRU240-27	240	Trussell Technologies, Inc	Brine Line Billing Formula Update Study	10/15/2024	03/31/2026	\$ 154,390.00	\$ -	\$ 154,390.00	\$ 135,445.19	\$ 18,944.81	Lucas Gilbert
UNIT240-01	240	United Storm Water, Inc.	On-Call Brine Line Debris Hauling	07/01/2025	06/30/2027	\$ 86,750.00	\$ -	\$ 86,750.00	\$ -	\$ 86,750.00	Daniel Vasquez
WSC373-04	373	Water Systems Consulting	FYE 2026 and FYE 2027 Roundtable of Regions Network Coordinator	07/01/2025	06/30/2027	\$ 100,600.00	\$ -	\$ 100,600.00	\$ 13,889.37	\$ 86,710.63	Ian Achimore
CWE374-01	374	CWE	Basin Monitoring Program Task Force SAR Surface Water Quality Monitoring	09/05/2023	02/15/2027	\$ 93,711.00	\$ -	\$ 93,711.00	\$ 53,278.16	\$ 40,432.84	Ian Achimore
KSC374-04	374	Kahn, Soares, & Conway	Basin Monitoring TF Regulatory Support	07/01/2025	06/30/2027	\$ 148,900.00	\$ -	\$ 148,900.00	\$ 7,703.00	\$ 141,197.00	Ian Achimore
WSC374-02	374	Water Systems Consulting	Monitoring Plan - Special Study of TDS for Santa Ana River Reach 3	04/01/2025	02/28/2026	\$ 159,602.00	\$ -	\$ 159,602.00	\$ 52,630.75	\$ 106,971.25	Ian Achimore
W&C376-01	376	Woodard & Curran	Climate Adaptation and Resilience Plan	02/18/2025	04/30/2027	\$ 329,885.00	\$ -	\$ 329,885.00	\$ 73,432.50	\$ 256,452.50	Ian Achimore
CDM377-02	377	CDM Smith, Inc.	PFAS Regional Analysis for Upper Santa Ana River Watershed - Phase 2	11/21/2023	12/31/2025	\$ 465,917.00	\$ 28,418.00	\$ 494,335.00	\$ 494,327.97	\$ 7.03	Rick Whetsel

Santa Ana Watershed Project Authority Open Task Orders Oct-25 (Reflects Invoices Received as of 11/18/2025)											
Task Order No. Project Contracts	Fund No.	Vendor Name	Task Description	Begin Date	End Date	Original Contract	Change Orders	Total Contract	Billed To Date	Contract Balance	SAWPA Manager
KSC377-01	377	Kahn, Soares, & Conway	PFAS Regional Analysis for Upper Santa Ana River Watershed - Phase 2	07/01/2025	12/31/2025	\$ 18,000.00	\$ -	\$ 18,000.00	\$ 4,230.00	\$ 13,770.00	Rick Whetsel
GEI384-02	384-01	GEI Consultants	MSAR TMDL - Limited Basin Plan Amendment Revisions	07/01/2022	06/30/2026	\$ 67,000.00	\$ 86,530.00	\$ 153,530.00	\$ 115,691.25	\$ 37,838.75	Rick Whetsel
GEI384-03	384-01	GEI Consultants	MSAR TMDL - 2026 Triennial Report and Synoptic Study	06/01/2025	06/30/2026	\$ 168,039.00	\$ 14,174.00	\$ 182,213.00	\$ 60,500.68	\$ 121,712.32	Rick Whetsel
KSC384-04	384-01	Kahn, Soares, & Conway	MSAR Pathogen TMDL TF Regulatory Support	07/01/2025	06/30/2027	\$ 141,500.00	\$ -	\$ 141,500.00	\$ 10,965.00	\$ 130,535.00	Rick Whetsel
GEI386-02	386	GEI Consultants	Santa Ana River Regional Bacteria Monitoring Program	02/01/2024	06/30/2027	\$ 1,191,054.00	\$ 12,408.00	\$ 1,203,462.00	\$ 535,930.53	\$ 667,531.47	Rick Whetsel
IERCD387-01	387	Inland Empire Resource Conservation District	Arundo Donax Removal in the SAR Basin Headwaters	07/19/2022	12/31/2027	\$ 147,777.07	\$ -	\$ 147,777.07	\$ 120,398.05	\$ 27,379.02	Ian Achimore
JPW392-03	392	JPW Communications	Emerging Constituents Program Public Relations Support	07/01/2025	06/30/2027	\$ 134,624.00	\$ -	\$ 134,624.00	\$ 19,205.75	\$ 115,418.25	Ian Achimore
KSC392-04	392	Kahn, Soares, & Conway	Emerging Constituents Program TF Regulatory Support	07/01/2025	06/30/2027	\$ 65,070.00	\$ -	\$ 65,070.00	\$ 4,492.00	\$ 60,578.00	Ian Achimore
ECOT397-04	397	EcoTech Services	WECAN Riverside Eastside Climate Collaborative Landscaping	07/19/2022	12/31/2025	\$ 567,150.00	\$ -	\$ 567,150.00	\$ 174,971.90	\$ 392,178.10	Rick Whetsel
RMC504-401-12	504-04	Woodard & Curran	SARCCUP Program Mgmt. Services	07/01/2025	06/30/2026	\$ 122,535.00	\$ -	\$ 122,535.00	\$ 8,820.00	\$ 113,715.00	Ian Achimore
										<u>\$ 3,217,172.51</u>	

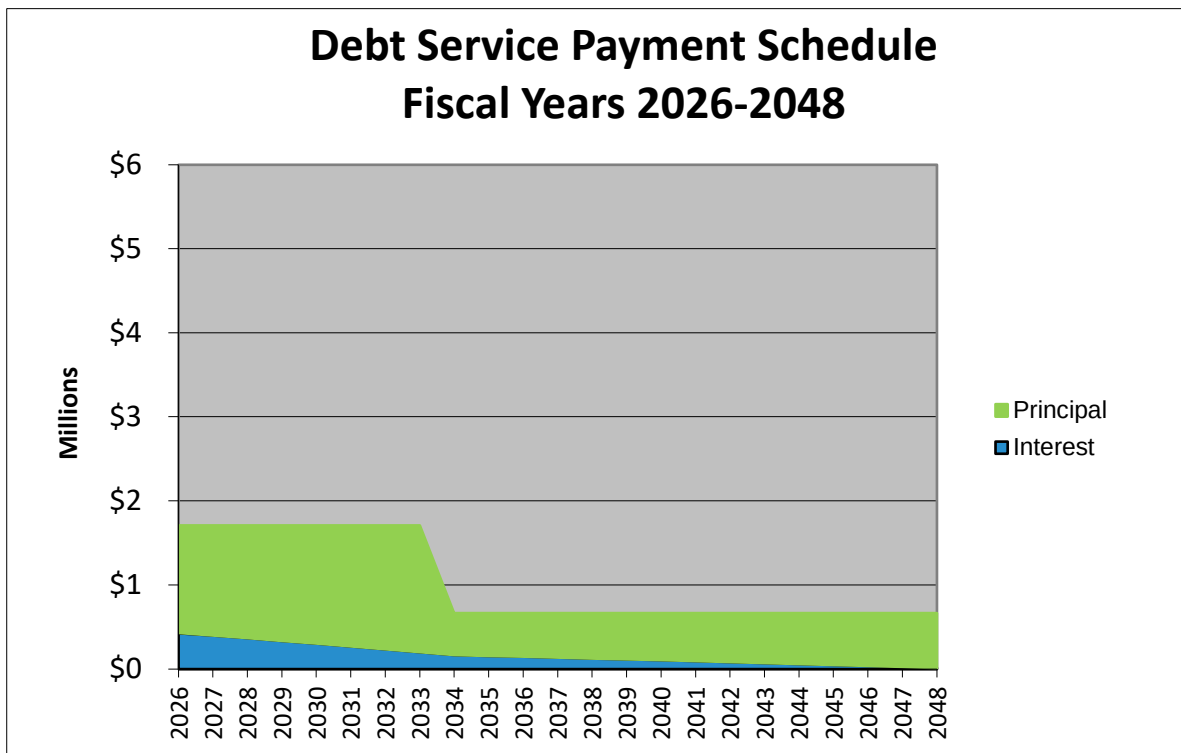
Santa Ana Watershed Project Authority
Brine Line Debt Service Funding Analysis
October 31, 2025

FYE	Rates	Loan Pymts	Interest Earned *	Excess Cash	Ending Cash Balance
Beginning Balance					3,011,686
2025	1,709,476	(1,709,476)	90,351	90,351	3,102,037
2026	1,709,476	(1,709,476)	93,061	93,061	3,195,098
2027	1,709,476	(1,709,476)	95,853	95,853	3,290,951
2028	1,709,476	(1,709,476)	98,729	98,729	3,389,679
2029	1,709,476	(1,709,476)	101,690	101,690	3,491,369
2030	1,709,476	(1,709,476)	104,741	104,741	3,596,111
2031	1,709,476	(1,709,476)	107,883	107,883	3,703,994
2032	1,709,476	(1,709,476)	111,120	111,120	3,815,114
2033	1,709,476	(1,709,476)	114,453	114,453	3,929,567
2034	665,203	(665,203)	117,887	117,887	4,047,454
2035	665,203	(665,203)	121,424	121,424	4,168,879
2036	665,203	(665,203)	125,066	125,066	4,293,944
2037	665,203	(665,203)	128,818	128,818	4,422,763
2038	665,203	(665,203)	132,683	132,683	4,555,445
2039	665,203	(665,203)	136,663	136,663	4,692,109
2040	665,203	(665,203)	140,763	140,763	4,832,872
2041	665,203	(665,203)	144,986	144,986	4,977,858
2042	665,203	(665,203)	149,336	149,336	5,127,194
2043	665,203	(665,203)	153,816	153,816	5,281,010
2044	665,203	(665,203)	158,430	158,430	5,439,440
2045	665,203	(665,203)	163,183	163,183	5,602,623
2046	665,203	(665,203)	168,079	168,079	5,770,702
2047	665,203	(665,203)	173,121	173,121	5,943,823
2048	665,203	(665,203)	178,315	178,315	6,122,138
	25,363,319	(25,363,319)	3,110,452	3,110,452	-

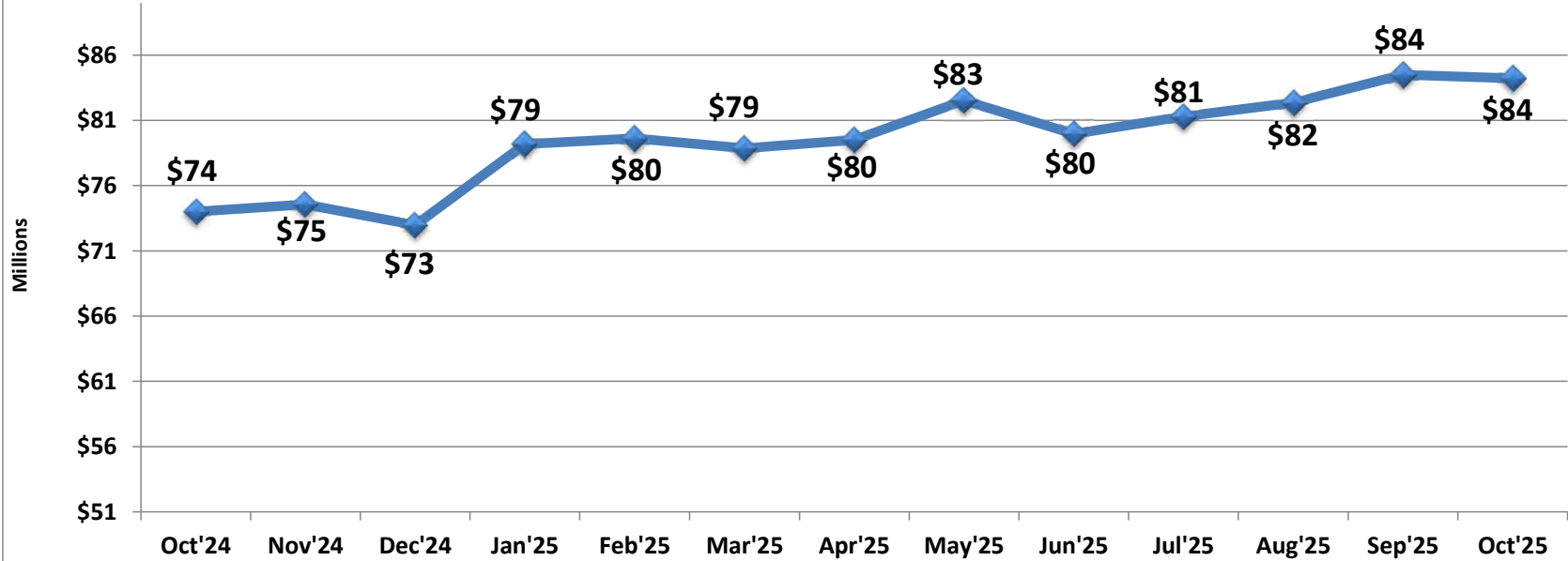
*Interest earned is based on a conservative 3.00% average return over the period

Santa Ana Watershed Project Authority
Brine Line Debt Service Payment Schedule
October 31, 2025

FYE	Interest	Principal	Total Payment	Remaining Principal
2026	427,585	1,281,891	1,709,476	18,475,733
2027	397,276	1,312,199	1,709,476	17,163,534
2028	366,237	1,343,239	1,709,476	15,820,295
2029	334,449	1,375,027	1,709,476	14,445,268
2030	301,894	1,407,582	1,709,476	13,037,686
2031	268,553	1,440,923	1,709,476	11,596,763
2032	234,407	1,475,068	1,709,476	10,121,694
2033	199,437	1,510,039	1,709,476	8,611,656
2034	163,621	501,581	665,203	8,110,075
2035	154,091	511,111	665,203	7,598,964
2036	144,380	520,822	665,203	7,078,141
2037	134,485	530,718	665,203	6,547,424
2038	124,401	540,801	665,203	6,006,622
2039	114,126	551,077	665,203	5,455,545
2040	103,655	561,547	665,203	4,893,998
2041	92,986	572,217	665,203	4,321,782
2042	82,114	583,089	665,203	3,738,693
2043	71,035	594,167	665,203	3,144,526
2044	59,746	605,457	665,203	2,539,069
2045	48,242	616,960	665,203	1,922,109
2046	36,520	628,682	665,203	1,293,427
2047	24,575	640,627	665,203	652,799
2048	12,403	652,799	665,203	(0)



Total Cash & Investments





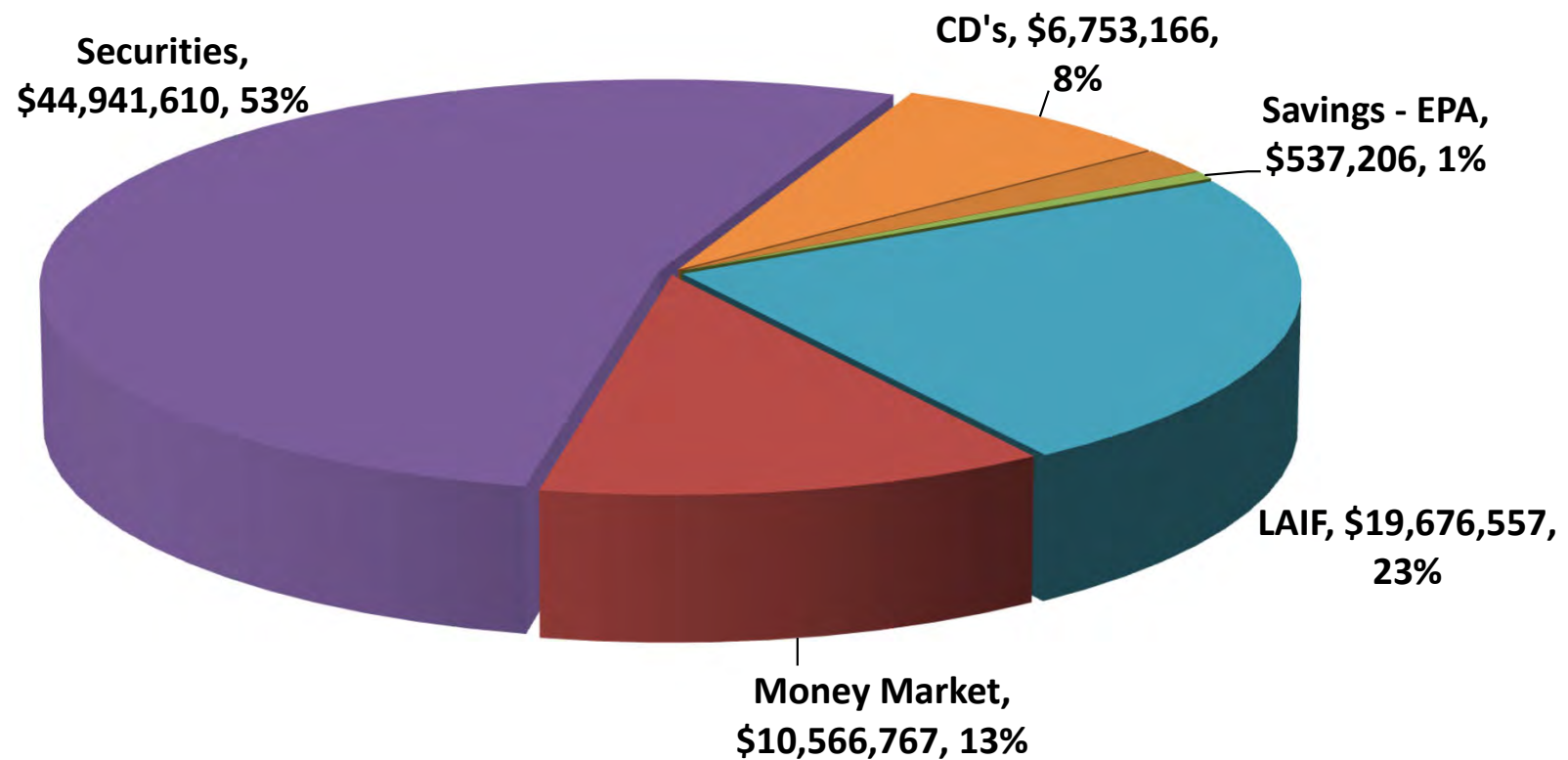
CASH BALANCE & SOURCE OF FUNDS

October 31, 2025

Fund Accounts			Cash and Investments						
		Total	Checking (Cash)	LAIF Account	Money Market	Savings EPA	Investment Securities	Certificates of Deposit	Total
100	General Fund	\$ 1,761,482	1,737,872	23,610	-	-	-	-	\$ 1,761,482
100	Building Reserve	\$ 317,432	-	317,432	-	-	-	-	\$ 317,432
370	Basin Planning General	\$ 481,222	-	481,222	-	-	-	-	\$ 481,222
370	USBR Partnership Studies	\$ 91,037	-	91,037	-	-	-	-	\$ 91,037
373	Watershed Management Plan	\$ 649,962	-	649,962	-	-	-	-	\$ 649,962
240	Brine Line Debt Retirement	\$ 3,167,207	-	3,167,207	-	-	-	-	\$ 3,167,207
240	Brine Line - Pipeline Replacement & Capital Improvement	\$ 44,395,217		-	10,566,767	-	27,075,284	6,753,166	\$ 44,395,217
240	Brine Line - OC San Pipeline Rehabilitation	\$ 3,621,594	-	3,621,594	-	-	-	-	\$ 3,621,594
240	Brine Line - Pipeline Capacity Management	\$ 13,469,510	-	208,512	-	-	13,260,998	-	\$ 13,469,510
240	Brine Line - OC San Future Treatment & Disposal Capacity	\$ 2,062,225	-	2,062,225	-	-	-	-	\$ 2,062,225
240	Brine Line - YVWD Treatment Purchase	\$ 4,605,328	-	-	-	-	4,605,328	-	\$ 4,605,328
240	Brine Line - Operating Reserve	\$ 2,568,483	-	2,568,483	-	-	-	-	\$ 2,568,483
240	Brine Line - Operating Cash	\$ 2,042,530	-	2,042,530	-	-	-	-	\$ 2,042,530
401	Legal Defense Fund	\$ 537,206	-	-	-	537,206	-	-	\$ 537,206
374	Basin Monitoring Program TF	\$ 1,170,633	-	1,170,633	-	-	-	-	\$ 1,170,633
377	PFAS Study	\$ 942,263	-	942,263	-	-	-	-	\$ 942,263
378	Cloud Seeding	\$ 210,565	-	210,565	-	-	-	-	\$ 210,565
381	SAR Fish Conservation	\$ 87,976	-	87,976	-	-	-	-	\$ 87,976
384	Middle SAR TMDL TF	\$ 324,289	-	324,289	-	-	-	-	\$ 324,289
386	RWQ Monitoring TF	\$ 112,805	-	112,805	-	-	-	-	\$ 112,805
387	Mitigation Bank Credits	\$ 699,197	-	699,197	-	-	-	-	\$ 699,197
392	Emerging Constituents TF	\$ 325,374	-	325,374	-	-	-	-	\$ 325,374
504	Prop 84 - SARCCUP Projects	\$ 492,949	-	492,949	-	-	-	-	\$ 492,949
505	Prop 1 - Capital Projects	\$ 76,693	-	76,693	-	-	-	-	\$ 76,693
		\$ 84,213,178	\$ 1,737,872	\$ 19,676,557	\$ 10,566,767	\$ 537,206	\$ 44,941,610	\$ 6,753,166	\$ 84,213,178

Cash & Investments - October 2025

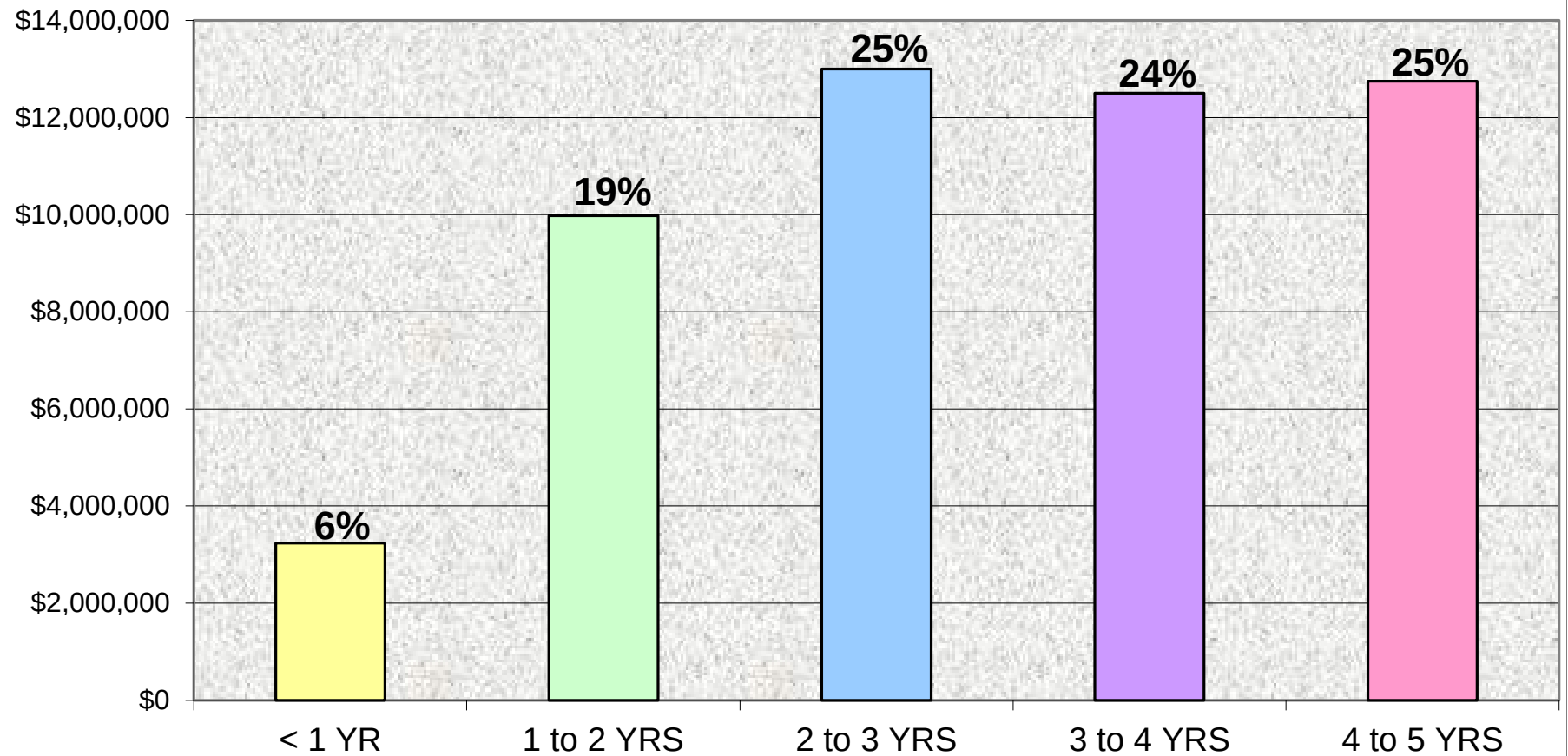
\$84,213,178



Santa Ana Watershed Project Authority
Reserve Account Analysis
October 31, 2025

Reserve Account	Balance @ 6/30/2025	Interest Earned	Fund Receipts/ Contributions	Inter-Fund Loans	Fund Expenses	Balance @ 10/31/2025	Estimated Fund Changes	Balance @ 6/30/2026
Brine Line Operating Cash	6,589,393	95,833	4,306,190		(8,948,886)	2,042,530		2,042,530
Brine Line Operating Reserve	2,361,615	45,175	161,693			2,568,483		2,568,483
OC San Future Treatment & Disposal Capacity	2,024,057	38,168				2,062,225		2,062,225
YVWD Treatment Purchase	4,520,062	85,266				4,605,328		4,605,328
Pipeline Capacity Management	13,220,214	249,296				13,469,510		13,469,510
Pipeline Replacement & Capital Investment	38,176,630	583,101	5,635,485			44,395,217	(2,632,558)	41,762,659
OC San Pipeline Rehabilitation	3,133,738	61,631	426,224			3,621,594		3,621,594
Debt Retirement	3,108,588	58,619				3,167,207		3,167,207
General Fund	3,216,000	47,918	750,549	(1,235,206)	(1,017,778)	1,761,482		1,761,482
Building Reserve	208,047	9,384	100,000			317,431		317,431
	76,558,345	1,274,392	11,380,140	(1,235,206)	(9,966,664)	78,011,007	(2,632,558)	75,378,449

Twelve Month Maturity Schedule Securities



SAWPA
TREASURER'S REPORT
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Investment Commercial
Safekeeping US Bank

Type	Security	Purchase Date	Maturity Date	Unit Cost	Cost	Principal	Current Value	Market Value	Interest Rate
Agency	FHLB	11/4/2022	9/10/2027	99.20	\$ 991,965.00	\$ 1,000,000.00	\$ 1,000,000.00	1,008,434.90	4.125%
Agency	FHLB	6/6/2023	6/9/2028	100.50	\$ 502,505.00	\$ 500,000.00	\$ 500,000.00	504,052.05	4.000%
Agency	FHLB	1/25/2024	6/30/2028	99.73	\$ 999,170.00	\$ 1,000,000.00	\$ 1,000,000.00	1,010,915.70	4.000%
Agency	FHLB	1/9/2025	12/14/2029	100.21	\$ 501,058.00	\$ 500,000.00	\$ 500,000.00	513,533.92	4.500%
Agency	FHLB	10/16/2025	10/4/2027	99.97	\$ 999,680.00	\$ 1,000,000.00	\$ 1,000,000.00	997,258.31	3.500%
Agency	FHLMC	10/24/2025	7/25/2028	100.50	\$ 502,519.53	\$ 500,000.00	\$ 500,000.00	499,749.35	3.926%
Agency	FHLMC	10/24/2025	4/25/2029	98.57	\$ 267,136.13	\$ 271,000.00	\$ 271,000.00	266,090.78	3.298%
Agency	FHLMC	10/24/2025	3/25/2029	95.08	\$ 95,082.03	\$ 100,000.00	\$ 100,000.00	94,523.58	2.120%
Agency	FHLMC	10/28/2025	11/25/2028	100.36	\$ 802,875.00	\$ 800,000.00	\$ 800,000.00	799,161.76	3.859%
Agency	USTN	4/19/2021	11/30/2025	98.25	\$ 982,500.00	\$ 1,000,000.00	\$ 1,000,000.00	997,025.00	0.375%
Agency	USTN	1/14/2025	12/31/2029	99.11	\$ 991,100.00	\$ 1,000,000.00	\$ 1,000,000.00	1,026,328.12	4.375%
Agency	USTN	9/11/2025	4/30/2029	97.80	\$ 978,007.81	\$ 1,000,000.00	\$ 1,000,000.00	974,843.75	2.875%
Agency	USTN	9/11/2025	4/30/2030	99.73	\$ 997,265.63	\$ 1,000,000.00	\$ 1,000,000.00	991,679.69	3.500%
Agency	USTN	9/11/2025	8/31/2029	100.33	\$ 1,003,281.25	\$ 1,000,000.00	\$ 1,000,000.00	998,281.25	3.625%
Agency	USTN	9/11/2025	9/15/2027	99.73	\$ 997,304.69	\$ 1,000,000.00	\$ 1,000,000.00	995,546.88	3.375%
Agency	USTN	9/11/2025	4/15/2028	100.62	\$ 1,006,171.88	\$ 1,000,000.00	\$ 1,000,000.00	1,003,085.94	3.750%
Agency	USTN	9/11/2025	4/30/2027	100.26	\$ 1,002,617.19	\$ 1,000,000.00	\$ 1,000,000.00	1,001,406.25	3.750%
Agency	USTN	9/11/2025	8/31/2030	100.22	\$ 1,002,187.50	\$ 1,000,000.00	\$ 1,000,000.00	996,015.62	3.625%
Agency	USTN	9/15/2025	9/15/2028	99.71	\$ 997,070.31	\$ 1,000,000.00	\$ 1,000,000.00	993,437.50	3.375%
Agency	USTN	10/16/2025	10/31/2029	102.09	\$ 1,020,898.44	\$ 1,000,000.00	\$ 1,000,000.00	1,016,484.38	4.125%
Agency	USTN	10/16/2025	6/15/2027	101.78	\$ 1,017,812.50	\$ 1,000,000.00	\$ 1,000,000.00	1,015,312.50	4.625%
Agency	USTN	10/16/2025	12/31/2026	100.78	\$ 1,007,812.50	\$ 1,000,000.00	\$ 1,000,000.00	1,005,898.44	4.250%
Agency	USTN	10/16/2025	12/31/2027	100.83	\$ 1,008,320.31	\$ 1,000,000.00	\$ 1,000,000.00	1,005,507.81	3.875%
Agency	USTN	10/16/2025	7/15/2028	100.98	\$ 1,009,843.75	\$ 1,000,000.00	\$ 1,000,000.00	1,006,640.62	3.875%
Agency	USTN	10/16/2025	6/30/2030	100.64	\$ 1,006,367.19	\$ 1,000,000.00	\$ 1,000,000.00	1,001,484.38	3.750%
Agency	USTN	10/16/2025	10/15/2028	100.02	\$ 1,000,234.38	\$ 1,000,000.00	\$ 1,000,000.00	996,796.88	3.500%
Agency	USTN	10/16/2025	6/30/2029	98.98	\$ 989,843.75	\$ 1,000,000.00	\$ 1,000,000.00	985,976.56	3.250%
Agency	USTN	10/28/2025	9/30/2030	100.00	\$ 1,000,039.06	\$ 1,000,000.00	\$ 1,000,000.00	995,781.25	3.625%
Agency	USTN	10/28/2025	8/15/2026	100.55	\$ 1,005,507.81	\$ 1,000,000.00	\$ 1,000,000.00	1,004,605.47	4.375%
Agency	USTN	10/28/2025	2/15/2027	100.70	\$ 1,006,992.19	\$ 1,000,000.00	\$ 1,000,000.00	1,005,390.62	4.125%
Agency	USTN	10/28/2025	3/31/2029	101.88	\$ 1,018,828.13	\$ 1,000,000.00	\$ 1,000,000.00	1,015,390.62	4.125%
Agency	USTN	10/28/2025	2/28/2030	101.62	\$ 1,016,171.88	\$ 1,000,000.00	\$ 1,000,000.00	1,012,187.50	4.000%
Agency	USTN	10/28/2025	2/15/2028	101.64	\$ 1,016,445.31	\$ 1,000,000.00	\$ 1,000,000.00	1,013,867.19	4.250%
ABS	CITI Credit Card Issuance	10/10/2025	6/21/2030	101.00	\$ 252,500.00	\$ 250,000.00	\$ 250,000.00	252,452.93	4.300%
ABS	BMW Vehicle Lease	10/15/2025	9/25/2028	100.00	\$ 254,999.29	\$ 255,000.00	\$ 255,000.00	254,831.16	3.970%
ABS	American Express Credit	10/17/2025	7/15/2030	101.55	\$ 507,773.44	\$ 500,000.00	\$ 500,000.00	505,727.10	4.300%
ABS	Mercedes-Benz Auto	10/22/2025	4/16/2029	99.98	\$ 509,916.31	\$ 510,000.00	\$ 510,000.00	509,916.31	3.880%
ABS	Toyota Auto	10/23/2025	6/17/2030	99.99	\$ 304,964.93	\$ 305,000.00	\$ 305,000.00	304,251.99	3.840%
ABS	Honda Auto	10/24/2025	9/21/2029	101.32	\$ 759,873.05	\$ 750,000.00	\$ 750,000.00	757,395.00	4.570%

SAWPA
TREASURER'S REPORT
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Investment Commercial
Safekeeping US Bank

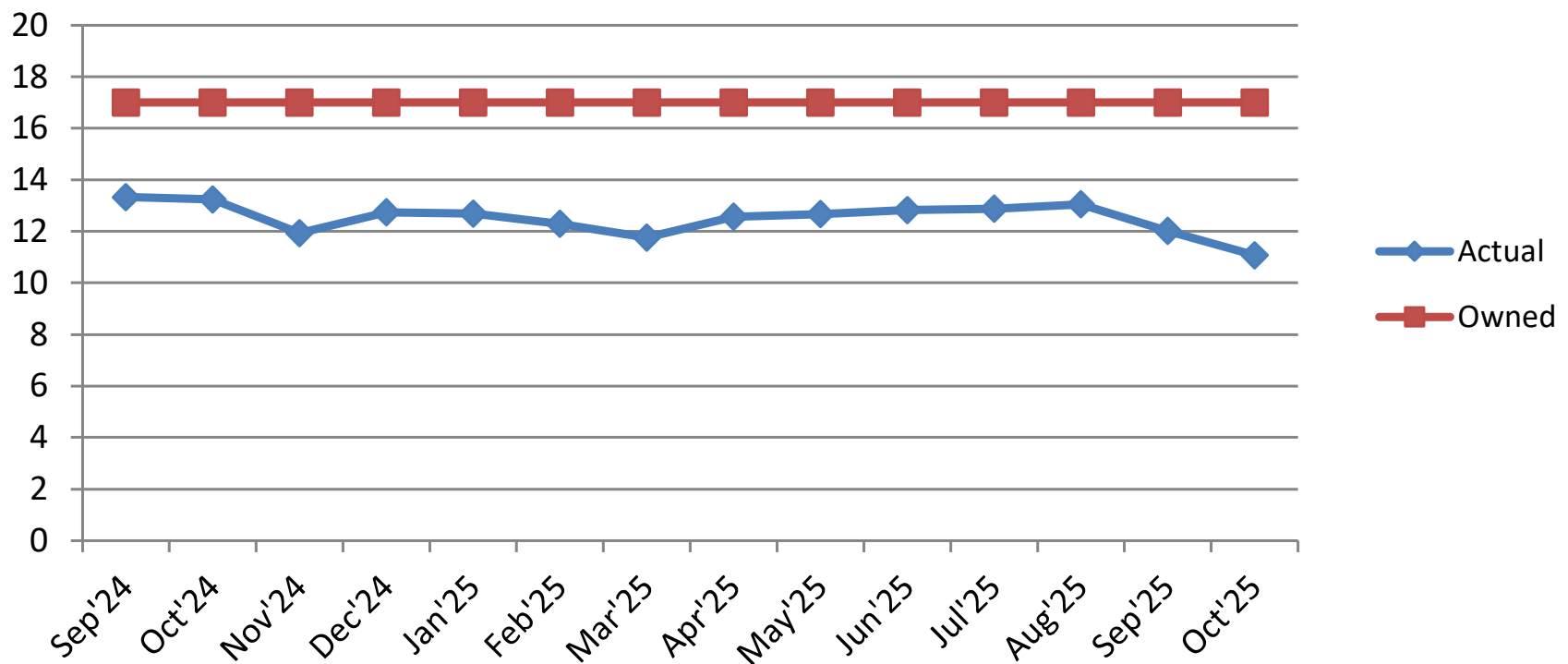
Type	Security	Purchase Date	Maturity Date	Unit Cost	Cost	Principal	Current Value	Market Value	Interest Rate
ABS	BA Credit Card Trust	10/24/2025	5/15/2029	101.77	\$ 763,242.19	\$ 750,000.00	\$ 750,000.00	761,429.40	4.930%
ABS	Chase Issuance Trust	10/24/2025	7/15/2030	101.10	\$ 505,507.81	\$ 500,000.00	\$ 500,000.00	503,796.15	4.160%
ABS	Chase Issue TR	10/28/2025	1/15/2029	100.92	\$ 504,589.85	\$ 500,000.00	\$ 500,000.00	504,216.35	4.600%
CORP	Home Depot Inc.	9/15/2025	9/15/2030	99.64	\$ 124,551.25	\$ 125,000.00	\$ 125,000.00	124,400.50	3.950%
CORP	Home Depot Inc.	9/15/2025	9/15/2030	99.69	\$ 124,612.50	\$ 125,000.00	\$ 125,000.00	124,400.50	3.950%
CORP	JP Morgan Chase	9/19/2025	6/14/2030	101.42	\$ 405,668.00	\$ 400,000.00	\$ 400,000.00	404,784.28	4.565%
CORP	Realty Income Corp	10/6/2025	2/1/2029	99.41	\$ 695,884.00	\$ 700,000.00	\$ 700,000.00	696,212.41	3.950%
CORP	Pepsico Inc.	10/21/2025	7/23/2030	101.47	\$ 659,548.50	\$ 650,000.00	\$ 650,000.00	655,524.37	4.300%
CORP	US Bank NA Cincinnati	10/21/2025	5/15/2028	101.11	\$ 505,530.00	\$ 500,000.00	\$ 500,000.00	504,192.40	4.730%
CORP	Toyota Motor Credit Corp	10/21/2025	9/5/2028	100.65	\$ 503,270.00	\$ 500,000.00	\$ 500,000.00	501,058.93	4.050%
CORP	Prologis LP	10/21/2025	9/15/2028	100.44	\$ 502,180.00	\$ 500,000.00	\$ 500,000.00	499,846.46	4.000%
CORP	Bank of America Corp	10/21/2025	7/23/2030	96.80	\$ 338,793.00	\$ 350,000.00	\$ 350,000.00	337,588.18	3.194%
CORP	Morgan Stanley Pvt Bank	10/21/2025	7/6/2028	100.77	\$ 302,310.00	\$ 300,000.00	\$ 300,000.00	301,563.07	4.466%
CORP	JP Morgan Chase & Co.	10/21/2025	5/1/2028	99.34	\$ 298,008.00	\$ 300,000.00	\$ 300,000.00	297,357.03	3.540%
CORP	Morgan Stanley	10/22/2025	10/18/2029	100.00	\$ 115,000.00	\$ 115,000.00	\$ 115,000.00	114,740.81	4.133%
CORP	Morgan Stanley	10/22/2025	10/18/2029	100.03	\$ 105,027.30	\$ 105,000.00	\$ 105,000.00	104,763.35	4.133%
CORP	Caterpillar Finl Service	10/22/2025	8/15/2028	100.89	\$ 504,435.00	\$ 500,000.00	\$ 500,000.00	502,465.48	4.100%
CORP	Target Corp	10/22/2025	9/15/2030	94.16	\$ 470,790.00	\$ 500,000.00	\$ 500,000.00	468,034.46	2.650%
CORP	Home Depot Inc.	10/22/2025	9/15/2030	100.07	\$ 250,170.00	\$ 250,000.00	\$ 250,000.00	248,800.99	3.950%
CORP	Abbvie Inc.	10/24/2025	11/21/2029	97.06	\$ 485,305.00	\$ 500,000.00	\$ 500,000.00	483,315.40	3.200%
CORP	BMW Vehicle Lease	10/28/2025	6/26/2028	100.86	\$ 504,277.35	\$ 500,000.00	\$ 500,000.00	503,539.25	4.430%
CORP	Bank of America Corp.	10/28/2025	5/9/2029	101.46	\$ 507,300.00	\$ 500,000.00	\$ 500,000.00	506,042.20	4.623%
CORP	American Express	10/28/2025	7/20/2029	100.88	\$ 655,739.50	\$ 650,000.00	\$ 650,000.00	653,697.95	4.351%
CORP	Florida PWR & LT Co	10/28/2025	5/15/2028	101.35	\$ 658,781.50	\$ 650,000.00	\$ 650,000.00	656,822.92	4.400%
CORP	Chubb INA Holdings	10/28/2025	8/15/2029	102.40	\$ 665,626.00	\$ 650,000.00	\$ 650,000.00	662,898.26	4.650%
CORP	Qualcomm Inc.	10/28/2025	5/20/2030	102.02	\$ 663,149.50	\$ 650,000.00	\$ 650,000.00	659,842.25	4.500%
EQUITY	Duke Energy Carolinas	10/22/2025	2/1/2030	94.12	\$ 611,773.50	\$ 650,000.00	\$ 650,000.00	607,651.92	2.450%
CD	Goldman Sachs Group Inc.	10/21/2025	10/21/2029	100.00	\$ 110,000.00	\$ 110,000.00	\$ 110,000.00	109,658.03	4.153%
CD	Beal Bank USA	8/17/2022	8/12/2026	100.00	\$ 245,000.00	\$ 245,000.00	\$ 245,000.00	244,026.03	3.200%
CD	Capital One Bank USA	5/25/2022	5/25/2027	100.00	\$ 246,000.00	\$ 246,000.00	\$ 246,000.00	244,231.48	3.200%
CD	Morgan Stanley Private Bank	11/15/2022	11/15/2027	100.00	\$ 248,000.00	\$ 248,000.00	\$ 248,000.00	249,058.71	5.000%
CD	Cooperative Center FSU	12/29/2022	12/29/2025	100.00	\$ 249,000.00	\$ 249,000.00	\$ 249,000.00	249,289.61	4.650%
CD	Affinity Bank	3/17/2023	3/17/2028	100.00	\$ 248,000.00	\$ 248,000.00	\$ 248,000.00	254,922.45	4.900%
CD	Discover Bank	3/22/2023	3/23/2027	100.00	\$ 243,000.00	\$ 243,000.00	\$ 243,000.00	247,591.85	5.050%
CD	Global Fed CR UN - Alaska	5/12/2023	5/12/2027	100.00	\$ 249,000.00	\$ 249,000.00	\$ 249,000.00	252,496.28	4.600%
CD	UBS Bank USA	5/17/2023	5/17/2027	100.00	\$ 249,000.00	\$ 249,000.00	\$ 249,000.00	252,340.31	4.550%
CD	BMW Bank of North America	6/16/2023	6/16/2026	100.00	\$ 244,000.00	\$ 244,000.00	\$ 244,000.00	245,248.62	4.600%
CD	Farmers Insurance Group	7/26/2023	7/27/2026	100.00	\$ 248,000.00	\$ 248,000.00	\$ 248,000.00	250,547.60	5.100%
CD	Chartway Federal Credit Unio	9/8/2023	9/8/2027	100.00	\$ 248,000.00	\$ 248,000.00	\$ 248,000.00	253,971.79	5.000%

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Safekeeping US Bank

Type	Security	Purchase Date	Maturity Date	Unit Cost	Cost	Principal	Current Value	Market Value	Interest Rate
CD	Greenstate Credit Union	9/26/2023	9/26/2028	100.00	\$ 248,000.00	\$ 248,000.00	\$ 248,000.00	256,873.74	5.000%
CD	Empower Fed Cedit Union	9/29/2023	9/29/2027	100.00	\$ 248,000.00	\$ 248,000.00	\$ 248,000.00	254,611.85	5.100%
CD	US Alliance Fed Credit Union	9/29/2023	9/29/2028	100.00	\$ 248,000.00	\$ 248,000.00	\$ 248,000.00	257,578.98	5.100%
CD	Numerica Credit Union	11/10/2023	11/10/2026	100.00	\$ 248,000.00	\$ 248,000.00	\$ 248,000.00	252,720.04	5.550%
CD	Heritage Community CR UN	11/15/2023	11/16/2026	100.00	\$ 248,000.00	\$ 248,000.00	\$ 248,000.00	252,577.86	5.450%
CD	Members Trust of SW FCU	1/19/2024	1/19/2029	100.00	\$ 249,000.00	\$ 249,000.00	\$ 249,000.00	251,152.61	4.000%
CD	Hughes FCU	1/29/2024	1/29/2027	100.00	\$ 249,000.00	\$ 249,000.00	\$ 249,000.00	251,270.71	4.400%
CD	Farmers & Merchants TR	1/30/2024	2/1/2027	100.00	\$ 249,000.00	\$ 249,000.00	\$ 249,000.00	250,522.54	4.150%
CD	Nicolet National Bank	3/8/2024	3/8/2029	100.00	\$ 249,000.00	\$ 249,000.00	\$ 249,000.00	253,147.94	4.250%
CD	Medallion Bank	3/13/2024	3/15/2027	100.00	\$ 249,000.00	\$ 249,000.00	\$ 249,000.00	252,082.60	4.600%
CD	Wells Fargo Bank	3/12/2024	3/12/2027	100.00	\$ 249,000.00	\$ 249,000.00	\$ 249,000.00	251,791.51	4.500%
CD	Toyota Financial SGS Bank	5/24/2024	5/24/2029	100.00	\$ 244,000.00	\$ 244,000.00	\$ 244,000.00	250,915.89	4.600%
CD	First Foundation Bank	5/22/2024	5/22/2029	100.00	\$ 244,000.00	\$ 244,000.00	\$ 244,000.00	250,908.35	4.600%
CD	Citizens Bank	1/10/2025	1/10/2030	100.00	\$ 249,000.00	\$ 249,000.00	\$ 249,000.00	249,967.74	3.850%
CD	Morgan Stanley Bank NA	5/28/2025	5/28/2030	100.00	\$ 244,000.00	\$ 244,000.00	\$ 244,000.00	248,004.76	4.250%
CD	Alliant Credit Union	12/30/2022	12/30/2025	100.00	\$ 248,000.00	\$ 248,000.00	\$ 248,000.00	248,482.06	5.100%
					\$51,555,710.92	\$ 51,451,000.00	\$51,451,000.00	51,612,246.27	4.096%

Average Daily Flow by Month





SUMMARY OF LABOR MULTIPLIERS

		Benefit Rate
Total Employee Benefits	653,646	0.423
Total Payroll	1,545,932	
Gross Indirect Costs	1,436,640	
Less: Member Contributions & Other Revenue	(523,744)	
Indirect Costs for Distribution	912,896	
		Indirect Rate
Direct Labor	758,994	1.203
Indirect Costs	912,896	

FY 2025-26 Labor multiplier - thru 10/31/25

1.626

FY 2025-26 Budgeted Labor multiplier

2.163

FY 2024-25 Labor multiplier

2.170

FY 2023-24 Labor multiplier

2.060

FY 2022-23 Labor multiplier

1.984



INDIRECT COSTS

(to be Distributed)

<u>G/L Acct.</u>	<u>Description</u>	<u>Actual thru</u> <u>10/31/25</u>
51000	Salaries - Regular	\$ 786,939
52000	Benefits	\$ 103,449
60111	Tuition Reimbursement	\$ -
60112	Training	\$ 6,024
60113	Education	\$ 1,257
60114	Other Training & Education	\$ 2,255
60120	Audit Fees	\$ 18,088
60121	Consulting	\$ 47,665
60126	Temporary Services	\$ -
60128	Other Professional Services	\$ 1,790
60129	Other Contract Services	\$ 160
60130	Legal Fees	\$ 54,032
60133	Employment Recruitment	\$ -
60145	Permit Fees	\$ -
60154	Safety	\$ 4,469
60155	Security	\$ 2,662
60156	Custodial Contract Services	\$ 6,828
60157	Landscaping Maintenance	\$ 7,985
60158	HVAC	\$ 1,750
60159	Facility Repair & Maintenance	\$ 14,662
60160	Telephone	\$ 6,829
60161	Cellular Services	\$ 3,642
60163	Electricity	\$ 7,168
60164	Water Services	\$ 844
60170	Equipment Expensed	\$ 15,798
60171	Equipment Rented	\$ 6,303

(Continued - next column)

<u>G/L Acct.</u>	<u>Description</u>	<u>Actual thru</u> <u>10/31/25</u>
60172	Equipment Repair / Maintenance	\$ 124
60180	Computer Hardware	\$ 1,070
60181	Computer Software	\$ 81,794
60182	Internet Services	\$ -
60183	Computer Supplies	\$ 987
60184	Computer Repair/Maint	\$ -
60185	Cloud Storage	\$ 12,092
60190	Offsite Meeting/Travel Expense	\$ 452
60191	In House Meetings	\$ 2,045
60192	Conference Expense	\$ 6,460
60193	Car, Repair, Maintenance	\$ -
60200	Dues	\$ 29,954
60202	Subscriptions	\$ 8,692
60203	Contributions	\$ 12,000
60210	Bank Charges	\$ -
60211	Shipping/Postage	\$ 270
60212	Office Supplies	\$ 2,947
48000	Commission Fees	\$ 17,010
60221	Commission Mileage Reimb.	\$ 1,095
60222	Other Commission Expense	\$ -
60230	Other Expense	\$ 3,921
60240	Building Lease	\$ 2,664
81010	Retiree Medical Expense	\$ 23,849
80001	Insurance Expense	\$ 28,615
80000	Building Repair/Replacement Reserve	\$ 100,000
80000	Fixed Assets	\$ -

Total Costs \$ 1,436,640

Direct Costs Paid by Projects	\$ 1,277,552
Member Contribution Offset	\$ 500,000
Interest & Other Revenue Offset	\$ 23,744
	\$ 1,801,296

Over (Under) Allocation %	25.0%
Over (Under) Allocation of General Fund Costs	\$ 364,656



BENEFITS SUMMARY

(Distributed based on Actual Labor)

<u>G/L Acct</u>	<u>Description</u>	<u>Budget</u>	<u>Actual @ 10/31/25</u>	<u>Projected FYE 2026</u>
70101	FICA Expense	\$ 268,773	\$ 71,013	\$ 213,039
70102	Medicare Expense	\$ 70,719	\$ 21,175	\$ 63,526
70103	State Unemployment Insurance	\$ 4,158	\$ 96	\$ 4,000
70104	Worker's Compensation Insurance	\$ 52,589	\$ 13,622	\$ 40,865
70105	State Disability Insurance	\$ 56,975	\$ 15,626	\$ 46,877
70106	PERS Pension Plan	\$ 720,582	\$ 323,270	\$ 720,582
70111	Medical Expense	\$ 630,438	\$ 174,219	\$ 522,657
70112	Dental Expense	\$ 43,085	\$ 11,610	\$ 34,830
70113	Vision Insurance	\$ 7,785	\$ 2,271	\$ 6,814
70114	Life Insurance Expense	\$ 17,228	\$ 5,356	\$ 16,069
70115	Long Term Disability	\$ 20,512	\$ 6,211	\$ 18,632
70116	Wellness Program Expense	\$ 4,200	\$ 376	\$ 4,200
70120	Car Allowance	\$ 47,400	\$ 8,800	\$ 47,400
	Total Benefits	\$ 1,944,444	\$ 653,646	\$ 1,739,491
	Total Payroll	\$ 4,829,649	\$ 1,545,932	\$ 4,637,797
	Benefits Rate	40.3%	42.3%	37.5%

Santa Ana Watershed Project Authority
Labor Hours Budget vs Actual
Month Ending October 31, 2025

Fund		Budget	Actual	%
100	General Fund	29,597	8,778	29.66%
145	Prop 84 - 2015 Program Mgmt	1,780	209	11.73%
150	Prop1 - Program Management	660	135	20.45%
155	Prop1 Round 2	955	611	64.01%
240	Brine Line Enterprise	18,830	6,377	33.87%
320	Brine Line Protection	250	-	0.00%
370-01	Basin Planning General	1,850	436	23.55%
370-02	USBR Partnership Studies	145	-	0.00%
373	Watershed Management (OWOW)	1,940	466	24.03%
374	Basin Monitoring Program TF	415	114	27.35%
376	ICARP	414	177	42.69%
377	PFAS Study	414	52	12.62%
378	Weather Modification	410	-	0.00%
381	SAR Fish Conservation	190	131	68.95%
384-01	MSAR TMDL TF	165	46	27.73%
386MONIT	RWQ Monitoring TF	125	19	15.40%
387	Arundo Removal & Habitat Restoration	315	45	14.21%
392	Emerging Constituents TF	355	31	8.80%
397ADMIN	WECAN Riverside	192	112	58.46%
398RELIE	DACI	130	63	48.27%
477-02	LESJWA - Administration	390	120	30.83%
477TMDL	LESJWA - TMDL Task Force	330	94	28.41%
504-401IMPLE	Prop 84 - Final Round Implementation	-	-	0.00%
504-401PA23	Prop 84 - Final Round PA23 Admin	-	3	300.00%
504-402PA22	Prop84 - Final Round PA22 Admin	-	3	0.00%
504-402RATES	Prop 84 - Final Round Water Rates	-	-	0.00%
505-00	Prop1 - Capital Projects	610	43	7.01%
		60,462	18,064	29.88%

Note: Should be at 33.33% of budget for 4 months

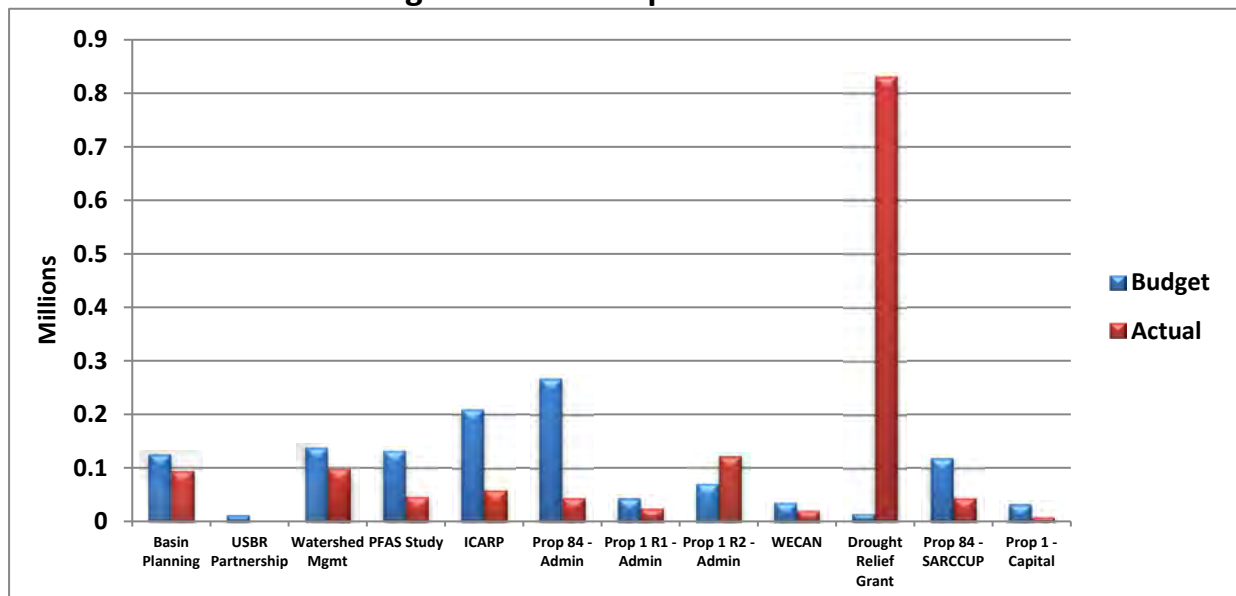
Santa Ana Watershed Project Authority
PA25 - OWOW Fund - Financial Report
September 2025

Staff comments provided on the last page are an integral part of this report.

Overview	This report highlights the agency's key financial indicators for the Fiscal Year-to-Date (FYTD) through September 2025 unless otherwise noted.

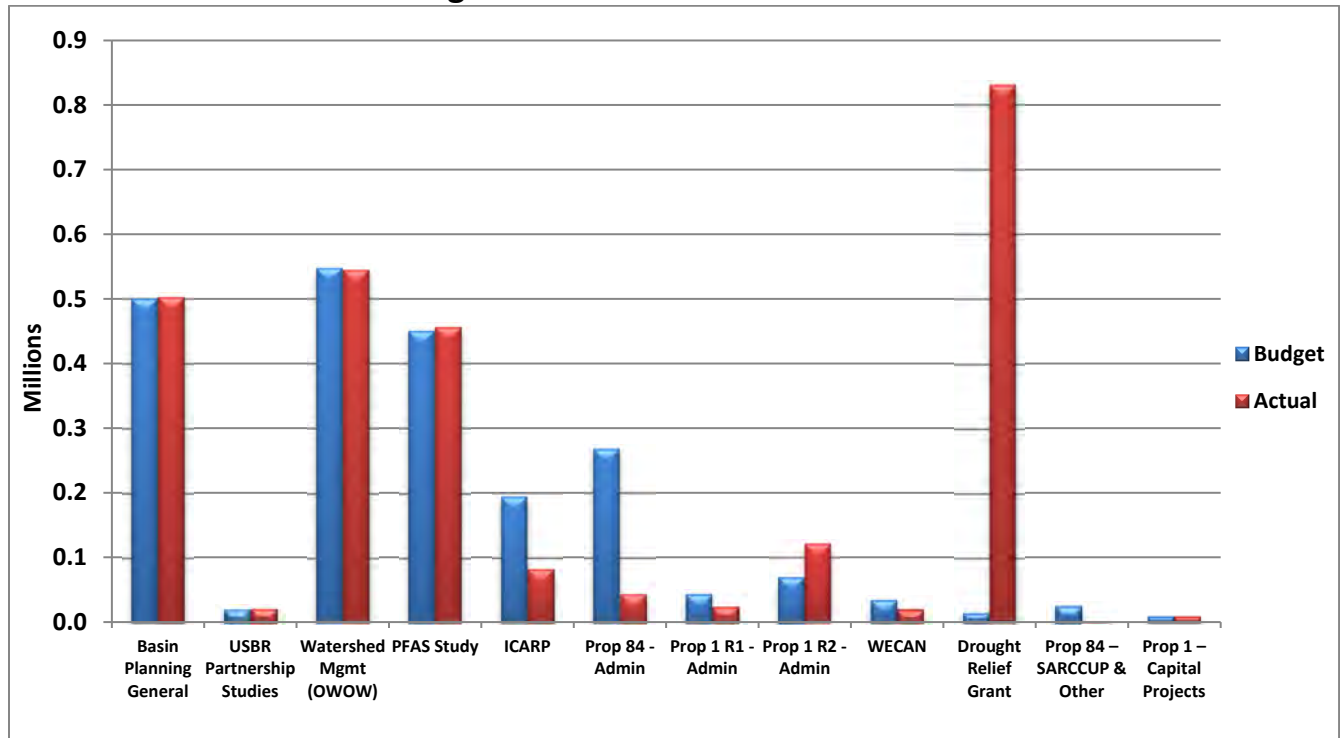
Budget to Actual Expenses - OWOW				Concern
	Annual Budget	FYTD Budget	FYTD Actual	Favorable (Unfavorable) Variance
Basin Planning General	\$496,690	\$124,173	\$93,911	\$30,262
USBR Partnership Studies	47,921	11,980	-	11,980
Watershed Mgmt. (OWOW)	547,789	136,947	97,802	39,145
PFAS Study	836,766	209,192	59,200	149,992
ICARP	527,229	131,807	47,366	84,441
Prop 84 - Administration	534,786	267,393	44,747	222,646
Prop 1 R1 – Administration	172,540	43,135	24,337	18,798
Prop 1 R2 - Administration	280,675	70,169	120,907	(50,738)
WECAN - Riverside	68,546	34,273	20,215	14,058
Drought Relief Grant DACI	4,475,423	15,312	831,022	(815,710)
Prop 84 – SARCCUP & Other	193,723	118,487	44,742	73,745
Prop 1 – Capital Projects	129,558	32,390	9,451	22,939
Total	\$8,311,646	\$1,195,258	\$1,393,700	(\$198,442)

Budget to Actual Expenses - OWOW



Budget to Actual Revenues - OWOW				 Favorable
	Annual Budget	FYTD Budget	FYTD Actual	Favorable (Unfavorable) Variance
Basin Planning General	\$500,000	\$500,000	\$502,697	\$2,697
USBR Partnership Studies	20,000	20,000	20,645	645
Watershed Mgmt. (OWOW)	547,300	547,300	544,495	(2,805)
PFAS Study	450,000	450,000	456,107	6,107
ICARP	527,229	194,245	83,250	(110,995)
Prop 84 - Administration	534,786	267,393	44,747	(222,646)
Prop 1 R1 – Administration	172,540	43,135	24,337	(18,798)
Prop 1 R2 - Administration	280,675	70,169	120,907	50,738
WECAN - Riverside	68,546	34,273	20,215	(14,058)
Drought Relief Grant - DACI	4,475,423	15,312	831,072	815,760
Prop 84 – SARCCUP & Other	50,473	25,237	1,492	(23,745)
Prop 1 – Capital Projects	37,428	9,357	9,451	94
Total	\$7,664,400	\$2,176,421	\$2,659,415	\$482,994

Budget to Actual Revenues - OWOW



Reserve Fund Balance

	Amount
Basin Planning General	\$508,612
USBR Partnership Studies	90,393
Watershed Management (OWOW)	670,871
PFAS Study	953,005
Cloud Seeding	208,831
Proposition 84 – SARCCUP & Other	1,603,999
Proposition 1 – Capital Projects	80,496
Total Reserves	\$4,116,207

Legend

Compared to Budget

	Ahead or Favorable	Above +5% Favorable Revenue or Expense Variance
	On Track	+5% to -2% Variance
	Behind	-3% to -5% Variance
	Concern	Below -5% Variance

Staff Comments

For this month's report, the item(s) explained below are either "behind", a "concern", or have changed significantly from the prior month.

Expenses were 16.6% over budget and revenues were 22.2% over budget. Both are over budget because several invoices were received from our partner, California Rural Water Association, related to the Drought Relief Grant Program. It is expected that both will be on track with the budget by the end of the year.

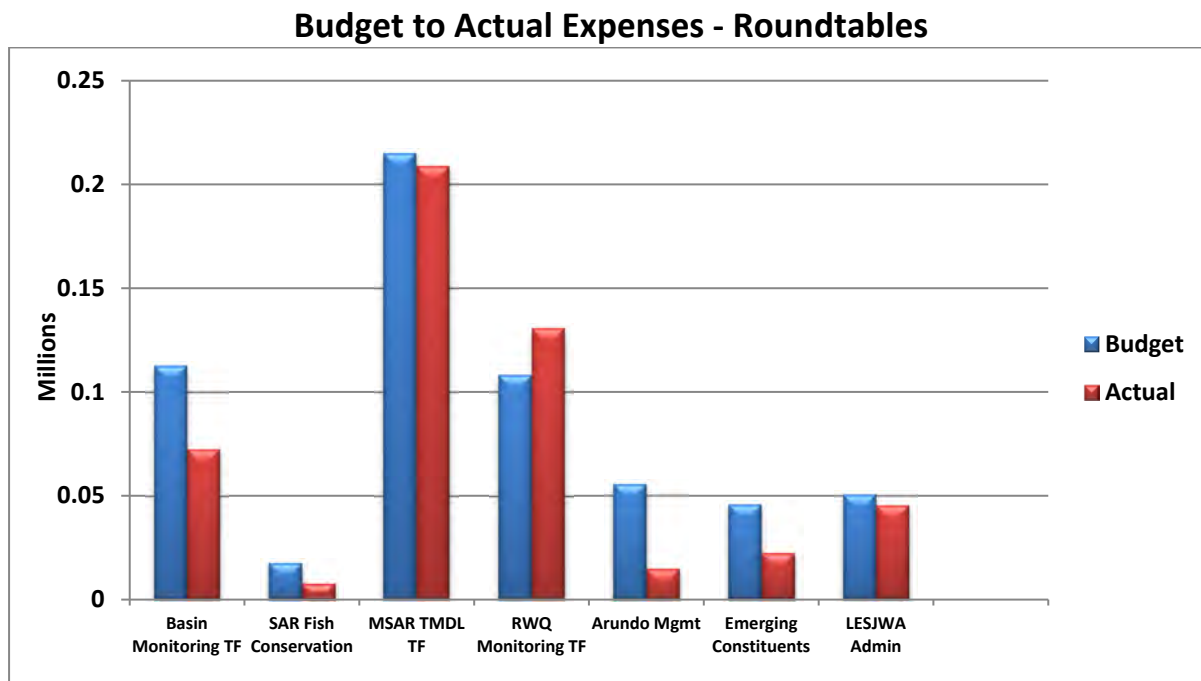
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Santa Ana Watershed Project Authority
PA26 - Roundtable Fund - Financial Report
September 2025

Staff comments provided on the last page are an integral part of this report.

Overview	This report highlights the agency's key financial indicators for the Fiscal Year-to-Date (FYTD) through September 2025 unless otherwise noted.

Budget to Actual Expenses - Roundtables				 Favorable
	Annual Budget	FYTD Budget	FYTD Actual	Favorable (Unfavorable) Variance
Basin Monitoring TF	\$451,230	\$112,808	\$72,521	\$40,287
SAR Fish Conservation	70,455	17,614	7,853	9,761
MSAR TMDL TF	505,880	214,970	208,653	6,317
RWQ Monitoring TF	432,195	108,049	130,765	(22,716)
Arundo Mgmt.	222,088	55,522	14,964	40,558
Emerging Constituents	182,382	45,596	22,437	23,159
LESJWA Admin	202,111	50,528	45,285	5,243
Total	\$2,066,341	\$605,087	\$502,478	\$102,609



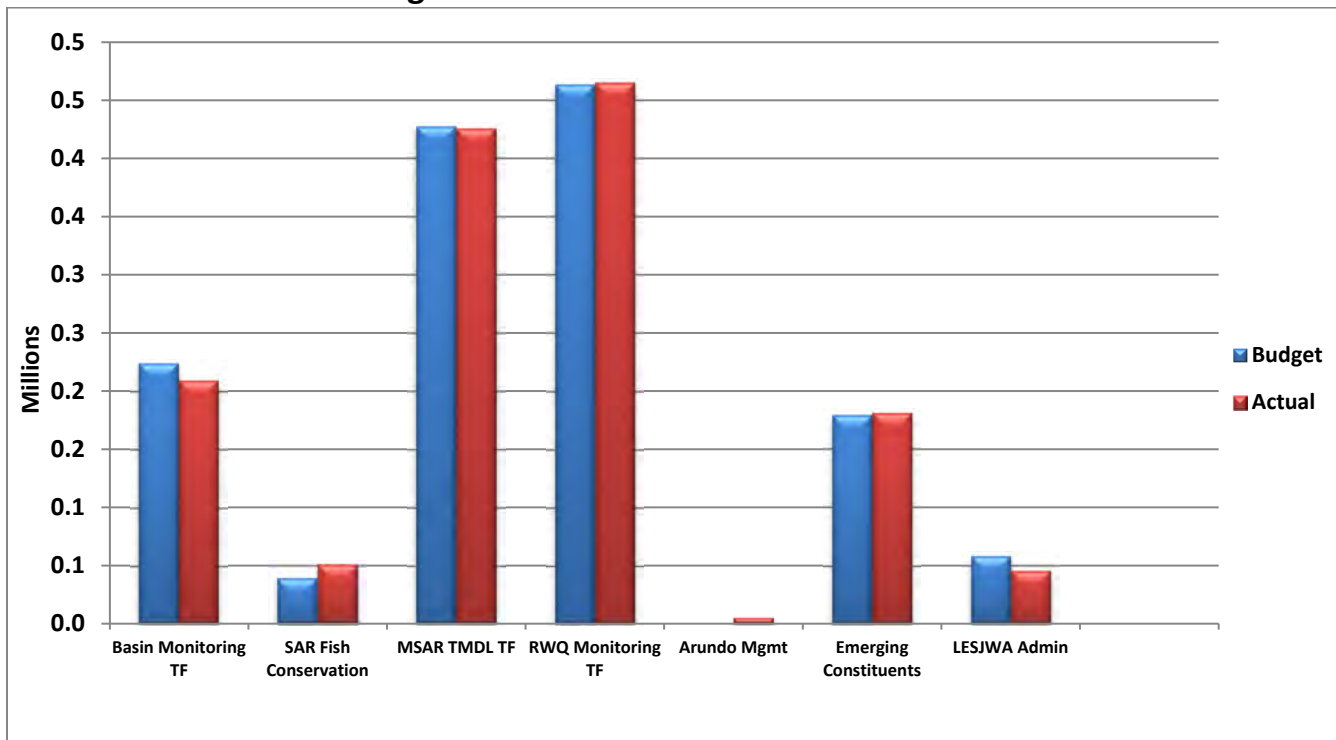
Budget to Actual Revenues - Roundtables



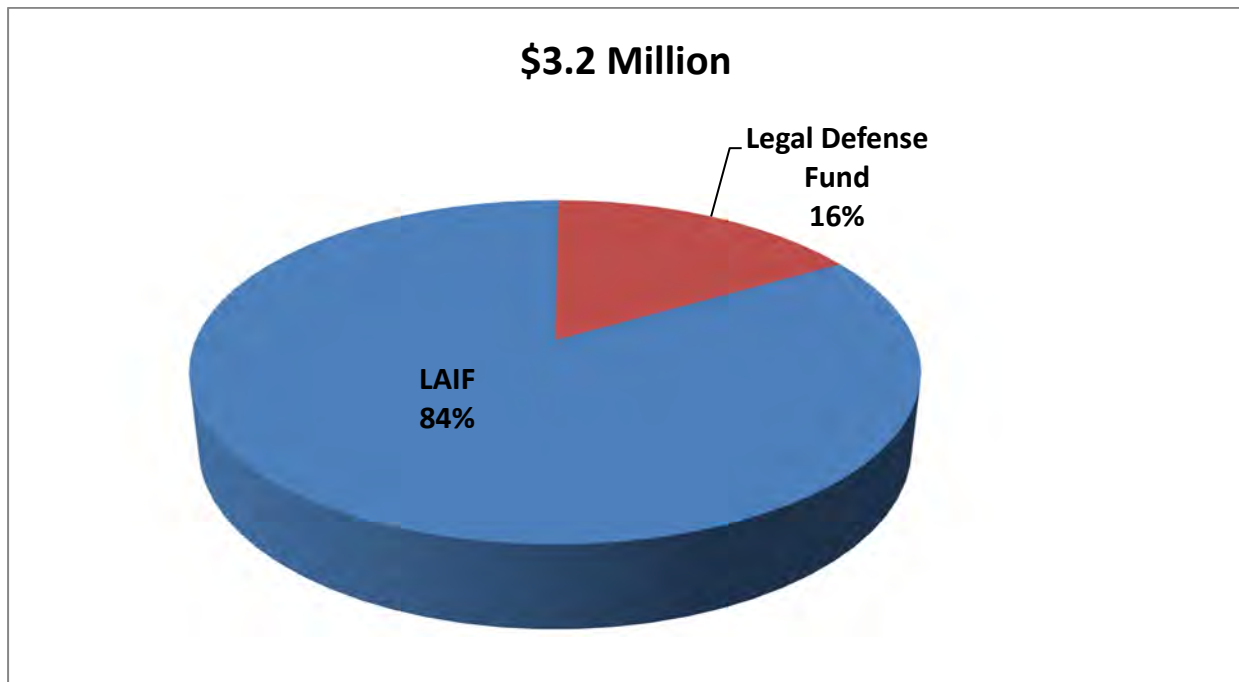
On Track

	Annual Budget	FYTD Budget	FYTD Actual	Favorable (Unfavorable) Variance
Basin Monitoring TF	\$224,043	\$224,043	\$209,398	(\$14,645)
SAR Fish Conservation	39,000	39,000	50,819	11,819
MSAR TMDL TF	427,200	427,200	425,492	(1,708)
RWQ Monitoring TF	463,334	463,334	464,881	1,547
Arundo Mgmt.	2,014,560	-	5,548	5,548
Emerging Constituents	178,841	178,841	180,892	2,051
LESJWA Admin	202,111	58,028	45,285	(12,743)
Total	\$3,549,089	\$1,390,446	\$1,382,315	(\$8,131)

Budget to Actual Revenues - Roundtables



Total Cash & Investments



Reserve Fund Balance

	Amount
Basin Monitoring Task Force	\$1,155,662
SAR Fish Conservation	107,021
Middle SAR TMDL Task Force	255,426
Regional Water Quality Monitoring Task Force	170,531
Arundo Management & Habitat	694,273
Emerging Constituents Task Force	330,540
Legal Defense Fund	535,905
Total Reserves	\$3,249,358

Legend

Compared to Budget

	Ahead or Favorable	Above +5% Favorable Revenue or Expense Variance
	On Track	+5% to -2% Variance
	Behind	-3% to -5% Variance
	Concern	Below -5% Variance

Staff Comments

For this month's report, the item(s) explained below are either "behind", a "concern", or have changed significantly from the prior month.

Expenses are 16.9% below budget and revenues are less than 1% below budget. Both are expected to be on track with the budget by the end of the year.



Santa Ana Watershed Project Authorit
General Manager - Expense Report
1st Quarter FYE 2026

Staff	Williams

Sum of Amount		Expn Type	
Posting Date	Activity	Airfare	Grand Total
09/30/2025	AGA Quarterly Meeting	196.97	196.97
09/30/2025 Total		196.97	196.97
Grand Total		196.97	196.97

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Santa Ana Watershed Project Authority
Staff - Expense Report
1st Quarter 2026

Sum of Amount			Expn Type				
Staff	Posting Date	Activity	Meals	Mileage	Misc.	Registration	Grand Total
Achimore	07/31/2025	Attend SAWPA Commission Meeting at WMWD		20.93			20.93
		Drive to EMWD for Basin Monitoring Podcast		45.43			45.43
	07/31/2025 Total			66.36			66.36
	08/31/2025	Attend SAWPA Commission Meeting at SBVMWD		53.62			53.62
		Attend Two Prop84 Sites with DWR		14.91			14.91
		OC Water Summit				164.50	164.50
	08/31/2025 Total			68.53		164.50	233.03
	09/30/2025	Attend Meeting with Riverside County Regional Park		18.62			18.62
		Attend SAWPA Commission Meeting at SBVMWD		26.81			26.81
	09/30/2025 Total			45.43			45.43
Achimore Total				180.32		164.50	344.82
Fuentes	07/31/2025	BIA SoCal Water Conference for Karen and Shavonne				250.00	250.00
	07/31/2025 Total					250.00	250.00
Fuentes Total						250.00	250.00
Gohari	07/31/2025	Investigation Appointment with Stream, Kim, Hicks		7.15			7.15
	07/31/2025 Total			7.15			7.15
	08/31/2025	BIA Southern California Water Conference		20.23			20.23
		Drove to a Notary for LESJWA's sam.gov Account		5.11			5.11
	08/31/2025 Total			25.34			25.34
	09/30/2025	ACWA Fall Conference				999.00	999.00
		Drive to Fairmount Park for a MSAR Meeting		17.02			17.02
		OCWD Meeting		60.10			60.10
	09/30/2025 Total			77.12		999.00	1,076.12
Gohari Total				109.61		999.00	1,108.61
Gonzalez	07/31/2025	Commission Meeting Goods			587.20		587.20
		Misc. Travel		7.49			7.49
	07/31/2025 Total			7.49	587.20		594.69
	08/31/2025	Commission Meeting Goods			848.36		848.36
		Occupational Health Appointment at Kaiser		3.22			3.22
	08/31/2025 Total			3.22	848.36		851.58
	09/30/2025	Commission Meeting Goods			608.94		608.94
		Misc. Travel		9.94			9.94
	09/30/2025 Total			9.94	608.94		618.88
Gonzalez Total				20.65	2,044.50		2,065.15

Lewis	07/30/2025	CA Payroll Conference					350.00	350.00	
	07/30/2025 Total						350.00	350.00	
Lewis Total							350.00	350.00	
Turner	08/31/2025	PSHRA One Day Conference					190.00	190.00	
	08/31/2025 Total						190.00	190.00	
	09/30/2025	ACWA Fall Conference					999.00	999.00	
		Calpelra Conference					925.00	925.00	
		CalPERS Educational Forum					599.00	599.00	
09/30/2025 Total						2,523.00	2,523.00		
Turner Total							2,713.00	2,713.00	
Unger	08/31/2025	Lunch for Dean and Dan with Sol Media			35.75			35.75	
	08/31/2025 Total				35.75			35.75	
Unger Total							35.75	35.75	
Whetsel	07/31/2025	Drive to City of Orange for City Council Chambers for Regional Board Workshop			31.50			31.50	
	07/31/2025 Total				31.50			31.50	
	09/30/2025	Attend Canyon Lake POA Meeting for Alum Project			44.80			44.80	
	09/30/2025 Total				44.80			44.80	
Whetsel Total							76.30	76.30	
Grand Total					35.75	386.88	2,044.50	4,476.50	6,943.63

COMMISSION MEMORANDUM NO. 2025.96

DATE: December 16, 2025

TO: SAWPA Commission

SUBJECT: Budget vs. Actual Variance Report
FYE 2026 First Quarter – September 30, 2025

PREPARED BY: Karen Williams, General Manager

RECOMMENDATION

It is recommended that the Commission receive and file the informational report on FYE 2026 First Quarter Budget vs. Actual Variance Report.

DISCUSSION

Staff has prepared the quarterly Budget vs. Actual Variance Report for Fiscal Year Ending (FYE) 2026. The attached report summarizes activity through September 30, 2025. The Agency's net revenue totaled **\$1,895,771**, exceeding the budget by **\$1,111,797**. This favorable variance is primarily driven by the following key factors:

Operating Revenue exceeded the budget by **\$155,749**, largely due to higher-than-anticipated Brine Line usage and truck discharge volumes during the first quarter.

Operating Expenses were **\$628,150** below budget, primarily because both the SCADA System Project and the Reach IV-B New MAS Project remain in the design phase. Construction and implementation activities are expected to begin in early 2026, resulting in lower expenditures to date.

Non-operating Revenue/Expense was **\$327,902** more favorable than budgeted, driven by the deferral, delay, or cancellation of certain CIP projects and higher-than-anticipated interest income due to increases in interest rates.

Favorable Revenue Variances

Listed below are explanations of favorable variances of \$250,000 or more for individual revenue categories:

Grant Proceeds – The 82.9% favorable variance of \$477,234 is primarily due to the receipt of multiple invoices from our partner, California Rural Water Association, related to the Drought Relief Grant Program.

Interest & Investments – The 83.9% favorable variance of \$314,733 is primarily due to higher-than-budgeted interest income, resulting from a significant increase in interest rates over the past few years.

Unfavorable Revenue Variances

Listed below are explanations of unfavorable variances of \$250,000 or more for individual revenue categories:

Use of Reserves – The 100% variance of \$658,140 is due to both the SCADA System Project and the Reach IV-B New MAS Project remaining in the design phase. Construction and implementation activities are anticipated to begin in early 2026, resulting in lower expenditures in the current fiscal period.

Favorable Expense Variances

Listed below are explanations of favorable variances of \$250,000 or more for individual expense categories:

Consulting & Professional Services – The 49.0% favorable variance of \$508,620 is primarily due to the SCADA System work plan design beginning later than originally anticipated as coordination with Brine Line dischargers has taken additional time. In addition, several consultant services required less effort than expected during the first part of the fiscal year, while others are scheduled to commence later in the year in accordance with the approved work plan.

Construction – The 100% variance of \$562,500 is due to both the SCADA System Project and the Reach IV-B New MAS Project remaining in the design phase. Construction and implementation activities are anticipated to begin in early 2026, resulting in lower expenditures in the current fiscal period.

Unfavorable Expense Variances

Listed below are explanations of unfavorable variances of \$250,000 or more for individual expense categories:

Program Expenses – The 950.2% variance of \$741,605 is primarily attributable to the receipt of multiple invoices from our partner, California Rural Water Association, related to the Drought Relief Grant Program.

RESOURCE IMPACTS

None.

Attachment:

1. Variance Report

Santa Ana Watershed Project Authority
FYE 2026 Budget vs. Actual
for the Period Ending September 30, 2025

Consolidated

	<u>FYE 2026 Budget</u>	<u>3-Month Budget</u>	<u>YTD Actual</u>	<u>Favorable (Unfavorable) Variance</u>	
Operating Revenue					
Discharge Fees	<u>\$13,038,465</u>	<u>\$3,258,916</u>	<u>\$3,414,665</u>	<u>\$155,749</u>	4.78%
Total Operating Revenue	13,038,465	3,258,916	3,414,665	155,749	4.78%
Operating Expenses					
Labor	4,829,649	1,249,599	1,146,371	103,229	8.26%
Benefits	1,944,444	503,095	379,018	124,077	24.66%
Education & Training	82,700	20,675	8,319	12,356	59.76%
Consulting & Professional Services	4,422,726	1,037,032	528,413	508,620	49.05%
Operating Costs	3,800,080	950,020	1,023,732	-73,712	-7.76%
Repair & Maintenance	633,100	158,275	39,893	118,383	74.80%
Phone & Utilities	87,333	21,833	18,286	3,549	16.25%
Equipment & Computers	436,256	109,064	191,606	-82,542	-75.68%
Meeting & Travel	89,430	19,779	7,141	12,639	63.90%
Other Administrative Costs	309,539	78,635	71,128	7,507	9.55%
Other Expense	987,620	236,093	115,654	120,438	51.01%
Program Expenses	4,741,682	78,049	819,655	-741,605	-950.18%
Construction	2,250,000	562,500	0	562,500	100.00%
Operating Transfers	161,250	161,250	161,250	0	0.00%
Indirect Costs	<u>0</u>	<u>71,710</u>	<u>118,997</u>	<u>-47,286</u>	-100.00%
Total Operating Expenses	24,775,809	5,257,609	4,629,463	628,150	11.95%
Net Operating Revenue / (Deficit)	-11,737,344	-1,998,693	-1,214,798	-472,401	23.64%
Non-Operating Revenue (Expense)					
Member Agency Contributions	2,273,400	2,273,400	2,273,400	0	0.00%
Other Agency Contributions	1,252,718	1,241,718	1,218,571	-23,147	-1.86%
Grant Proceeds	6,326,222	575,871	1,053,105	477,234	82.87%
Financing Proceeds	192,111	48,028	35,285	-12,742	-26.53%
Mitigation Credit Sales	2,014,560	0	0	0	0.00%
Debt Service	-1,709,476	0	0	0	0.00%
Interest & Investments	1,500,000	375,001	689,734	314,733	83.93%
Lease Capacity Sales	0	0	98,568	98,568	100.00%
Other Income	0	0	125,959	125,959	100.00%
Contributions to Reserves	-2,624,290	-2,550,741	-2,545,303	5,437	0.21%
Operating Transfers	161,250	161,250	161,250	0	0.00%
Use of Reserves	<u>2,632,558</u>	<u>658,140</u>	<u>0</u>	<u>-658,140</u>	-100.00%
Net Non-Operating Revenue / (Deficit)	12,019,053	2,782,667	3,110,569	327,902	11.78%
Net Revenue / (Deficit)	<u>\$281,709</u>	<u>\$783,974</u>	<u>\$1,895,771</u>	<u>\$1,111,797</u>	

Santa Ana Watershed Project Authority
FYE 2026 Budget vs. Actual
for the Period Ending September 30, 2025

General Fund

	FYE 2026 Budget	3-Month Budget	YTD Actual	Favorable (Unfavorable) Variance	
Operating Revenue					
Total Operating Revenue	\$0	\$0	\$0	\$0	0.00%
Operating Expenses					
Labor	2,370,735	592,684	605,578	-12,894	-2.18%
Benefits	954,471	238,618	161,077	77,540	32.50%
Education & Training	68,200	17,050	8,054	8,996	52.76%
Consulting & Professional Services	459,540	114,885	130,114	-15,228	-13.25%
Operating Costs	14,600	3,650	3,409	241	6.59%
Repair & Maintenance	115,100	28,775	29,872	-1,097	-3.81%
Phone & Utilities	76,333	19,083	15,481	3,604	18.88%
Equipment & Computers	275,550	68,888	99,915	-31,029	-45.04%
Meeting & Travel	60,500	15,125	6,963	8,162	53.96%
Other Administrative Costs	200,839	50,210	44,882	5,328	10.61%
Other Expense	377,690	94,423	23,624	70,799	74.98%
Indirect Costs	-4,179,824	-1,044,956	-800,350	-244,606	23.41%
Total Operating Expenses	793,734	198,433	328,618	-130,185	-65.61%
Net Operating Revenue / (Deficit)	-793,734	-198,433	-328,618	130,185	-65.61%
Non-Operating Revenue (Expense)					
Member Agency Contributions	733,400	733,400	733,400	0	0.00%
Grant Proceeds	0	0	884	884	100.00%
Interest & Investments	0	0	21,981	21,981	100.00%
Other Income	0	0	859	859	100.00%
Use of Reserves	258,400	64,600	0	-258,400	-400.00%
Building Reserve	-100,000	-100,000	-100,000	0	0.00%
Post Retirement Medical Benefits	-98,066	-24,517	-19,079	5,437	22.18%
Net Non-Operating Revenue / (Deficit)	793,734	673,484	638,045	-229,239	-34.04%
Net Revenue / (Deficit)	\$0	\$475,051	\$309,426	-\$165,625	

Santa Ana Watershed Project Authority
FYE 2026 Budget vs. Actual
for the Period Ending September 30, 2025

Brine Line Operating Fund

	<u>FYE 2026 Budget</u>	<u>3-Month Budget</u>	<u>YTD Actual</u>	<u>Favorable (Unfavorable) Variance</u>	
Operating Revenue					
Discharge Fees	<u>\$13,038,465</u>	<u>\$3,258,916</u>	<u>\$3,414,665</u>	<u>\$155,749</u>	4.78%
Total Operating Revenue	13,038,465	3,258,916	3,414,665	155,749	4.78%
Operating Expenses					
Labor	1,434,775	358,694	368,453	-9,759	-2.72%
Benefits	577,649	144,412	148,486	-4,074	-2.82%
Education & Training	14,500	3,625	265	3,360	92.69%
Consulting & Professional Services	810,000	202,500	38,969	163,531	80.76%
Operating Costs	3,785,480	946,370	1,020,323	-73,953	-7.81%
Repair & Maintenance	518,000	129,500	10,021	119,479	92.26%
Phone & Utilities	11,000	2,750	2,805	-55	-2.00%
Equipment & Computers	160,706	40,177	91,691	-51,514	-128.22%
Meeting & Travel	3,000	750	0	750	100.00%
Other Administrative Costs	82,050	20,513	5,803	14,710	71.71%
Other Expense	566,680	141,670	91,482	50,188	35.43%
Indirect Costs	<u>2,438,925</u>	<u>609,731</u>	<u>626,369</u>	<u>-16,638</u>	-2.73%
Total Operating Expenses	10,402,765	2,600,692	2,404,667	196,025	7.54%
Net Operating Revenue / (Deficit)	2,635,700	658,224	1,009,998	-351,774	-53.44%
Non-Operating Revenue (Expense)					
Interest & Investments	1,500,000	375,001	633,352	258,351	68.89%
Lease Capacity Sales	0	0	98,568	98,568	100.00%
Other Income	0	0	125,100	125,100	100.00%
Debt Service	-1,709,476	0	0	0	0.00%
Contributions to Reserves	<u>-2,426,224</u>	<u>-2,426,224</u>	<u>-2,426,224</u>	<u>0</u>	0.00%
Net Non-Operating Revenue / (Deficit)	-2,635,700	-2,051,223	-1,569,204	482,019	-23.50%
Net Revenue / (Deficit)	<u>\$0</u>	<u>-\$1,392,999</u>	<u>-\$559,206</u>	<u>\$833,793</u>	

Santa Ana Watershed Project Authority
FYE 2026 Budget vs. Actual
for the Period Ending September 30, 2025

OWOW Fund

	<u>FYE 2026 Budget</u>	<u>3-Month Budget</u>	<u>YTD Actual</u>	<u>Favorable (Unfavorable) Variance</u>	
Operating Revenue					
Total Operating Revenue	\$0	\$0	\$0	\$0	0.00%
Operating Expenses					
Labor	822,367	247,777	141,022	106,755	43.09%
Benefits	331,089	99,756	56,832	42,924	43.03%
Consulting & Professional Services	1,557,900	320,825	82,711	238,114	74.22%
Meeting & Travel	21,180	2,717	51	2,666	98.14%
Other Administrative Costs	12,250	4,313	10,443	-6,130	-142.14%
Operating Transfer	43,250	43,250	43,250	0	0.00%
Program Expenses	4,651,212	55,431	819,655	-764,224	-1378.69%
Indirect Costs	<u>1,397,913</u>	<u>421,189</u>	<u>239,736</u>	<u>181,453</u>	43.08%
Total Operating Expenses	8,837,161	1,195,258	1,393,700	-198,442	-16.60%
Net Operating Revenue / (Deficit)	-8,837,161	-1,195,258	-1,393,700	198,442	-16.60%
Non-Operating Revenue (Expense)					
Member Agency Contributions	1,510,000	1,510,000	1,510,000	0	0.00%
Other Agency Contributions	58,300	47,300	40,700	-6,600	-13.95%
Grant Proceeds	6,326,222	575,871	1,052,222	476,351	82.72%
Operating Transfers	43,250	43,250	43,250	0	0.00%
Interest & Investments	<u>0</u>	<u>0</u>	<u>13,243</u>	<u>13,243</u>	100.00%
Net Non-Operating Revenue / (Deficit)	7,937,772	2,176,421	2,659,415	482,994	22.19%
Net Revenue / (Deficit)	<u>-\$899,389</u>	<u>\$981,163</u>	<u>\$1,265,715</u>	<u>\$284,552</u>	
Project Reimbursement (Prop 1 & 84 Capital)	\$20,843,088	\$5,210,772	\$3,507	\$20,839,581	

Santa Ana Watershed Project Authority
FYE 2026 Budget vs. Actual
for the Period Ending September 30, 2025

Roundtables Fund

	FYE 2026 Budget	3-Month Budget	YTD Actual	Favorable (Unfavorable) Variance	
Operating Revenue					
Total Operating Revenue	\$0	\$0	\$0	\$0	0.00%
Operating Expenses					
Labor	167,909	41,977	31,321	10,656	25.38%
Benefits	67,602	16,901	12,622	4,279	25.32%
Consulting & Professional Services	1,320,286	330,072	276,617	53,455	16.19%
Meeting & Travel	4,750	1,188	127	1,061	89.32%
Other Administrative Costs	11,900	2,975	10,000	-7,025	-236.13%
Other Expense	0	0	548	-548	100.00%
Program Expenses	90,470	22,618	0	22,618	100.00%
Operating Transfer	118,000	118,000	118,000	0	0.00%
Indirect Costs	285,424	71,356	53,243	18,113	25.38%
Total Operating Expenses	2,066,341	605,087	502,478	102,609	16.96%
Net Operating Revenue / (Deficit)	-2,066,341	-605,087	-502,478	-102,609	16.96%
Non-Operating Revenue (Expense)					
Member Agency Contributions	30,000	30,000	30,000	0	0.00%
Other Agency Contributions	1,194,418	1,194,418	1,177,871	-16,547	-1.39%
Financing Proceeds	192,111	48,028	35,285	-12,743	-26.53%
Mitigation Credit Sales	2,014,560	0	0	0	0.00%
Operating Transfer	118,000	118,000	118,000	0	0.00%
Interest & Investments	0	0	21,159	21,159	100.00%
Net Non-Operating Revenue / (Deficit)	3,549,089	1,390,446	1,382,315	-8,131	-0.58%
Net Revenue / (Deficit)	<u>\$1,482,748</u>	<u>\$785,359</u>	<u>\$879,837</u>	<u>\$94,478</u>	

Santa Ana Watershed Project Authority
FYE 2026 Budget vs. Actual
for the Period Ending September 30, 2025

Capital Fund

	<u>FYE 2026 Budget</u>	<u>3-Month Budget</u>	<u>YTD Actual</u>	<u>Favorable (Unfavorable) Variance</u>	
Operating Revenue					
Total Operating Revenue	\$0	\$0	\$0	\$0	0.00%
Operating Expenses					
Labor	33,863	8,466	0	8,466	100.00%
Benefits	13,633	3,408	0	3,408	100.00%
Consulting & Professional Services	275,000	68,750	0	68,749	100.00%
Other Administrative Costs	2,500	625	0	625	100.00%
Construction	2,250,000	562,500	0	562,500	100.00%
Indirect Costs	<u>57,562</u>	<u>14,391</u>	<u>0</u>	<u>14,391</u>	100.00%
Total Operating Expenses	2,632,558	658,140	0	658,140	100.00%
Net Operating Revenue / (Deficit)	-2,632,558	-658,140	0	-658,140	100.00%
Non-Operating Revenue (Expense)					
Use of Reserves	<u>2,632,558</u>	<u>658,140</u>	<u>0</u>	<u>-658,140</u>	-100.00%
Net Non-Operating Revenue / (Deficit)	2,632,558	658,140	0	-658,140	-100.00%
Net Revenue / (Deficit)	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	



SANTA ANA WATERSHED
PROJECT AUTHORITY

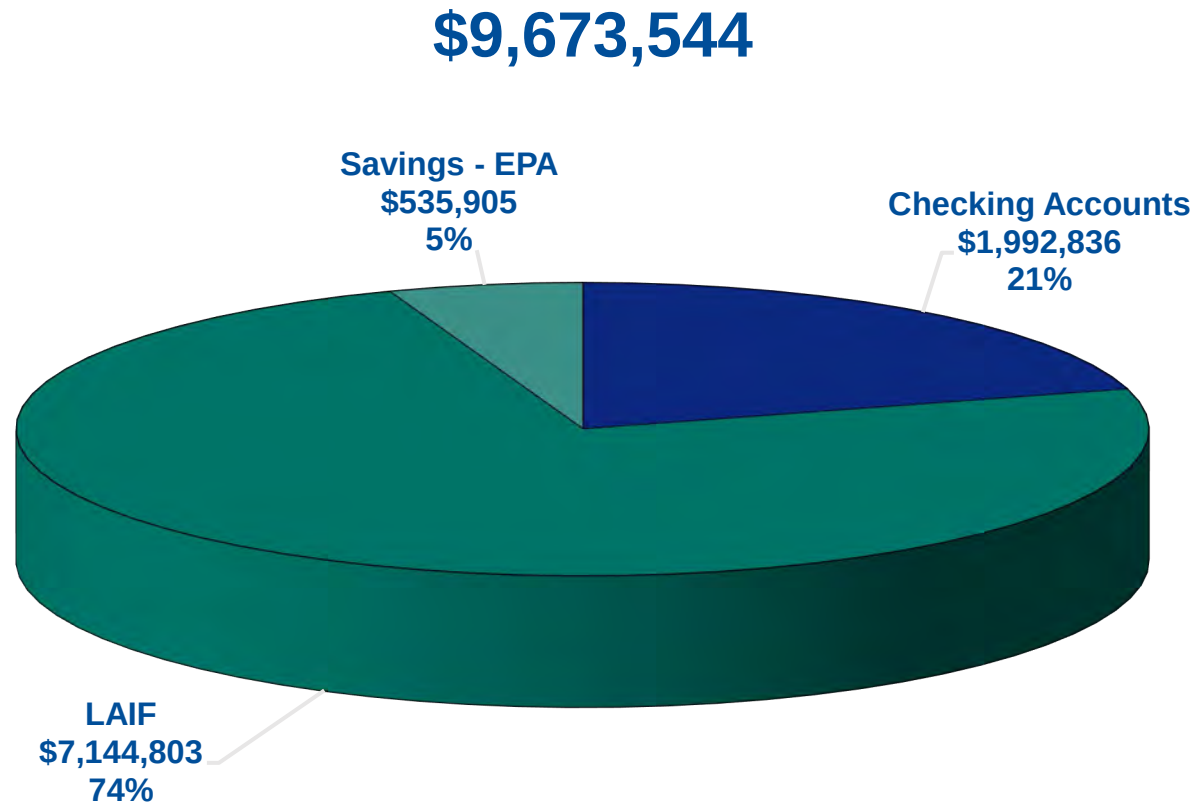
Financial Report for the 1st Quarter Ending September 30, 2025

Agenda

- Cash & Investments
- Fund Overview
- General Fund
- OWOW Fund
- Roundtable Fund



Cash & Investments



Cash & Investments

Total by Fund

General Fund	\$2,307,979
OWOW Fund	4,116,207
Roundtable Fund	2,713,453
Fiduciary Fund	535,905
Total	\$9,673,544

Cash & Investments

General Funds

Fund	Checking (Cash)	LAIF Account	Total
General Fund	\$1,992,836	\$0	\$1,992,836
Building Reserve	0	315,143	315,143
Total	\$1,992,836	\$315,143	\$2,307,979

Cash & Investments

OWOW Funds

Fund	LAIF Account
Basin Planning General	\$508,612
USBR Partnership Studies	90,393
Watershed Management (OWOW)	670,871
PFAS Study	953,005
Cloud Seeding	208,831
Prop 84 SARCCUP Projects	1,603,999
Prop 1 Capital Projects	80,496
Total	\$4,116,207

Cash & Investments

Roundtable Funds

Fund	LAIF Account
Basin Monitoring	\$1,155,662
SAR Fish Conservation	107,021
Middle SAR TMDL TF	255,426
RWQ Monitoring TF	170,531
Emerging Constituents TF	330,540
Mitigation Banking	694,273
Total	\$2,713,453

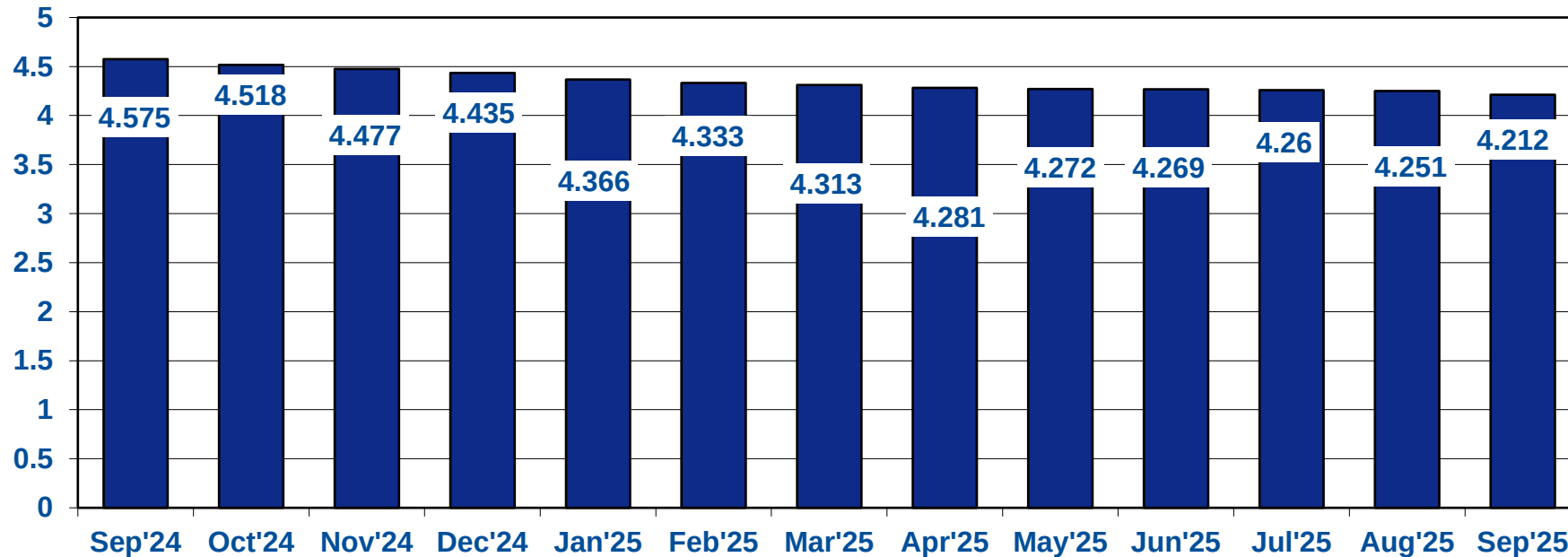
Cash & Investments

Fiduciary Funds

Fund	Savings EPA
Legal Defense Fund	\$535,905
Total	\$535,905

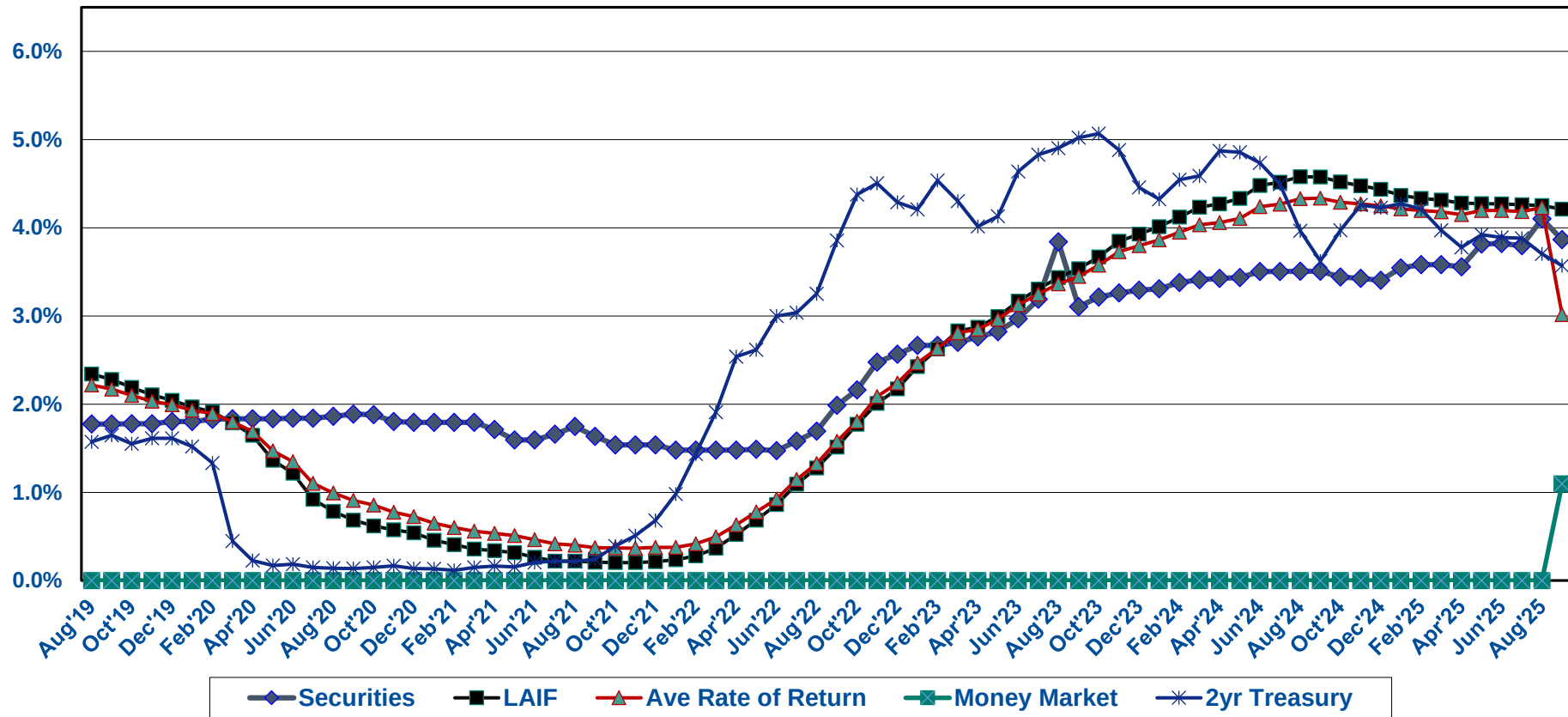
Cash & Investments

LAIF Interest Rates



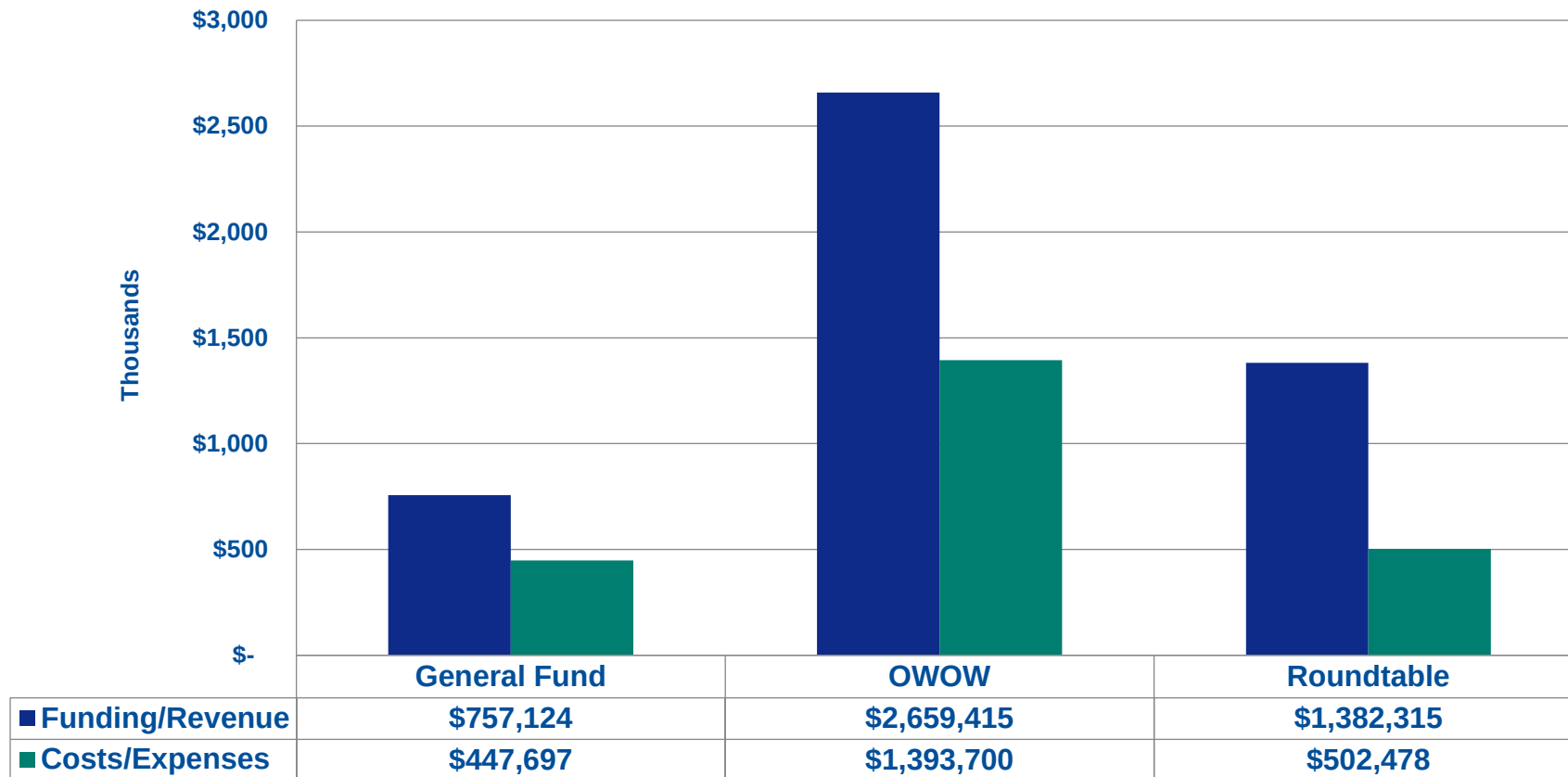
Cash & Investments

Interest Rate Comparison

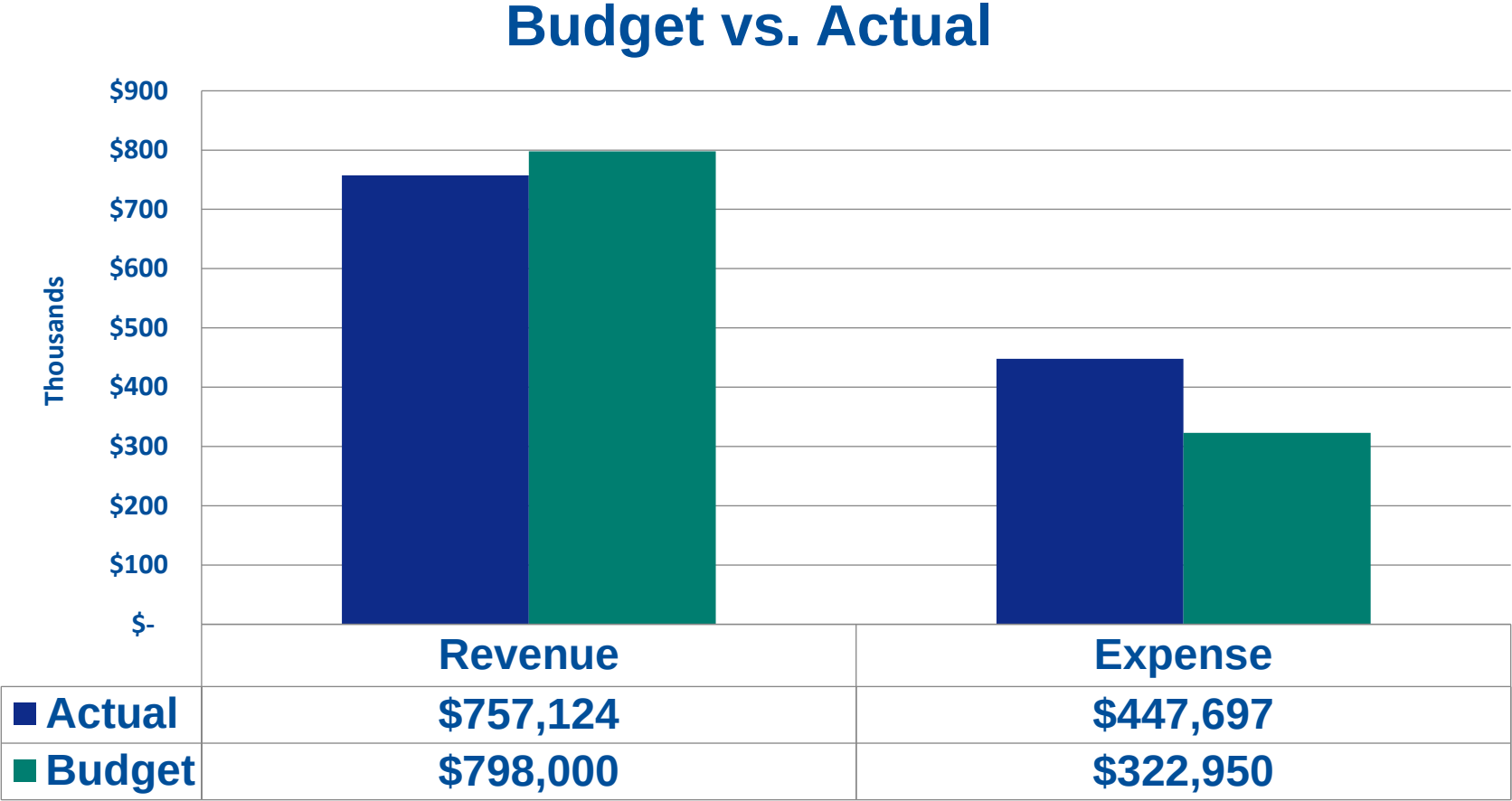


Analysis by Fund Type

Revenues and Expenses

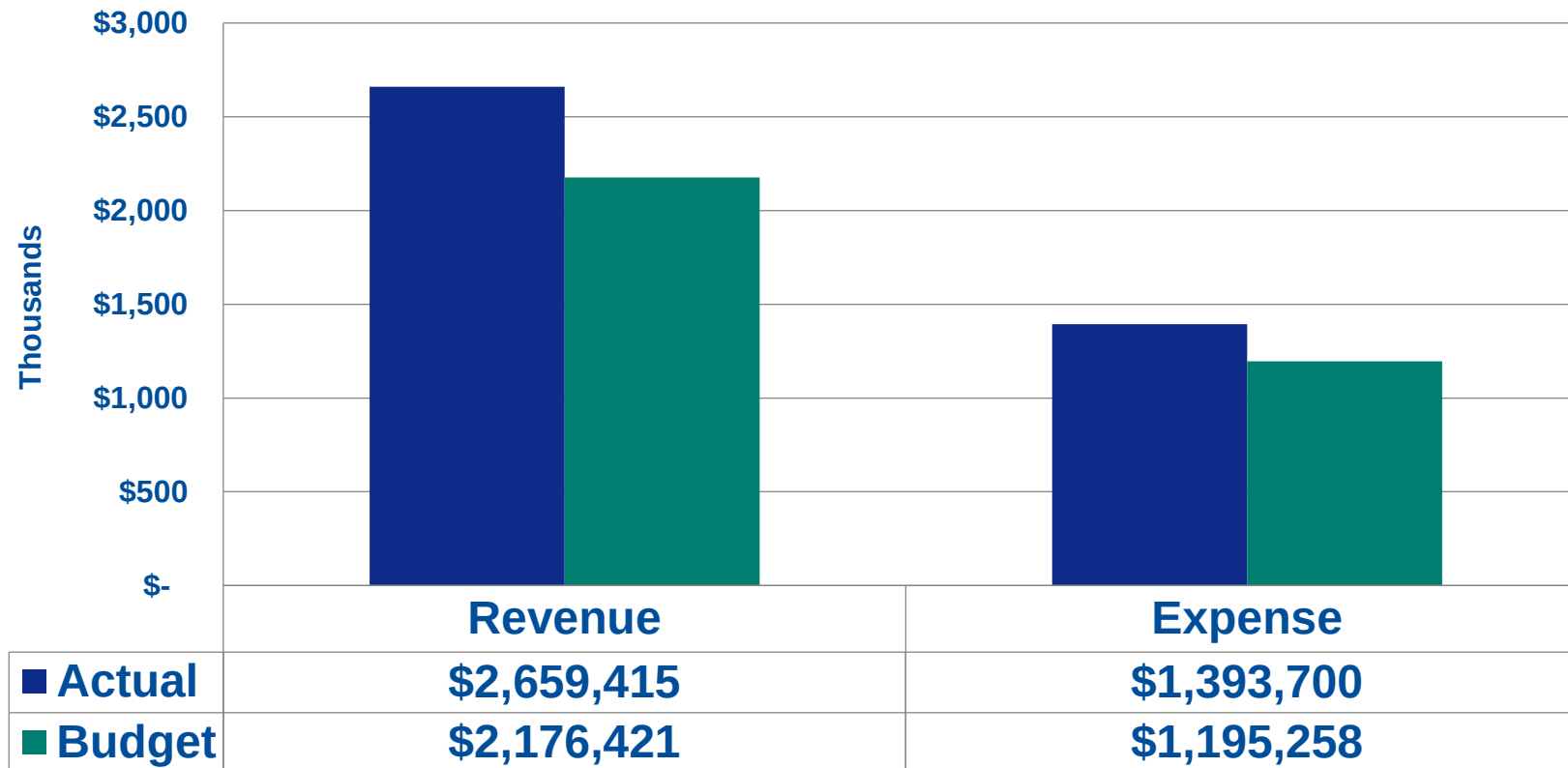


General Fund



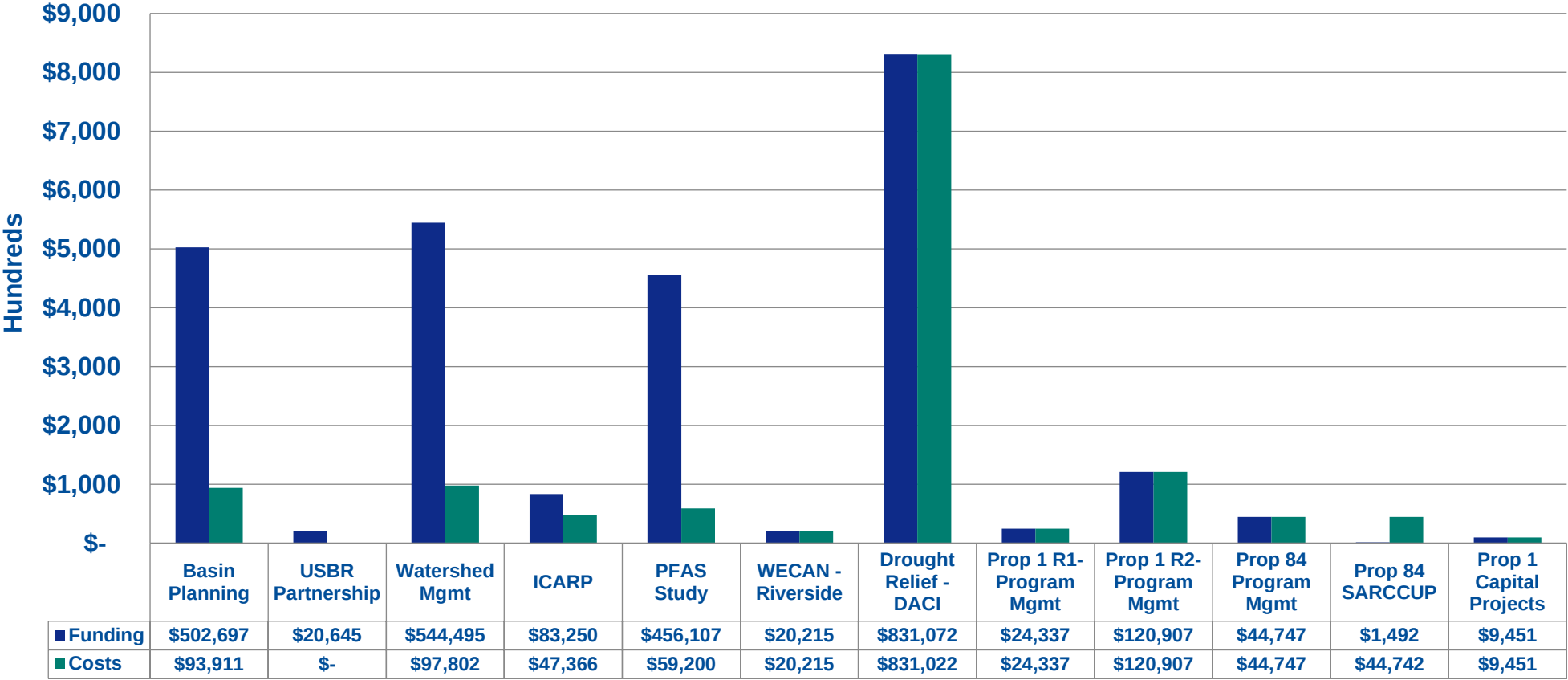
OWOW Fund

Budget vs. Actual

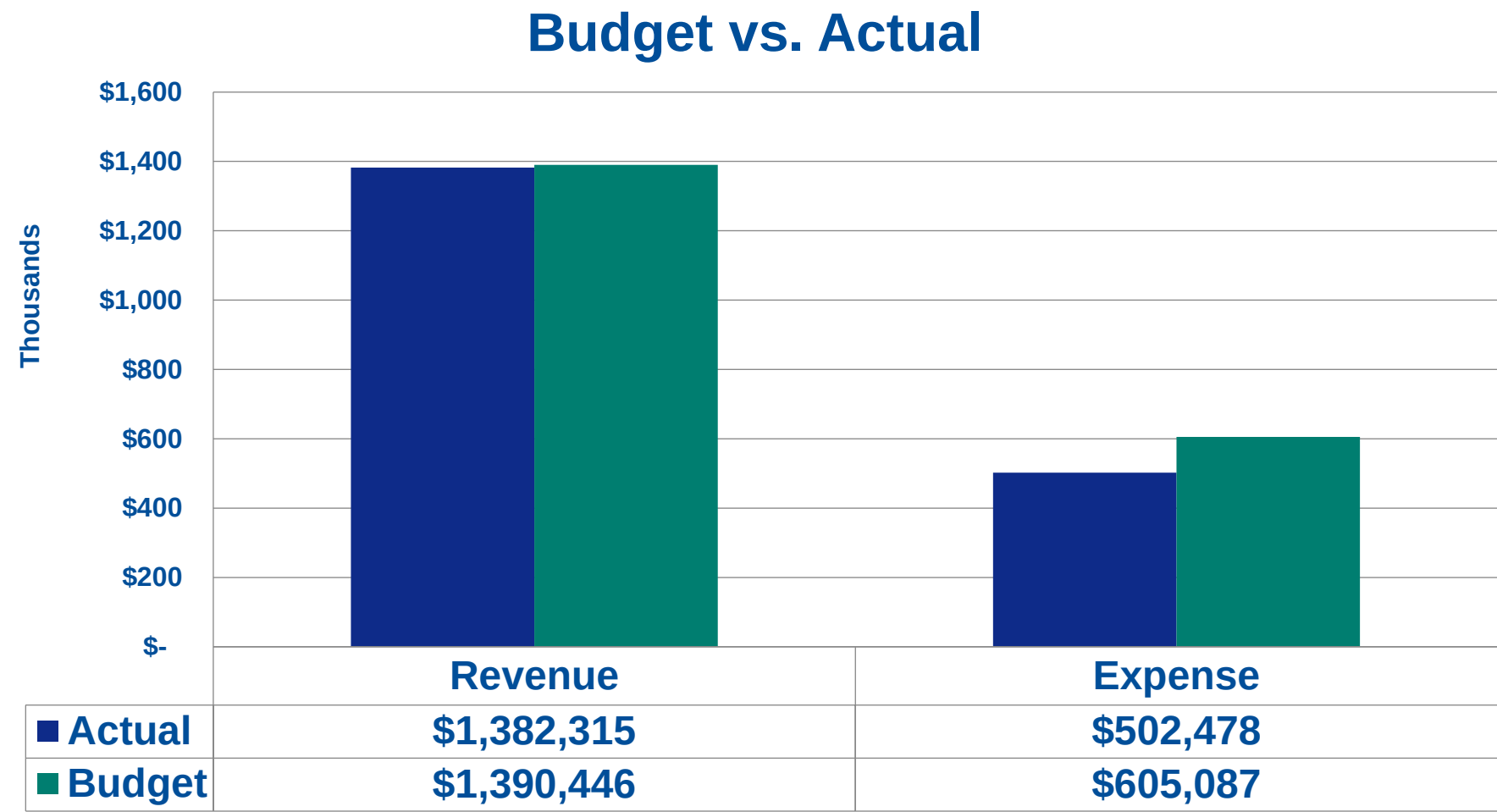


OWOW Fund

Costs vs. Funding

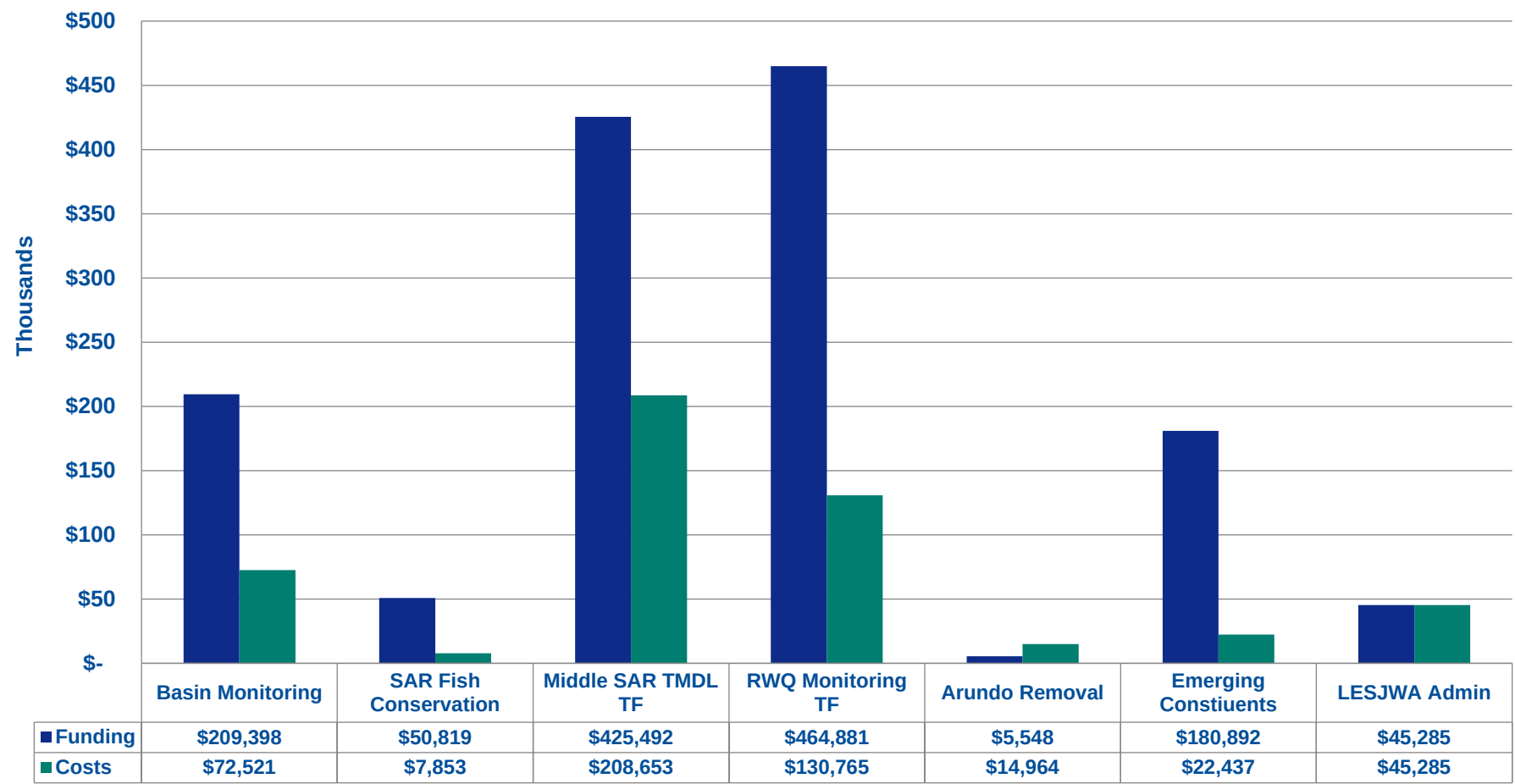


Roundtable Fund



Roundtable Fund

Costs vs. Funding



Questions

Karen Williams
Santa Ana Watershed Project Authority
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kwilliams@sawpa.org
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December 8, 2025

To: Santa Ana Watershed Project Authority

From: Michael Boccadoro
Beth Olhasso

RE: November Report

Overview:

November Northern California storms didn't make a significant enough impact on storage levels to withstand the dry late November/early December dry spell. Lake Shasta rose slightly, while Oroville declined, a clear sign of water management on the two reservoirs. The outlook is dry as far as forecasters predict out. Lake Oroville is sitting at 51 percent capacity, 98 percent of normal; Lake Shasta is sitting at 59 percent of capacity, 108 percent of average; while San Luis Reservoir is at 63 percent of capacity, 117 percent average for this time of year. Now water managers hold their breath and hope for strong winter precipitation and abundant snowpack.

The Delta seems to be the issue of the Fall, with more developments on the many moving pieces in efforts to manage the Delta. The state continues to keep the Delta in the news, this time with Secretary Crowfoot hosting a webinar with the Delta Stewardship Council. Executive Officer Jessica Pearson highlighted the Council's pivot to adaptive, science-based management.

The Delta Protection Commission has filed an appeal of DWR's determination that the Delta Conveyance Project is consistent with the Delta Plan. The Commission is made of elected officials from Delta counties, so it is not at all surprising. The appeal will go to the Delta Stewardship Council for review.

Finally, a report was recently released by the National Academies of Sciences, Engineering, and Medicine. They recommend three main actions to protect fish. First, continue efforts on cold water pool management coming from Shasta. Second, continue efforts to study and create policy around flow management to protect habitat for fish and keep fish from being entrained by the pumps. Finally, they recommend salinity management efforts continue in the Suisun Marsh, perhaps even expanding releases by 100,000 acre-feet of water.

The State Water Resources Control Board recently revised the Notification and Response levels for several PFAS related compounds. While the Board notes that these are "non-regulatory," they have the effect of taking water supply out of production if limits are exceeded.

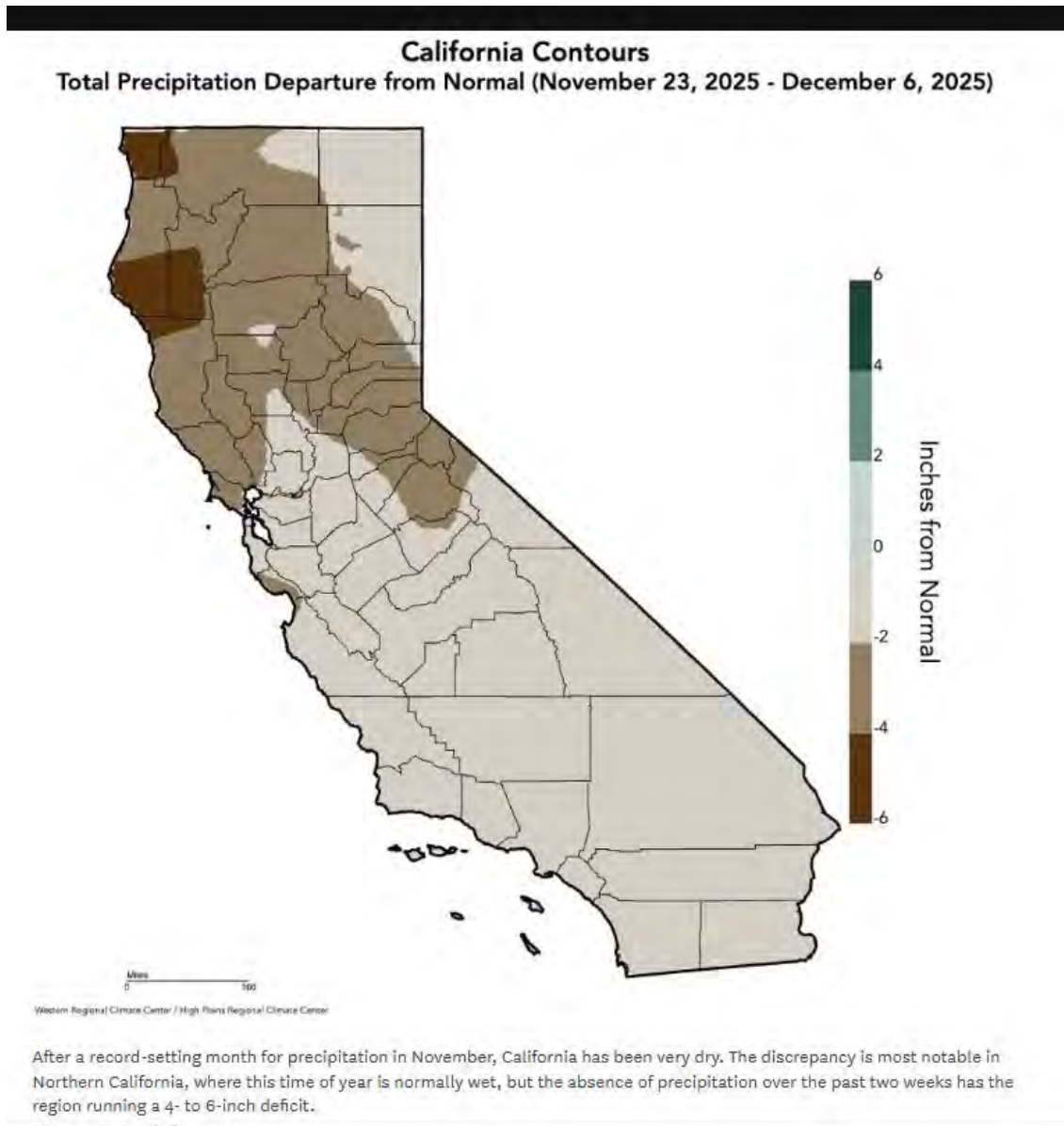
Senator Monique Limón of Santa Barbara has taken the reins as the new leader of the Senate. The new President pro Tempore will lead the Senate for the next two years (her term limit is 2028). The Democrat has been very involved in climate issues while serving as the chair of the Natural Resources and Water Committee. She is expected to make key leadership team and committee appointments in the coming weeks.

Santa Ana Watershed Project Authority

Status Report – November 2025

Water Supply Conditions

The dry spell that has engulfed the state over the last few weeks is causing some to worry. Additionally, there is no reported snowpack from state monitoring sources. The San Francisco Chronicle recently released a map showing the lack of precipitation for the last few weeks showing Northern California running at a 4-6 inch precipitation deficit.



Delta News:

CA Natural Resources Agency Hosts Webinar on Delta

A recent webinar hosted by Wade Crowfoot, Secretary of Natural Resources, brought together experts to discuss innovative strategies for protecting the Delta's communities, ecosystems, and infrastructure. The event highlighted the latest scientific advancements, collaborative efforts, and actionable solutions aimed at addressing the region's unique challenges, from rising sea levels and extreme weather to biodiversity loss and water quality concerns.

The webinar focused on efforts by the Delta Stewardship Council, led by Executive Officer Jessica Pearson. The Council is tasked with balancing two critical goals: maintaining a dependable water supply for millions of Californians and protecting the Delta's struggling ecosystem.

Presenters noted that rising seas, hotter temperatures, shifting precipitation patterns, and increasing extremes—like intense storms followed by long dry spells—are challenging the region's aging levees, farmland, and habitats.

To respond, the Council has launched Delta Adapts, a comprehensive initiative that brings together scientific modeling, community input, and vulnerability assessments. The program maps out which communities, farms, natural areas, and infrastructure are most exposed to climate threats and identifies actions that can be taken now to reduce future risks. The goal is not simply to predict what will happen but to build a framework flexible enough to adapt as new data emerges.

Recent insights from the Delta Independent Science Board underscore the urgency of this work. Scientists warn that climate patterns are shifting faster than expected, creating more “compound events”—such as heavy rainfall hitting drought-stressed landscapes or high tides coinciding with storms. These conditions threaten water quality, increase flood risk, and put pressure on already fragile ecosystems.

To keep pace with these changes, state agencies are leaning more heavily on advanced monitoring systems, modernized reservoir operations, and improved data-sharing tools. They are also emphasizing collaboration: tribes, local governments, stakeholders, and researchers all play a role in shaping durable, equitable solutions. A new Delta-specific climate assessment, expected with the fifth California Climate Assessment next spring, will provide even more detailed guidance for policymakers.

Ultimately, the webinar highlighted a growing recognition that climate adaptation is not just a technical challenge—it's a shared responsibility. The Delta's future will depend on sustained investment, strong partnerships, and science that directly informs action.

Delta Protection Commission Files Appeal of DCP

The Delta Protection Commission has formally appealed the Department of Water Resources' determination that the Delta Conveyance Project is consistent with the state's Delta Plan. In a 9–0 vote, with one abstention, the Commission argued that the proposed tunnel would irreversibly alter the Delta's rural landscape, farmland, and community character.

According to the Commission, the project would industrialize areas long valued for agriculture, recreation, and cultural heritage. Construction would require thousands of acres of farmland, and several sites, including Hood and Lower Roberts Island, would retain permanent industrial structures even after the tunnel is completed. Commissioners also contend that the state has not fully explored less damaging alternatives, a key requirement under the Delta Reform Act, which directs agencies to pursue water supply reliability while protecting the Delta's ecological and cultural resources.

The appeal now moves to the Delta Stewardship Council, which will decide whether DWR's certification violated the Delta Plan. If the Council finds sufficient evidence, it could require parts of the project's analysis to be redone before construction can proceed. The challenge highlights the long-running tension between statewide water infrastructure goals and the Delta's desire to preserve its agricultural landscapes, local communities, and cultural identity.

Notably, the Governor recently appointed Ann Patterson to the Council. She serves as his Senior Council.

Report on Protecting Endangered Fish Released

A report was recently released by the National Academies of Sciences, Engineering, and Medicine that includes specific actions designed to help protect endangered fish.

UC Davis Professor Jay Lund, a founding director of the Center for Watershed Sciences, and Associate Professor Steven Sadro were part of the 18-member committee authoring the report. The committee, chaired by Peter Goodwin of the University of Maryland, was established at the request of the U.S. Bureau of Reclamation to conduct a biennial review of the scientific activities of the CVP and SWP.

The report highlights three actions designed to help protect fish and offers recommendations to strengthen those actions:

1. **The Shasta Coldwater Pool management action.** Three-pronged approach to strengthen this action:
 1. Continue to improve temperature management downstream of Keswick Dam
 2. Continue hatcheries management
 3. Reintroduce winter-run Chinook salmon above Shasta Dam.
2. **The Old and Middle River Corridor flow management action.** This action aims to maximize water exports while minimizing harm to fish from pumping, particularly when the fish are rearing in and migrating through the Delta. The authors recommend more scientific transparency around thresholds for fish salvaged at the pumps and corresponding water exports. The report suggests that modeling efforts expand and build on the U.S. Bureau of Reclamation's zone of influence analysis to better understand how temperature, aquatic plants, salinity and other water quality conditions across the Delta under various flow conditions and pumping rates impact fish.
3. **Summer-Fall Habitat Action for Delta smelt.** The authors recommend managing the location of the low-salinity zone in the fall, adjusting salinity in Suisun Marsh, and possibly releasing an additional 100,000 acre-feet of water.

SWRCB Releases Revised NL & RL for PFAS

The SWRCB Division of Drinking Water has issued new and revised Notification and Response Levels for PFOA, PFOS, PFHxS, and PFHxA.

The NL/RL changes that are most likely to impact water systems are:

- The revised lower Notification Level for PFOA from 5.1 ng/L to 4.0 ng/L
- The revised lower Notification Level for PFOS from 6.5 ng/L to 4.0 ng/L
- The revised lower Response Level for PFHxS from 20 ng/L to 10 ng/L

Under state law, water agencies must respond accordingly to timely notify and treat the source of contamination.

Legislative Update

Legislators remained in their districts in October and November. The big news from Sacramento comes from the Senate, where Senator Monique Limón (D-Santa Barbara) was sworn in as President Pro Tempore of the Senate.

Limón was elected to the Assembly in 2016 and the Senate in 2020. She will be termed out in 2028.

Born and raised in the district she currently represents, the Pro Tem spent fourteen years working in higher education at UC Santa Barbara and Santa Barbara City College.

Recently, she was the Chair of the Senate Natural Resources and Water Committee and has served as the head of the Climate Change Working Group in the Senate.

Changes in leadership appointments and committee chairs are likely in the coming weeks as the new leader takes control of the state's upper house.

It is rumored that Senator Jerry McNerney (D-Pleasanton) will be the new chair of the Natural Resources and Water Committee. McNerney is a very strong supporter of recycled water, authoring WateReuse's SB 31 in 2025, but is the lead voice of opposition to the Delta Conveyance Project. An announcement on this vacant chair position will come before members return in January.

Legislators return to Sacramento in January to start the second year of the two-year session.

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General Manager's Report

December 2025

SAWPA's 50th Anniversary Preparation

Commissioners decided on an evening event at Crestmore Manor in Riverside among the several site options that were presented for the celebration. Staff is working to complete the content for the commemorative video and book. Two full days of interviews – on Nov. 4 and Nov. 24 - were conducted to use in both the book and video. Interviewees included previous staff, Commissioners, and General Managers.



Basin Monitoring Task Force

The Basin Monitoring Task Force met on Nov. 19 to discuss various items including the Santa Ana River Reach 3 Total Dissolved Solids Special Study and the upcoming Basin Plan Amendment. The amendment will be brought to the Santa Ana Regional Water Quality Board in mid-2026. Key items under discussion for the potential amendment are how surface water quality compliance is assessed for Reaches 2 and 3 of the Santa Ana River.

Americans with Disabilities Act (ADA) Digital Work

Staff has been working with IT on implementing an ADA-compliant solution for the SAWPA website. The need for this solution stemmed from state and federal requirements that PDFs on websites should be accessible to people with disabilities.



Second Annual Feast of Appreciation

Staff hosted SAWPA's Second Annual Feast of Appreciation to celebrate the Thanksgiving holiday. Employees gathered in the Board Room for a lunch of turkey, ham, mashed potatoes, stuffing, and other side dishes. General Manager Karen Williams shared her gratitude with the staff for their work during the year.

Santa Ana River Trail

Staff presented an update on the Santa Ana River Trail to PA 24 to provide an overview on staff involvement with the various phases of SART construction.



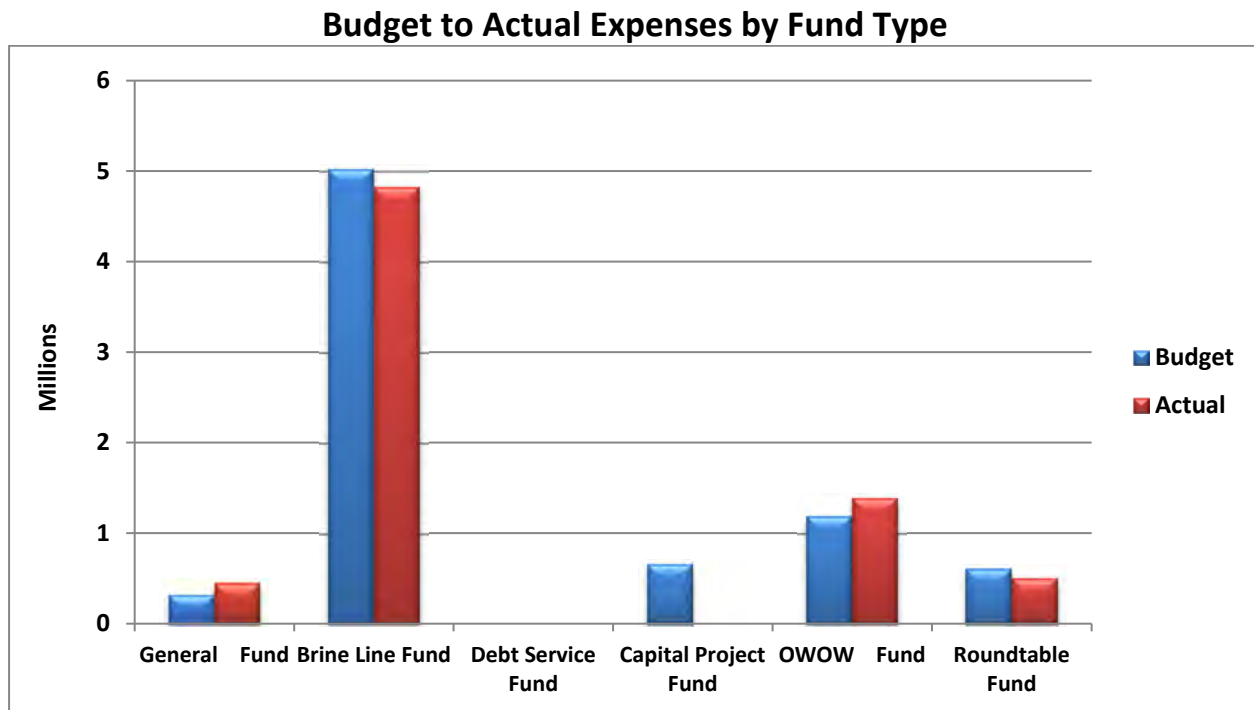
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Santa Ana Watershed Project Authority
Executive Financial Information Report
September 2025

Staff comments provided on the last page are an integral part of this report.

Overview	This report highlights the agency's key financial indicators for the Fiscal Year-to-Date (FYTD) September 2025 unless otherwise noted.

Budget to Actual Expenses by Fund Type				On Track
	Annual Budget	FYTD Budget	FYTD Actual	Favorable (Unfavorable) Variance
General Fund	\$991,800	\$322,950	\$447,697	(\$124,747)
Brine Line Enterprise	12,828,989	5,026,916	4,830,891	196,025
Debt Service Fund	1,709,476	-	-	-
Capital Project Fund	2,632,558	658,140	-	658,140
OWOW Fund	8,311,646	1,195,258	1,393,700	(198,442)
Roundtable Fund	2,066,341	605,087	502,478	102,609
Total	\$28,540,810	\$7,808,351	\$7,174,766	\$633,585



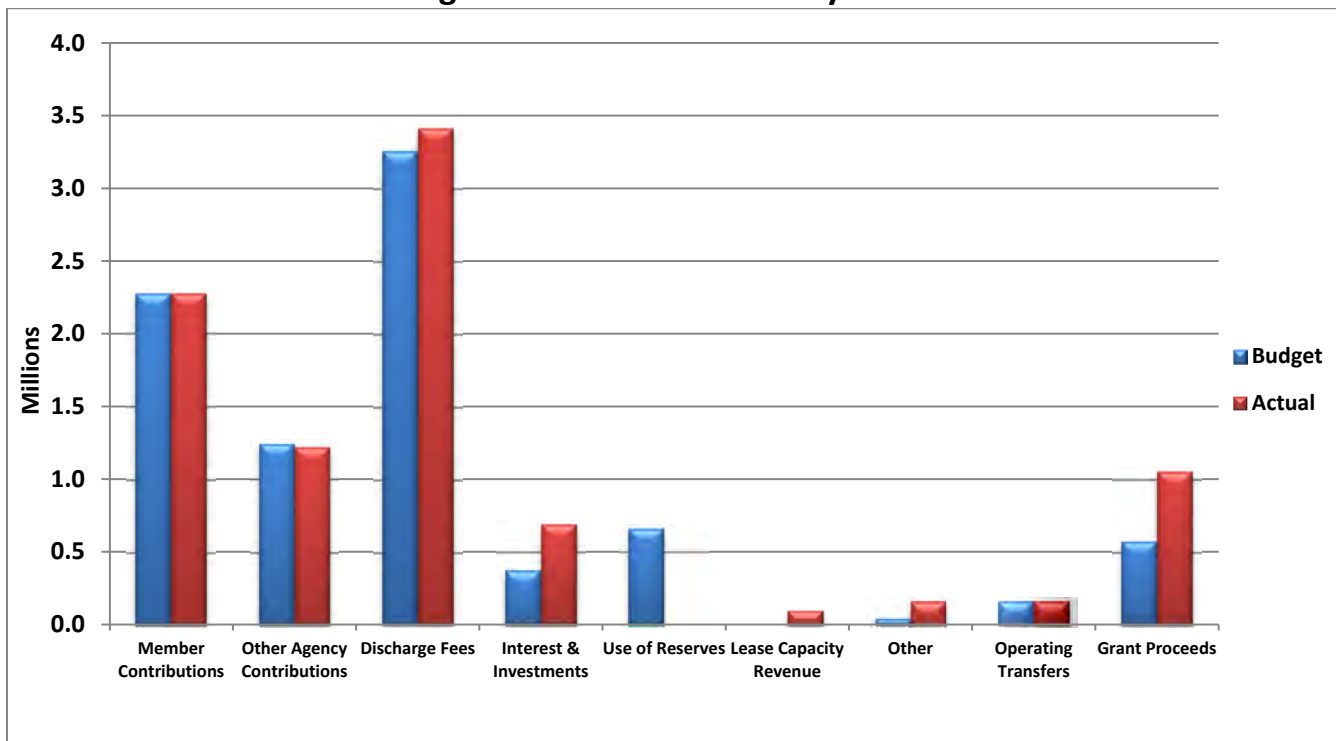
Budget to Actual Revenues by Source



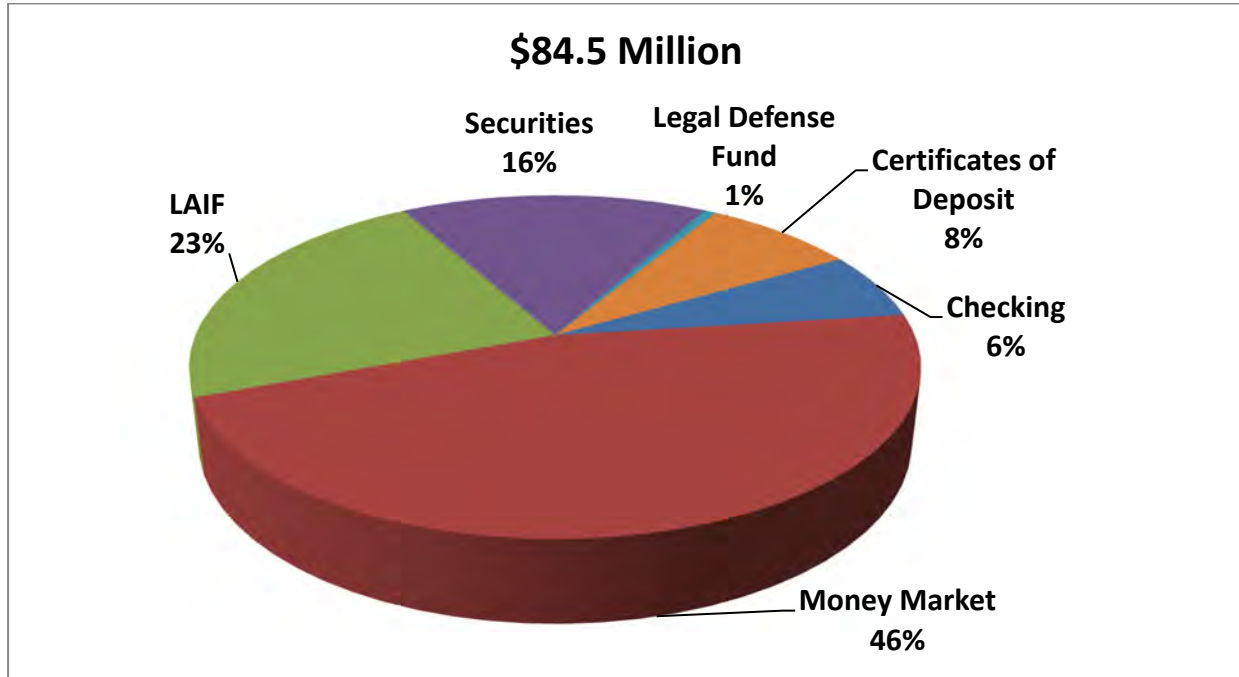
Favorable

	Annual Budget	FYTD Budget	FYTD Actual	Favorable (Unfavorable) Variance
Member Contributions	\$2,273,400	\$2,273,400	\$2,273,400	\$-
Other Agency Contributions	1,241,718	1,241,718	1,218,571	(23,147)
Discharge Fees	13,038,465	3,258,916	3,414,665	155,749
Interest & Investments	1,500,000	375,001	689,734	314,733
Use of Reserves	2,890,958	658,140	-	(658,140)
Lease Capacity Revenue	-	-	98,568	98,568
Mitigation Credit Sales	2,014,560	-	-	-
Other	192,111	48,028	161,245	113,217
Operating Transfers	161,250	161,250	161,250	-
Grant Proceeds	6,063,850	575,871	1,053,105	477,234
Total	\$29,376,312	\$8,592,324	\$9,070,538	\$478,213

Budget to Actual Revenues by Source



Total Cash & Investments



Reserve Fund Balance

	Amount
General Fund	\$1,992,836
Building Fund	315,143
OWOW Fund	4,116,207
Roundtable Fund	3,249,358
Debt Retirement	3,142,328
Pipeline Replacement & Capital Investment	44,064,551
OC San Pipeline Rehabilitation	3,593,976
Pipeline Capacity Management	13,363,704
YVWD Treatment Capacity	4,569,152
OC San Future Treatment & Disposal Capacity	2,046,026
Brine Line Operating Reserve	2,548,941
Brine Line Operating Cash	1,493,147
Total Reserves	\$84,495,367

Legend

Compared to Budget

	Ahead or Favorable	Above +5% Favorable Revenue or Expense Variance
	On Track	+5% to -2% Variance
	Behind	-3% to -5% Variance
	Concern	Below -5% Variance

Staff Comments

For this month's report, the item(s) explained below are either "behind", a "concern", or have changed significantly from the prior month.

Expenses are 8.1% below budget and revenues are 5.6% above budget. Both are expected to be on track with the budget by the end of the year.
