

UPPER VENTURA RIVER GROUNDWATER AGENCY

NOTICE OF REGULAR MEETING

NOTICE IS HEREBY GIVEN that the Upper Ventura River Groundwater Agency (“Agency”) Board of Directors (“Board”) will hold a **Regular Board Meeting at 1 P.M. on Thursday, March 14, 2019 at the Casitas Municipal Water District Meeting Room, 1055 Ventura Ave., Oak View California 93022.**

UPPER VENTURA RIVER GROUNDWATER AGENCY BOARD OF DIRECTORS REGULAR MEETING AGENDA

March 14, 2019

1. MEETING CALL TO ORDER AND ROLL CALL

2. PLEDGE OF ALLEGIANCE

3. PUBLIC COMMENT FOR ITEMS NOT APPEARING ON THE AGENDA

The Board will receive public comments on items not appearing on the agenda and within the subject matter jurisdiction of the Agency. The Board will not enter into a detailed discussion or take any action on any items presented during public comments. Such items may only be referred to the Executive Director or other staff for administrative action or scheduled on a subsequent agenda for discussion. Persons wishing to speak on specific agenda items should do so at the time specified for those items. The presiding Chair shall limit public comments to three minutes.

4. CONSENT ITEMS

a. Approve Minutes from January 10, 2019

b. Approve Financial Reports for December 2018, January 2019, and February 2019

5. DIRECTOR ANNOUNCEMENTS

6. GSP PROJECT MANAGER REPORT

7. NON-GSP ITEMS

a. Employment Agreement For Temporary Administrative Support

The Board will consider authorizing the Board Chair to sign a temporary employment agreement with Patricia Perez for hourly administrative assistance on an as-needed basis.

b. Agency Staffing

The GSP PM, Chair, and Vice Chair will provide an update on efforts to recruit an Agency Administrator and their recommendations for agency reorganization. The Board will also consider directing staff to pursue an agreement with Meiners Oaks Water District for Agency Administrator services, directing staff to pursue an employment agreement with Karen Palm for bookkeeping duties, and appointing Bryan Bondy as the Agency Executive Director.

c. Access Agreements

The Board will consider designating the Executive Director and any Officer as authorized signers of access agreements.

d. Legal Services Costs

The Board will discuss legal services costs and consider providing direction to staff concerning potential cost control measures.

e. Second Quarter Budget Report

The Board will receive the second quarter budget report from the Ad Hoc Budget Committee and consider approving updates to the Fiscal Year 18/19 budget.

f. Multi-Year Budget

The Board will review an updated draft multi-year budget prepared by the Ad Hoc Budget Committee and will consider approving the budget or providing feedback to the committee.

8. GSP ITEMS

a. Extraction Fee Development (Grant Category (c) - Task 9: Organizational Activities)

The Board will receive an update from the Ad Hoc Funding Committee, discuss extraction fee development status and next steps, consider providing direction to the Ad Hoc Funding Committee, and consider scheduling a stakeholder meeting concerning the funding plan.

b. GSP Data Gap Tasks Update (Grant Category (b): Data Gap Analysis)

The Board will receive an update from the GSP PM concerning the status of data gap tasks and will consider providing direction to staff.

c. GSP Development Support Services (Grant Category (c): Task 9: Organizational Activities)

The Board will consider selecting Intera, Inc. to provide as needed GSP development support services, directing staff to negotiate a professional services agreement with Intera, Inc., and designating the Intera, Inc. as an at-large member of the Technical Review Group.

d. GSP Technical Review Group (Grant Category (c): Task 9: Organizational Activities)

The Board will consider selecting an individual or firm to serve as an at-large member of the Technical Review Group and directing staff to negotiate a professional services agreement with the selected individual or firm.

9. COMMITTEE REPORT

a. Ad Hoc Stakeholder Engagement Committee

The committee will provide an update on implementation of the Stakeholder Engagement Plan.

b. Ad Hoc Budget Committee

The committee will provide an update on matters not otherwise on the Agenda.

10. EXECUTIVE DIRECTOR'S REPORT

11. ADJOURNMENT

The next scheduled Board meeting will be on April 11, 2019 at 1pm at the Casitas Municipal Water District Meeting Room, 1055 Ventura Ave, Oak View, CA 93022.

**UPPER VENTURA RIVER GROUNDWATER AGENCY
MINUTES OF REGULAR MEETING JANUARY 10, 2019**

The Board meeting was held at Casitas Municipal Water Districts meeting room at 1055 Ventura Avenue, Oak View, CA 93022. Directors present were: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, Angelo Spandrio, Emily Ayala (arrived after Item 4), and Larry Rose. Also present were: Executive Director Cece Vandermeer, Attorney Jena Acos, and GSP Project Manager Bryan Bondy. Public present were Mary Bergen, Mike Hollebrands, Jennifer Tribo, Ben Petterle and Mike Hollebrands.

- 1) **CALL TO ORDER-** Chairperson Bruce Kuebler called the meeting to order at 1:05 P.M. Director Kuebler stated that Executive Director Vandermeer swore in Director Kuebler and newly appointed Casitas Municipal Water District Director Angelo Spandrio before the board meeting began.
- 2) **PLEDGE OF ALLEGIANCE** – Led by Chairperson Bruce Kuebler.
- 3) **PUBLIC COMMENTS ON ITEMS NOT APPEARING ON THE AGENDA** – None
- 4) **CONSENT ITEMS**
 - a. **Approve Minutes from November 8, 2018**
 - b. **Approve Financial Report for November 2018**

Director Engle motioned to approve Minutes from November 8, 2018 and Financial Report for November 2018. Seconded by Director Shephard.

Ayes: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, Angelo Spandrio, and Larry Rose.

5) DIRECTOR ANNOUNCEMENTS

Director Kuebler mentioned that he attended the steelhead summit in Ventura on Dec. 3. While there, Director Kuebler talked with Mary Larson and Kyle Evans (who replaced Kate Hutchison in Santa Barbara office of Department of Fish and Wildlife to discuss DFW participation in the GSP. Director Kuebler also mentioned that he spoke with Kevin DeLano from State Water Resources Control Board about the status of the Board's study plan. Director Kuebler also reported that the attorneys in the Santa Barbara Channelkeeper litigation and Ventura's adjudication are awaiting hearings in February on venue and other procedural matters.

6) GSP PROJECT MANAGER REPORT

Bryan Bondy provided the following brief updates:

- He remotely attended the State Water Board Groundwater-Surface Water workshop. Several speakers discussed the use of analytical tools to evaluate the timing and rate of surface water depletion by groundwater extraction.
- The final Grant agreement from DWR that is ready for signing. Eddie Pech (DWR) will be scheduling a kickoff meeting to discuss grant administration.
- Bondy reported MOWD well #2 has been identified as a monitoring well to replacement the well planned for monitoring underflow near Camino Cielo. Director Engle stated that she would like to present this information to the MOWD Board of Directors at the next board meeting on January 15.

- Bondy reported that he has been working with UVRGA's website contact at Ojai Digital to make the changes required by the new public agency website law.
- Bondy mentioned that DWR has finalized the basin reprioritization for Upper Ventura River Basin, which will remain a medium priority basin. Lower Ventura River will be prioritized very low.
- Bondy reported that the Agency received a dozen resumes for the Agency Administrative position and that he, along with Director Kuebler and Director Engle, will be meeting to review the resumes after today's board meeting.

7) NON-GSP ACTION ITEMS

a. Appoint Agricultural Stakeholder Director

The Board discussed the reappointment of Emily Ayala for the Agricultural Stakeholder Director two year term beginning February 1, 2019. Ayala stated that she is willing to accept the nomination for the two year term.

No public comments.

Director Shephard nominated Emily Ayala to be reappointed for the Agricultural Stakeholder Director two-year term beginning February 1, 2019. Seconded by Director Kuebler. Attorney Acos stated that it is a member agency vote only.

Ayes: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, and Angelo Spandrio.

b. Appoint Environmental Stakeholder Director

The Board discussed the reappointment of Larry Rose for the Environmental Stakeholder Director two year term beginning February 1, 2019.

No public comments.

Director Kuebler mentioned that Larry Rose would be traveling during the two year term, and Larry Rose stated that he would possibly miss between two to five meetings during the two year term. Attorney Acos stated that there is a provision for a Director to attend meetings remotely. Through discussion it appeared that this travel would not significantly affect his participation as the environmental stakeholder director.

Director Kuebler nominated Larry Rose to be reappointed for the Environmental Stakeholder Director two-year term beginning February 1, 2019. Seconded by Director Engle. Attorney Acos stated that it is a member agency vote only.

Ayes: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, and Angelo Spandrio.

c. Agency Officer Appointments

The Board discussed reaffirming the chair and secretary for a six-month term and appointing a Member Director to fill the vice chair vacancy created by the change in Casitas Municipal Water District's Member Director, also for a six month term. Reaffirming the chair and secretary and approving six month terms for all positions is necessary to get on cycle with the Agency Bylaws,

which require officer elections at the beginning of each fiscal year. The current officers were elected in January 2018.

Director Kuebler stated that Director Spandrio replaced the CMWD director that was the Vice Chair. Director Kuebler recommended that Director Spandrio be elected the secretary and Director Engle be elected as Vice Chair for the remainder of the fiscal year, June 30, 2019.

No public comment.

Director Kuebler motioned to appoint himself as Chair, Director Engle as Vice Chair and Director Spandrio as Secretary. Seconded by Director Shephard.

Ayes: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, Angelo Spandrio, Emily Ayala, and Larry Rose.

d. Executive Committee Status

The Board reviewed the status of the Executive Committee, a standing committee.

No public comment,

Director Kuebler motioned to dissolve the Executive Committee. Seconded by Director Shephard.

Ayes: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, Angelo Spandrio, Emily Ayala, and Larry Rose.

e. Ad Hoc Committees

Upon recommendation of counsel and due to the change in the CMWD representative, the Board reviewed its ad hoc committees. Bondy referred to the staff report attachment, Ad Hoc Committee Summary Table, included in the agenda package, showing the current committees, members, termination dates, and duties.

The Board reviewed the Table and discussed committee assignments and other modifications.

No public comment

Director Ayala motioned to terminate the Ad Hoc Budget Committee to Develop Budget Recommendations and Perform Budget Review Tasks and appoint an "Ad Hoc Budget Committee" with Director Spandrio as the Chair and members Bert Rapp and Mike Hollebrands, set the termination date to December 31, 2019, and specify the duties as shown in the Table with the following changes: remove Duty #1(Develop a proposed FY 2019 budget) and change Duty #2 to read "Maintain a multi-year budget through fiscal year 2022." Seconded by Shephard.

Ayes: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, Angelo Spandrio, Emily Ayala and Larry Rose.

Director Rose motioned dissolve the existing Ad Hoc Funding Options Committee and appoint an "Ad Hoc Funding Committee" with Director Kuebler as the Chair and members Ayala and Rose, set termination date to December 31, 2019, and add Duty #2 to read "Oversee and advise Board on Fee Implementation Issues." Seconded by Ayala.

Ayes: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, Angelo Spandrio, Emily Ayala and Larry Rose.

Engle moved to dissolve the Ad Hoc Stakeholder Engagement Committee and reinstate it with current roster, termination date of December 31, 2019, and deletion of Duty #1. Seconded by Rose.

Ayes: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, Angelo Spandrio, Emily Ayala and Larry Rose.

Rose moved to dissolve the Committee to Interface with California Water Action Plan Representatives and reinstate it with Director Kuebler as chair and members Engle and Rungren, with a termination date tied to GSP adoption. Seconded by Shephard.

Ayes: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, Angelo Spandrio, Emily Ayala and Larry Rose.

f. DWR Basin Prioritization for Lower Ventura River Basin

No discussion because basin priority was set at very low. No action was taken.

8) GSP ACTION ITEMS (2:15PM – 5:40PM)

a. Grant Task Nos. 6 (Subsurface Inflow Data) and 2 (Project Monitoring Plan)

Bondy explained that preliminary planning activities must be completed to facility Grant Tasks 2 and 6. These activities include revising the procedures for evaluating subsurface inflow at the northern boundary of the basin, obtaining access for monitoring wells for subsurface inflow determination at the confluence with San Antonio Creek, and completing the "Project Monitoring Plan" now required by DWR prior to drilling the monitoring wells.

No public comment.

Rungren moved to approve the recommended actions: approve time and materials professional services by Bondy and Kear not to exceed \$4,000 each, to complete preliminary planning and coordination activities for GSP Grant Task No 6 and the GSP Grant Task No 2 (Project Monitoring Plan). Seconded by Shephard.

Ayes: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, Angelo Spandrio, Emily Ayala and Larry Rose.

b. GSP Project Management Planning (Grant Task 9 – Organizational Activities)

Bondy summarized the recommended approach to completing the GSP. The approach involves establishing a contract with a consultant firm for as-needed services. The consultant would perform specific tasks requested by the Agency to fill in gaps between work completed by the GSP PM, Kear, and others. This approach is being recommended for Mound Basin and Bondy suggested it would be more efficient to hire the same consultant for both agencies to increase efficiency.

No public comment.

After discussion, the Board gave direction to Bondy to issue a request for qualifications, which should include rate sheets.

Director Ayala left the meeting at 4:25

c. Technical Review Group (Grant Task 9 – Organizational Activities)

Bondy summarized his review of the counsel comments made during the prior Board meeting on this item. Based on discussion with counsel, Bondy recommended that the technical group be called the “Technical Review Group” to avoid confusion with committees, which have a meaning within the JPA and Agency bylaws. The TRG would consist of the GSP PM (currently Bondy), data collection consultant (currently Jordan Kear), an expert from the as-needed support consultant described in b. above, and a certified geologist/hydrogeologist to be selected by the Board. This latter person would have likely need to be paid. Bondy referred the Board to the draft resolution included in the meeting packet.

No public comment.

Following Board discussion of the need for a TRG and fiscal impacts, Engle motioned moved to approve Resolution 2019-1 establishing a Technical Review Group, seconded by Rungren. Bondy was also requested to recruit the at-large member.

Ayes: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, Angelo Spandrio and Larry Rose. Director Ayala was absent

d. Pre-GSP Fee Options (Grant Task 9 – Organizational Activities)

Fee consultant Mark Hildebrand presented background on fee options and results of his analysis of a groundwater extraction fee made based on direction he has received from the Ad Hoc Funding Committee. Hildebrand presented fee calculations using estimated calendar year 2017 extractions as the fee basis for all years during preparation of the GSP. Two fee models were presented; a uniform fee which would require loans from member agencies to offset cash flow shortages; and just-in-time fee which would vary yearly depending on cash needs.

Mary Bergen, former chair of the Funding Options Committee, also provided background on the fee study.

The Board discussed the fee models presented and other aspects of developing an extraction fee program. Member Directors were asked to check with their Boards about willingness to make loans and preference for an option so the Board could provide direction to the Ad Hoc Funding Committee during the next Board meeting. The Board discussed working toward finalizing the fee, with key next steps to include: (1) validating the 2017 groundwater extraction volume estimates by sending letters to the well owners and (2) updating the multi-year budget.

Engle motioned to direct the Ad Hoc Funding Committee to further develop an extraction fee as the fee option for the Agency, seconded by Rungren.

Ayes: Bruce Kuebler, Diana Engle, Glenn Shephard, Susan Rungren, Angelo Spandrio and Larry Rose. Director Ayala was absent.

9) COMMITTEE REPORT

a. Ad Hoc Funding Options Committee

Kuebler reported he and Ayala met with the six largest agricultural pumpers to explain plans for developing an extraction fee program and to answer questions. There would be an individual meeting with each to discuss the estimated pumping after letters were sent to all pumpers.

After the Board approves a fee option, an evening meeting will be held for all pumpers to describe the extraction fee program and the Board will establish the fee at the following regularly scheduled meeting.

b. Ad Hoc Stakeholder Engagement Committee

Director Kuebler mentioned his talk with Kevin DeLano, DFW personnel at the Steelhead Summit, and meetings with the large pumpers. There was discussion of keeping records of stakeholder contact and Director Rose volunteered to set up an on-line file to enter such contacts.

10) EXECUTIVE DIRECTOR'S REPORT

- 11) **ADJOURNMENT** – The meeting was adjourned at 5:44 pm. The next regular Board meeting will be March 14, 2019 at 1:00 pm at the Casitas Municipal Water District Meeting Room, 1055 Ventura Ave., Oak View, CA 93022.

Action: _____

Motion: _____ Second: _____

B. Kuebler___ D. Engle___ A. Spandrio___ S. Rungren___ G. Shephard___ E. Ayala___ L. Rose___

UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 4(b)

DATE: March 14, 2018
TO: Board of Directors
FROM: Cece Vandermeer, Executive Director
SUBJECT: Approve Financial Report for December 2018

November Bank Balance:	\$ 99,183.07
Stop payment on Hildebrand check #1137	3,200.00
November Revised Bank Balance	\$102,383.07

DECEMBER 2018 ACTIVITY:

Revenues: -0-

December Expenditures Paid:

Auto	Wells Fargo	Bank Service Charge	38.46
Auto	Deluxe Checks	Checks for Bank of the Sierra	211.01
1142	Bondy Groundwater	12/18 Services	6,578.44
1143	Brownstein Hyatt	11/18 Attorney Fees	8,960.50
1144	Cece Vandermeer	Medical 12/18	150.00
1145	Hildebrand Consult	12/18 Services	2,600.00
1146	OBGMA	Office Share Exp 12/18	515.30
1147	VOID		-0-
1148	Brownstein Hyatt	12/18 Attorney Fees	5,532.95
1149	Cece Vandermeer	Payroll 12/18	634.45

Total Expenditures Paid December \$ 25,221.11

December Ending Bank Balance \$ 77,161.96

Action: _____

Motion: _____ Second: _____

B. Kuebler___ G. Shephard___ D. Engle___ A. Spandrio___ S. Rungren___ L. Rose___ E. Ayala

UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 4(b)

DATE: March 14, 2018
TO: Board of Directors
FROM: Cece Vandermeer, Executive Director
SUBJECT: Approve Financial Report for January 2019

December Bank Balance: \$ 77,161.96

JANUARY 2019 ACTIVITY:

Revenues: -0-

January Expenditures Paid:

Auto	Wells Fargo	Bank Service Charge	40.01
Auto	IRS	4 th Qtr Federal P/R Tax	676.78
Auto	EDD	4 th Qtr State P/R Tax	45.51
1150	Hildebrand	11/18 Services	3,200.00
1151	UVRGA	To Open Bank Account	100.00
1152	Bondy Groundwater	1/19 Services	12,190.80
1153	Brownstein Hyatt	1/19 Attorney Fees	2,747.00
1154	Cece Vandermeer	Medical 1/19	150.00
1155	Hildebrand Consult	1/19 Services	1,600.00
1156	Kear Groundwater	1/19 Services	4,320.00
1157	OBGMA	Office Share Exp 1/19	545.83
1158	Cece Vandermeer	Payroll 1/19	1,096.59
1159	Patricia Perez	Payroll 1/19	84.95

Total Expenditures Paid January \$ 26,797.47

January Ending Bank Balance \$ 50,364.49

Action: _____

Motion: _____ Second: _____

B. Kuebler___ G. Shephard___ D. Engle___ A. Spandrio___ S. Rungren___ L. Rose___ E. Ayala

UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 4(b)

DATE: March 14, 2018
TO: Board of Directors
FROM: Cece Vandermeer, Executive Director
SUBJECT: Approve Financial Report for February 2019

January Bank Balance - Wells Fargo	\$ 50,364.49
January Bank Balance - Bank of the Sierra	<u>150.00</u>
Total in Banks	\$ 50,514.49

FEBRUARY 2019 ACTIVITY:**Revenues:**

City of Ventura	\$ 25,000.00
Ventura River Water District	25,000.00
Meiners Oaks Water District	25,000.00
County of Ventura	<u>25,000.00</u>
Total	\$100,000.00

February Expenditures Paid:

2000	Bartlett, Pringle & Wolf	16/17 & 17/18 Audit	4,252.00
2001	Bondy Groundwater	2/19 Services	7,315.00
2002	Brownstein Hyatt	1/19 Attorney Fees	6,181.52
2003	Bruce Kuebler	GoDaddy 1 year Sub.	372.89
2004	Cece Vandermeer	Medical 2/19	150.00
2005	Hayman Consulting	1/19 Services	212.50
2006	Hildebrand Consult	2/19 Services	1,600.00
2007	Kear Groundwater	1/19 Services	1,540.00
2008	OBGMA	Office Share Exp 2/19	490.48
2009	Cece Vandermeer	Payroll 2/19	971.10
2010	Patricia Perez	Payroll 2/19	240.71
Total Expenditures Paid February:			\$ 23,326.20

February Ending Bank Balance (Bank of the Sierra)	\$ 76,823.80
February Ending Bank Balance (Wells Fargo)	<u>\$ 50,364.49</u>
Total in Banks	\$127,188.29

Action: _____

Motion: _____ Second: _____

B. Kuebler ___ G. Shephard ___ D. Engle ___ A. Spandrio ___ S. Rungren ___ L. Rose ___ E. Ayala

UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 7(a)

DATE: March 14, 2019

TO: Board of Directors

FROM: Agency Staff

SUBJECT: Employment Agreement For Temporary Administrative Support

SUMMARY

In December 2018, the Board Chair approved a request from Ms. Vandermeer to hire Patricia Perez for extra administrative help. Ms. Perez began assisting Ms. Vandermeer in the Agency's office in early January. Neither the Board Chair nor Ms. Vandermeer was aware that Board approval is required before hiring employees (JPA Section 10.4). To date, no formal employment offer has been made to Ms. Perez, although she has been on UVRGA payroll for over three months.

It is recommended that the Board retroactively approve the hiring of Ms. Perez. Ms. Vandermeer has requested that the extra help continue through the transition to a new organizational structure (See Item 7b). Therefore, it is proposed that Ms. Perez be offered a temporary, hourly position with an end date of June 30, 2019. Ms. Perez is compensated \$15.50/hour and her hours are to be determined by Ms. Vandermeer.

RECOMMENDED ACTIONS

It is recommended that the Board authorize the Board Chair to sign the temporary employment agreement with Patricia Perez attached hereto for hourly administrative assistance on an as-needed basis.

BACKGROUND

None.

FISCAL SUMMARY

None.

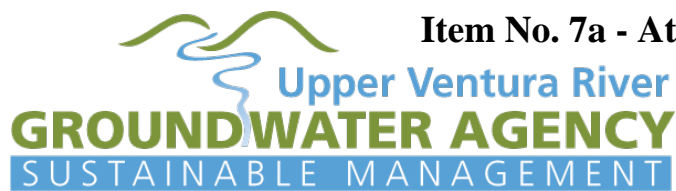
ATTACHMENTS

A. Draft Employment Agreement

Action: _____

Motion: _____ Second: _____

B. Kuebler____ D. Engle____ A. Spandrio____ S. Rungren____ G. Shephard____ E. Ayala____ L. Rose____



March 14, 2019

Patricia Perez
[REDACTED]

RE: Temporary Employment Agreement

Dear Ms. Perez:

This letter confirms Upper Ventura River Groundwater Agency's formal offer of employment for temporary, as-needed hourly administrative assistance.

Position Characteristics:

- Part time, hourly position, with a rate of pay equal to \$15.50 per hour, up to 12 hours per week
- Fringe benefits:
 - Sick Leave: Pursuant to California law, currently accrual of 1 hour per 30 hours worked
 - This position does not include any other fringe benefits
- Place of work: UVRGA office, located at 417 Bryant Circle, Suite #112 Ojai, CA 93023.
- Start date: January 1, 2019.
- End date: June 30, 2019, unless extended by UVRGA and you.

Position Duties and Restrictions:

- Perform administrative support duties only as assigned by CeCe Vandermeer, Bryan Bondy, or other individual designated by Mr. Bondy.
- You are not authorized to operate any personal vehicles while on the UVRGA clock.
- You are not authorized to represent UVRGA or make any commitments on behalf of UVRGA, including executing any agreements or contracts, whether oral or written.

Your employment with UVRGA is at-will and either party can terminate the employment relationship at any time with or without cause and with or without notice.

You acknowledge that this employment letter agreement, represents the entire agreement between you and UVRGA and that no verbal or written agreements, promises, or representations that are not specifically stated herein are, or will be, binding upon the UVRGA.

If you agree with the employment details specified herein, please sign below and return this letter agreement to me.

Sincerely,

Bruce Kuebler, Chair, UVRGA

Accepted By: _____ Date: _____
Patricia Perez

UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 7(b)

DATE: March 14, 2019

TO: Board of Directors

FROM: Chair, Vice Chair, and GSP PM

SUBJECT: Agency Staffing

SUMMARY

Pursuant to prior Board direction, the Chair, Vice Chair, and GSP PM have taken steps to recruit an Agency Administrator over the last four months. Resumes were solicited via multiple methods, including Craigslist.com, a temp agency, word of mouth, and posting on the UVRGA website. Over a dozen resumes were received. Based on review of the responses received, Summer Ward, the current Board Secretary at Meiners Oaks Water District (MOWD), was identified as the most qualified candidate to fill the position. Ms. Ward is very motivated to serve UVRGA and has the requisite local public agency experience necessary to excel in the position. Ms. Ward's resume is provided in Attachment A.

Ms. Ward and MOWD are agreeable to establishing an agreement between UVRGA and MOWD whereby Ms. Ward would fulfill the duties of Agency Administrator, but remain an employee of MOWD. UVRGA would reimburse MOWD for Ms. Ward's labor in an amount equal to her overtime rate, currently approximately \$40/hour, plus payroll taxes. Under this arrangement, the UVRGA office would be relocated to MOWD. UVRGA would compensate MOWD a modest monthly fee (to be determined) for use of MOWD office space for file storage, printer/copier usage, and miscellaneous supplies.

As part of this transition, it is proposed that the bookkeeping duties be separated from the Agency Administrator position. There are several reasons for this. First, the Agency must appoint a treasurer that is either an employee of the Agency or a contractor that is a Certified Public Accountant (CPA). Ms. Ward will not be an employee of UVRGA and, therefore cannot serve as treasurer. Additionally, hiring a CPA would be more expensive than hiring a bookkeeper. The GSP PM identified Karen Palm as a potential bookkeeper. Ms. Palm comes recommended by Shalene Hayman who has assisted UVRGA with its QuickBooks setup (Ms. Hayman, in turn, was recommended by former Director Bergen). Ms. Palm is agreeable to serving as bookkeeper under an employment agreement, which would allow her to serve as treasurer. Ms. Palm's rate is currently \$65/hour. Ms. Palm's resume is provided in Attachment B.

Assuming the Board is agreeable to the proposed reorganization described above; there will be a transition from the current administration to the new Agency Administrator and Bookkeeper. Once the transition is complete, the exiting employment agreement with Cece Vandermeer could

be concluded or modified so that Ms. Vandermeer could provide as-needed support/backup to the Agency Administrator and/or Bookkeeper on an as-needed basis. It is recommended that this decision be deferred until the transition is near completion.

Lastly, the GSP PM (Bryan Bondy) has been de facto serving as Executive Director for some time. It is recommended that the Board officially appoint Mr. Bondy as Executive Director at this time to ensure a smooth transition.

RECOMMENDED ACTIONS

1. Receive an update from the GSP PM, Chair, and Vice Chair concerning efforts to recruit an agency administrator and their agency reorganization recommendations.
2. Consider directing staff to pursue an agreement with Meiners Oaks Water District for Agency Administrator services for Board review and approval.
3. Consider directing staff to pursue an employment agreement with Karen Palm for bookkeeping duties for Board review and approval.
4. Consider appointing Bryan Bondy as the Agency Executive Director.

BACKGROUND

On November 8, 2018, the Board discussed reorganizing the Agency and approved filling the Agency Administrator position.

FISCAL SUMMARY

The proposed Fiscal Year 18/19 Budget and Multi-Year Budget updates include increased costs associated with the Agency Administrator and Bookkeeper positions (please see Agenda Items 7d and 7e). There is no anticipated fiscal impact associated with the proposed Executive Director appointment.

ATTACHEMENTS

- A. Resume for Ms. Ward
- B. Resume for Ms. Palm

Action: _____

Motion: _____ Second: _____

B. Kuebler___ D. Engle___ A. Spandrio___ S. Rungren___ G. Shephard___ E. Ayala___ L. Rose___

Item No. 7b - Attachment A

SUMMER L. WARD, MBA

[REDACTED], SUMMERWARD805@ICLOUD.COM

OBJECTIVE

Dedicated and reliable professional with superb analytical and problem solving skills. Adept at interdepartmental coordination to maximize business efficiency. Committed to ongoing professional development and research to ensure currency and a progressive approach in management and problem-solving.

EXPERIENCE

SEPTEMBER 2017 – CURRENT Meiners Oaks Water District *Ojai, CA*
ADMINISTRATIVE ASSISTANT, ACCOUNTING, BOARD SECRETARY & SAFETY

- Responsible for daily accounts receivable, cash management, account reconciliations, banking, billing, monthly rate setting, software and server management, as well as field operator service repairs.
- Excellent customer service is provided to customers, contractors, legal counsel, state and local agencies by phone, in person and through written communication.
- Special projects are assigned by the Board of Directors and General Manager including rate and allocation studies, parcel management, billing system redesign and presentations to the County Board of Supervisors.
- Data and reporting including trending and analysis of water consumption, surcharges and revenues. Discovered missed revenues that had not been collected in over two years, resulting in a net loss of \$100,000. After validating the billing error, I worked with the billing system vendor to create an error proof method of ensuring the appropriate surcharge is calculated and billed out to each appropriate customer.
- Board of Directors is comprised of 5 Directors and the General Manager and District Legal Counsel. Monthly Public Board meetings follow the Brown Act, I am responsible for the agenda, notice to the public, clerk the meetings and recording the minutes. Additional duties include time management for public comment and distribution of all pertinent materials.
- Emergency Management duties include response to public, state and local agencies when the water utility is at risk for interruption, for example: December 2017 Thomas Fire Response. Public notices, information management and logistics of personnel and supplies.
- Preparation for annual fiscal audit, including organizational processes for accounts receivable, payables and Board of Director resolutions and policies.
- Oversee Safety Program; as well as ensure all safety regulations and inspections are in compliance. Maintain safety logs, training, inspection reports and corrective actions.

JUNE 2015– MARCH 2017 County of Ventura Health Care Agency *Ventura, CA*
CHIEF OPERATIONS OFFICER, SPECIALTY CARE & SUPPORT SERVICES

- Responsible for analysis, planning, staffing, coordinating, supervising, and directing services provided within the outpatient specialty care clinics and support services.
- Developed and administered the annual operational budget to ensure program objectives and cost effectiveness were reached; determined staffing requirements; management staff directly and/or through subordinate managers; established standards for and ensured compliance with administrative and/or operational needs and requirements.
- Planned, implemented, and evaluated overall services, programs, and policies; collaborated with other administrative and ancillary departmental staff in planning, implementing, and evaluating overall agency services, programs, and policies.
- Recommended policy positions; organized specialty and support services and systems to meet patient care and patient needs and objectives; delineated lines of authority, functional responsibilities, accountability and communication; supervised the development of staffing patterns and approved proposed levels and skill mixes within outpatient programs.
- Directed the planning, implementation and maintenance of a systematic process for monitoring and evaluating the quality and appropriateness of operations and for resolving identified problems; provided for an on-going management development program for managers and supervisors.
- Represented operations and administration at designated committee meetings and at outside functions as required; participated in labor negotiations as required.

- Developed organized, and prepared special studies and reports.
- Maintained professional affiliations and participated in educational programs; collaborated with other public and private hospitals, physicians, and other providers, organizations, County departments, and community groups to foster a positive presence in the community.

MAY 2014- MAY 2015

San Ysidro Health Center, Inc.

San Diego, CA

DIRECTOR, QUALITY, RISK & REGULATORY COMPLIANCE

- Provided administrative oversight in the areas of quality assurance, performance improvement, risk management, HMO compliance, as well as other essential services.
- Directed and managed the organization's Quality Management & Improvement program.
- Oversight of all regulatory compliance activities including Federal, State and County audits; as well as internal and external record audits, drug utilization reviews, health plan audits as well as development and implementation of corrective actions plans.
- Supported operational reviews of clinical performance measures including MU, P4P programs, UDS, HEDIS and ACE initiatives.
- Responsible for the investigation of reported adverse events to determine root cause(s) and work alongside stakeholders to implement corrective actions plans.
- Responsible for coordination and correspondence with Medical Malpractice carriers and other legal representatives regarding risk mitigation activities, potential claims, lawsuits, depositions and document production.
- Directed and managed the clinical peer review process including record selection, result tracking, trend identification and coordination of educational topics with continuing education department.
- Performed data analysis using specialized analytical tools and software.
- Responsible for reporting any HIPAA/Privacy breaches to appropriate agencies as well as contacting affected parties, as required by regulation.
- Responsible for project management oversight of achieving and maintaining Patient-Centered Medical Home recognition.
- Received, reviewed and addressed all patient complaints and/or grievances per policy and regulation.
- Provided training and support to Directors and Managers with workflow redesign and lean process improvement activities.

OCTOBER 2011 – MAY 2014

San Ysidro Health Center, Inc

San Diego, CA

SR. MANAGEMENT ANALYST/PATIENT-CENTERED MEDICAL HOME COORDINATOR

- Responsible for managing the corporate level work plan to achieve NCQA Level 3 PCMH Recognition, including compliance with CMS ACPC Demonstration Project milestones.
- Led PCMH related projects, such as workflow redesigns, workload balancing and NextGen E.H.R. design.
- Responsible for establishing and maintaining Meaningful Use compliance, including registration, incentive tracking, and compliance reporting for all eligible providers.
- Collaborate with multidisciplinary teams to evaluate and streamline workflows and processes to maximize efficiency, cost, time and improve satisfaction through implementation of lean and other quality improvement methodologies.
- Responsible for the recertification of the HRSA 340b Discount Drug Program recertification process, including management of contracted pharmacies, maintenance of all participating sites and recertification applications.
- Provide expertise in regulatory audit compliance, assist in audit preparations and corrective action plans.
- Provide executive team support for strategic planning efforts and special projects.
- Represent the organization at county-wide Operations Council meetings including PCMH, Meaningful Use and Primary Link collaborative projects

MAY 2001 – OCTOBER 2011

Community Memorial Health System

Ventura, CA

MANAGER, REGULATORY COMPLIANCE/QUALITY ANALYST/MANAGER, QUALITY & RISK

- Effectively coordinated efforts to ensure strict regulatory compliance for two hospitals and 10 health clinics including regular production of in-depth analytical reports to continually optimize performance improvement, risk management, and patient safety.
- Evaluated, developed and implemented risk reduction strategies pertaining to legal risk, patient care, and ethical decision points.
- Contributed strong communication skills toward writing and distributing correspondence and educational materials to 2,000+ hospital staff, leadership, physicians, and community members.
- Prepared and facilitated educational classes for management on new/changing regulatory requirements, performance improvement and patient safety projects, as well as progress toward Balanced Scorecard strategic planning initiatives.

- Managed all correspondence with regulatory agencies regarding compliance issues and facilitated regular group sessions to address specific accreditation issues and new requirements.
- Trained, coached and educated 65+ employees in conducting compliance audits throughout organization resulting in identification of deficiencies and corrective actions.
- Created and introduced three learning portals for employees to maximize awareness and engagement in performance improvement, and safety and regulatory compliance.
- Designed strategic map for Balanced Scorecard Initiatives to enable Board of Trustees to view top-level performance while allowing department directors to assess unit-specific impact.
- Oversaw data analysis and reporting for two hospitals and nine medical clinics.
- Scrutinized data to identify opportunities for improvement and formulated corrective action plans.
- Generated broad-scope reports to illustrate findings and drive patient safety initiatives.
- Compiled and provided performance data to all department directors within health system.
- As MEDITECH Client Service Quality Management module leader, held accountability for development, implementation and maintenance of Quality and Risk Management module including NPR report writing.
- Concurrently managed Ojai Valley Hospital's risk management, accreditation, performance improvement, patient safety programs and committees during hospital merger.
- Spearheaded risk management functions encompassing claims management, Workers Compensation and risk reduction strategy implementation.
- Developed and implemented Performance Improvement and Patient Safety programs.
- Leveraged sound critical thinking skills to analyze, track and manage comprehensive data for patient safety, performance improvement, accreditation and risk management initiatives.

EDUCATION

2008	University of Phoenix	Phoenix, AZ
MASTERS BUSINESS ADMINISTRATION		
2012	San Diego State University	San Diego, CA
LEAN ENTERPRISE CERTIFICATION		
2013	American Health Information Mgt Assoc.	San Diego, CA
CERTIFICATION PRACTICE WORKFLOW & INFORMATION MANAGEMENT REDESIGN SPECIALIST		
2016	County of Ventura	Ventura, CA
LEADERSHIP EXCELLENCE & ACTION PROGRAM – 1 ST COHORT GRADUATE		

SKILLS & CERTIFICATIONS

2018 RED CROSS CPR/AED/FIRST AID CERTIFICATION

INTERMEDIATE MICROSOFT OFFICE WORD, EXCEL, POWERPOINT AND ACCESS

E.H.R. PLATFORMS: MEDITECH, NEXTGEN & I2I POPULATION HEALTH MANAGEMENT

REFERENCES

REFERENCES ARE AVAILABLE UPON REQUEST.

KAREN J PALM



Accounting@KJPalm.com

Independent Bookkeeper/QuickBooks Advisor with expertise in small business financial operations, strategic decision-making, employee management, and client relationships. Able to deliver hands-on support in bookkeeping and financials, team building, corporate compliance, and daily operations. Earned an MBA, BA, and Paralegal Certificate.

KEY ACCOMPLISHMENTS AND EXPERIENCES

- Work with select client base of nonprofits and for-profit businesses. Oversee client compliance with industry regulations, grant accounting, audits and GAAP.
- Built a business from a home office and single client to an enterprise of \$8 million in assets that employed over 20 people, generated \$1.4 Million in annual revenue, and represented 10 client companies.
- Standardized complex commercial fishing settlements by integrating Excel data with accounting software to deliver timely, accurate settlement figures for crew members, boat owners, and their accountants.
- Conducted legal research to analyze and apply laws, statutes, codes and regulations applicable to business.

PROFESSIONAL EXPERIENCE

BOOKKEEPERJUNE 2018 TO PRESENT
KJ PALM ACCOUNTINGOjai, CA
Independent bookkeeper for nonprofit and small business clients.

CO-OWNER / CONTROLLER / BUSINESS MANAGER SEPTEMBER 2008 TO MAY 2018
STRATA MANAGEMENT Oxnard, CA
Managed financial operations for company and client-owned commercial fishing boats.

STRATA LURING LIGHTS Ventura, CA
Exclusive North American distributor for Samsung Litec commercial fishing lights.

- Responsible for vessel operations with gross sales ranging from \$350K to \$1.4 million.
- Built and maintained client relationships, expanding the business from a single client to 10 client companies.
- Transactional oversight of purchases and sales of commercial fishing boats and related permits.
- Oversaw the complex financial aspect of the business, that included crew settlements, employee advance accounts, crew reimbursements, garnishments, licenses, taxes, and the financing, purchasing and resale of company assets.
- Maintained corporate compliance by researching and applying required codes.
- Placed and coordinated international orders as a commercial distributor of vessel equipment, including the oversight of transportation and delivery.

PROFESSIONAL EXPERIENCE (CONTINUED)

➤	
PARALEGAL	2000 TO 2008
PRICE POSTEL & PARMA	Santa Barbara, CA
STRADLING YOCCA CARLSON & RAUTH	Santa Barbara, CA
MULLEN & HENZELL	Santa Barbara, CA

BOOKKEEPING AND FINANCE SKILLS

- Certified QuickBooks Online ProAdvisor
- Ten years experience working in QuickBooks Desktop
- Bank downloads and reconciliations
- Integrate complex Excel spreadsheets with accounting software
- Journal entries
- Input, maintain and generate reports in Accounts Payable
- Input, maintain and generate reports in Accounts Receivable, including estimates and invoices
- Reconcile credit card accounts
- Track and reconcile expense reimbursement and advance accounts
- Compile financial reports per Client, Accountant, and bank requests

EDUCATION

Master of Business Administration	Seattle University
Bachelor of Arts in Political Science	University of California at Santa Barbara
Paralegal Certificate	University of California at Santa Barbara

UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 7(c)

DATE: March 14, 2019

TO: Board of Directors

FROM: Agency Staff

SUBJECT: Access Agreements

SUMMARY

It is prudent practice for the Agency to secure formal access agreements with landowners for certain data collection and monitoring activities necessary to fulfill the Agency's mission. Currently, staff is working to transition monitoring well access agreements originally obtained by Ventura River Water District to UVRGA. Additional agreements will be required in the near future. Counsel is currently developing a standard access agreement template for routine monitoring activities.

Section 6.2 of the JPA allows the Board to delegate powers to the Executive Director and others by specific action of the Board. Furthermore, the Agency Bylaws, Section 4.4 provide that the Executive Director may execute contracts, deeds, and other documents and instruments as authorized by the Board.

It is neither practical nor cost effective to bring all necessary access agreements before the Board of Directors for approval. Therefore, the Board may choose to delegate the power to enter into access agreements to the Executive Director and/or any Officer.

RECOMMENDED ACTIONS

It is recommended that the Board designate the Executive Director and any Officer as authorized signers of access agreements.

BACKGROUND

None.

FISCAL SUMMARY

None.

Action: _____

Motion: _____ Second: _____

B. Kuebler ___ D. Engle ___ A. Spandrio ___ S. Rungren ___ G. Shephard ___ E. Ayala ___ L. Rose ___

UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 7(d)

DATE: March 14, 2019

TO: Board of Directors

FROM: Staff

SUBJECT: Legal Services Costs

SUMMARY

Pursuant to the Chair's request, this item was prepared to summarize legal fees and potential options to control costs for legal services. Several directors have recently expressed concerns about costs for legal services. Additionally, counsel's first invoice for 2019 included an 18% rate increase for Ms. Acos, the primary Brownstein Hyatt Farber Schreck (BHFS) attorney assigned to UVRGA. The invoice was later revised with a lower rate reflecting a 7.4% increase for 2019.

Review of the rate history for Ms. Acos shows an average 9.4% annual rate increase, with an overall increase of \$110/hour from \$255/hour in 2015 to \$365/hour in 2019 (a 43% increase during this timeframe). For comparison, Mound Basin GSA's general counsel's rate is \$270/hour.

The attached table provides a comprehensive review of rates for all BHFS employees and other UVRGA professional service providers for comparison. BHFS's average annual rate increase has been 7.2% since 2015. For comparison, the multi-year budget assumes a 3% annual rate increase. Using the BHFS average annual rate increase, the hourly rate for Ms. Acos is projected to increase to \$450/hour before completion of the GSP. Lastly, counsel has requested a \$24,000 increase for legal fees be included in the multi-year budget update to cover anticipated work during GSP development.

BHFS professionals are highly qualified in the area of water law and natural resources, including SGMA. However, the pace of fee increases and total anticipated costs should be considered by the Board as it looks ahead at adopting an updated multi-year budget and a groundwater extraction fee. The Chair has suggested that the Board consider options for reducing legal costs.

Potential options include the following:

1. Request lower cost BHFS attorney for general counsel services and reserve Ms. Acos and Mr. McGlothlin for advice on complex procedural and SGMA issues.

or

2. Solicit for a lower cost attorney from another firm to serve as general counsel and reserve BHFS for complex SGMA or water rights issues.

and

3. Request that general counsel attend meetings only as requested. Mound Basin GSA utilizes this approach for controlling general counsel fees.

RECOMMENDED ACTIONS

It is recommended that the Board discuss legal services costs and consider providing direction to staff concerning potential cost control measures.

BACKGROUND

UVRGA entered into an agreement with BHFS in May 2017 for general counsel services and assistance with the GSP development. The standard terms and conditions states that BHFS adjusts its rate structure at the beginning of each calendar and UVRGA agrees to pay all fees billed at the then-current rate.

FISCAL SUMMARY

See Summary.

ATTACHEMENT

- A. Table: UVRGA Professional Services Hourly Rate History

Action: _____

Motion: _____ Second: _____

B. Kuebler____ D. Engle____ A. Spandrio____ S. Rungren____ G. Shephard____ E. Ayala____ L. Rose____

Item No. 7d - Attachment A

UVRGA Professional Services Hourly Rate History

	2015	2016	2017*	2018	2019	% Change 2015- 2016	% Change 2016- 2017	% Change 2017- 2018	% Change 2018- 2019	% Change 2015- 2019	% Average Rate Increase	\$ Change 2015- 2019
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Legal Services - BHFS

Acos	\$255	\$ 270	\$ 295	\$ 340	\$ 365	5.9%	9.3%	15.3%	7.4%	43%	9.4%	\$ 110
Carlson				\$ 310	\$ 330				6.5%		6.5%	
Hart (paralegal)				\$ 280								
Johnson				\$ 385								
McGlothlin	\$475	\$ 495	\$ 515	\$ 590	\$ 590	4.2%	4.0%	14.6%	0.0%	24%	5.7%	\$ 115
Average for All BHFS Employees:										34%	7.2%	\$ 113

Other Professional Services

Bondy			\$ 185	\$ 190	\$190**			2.7%			2.7%	
Kear		\$ 180	\$ 200	\$ 200	\$200**		11.1%	0.0%			5.6%	

Notes: * BFSF Rates shown is Jan-March, BHFS rates increased April 2017: Acos: \$325, Hart: \$270, Johnson: \$370,
 McGlothlin: \$565
 Kear Rate changed September 2017

**Kear and Bondy rates subject to potential increase later in calendar year

UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 7(e)

DATE: March 14, 2019

TO: Board of Directors

FROM: Ad Hoc Budget Committee

SUBJECT: Second Quarter Budget Report

SUMMARY:

The Ad Hoc Budget Committee reviewed the profit and loss (P&L) statement through December 31, 2018. Prior to producing the P&L statement, the chart of accounts was updated to reflect the final grant agreement tasks. Expenses were also reentered into QuickBooks to reflect the updated grant tasks. The committee considered expenditures through second quarter and projections from the GSP PM and generated a recommended draft update to the Fiscal Year 18/19 Budget for Board consideration (Attachment A). The draft Fiscal Year 18/19 budget update reflects the actual carryover from Fiscal Year 17/18 of \$69,748, versus \$100,000, which was assumed at the time the budget was originally adopted.

Explanation of Column Headings in Attachment A:

- “Jul-Dec 18” column reflects expenses for the period on an accrual basis. Overspent income by \$3,864.90. Unbudgeted items 55055 and 55060.
- “Budget-6 months” column represents 50% of the original FY2018/2019 approved budget.
- “New Budget-1-16-19” column represents GSP PM recommended budget provided on January 16, 2019 prior to availability of second quarter P&L report.
- “Projected FY18/19 Expenses-1st half x 2” column simply doubles the 1st half expenses from the P&L report.
- “Revised FY18/19 Budget” column is the recommended revised budget. Projected net income is \$10,051.74.

RECOMMENDED ACTION

It is recommended that the Board receive the second quarter budget report from the Ad Hoc Budget Committee and consider approving updates to the Fiscal Year 18/19 budget.

BACKGROUND

The Fiscal Year 18/19 budget was adopted on June 14, 2018 (Attachment B). The multi-year budget was adopted on November 8, 2018, which included certain changes to the Fiscal Year 18/19 budget not yet formally adopted for Fiscal Year 18/19.

FISCAL SUMMARY

See Attachment A.

ATTACHMENTS

- A. Combined 2nd Quarter P&L Report and Draft Budget Update
- B. Fiscal Year 18/19 budget adopted on June 14, 2018

Action: _____

Motion: _____ Second: _____

B. Kuebler___ D. Engle___ A. Spandrio___ S. Rungren___ G. Shephard___ E. Ayala___ L. Rose___

UVRGA
Profit & Loss Budget vs. Actual
July through December 2018

Item No. 7e- Attachment A

UVRGA Profit and Loss Updated 2-28-19

First Half of FY19 with Original Budget
New budget from Bondy 1-16-19 added
Projected total expenses for FY19
Revised FY19 Budget added

	Jul - Dec 18	Budget-6 months	\$ Over Budget	% of Budget	New Budget - 1-16-19	Projected FY18/19 Expense-1st halfx2	Revised FY18/19 Budget
Ordinary Income/Expense							
Income							
40000 · Member Contributions	124,200.15	125,000.00	-799.85	99.36%			
2017/2018 Rollover	69,748.00	50,000.00					
41000 · Grant Income							
41100 · DWR GSP Grant Income	0.00	37,500.00	-37,500.00	0.0%			
Total 41000 · Grant Income	0.00	37,500.00	-37,500.00	0.0%			
Total Income	193,948.15	212,500.00	-18,551.85	91.27%			
Expense							
50001 · Personnel Expenses							
50100 · Salaries Expense	7,103.25	11,500.00	-4,396.75	61.77%	\$ 38,488.00	\$ 14,206.50	\$ 17,500.00
50200 · Payroll Taxes	550.18	1,500.00	-949.82	36.68%		\$ 1,100.36	\$ 1,200.00
50300 · Medical Reimbursement	900.00	900.00	0.00	100.0%	\$ 5,000.00	\$ 1,800.00	\$ 1,800.00
50400 · Worker's Comp Insurance	1,045.00	1,600.00	-555.00	65.31%		\$ 2,090.00	\$ 2,100.00
Total 50001 · Personnel Expenses	9,598.43	15,500.00	-5,901.57	61.93%	\$ 43,488.00	\$ 19,196.86	\$ 22,600.00
55000 · Administrative Exp						\$ -	
55005 · Rent Expense	2,400.00	2,500.00	-100.00	96.0%	\$ 5,000.00	\$ 4,800.00	\$ 5,000.00
55010 · Telephone Expense	285.79	500.00	-214.21	57.16%	\$ 1,000.00	\$ 571.58	\$ 600.00
55011 · Computer Maintenance	117.50					\$ 235.00	\$ 235.00
55015 · Postage & Shipping	70.00	150.00	-80.00	46.67%	\$ 300.00	\$ 140.00	\$ 300.00
55020 · Office Supplies	817.25	300.00	517.25	272.42%	\$ 600.00	\$ 1,634.50	\$ 1,700.00
55025 · Minor Equipment	0.00	750.00	-750.00	0.0%	\$ 1,500.00	\$ -	\$ -
55030 · Bank Service Charges	231.59	300.00	-68.41	77.2%	\$ 600.00	\$ 463.18	\$ 500.00
55055 · Insurance Expense-Special District Risk Management Authority	1,748.66					\$ 1,748.66	\$ 1,748.66
55060 · Memberships-California Special Districts Association	1,612.75					\$ 1,612.75	\$ 1,612.75
Total 55000 · Administrative Exp	7,283.54	4,500.00	2,783.54	161.86%	\$ 9,000.00	\$ 11,205.67	\$ 11,696.41
58000 · Professional Fees							
58005 · GSP Manager	17,224.19	22,000.00	-4,775.81	78.29%	\$ 44,000.00	\$ 34,448.38	\$ 44,000.00
58010 · Legal Fees	24,287.66	36,000.00	-11,712.34	67.47%	\$ 96,000.00	\$ 48,575.32	\$ 96,000.00
58015 · Website	0.00	500.00	-500.00	0.0%	\$ 1,000.00	\$ -	\$ 1,000.00
58020 · Accounting	0.00	5,000.00	-5,000.00	0.0%	\$ 10,000.00	\$ -	\$ 15,000.00
58025 · SWRCB Flow Study Participation					\$ 9,000.00	\$ -	\$ -
58035 · TRG Meetings					\$ 6,500.00	\$ -	\$ -
Total 58000 · Professional Fees	41,511.85	63,500.00	-21,988.15	65.37%	\$ 166,500.00	\$ 83,023.70	\$ 156,000.00
60000 · Grant/Program Expenses						\$ -	
60001 · Grant Administration (A)						\$ -	
62000 · Grant Admin -0	6,127.50	6,500.00	-372.50	94.27%	\$ 15,000.00	\$ 12,255.00	\$ 15,000.00
Total 60001 · Grant Administration (A)	6,127.50	6,500.00	-372.50	94.27%	\$ 15,000.00	\$ 12,255.00	\$ 15,000.00
60002 · Data Gap Analysis (B)						\$ -	
61025 · Well Monitoring Network - 1	9,233.50	1,000.00	8,233.50	923.35%	\$ 20,000.00	\$ 18,467.00	\$ 20,000.00
61075 · Project Monitoring Plan - 2					\$ 5,000.00	\$ -	
61100 · Groundwater Interface Monitor-3	11,550.50	12,000.00	-449.50	96.25%	\$ 20,000.00	\$ 23,101.00	\$ 20,000.00
61200 · Groundwater Extractn Est- 4	0.00	2,500.00	-2,500.00	0.0%	\$ 5,000.00	\$ -	
61300 · Water Year Hydrologic - 5	0.00	5,000.00	-5,000.00	0.0%	\$ -	\$ -	

UVRGA
Profit & Loss Budget vs. Actual
July through December 2018

Item No. 7e - Attachment A

UVRGA Profit and Loss Updated 2-28-19

First Half of FY19 with Original Budget
New budget from Bondy 1-16-19 added
Projected total expenses for FY19
Revised FY19 Budget added

	Jul - Dec 18	Budget-6 months	\$ Over Budget	% of Budget	New Budget - 1-16-19	Projected FY18/19 Expense-1st halfx2	Revised FY18/19 Budget
61400 · Subsurface Inflow Data- 6	715.00	15,000.00	-14,285.00	4.77%	\$ -	\$ 1,430.00	\$ 4,000.00
61500 · Surface Water Flow Data - 7	3,705.00	5,000.00	-1,295.00	74.1%	\$ 10,000.00	\$ 7,410.00	\$ 10,000.00
61600 · Habitat Evapotranspiration - 8	267.50	2,500.00	-2,232.50	10.7%	\$ 5,000.00	\$ 535.00	\$ 600.00
Total 60002 · Data Gap Analysis (B)	25,471.50	43,000.00	-17,528.50	59.24%	\$ 65,000.00	\$ 50,943.00	\$ 54,600.00
60003 · Planning Activities (C)						\$ -	
61700 · Organization Activities - 9	34,662.23	21,000.00	13,662.23	165.06%	\$ 45,000.00	\$ 69,324.46	\$ 42,000.00
61705 · Stakeholder Outreach and Engagement - 10					\$ -	\$ -	\$ -
Total 60003 · Planning Activities (C)	34,662.23	21,000.00	13,662.23	165.06%	\$ 45,000.00	\$ 69,324.46	\$ 42,000.00
60004 · GSP Development & Prep (D)						\$ 6,820.00	\$ 7,000.00
61800 · GSP Develop & Prep- 11	3,410.00	30,000.00	-26,590.00	11.37%	\$ -	\$ 6,820.00	\$ 7,000.00
Total 60004 · GSP Development & Prep (D)	3,410.00	30,000.00	-26,590.00	11.37%	\$ -	\$ 6,820.00	\$ 7,000.00
60005 · GSP Review & Approvals (E)							
61900 · GSP Review & Approval Final Document Prep- 12	0.00	8,000.00	-8,000.00	0.0%	\$ -	\$ -	\$ -
Total 60005 · GSP Review & Approvals (E)	0.00	8,000.00	-8,000.00	0.0%	\$ -	\$ -	\$ -
60000 · Grant/Program Expenses - Other	0.00					\$ -	\$ -
Total 60000 · Grant/Program Expenses	69,671.23	108,500.00	-38,828.77	64.21%	\$ 125,000.00	\$ 139,342.46	\$ 118,600.00
Reserve		20,500.00					
Total Expense	128,065.05	212,500.00	-84,434.95	60.27%	\$ 343,988.00	\$ 252,768.69	\$ 308,896.41
Net Ordinary Income	65,883.10	0.00	65,883.10	100.0%			
Net Income	65,883.10	0.00	65,883.10	100.0%			
Revenue							
FY2017/2018 Rollover					\$ 69,748.00	\$ 69,748.00	\$ 69,748.00
Member Contribution					\$ 250,000.00	\$ 249,200.15	\$ 249,200.15
Total					\$ 319,748.00	\$ 318,948.15	\$ 318,948.15
Net Income/(Loss)					\$ (24,240.00)	\$ 66,179.46	\$ 10,051.74
Cash Flow							
1st Half-FY19							2nd Half-FY19
Starting Cash	\$ 69,748.00						\$ 65,883.10
Income	\$ 124,200.15						\$ 125,000.00
Expenses	\$ 128,065.05						\$ 180,831.36
Ending Cash	\$ 65,883.10						\$ 10,051.74
Increase/(Decrease) in cash position	\$ (3,864.90)						\$ (55,831.36)

Item No. 7e - Attachment B

UPPER VENTURA RIVER GROUNDWATER AGENCY FISCAL YEAR BUDGET 2018/2019 *

OPERATING EXPENSES

Expense	Budget 2018/2019	Comment
Labor		
Payroll	26,000	Executive Director and Assistant
Insurance	5,000	Liability, Workers Comp, Medical
Total Labor	31,000	
Office		
Rent	5,000	
Utilities	1,000	Shared w OBGMA includes internet
Postage	300	
Supplies	600	
Office Equipment	1,500	
Bank Charges	600	
Total Office	9,000	
Professional Services (non grant)		
GSP Manager	44,000	
Legal	72,000	
Website	1,000	
Accounting	10,000	
Total Professional (non grant)	127,000	
Grant Tasks		
2.1 Well Monitoring	2,000	Includes annual report
2.2 Interface Monitoring	24,000	
2.3 Private Well Use	5,000	
2.4 Water Year Analysis	10,000	
2.5 Subsurface Inflow	30,000	Well drilling and oversight \$20K
2.6 Surface Water Flow Data	10,000	
2.7 Evapotranspiration	5,000	
3.1 Organizational Activities	42,000	Fee prep w consultant \$25K, Legal 11K
4 Plan Area and Basin Setting	60,000	conceptual model & groundwater dep ecosystem
5 Sustainable Mgmt Criteria	16,000	
10 Project Administration	13,000	
Total Grant Tasks	217,000	
Subtotal Expense	384,000	
Reserve	41,000	
Total Expense	425,000	

REVENUES

Source	Budget 2018/2019	Comment
2017/2018 Rollover	100,000	
Member Contribution	250,000	\$50 K per agency
Grant	75,000	
Total Revenue	425,000	

*It is the Board's intent to implement an extraction fee program during the year

UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 7(f)

DATE: March 14, 2019

TO: Board of Directors

FROM: Ad Hoc Budget Committee

SUBJECT: Multi-Year Budget

SUMMARY:

The Ad Hoc Budget Committee reviewed long-term financial projections from the GSP PM and generated a recommended draft update to multi-year budget for Board consideration (Attachment A). The draft budget is a compilation of the revised FY18/19 budget (prior item) and the recommended long range budget draft prepared by the GSP PM, dated January 16, 2019. The draft budget represents an increase of \$715,437.98 above the approved September 30, 2018 version for the six years included in the budget. Each proposed budget increase and associated reason are noted in Attachment A.

RECOMMENDED ACTION

It is recommended that the Board review an updated draft multi-year budget prepared by the Ad Hoc Budget Committee and consider approving the budget or providing feedback to the committee.

BACKGROUND

The multi-year budget was originally adopted on November 8, 2018 (provided as Attachment B for reference).

FISCAL SUMMARY

See Attachment A.

It is also noted that the updated budget reflects a significant increase in costs, which needs to be accounted for in the groundwater extraction fee calculation by the Ad Hoc Funding Committee.

ATTACHMENTS

- A. Draft Multi-Year Budget Update
- B. Multi-Year budget adopted on November 8, 2018

Action: _____

Motion: _____ Second: _____

B. Kuebler____ D. Engle____ A. Spandrio____ S. Rungren____ G. Shephard____ E. Ayala____ L. Rose____

Item No. 7f - Attachment A

Upper Ventura River Groundwater Agency Long Range Budget FY 18/19 through FY 23/24
Based on UVRGA LONG RANGE BUDGET-DRAFT JANUARY 16, 2019

Spandrio-March 1st, 2019

	FY 18/19	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	Total		
EXPENSE								Comments	Increase*
Labor									
Payroll	\$ 18,700.00	\$ 38,586.00	\$ 39,744.00	\$ 40,936.00	\$ 42,164.00	\$ 43,429.00	\$ 223,559.00	Increased for reorganization. Assume Agency Admin replaces current admin: 15 hrs/wk, \$45/hr and payroll taxes	\$ 55,380.00
Insurance	\$ 3,900.00	\$ 5,150.00	\$ 5,305.00	\$ 5,464.00	\$ 5,628.00	\$ 5,796.00	\$ 31,243.00		\$ (1,100.00)
Total Labor	\$ 22,600.00	\$ 43,736.00	\$ 45,049.00	\$ 46,400.00	\$ 47,792.00	\$ 49,225.00	\$ 254,802.00		\$ 54,280.00
Office									
Rent	\$ 5,000.00	\$ 5,150.00	\$ 5,305.00	\$ 5,464.00	\$ 5,628.00	\$ 5,796.00	\$ 32,343.00		
Utilities	\$ 600.00	\$ 1,030.00	\$ 1,061.00	\$ 1,093.00	\$ 1,126.00	\$ 1,159.00	\$ 6,069.00		
Postage	\$ 300.00	\$ 309.00	\$ 318.00	\$ 328.00	\$ 338.00	\$ 348.00	\$ 1,941.00		
Supplies	\$ 1,700.00	\$ 618.00	\$ 637.00	\$ 656.00	\$ 675.00	\$ 696.00	\$ 4,982.00		
Office Equipment	\$ 235.00	\$ 1,545.00	\$ 1,591.00	\$ 1,639.00	\$ 1,688.00	\$ 1,739.00	\$ 8,437.00		
Bank Charges	\$ 500.00	\$ 618.00	\$ 637.00	\$ 656.00	\$ 675.00	\$ 696.00	\$ 3,782.00		
Insurance Expense-Special District Risk Management Authority-SDRMA	\$ 1,748.66	\$ 1,801.12	\$ 1,855.15	\$ 1,910.81	\$ 1,968.13	\$ 2,027.18	\$ 11,311.05		
Memberships-California Special Districts Association-CSDA	\$ 1,612.75	\$ 1,661.13	\$ 1,710.97	\$ 1,762.30	\$ 1,815.16	\$ 1,869.62	\$ 10,431.93		
Total Office	\$ 11,696.41	\$ 12,732.25	\$ 13,115.12	\$ 13,509.11	\$ 13,913.29	\$ 14,330.80	\$ 79,296.98		\$ 21,080.98
Professional services (non-grant)									
GSP Manager	\$ 44,000.00	\$ 45,320.00	\$ 46,680.00	\$ 48,080.00	\$ 24,000.00	\$ 24,720.00	\$ 232,800.00		
Legal	\$ 96,000.00	\$ 98,880.00	\$ 101,846.00	\$ 104,902.00	\$ 35,000.00	\$ 36,050.00	\$ 472,678.00	Per counsel, increase from \$6,000/mo to \$8,000/mo through GSP adoption	\$ 100,407.00
Website	\$ 1,000.00	\$ 1,030.00	\$ 1,061.00	\$ 1,093.00	\$ 1,126.00	\$ 1,159.00	\$ 6,469.00		
Accounting	\$ 15,000.00	\$ 10,300.00	\$ 10,609.00	\$ 10,927.00	\$ 11,255.00	\$ 11,593.00	\$ 69,684.00		\$ 5,000.00
Annual Report	\$ -	\$ -	\$ -	\$ -	\$ 40,000.00	\$ 41,200.00	\$ 81,200.00		
Monitoring	\$ -	\$ -	\$ -	\$ -	\$ 30,000.00	\$ 30,900.00	\$ 60,900.00		
Technical Review Group Mtgs	\$ -	\$ 32,500.00	\$ 32,500.00	\$ 32,500.00	\$ 6,500.00	\$ 6,500.00	\$ 110,500.00	TRG meetings added per Board action on 1/10/19. Assume \$6,500 per meeting and 5 meetings per year during GSP development, one meeting per year other years. Will be billed to grant if allowable	\$ 110,500.00
SWRCB Flow Study Participation	\$ -	\$ 15,000.00	\$ 20,000.00	\$ 20,000.00	\$ -	\$ -	\$ 55,000.00	Per Board direction to participate in flow study. GSP PM participation in Flow Study, TAC meetings and other briefings. GSP PM to review & comment on study work products, with support from Kear and others. Will be billed to grant if allowable	\$ 55,000.00
Total Professional Services (non-grant)	\$ 156,000.00	\$ 203,030.00	\$ 212,696.00	\$ 217,502.00	\$ 147,881.00	\$ 152,122.00	\$ 1,089,231.00		\$ 270,907.00
Grant Tasks									
Category A - Grant Admin									
Project Administration-Grant Mgmt	\$ 15,000.00	\$ 19,000.00	\$ 19,000.00	\$ 20,000.00	\$ -	\$ -	\$ 73,000.00		\$ 117.00
Category B - Data Gaps									
Task 1: Establish Well Monitoring Network (was 2.1)	\$ 20,000.00	\$ 28,300.00	\$ -	\$ -	\$ -	\$ -	\$ 48,300.00	Increased for Board approved actions to fill data gaps, add barologgers and coordination	\$ 38,550.00
Task 2: Project Monitoring Plan (new)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Requirement added by DWR in grant agreement	\$ -
Task 3: Surface Water-Groundwater Interface Monitoring (was 2.2)	\$ 20,000.00	\$ 17,695.00	\$ -	\$ -	\$ -	\$ -	\$ 37,695.00		
Task 4: Groundwater Extraction Estimates (was 2.3)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ (5,000.00)
Task 5: Water Year Hydrologic Data Analysis (was 2.4)	\$ -	\$ 10,000.00	\$ -	\$ -	\$ -	\$ -	\$ 10,000.00		
Task 6: Subsurface Inflow Data (was 2.5)	\$ 4,000.00	\$ 45,000.00	\$ 7,500.00				\$ 56,500.00	Increased to address access agreement, prevailing wage requirement and Kear recommendations for three wells vs. one	\$ 21,460.00
Task 7: Surface Water Flow Data (was 2.6)	\$ 10,000.00	\$ 8,000.00	\$ -	\$ -	\$ -	\$ -	\$ 18,000.00		
Task 8: Natural Habitat EVT Analysis (was 2.7)	\$ 600.00	\$ 1,870.00	\$ 1,870.00	\$ -	\$ -	\$ -	\$ 4,340.00		\$ (4,400.00)
Category B - Data Gaps Total	\$ 54,600.00	\$ 110,865.00	\$ 9,370.00	\$ -	\$ -	\$ -	\$ 174,835.00		\$ 50,610.00
Category C - Planning Activities									
Task 9: Organizational Activities (was 3.1)	\$ 42,000.00	\$ 5,000.00	\$ -	\$ -	\$ -	\$ -	\$ 47,000.00	Increased due to extra effort by counsel and GSP PM supporting fee development, TRG development, TRG member recruiting and consultant selection	\$ 5,000.00

Item No. 7f - Attachment A

Upper Ventura River Groundwater Agency Long Range Budget FY 18/19 through FY 23/24
Based on UVRGA LONG RANGE BUDGET-DRAFT JANUARY 16, 2019

Spandrio-March 1st, 2019

	FY 18/19	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	Total		
EXPENSE								Comments	Increase*
Task 10: Stakeholder Outreach and Engagement (new)	\$ -	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ -	\$ -	\$ 30,000.00	New task resulting from DWR's reorganization of grant tasks.	\$ 30,000.00
Category C - Planning Activities Total	\$ 42,000.00	\$ 15,000.00	\$ 10,000.00	\$ 10,000.00	\$ -	\$ -	\$ 77,000.00	Budget moved from GSP tasks to this task (no increase).	\$ 35,000.00
Category D - GSP Development									
Task 11: Plan Area and Basin Setting (was 4)	\$ 7,000.00	\$ 120,000.00	\$ 60,000.00	\$ -	\$ -	\$ -	\$ 187,000.00	Increased assuming Lorraine W. will not be availbale to prepare non-technical sections and for analytical modeling	\$ 48,600.00
Task 11: Sustainable Management Criteria (was 5)	\$ -	\$ 10,000.00	\$ 145,000.00	\$ 65,000.00	\$ -	\$ -	\$ 220,000.00	Apparent increase is due to rebalancing grant after elimination of GSA formation and grant application cost share by DWR (costs were largely deducted from this grant task; however, estimated costs for this task should have remained in the budget).	\$ 39,825.00
Task 11: GSP Chapter 4: Projects and Management Actions	\$ -	\$ 5,000.00	\$ 40,000.00	\$ 15,000.00	\$ -	\$ -	\$ 60,000.00		\$ 24,449.00
Task 11: GSP Chapter 5: Plan Implementation	\$ -	\$ 2,500.00	\$ 10,000.00	\$ 17,000.00	\$ -	\$ -	\$ 29,500.00		\$ 9,880.00
Task 11: GSP Introduction, Executive Summary, References & Appendices	\$ -	\$ 7,500.00	\$ 15,000.00	\$ 10,000.00	\$ -	\$ -	\$ 32,500.00	Increased based on aasumption Lorraine W. will not be available	\$ 14,349.00
Category D - GSP Development Total	\$ 7,000.00	\$ 145,000.00	\$ 270,000.00	\$ 107,000.00	\$ -	\$ -	\$ 529,000.00		\$ 137,103.00
Category E - GSP Reviews and Approvals									
Task 12: GSP Reviews, Approvals and Final Document Preparation	\$ -	\$ -	\$ -	\$ 50,000.00	\$ -	\$ -	\$ 50,000.00	Increased based on assumption Lorraine W. will not be available	\$ 16,340.00
Total Grant Activities	\$ 118,600.00	\$ 289,865.00	\$ 308,370.00	\$ 187,000.00	\$ -	\$ -	\$ 903,835.00		\$ 239,170.00
Subtotal Expense	\$ 308,896.41	\$ 549,363.25	\$ 579,230.12	\$ 464,411.11	\$ 209,586.29	\$ 215,677.80	\$ 2,327,164.98		\$ 585,437.98
Funding for Reserve	\$ -	\$ 180,000.00	\$ -	\$ -	\$ -	\$ -	\$ 180,000.00	Reserve amount revised per Ad Hoc Funding Committee discussion	\$ 130,000.00
Total Expense	\$ 308,896.41	\$ 729,363.25	\$ 579,230.12	\$ 464,411.11	\$ 209,586.29	\$ 215,677.80	\$ 2,507,164.98		\$ 715,437.98
REVENUE									
Total Revenue Needed	\$ 308,896.41	\$ 729,363.25	\$ 579,230.12	\$ 464,411.11	\$ 209,586.29	\$ 215,677.80	\$ 2,507,164.98		
Fixed Balance from Prior FY	\$ 69,748.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 69,748.00		
Anticipated Grant Payments	\$ -	\$ 125,000.00	\$ 213,000.00	\$ 180,000.00	\$ 112,061.00	\$ -	\$ 630,061.00		
Member Agency Contribution	\$ 249,200.15	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 249,200.15	Member agency contributions for FY 18/19 will be prorated if extraction fee is in place before end of FY	
Total Revenue	\$ 318,948.15	\$ 125,000.00	\$ 213,000.00	\$ 180,000.00	\$ 112,061.00	\$ -	\$ 949,009.15		
Anticipated Funding Required to Balance Budget	\$ (10,051.74)	\$ 604,363.25	\$ 366,230.12	\$ 284,411.11	\$ 97,525.29	\$ 215,677.80	\$ 1,558,155.83		
RESERVES									
Reserve Balance	\$ -	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00	N/A	Reserve amount revised per Ad Hoc Funding Committee discussion	
YEAR END FUND BALANCE									
Year End Fund Balance	\$ -	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00	N/A		

*From UVRGA Preliminary Draft Long Range Budget dated September 30, 2018

Item No. 7f - Attachment B

Adopted 11/8/18

UVRGA PRELIMINARY DRAFT LONG RANGE BUDGET - SEPTEMBER 30, 2018							
	FY 19	FY 20	FY 21	FY 22	FY23	FY24	Total
EXPENSE							
Labor							
Payroll	\$ 26,000	\$ 26,780	\$ 27,583	\$ 28,411	\$ 29,263	\$ 30,141	\$ 168,179
Insurance	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 32,342
Total Labor	\$ 31,000	\$ 31,930	\$ 32,888	\$ 33,875	\$ 34,891	\$ 35,937	\$ 200,521
Office							
Rent	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 32,342
Utilities	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 6,468
Postage	\$ 300	\$ 309	\$ 318	\$ 328	\$ 338	\$ 348	\$ 1,941
Supplies	\$ 600	\$ 618	\$ 637	\$ 656	\$ 675	\$ 696	\$ 3,881
Office Equipment	\$ 1,500	\$ 1,545	\$ 1,591	\$ 1,639	\$ 1,688	\$ 1,739	\$ 9,703
Bank Charges	\$ 600	\$ 618	\$ 637	\$ 656	\$ 675	\$ 696	\$ 3,881
Total Office	\$ 9,000	\$ 9,270	\$ 9,548	\$ 9,835	\$ 10,130	\$ 10,433	\$ 58,216
Professional Services (non grant)							
GSP Manager	\$ 44,000	\$ 45,320	\$ 46,680	\$ 48,080	\$ 24,000	\$ 24,720	\$ 232,800
Legal	\$ 72,000	\$ 74,160	\$ 76,385	\$ 78,676	\$ 35,000	\$ 36,050	\$ 372,271
Website	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 6,468
Accounting	\$ 10,000	\$ 10,300	\$ 10,609	\$ 10,927	\$ 11,255	\$ 11,593	\$ 64,684
Annual Report	\$ -	\$ -	\$ -	\$ -	\$ 40,000	\$ 41,200	\$ 81,200
Monitoring	\$ -	\$ -	\$ -	\$ -	\$ 30,000	\$ 30,900	\$ 60,900
Total Professional (non grant)	\$ 127,000	\$ 130,810	\$ 134,734	\$ 138,776	\$ 141,381	\$ 145,622	\$ 818,323
Grant Tasks							
2.1 Well Monitoring	\$ 4,875	\$ 4,875	\$ -	\$ -	\$ -	\$ -	\$ 9,750
2.2 Interface Monitoring	\$ 20,000	\$ 17,695	\$ -	\$ -	\$ -	\$ -	\$ 37,695
2.3 Private Well Use	\$ 5,000		\$ -	\$ -	\$ -	\$ -	\$ 5,000
2.4 Water Year Analysis	\$ -	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ 10,000
2.5 Subsurface Inflow	\$ -	\$ 32,520	\$ 2,520	\$ -	\$ -	\$ -	\$ 35,040
2.6 Surface Water Flow Data	\$ 10,000	\$ 8,000	\$ -	\$ -	\$ -	\$ -	\$ 18,000
2.7 Natural Habitat Evapotranspiration Analysis	\$ 5,000	\$ 1,870	\$ 1,870	\$ -	\$ -	\$ -	\$ 8,740
3.1 Organizational Activities	\$ 42,000		\$ -	\$ -	\$ -	\$ -	\$ 42,000
4 Plan Area and Basin Setting	\$ 10,000	\$ 64,200	\$ 64,200	\$ -	\$ -	\$ -	\$ 138,400
5 Sustainable Mgmt Criteria	\$ -	\$ 30,000	\$ 103,917	\$ 46,258	\$ -	\$ -	\$ 180,175
6 GSP Chapter 4: Projects and Management Actions	\$ -	\$ 5,000	\$ 20,469	\$ 10,082	\$ -	\$ -	\$ 35,551
7 GSP Chapter 5: Plan Implementation	\$ -	\$ 2,500	\$ 11,470	\$ 5,650	\$ -	\$ -	\$ 19,620
8 GSP Introduction, Executive Summary, References & Appendices	\$ -	\$ 2,500	\$ 10,486	\$ 5,165	\$ -	\$ -	\$ 18,151
9 GSP Reviews and Approvals and Final Document Preparation	\$ -	\$ -	\$ -	\$ 33,660	\$ -	\$ -	\$ 33,660
10 Project Administration (Grant Management)	\$ 19,961	\$ 16,481	\$ 16,481	\$ 19,961	\$ -	\$ -	\$ 72,883
Total Grant Tasks	\$ 116,836	\$ 195,641	\$ 231,413	\$ 120,776	\$ -	\$ -	\$ 664,665
Funding for Reserve	\$ 41,000	\$ 9,000	\$ -	\$ -	\$ -	\$ -	\$ 50,000
Subtotal Expense	\$ 324,836	\$ 376,651	\$ 408,583	\$ 303,261	\$ 186,401	\$ 191,993	\$ 1,791,725
REVENUE							
Total Revenue Needed	\$ 324,836	\$ 376,651	\$ 408,583	\$ 303,261	\$ 186,401	\$ 191,993	\$ 1,791,725
Fund Balance from Prior FY	\$ 69,748						\$ 69,748
Anticipated Grant Payments	\$ 35,784	\$ 89,046	\$ 212,771	\$ 179,953	\$ 112,506	\$ -	\$ 630,061
Anticipated Funding Needed From Members &/or Fees	\$ 219,304	\$ 287,604	\$ 195,812	\$ 123,308	\$ 73,895	\$ 191,993	\$ 1,091,916
RESERVES							
Reserve Balance	\$ 41,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	N/A
YEAR END FUND BALANCE							
Year End Fund Balance	\$ 41,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	N/A

UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 8a

DATE: March 14, 2019

TO: Board of Directors

FROM: Ad Hoc Funding Committee

SUBJECT: Extraction Fee Development (Grant Category (c) - Task 9: Organizational Activities)

SUMMARY:

The Ad Hoc Funding Committee will provide an oral report on the status of the extraction fee development. The Ad Hoc Funding Committee requests that the Board discuss next steps and provide feedback to the committee and consider scheduling a stakeholder meeting. Counsel has prepared an outline of the remaining steps needed to adopt and extraction fee (Attachment A).

RECOMMENDED ACTION

It is recommended that the Board receive an update from the Ad Hoc Funding Committee, discuss extraction fee development status and next steps, consider providing direction to the Ad Hoc Funding Committee, and consider scheduling a stakeholder meeting concerning the funding plan.

BACKGROUND

Attachment A provides an outline of the remaining steps needed to adopt and extraction fee prepared by Agency Counsel.

After receiving the fee consultant's (Hildebrand) presentation during the January 10, 2019 Board meeting, the Ad Hoc Funding Committee prepared twenty letters to pumpers extracting more than 2 acre feet per year. The purpose of the letters is to confirm the 2017 extraction volumes estimates for use in the fee. The 2017 extraction volumes presented by consultant Hildebrand for calendar year 2017 were first refined using reports filed with the State Water Resources Control Board. Those records were found for the municipal suppliers and several private pumpers. Only use designated as groundwater was utilized. Total Estimated 2017 Extractions was 5,891.9 acre feet, comprised of 4,975 from municipal entities, 31 from mutual water companies, and 885.9 from private well owners. Tenths of acre feet were used only for amounts less than 3 acre feet.

Letters were dated February 8 and requested a reply by March 8 if there was disagreement with the estimate. All but the seven of the largest pumpers were mailed February 8. Those not mailed were held for delivery in person if desired by the pumper, as a follow up to promises made at a meeting with large pumpers in early January. Director Ayala talked with six of those pumpers and met with two. Director Kuebler spoke with one who declined a meeting. All letters were mailed by February 11.

The committee will attempt to resolve any disagreements prior to the March 14 meeting, at which a status report will be given. If no disputes, the Committee recommends the Board direct the committee to finalize a fee using the estimated 2017 pumping volumes. Individual amounts are not shown for privacy reasons. Examples of municipal and private letters are attached (Attachments B and C).

The Committee plans to review the latest budgets for 2019-20 and long term before making a fee recommendation at the April meeting. It is recommended that the Board consider holding and evening stakeholder outreach meeting, which could be held in late April and the Board could adopt the fee at its regular meeting in May.

FISCAL SUMMARY

None.

ATTACHMENTS

- A. Next Steps or Fee Adoption
- B. VRWD letter
- C. Private pumper letter

Action: _____

Motion: _____ Second: _____

B. Kuebler___ D. Engle___ A. Spandrio___ S. Rungren___ G. Shephard___ E. Ayala___ L. Rose___

Item 8a - Attachment A

Next Steps for Extraction Fee Adoption

- 1. Finalize Multi-Year Budget and Total Amount Extracted from Basin.** The board should finalize a multi-year agenda, which will become the basis for calculation of the pre-GSP per acre-foot fee. Additionally, based on responses (if any) to the “Notice of Determination of Amount of Groundwater Extracted From Upper Ventura River Groundwater Basin” the ad hoc committee should work with private extractors to finalize the total amount extracted from the basin. Finalization of a multi-year budget and total basin-wide extraction amounts are necessary to develop a per acre-foot fee.
- 2. Ad Hoc Committee to Recommend to Board Adoption of Per Acre-Foot Fee.** Once the agency’s multi-year budget and the total amount extracted from the basin are finalized, the ad hoc funding options committee should calculate a per-acre foot fee and recommend its adoption at a board meeting.
- 3. Schedule Stakeholder Workshop and/or Public Hearing.** Once the board votes to move forward with the ad hoc funding committee’s recommendation, the board should (1) decide whether it wants to hold a stakeholder workshop (and if so, schedule one) and (2) schedule a public hearing for adoption of the fee.
- 4. Publish Notice for Public Hearing.** Notice shall include the time and place of the meeting, a general explanation of the matter to be considered, and a statement that the data upon which the proposed fee is based is available to the public. Notice shall be provided in the following three ways: (1) by publication pursuant to Section 6066 of the Government Code; (2) by posting the notice on the GSA’s internet website; and (3) by mail to any interested party who files a written request with the agency for mailed notice of the meeting on new or increased fees.
- 5. Publish Data Used to Determine Fee.** At least 10 days before the public hearing to adopt the fee, the agency must make available to the public data upon which the proposed fee is based. at this time, we are planning for this data to be included in Mark Hildebrand’s report. Therefore, it will be important to keep Mark apprised of our timeline.
- 6. Hold Public Hearing.** The agency can only vote to adopt/impose a pre-GSP fee at a public hearing at which oral or written presentation may be made by the public. The fee must be adopted by ordinance or resolution.
- 7. Send Notice of Extraction Amount and Associated Fee.** Once the agency adopts to impose a per acre-foot fee, the ad hoc funding options committee should prepare and send notices of extraction amount and associated total fee due to the agency. As part of this notice, the ad hoc funding options committee should notify each extractor that they

have a right to protest the amount of extraction or total fee within 20 days of the mailing of the notice. If the agency receives any protests, it must hold a hearing to hear from the protestors and determine each protestor's amount of groundwater production and associated fees. Notice of a scheduled hearing, if necessary, must be mailed to each protestant at least 20 days before the date of the hearing.

- 8. Send Bills to Collect Fee.** To collect fees from public and private pumpers, the agency must send individual bills and set a deadline for payment. It is important to note that payment of any protested amounts (per the above) cannot be due to the agency for at least 20 days after a final determination is made.

Item No. 8a - Attachment B



Upper Ventura River Groundwater Agency
P.O. Box 1779, Ojai, CA 93024
(805) 640-1247 – UVRGroundwater.org

February 8, 2019

Bert Rapp, General Manager
Ventura River Water District
409 Old Baldwin Road
Ojai, CA 93023

NOTICE

DETERMINATION OF AMOUNT OF GROUNDWATER EXTRACTED FROM UPPER VENTURA RIVER GROUNDWATER BASIN

The Upper Ventura River Groundwater Agency (Agency) is preparing a Groundwater Sustainability Plan (Plan) for the Upper Ventura River Groundwater Basin (Basin), as required by the Sustainable Groundwater Management Act (SGMA). To date, the Agency's activities have been funded through voluntary contributions from its five member agencies: the Casitas Municipal Water District, the City of San Buenaventura, the County of Ventura, the Meiners Oaks Water District, and the Ventura River Water District (jointly, Member Agencies). Additionally, the Agency has applied for and received significant grant funding from the Department of Water Resources (DWR) to offset the cost of preparing the Plan. To supplement these sources, the Agency has decided to pursue adoption of a groundwater extraction fee (Fee), as authorized by Water Code Section 10730, to help finance preparation of the State-required Plan. If approved, this Fee will apply to all groundwater pumpers within the Basin who pump more than two acre-feet per year.


To determine the amount of the Fee on a per acre-foot basis necessary to fund completion of the Plan, the Agency seeks to accurately determine the total volume of groundwater extracted by each pumper within the Basin. **You are receiving this notice because the Agency has estimated your groundwater extraction from the Basin to be more than two acre feet per year.**

For pumpers filing reports of groundwater extraction with the State Water Resources Control Board, the Agency used the Board's eWRIMS reporting system to determine pumping during

2017. Once a pumper's estimated groundwater extraction amount has been determined, it will not change for the duration of the Fee, which is expected to expire upon (or soon after) the Agency's adoption of the Plan.¹ The Agency has not yet adopted its Fee (or determined the applicable per acre-foot amount). After the Plan is approved, the Agency may develop a different financing mechanism for its ongoing operation.

Your estimated extraction volume for all your wells during 2017 is 851 acre feet. This was obtained from groundwater use reported for applications G561403 (201 AF), G561712 (399 AF), and G561753 (251 AF). If you disagree with this, please provide records documenting a different amount to the Agency (UVRGA, PO Box 1779, Ojai, CA 93024 or cvandermeer@uvrgroundwater.org) by March 8, 2019.

Thank you for your cooperation. If you have any questions, please call me at 805 649-3050.



Bruce Kuebler, Chair
Upper Ventura River Groundwater Agency

¹ Under SGMA, the Agency is required to adopt its Plan by January 31, 2022.



Upper Ventura River Groundwater Agency
P.O. Box 1779, Ojai, CA 93024
(805) 640-1247 – UVRGroundwater.org

February 8, 2019



NOTICE

DETERMINATION OF AMOUNT OF GROUNDWATER EXTRACTED FROM UPPER VENTURA RIVER GROUNDWATER BASIN

The Upper Ventura River Groundwater Agency (Agency) is preparing a Groundwater Sustainability Plan (Plan) for the Upper Ventura River Groundwater Basin (Basin), as required by the Sustainable Groundwater Management Act (SGMA). To date, the Agency's activities have been funded through voluntary contributions from its five member agencies: the Casitas Municipal Water District, the City of San Buenaventura, the County of Ventura, the Meiners Oaks Water District, and the Ventura River Water District (jointly, Member Agencies). Additionally, the Agency has applied for and received significant grant funding from the Department of Water Resources (DWR) to offset the cost of preparing the Plan. To supplement these sources, the Agency has decided to pursue adoption of a groundwater extraction fee (Fee), as authorized by Water Code Section 10730, to help finance preparation of the State-required Plan. If approved, this Fee will apply to all groundwater pumpers within the Basin who pump more than two acre-feet per year.

To determine the amount of the Fee on a per acre-foot basis necessary to fund completion of the Plan, the Agency seeks to accurately determine the total volume of groundwater extracted by each pumper within the Basin. The Agency's Board selected 2017 extractions as the basis for determining extraction fees. **You are receiving this notice because the Agency has estimated your groundwater extraction from the Basin to be more than two acre feet per year.**

For pumpers filing reports of groundwater extraction with the State Water Resources Control Board, the Agency used the Board's eWRIMS reporting system to determine pumping during 2017. For private landowners not filing those reports, the Agency has determined each pumper's extraction amount based on the estimated volume of groundwater pumped in calendar year 2017. Extraction amounts are estimated because not all private groundwater extraction devices within the Basin are equipped with meters. Extraction volumes for private pumpers were estimated using aerial photography from 2017, acreage irrigated, type of crop, and a typical water use for that crop.

Once a pumper's estimated groundwater extraction amount has been determined, it will not change for the duration of the Fee, which is expected to expire upon (or soon after) the Agency's adoption of the Plan.¹ The Agency has not yet adopted its Fee (or determined the applicable per acre-foot amount). After the Plan is approved, the Agency may develop a different financing mechanism for its ongoing operation.

Your estimated extraction volume for all your wells during 2017 is [REDACTED] **If you think this amount is incorrect, please explain why. Examples of information or documents you might submit are:**

- Meter records for each groundwater extraction device on your property
- Changes in cropping
- Records of use of non-pumped water from another source
- Data from an orifice or weir
- Electrical consumption records (SCE bills) with a well efficiency test report from SCE or other that shows energy consumption per unit of water pumped
- Estimated crop water demand calculation accounting for precipitation and distribution uniformity
- For those using micro emitters, drip, etc., data on hours of use, number of emitters, and emitter flow rate.

Please provide any information and documents to the Agency (UVRGA, PO Box 1779, Ojai, CA 93024 or cvandermeer@uvrgroundwater.org) by March 8, 2019.

Thank you for your cooperation. If you have any questions, please call me at 805-649-3050.



Bruce Kuebler, Chair
Upper Ventura River Groundwater Agency

¹ Under SGMA, the Agency is required to adopt its Plan by January 31, 2022.

UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 8b

DATE: March 14, 2019

TO: Board of Directors

FROM: Agency Staff

SUBJECT: GSP Data Gap Tasks Update (Grant Category (b): Data Gap Analysis)

SUMMARY:

This item was prepared to respond to inquiries during the prior Board meeting concerning progress on the data gap tasks. The attached table provides the status of each data gap task. The GSP PM will be available to answer questions during the Board meeting.

RECOMMENDED ACTION

It is recommended that the Board receive an update from the GSP PM concerning the status of data gap tasks and consider providing direction to staff.

BACKGROUND

As a reminder, the data gap tasks are part of the GSP Grant.

FISCAL SUMMARY

None.

ATTACHMENTS

A. Data Gap Tasks Summary Table

Action: _____

Motion: _____ Second: _____

B. Kuebler____ D. Engle____ A. Spandrio____ S. Rungren____ G. Shephard____ E. Ayala____ L. Rose____

Item 8b - Attachment A

Data Gap Tasks Summary Table

Task	Title	Status
1	Establish Well Monitoring Network	<ul style="list-style-type: none">• Routine monitoring of original six wells is ongoing• Data Gap Area No. 4 (northern boundary) to be addressed using MOWD Well #2 – transducer installation soon• Data Gap Area No. 3 (southern boundary) – request to Ventura for monitoring well access at Foster Park is pending City review• Data Gap Area No. 2 (San Antonio Creek Confluence) – to be addressed as part of Task 6 with new monitoring well(s))• Data Gap Area Nos. 1 and 5 (Between San Antonio Creek Confluence & Santa Ana Blvd and Bedrock) - Kear was authorized to identify wells and work with Agency for access – in progress (<i>past due - was due end of February</i>)• Monitoring reports due:<ul style="list-style-type: none">○ June 2019○ June 2020
2	Project Monitoring Plan	<ul style="list-style-type: none">• PMP is required for new monitoring wells drilled by the Agency. New wells are part of Task 6. This task is pending access agreement for new monitoring well(s) (see Task 6 for further information).
3	Surface Water – Groundwater Interface Monitoring	<ul style="list-style-type: none">• Monitoring is ongoing by Kear• Technical Memo due by January 1, 2020

Task	Title	Status
4	Groundwater Extraction Estimates	<ul style="list-style-type: none"> • Aerial survey study - complete • Ground truthing of the IR survey – complete • Inventory of wells and meters – in progress by Ad Hoc Funding Cmte. • Technical Memo for grant submittal – no due date, but cannot invoice until completed – Ad Hoc Funding Committee (reminder sent to committee on 2/4/19)
5	Water Year Hydrologic Data Analysis	<ul style="list-style-type: none"> • Pending work authorization - budgeted for FY 19/20
6	Subsurface Inflow Data	<ul style="list-style-type: none"> • Northern boundary underflow – pending work authorization - budgeted for FY 19/20 • San Antonio Creek underflow <ul style="list-style-type: none"> ○ Pending OVLC access agreement – is delayed until OVLC takes title of property which is expected in April ○ Pending work authorization - budgeted for FY 19/20
7	Surface Water Flow Data	<ul style="list-style-type: none"> • Monitoring is ongoing by Kear • Final Monitoring reports due: <ul style="list-style-type: none"> ○ January 1, 2019 - <i>report is past due, draft has not been received</i> ○ January 1, 2020
8	Natural Habitat Evapotranspiration Analysis	<ul style="list-style-type: none"> • Pending work authorization - budgeted for FY 19/20 and FY 20/21

UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 8c

DATE: March 14, 2019

TO: Board of Directors

FROM: Agency Staff

SUBJECT: GSP Development Support Services (Grant Category (c): Task 9: Organizational Activities)

SUMMARY:

Pursuant to Board direction on January 10, 2019, a Request for Qualifications for GSP Development Support Services (RFQ) was issued on January 25, 2019 (Attachment A). The RFQ was sent to six firms with SGMA experience whose offices are located in Southern California. The RFQ was also posted on the UVRGA and Mound Basin GSA websites. Qualifications were received from one firm, Intera, Inc. (Attachment B). Two other firms indicated that they made last minute decisions not to submit. One firm indicated that they would have liked to submit, but were too busy to prepare the qualifications package.

The GSP PM will be available to discuss Intera's qualifications and answer questions during the Board meeting.

RECOMMENDED ACTION

It is recommended that the Board consider:

1. Selecting Intera, Inc. to provide as needed GSP development support services;
2. Directing staff to negotiate a professional services agreement with Intera, Inc.; and
3. Designating Intera, Inc. as an at-large member of the Technical Review Group.

BACKGROUND

On January 10, 2019, the Board directed the GSP PM to issue a Request for Qualifications for GSP Development Support Services.

FISCAL SUMMARY

Entering into a professional service agreement does not have a fiscal impact other than the minor administrative and legal costs associated with preparing and negotiating the agreement.

Individual work orders will be subject to Board approval. The proposed budget updates include increased costs associated certain tasks that are anticipated to be completed by the consulting firm (please see Agenda Items 7d and 7e). The consultant may also complete tasks already budgeted that would otherwise be completed by the GSP PM and/or Kear.

ATTACHMENTS

- A. GSP Development Support Services Request for Qualifications
- B. Intera Qualifications Submittal

Action: _____

Motion: _____ Second: _____

B. Kuebler____ D. Engle____ A. Spandrio____ S. Rungren____ G. Shephard____ E. Ayala____ L. Rose____

REQUEST FOR QUALIFICATIONS (RFQ)

**GROUNDWATER SUSTAINABILITY PLAN
DEVELOPMENT SUPPORT SERVICES FOR:**

UPPER VENTURA RIVER GROUNDWATER AGENCY

&

**MOUND BASIN GROUNDWATER SUSTAINABILITY
AGENCY**

VENTURA COUNTY, CALIFORNIA

Jointly Requested By:

**Upper Ventura River
Groundwater Agency**

**P.O. Box 1779
Ojai, CA 93024**



**Mound Basin Groundwater
Sustainability Agency**

**P.O. Box 3544
Ventura, CA 93006**



RFQ Issued: January 25, 2019

RFQ Submission Deadline: February 25, 2019

1 OVERVIEW

This request for qualifications (RFQ) is jointly issued by Upper Ventura River Groundwater Agency (UVRGA) and Mound Basin Groundwater Sustainability Agency (MBGSA). These agencies serve as Groundwater Sustainability Agency (GSA) for the Upper Ventura River Subbasin (DWR Basin No. 4-003.01) and Mound Subbasin (DWR Basin No. 4-004.03), respectively. Both basins must have GSPs approved by the respective GSAs by January 31, 2022. Both basins have Prop 1 grant funding to complete the GSPs.

The purpose of the RFQ is to identify and select qualified firm(s) to provide Groundwater Sustainability Plan (GSP) development support services for the agencies. Both GSA's are seeking a consulting firm to provide as-needed GSP development support services under the direction of the GSP Plan Manager (GSP PM). Bondy Groundwater Consulting, Inc. (BGC) serves as the GSP PM for both agencies. Given that the agencies have the same GSP PM and similar support service needs, an economy of scale may be realized by both agencies if a single consulting firm is selected. **However, the agencies retain the right to hire different consulting firms based on their specific needs and independent evaluation of the RFQ responses.**

2 BACKGROUND

2.1 Upper Ventura River Groundwater Agency (<http://www.uvrgroundwater.org/>)

The Upper Ventura River Groundwater Sub-Basin of the Ventura River Valley Basin (UVRB) (DWR Sub-Basin No. 4-003.01) is a medium-priority basin located in the Ventura River watershed in Ventura County. UVRGA officially became a GSA on July 20, 2017. UVRGA's governing body is comprised of one representative from each of the following five local public agencies: Casitas Municipal Water District, the City of San Buenaventura, the County of Ventura, the Meiners Oaks Water District, and the Ventura River Water District. Additionally, two Board seats are held by non-agency representatives, one representing agricultural stakeholders and another representing environmental interests.

Unlike most areas of southern California, water users in the Ventura River watershed rely solely on local sources of water, with groundwater making up roughly half of those supplies. Three public agencies pump groundwater from the basin and there are dozens of private wells that supply water for domestic and agricultural uses. Lake Casitas is the back-up supply for groundwater users, but the current drought has reduced its storage, with uncertainty as to future

volumes. Thus, sustainable groundwater management is critical for ensuring reliability of local supplies for agriculture, domestic, public, and environmental users in the basin.

The basin is a relatively shallow, unconfined alluvial basin that underlies the Ventura River. The section of the river located downstream of the Robles Diversion to just upstream of the San Antonio Creek confluence is characterized as a “dry reach” where surface water disappears underground, except after storms, in most years. A “wet reach” occurs over the basin’s lower portion, generally downstream of the San Antonio Creek confluence. The wet reach is habitat for anadromous fish. Understanding the surface water and groundwater interrelationship, and the effects of pumping on surface water flows and groundwater levels, will be an important part of addressing sustainability for the basin’s various beneficial uses. In fact, the Ventura River is one of five stream systems called out in the 2014 California Water Action Plan to enhance streamflow for anadromous fish. The State Water Resources Control Board (SWRCB), with assistance from the California Department of Fish and Wildlife, is now studying the river system, including development of a surface water-groundwater model, for which calibration with adequate data will be a crucial aspect. Results are expected in 2021. This state-level effort and development of the basin’s GSP can be mutually supportive, but the model will not likely be available for UVRGA use in time to complete the GSP. Thus, the Agency will need to develop analytical tool(s) to evaluate depletion of interconnected surface water in order to comply with the GSP Emergency Regulations.

To manage the basin sustainably, the UVRGA must balance significant demands from multiple beneficial users on limited local supplies. To be successful, this endeavor must be approached with as much hydrogeological data as possible. Therefore, the Prop 1 grant includes a number of tasks that are underway to fill key gaps in data and analysis, such as measuring groundwater levels, groundwater inflows, surface flows, and the surface water-groundwater interface, and estimating extractions from private wells and the water demands of natural habitat. More info details can be obtained from the UVRGA grant application available on DWR’s SGMA website.

Kear Groundwater (KG) and BGC are currently working for UVRGA. KG is executing the data gap tasks and BGC is serving as the GSP PM. The UVRGA Board recently created a Technical Review Group (TRG) to review the data gap tasks and data interpretation and analysis methods for the GSP. The TRG consists of four members, including KG and BGC. It is anticipated that the

successful RFQ respondent will serve as a third member. A separate RFQ is being issued to recruit the fourth member.

The successful RFQ respondent will be expected to work together with to KG and BGC on GSP development, provide reviews, and provide full service document management for the GSP. It is anticipated that GSP preparation will be split between KG, BGC, and the successful RFQ respondent. For example, the consultant will likely be asked to lead the development and implementation of an analytical modeling tool to evaluate depletion of interconnected surface water.

2.2 Mound Basin Groundwater Sustainability Agency **(<https://www.moundbasingsa.org/>)**

Mound Basin (DWR Subbasin No. 4-004.03) is a medium-priority basin in the Santa Clara River and Buenaventura watersheds in Ventura County. Three public agencies, the City of Ventura, the County of Ventura, and United Water Conservation District (UWCD) formed the Mound Basin Groundwater Sustainability Agency (MBGSA), becoming an official GSA on September 30, 2017. The five-member GSA Board of Directors includes an agricultural and an environmental stakeholder representative.

Mound Basin underlies much of the City of Ventura, a coastal city of 109,000 residents noteworthy for using 100% local water supplies. Mound Basin currently meets up to 20% of the City's water demand, and is also used to irrigate 2,000 acres of agricultural lands, which comprise 14% of the surface area of the basin.

Mound Basin is a subbasin of, and marks the lower end of, the Santa Clara River Basin. It is positioned to the north of the river, largely out of the floodplain and underlying a sloping coastal plain adjacent to the Pacific Ocean. The basin does underlie the last 1.3 miles of the Santa Clara River, including the roughly 100-acre Santa Clara River Estuary, and 28 acres of treatment wetlands. It shares subsurface hydrologic connection to other basins to the east and south, which are sources of recharge. With the basin's position underlying the estuary and river, there are questions about groundwater-surface water interaction and whether groundwater pumping in the basin may affect these surface water bodies. The basin is highly complex and has been studied far less than other basins in the region. The Mound Basin complexity includes multiple confined aquifers that are extensively folded and faulted and have varying water quality characteristics.

Mound Basin's water quality has been an ongoing limiting factor in its use. Water quality is variable by area, but the basin's water is generally high in TDS, sulfate,

hardness, and other naturally occurring dissolved minerals, and typically must be blended with better quality water from other sources before distribution for potable use. Municipal wells near the center of the basin have experienced degrading water quality over recent years and an agricultural well has been affected by mineralized water with elevated temperatures. As a coastal basin, seawater intrusion is always a risk, and water levels in the recent extended drought reached their lowest levels since the major drought of 1989.

Mound Basin is located within the service area of UWCD. UWCD has a groundwater department who has been studying the basin and has developed a groundwater model that includes the Mound Basin. UWCD staff will be performing modeling for the GSP, among other services.

UWCD technical staff will be the lead for most technical aspects of GSP preparation. UWCD's draft scope of work can be viewed in the Board of Director's meeting agenda packet for January 17, 2019, available on MBGSA's website. BGC serves as the MBGSA Executive Director and will be the GSP PM. BGC will be the lead on policy issues, such as development of sustainable management criteria. The successful RFQ respondent will be expected to provide support and backup to UWCD and BGC, address gaps in the services provided by UWCD and BGC, provide reviews, and provide full service document management for the GSP. Compared to UVRGA, the successful RFQ respondent will likely be less directly involved in the GSP development for MBGSA.

3 ANTICIPATED SCOPE OF SERVICES

The ideal consulting firm(s) will be qualified and willing to provide the following support services:

1. Cost-effective staff to support development of GSP background (non-technical) GSP sections;
2. Cost-effective analytical modeling support to evaluate depletion of interconnected surface water (UVRGA);
3. Cost-effective technical support for other GSP elements, and

4. Full Service GSP document management (editing, formatting, comment management, and version control). The consultant will serve as the document clearinghouse for the GSP development teams. The consultant will compile work products into a consistent document format, edit, and manage the document and comments. Ideally this service will be provided by a technical editor or other administrative professional with considerable document management experience on projects of a similar magnitude. Technical staff may assist with comment management, but the goal is to minimize costs for document management by keeping the bulk of this work in an administrative classification.

The consultant should be comfortable working in a support role with a work order driven contract. Importantly, the consultant should be willing to work very closely with and under the GSP PM's direction.

The agencies retain the right to hire different consulting firms based on their specific needs and independent evaluation of the RFQ responses. If one consultant is selected to serve both agencies, a contract will be issued by each agency. Contracting will consist of a master agreement and work orders will be issued for specific as needed services. The consultant will be expected to track and report expenditures against each work order issued and to prepare invoices with charges broken down grant task. Timely and accurate invoicing will be important to facilitate grant management.

Neither agency will pay for any costs incurred in preparation and submission of the qualifications, or in anticipation of a contract.

4 QUALIFICATION SUBMITTAL REQUIREMENTS

Each submittal shall be limited to the maximum number of pages listed for each section. Qualifications shall be submitted as a PDF file. A minimum of 11 point font size shall be used.

All firms wishing to be considered for this work shall include the following information in their qualifications:

Cover Letter (Maximum: 1 page)

Include in the cover letter, the office location where the project will be managed, and the name, title and location of the project manager.

Statement of Qualifications (Maximum: 3 pages)

Provide a summary demonstrating the offeror's unique qualifications necessary to provide the anticipated services.

Project Team (Maximum: 2 pages per resume, No section page limit)

Include an organization chart illustrating the key project team members, the firms they are affiliated with (if multiple firms are teamed), and the role each will serve on the project; clearly identify the name and title of the proposed project manager and document management professional (or lead document management professional if multiple staff will be working together to provide the document management services); provide a brief resume demonstrating qualifications for successfully completing this work for other key project team members, their office location, and a brief summary for each proposed sub-consultant firm (if any).

Project Experience (Maximum: 5 pages)

Include a description for up to five projects that demonstrate the qualifications of the firm to provide the requested services. At a minimum, one project should be included that demonstrates analytical modeling capabilities, on project that demonstrates full service document management capabilities, and one project that demonstrates SGMA and/or other groundwater management knowledge/experience. Responding firms should specifically describe which GSAs they are currently under contract to perform work for, any other SGMA-related work, and/or groundwater management or relevant technical experience that would be pertinent to assist with technical analysis and GSP preparation.

Project Approach (Maximum: 3 pages)

Provide a description of your firm's understanding of the requested services and approach for providing the services. Describe your firms' availability to assist with completing the GSPs in accordance with the statutory deadline.

References (Maximum: 2 pages)

Provide contact names and phone numbers for at least three (3) references for similar projects that the Proposer has performed related services within the last five years. Please include a brief description of the services provided, the duration of the project, the completion status of the projects, the total contracted fee for the project, and the agency contact name, title, phone number, and email.

Conflict of Interest (Maximum: 1 page)

Provide a discussion of any potential conflicts of interest the firm may have in performing this work for the GSA and any work currently being done or previously performed for any of the stakeholders, water rights holders, or land owners in the Basins.

Fee Schedule

Include a fee schedule listing the billing rates for all classifications of personnel and sub-consultants that may be assigned to the project. Rates should be organized in a single table with a column for each fiscal year of the project (July 1 through June 30) (e.g. Fiscal years 18/19, 19/20, 20/21, and 21/22). It is acceptable to specify rates fiscal year 18/19 and a multiplier for the remaining fiscal years. Please be advised that the fee schedule shall be included as an attachment to any contract(s) that may result from this selection process.

All work associated with the preparation of the GSP and other tasks assigned by either agency shall be performed on a time and materials basis, under individual work orders to be reviewed and approved by UVRGA or MBGSA. All work shall be completed to the satisfaction of the agency issuing the work order within the time periods allocated for each work order and within the budget assigned to each work order.

5 QUALIFICATIONS SUBMISSION DEADLINE

Submittals shall be delivered via email to bryan@bondygroundwater.com by 5pm on February 25, 2019.

Submittals shall be clearly marked as follows:

Qualifications for GSP Support Services for Upper Ventura River Groundwater Agency and Mound Basin Groundwater Sustainability Agency

Late submissions will not be accepted.

6 QUALIFICATION REVIEW AND SELECTION PROCESS

UVRGA and MBGSA will review the submittals for completeness and will rank them according to the criteria listed below. The UVRGA and MBGSA Boards of Directors will select the successful firm(s) with input from the GSP PM and UWCD (for MBGSA).

- Labor rates
- Quality and completeness of the qualifications submittal.
- Proposed approach for working with the GSP PM and other members of the GSP preparation teams for each basin;
- Experience collaborating with others professionals on similar projects;
- Technical team qualifications (surface water depletion analytical modeling experience is a key requirement for UVRGA);
- Document management experience; and

In-person interviews may be held, at the discretion of the agencies. If interviews are held, offerors will be notified with the details of the interview process.

The selected firm should expect that the contracts will include terms and conditions necessary to protect the interests of the agencies, its members, and beneficial users of groundwater.

7 SCHEDULE

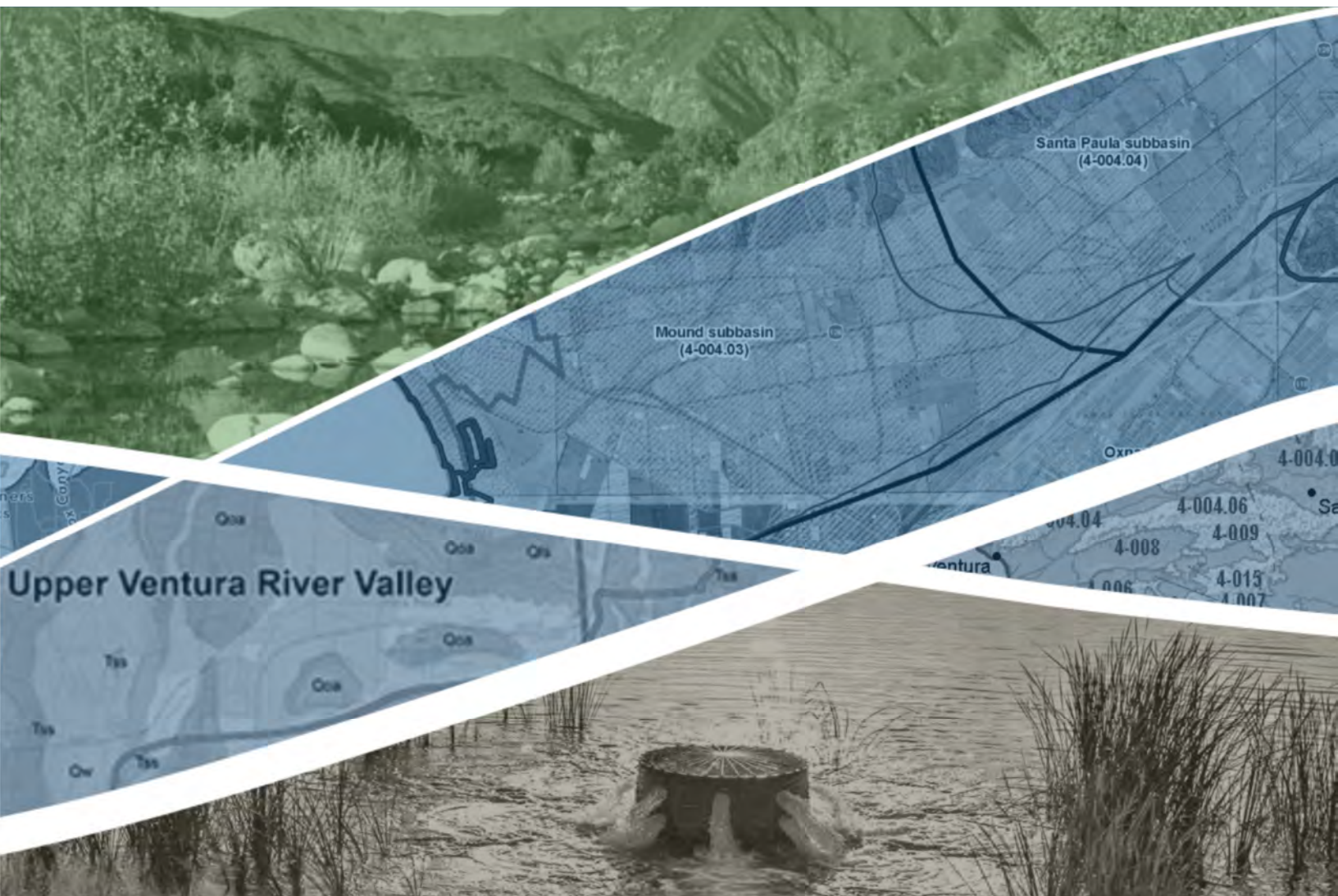
Fully-executed agreements with the selected firm(s) are anticipated by May 1, 2019.

8 CONTACT INFORMATION

All questions regarding this RFQ shall be made in writing via email to bryan@bondygroundwater.com.

The deadline for submitting questions is 5pm on February 13.

Groundwater Sustainability Plan Development Support Services



Prepared for



Prepared by



FEBRUARY 25, 2019

STATEMENT OF QUALIFICATIONS

Groundwater Sustainability Plan Development Support Services

Prepared for



MoundBasin
GROUNDWATER SUSTAINABILITY AGENCY



Prepared by



FEBRUARY 25, 2019

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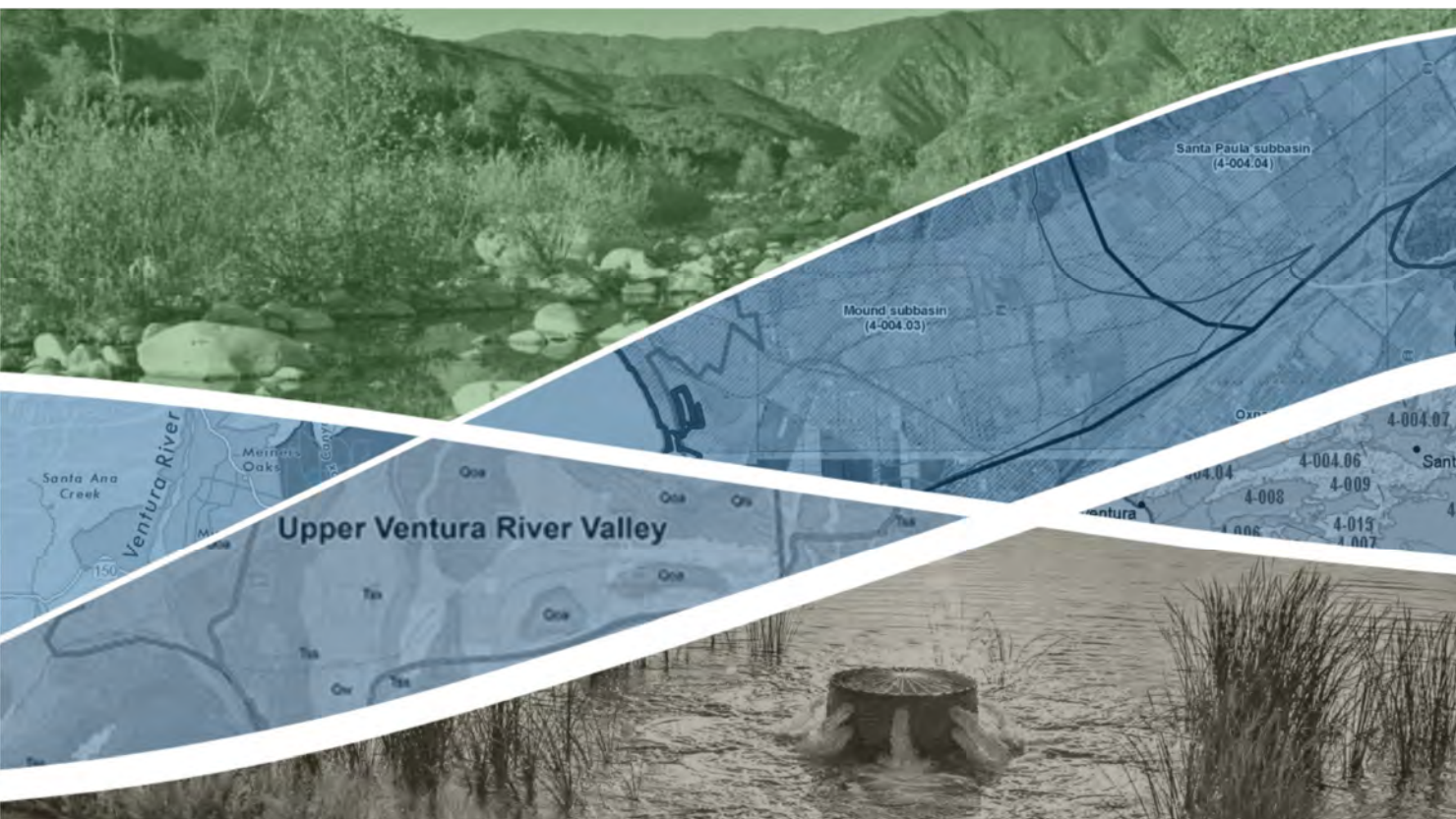
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STATEMENT OF QUALIFICATIONS

1 - COVER LETTER



1 – COVER LETTER



INTERA Incorporated
3868 W. Carson Street, #380
Torrance, California 90503 USA
424.275.4055

February 25, 2019

Via E-Mail: bryan@bondygroundwater.com

Bryan Bondy
GSP Plan Manager
Bondy Groundwater Consulting, Inc.

RE: Statement of Qualifications to Provide Groundwater Sustainability Plan Development Support Services

Dear Mr. Bondy and Members of the Selection Committee,

INTERA Incorporated (INTERA) is pleased to present this Statement of Qualifications (SOQ) to the Upper Ventura River Groundwater Agency (UVRGA) and the Mound Basin Groundwater Sustainability Agency (MBGSA), also collectively referred to as the Agencies, to provide Groundwater Sustainability Plan (GSP) development support services for both Agencies. We believe that INTERA offers the best value in completing this work—high-quality and defensible technical work products and efficient document management services that are delivered in a cost-effective manner in accordance with the Agencies' schedule and budget requirements and expectations.

To accomplish this, we will work closely with the GSP Plan Manager (GSP PM), Brian Bondy of Bondy Groundwater Consulting, Inc. (Bondy Groundwater) and the Technical Review Group (TRG). INTERA has worked closely with Bondy Groundwater on a Groundwater Model (incorporating complex surface-water/groundwater interactions) for the Calleguas Water Management District (Calleguas) and provide technical support and input on the development of Fox Canyon Groundwater Management Agency's (FCGMA) GSP on behalf of Calleguas, a major Basin Stakeholder. Throughout this process, INTERA also coordinated with the United Water Conservation District (UWCD), providing key inputs for the UWCD groundwater model. These close working relationships will facilitate our ability to provide cost and time efficient GSP development support services for UVRGA and MBGSA. Most of the technical support staff we are proposing have contributed to our work for Calleguas and the FCGMA GSP. INTERA offers expertise and experience in two scope areas that will be critical to the successful development of the GSPs for the Agencies: (1) analytical modeling to evaluate surface/groundwater interactions in the absence of a numerical groundwater flow model and (2) document management and production services to support development and publication of large and complex water plans. Finally, through our work for the FCGMA GSP, we bring a deep understanding of SGMA and associated regulatory requirements for SGMA GSPs.

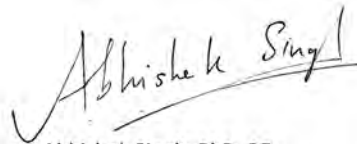
This project will be managed from INTERA's Torrance, CA office by Dr. Abhishek Singh, a Senior Engineer and Manager of the company's California operations. INTERA and all our proposed personnel are firmly committed to making this work a top priority. Like members of the UVRGA and MBGSA, we have chosen to work on water resources development, management, and protection issues not only because they are challenging and require creative technical and management solutions, but because these issues are important to us, personally. We stand ready to deliver the expertise needed to support the Agencies in developing a plan to sustainably manage the groundwater resources in the Upper Ventura River and Mound subbasins.

Sincerely,

INTERA Incorporated



David Jordan, PE
Vice President and Project Principal



Abhishek Singh, PhD, PE
Senior Engineer and Project Manager

California | Colorado | Florida | Hawai'i | Indiana | New Mexico | Texas | Washington | France | Switzerland

STATEMENT OF QUALIFICATIONS

2 - QUALIFICATIONS



2 – STATEMENT OF QUALIFICATIONS

Established in 1974, INTERA is a geosciences and engineering consulting firm focused on meeting challenges associated with the development, management, and protection of water and environmental resources.

INTERA's primary water resources services include water resource planning, groundwater availability assessments, surface/groundwater interaction analyses, hydrographic data collection and analyses, surface water availability and water rights assessments, three-dimensional geologic and hydrogeologic visualizations, GIS and database applications, and remote sensing. Since our inception, we have earned a reputation for developing best-in-class solutions to the most challenging water resource and environmental issues. These solutions are delivered, through a network of offices across the US shown in **Figure 2-1**, by an outstanding staff of 175 scientists, engineers, and support personnel.

Figure 2-2 shows the primary disciplines and education levels of our staff.

In the area of water resource planning and modeling, INTERA's core competencies include:

- Providing technical support to state, regional, and local agencies and organizations for developing water management plans that include Groundwater Sustainability Plans (GSP) under the Sustainable Groundwater Management Act (SGMA)
- Modeling surface/groundwater interaction and developing integrated surface water and groundwater modeling tools
- Developing and applying hydrologic, hydraulic, hydrodynamic, and water quality models as decision support tools for identifying optimal solutions to water resource planning and management problems with multiple and occasionally competing objectives
- Managing the development and publication of large, complex, multi-author documents
- Developing custom GIS and database software designed to manage, maintain, and analyze site-specific water resources data under a variety of software
- Analyzing agricultural water use and land-use change using GIS and remote-sensing techniques

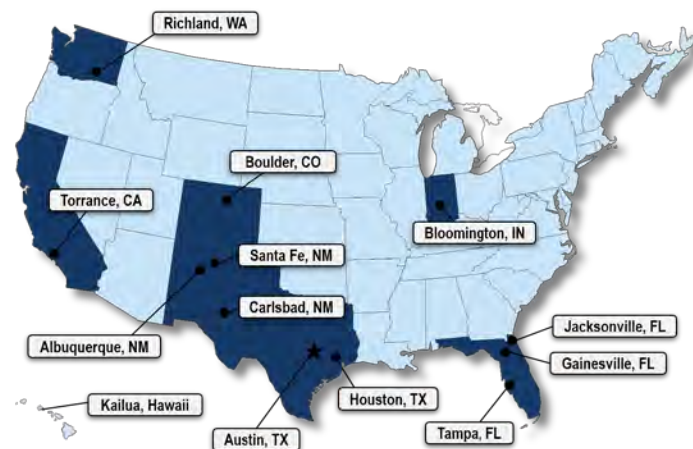


Figure 2-1. INTERA's US offices

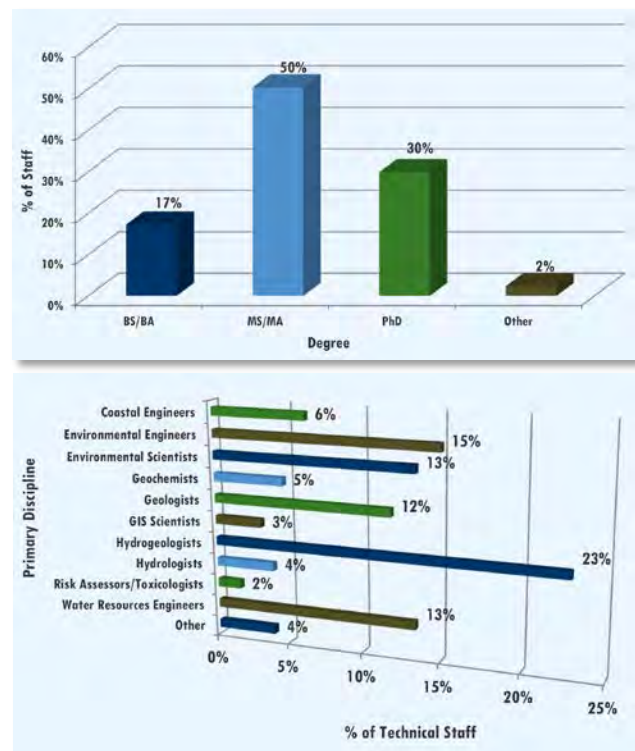
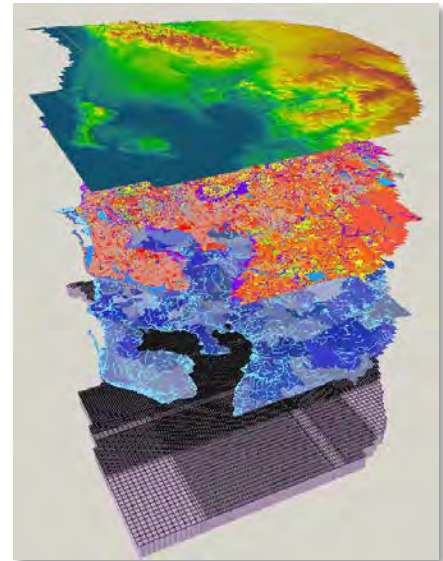


Figure 2-2. Education levels and primary technical disciplines of INTERA's technical staff.

INTERA opened our branch office in Torrance, California in 2015 to better serve a growing list of California-based clients. We are acutely aware of the challenges and opportunities faced by public water agencies in California and throughout the US, and we offer proven experience in planning and design services for public water utilities. Over the last five years, we have provided planning services on projects involving groundwater and surface water management, conjunctive use, alternative water supply evaluations, and water planning for forward thinking public agencies and utilities that include:

- Calleguas Water Management District, California – serves nearly 500,000 people
- Water Replenishment District of Southern California – provides water to nearly 4 million residents
- Orange County Water District, California – water provider for 2.4 million people
- City of San Diego Public Utilities Division – water provider for 2.2 million people
- California American Water, California – water provider for 630,000 people
- Albuquerque Bernalillo County Water Utility Authority, New Mexico – serves nearly 700,000 people
- Tampa Bay Water, Florida – wholesale water supplier to over 2.4 million people
- Tarrant Regional Water District, Texas – serves water to over 2 million people
- City of Boulder, Colorado – provides water to 116,000 residents
- Citizens Energy, Illinois – serves 800,000 customers
- Suez Water, New York – serves 500,000 customers



INTERA's modeling expertise includes the development and application of integrated surface water and groundwater models capable of simulating the full hydrologic cycle.

INTERA is currently supporting the Calleguas Water Management District's (Calleguas) efforts in Ventura County in working with the Fox Canyon Groundwater Management Authority (FCGMA), the local Groundwater Sustainability Agency (GSA), to provide input to their GSP. On this project, we have worked closely with Mr. Bryan Bondy (of Bondy Groundwater) to cost-effectively evaluate groundwater usage and management in the East and South Las Posas Basins. Our proven and successful track record of working with Mr. Bondy makes us uniquely suited to support developing the GSP for UVRGA and MBGSA.

Another example of INTERA's recent water planning experience is our work for the Albuquerque Bernalillo County Water Utility Authority (ABCWUA). We successfully led the development of a 100-year water plan for the ABCWUA, called Water 2120. This plan was the result of a 6-year effort that began with development of a dynamic-simulation-model-based decision support tool used to conceptualize both demand and supply, as well as the potential impacts of climate change on both. For this project, INTERA worked collaboratively with the Bureau of Reclamation and Sandia National Laboratories to incorporate long-term hydrologic and climatologic trends (driven by climate change) into the demand and supply projections used for the plan. In addition to the technical work, INTERA interacted extensively with the Water Utility Technical Customer Advisory Committee who vetted all the planning work, the Governing Board, and public stakeholders. INTERA also assisted with comment management, document management, and technical editing of the Plan. INTERA was responsible for the management of all drafts and provided technical editing for multiple parts. Quality Assurance support was

provided by checking data presented in the text and tables. In addition, INTERA produced the final pdf and print of the Plan. The final Water 2120 Plan was accepted unanimously by the Governing Board.

One of INTERA's largest document management projects was recently completed for the New Mexico Interstate Stream Commission where we provided technical editing and project coordination support for developing the latest version of the New Mexico State Water Plan. The Plan provides valuable information to water policy decision-makers as well as all water users across the state. Our staff worked collaboratively with the New Mexico Interstate Stream Commission's project manager and team of subcontracted authors to prepare the draft State Water Plan Technical Report and the Town Hall Background Report.

INTERA also has experience providing professional services including technical review and revision of technical documents needed for operations and management. INTERA has provided technical support services to over 30 Groundwater Conservation Districts (GCDs) that are responsible for regulating groundwater use in Texas. GCDs are very similar in form and function to GSAs. For these districts, INTERA has prepared management plans, groundwater rules, and guidance documents; designed monitoring well networks; provided GCD representation during Groundwater Management Area (GMA) meetings; reviewed application permits; developed groundwater databases; organized and conducted public meetings; directed and implemented field studies/well construction; evaluated alternative Desired Future Conditions (DFCs, which are the converse of SGMA undesirable results); responded to DFC petitions; and conducted technical and public workshops. Like GSAs, GCDs are required to develop and implement management plans for their region's groundwater resources, as part of a joint planning process. INTERA has experience providing technical and joint planning support for seven GMAs in order to meet DFCs.



Working with the New Mexico Interstate Stream Commission, INTERA staff recently played a major role in the developing the 2018 New Mexico State Water Plan.

STATEMENT OF QUALIFICATIONS

3 - PROJECT TEAM



3 – PROJECT TEAM

INTERA has assembled an outstanding team of management and technical personnel to support UVRGA and MBGSA in the development of a GSP. We are proposing a team that already brings a proven track record of successfully working with Mr. Brian Bondy (of Bondy Groundwater). For nearly three years, key members of our team (proposed Project Manager, Dr. Abhishek Singh, and Technical Lead for Analytical Modeling, Dr. Raghu Suribhatla) have worked with Mr. Bondy to provide input to the FCGMA in support of developing their GSP. The team has also worked with UWCD, providing them with key inputs for the UWCD groundwater model. We are augmenting this proven team with the addition of a Technical Advisor for Analytical Modeling, Dr. Erik Anderson, given the importance of evaluating the surface/groundwater interaction issues in the Upper Ventura River and Mound subbasins. Dr. Anderson is a pioneer in the analytical modeling of surface-water/groundwater interactions (having published seminal papers on the subject) and also brings experience working in the Ventura River Subbasin. Our team also includes Ms. Joanna Stakutis, an expert in technical editing and the development and production of large, complex documents with multiple authors.

Our proposed organization for providing these support services is shown in **Figure 3-1**. To provide the expertise needed to complete all tasks in accordance with UVRGA's and MBGSA's schedule requirements and expectations, we have identified several key and technical personnel (Project Manager, Technical Leads for Analytical Modeling and GSP Document Management), as well as a group of additional resource personnel that are readily available to support the work as, and when, needed. To ensure that we provide services in a cost-effective manner, our personnel cover the complete range of experience levels—from principals and senior-level to mid- and junior-level. While all INTERA's work for UVRGA and MBGSA will be conducted under the direct supervision of a principal or senior engineer/scientist, establishing the right mix of senior-, mid-, and junior-level for accomplishing each assigned task will enhance the cost-effectiveness of our services. Brief resumes for all our proposed key personnel are provided on the following pages.

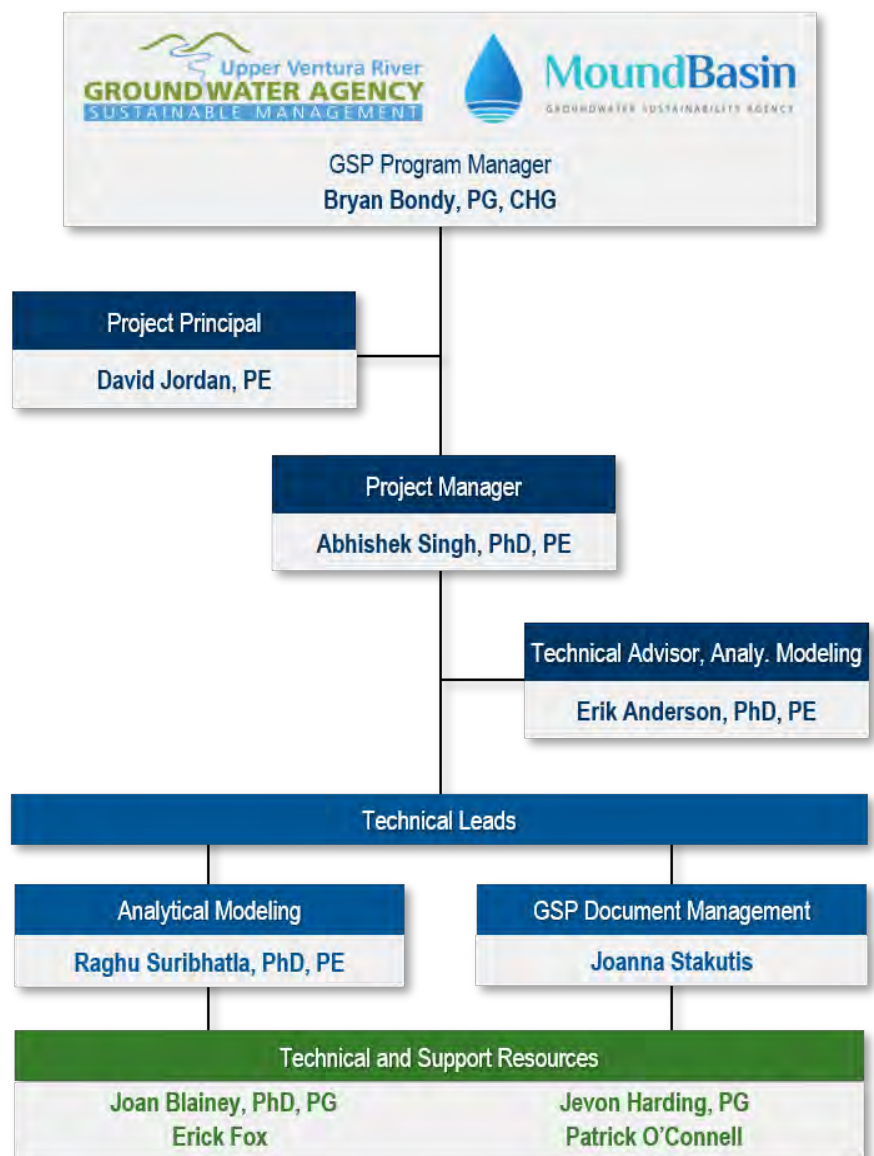


Figure 3-1. INTERA's proposed organizational structure.



David Jordan, PE
Project Principal

David Jordan leads INTERA's Water Resources Line of Business and has 30 years of experience in the areas of water resources development, water resources planning, quantitative hydrogeology, engineering, numerical modeling, GIS, data management, and program and project management. He provides management and technical guidance to a variety of projects in water resources, water supply, and water planning. He leads technical teams in the development of quantitative tools to evaluate water demand and supply, evaluate potential gaps between demand and supply, and works to communicate these findings to various stakeholder groups in support of water planning for a variety of water agencies. Mr. Jordan was the project manager and overall lead for development of the Water 2120 100-year water plan for a major Western water agency. Mr. Jordan is also a recognized expert in data management, analysis, and visualization through the application of GIS. He develops and applies innovative remote-sensing based techniques to evaluate land use and water-depletions from anthropogenic (irrigated agriculture) and natural (riparian) areas, frequently at the basin scale. In addition, he applies decision support systems and dynamic systems models to ensure that water resources managers make informed decisions based on rigorous analysis of available data. The application of these tools also facilitates stakeholder involvement and understanding.

Select Project Experience

Las Posas Basin Groundwater Model Development, Calleguas Water Management District, Ventura County, CA. 2016 – Present. Project Manager. Led a team in developing a groundwater flow model of the East and South Las Posas groundwater basins for the Calleguas Municipal Water District. The groundwater flow model is being used to guide operational planning at the District level, specifically for the Calleguas' Las Posas Basins ASR Project, as well as regional planning efforts under the Sustainable Groundwater Management Act. Ongoing work includes interfacing with stakeholders such as the Fox Canyon Groundwater Management Agency and other local stakeholders to present and discuss our work and our results and evaluate potential basin management alternatives.

Water 2120 Plan Development, Albuquerque Bernalillo County Water Utility Authority (Water Authority), NM. 2010 – 2016. Project Manager/Technical Lead. Led the development of the Water Authority's Water 2120 100-year water plan. Water 2120 articulates all aspects of the Water Authority's water planning for the next 100 years, including surface- and groundwater management, as well as potential new supplies. Served as the public face of Water 2b120 via public involvement through presentations to the Water Authority Technical Advisory Committee (TCAC) and Board of Directors, and extensive public outreach. Led the development of a dynamic system simulation model for the Water Authority that is being used for the purpose of short-term surface and groundwater accounting, as well as long-term supply and demand planning and evaluation. The model provides a management tool for the Water Authority staff for both short- and long-term planning for water resources and includes functionality to evaluate uncertainty in supply and demand as a result of forcing functions such as climate change and population dynamics. The tool also allows the Water Authority to evaluate its existing water-supply portfolio and determine at what period(s) in the future it may be necessary to expand that portfolio to meet growing demands. The model was used to evaluate and rank various water-supply alternatives, building those alternatives into water

Years of Experience: 30

Office Location: Albuquerque, NM

Education:

- MS, 1989, Geophysics (hydrology emphasis), New Mexico Institute of Mining and Technology
- BS, 1987, Geophysics (computer science minor), Virginia Polytechnic Institute and State University

Professional Registrations/Affiliations:

- Registered Professional Engineer, New Mexico, 1997, No. 13662
- Member, American Water Resources Association
- Member, American Ground Water Trust
- Member, American Water Works Association

Professional History:

2001 – Present	Water Resources Line of Business Lead, Vice President, Principal Hydrogeologist, Senior Hydrogeologist – INTERA Inc., Albuquerque, NM
1994 – 2001	Program Manager, Group Leader, Senior Hydrogeologist – Daniel B. Stephens & Associates, Albuquerque, NM
1992 – 1994	Hydrogeologist – GeoTrans, Inc., Sterling, VA
1989 – 1992	Hydrogeologist – Hydrosystems, Inc., Sterling, VA
1987 – 1989	Graduate Research Assistant – New Mexico Institute of Mining & Technology, Socorro, NM

supply portfolios, and performing a gap analysis to evaluate potential supply gaps in the future. The team also developed a full groundwater reserve management plan to allow for prudent management of existing groundwater reserves. Water 2120 was unanimously approved by the Water Authority's Governing Board in late 2016.

Conceptual Model Development and Water Balance of the Swarthout Valley, Golden State Water Company (GSWC), Swarthout Valley, CA. 2014 – 2015. Project Manager/Technical Lead. Led a team in development of a conceptual model and water budget for the Swarthout Valley, Wrightwood, CA. The Swarthout Valley extends across a semi-arid landscape defined by active fault zones and geologic complexity. These features alter the groundwater flow system by creating barriers that change local gradients and regional groundwater flow patterns. GSWC was interested in an evaluation of the water supply conditions and reliability within the Swarthout Valley groundwater system, a shallow alluvial aquifer system and the sole source of water for GSWC's Wrightwood System. The objective of the Swarthout Valley Water Supply Evaluation Project was to assess whether the water in storage in the groundwater system can be developed and reliably extracted on a sustainable basis to meet GSWC customer demands during dry years. To this end, a secondary objective was to estimate the yield of the Swarthout Valley groundwater system for dry years, following consecutive years of below average precipitation in the area. The water budget will be used for planning and management purposes, as well as to determine if water from other sources needs to be imported into Swarthout Valley. The water balance is being used to make management decisions about pumping in the Swarthout Valley and will be used to determine the potential need for imported water. Project responsibilities included overall project management, leading the technical team, and providing overall technical review and QA/QC.

Conceptual Reuse Planning, Albuquerque Bernalillo County Water Utility Authority (Water Authority), NM. 2017 - 2018. Project Manager. Led a team in the development of a conceptual reuse plan to evaluate potential supply and demand for non-potable reuse water for turf irrigation. The team evaluated potential demand by reviewing and identifying existing turf areas and their estimated or known water use. The team also evaluated potential reuse demand for proposed development within the Water Authority's service area, as well as potential new supply that would become available because of new development. In support of infrastructure planning, the team developed conceptual pipeline routes and specifications, as well as proposed new storage for reuse water and conceptual costs for new infrastructure. The project deliverables provided important information to the Water Authority to help them plan for additional reuse capacity and infrastructure, in support of key metrics identified as part of their 100-year water plan, Water 2120.

Seawater Intrusion Barrier Modeling, West Basin Municipal Water District (WBMWD), West CA. 2014 – Present. Project Manager. Providing annual regulatory reporting materials to WBMWD based on groundwater flow and transport modeling for the West Coast Basin seawater intrusion barrier using recycled water for injection. The reporting materials are used by WBMWD to meet the annual metrics of the recycled-water injection permit granted by the Los Angeles Regional Water Quality Control Board. These reporting materials include a technical memorandum showing the extent and predicted travel time of recycled water in the subsurface relative to the nearest drinking-water wells. These materials are required by the Los Angeles Regional Water Quality Control Board as part of WBMWD's indirect potable reuse project, which allows it to inject recycled water into the West Coast Basin seawater intrusion barrier. Project responsibilities include overall project management, client interfacing, and senior technical review.

North Orange County Basin Flow and Transport Modeling, Orange County Water District (OCWD), Orange County, CA. 2014 – Present. Project Manager. Led a team in developing a numerical flow and transport model to support a human health risk assessment and feasibility study of remedial alternatives being considered to mitigate groundwater contamination in the North Orange County Basin (North Basin). Volatile organic compound (VOC) contamination in the North Basin area has resulted in the destruction of three municipal water supply wells and one private well used for commercial purposes. In support of conceptual model development, the geology, hydrogeology, structure, and stratigraphy of the North Basin area was evaluated. Based on geophysical and hydraulic-head data, we modified the structure of the existing numerical model in the area to suit the needs of the current transport-modeling exercise.



Abhishek Singh, PhD, PE Project Manager

Abhishek Singh leads INTERA's California Operations and has over 15 years of research and consulting experience in the areas of water resources planning and management. Dr. Singh currently manages several projects for California water agencies and utilities related to regional planning and SGMA implementation. His projects focus on modeling complex hydrogeologic systems and surface-water/groundwater interactions, estimating basin-wide water budgets, groundwater project assessments, managing and mitigating seawater intrusion and contaminated groundwater, and planning for drought and climate change. He has applied his expertise on projects across the United States involving hydrogeologic modeling; assessment of the impact of climate change on water planning; modeling to support permitting, licensing, and compliance for radioactive waste disposal facilities; optimization of groundwater remediation and monitoring design; and incorporating uncertainty in regional and project-level planning. Dr. Singh is experienced in developing integrated GIS and geodatabases in support of water resource projects, and is experienced at data-processing and work-flow automation using C, C++, Perl, Python, Matlab, and Fortran. Dr. Singh also provides a variety of permitting and regulatory support to water agencies.

Select Project Experience

Development of A Groundwater Flow Model of the East and South Las Posas Basins, Calleguas Municipal Water District, CA. 2016 – Present. *Task Manager/Modeling Lead.*

Developed a groundwater flow model of the East and South Las Posas groundwater basins for the Calleguas Municipal Water District. Worked collectively with CMWD, Bondy Groundwater, Fox Canyon Groundwater Management (FCGMA) - the local GSA, the GSA's Technical Advisory Group (TAG), and their Groundwater Sustainability plan (GSP) consultant to support GSP development process. The basins are characterized by complex hydrostratigraphy (faulting and folding) and dynamic interactions with surface water flows in the Arroyo Las Posas. Led the development of an integrated surface/groundwater boundary package to route Arroyo flows and simulate dynamic interactions between the surface-flows and the alluvial aquifer. Calibrated the model with respect to recent head and streamflow data. The model was used to support the SGMA planning process for the East and South Las Posas Sub-Basins, which included simulating future conditions impacted by climate-change as well as several regional groundwater management actions and projects. The model was documented in a comprehensive report, as well as several technical memoranda that were communicated to various stakeholders. Led regular interactions with and made presentations to the TAG, incorporating TAG comments and suggestions into the model development process. On-going and future work includes modeling to evaluate basin sustainable yields, optimize ASR operations, and perform sensitivity analyses.

Decision-Support Tool (DST) for Conjunctive Groundwater/Surface Water Planning and Optimization of Operations, Suez Water New York, Rockland County, NY. 2017 – Ongoing. *Lead DST Modeler.* Project developed a decision support tool for Suez Water New

Years of Experience: 16

Office Location: Los Angeles, CA

Education:

- PhD, 2007, Civil and Environmental Engineering, University of Illinois
- MS, 2003, Civil and Environmental Engineering, University of Illinois
- BE, 2001, Civil Engineering, Birla Institute of Technology and Science

Professional Registrations/Affiliations:

- Professional Engineer, California, 2018, No. 89384
- Professional Engineer, Texas, 2010, No. 130858
- Associate Editor: Journal of Water Resources Planning and Management
- Co-Chair: Groundwater Resources Association (GRA) Technical Committee
- Chair: Groundwater Council, Environmental & Water Resources Institute (EWRI) of the American Society of Civil Engineers (ASCE)
- Review Panel for 5 Journals: Water Resources Research, Groundwater, Journal of Hydrology, Journal of Hydrologic Engineer, and Journal of Hydroinformatics

Professional History:

2015 – Present	California Operations Manager/Senior Water Resources Engineer – INTERA Inc., Torrance, CA
2012 – 2015	Sr. Environmental Scientist/Group Manager – INTERA Inc., Austin, TX
2007 – 2012	Environmental Scientist – INTERA Inc., Austin, TX
2006 – 2007	Teaching Assistant – University of Illinois, Urbana Champaign, IL
2001 – 2007	Research Assistant – University of Illinois, Urbana Champaign, IL
2003	Research Assistant – Interactive Genetic Algorithm Laboratory, Kyushu University, Fukuoka, Japan

Specialized Training & Software:

- SGMA: Full-Day DWR Workshop on GSP Development
- Software: C2VSim, GoldSim, PEST, MODFLOW-USG

York (SWNY). The project goal was to improve production of the wellfield during the summer, by optimization of groundwater pumping and surface-water augmentation. SWNY wanted to evaluate the potential for producing additional groundwater supply, while staying within permitted flow limits for the Ramapo River. Model development was preceded by a review of operational data, extensive aquifer testing focusing on characterizing the groundwater surface water interactions, and hydrologic modeling of the surface-water and groundwater systems in HEC-RAS, VS2DH, and MODFLOW. Led the development of a GoldSim decision support tool (DST) for the Ramapo River, wellfield, and upstream reservoirs. The DST included an analytical model of stream depletions to assess groundwater-streamflow interactions and simulate impacts of reservoir releases on changes to operations on regulatory flows. The model was used to optimize operations under several operational and hydrologic scenarios to improve summer yields, while meeting regulatory requirements for downstream flows. Simulation results indicated that increased summer production from the well field is possible and identified critical operation for optimizing production. The Decision Support Tool is being used to a) develop project recommendations and assess system resiliency for planning purposes, and b) optimize operating rules and assist well-field operators during drought conditions.

SGMA Evaluation of Groundwater Flow and Transport Model of the San Pasqual Basin for GSP Development, City of San Diego, Southern CA. 2018. *Project Manager/Technical Lead.* Reviewed an existing groundwater flow and transport model to evaluate its suitability for use in Groundwater Sustainability Planning as required under the Sustainable Groundwater Management Act (SGMA). Evaluated model boundaries, structure, parameters, and water budget with respect to California Department of Water (DWR) Basin Studies. Assessed the representation of flows and groundwater/surface-water interactions along the Guejito Creek, Santa Ysabel Creek, and the San Dieguito River. Compared model flows against USGS gage data. Assessed model calibration in terms of simulated hydraulic head and TDS/Nitrate concentration trends against groundwater data from the San Pasqual Basin. Assessed applicability of the model for identification of SGMA undesirable results – lowering of water levels, reduction of groundwater storage, degraded water quality, and depletion of interconnected surface water. Provided recommendations on model enhancements and revisions to make it suitable for SGMA planning purposes.

Feasibility Assessment of Conjunctive Use Projects to Support Long Range Planning in the San Diego River Basin, San Diego, CA. 2018. *Project Manager/Technical Lead.* Led the development of a decision-support framework to support long range planning for conjunctive use and system optimization of the San Vicente Reservoir, El Capitan Reservoir, and groundwater injection/extraction/storage in the El Monte Valley and/or Moreno Valley groundwater sub-basins within the San Diego River Basin. Reviewed existing literature on groundwater recharge and storage capacity of the El Monte and Moreno groundwater sub-basins within the San Diego River Valley. Obtained and analyzed data from the City of San Diego to assess frequency and duration of excess surface water (from spills and potential reservoir releases) for storage in the groundwater basin. Oversaw the update of a dynamic simulation model of the San Diego surface-water, groundwater, and conveyance systems. Incorporated long-term projections for (native and imported) water supplies as well as water demands under baseline and climate-change impacted conditions. The model built in the STELLA modeling platform facilitates the analysis of local and imported water supply storage and transfer between any of these storage facilities to reduce spills, evaporative losses, and maximize overall (including imported) water storage opportunities under multiple demand and supply scenarios.

Assessment of Lower Carmel Valley Well Fields for Well-Field Management and Operational Guidelines, California American (Cal Am) Water, Pacific Grove, CA, 2015 – 2017. *Project Manager/Technical Lead.* Led a project to support Cal Am in developing operational guidelines for wells in the Lower Carmel Valley (LCV) – the primary water supply for Cal Am in the Monterey service area. Wells in the LCV draw water from an alluvial aquifer that is recharged by the Carmel River. Low streamflows in the Carmel River led to declining water levels in turn impacting well performance, with recurring pump and motor failures. The loss in well performance were related to wells pumping at water levels below the top of the screen, which in turn led to issues such as cascading water, air entrainment, and pump cavitation, in addition to iron biofouling and encrustation. Performed site visits and well-field system assessment based on historical operational data, well construction logs, and monitoring well records. Planned and facilitated dynamic video surveys of wells to understand source water in wells. Planned and managed a post-rehabilitation pump and aquifer test. The pump and aquifer test consisted of a step-drawdown test followed by 48-hour constant rate pumping and recovery under transient streamflow conditions. Results from the test were used to estimate specific capacity of well and characterize impact of streamflows and regional groundwater flows on static and pumping water levels in production wells. Recommended mitigating measures which included pump and/or other equipment replacement, well rehabilitation, updates to SCADA instrumentation, and development of an overall well-field management and operations guidelines report to account for changes in future Carmel River Hydrology.



Erik Anderson, PhD, PE

Technical Advisor, Analytical Modeling

Erik Anderson is a professional engineer specializing in groundwater and surface-water hydrology and hydraulics. He has worked as a design engineer/consultant in Wisconsin and Minnesota, and as an assistant professor of Civil Engineering at the University of South Carolina. As a consultant, he has worked on water resources projects throughout the Midwest, including dam design and rehabilitation projects, dam-failure analyses and flood insurance studies, regional groundwater flow modeling for water supply availability and wellhead protection studies, seepage studies, and dewatering design. His research has focused on analytical modeling of groundwater-surface water interaction, and developing tools to incorporate three-dimensional effects in two-dimensional, numerical models of groundwater flow. He has developed analytical methods for addressing groundwater flow problems with leaky boundaries and internal boundaries. The methods have been applied to solve problems of flow to clogged streambeds, pumping wells near partially-penetrating streams, and flow in faulted single- and multi-aquifer systems.

Select Project Experience

Ramapo Valley Well Field Water Supply Modeling, SUEZ Water, West Nyack, NY, 2016 – 2019. Technical Lead. Responsible for model development and deployment of an integrated groundwater-surface water model of the Ramapo Valley Well Field operated by SUEZ Water New York. The project goal was to improve production of the well field during the summer, by optimization of groundwater pumping and surface-water augmentation.

- Model development was preceded by a review of 30 years of operational data and an extensive aquifer testing program focusing on characterizing the groundwater surface water interactions occurring at the well field.
- Hydrologic simulations included dynamic river simulations with HEC-RAS software, groundwater flow simulations with MODFLOW, riverbed thermal transport modeling with VS2DH software, and reservoir modeling.
- Results from the detailed hydrologic models were abstracted and incorporated in a GoldSim model of the combined hydrologic system. Simulation results indicated that increased summer production from the well field is possible and identified critical operation for optimizing production. The primary deliverable was a Decision Support Tool to test operating rules and assist well-field operators during drought conditions.
- Conducted workshop for SUEZ plant operators. Presentation and training for use of the DST.
- Extension of database of historical river flows, well field operations, and reservoir water budget 1980-present. Inclusion of the full data set in the Decision Support Tool.

Additional Water Supply Study, Decatur Water Utility, Decatur, Illinois, 2018-present. Water Resources Engineer. Assessed the resiliency of the City's surface-water supplies to extreme drought. Examined alternative shallow groundwater resources, including direct pumping of surface water from abandoned gravel pits and development of horizontal wells. Developed a GFLOW model of groundwater-surface water interaction in the alluvial valley downstream of the City. The GFLOW model was

Years of Experience: 30

Office Location: Green Bay, WI

Education:

- PhD, 1999, Civil Engineering, University of Minnesota—Twin Cities
- MS, 1990, Civil and Environmental Engineering, University of Wisconsin—Madison
- BS, 1988, Civil and Environmental Engineering, University of Wisconsin—Madison

Professional Registrations/Affiliations:

- Professional Engineer, Wisconsin, 2001, No. 35074-06; Colorado, 2018, No. 0054874; New York, 2018, No.100486
- Member, American Society of Civil Engineers
- Member, the Wisconsin Union, University of Wisconsin-Madison
- Member, Wisconsin Section of the American Water Resources Association

Professional History:

2016 – Present	Principal Groundwater Engineer – INTERA Inc., Green Bay, WI
2009 – 2016	Groundwater Engineer/Senior Modeler – Layne Hydro, Bloomington, IN
2009 – 2011	Lecturer of Geology – Lawrence University, Appleton, Wisconsin
1990 – 2009	Design Engineer – SEH, Inc., Chippewa Falls, WI and St. Paul, MN
2001 – 2006	Assistant Professor, Civil Engineering – University of South Carolina, Columbia, SC
1985 – 1988	Student Engineer Trainee – Wisconsin DOT, District 7, Rhinelander, WI

Specialized Training & Software:

- **Analytical Modeling Tools:** GFLOW, CZAEM (USEPA), TimML and Ttim, MLAEM, STRMDPL (USGS)

integral to the analysis of groundwater availability from stream infiltration during extreme drought conditions. Observed conditions of the stream going dry during pumping from the gravel pit, and re-wetting downstream, were simulated and quantified with the GFLOW model.

Evaluation of the Alluvial Aquifer at Taylor Ranch, Wood Claessens Foundation, Ventura CA, 2012. *Design Engineer.* Performed hydrologic evaluation of the shallow alluvial aquifer in the Lower Ventura River Basin to evaluate the sustainable yield of the Taylor Ranch well field, supplying irrigation water for avocado, lemon, and strawberry crops. The analysis included water level monitoring in the well field and the Ventura River, a pumping test conducted in the well field, development of a groundwater flow model to evaluate regional aquifer conditions and assess groundwater-surface water interaction, and water quality testing to identify source waters.

An Analytical Investigation of Groundwater Surface water Interaction, University of South Carolina Office of Research, Columbia, SC. 2002 – 2003. *Principal Investigator, University of South Carolina.* Developed a general analytical model of groundwater flow in the vertical plane to a stream, using conformal mapping and boundary integral techniques. The solution allows for the analytical evaluation of the numerous (39) possible flow regimes.

Infiltration Gallery Feasibility and Design, Cascade Stream Solutions for the Truckee Meadows Water Authority (TMWA), Truckee Meadows, NV. 2016. *Design Engineer.* Provided a feasibility study and preliminary design for a non-standard infiltration gallery to be constructed beneath Whites and Thomas Creeks. The gallery is to allow TMWA to exercise their water rights by withdrawing stream flow at select times and allow for shut-down during periods of low and high flow. The preliminary design included analytical hydraulic and seepage models for an artificial reservoir, collection pipe, and stream bed filter. Filter options included standard granular filters and porous concrete at the stream bed. Reservoir options included a concrete box backfilled with open graded aggregate with one or more drainage pipes, and prefabricated underdrains.

High Capacity Well Permitting –Due Diligence, Unimin Corporation, Hixton, WI. 2014. *Design Engineer.* Performed evaluation of permissible groundwater supply for a potential frac-sand mine in Jackson County, WI, post Richfield Dairy ruling. Aquifer characterization program with deep exploratory borings, two 72-hour pumping tests, and geophysical logging. Surface water characterization with base flow measurements at 35 stream crossings in the watershed, correlation to USGS gage data, and estimates of low flow and base flow statistics for all streams in the watershed. Stream depletion modeling to evaluate individual and cumulative impacts of existing and foreseeable future high-capacity well permits in the watershed. Modeling performed with Ttim open-source analytic element software. Coordination and collaboration with the DNR.

High Capacity Well Permitting – Unimin Corporation, Tunnel City, WI. 2011. *Design Engineer.* Permitting of high-capacity wells for a proposed frac-sand mine in Monroe County, WI, post Lake Beulah ruling. Hydrologic study performed, including aquifer characterization with exploratory deep borings and a 72-hour pumping test with nested piezometers. Surface water characterization based on analysis of USGS gage data, field measurements, and monitoring of critical streams. Regional groundwater flow modeling to estimate base flow in ungaged streams and evaluate stream depletion rates for all streams. Modeling performed with TimML and Ttim open-source analytic element software. Coordination and collaboration with the DNR throughout NR820 review. A \$100 million mine was subsequently constructed and is currently operating.

Analytical Modeling Publications, Presentations, and Reports

Anderson, E.I. and P. Jurcek, 2015. Ttim and stream depletion, International Conference on the Analytic Element Method, Golden, CO, May 31- June1, 2015.

Anderson, E.I., 2015. Analytical models of groundwater-surface water interaction, International Conference on the Analytic Element Method, Golden, CO, May 31-June 1, 2015.

Anderson, E.I., 2005. Modeling groundwater-surface water interaction using the Dupuit approximation, *Advances in Water Resources*, 28/4, pp. 315-327. doi:10.1016/j.advwatres.2004.11.007

Anderson, E. I., 2003. An analytical solution representing groundwater–surface water interaction, *Water Resources Research*, 39(3), 1071. doi:10.1029/2002WR001536.



Raghavendra Suribhatla, PhD, PE Technical Lead, Analytical Modeling

Dr. Suribhatla is a California-licensed professional engineer with 14 years of research and consulting experience in computational groundwater and surface water hydrology, and analytical modeling. He has led or managed modeling projects for government, private, and legal clients. His project experience includes developing and updating numerical models for several water resources and remediation projects in California. Dr. Suribhatla specializes in analytical modeling, integrated surface water-groundwater modeling and data integration methods. He is a recognized expert in analytical modeling and is a co-author of one of the first comprehensive analytical modeling software SPLIT. His background includes developing new analytical techniques for modeling flow in anisotropic aquifers, new analytical elements for surface water-groundwater interactions and implementation of heterogeneous conductivity models for anisotropic formations, inverse modeling and quantification of parameter uncertainty, innovative techniques for subsurface characterization including hydraulic tomography, and geophysical data integration. He has authored/co-authored seven peer-reviewed articles in water resources, environmental engineering and applied mathematics journals and has developed design tools based on original analytical solutions.

Select Project Experience

Coastal plain of San Diego Surface Water-Groundwater Model, City of San Diego, San Diego. 2019-present. Reviewer and Modeling Lead. Lead Modeler for model review of an existing FEMFLOW model of the southwestern San Diego County and northern portion of the state of Baja California. The model covers the entire Coastal Plain of San Diego groundwater Basin and encompasses watersheds of the major rivers including the San Dieguito, San Diego, Sweetwater, Otay and Tijuana Rivers. The model will be used to support the development of a Groundwater Sustainability Plan (GSP) for the Coastal Plain of San Diego groundwater Basin. Currently performing review of conceptual and numerical models and model calibration, and assisting the City of San Diego staff in performing model runs and modifications for potential future project scenarios.

Modeling of Impacts of Wellfield Shutoff and Reduced Injection at the Dominguez Gap Barrier, Water Replenishment District, Southern CA. 2017. Modeling Lead. Performed modeling analysis to evaluate the impact of shutting off extraction wells in the Dominguez Gap area, on groundwater levels at the Dominguez Gap Barrier Project (DGBP) injection wells. The main objective of the evaluation was to estimate the potential reduction that can be applied to volume of injected water at the DGBP wells due to reduced extraction in the Dominguez Gap area. Simulations showed groundwater levels increase in response to well shutoff, at the location of the extraction wells and also along DGBP wells. Groundwater level increases at DGBP wells translated to reductions in the volume of water required to maintain groundwater levels protective of seawater intrusion. The increase in groundwater levels at the DGBP wells, and the computed reduction in outflows from the main aquifers were used to develop and simulate scenarios of reduction in volume of injected water.

Years of Experience: 15

Office Location: Los Angeles, CA

Education:

- PhD, 2007, Civil Engineering, State University of New York at Buffalo
- MS, 2004, Civil Engineering, State University of New York at Buffalo
- B. Tech, 2001, Civil Engineering, Indian Institute of Technology-Madras

Professional Registrations/Affiliations:

- Professional Engineer, CA, 2017, No. 87025
- Member, Groundwater Resources Association of California
- Member, National Groundwater Association
- Review Panel for 3 Journals: Water Resources Research, Journal of American Water Resources Planning and Management, Groundwater

Professional History:

2015 – Present	Senior Water Resources Engineer – INTERA Incorporated, Los Angeles, CA
2008 – 2015	Project Engineer, Geomatrix, Oakland, CA
2007 – 2008	Post-Doctoral Research Associate, University of Arizona, Tucson, AZ
2001 – 2006	Research Assistant, Groundwater Research Group, University at Buffalo, NY

Specialized Training/Software

- Surface water-Groundwater Modeling: MODFLOW, MODHMS, HydroGeoSphere, FEMFLOW, GFLOW, SPLIT, VisualAEM, C2VSim
- Modeling Environments: GMS, Groundwater Vistas, Visual MODFLOW
- Code Development: SPLIT, Hydrolmage

Impact of Model and Parameter Uncertainty on Predictive Uncertainty of a Regional-scale Integrated Surface Water- Groundwater Flow Model, Idaho Groundwater Appropriators Association, Boise, ID. 2012 – 2014. Lead Modeler. Lead modeler for implementation and calibration of alternative models to a highly parameterized regional-scale MODFLOW groundwater model of the Eastern Snake Plain aquifer in South Idaho. Original model, developed by the Idaho Department of Water Resources (IDWR), encompasses an area of 11,000 square miles of the fractured basalt aquifer. It was parameterized using hundreds of pilot points and calibrated using subspace-regularization methods of PEST, with more than 15,000 head and flow targets. Model is part of a highly litigious water rights case involving surface water irrigation districts, groundwater users, city water utility agencies and a senior spring water rights holder seeking to curtail junior groundwater users across the entire aquifer. Provided a critical review of the IDWR model and identified model super-parameters with highest impact on spring flows towards development of alternate conceptual models. Worked with Project Principal to implement and calibrate alternative models to demonstrate impact of model and parameter uncertainty on the range of flows accrued to the spring following curtailment. Provided deposition testimony to opposing counsel and Water Rights Director on the development of alternative models and calibration process. Developed an efficient workflow for translation of changes to conceptual model into numerical model predictive uncertainty, including setting up scripts for implementation of Parallel PEST on a local Windows network and compilation of inverse model results.

Upper Santa Clara River Integrated Groundwater-Surface Water Model Updates, Los Angeles County Sanitation Districts (LACSD), CA. 2013 – 2014. Project Modeler. Project Modeler for updating MODHMS model of the Upper Santa Clara River and implementation of future scenarios involving different types of water treatment and varying quality of imported State Water Project water. The Santa Clara River flows through Los Angeles and Ventura Counties and provides beneficial uses that include agricultural and urban water supply, groundwater recharge and biological habitat. Portions of the river basin have undergone significant urbanization over the last two decades, creating salinity management challenges for the groundwater and surface water systems. Portions of the Santa Clara River in the Santa Clarita Valley and downstream agricultural areas are now listed on California's 303(d) list of impaired waters with respect to chloride, resulting in the Los Angeles Regional Water Quality Control Board (LARWQCB) adopting a total maximum daily load (TMDL) for chloride in 2002. To address the TMDL requirements, an integrated groundwater/surface- water interaction model (called GSWIM) capable of simulating flow and chloride transport throughout the TMDL study area was developed and is being used to evaluate impacts of different water use scenarios and point source loadings from water reclamation plants. Worked with Principal Engineer and in close collaboration with LACSD staff to implement future scenarios, developed detailed data preparation and documentation procedures along with customized codes to translate data from client provided EXCEL files to model input and perform numerical simulations to evaluate chloride concentration in the Santa Clara river basin till year 2030. Assisted LACSD staff with presentation of results to the LARWQCB and communication of specifics of modeling process and representation of various components.

Analytical Modeling Publications, Presentations, and Reports

Suribhatla, R., 2013. General Analytic Element Solution to Flow Through Multiple Anisotropic Circular Inclusions, MODFLOW and More, June 2-5, Golden, CO.

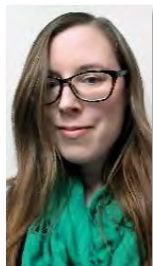
Suribhatla, R., I. Janković, A. Fiori, A. Zarlunga and G. Dagan, 2011. Effective Conductivity of an anisotropic heterogeneous medium of random conductivity distribution, *Multi-Scale Modeling and Simulation*, Society of Industrial and Applied Mathematics (SIAM) Journal, 9, pp. 933-954.

C. M. Mok, R. Suribhatla and M. Zhang, 2010. Supporting Fully-Coupled Surface Water-Groundwater Flow Simulations with ArcHydro, American Water Resources Association (AWRA) 2010 Summer Specialty Conference, March 29-31, Orlando, FL.

Craig, J. R., A. J. Rabideau and R. Suribhatla, 2006. Analytical expressions for the hydraulic design of continuous permeable reactive barriers, *Advances in Water Resources*, 29, 10.1016/j.advwatres.2005.05.006.

Bandilla, K., Suribhatla, R., and Jankovic, I, 2006. SPLIT - Win32 computer program for analytic-based modeling of single-layer groundwater flow in heterogeneous aquifers with particle tracking, capture-zone delineation, and parameter estimation. Department of Civil, Structural and Environmental Engineering, University at Buffalo, Buffalo, NY.

Suribhatla, R., M. Bakker, K. Bandilla and I. Janković, 2004. Steady Two-dimensional Groundwater Flow Through Many Elliptical Inhomogeneities, *Water Resources Research*, 40(4), W04202, 10.1029/2003WR002718.



Joanna Stakutis

Technical Lead, GSP Document Management

Joanna Stakutis has 16 years of experience in writing, editing, teaching, and media development; including technical editing, research, formatting, production, controls, and archiving. She has experience producing reports, proposals, informational materials, promotional materials, and presentations. Ms. Stakutis also has office management and project coordination experience.

As Senior Technical Editor at INTERA, Ms. Stakutis is responsible for the editing, layout, and production of reports and documents for state and municipal and private clients. Her role at INTERA includes supporting and facilitating both internal and external project teams to design, author, develop, edit, and produce technical memoranda, reports, and documents. This role includes coordinating and facilitating multiple authors, sometimes in multiple locations, to develop and produce documents by using web-based collaborative tools such as Basecamp to receive and integrate materials from each author. Often these documents are then provided to stakeholders via a web-based version of the document.

Ms. Stakutis regularly edits Environmental Site Assessments, Groundwater Sampling Reports concerning petroleum hydrocarbons, metals, nitrate, and radionuclides, reports for Department of Energy sites, Work Plans, Scope of Work and Cost Estimates, Site-Specific Health and Safety Plans, and presentations. For New Mexico Environment Department Superfund sites, she has completed document analysis and cataloguing. She has also overseen document archiving, electronic, and hard-copy file maintenance, and assisted with project scheduling. Her duties also include data entry and data quality assurance as needed.

Representative Project Experience

2018 New Mexico State Water Plan, New Mexico Interstate Stream Commission.

Santa Fe, New Mexico. 2019. Senior Technical Editor, Graphics Support, and Project Coordination. Project coordinator for the 2018 update of the New Mexico State Water Plan. Project roles included setting up and maintaining project management software for the duration of project, as well as developing an easily comprehensible document scope, with technical input from multiple authors. Working with lead scientists, developed graphics that were designed to effectively communicate information regarding statutes and governmental resources related to water issues. Selected and catalogued photographs for use on the cover and within the document. Assured all photographs were either open source or owned by the Interstate Stream Commission (ISC) to ensure there were no copyright issues. Edited multiple drafts of the full document and of individual sections as needed. Checked and embedded hundreds of active hyperlinks to agencies and programs related to water issues in the document. Designed the print version of the Plan to be produced in twin-wire binding. Produced printed proofs for the ISC scientists and board members to review. Edited as final and produced final copies of the Plan to be distributed around the state to water policy decision-makers. In addition, worked with the OSE webmaster to produce an interactive online version of the Plan, which was released in 2019.

Years of Experience: 16

Office Location: Albuquerque, NM

Education:

- MA, 2003, Secondary English University of Maine, Orono
- BA, 2002, English Technical Writing and Rhetoric, University of Maine, Orono

Professional History:

2015 – Present	Senior Technical Editor/ ABQ Office Manager– INTERA Incorporated, Albuquerque, NM
2014 – 2015	Chair of the English Department/Senior English Instructor – Valencia High School, Los Lunas, NM
2013 – 2014	Student Support Specialist– Community College of Allegheny County, Pittsburgh, PA
2011 – 2013	Business Writer/Office Manager – Sprint/Seacoast Cellular, North Hampton, HM
2013	Project Coordinator of Perkins Gender Equity in Math Study– Maine Community College System
2010 – 2013	Assistant to the Director of the Learning Center/Instructor of English and Business Writing – York County Community College, York, ME
2006 – 2010	Media Development/Business Writer/Innkeeper – 2cats Restaurant and Inn, Bar Harbor, ME
2003 - 2010	Instructor of English and Communication – University of Maine, Bangor Campus, Bangor, Maine

Specialized Training & Software:

- Microsoft Office: Word, PowerPoint, Project, Excel, Publisher, OneDrive, SharePoint
- Visual Basic for Applications: macro design tools
- Prezi: Dynamic, zooming presentations
- Adobe editing software: Acrobat, Photoshop and Premier
- HTML-based and WYSIWYG web design tools

Water 2120: Securing Our Water Future, Water Resources Management Strategy Report. Albuquerque Bernalillo County Water Utility Authority. 2015-2016. *Senior Technical Editor, Project Coordination, and Production.* Provided support for the development of the Water Authority's Water 2120 100-year water plan. Water 2120 articulates all aspects of the Water Authority's water planning for the next 100 years, including surface- and groundwater management, as well as potential new supplies. Project roles included author coordination, draft management, and senior technical editing. Designed and developed several supporting documents for ABCWUA's template. Provided technical editing for multiple drafts of each chapter. In addition, prepared versions for public comment and final print and web distribution.

Northeast Church Rock Mine Site and United Nuclear Corporation Mill Site (Superfund National Priority List Site) Environmental Data Gap Report and subsequent Environmental Report. General Electric. Church Rock, New Mexico. 2016-2018. *Senior Technical Editor, Graphics Support, and Project Coordination.* Identified by the US EPA Region 9 and the Navajo Nation EPA as the highest priority cleanup of more than 500 abandoned uranium mines on the Navajo Nation, the selected cleanup remedy. Specific project tasks included preparation of templates to distribute to subcontracted SMEs before writing, along with a guide for using the template. For efficiency, sub-headings were developed in advance based on research and planning. Coordinated with authors to collect drafts under deadlines, compile, and seek any information deemed missing compared to NUREG documents. Prepared and compiled all tables, figures, graphics, and electronic-data deliverables as required by the EPA. Conducted senior technical editing of all drafts and final preparation of drafts to be uploaded to the designated SharePoint space as well as organized SharePoint space as needed to accommodate new drafts or data.

Lisbon Site Hydrogeologic Supplemental Site Assessment. Rio Algom Mining, LLC. Lisbon, Utah. 2018. *Senior Technical Editor and Project Coordination.* Supported the development of the HSSA report for the former uranium mill facility. Specific tasks and responsibilities included designing templates for the main document and the multiple appendices and sub-documents, coordinating with all authors working in various file types and file versions to make the final product. Organized and embedded all figures, tables, and other graphics as well as organized and edited large photograph logs from different field events into matrices which could be updated easily. Prepared petrography reports and INTERA's comments on each report for polished presentations. Edited the document between several rounds of senior review and third-party review. Verified all references and abbreviations. Produced the final document for print and electronic distribution.

US Navy Red Hill Bulk Fuel Storage Facility Tank Upgrade Alternative—Hawaii Board of Water Supply Response Document. Hawaii Board of Water Supply. Oahu, Hawaii. 2019. *Senior Technical Editor.* Supporting the Board of Water Supply in compiling responses from all SMEs for all AOC SOW sections into a complete deliverable (200+ pages with nearly 100 figures and tables). The process relies on hundreds of historic and recent documents. Provided complete technical document reviews as well as short informational documents for the client. Project responsibilities included combining all text, tables, and other graphics while adding text to connect sections and describe purpose. Managed and embedded all tables and other graphics. In addition, managed consistent presentation of complex quote/response styles and resolution of many ambiguous or redundant references.



Joan Blainey, PhD, PG Technical Support Resource

Joan Blainey has 21 years of experience in developing and applying groundwater flow and water availability models at both regional and local scales. Her modeling expertise is applied to water resources management, where she uses these tools to evaluate the impacts of future groundwater pumping, locate and design water supply wells, estimate spatially distributed precipitation to assess variations in climate, and quantify recharge and runoff potential in arid and semi-arid basins. For state, regional, and municipal water management agencies and river authorities, Dr. Blainey contributes to projects involving evaluations of brackish groundwater as an alternative water source, the protection of water supplies from seawater intrusion and other types of potential contamination, and the transfer of water rights. In completing this work, she brings expertise with a wide variety of groundwater flow and transport codes, geostatistical and mathematical software, programming languages, optimization codes, and geographic information system (GIS) software. She has specialized expertise in development and application of statistical models including artificial neural networks (ANNs), kriging, Markov chain Monte Carlo (MCMC) methods, and stochastic simulation (e.g., sequential Gaussian simulation).

Select Project Experience

Development of A Groundwater Flow Model of the East and South Las Posas Valley Basins, Calleguas Municipal Water District, Ventura County, CA, 2016 - Present. *Water Budget Technical Lead and Modeler.* Ongoing work developing a conceptual model, water budget, and a groundwater flow model to support the development of long-term operational planning of the Las Posas Valley Basin Aquifer Storage and Recovery (ASR) project. Preliminary water budget is complete, groundwater flow model is calibrated, and draft report will undergo review by a technical advisory group.

Water Supply Evaluation for Swarthout Valley, Golden State Water Company, San Bernardino County, CA. 2014 – 2015. *Senior Hydrogeologist.* Developed a conceptual hydrogeologic model for a small, shallow alluvial groundwater system located along the San Andreas Fault zone. Devised a transient monthly water budget for the past 15 years that included recharge, and calculated basin yield to evaluate water supply conditions and the reliability of meeting water demands. Analyzed the water budget to predict scenarios with consecutive years of below average precipitation that could result in insufficient water supply to meet system demands, historically preceded events. Primary author of report documenting the work.

Modeling of Seawater Intrusion Barrier for Protecting Groundwater Resources, West Basin Municipal Water District, Southern CA. 2015. *Senior Hydrogeologist.* Providing annual regulatory reporting materials to the District based on groundwater flow and transport modeling for the West Coast Basin seawater intrusion barrier using recycled water for injection. The reporting materials are used by the District to meet the annual metrics of the recycled-water injection permit granted by the Los Angeles Regional Water Quality Control Board. Responsible for calculating travel times and concentrations of the

Years of Experience: 21

Office Location: Austin, TX

Education:

- PhD, 2008, Hydrology and Water Resources, The University of Arizona
- MS, 2000, Hydrology and Water Resources, The University of Arizona
- BS, 1997, Mathematics, University of Washington

Professional Registrations/Affiliations:

- Professional Geologist, California, 2019, No. 9677
- Professional Geoscientist, Texas, 2012, No. 11191
- Member, National Ground Water Association

Professional History:

2018 – Present	Group Manager, Senior Hydrogeologist – INTERA Inc., Austin, TX
2012 – 2017	Senior Hydrogeologist – INTERA Inc., Austin, TX
2008 – 2012	Hydrogeologist – INTERA Inc., Austin, TX
2005 – 2008	Research Assistant – The University of Arizona, Tucson, AZ
2002 – 2008	Hydrologist – U.S. Geological Survey and contractors, Tucson, AZ
2000 – 2002	Hydrologist – Contractor for U.S. Geological Survey, Sacramento, CA
1997 – 2000	Research Assistant – The University of Arizona, Tucson, AZ

Software & Specialized Training:

- Surface Water: CE-Qual-W2, HEC-RAS
- Groundwater & Transport: FEHM, HYDRUS, MODFLOW, MODFLOW-SURFACT, MT3DMS, MODPATH, PEST, PHREEQC, PLUMECALC, STOMP, UCODE, Groundwater Vistas, FloPy
- Statistical, Geospatial, & More: S-PLUS, R, MATLAB, ArcMap, Python, Leapfrog Geo
- Estimating Groundwater Recharge, National Ground Water Association, 2015
- Advanced PEST Training, 2012
- FEHM Training, 2010

recycled water injected at the barrier as it moved inland towards water supply wells, documenting the work, and interfacing with the District to convey and interpret the modeling results and assumptions.

Hydrogeological Assessment for Groundwater Well Options for the City of Wharton Texas, Halff Associates Inc., Wharton County, TX, 2016. *Groundwater Modeler.* Conducted simulation of groundwater flow to estimate drawdown and land subsidence impacts from increased pumping to meet future water supply demands. Simulations considered two sources of water supply: groundwater from proposed new wells and injection of treated wastewater effluent as part of Aquifer Storage and Recovery. Results of the groundwater modeling study were included as part of a feasibility analysis for the cities of Wharton and East Bernard, Texas that was funded by a Texas Water Development Board Regional Facilities Planning Grant.

Support for Municipal Well Location and Permitting, City of Ada, Ada, OK. 2014. *Modeler.* The City of Ada has assessed development of additional groundwater resources in the Arbuckle Simpson Aquifer (ASA). Currently, the City of Ada supplies groundwater from Byrd's Mill Spring, which is fed from the ASA, and from three wells also completed in the ASA. An objective of potential groundwater development is to minimize the impacts of the new wells on flow to Byrd's Mill Spring. Assisted in a hydrogeology assessment and groundwater modeling to aid the city in identifying new locations that met their objectives as well as complied with state rules for groundwater wells in the ASA. Also supplied calculations to update an existing groundwater model of the ASA by extending the model simulation period 8 years and creating spatial refinement in the study region. The updated model will be used to help assess potential impacts of groundwater pumping on existing groundwater discharge features.

Hydrologic Analyses in Support of a Water Rights Transfer, Confidential Federal Client, NM. 2013 – 2016. *Hydrologist.* Part of a team that performed hydrologic analyses in support of a water rights transfer on a major river in New Mexico. Analyses included determination of accretion rate to river due to cessation of pumping upstream, estimate of potential losses between the move-from to the move-to locations, and estimates of change in groundwater storage due to diversion through horizontal collector wells or infiltration galleries. Primary role was performing comparisons between the Glover-Balmer estimate of accretion rate due to pumping cessation and an analytic element method of performing the same estimate. Supported estimates of the seepage losses occurring between the move-from and move-to locations by analyzing differential stream gage data. Primary author of report documenting the work.

Groundwater Modeling of the Death Valley Regional Flow System, U.S. Geological Survey, U.S. Department of Energy, and Various Government Agencies, CA and NV. 2002 – 2004. *Modeler.* Supported development of a comprehensive three-dimensional hydrogeologic framework and groundwater flow model of the Death Valley region. This flow system is one of the larger flow systems within the southwestern U.S. and includes within its boundaries the U.S. Department of Energy's Nevada National Security Site (NNSS) (formerly the Nevada Test Site) and proposed site for the Yucca Mountain high-level radioactive waste repository, and much of Death Valley. Since 2004, the model has been modified and updated and is currently used to help define boundary conditions and fluxes for groundwater and transport models developed to support environmental restoration activities at the NNSS. In support of the 2004 version of the model, responsible for calibrating the steady-state and transient groundwater model to describe flow-paths and the magnitude of flow in the regional groundwater system. The groundwater model was subsequently used to define boundaries of the subregional and local flow system; characterize regional three-dimensional groundwater flow paths; define locations of regional groundwater discharges; estimate magnitudes and rates of regional subsurface flux; and evaluate potential and existing anthropogenic effects on groundwater flow.

Technical Review of Brazos River Authority Water Availability Modeling and Water-Management Plan for Pending Permit 5851, Possum Kingdom Lake Association, Grafard, TX. 2013. *Modeler.* Reviewed water availability modeling (WAM) and water-management plan (WMP) documents submitted to the Texas Commission on Environmental Quality in support of the Brazos River Authority's (BRA) pending water right permit 5851. Worked with the lead technical engineer to verify modeling interpretations made by BRA and concluded that the Brazos Basin WAM model does suggest sufficient water is available to meet the current permitted and pending permitted water needs in the Brazos Basin.



Erick Fox Technical Support Resource

Erick Fox brings experience in ArcGIS and QGIS software packages, geodatabase design, AutoCAD-to-GIS integration, SQL, hard copy and web mapping, remote sensing and spatial analysis, GPS fundamentals and field data collection, Python scripting, ENVI software, and Carto and Mapbox web mapping platforms. He has successfully implemented GIS

principles to design, create, and manage geodatabases for more than a dozen water and sewer authorities.

Select Project Experience

Water Infrastructure Model Development, Inland Empire Utilities Agency, CA. 2018. *GIS Analyst.* Incorporated water utility infrastructure data from more than a dozen agencies into a coherent ESRI geodatabase structured on the Local Government Model. The database is the input for an EPANet model of the entire connected system to understand and improve the resilience of the system under a variety of service disruption scenarios.

Commercial Water Use Reporting, New Mexico Office of the State Engineer, NM. 2017. *GIS Analyst.* Compiled a database of metered water use for publication in a State report. Imported database tables into an ESRI geodatabase for geographic organization by county and groundwater basin. This project also included logical consistency analysis between component data sources, and the systematic application of water use rates based on assignment of a facility type to each water user. The facility type analysis resulted in a framework for NM OSE to assign reasonable water use estimations as needed based on available values for actual water use and which will be repeatable in subsequent reporting years.

Integration and Launch of a Geographic Information System, Bankson Engineers, Inc., Pittsburgh, PA. 2015 -- 2016. *GIS Analyst.* Inaugurated the widespread use of GIS by the firm, increasing revenue by providing additional services to new and existing clients. Designed, created, and managed geodatabases for more than a dozen water and sewer authorities in western Pennsylvania. Created valuable online and hard copy mapping products using CAD, GIS, field survey, and tabular data sources both for internal reference by the firm's civil engineers as well as for deliverable products to clients.

Ambrosia Lake Groundwater Model Report, Rio Algom Mining, NM. 2017-2018. *GIS Analyst.* Visually characterized the groundwater model by creating dozens of figures including geologic cross sections and constituent concentration contours. Integrated data from MODFLOW, groundwater monitoring wells, bore log reports, and geologic maps to clearly communicate the status and parameters of the groundwater model.

Land Use Analysis, Confidential Client, 2017-2018. *GIS Analyst.* Filled a crucial gap in the knowledge of land use in the area by categorizing approximately 250,000 acres of land by interpretation of historic black and white aerial orthophotography and cross-referencing with contemporary maps and tables. Created and managed a topologically correct geodatabase of land use polygons.

San Mateo Creek Alluvial Pathway Model, Rio Algom Mining, NM. 2018. *GIS Analyst.* Create subsurface elevation rasters from groundwater well data using ArcGIS Spatial Analyst for use in a MODFLOW groundwater model. Automate model grid flow path ordering using a Python script and ArcGIS Model Builder.

Years of Experience: 4

Office Location: Albuquerque, NM

Education:

- MS, 2016, Geographic Information Systems and Remote Sensing, University of Pittsburgh
- BA, 2004, Urban Studies, University of Pittsburgh

Professional Registrations/ Affiliations:

- FAA Part 107 Licensed sUAS Pilot, 2018, Certificate Number 4092569
- Member New Mexico Geographic Information Council (NMGIC)

Professional History:

2017 – Present	GIS Analyst – INTERA, Inc, Albuquerque, NM
2015 – 2016	GIS Analyst – Bankson Engineers, Pittsburgh, PA
2015 – 2016	Instructor – University of Pittsburgh, Pittsburgh, PA

Specialized Training & Software:

- ArcGIS Pro, ArcMap, QGIS
- 3D Analyst
- Spatial Analyst
- FAA Part 107 training and certification
- SQL, Python
- ENVI, Carto, Mapbox



Jevon Harding, PG Technical Support Resource

Jevon Harding has ten years of research and applied experience in the areas of quantitative hydrogeology, geographic information systems (GIS), data management and numerical modeling. In support of water resource evaluations and management, she has performed analyses to quantify hydrologic and hydrogeologic processes and properties; applied GIS to manage, analyze, and map data; developed and applied numerical models; and designed and implemented field data collection programs. Ms. Harding has contributed to projects for state, regional, and local water authorities, as well as commercial industry, including the development of groundwater availability models (GAMs) of aquifer systems to support long-term water planning, the use of models to evaluate seawater intrusion and its impacts on water supply systems, the assessment of impacts to watersheds from climate change, and the design of rainwater harvesting systems to reduce water usage. Her experience also includes coordinating and presenting workshops and establishing other community outreach efforts to communicate technical and scientific information on topics such as water use and conservation.

Select Project Experience

Development of a Groundwater Flow Model of the East and South Las Posas Basins, Calleguas Municipal Water District, CA. 2016 – Present. Hydrogeologist.

Member of a team developing a groundwater flow model of the East and South Las Posas Basins in southern California. The model will be used to predict the impact of Calleguas' Las Posas Basin Aquifer Storage and Recovery (ASR) Project on water levels and groundwater flow within the basins. The model is also meant to support groundwater management planning by the Fox Canyon Groundwater Management Agency (FCGMA) and its stakeholders, as well as complement groundwater models in adjacent basins. Responsibilities include creating raster surfaces for the geologic formations represented in the model, compiling and analyzing data on water levels, stream flows, and aquifer properties, creating maps of the study area.

Seawater Intrusion Barrier Modeling, Dominguez Gap and Alamitos Seawater Barrier, Southern California Water Replenishment, CA. 2012 – 2017. Hydrogeologist. The Water Replenishment District of Southern California (WRD) runs the Harbor/Dominguez Gap project to provide advanced treatment of municipal wastewater that can be recycled as input water to the Dominguez Gap Barrier. This network of seawater barrier wells owned and operated by the Los Angeles County Department of Public Works (LACDPW) helps stop saltwater encroachment into the inland aquifer. As part of the permitting process for using recycled wastewater, groundwater monitoring is required to observe water quality conditions and to anticipate potential problems before recycled water travels to downgradient drinking water wells. Each year, the Dominguez Gap Barrier Model (DGBM) is updated using the past year's injection and production data in order to determine recycled water fate and transport for permit compliance. Responsibilities included updating model inputs to include most recent pumping data, recreating boundary conditions based on monitoring wells' behavior and the past year's injection rates for the barrier wells using Python and ArcGIS scripts, and creating final model inputs to be used in the DGBM. The annual update of this model allows the WRD to remain in compliance with permit requirements, thus allowing the continuous uninterrupted injection of the recycled wastewater barrier that protects and preserves the fresh groundwater supplies within WRD's service area.

Technical Support for Water Planning, Post Oak Savannah Groundwater Conservation District, Milano, TX. 2015 – Present.

Hydrogeologist. Assisting with hydrogeological support for the Post Oak Savannah Groundwater Conservation District (POSGCD). The POSGCD was established in 2002 and provides for the conservation, preservation, protection, recharging, and prevention of waste of groundwater and the protection of groundwater users in Milam and Burleson counties, Texas.

Years of Experience: 10

Office Location: Austin, TX

Education:

- MS, 2012, Hydrology, New Mexico Institute of Mining & Technology
- BA, 2007, Geosciences, Princeton University

Professional Registrations/Affiliations:

- Professional Geoscientist, Texas, 2015, No. 12050

Professional History:

2012 – Present	Staff Hydrogeologist – INTERA Inc., Austin, TX
2009 – 2012	Research & Teaching Assistant – New Mexico Institute of Mining & Technology, Socorro, NM
2007 – 2009	Research Associate – The Energy and Resources Institute (TERI), Water Resources Division, New Delhi, India

Specialized Training & Software:

- Esri ArcGIS, Python (ArcPy, NumPy, Matplotlib), TTim, LeapFrog, MODFLOW (Groundwater Vistas), PEST
- CTEMPS Distributed Temperature Sensing training, 2009

Responsibilities include providing guidance for district groundwater monitoring efforts by reviewing and compiling water levels, contributing geologic information and model results needed to craft Desired Future Conditions, and presenting to the Board and local stakeholders on various technical topics, as needed. POSGCD participates in joint planning efforts as a member of Groundwater Management Area 12, so responsibilities also include presenting to and coordinating with other districts within GMA 12 on behalf of POSGCD.

Well Interference Assessment and Modeling Analysis for New Proposed Well for Village of Gilberts, Lintech Engineering, Inc., Gilberts, IL. 2015. Groundwater Modeler. Served on team that developed a groundwater flow model to evaluate a proposed new well's long-term pumping rate and the impacts to other existing wells. The model provided a basis for comparing the suitability of several potential well sites for a public water supply production well in Gilberts, Illinois. Responsibilities in support of this project included using TTim software to create multiple potential pumping scenarios, modeling the resultant drawdown conditions, and creating maps and figures illustrating the results of the analyses.

Predictive Simulations to Support the GMA-8 Joint Planning Process, Red River Groundwater Conservation District, North Texas Groundwater Conservation District, Upper Trinity Groundwater Conservation District and Prairielands Groundwater Conservation District, TX. 2015. GIS Analyst/Hydrogeologist. Four predictive model simulations were developed based on the re-developed Northern Trinity and Woodbine Aquifer GAM on behalf of four GCDs in Northern Texas. Results of the model runs were presented in public meetings as well as provided as physical reports and maps to the GCD clients. Project responsibilities included creating county-level maps in ArcGIS to document the simulated results of each model run, calculating and plotting the predicted drawdown effects for each county, and compiling two final reports with each report documenting the modelling results from two model runs.

Public Water Supply Well Field Expansion, Valparaiso City Utility, Valparaiso, IN. 2014. Hydrogeologist. Supported the siting, drilling, and construction of a public water supply production well in Valparaiso, Indiana. Work included developing a groundwater flow model to predict the new well's long-term pumping rate and the impacts to other existing wells. Utilized TTim software to create multiple potential pumping scenarios and modeled the resultant drawdown conditions. Created maps illustrating the results of the analyses.

Development of a Groundwater Model for the Antlers Aquifer, Choctaw and Chickasaw Tribes, Southeastern OK. 2013. Hydrogeologist. INTERA prepared a groundwater model of the Antlers Aquifer for the Choctaw and Chickasaw Tribes of Oklahoma that can provide a basis for future groundwater management in the region. In support of developing this aquifer model, responsibilities included collecting available hydrologic data and locating historical reports from state and federal government agencies; creating maps of physiography, climate, geology, surface hydrology, hydraulic properties, water quality, and structure; developing pumping distributions for the region; preparing maps to visualize this data; using parameter estimation software to determine the model's sensitivity to input parameters; and documenting the conceptual model in a detailed report.

Development of a Groundwater Availability Model (GAM) of the Brazos River Alluvium Aquifer, Texas Water Development Board, TX. 2014 – 2016. Hydrogeologist. As part of the state-wide TWDB groundwater availability modeling (GAM) program, was a member of the team that developed the groundwater availability model of the Brazos River Alluvium Aquifer (BRAA). Conducted research to help characterize the surface water-groundwater interaction, as well as the interaction between the BRAA and underlying aquifers by analyzing groundwater level and quality data, estimating hydraulic properties based on available field measurements, and performing hydrograph separation analyses. The groundwater model constructed as part of this research provides a tool that will help assess these analyses and evaluate various water management scenarios and their impacts on the BRAA and the Brazos River. Responsibilities included preparing a GIS geodatabase and creating maps of physiography, climate, geology, surface hydrology, hydraulic properties, and water quality; conducting a literature review of historical references to collect all relevant information on water chemistry, hydraulic properties and groundwater-surface water interaction; developing spatial coverages of recharge and hydraulic properties; presenting the research to the Texas Water Development Board as well as local stakeholders; and documenting the conceptual model in a detailed report.



Patrick O'Connell Hydrogeologist

Patrick O'Connell is a hydrogeologist with experience in groundwater recharge, production, characterization, and remediation. His water resources work has recently focused on assessing spatial and temporal infiltration rate variability at recharge basins. Mr.

O'Connell developed a recharge basin monitoring program for the Orange County Water District in MATLAB, which utilized distributed temperature sensing (DTS) to calculate percolation rates throughout the basin floor, and in boreholes, to identify clogging, mounding and preferential flow paths. His experience also includes the siting, design, and construction oversight of groundwater production/ASR, monitoring, and remediation wells. Mr. O'Connell's field experience includes logging boreholes and providing oversight for the drilling, installation, and development of shallow and deep monitoring wells, as well as utilizing numerous drilling techniques including auger, rotary, and sonic methods. His project work has been focused in all phases of site characterization and remediation including optimizing well performance, design and implementation of aquifer testing, oversight of borehole and surface geophysical surveys and well rehabilitation surveys. He is also experienced in the design and installation of dual-phase extraction (DPE) wells and oversight of excavation (dig and haul) of contaminated soils for site remediation purposes. Mr. O'Connell is proficient in Python, ArcGIS, Surfer, MATLAB, LogPlot, and Groundwater Vistas.

Select Project Experience

Groundwater Flow Model of the East and South Las Posas Sub-Basins, Calleguas Municipal Water District, Thousand Oaks, CA. 2018. Project Hydrogeologist.

Assisted with predictive model simulations for four (4) climate scenarios with variable pumping scenarios and sensitivity analysis of model parameters. Developed Python scripts for generating transient, zone-specific RCH and EVT packages.

Long Range, Reservoir-Basin Conjunctive Use Pre-Feasibility Report, Kleinfelder/City of San Diego, San Diego, CA. 2018. Project Hydrogeologist. Compared technical memorandums prepared by separate consultants for projects with overlapping scopes of work and provided recommendations for the final report to ensure consistency.

Alamitos Model Extension, Orange County Water District, Orange County, CA. 2018. Project Hydrogeologist. Assisted with development of the extended seawater intrusion model. Generated transient CHD package using Python and Perl scripts.

Sand City Water Supply Project (SCWSP) Phase 1 New Wells, City of Sand City, Sand City, CA. 2018. Project Hydrogeologist. Prepared driller bid specifications and aquifer testing work plan for brackish water production wells.

Test Drilling, Glenn-Colusa Irrigation District, CA. 2014. Project Hydrogeologist. Logged direct rotary drill cuttings, interpreted borehole geophysical (resistivity suite, gamma, spontaneous potential) logs, prepared lithological logs and helped prepare preliminary well design diagrams for five 550-foot deep test holes.

Groundwater Flow Modeling, Confidential Client, Whittier, CA. 2018. Project Hydrogeologist. Prepared water level data for the development of a groundwater flow model to be used for capture zone analysis and design of an extraction system.

Caltech Submillimeter Observatory (CSO) Decommissioning, California Institute of Technology, Hawai'i, HI. 2018. Project Hydrogeologist. Prepared a hydrogeological evaluation of potential impacts to groundwater and surface water habitats from leachate discharge at the summit of Maunakea. Simulated vadose zone transport using VS2DI.

Years of Experience: 6

Office Location: Los Angeles, CA

Education:

- MS, 2018, Geology, California State University, Long Beach
- BS, 2012, Earth Science, University of California, Santa Cruz

Professional Registrations/Affiliations:

- Geologist-in-Training (CA)
- Member, Groundwater Resources Association of California
- Member, National Ground Water Association
- Member, Groundwater Relief

Professional History:

2018-Present	Hydrogeologist – INTERA, Inc., Los Angeles, CA
2016 – 2018	Graduate Research Assistant – California State University, Long Beach, CA
2014 – 2016	Hydrogeologist – West Yost Associates, Walnut Creek, CA
2012 – 2014	Staff Environmental Geologist – GHD, Emeryville, CA

Specialized Training & Software:

- 40-Hour HAZWOPER, 10-Hour OSHA
- ArcGIS, Aqtesolv, AquiferWin32, Geochemist's Workbench, gINT, Groundwater Vistas, Leapfrog, LogPlot, MATLAB, Python, SQL

ASR Feasibility and Monitoring Well Program, City of Yuba, CA. 2015. *Project Hydrogeologist.* Oversaw construction and development of three (3) nested monitoring wells, installed to determine ambient groundwater gradients in different aquifer zones. Two (2) wells were logged and drilled using directory mud rotary while the other was done with sonic coring. Lithological and geophysical logging/interpretation and well design support.

PCE/TCE Site Characterization and Remediation, AGI-Acquisition, Inc., Ontario, CA. 2014 – 2016 *Project Hydrogeologist.* Assisted with preparation of site characterization and remediation report by incorporating regional hydrogeological information for the Chino Basin into text, created cross-sections, tables and figures. Helped prepare the soil vapor characterization and remediation and indoor-air assessment work plans. Site investigation work included logging three (3) 360-foot deep sonic boreholes to refine the site conceptual model and install nested soil-vapor monitoring probes, and installation oversight of six (6) new soil-vapor extraction (SVE) wells to improve soil vapor remediation performance. Sampled soil vapor monitoring probes and prepared quarterly soil vapor and groundwater monitoring reports.

Volta Wells Assessment – Radius of Influence Determination, US Bureau of Reclamation, Central Valley, CA. 2015. *Project Hydrogeologist.* Determined the 1-year radius of influence incurred by two (2) pumping wells full-screened through a confined aquifer, using the distance-drawdown method from the Cooper and Jacob (1946) solution, implemented in AquiferWin32. Aquifer parameters were determined in a previous study and used along with one (1) monitoring well and one of the pumping wells (when not pumping) to determine drawdown. The confined aquifer was determined nonleaky based on shallow monitoring well data.

Fractured Rock Well Siting, Shaver springs, Country of Fresno, CA. 2015 – 2016. *Project Hydrogeologist.* Interpreted existing well production data, geological maps and resistivity fence diagrams produced by a Zonge International controlled-source audio-frequency magnetotellurics (CSAMT) survey, to determine the most probable/productive fracture zone to site to a new water supply well. Compiled data in ArcGIS for visualization and helped Zonge with CSAMT data collection during the 1-week survey.

Westbrook Aquifer-Storage and Recovery (ASR) Well Design, Westpark Developments Inc., City of Roseville, CA. 2015 – 2016. *Project Hydrogeologist.* A 520-foot deep ASR well and nested monitoring well were drilled with reverse-circulation mud rotary and built and determined to have >20 gpm/foot specific capacity. Lithological and geophysical logging/interpretation and well design support.

Production Well Design, First Solar, Desert Stateline and Silver State South Projects, CA and AZ. 2014 – 2016. *Project Hydrogeologist.* Helped design, oversee construction/development and monitor water quality of three (3) >500-foot deep production wells and one (1) 420-foot deep monitoring well, drilled with reverse-circulation mud rotary. Lithological and geophysical logging/interpretation and well design support. Water quality was monitored to evaluate potential aquifer degradation as result of potential migration of brackish water beneath nearby playa lake.

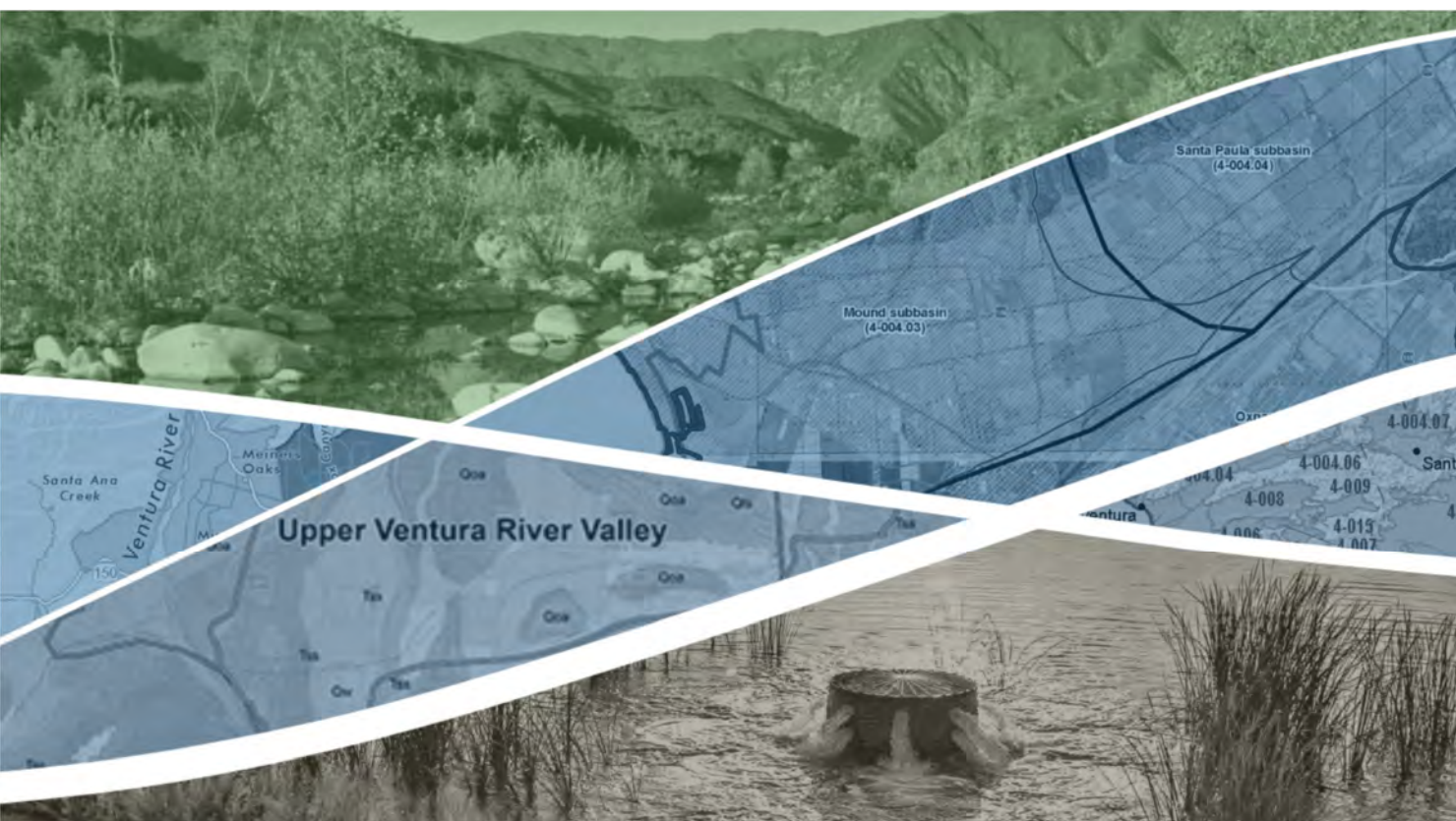
Washington Park Well Rehabilitation, City of Burlingame, CA. 2015. *Project Hydrogeologist.* Implemented a mechanical, chemical and redevelopment treatment program to rehabilitate the well. Troubleshooted concerns about sand production by identifying the well had no bottom cap, initially thought to be due to incorrect screen slot sizing choice.

Report of Waste Discharge for Wastewater Treatment Facilities, Cities of Galt, Lodi, Modesto and the East Bay Municipal Utility District, CA. 2015 – 2016. *Project Hydrogeologist.* Managed water quality Excel databases using a variety of INDEX/MATCH functions and links. Performed hypothesis testing of trends of constituents of concern in on-site monitoring wells versus background wells, using nonparametric statistical analyses (i.e., Mann-Whitney and Wilcoxon-Rank-Sum in XLSTAT in Excel).

Nitrate Contamination Investigation, City of Atwater, CA. 2015 – 2016. *Project Hydrogeologist.* Assisted with development of and implemented a monitoring well installation work plan to investigate potential nitrate contamination of the shallow aquifer beneath an inactive biosolids disposal site. Analyzed and visualized nitrate soil profile data. Conducted a sensitive receptor survey by filtering through several hundred California Department of Water Resources (DWR) well logs and verifying the status of wells proximal to the site. Researched background nitrate levels in the aquifer and potential sources.

STATEMENT OF QUALIFICATIONS

4 - PROJECT EXPERIENCE



4 – PROJECT EXPERIENCE

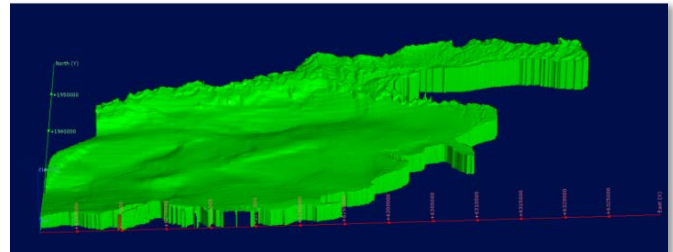
Representative examples of INTERA’s project experience, relevant to providing support for developing GSPs, are provided below. To ensure that the experience and lessons learned from these projects are successfully transferred to our work for UVRGA and MBGSA, members of our proposed project team have participated on all of these projects.

■ Development of a Groundwater Flow Model of the East and South Las Posas Basins, Thousand Oaks, CA

Client: Calleguas Municipal Water District

Proposed Staff Who Worked on Project:

David Jordan; Abhishek Singh; Raghu Suribhatla; Joan Blainey; Jevon Harding



INTERA worked with Bryan Bondy, Calleguas Municipal Water District’s contract hydrogeologist, to successfully understand basin hydrogeology, develop a numerical groundwater flow model, and work with the FCGMA (the local GSA) their Technical Advisory Group (TAG), and their GSP consultant to support the GSP development process. Other objectives of the project included using the numerical model to evaluate potential aquifer storage and recovery (ASR) management alternatives, as well as to understand the interaction between surface-water flows and the groundwater system.

The basins are characterized by complex hydrostratigraphy (faulting and folding) and dynamic interactions with surface water flows in the Arroyo Las Posas. Discharge of treated wastewater effluent to Arroyo Las Posas has resulted in a transition to perennial flow from historical conditions where surface water flows only occurred in Arroyo Las Posas during large precipitation events. Through close coordination with Mr. Bondy, INTERA developed a detailed numerical representation of the Arroyo, capturing the highly dynamic flow, width, and stage relationships characteristic of different reaches along the Arroyo. Data from aerial surveys, streamflow gages, shallow groundwater wells, and dry-weather flow studies was integrated into the surface-water/groundwater modeling framework. The model was used to assess historical and future water budgets (incorporating the impact of climate change using SGMA guidelines and data sets) and assess various project and management actions for the GSP preparation.

Throughout the project INTERA worked with Bondy Groundwater in an efficient and cost-effective manner to achieve the project goals. This was accomplished via regular communication through weekly conference calls, technical memoranda, and presentations to stakeholders. INTERA completed the work on time and under budget by regularly communicating with Bryan Bondy. We have an extensive and successful track record of this and can do the same for your project. We also collaborated successfully with numerous other Basin parties such as the FCGMA, their TAG, and their GSP consultant, on what will likely be one of the first GSPs developed in the State of California under SGMA. We have a successful track record of working with your GSP Plan Manager (PM).

■ Development of a Long-term Water Supply Plan, Albuquerque, NM

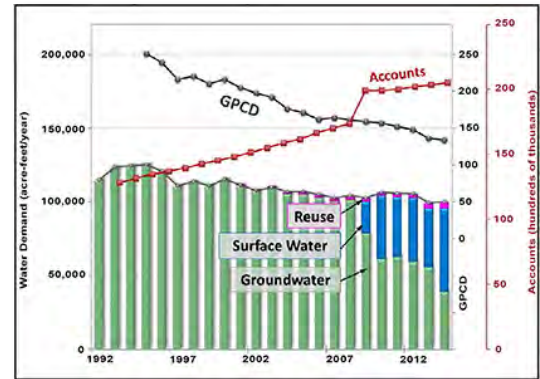
Client: Albuquerque Bernalillo County Water Utility Authority

Proposed Staff Who Worked on Project:

David Jordan; Abhishek Singh; Raghu Suribhatla; Joanna Stakutis; Erik Anderson

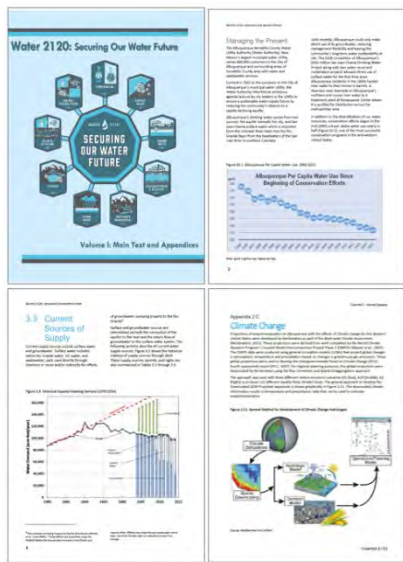
INTERA’s role as the prime contractor and overall project manager for developing a water plan for the Albuquerque Bernalillo County Water Utility Authority (Water Authority) has resulted in a plan that was not only approved unanimously by the Water Authority’s Governing Board, but one that puts the agency at the forefront

of water planning in the U.S. Water 2120 (the Plan) was the result of a two-year effort involving Water Authority staff and multiple consultants. Development of the Plan included interaction with the Water Authority's Technical Customer Advisory Committee (TCAC) and their Governing Board. In addition, the Plan was enhanced through an exhaustive public outreach program that included community conversations, a Town Hall meeting, and multiple presentations to federal and state stakeholders such as Bureau of Reclamation, the Corps of Engineers, U.S. Fish & Wildlife, the New Mexico Interstate Stream Commission, and many others. The Plan was also endorsed by the Nature Conservancy and local economic development organizations such as the Albuquerque Chamber of Commerce and the New Mexico Homebuilder's Association.



Water 2120 looks at the current water situation in Albuquerque and projects the community's needs based on various scenarios of climate variability and population growth. The Plan builds on the Water Authority's past planning successes with conservation and the addition of surface water to the supply portfolio, both of which have allowed significant recovery of the aquifer that was previously the sole source of supply. The Plan is based on making prudent future investments in conservation, ASR, stormwater capture, watershed restoration, and wastewater reuse. In so doing, it provides for a sustainable and resilient water supply in the face of an uncertain future, while assuring groundwater sustainability. INTERA also assisted with document management and

technical editing of the various parts of the Plan over the course of the Water 2120 project. We hosted and mediated many of the TCAC meetings and catalogued all the detailed input gained from this input process. From December 2015 to May 2016, TCAC members received early drafts of the Plan chapters and provided thousands of written comments. INTERA processed and organized all these draft comments and the status of being addressed, considered, or not addressed, and any related explanation provided by Subject Matter Expert (SME) authors.



INTERA worked closely with Water Authority SMEs to be certain all edits were approved by the Water Authority. Since the document chapters and ancillary parts such as appendices were each so large and detailed, many different files needed to be managed during development. Later in the project, INTERA became the gatekeeper of all drafts to avoid version confusion. As the drafts progressed, INTERA kept logs of different versions of each chapter or appendix and who was in possession of each draft at the time. When concurrent revisions occurred, INTERA ran comparisons of drafts to be sure all revisions were captured. INTERA provided Quality

Assurance support by checking data presented in the text and tables where needed. INTERA applied the template developed by the Water Authority and assisted with working out the inconsistencies in the template and the challenges of applying the template while including a wide variety of graphics.

As the Plan came together, INTERA developed the design of the exterior cover, prefacing materials, divider pages, and numerous attachments to use Water Authority logos and colors. INTERA was also contracted to produce the final pdf and print versions of the Plan. The final Plan and companion documents about the Water 2120 project are available at http://www.abcwua.org/Water_Resources_Management_Strategy.aspx

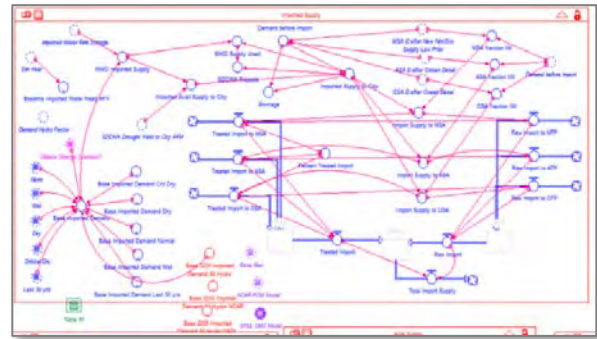
■ Conjunctive Use Feasibility Study, San Diego, CA

Client: City of San Diego

Proposed Staff Who Worked on Project:

Abhishek Singh; Raghu Suribhatla; Patrick O'Connell

INTERA developed a decision-support framework to support long range planning and feasibility study of conjunctive use projects in the El Monte and Moreno groundwater sub-basins within the San Diego River Basin. The basins are downstream from two large reservoirs – the El Capitan and San Vicente Reservoirs, respectively. For this project, INTERA was part of a multi-firm team of hydrogeologists and engineers, which included Mr. Bryan Bondy. INTERA worked closely with this team to develop a conceptual model of the sub-basins. Hydrologic records (precipitation and groundwater levels) as well as operational records from the reservoirs were used to develop analytical relationships for groundwater storage, natural recharge from the river, recharge from reservoir releases, and managed recharge/extraction capacities.



As part of this study several conjunctive use project alternatives have been identified, the team evaluated project costs and benefits, in terms of improvement in long-term water supply reliability. For this study INTERA updated and utilized a dynamic simulation model of the San Diego surface-water, groundwater, and conveyance systems. The model consists of analytical functions that relate inflows and outflows from different system components. The model facilitates the analysis of local and imported water supply storage and transfer between any of these storage facilities to minimize spills, evaporative losses, and maximize overall (including imported) water storage opportunities under multiple demand and supply scenarios. For this effort, INTERA also incorporated long term projections for (native and imported) water supplies as well as water demands under baseline and climate-change impacted conditions. INTERA served as the 'gate keeper' for the different technical components and collaborated and communicated with various team members (including Bondy Groundwater) and City Staff to develop a comprehensive report with the analysis and recommendations for future conjunctive use projects. The project was successfully completed in an expedited timeframe and within budget.

■ DST for Conjunctive Use Planning and Management Alternative Analysis, Rockland County, NY

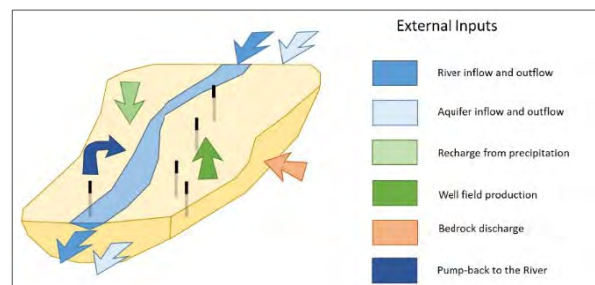
Client: Suez Water New York

Proposed Staff Who Worked on Project:

Abhishek Singh; Erik Anderson; Raghu Suribhatla

INTERA developed a model, analytic tools, and a decision support tool (DST) for Suez Water New York (SWNY) for their Ramapo Valley Well Field (RVWF) in Rockland County, NY.

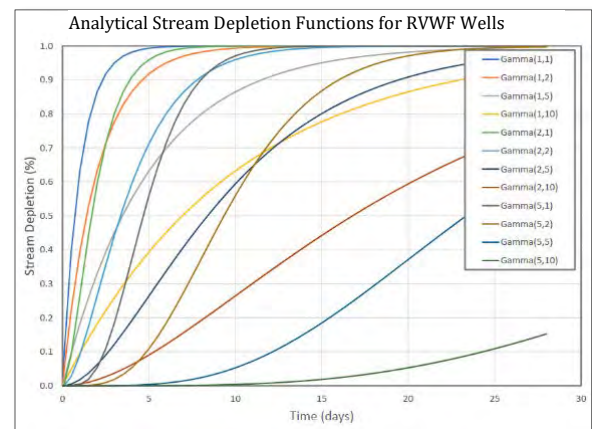
SWNY needed to evaluate the potential for producing additional groundwater supply from the Ramapo Aquifer, while minimizing impacts on surface-water flows to keep the Ramapo river flowing above permit limits.



As part of this project, INTERA conducted a thorough evaluation of the hydrological and hydrogeological capabilities of the Ramapo Aquifer and Ramapo River watershed. The main objective of the evaluation was to determine river/groundwater interaction under various pumping conditions at the RVWF and the effects of supplementing river flow from surface water sources on well field yield under various conditions (e.g., seasonal and drought scenarios).

One of the central questions about the river/aquifer system was the spatial distribution of streambed interactions. INTERA designed and implemented a monitoring and field-testing investigation that helped understand the interaction of the wells in the alluvial aquifer and the adjacent Ramapo River. The field data collection and testing included measurement of stream flows, stream-depletion rates, water levels, fluxes, stages, streambed hydraulic parameters and pumping rates. This data was used to develop a detailed three-dimensional surface-water/groundwater model of the Ramapo River watershed.

To support efficient evaluation of operational and hydrologic scenarios in the DST, INTERA developed analytical stream depletion functions to relate streamflow losses to pumping from each of the production wells. The analytical streamflow depletion functions were used to predict how stream flows may change and how the well operations impact the Ramapo River flows – especially under summer or drought conditions. The DST (with the imbedded streamflow depletion functions) was used to assess the yield from the RVWF well-field under various future scenarios, incorporating a range of hydrologic conditions and upstream surface water releases. This insight became the basis of recommendations for operating existing production wells and other assets while meeting the permit for withdrawal.



The new operations model provides operational guidance to stretch the supply during any set of conditions, all while meeting existing limitations. Model results were assembled to identify the best (most economical, most sustainable, lowest impact, etc.) approach to maximizing production and meeting the permitted minimum flow requirements. The DST, flow model, and analytical streamflow depletion functions provide guidance about the consequences of various pumping configurations, while meeting the regulatory flow, especially during extended drought.

■ Technical Editing and Document Management Support for the 2018 NM State Water Plan, Santa Fe, NM

Client: New Mexico Interstate Stream Commission

Proposed Staff Who Worked on Project: David Jordan; Joanna Stakutis

The New Mexico State Water Plan is released periodically, as mandated by the State Water Plan Act, NMSA §72-14-3.1. The State Water Plan is intended to provide valuable information to water policy decision-makers in the State, but also to all New Mexico water users. The proposed document was intended to include supply and demand calculations for the 16 water planning regions in the state, as well as listings of the most pressing water issues and proposed actions submitted by steering committees of the water planning regions. INTERA was selected to provide technical editing support and document management support to the development of this latest State Water Plan.

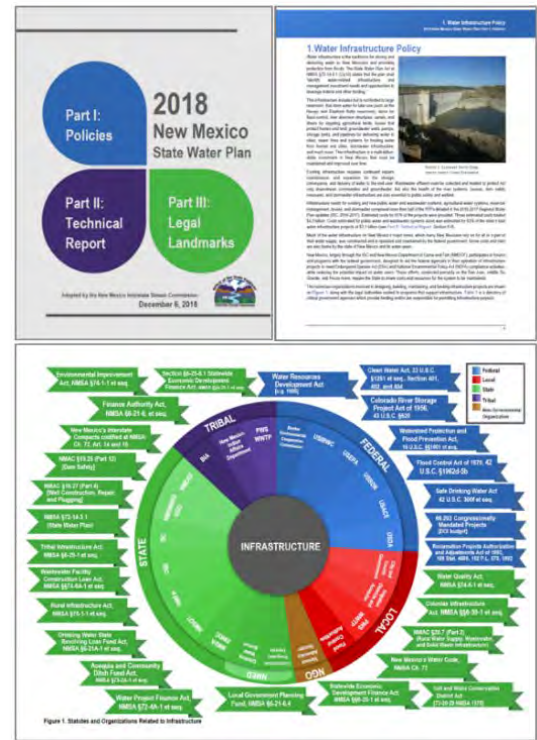
INTERA assisted in document management and editing of the Plan over the course of two years. The first year involved working with New Mexico Interstate Stream Commission (ISC) staff along with their subcontracted authors and project manager on the draft State Water Plan Technical Report (which eventually became Part II of the final plan) and the Town Hall Background Report, in preparation for a large town hall public input event. INTERA built and maintained the online project management space using Basecamp 3, for exchanging files, commenting on drafts, and collective revision. As team members were in multiple states, asynchronous project management tools were instrumental to the project's success. INTERA frequently met with ISC and subcontracted staff, at first to develop the layouts and templates for the main parts of the document as well as

supplemental figures and appendices. INTERA assisted in setting timelines and deadlines, building the vision of this Plan, and organizing the large amount of information into structures all readers could follow.

The State Water Plan Town Hall event was held in December 2017, where INTERA attended the event as a participant. Once the public input was processed, the scope expanded into a three-volume document. INTERA worked closely with the team to develop the complex figures wanted for Part I, as directed by the ISC to ensure the final products would be of the highest quality.

As the plan developed into three volumes, many redundancies needed to be eliminated and purposes of the sections needed to be made clear for readers. INTERA contributed several pieces of writing to the introductions and sentences throughout to help keep the big-picture perspective and make the document more accessible to public readers. INTERA was also contracted to manage final print production and electronic distribution of the 2018 New Mexico State Water Plan. To facilitate the process of final editing, INTERA sent printed proof copies to the technical team. Printed proofs were essential to creating the graphical layouts and setting up the multiple parts and sections as intended. The document was produced using twin-wire binding, which results in a very professional finish which is suitable for reference documents that will be frequently used. INTERA created the covers and section tabs of all three parts, as well as a 'master' cover. INTERA ensured all photos used were available under Creative Commons licensing or were owned by ISC. Any photographs used under Creative Commons were cited inside the cover or in captions as appropriate.

The final 2018 New Mexico State Water Plan was accepted by the Board of the ISC on December 6, 2018, with no revisions requested. Once the official version was accepted, INTERA produced the final print copies to be distributed around the State and collaborated with the ISC webmaster to provide online PDF versions and an online 'interactive' version in a web-based, linked environment. INTERA prepared the files as needed for the webmaster to be able to post this online version effectively. The PDF versions are available for download at http://www.ose.state.nm.us/Planning/state_plan.php, and the online interactive version is under construction, expected mid-2019.



STATEMENT OF QUALIFICATIONS

5 - PROJECT APPROACH



5 – PROJECT APPROACH

INTERA is committed to providing GSP development support to both the UVRGA and MBGSA to ensure that both GSPs are complete and approved by the respective GSAs by January 31, 2022. We will do so by working closely with and under the guidance and direction of the GSP PM, Mr. Bryan Bondy. In addition, INTERA will collaborate closely with other technical leads involved with the GSPs, including Kear Groundwater (for UVRGA) and UWCD (for MBGSA), to ensure that any technical and non-technical gaps are filled in a timely and budget-efficient manner, as the need arises. All INTERA's proposed personnel are fully committed to the success of this work and are available to assist with completing the GSPs in accordance with the statutory deadline.

Through weekly conference calls (or in-person meetings, as necessary) with the GSP PM (and other team members, as necessary) we will discuss upcoming project needs and report progress on on-going tasks. Through these discussions and our deep understanding of SGMA requirements, we will develop task-orders with clearly defined scope, schedule, and budget for various GSP development sub-tasks. Our approaches to the primary tasks required to develop the GSPs are provided below.

Task 1 – Literature Review

INTERA will review all relevant background material necessary to develop the GSP for each of the GSAs. Key references for the UVRGA include: Ventura River Watershed Management Plan (Ventura River Watershed Council, 2015); Sustainable Water Use in the Ventura River Watershed (Gardner et al., 2013); Groundwater Management Plan for the Upper and Lower Ventura River Basin (DBS&A, 2010); Ventura River Watershed Hydrology Model Report (Tetra Tech, 2009); and Surface-Water and Groundwater Interaction Report (Entrix, 2001), among others. Key references for the MBGSA include: Ventura Regional Groundwater Flow Model and Updated Hydrogeologic Conceptual Model (UWCD, 2018); Groundwater and Surface Water Conditions Report (UWCD, 2015); Hydrogeologic Assessment of the Mound Basin (UWCD, 2012); and Simulation of Groundwater/Surface Water Flow in the Santa Clara-Calleguas Basin (Hanson, 2003). In addition, we will review SGMA related documents for both GSAs such as the Sustainable Groundwater Planning (SGWP) Grant Application, Basin Boundary Modification Memorandum, and associated references for both GSAs. Note, that INTERA has already reviewed several of these documents as part of this proposal development. Finally, we will review reports/memoranda generated from on-going data-collection, monitoring, and modeling efforts for both basins.

Task 2 – GSP Documentation Support

Based on DWR guidelines, the GSPs will consist of the following chapters (with several sub-sections): Executive Summary; 1) Introduction; 2) Plan Area and Basin Setting; 3) Sustainable Management Criteria; 4) Project and Management Actions to Achieve Sustainability Goals; 5) Plan Implementation; 6) References and Technical Studies; and Appendices. Much of the information for the earlier chapters (1 and 2) already exists in various reports and documents. Under direction of the GSP PM, INTERA can populate the relevant sections with available information, while identifying gaps and inputs needed from the various contributors for both GSPs. Several team members will be contributing to the different GSP chapters. For the UVRGA, Kear Groundwater and Bondy Groundwater Consulting will be the main contributors. Similarly, UWCD and Bondy Groundwater will be the main contributors to the MBGA GSP. Lorraine Walter (who prepared the Ventura River Watershed Management Plan) may contribute to the background sections for the GSPs. INTERA will work closely with the GSP PM as well as the individual contributors to identify where and in what form input will be required from each person for different parts of the GSP. As necessary, INTERA can fill gaps, assist the contributors with their sections, and complete one or more of the GSP chapters.

In addition to GSP documentation, INTERA will assist with technical presentations for stakeholder and TAG meetings, developing slide content, figures, and maps, as needed.

Task 3 – Analytical Modeling

SGMA requires the GSP to quantify and manage pumping induced depletion of interconnected surface-water and associated impacts on beneficial use of surface water. An integrated surface-water groundwater model is still under development and will likely not be available for the UVRGA GSP. To meet SGMA requirements for the UVRGA GSP, INTERA proposes developing an analytical model to assess surface-water groundwater interactions and evaluate pumping impacts on the Upper Ventura River flows.

As depicted in **Figure 5-1**, flows in the Upper Ventura River are complex, with the northern portion of the River characterized as a ‘dry reach’ with intermittent flows (except during storm events) and the southern portion characterized as a ‘wet reach’ with perennial flows. The extent and timing of the dry and wet reaches are driven by surface flows, groundwater levels, and basin stratigraphy. **Figure 5-2** shows INTERA’s interpreted water levels on a cross-section of the Upper Ventura River. The stage in the river is co-dependent on the groundwater table and dry segments can vary dynamically based on surface flows and groundwater elevations. Standard analytical models such as Glover and Balmer (1954) or Jenkins (1968), which rely on a specified head or flux boundary are not applicable in this setting. The appropriate analytical model needs to be iterative, first assessing discharges from the river under given water level conditions and then adjusting the stream boundary (allowing it to go dry, if necessary) based on the availability of flows in the River. Such an iterative analytical model has been developed by Bruker and Haitjema (1996) and is part of the GFLOW of analytical modeling suite¹.

Moreover, GFLOW

also allows for changes in aquifer properties and stratigraphy, which are important in this basin setting. INTERA personnel have successfully used GFLOW and other analytical modeling tools on several projects involving dynamic interactions between surface and groundwater flows. We propose to develop a GFLOW model with the River and aquifer properties consistent with on-going numerical modeling efforts. Model parameters will be

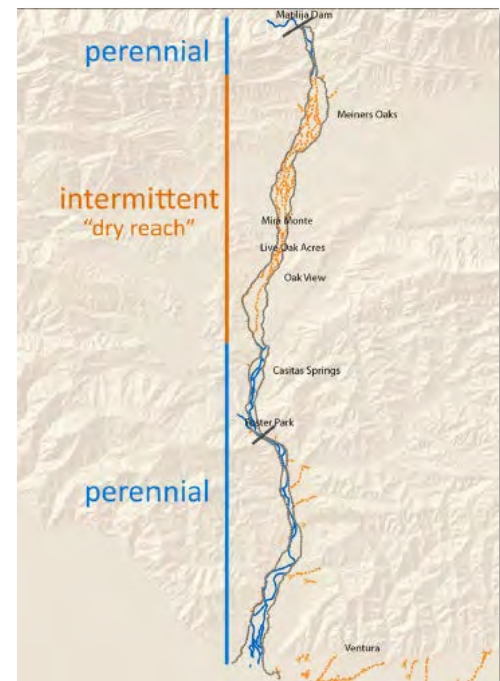


Figure 5-1. Flow characteristics in the Upper Ventura River

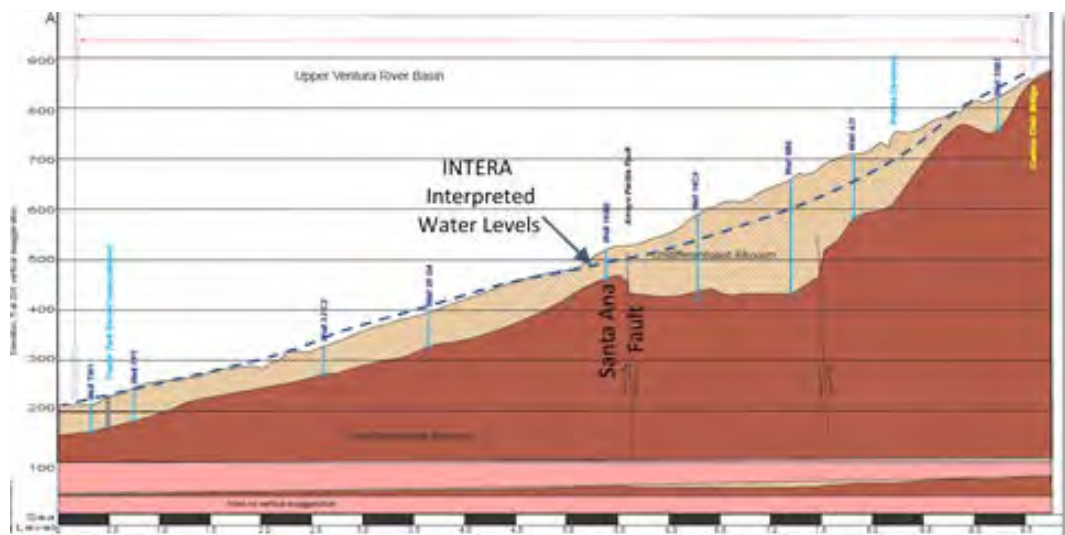


Figure 5-2. Cross-section of Upper Ventura River showing interpreted water levels

¹<https://www.haitjema.com/screenshots/gallery11.html>

adjusted (within reasonable bounds) to match historical conditions and observed extents of the dry and wet reaches. The analytical model will then be used to assess stream depletions and flow conditions (dry or wet) under current and future pumping and hydrologic scenarios.

Our team brings unparalleled expertise in the application of analytical models to solving complex groundwater/surface-water problems (especially in the absence of numerical models). Through our experience we can guarantee that the proposed analytical modeling approach is efficient, both in terms of budget and schedule.

The INTERA team also brings tremendous experience and skills developing hydrogeologic conceptual models and water budgets, assessing potential climate-change impacts, and developing and applying integrated groundwater/surface-water numerical models. As such, INTERA can also assist on-going modeling efforts for both GSPs, as needed. For example, we could assist in the development of the current and future water-budgets for the GSPs. We could also support UWCD in processing DWR climate-change datasets (something we have direct experience with through our work for Calleguas on the FCGMA GSP) to develop predictive model inputs for the Mound Basin.

Task 4 – GSP Document and Data Management

Both the UVRGA and MBGSA GSPs will require collaboration and input from multiple technical and non-technical team-members. A stable, secure, reliable, and user-friendly document and data management framework is essential for the efficient execution and completion of the GSPs. INTERA will serve as the document and data clearinghouse for the GSP teams, with dedicated personnel providing editing, formatting, comment management, and version control of the GSP documents.

For each of the GSPs, we will develop Microsoft Word templates that are consistent with the Windows platforms across the multiple-users. The GSP templates will be consistent with the DWR annotated outlines for the GSPs. These outlines will be shared with the team-members and necessary changes made, based on comments and input. We will work closely with the GSP PM, to identify section leads and contributors for each part of the GSP. A separate word document will be created for each GSP Chapter, to be edited and commented on by different contributors. INTERA's Technical Lead for GSP Document Management, Joanna Stakutis will incorporate the various edits and comments into consistent versions, that will be subsequently integrated into a master GSP document. INTERA will also provide templates and guidelines for maps and figures for the different sections. We can utilize existing GIS templates/MXD's from the SGMA Grant and Basin Boundary Modification applications to ensure seamless transition into the GSP documentation phase. If needed, we can also provide graphics and GIS support for the various maps, figures, and appendices that are typically included in GSPs.

For both GSPs, INTERA proposes using the 'Basecamp' online project management platform for exchanging files, commenting on drafts, and sharing ideas or concerns. Basecamp eliminates the need for project participants to deal with email threads with myriad attachments or download links. Basecamp also allows the transfer of large file sizes, usually greater than most email programs. It also features other spaces such as places to upload important emails that the whole team should see or discussion board spaces to set up discussions about certain graphs or items within drafts. INTERA successfully used Basecamp to manage the New Mexico State Water Plan document, integrating input and contributions from multiple authors across several versions and chapters.

Task 5 – Technical Review

INTERA's Project Manager will serve as a member of the UVRGA's Technical Review Group (TRG) and will work with the other review team members to assess the data gap tasks and data interpretation and analysis methods for the GSP. For the MBGSA, INTERA's Project Manager will review GSP sections and provide comments/edits on a regular and timely basis.

STATEMENT OF QUALIFICATIONS

6 - REFERENCES



6 – REFERENCES

INTERA brings a proven track record of completing public agency projects similar to the work anticipated for UVRGA and MBGSA on time and within budget. We are proud of our project accomplishments and welcome the Agencies to contact any, or all, of these references to verify our past performance.

Reference #1

Agency/Organization: Albuquerque Bernalillo County Water Utility Authority

Contact: John Stomp, PE, Chief Operating Officer; Tel: (505) 289-3150; jstomp@abcwua.org

Brief Description of Work: Development of a 100-year water plan for the Albuquerque Bernalillo County Water Utility Authority, called Water 2120.

Contract Fee: \$1.4M

Period of Performance: 2010- 2019; Ongoing

Reference #2

Agency/Organization: Calleguas Municipal Water District

Contact: Susan Mulligan, General Manager; Tel: (805) 579-7115; smulligan@calleguas.com

Brief Description of Work: Development of a numerical groundwater flow model as part of a long-term operational plan for Calleguas' Las Posas Basin ASR project.

Contract Fee: \$720,000

Period of Performance: 2016 –2019; Ongoing

Reference # 3

Agency/Organization: New Mexico Interstate Stream Commission

Contact: Lucia Sanchez, Water Planning Manager; Tel: (505) 476 – 5397; Lucia.Sanchez@state.nm.us

Brief Description of Work: Provide technical editing support and project coordination support to the development of the New Mexico State Water Plan.

Contract Fee: \$55,000

Period of Performance: 2018 -2019; Completed

Reference # 4

Agency/Organization: Public Utilities Department, City of San Diego

Contact: Khuram Shah, Associate Engineer, (619) 533 – 4222; Khshah@sandiego.gov

Brief Description of Work: Development of a decision-support framework to support long range planning for conjunctive use and system optimization of the San Vicente Reservoir, El Capitan Reservoir, and groundwater injection/extraction/storage in the El Monte Valley and/or Moreno Valley groundwater sub-basins within the San Diego River Basin.

Contract Fee: \$155,000

Period of Performance: 2017 – 2019; Ongoing

STATEMENT OF QUALIFICATIONS

7 - CONFLICT OF INTEREST



7 – CONFLICT OF INTEREST

INTERA has no conflicts of interest with respect to performing this work for the GSAs. This includes no current or foreseeable conflicts of interest through any work being performed now or in the past for the stakeholders, water rights holders, or land owners in the Upper Ventura River and Mound subbasins.

STATEMENT OF QUALIFICATIONS

8 - FEE SCHEDULE



8 - FEE SCHEDULE

8 – FEE SCHEDULE

INTERA's fee schedule, including all labor categories of personnel being proposed to support the project, is provided as **Table 8-1**. This schedule includes rates for each fiscal year of the project.

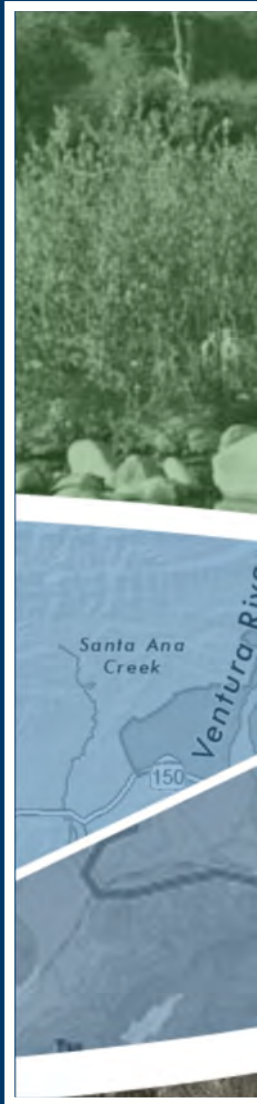
Table 8-1. INTERA Fee Schedule

Labor Category	Proposed Staff	Hourly Rate Per Fiscal Year (July 1 through July 30)			
		2018-2019	2019-2020	2020-2021	2021-2022
Principal Engineer/Scientist I		\$250	\$257	\$264	\$271
Principal Engineer/Scientist II	David Jordan	\$225	\$231	\$237	\$244
Principal Engineer/Scientist III		\$210	\$216	\$221	\$227
Senior Engineer/Scientist I	Abhishek Singh; Erik Anderson	\$195	\$200	\$206	\$211
Senior Engineer/Scientist II		\$180	\$185	\$190	\$195
Senior Engineer/Scientist III	Raghu Suribhatla	\$165	\$169	\$174	\$179
Senior Engineer/Scientist IV	Joan Blainey	\$150	\$154	\$158	\$162
Engineer/Scientist I		\$140	\$144	\$148	\$152
Engineer/Scientist II	Jevon Harding; Patrick O'Connell	\$130	\$134	\$137	\$141
Engineer/Scientist III		\$120	\$123	\$127	\$130
Engineer/Scientist IV	Erick Fox	\$110	\$113	\$116	\$119
Senior Technician		\$115	\$118	\$121	\$125
Technician		\$72	\$74	\$76	\$78
Senior Technical Editor		\$115	\$118	\$121	\$125
Tech Editor	Joanna Stakutis	\$83	\$85	\$88	\$90
Senior CAD/Graphics		\$87	\$89	\$92	\$94
CAD/Graphics		\$76	\$78	\$80	\$82
Project Analyst/Assistant		\$105	\$108	\$111	\$114
Project Associate		\$75	\$77	\$79	\$81



INTERA Incorporated
3838 W Carson Street, #380
Torrance, CA 90503
424.275.4055

www.intera.com



UPPER VENTURA RIVER GROUNDWATER AGENCY Item No. 8d

DATE: March 14, 2019

TO: Board of Directors

FROM: Agency Staff

SUBJECT: GSP Technical Review Group (Grant Category (c): Task 9: Organizational Activities)

SUMMARY:

Pursuant to Board direction on January 10, 2019, a Request for Qualifications (RFQ) for the 4th member of the Technical Review Group (TRG) was issued on January 25, 2019 (Attachment A). The RFQ was sent to seven individuals/firms with potentially relevant experience whose offices are located in Ventura and Santa Barbara Counties. The RFQ was also posted on the UVRGA website.

Qualifications were received from two individuals and one firm (listed alphabetically):

- Dr. Norman Brown, PG (Rate = \$255/hr w/ annual cost-of-living increases)
- Dr. Hugo A. Loáiciga, P.E. (Rate = \$300/hr, fixed through GSP adoption)
- Numeric Solutions – Christian Laber, MS, PG (Rate = \$170/hr increasing to \$180/hr)

The qualifications packages received are included in Attachment B.

The GSP PM will be available to discuss the qualifications and rates for the three responders and answer questions during the Board meeting.

RECOMMENDED ACTION

It is recommended that the Board consider:

1. Selecting an individual or firm to serve as an at-large TRG member and
2. Directing staff to negotiate a professional services agreement with the selected individual or firm.

BACKGROUND

On January 10, 2019, the Board directed the GSP PM to issue a Request for Qualifications for the 4th member of the TRG.

FISCAL SUMMARY

Entering into a professional service agreement does not have a fiscal impact other than the minor administrative and legal costs associated with preparing and negotiating the agreement.

Individual work orders will be subject to Board approval. The proposed budget updates include increased costs associated with the TRG (please see Agenda Items 7d and 7e).

ATTACHMENTS

- A. TRG Request for Qualifications
- B. Qualifications Received

Action: _____

Motion: _____ Second: _____

B. Kuebler___ D. Engle___ A. Spandrio___ S. Rungren___ G. Shephard___ E. Ayala___ L. Rose___

REQUEST FOR QUALIFICATIONS (RFQ)

**GROUNDWATER SUSTAINABILITY PLAN
TECHNICAL REVIEW GROUP SERVICES FOR:
UPPER VENTURA RIVER GROUNDWATER AGENCY
VENTURA COUNTY, CALIFORNIA**

Requested By:

Upper Ventura River Groundwater Agency

P.O. Box 1779, Ojai, CA 93024



RFQ Issued: January 25, 2019

RFQ Submission Deadline: February 25, 2019

1 OVERVIEW

This request for qualifications (RFQ) is issued by Upper Ventura River Groundwater Agency (UVRGA), which serves as the Groundwater Sustainability Agency (GSA) for the Upper Ventura River Subbasin (DWR Basin No. 4-003.01). UVRGA must prepare and approve a Groundwater Sustainability Plan (GSP) by January 31, 2022. UVRGA received a Prop 1 grant funding to complete the GSP.

The purpose of the RFQ is to identify and select a qualified individual to serve on the Agency's Technical Review Group (TRG).

2 BACKGROUND

2.1 Upper Ventura River Groundwater Agency **(<http://www.uvrgroundwater.org/>)**

The Upper Ventura River Groundwater Sub-Basin of the Ventura River Valley Basin (UVRB) (DWR Sub-Basin No. 4-003.01) is a medium-priority basin located in the Ventura River watershed in Ventura County. UVRGA officially became a GSA on July 20, 2017. UVRGA's governing body is comprised of one representative from each of the following five local public agencies: Casitas Municipal Water District, City of San Buenaventura, County of Ventura, Meiners Oaks Water District, and Ventura River Water District. Additionally, two Board seats are held by non-agency representatives, one representing agricultural stakeholders and another representing environmental interests.

Unlike most areas of southern California, water users in the Ventura River watershed rely solely on local sources of water, with groundwater making up roughly half of those supplies. Three public agencies pump groundwater from the basin and there dozens of private wells that supply water for domestic and agricultural uses. Lake Casitas is the back-up supply for groundwater users, but the current drought has reduced its capacity to less than 40%, with uncertainty as to future volumes. Thus, sustainable groundwater management is critical for ensuring reliability of local supplies for agriculture, domestic, public, and environmental users in the basin.

The unconfined basin is a relatively shallow alluvial basin that underlies the Ventura River. The section of the river located downstream of the Robles Diversion to just upstream of the San Antonio Creek confluence is characterized as a "dry reach" where surface water disappears underground, except after storms, in most years. A "wet reach" occurs over the basin's lower portion, generally downstream of the San Antonio Creek confluence. The wet reach is habitat for anadromous fish. Understanding the surface water and groundwater

interrelationship, and the effects of pumping on surface water flows and groundwater levels, will be an important part of addressing sustainability for the basin's various beneficial uses. In fact, the Ventura River is one of five stream systems called out in the 2014 California Water Action Plan to enhance streamflow for anadromous fish. The State Water Resources Control Board (SWRCB), with assistance from the California Department of Fish and Wildlife, is now studying the river system, including development of a surface water-groundwater model, for which calibration with adequate data will be a crucial aspect. Results are expected in 2021. This state-level effort and development of the basin's GSP can be mutually supportive, but the model will not likely be available for UVRGA use in time to complete the GSP. Thus, the Agency will need to develop analytical tool(s) to evaluate depletion of interconnected surface water in order to comply with the GSP Emergency Regulations.

To manage the basin sustainably, the UVRGA must balance significant demands from multiple beneficial users on limited local supplies. To be successful, this endeavor must be approached with as much hydrogeological data as possible. Therefore, the Prop 1 grant includes a number of tasks that are underway to fill key gaps in data and analysis, such as measuring groundwater levels, groundwater inflows, surface flows, and the surface water-groundwater interface; and estimating extractions from private wells and the water demands of natural habitat. More info details can be obtained from the UVRGA grant application available on DWR's SGMA website.

Bondy Groundwater Consulting, Inc. (BGC) and Kear Groundwater (KG) are currently working for UVRGA. BGC serves as the GSP Project Manager (GSP PM) and KG is executing the data gap tasks. Additionally, a separate RFQ was issued for GSP Support Services on January 25, 2019.

The UVRGA Board recently voted to create a TRG to review the data gap tasks and data interpretation and analysis methods for the GSP. The TRG will consist of four members, including KG and BGC. It is anticipated that the successful GSP Support Services consultant will serve as the third member. This RFQ is being issued to recruit a fourth TRG member.

The successful RFQ respondent will be expected to review draft work products prepared by KG, the GSP PM, and the GSP support service consultant and work them to achieve consensus on technical issues relevant to the GSP.

3 QUALIFICATIONS

The consultant shall possess the following minimum qualifications:

- A. Degree from a state-accredited college or university with educational background in groundwater hydrology, applicable to the Upper Ventura River Basin.
- B. State of California professional licensure, as required by the California Business and Professions Code, as follows:
 - a. Professional Geologist and Certified Hydrogeologist
 - or
 - b. Professional Engineer [Civil] with demonstrated hydrogeology experience.
- C. Minimum of 10 years of professional experience with a focus on basin-scale hydrogeology projects, planning, or studies.

4 ANTICIPATED SCOPE OF SERVICES

The consultant will expected to work with the other TRG members to:

- A. Review and comment on scopes of work for data gap tasks;
- B. Review and comment on draft reports for data gap tasks;
- C. Provide input on data interpretation and analysis methods;
- D. Review data interpretations and data analysis results proposed for inclusion in the GSP; and
- E. Perform other duties as may be assigned by the Board of Directors from time to time.

While the GSP is being developed, the TRG will meet in-person a minimum of four times per year to accomplish the above-listed assignments. Following GSP adoption, the TRG will meet once per Agency fiscal year to review the Agency Annual report and as requested by the Board of Directors.

The consultant will be expected to provide accurate invoices on a timely basis to facilitate grant management.

The Agency will not pay for any costs incurred in preparation and submission of the qualifications, or in anticipation of a contract.

5 QUALIFICATION SUBMITTAL REQUIREMENTS

Each submittal shall be limited to the maximum number of pages listed for each section. Qualifications shall be submitted as a PDF file. A minimum of 11 point font size shall be used.

All individuals or firms wishing to be considered for this work shall include the following information in their qualifications:

Cover Letter (Maximum: 1 page)

Describe your interest in participating in the TRG. Summarize your relevant educational and professional experience. Provide your business location.

Resume or CV (Maximum: 3 pages)

Provide your resume or CV. Include project descriptions for relevant projects.

References (Maximum: 1 page)

Provide contact names and phone numbers for three (3) references for similar projects that the Proposer has performed within the last five years.

Conflict of Interest (Maximum 1 page)

Provide a discussion of any potential conflicts of interest that you may have in performing this work for the GSA and any work currently being done or previously performed for any of the stakeholders, water rights holders, or land owners in the Basins.

Fee Schedule

Volunteers are permitted and encouraged. Otherwise, please include a fee schedule listing your billing rate. Rates should be organized in a single table with a column for each fiscal year of the project (July 1 through June 30) (e.g. Fiscal years 18/19, 19/20, 20/21 and 21/22). It is acceptable to specify rates fiscal year 18/19 and a multiplier for the remaining fiscal years. Please be advised that the fee schedule shall be included as an attachment to the contract that may result from this selection process.

All work associated with the TRG shall be performed on a time and materials basis. All work shall be completed to the satisfaction of the agency issuing the work order within the time periods allocated for each work order and within the budget assigned to each work order.

6 QUALIFICATIONS SUBMISSION DEADLINE

Submittals shall be delivered via email to bryan@bondygroundwater.com by 5pm on February 25, 2019.

Submittals shall be clearly marked as follows:

Qualifications for UVRGA Technical Review Group

Late submissions will not be accepted.

7 QUALIFICATION REVIEW AND SELECTION PROCESS

UVRGA will review the submittals for completeness and relevant experience. The UVRGA Board of Directors will select the successful individual or firm with input from the GSP PM.

In-person interviews may be held, at the discretion of UVRGA. If interviews are held, offerors will be notified with the details of the interview process.

The selected individual or firm should expect that the contract will include terms and conditions necessary to protect the interests of the agencies, its members, and beneficial users of groundwater.

8 SCHEDULE

Fully-executed agreements with the selected individual or firm are anticipated by May.

9 CONTACT INFORMATION

All questions regarding this RFQ shall be made in writing via email to bryan@bondygroundwater.com.

The deadline for submitting questions is 5pm on February 13.

NORMAN N. BROWN, Ph.D.

POST OFFICE BOX 6143
SANTA BARBARA, CALIFORNIA 93160
(805) 722-0900
water@normbrown.com

via email: bryan@bondygroundwater.com

Upper Ventura River Groundwater Agency
Attention: Mr. Bryan Bondy
417 Bryant Circle, Suite 112
Ojai, California 93023

Regarding: Qualifications for UVRGA Technical Review Group

Dear Upper Ventura River Groundwater Agency:

I am writing to express my interest in providing technical review and advice to UVRGA as a member of the Agency's Technical Review Group.

During the 1990's I worked with DWR and the Association of California Water Agencies to promote groundwater management as described in Assembly Bill 3030, and continue to this day to provide groundwater management technical and advisory services for water supply agencies. I am based in Santa Barbara and have extensive experience with many California groundwater basins including those that have management concerns related to groundwater – surface water interaction. For the last several years I have chaired the Nipomo Mesa Management Area's Technical Group, which oversees groundwater management for this portion of the Santa Maria basin.

My experience includes technical studies, field studies, contractor management (for example, drilling and operations services) and litigation support. For the last ten years I have also taught two graduate courses in groundwater management and water quality management at UCSB's graduate school of environmental science and management.

My qualifications and experience are very well-matched to the anticipated scope of work and tasks described in the RFQ. I am not a California certified hydrogeologist but I believe my academic and professional credentials, combined with my long history of achievements and experience in California groundwater management make me an ideal candidate for the Technical Review Group. I look forward to working with you.

Sincerely,



Norm Brown, PhD

NORMAN N. BROWN, Ph.D.

Post Office Box 6143
Santa Barbara, California 93160

(805) 722-0900
water@normbrown.com

Dr. Norm Brown is a water resources expert and an accomplished manager with strong skills in technical water resource analysis, writing and public presentation. Norm also has experience in basic research, technology commercialization, financial analysis and corporate leadership.

EDUCATION

Ph.D., Geological Sciences, University of California, Santa Barbara, 1992

M.A., Geological Sciences, University of California, Santa Barbara, 1989

B.A., Geology (*cum laude*, distinction in Geology), Carleton College, 1984
Minor in Science, Technology and Public Policy

PROFESSIONAL EXPERIENCE

- | | |
|-----------|--|
| 2003- | <i>Consulting Water Resource Scientist</i>
<u>Norman N. Brown, Ph.D.</u> |
| 2007- | <i>Graduate School Faculty Lecturer</i>
<u>Bren School of Environmental Science and Management,</u>
<u>University of California at Santa Barbara</u> |
| 1992-2003 | <i>Vice President & Chief Science Officer</i>
<u>Integrated Water Resources, Inc.</u>
Santa Barbara, California |
| 1988-1990 | <i>Minerals Exploration Consultant, Precious Metals</i>
<u>Giant Yellowknife Mines, Ltd.</u>
Yellowknife, Northwest Territories, Canada |
| 1984-1985 | <i>Research Assistant, Seismology</i>
<u>California Institute of Technology</u>
Pasadena, California |

ACHIEVEMENTS & SELECTED PROJECT EXPERIENCE

Water Resources Professional. Professional water resource scientist participating in water resources research, groundwater technical studies, and basin management roles for over 20 years. Work includes technical, management and advisory services for public water supply agencies, utilities and private entities. Recent examples include:

- ♦ Technical representative for a groundwater producer in the Santa Maria basin, on the court-established Nipomo Mesa Management Area Technical Group. I have been a representative of the Technical Group since its creation in the basin adjudication ten years ago, and have been the Technical Group's chairman for the last four years.
- ♦ Groundwater technical advisor to Zone Mutual Water Company pursuant to their interests in Las Posas basin groundwater management.
- ♦ Technical advisor to Camrosa Water District for a project to characterize and develop shallow, poor-quality groundwater for treatment and use, including design and advice for a well pumping test with monitoring wells.

Graduate Instruction in groundwater science and management. Faculty instructor for the Bren School of Environmental Science and Management, University of California at Santa Barbara.

Corporate Management of a small public company engaged in water resource consulting and water asset acquisition and development. As Chief Science Officer and Vice President, significant responsibilities included:

- ♦ Technical program development and oversight,
- ♦ Financial planning and audit coordination,
- ♦ Investor presentations and shareholder correspondence, and
- ♦ Development, formation and administration of corporate partnerships.

Commercialization of innovative environmental cleanup technologies developed and patented by Lawrence Livermore National Laboratory. Manager for technical and business development program.

Strong Writing and Presentation Skills. Broad experience with technical presentations; materials for litigation; development, negotiation and writing of corporate agreements; public presentations and preparation of technical reports, critiques and summaries.

ADVISORY

Nipomo Mesa Groundwater Management Technical Group.

Principal member of a technical group for groundwater management in the court-defined Nipomo Mesa portion of the Santa Maria groundwater basin, California, 2007 – Present.

Technical Group Chairman, 2013 – Present.

Statewide Protection of Groundwater as Public Drinking Water Supply.

California Department of Health Services, Technical Advisory Panel for Source Water Assessment and Protection Program; designated expert in fractured bedrock aquifers, 1998 – 2003

Association of California Water Agencies.

- Groundwater Committee, 1998 – 2003
- Groundwater Management Planning Task Force, 2002 – 2003

National Groundwater Association & US EPA.

Advisory Committee for the International Conference on Remediation of Groundwater in Fractured Rock, 2003 – 2004, and 2006 – 2008

Orange County Water District, Groundwater Flow Model.

Advisory committee for development, calibration and use of a revised, transient numerical groundwater model for groundwater management, including review of basin geology and development of a new hydrogeological conceptual model for the basin, 1998 – 2003

Friends of the Santa Clara River & Bren School of Environmental Science and Management, UCSB.

Technical Advisory Committee for state-funded project for field-scale bio-treatment of pesticides in agricultural water runoff, 2006 – 2009

PROFESSIONAL ASSOCIATIONS

California Professional Geologist, since 1996

International Association of Hydrogeologists

Groundwater Resources Association

National Groundwater Association

Geological Society of America

American Geophysical Union

REFERENCES

I have worked on dozens of projects with Dr. Steve Bachman, including many related to technical groundwater studies in southern California and Ventura County.

Dr. Steven Bachman
Santa Barbara, California
steven.b.bachman@gmail.com
805/218-8169

After the Santa Maria basin adjudication, a Technical Group was formed for the Nipomo Mesa Management Area. Since its inception, I have represented Phillips 66 (which is a groundwater producer) on the Technical Group. My work for Phillips 66 also includes technical support and advice for their industrial groundwater supply.

Ms. Kristen Kopp
Environmental Health and Safety Supervisor
Phillips 66 Santa Maria Facility
kristen.m.kopp@p66.com
805/343-3241

I provide groundwater-related technical support and advice on a number of projects to Mr. Craig Parton, a litigation attorney who has extensive experience in California groundwater law.

Mr. Craig Parton
Price Postel Parma LLP
Santa Barbara, California
cparton@ppplaw.com
805/962-0011

STATEMENT OF CONFLICT

I am unaware of any conflicts of interest with regard to the proposed work as a member of UVRGA's Technical Review Group.

PROFESSIONAL FEE SCHEDULE

NORMAN N. BROWN, Ph.D.

PROFESSIONAL FEE SCHEDULE, 2019

Labor	\$255 per hour*
Expenses	Cost plus 15%
Mileage	At prevailing IRS rate

* Labor rate is subject to annual cost-of-living increase each January, beginning January 1, 2020.

Hugo A. Loáiciga, Ph.D., P.E., D.WRE
320 North Fairview Avenue Suite 3
Goleta, California 93117 USA Tel.805 450 4432 (hloaiciga@hotmail.com)

February 6, 2019

Mr. Bryan Bondy
UVRGA GSP Project Manager
Upper Ventura River Groundwater Agency (UVRGA)
P.O. Box 1779, Ojai, CA 93024

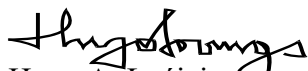
Dear Mr. Bondy

Subject: response to the UVRGA RFQ to identify and select a qualified individual to serve on the Agency's Technical Review Group (TRG)

I read the January 25, 2019, RFQ issued by the UVRGA to identify and select a qualified professional to serve on the Agency's TRG. I am qualified to carry out the anticipated scope of services listed in item 4 of the January 25, 2019, RFQ, and I am interested in serving in the TRG to support the development of a groundwater sustainability plan (GSP) for the Upper Ventura River Groundwater Sub-Basin (UVRGSB). I hold a B.Sc., M.Sc., and a Ph.D. from the University of California, Davis, in the field of hydrology and water resources. I am a P.E. in the State of California, and a diplomate in water resources engineering (D.WRE) by the American Academy of Water Resources Engineers. I have served as a professor of hydrology and water resources at the University of California at Santa Barbara (UCSB) since 1988, and have had multiple consulting engagements in the fields of groundwater hydrology and hydrologic engineering in general since 1980. My full CV (www.geog.ucsb.edu/~hugo) lists my professional history including many national and international awards I have received for my work in the field of groundwater hydrology.

I am a hydrologist with 40 years of experience in groundwater hydrology and in the analysis of groundwater/surface water interactions. I am well acquainted with the hydrologic setting of the Ventura River basin, which comprises groundwater and surface water resources. I serve on the State Water Resources Control Board's (SWRCB) technical committee overseeing the development of a surface water-groundwater model for the Ventura River basin, which encompasses the UVRGSB. I have worked as a consultant on groundwater issues in several regions in the United States and abroad. For example, (1) analysis of recharge, spring flow, groundwater withdrawal, and safe yield estimation in the Edwards Aquifer, Texas, (2) analysis of groundwater withdrawal impacts within the Montecito Groundwater Basin (Santa Barbara County), Carpinteria Groundwater Basin (Santa Barbara County), Seaside Groundwater Basin (Monterey County), (3) development of patented groundwater-storage tracking software for basin analysis and management, (4) tracer studies and numerical groundwater modeling of aquifer recharge by spreading basins in the Kern County Water Agency groundwater bank. I also have written hundreds of technical and scientific articles dealing with groundwater and surface water hydrology, and have taught groundwater hydrology at UCSB and other universities since 1986. I am well acquainted with California's Sustainable Groundwater Management Act (SGMA) and with its implications for water purveyors who rely on groundwater to meet water use.

I look forward to discussing this letter of interest with you. Sincerely,



Hugo A. Loáiciga,
Ph.D., P.E., D.WRE
California License: C 54328

Hugo A. Loáiciga, Ph.D., P.E., D.WRE.

Hydrology Laboratory / Department of Geography

University of California Santa Barbara CA 93106-4060 USA

Tel: 805 450 4432; **hloaiciga@ucsb.edu** ; <http://www.geog.ucsb.edu/~hugo>

February 2019

Ph.D., Hydrology & Water Resources, University of California, Davis, June 1986.

Master of Science, Hydrology & Water Resources, University of California, Davis, June 1982.

Bachelor of Science, Civil Engineering, University of Costa Rica, San Jose, Costa Rica, February, 1979.

FIELDS OF SPECIALIZATION

Groundwater hydrology; regional hydrogeology; sustainable groundwater management; groundwater monitoring; groundwater-surface water interactions, watershed hydrology.

PROFESSIONAL APPOINTMENTS

Director Hydrology Laboratory, University of California, Santa Barbara, 1988 →

Professor of Geography: Department of Geography, University of California, Santa Barbara. 1996 →
Associate Professor: Department of Geography, University of California, Santa Barbara, July 1992-1996.

Assistant Professor: Department of Geography, University of California, Santa Barbara, July 1988-June 1992.

Water Commissioner: City of Santa Barbara, California, February 1992-1998.

Technical Advisor: Casmalia Community Advisory Committee/California Department of Health Services, 1989-1990.

Research Fellow: Environmental Protection Agency, June 1988-September 1988.

Hydrologic Consultant: USEPA, USDOE, USDOJ, BCI Geonetics, Lebow Investment Co., Sycamore Mineral Springs Resort, Hope Ranch Park Homes, Mullen & Henzell L.L.P., Condor Environmental, Vincent Pictures, Inc., O2 Diesel Inc., M Papay Law Offices, plus other agencies.

Assistant Professor of Geological Sciences: Wright State University, Dayton, Ohio, August 1986- June 1988.

AWARDS AND PROFESSIONAL DISTINCTIONS (selected items)

Distinguished Member, American Society of Civil Engineers.

Diplomate in Water Resources Engineering, American Academy of Water Resources Engineers.

Arid Lands Hydraulic Engineering Award, Environmental and Water Resources Institute & American Society of Civil Engineers.

Standards Development Committee Chair Recognition, Environmental and Water Resources Institute & American Society of Civil Engineers.

Julian Hinds Award, Environmental and Water Resources Institute & American Society of Civil Engineers.

Fellow, American Society of Civil Engineers.

Service to the Profession Award, American Society of Civil Engineers and Environmental and Water Resources Institute.

U.S. National Representative to the International Union of Geophysics and Geodesy, Appointed by the National Research Council, 1996-2003.

Chairman, Task Committee on Effective Parameters in Ground Water Management, Am. Soc. of Civil Engineers, 1996-1999.

Licensed Professional Civil Engineer, State of California, Lic. # C54328, 1995→ present
Chairman, Task Committee on Global Warming and the Hydrologic Cycle, Am. Soc. Civil Engineers, 1992-94.
Walter L. Huber Research Engineering Prize, Am. Society of Civil Engineers and Conference of Engineering Research Foundations, 1994
Editor, *EOS*, Transactions of the American Geophysical Union, Hydrology Section, 1994-1996.
Best Papers Award, Hydraulics Division, for best two papers: “Review of Geostatistics in Geohydrology” part 1 and part 2, in *Journal of Hydraulic Engineering*, 116(5), 612-652, 1991.
University of California Regents Faculty Fellowship, Board of Regents, The University of California, 1989.
Research Fellow, United States Environmental Protection Agency, Washington, D.C., Headquarters, 1988.
Environmental Science and Engineering Fellow, American Association for the Advancement of Science, Washington, D.C., 1988.
Chairman, Task Committee on Ground Water Quality Monitoring Network Design, Am. Soc. Civil Engineers, 1988-1990.

SCHOLARLY PUBLICATIONS [selected from 306 total, see www.geog.ucsb.edu/~hugo]

1. 2019. Sadeghi, K.M., Kharaghani, S., Tam, W., Gaerlan, N., Loáiciga, H.A., Green Stormwater Infrastructure (GSI) for Stormwater Management in the City of Los Angeles: Avalon Green Alleys Network. **Environmental Processes**. [ARTICLE IN PRESS].
2. 2019. Loáiciga, H.A., Schofield, M. Climate variability and change and Edwards aquifer water fluxes. In “The Edwards Aquifer - The past, present, & future of a vital water resource”, **Geological Society of America**. [BOOK CHAPTER IN PRESS].
3. 2018. Bozorgi, A., Bozorg-Haddad, O., Sima, S., Loáiciga, H. A. Comparison of methods to calculate evaporation from reservoirs. **International Journal of River Basin Management**, DOI: 10.1080/15715124.2018.1546729. [ARTICLE].
4. 2018. Loáiciga, H.A., Johnson, J.M. Infiltration on sloping terrain and its role on runoff generation and slope stability. **Journal of Hydrology**, /doi.org/10.1016/j.jhydrol.2018.04.023. [ARTICLE].
5. 2018. Bozorg-Haddad, O., Athari, E., Fallah-Mehdipour, E., Bahrami, M., Loáiciga, H.A. Allocation of reservoir releases under drought conditions: A conflict-resolution Approach. **Water Management**, <https://doi.org/10.1680/jwama.15.00099> [ARTICLE]
6. 2018. Sadeghi, K.M., Loáiciga, H.A., and Kharaghani, S. Stormwater Control Measures for Runoff and Water Quality Management in Urban Landscapes. **Journal of the American Water Resources Association**, 1-10. <https://doi.org/10.1111/1752-1688.12547>. [ARTICLE]
7. 2017 Li, S., Zhang, L., Liu, H., Loáiciga, H.A., Zhai, L., Zhuang, Y., Lei, Q., Hu, W., Li, W., Feng, Q., Du, Y. Evaluating the risk of phosphorus loss with a distributed watershed model featuring zero-order mobilization and first-order delivery. **Science of the Total Environment**, 609, 563–576, doi: 10.1016/j.scitotenv.2017.07.173. [ARTICLE]
8. 2017. Sarzaeim, P., Bozorg-Haddad, O., Fallah-Mehdipour, E., Loáiciga, H.A. Climate change outlook for water resources management in an arid river basin: the effect of the environmental water demand. **Environmental Earth Science**, 76:498, doi 10, 1007/s12665-017-6834-z. [ARTICLE]
9. 2017. Rezaei, H., Bozorg-Haddad, O., Loáiciga, H.A. Assessment of the effect of hydraulic conductivity uncertainty on in-situ bioremediation of groundwater contaminated with dissolved petroleum hydrocarbons. **Journal of Irrigation and Drainage Engineering**, 143(12) DOI 10.1061/(ASCE)IR.1943-4774.0001252 . [ARTICLE]

10. 2017. Loáiciga, H.A. et al. Calculation of the Saturated Hydraulic Conductivity of Fine-Grained Soils **Standard Guideline ANSI/ASCE/EWRI 65-17**, doi.org/10.1061/9780784414347 ASCE Press, Reston Virginia. [BOOK]
11. 2017. 2017. Mirzaie-Nodoushan, F., Bozorg-Haddad, O., and Loáiciga, H.A. Optimal design of groundwater-level monitoring networks. **Journal of Hydroinformatics**, 19(4), jh2017044, DOI: 10.2166/hydro.2017.044. [ARTICLE]
12. 2014. Kram, M., Loáiciga, H.A. Integrated Water Resources Monitoring System with Interactive Logic Control for Well Water Extraction. **United States Patent 8,892,221 B2** (Nov. 18, 2014). US Patent and Trademark Office, Alexandria, Virginia. [US PATENT] [183]

RELEVANT COMPLETED CONSULTING PROJECTS (selected among many projects).

1. Funded by the USEPA. **Study of recharge, groundwater withdrawal, spring flow, and groundwater sustainability in the Edwards Aquifer, Texas.** This was a multi-year period that produced some groundbreaking findings on the estimation of basin safe yield and on the role of climatic variability and climatic change on Sustainable Groundwater Management.
2. Funded by the California Coastal Commission (CCC). **Analysis of groundwater-well permits in the Montecito groundwater basin, Santa Barbara County, California.** This project produced landmark findings on the threats of seawater intrusion, well interference, and proper aquifer-properties characterization in aquifers under the jurisdiction of the CCC.
3. Funded by the California Water Resources Center. **Projections of the effect of groundwater withdrawal and sea level rise on groundwater storage in the Seaside groundwater basin, Monterey County, California.** This project produced novel methodology to separate and identify the effects of groundwater withdrawal and sea level rise on cones of depression in the Seaside groundwater basin.
4. Funded by the California Water Resources Center. **Tracer studies and numerical groundwater modeling of aquifer recharge by spreading basins in the Kern County groundwater bank.** This project revealed the fate and transport of recharged water by spreading basins in the Kern County Water Agency's groundwater bank in the vicinity of Bakersfield, California. SF₆ tracer injections and numerical simulation of spreading-basin recharged were combined to predict groundwater flow and rates of groundwater losses through the groundwater bank administrative boundaries.
5. Funded by association of law firms in the State of Washington. **Determination of the causes of the 2014 Snohomish County Landslide, State of Washington.** This project lead to the determination that timber harvesting practices in an elevated terrace modified the regime of groundwater recharge to a stratified aquifer supporting springs on sloping terrain ultimately producing the deadliest landslide in US history.

MEMBERSHIPS

American Society of Civil Engineers, International Association of Hydrogeologists, National Groundwater Association, California Groundwater Resources Association, American Association for the Advancement of Science, American Meteorological Society, American Geophysical Union, Santa Barbara Historical Museum.

REFERENCES FOR DR. HUGO A. LOAICIGA

UVRGA RFQ to identify and select a qualified individual to serve on the Agency's Technical Review Group (TRG)

1. **Dr. Mark Kram**, Chief Technology Officer (CTO) for Groundswell Technology, a Santa Barbara-based groundwater consultancy. Dr. Kram and I patented an AI-based technology for groundwater storage tracking in real-time with feedback control for sustainable groundwater management. He is familiar with my work on groundwater hydrology.

Contact email: mark.kram@groundswelltech.com

2. **Dr. Steve Cullen**, D.B. Stephens & Associates. Dr. Cullen and I have maintained a professional relation for about 25 years dealing with the subject matter of subsurface hydrology. He is well acquainted with my work on groundwater hydrology and with some of my projects.

Contact email: scullen@dbstephens.com

3. **Dr. John Sharp**, Department of Geological Sciences, University of Texas, Austin, Texas. Dr. Sharp is familiar with my work on hydrogeologic analysis of regional groundwater extraction and sustainability in the Edwards Aquifer, Texas. I recently wrote a technical chapter on this topic to be published in a 2019 memoir by the Geologic Society of America. Dr. Sharp was the Editor of the memoir.

Contact email: jmsharp@jsg.utexas.edu

4. **Mr. Mark Capelli**, National Marine Fisheries Service, NOAA. I have assisted Mr. Capelli with the analysis of groundwater basins featuring groundwater/surface interactions affecting streamflow regimes that support anadromous fish in the central coast region of California.

Contact email: mark.capelli@noaa.gov

5. **Ms. Donna Senauer**, Montecito Planning Commissioner, County of Santa Barbara. I have collaborated with Ms. Senauer in the analysis of sustainability of groundwater extraction and related threat of seawater intrusion in the Montecito Groundwater Basin (Santa Barbara County).

Contact email: dsenauer@me.com

HUGO A. LOAICIGA
CONFLICTS OF INTEREST

UVRGA RFQ to identify and select a qualified individual to serve on the Agency's
Technical Review Group (TRG)

I HAVE NO CONFLICTS OF INTERESTS CONCERNING THE EXECUTION
OF PROPOSED TASKS BY THE THE UVRGA TRG.

A handwritten signature in black ink, appearing to read 'Hugo Loáiciga', with a stylized, cursive script.

Hugo A. Loáiciga

February 6, 2019

HUGO A. LOAICIGA

FEE SCHEDULE

UVRGA RFQ to identify and select a qualified individual to serve on the Agency's
Technical Review Group (TRG)

My fee for professional services rendered equals \$ 300/hour and would be fixed for the duration of the activities of the TRG.

I will ask to be reimbursed by mileage of my private vehicle incurred while rendering services to the TRG. The mileage reimbursement rate will be determined by policies of the UVRGA.

I will ask to be reimbursed by travel expenses incurred while rendering services to the TRG. The reimbursement rate will be determined by policies of the UVRGA.

Any equipment or materials purchases necessary to fulfill the TRG work will be made by the UVRGA.

I expect a contract agreement will be signed between the UVRGA and me as the result of the selection process.



Hugo A. Loáiciga

February 6, 2019



February 25, 2019

Mr. Bryan Bondy
Upper Ventura River Groundwater Agency
P.O. Box 1779
Ojai, CA 93024

Subject: Qualifications for UVRGA Technical Review Group – Statement of Interest

Dear Mr. Bondy:

In response to the request for qualifications (RFQ) issued by the Upper Ventura River Groundwater Agency (UVRGA), please find the enclosed materials summarizing my interest, background, and qualifications for consideration as a member of the Technical Review Group (TRG) for the UVRGA.

I am interested in participating as a member of TRG because of my personal and professional interests in the geology and hydrogeology of the region and because I believe the TRG would benefit from the knowledge and experience I have gained from performing surface and groundwater studies in the Lower Ventura River Basin. Further, I understand the importance and support the TRG's role as local experts who should inform, advise, and calibrate the pending surface and groundwater modeling efforts.

I earned a Bachelor's degree in Geology from Wittenberg University, Springfield Ohio, in 1987 and a Master of Science degree in Geology from Duke University, Durham, North Carolina, in 1990. My thesis focused on geochemistry and diagenesis of the Miocene-age Monterey Formation on the Central Coast of California. My graduate education included classes on sedimentology, stratigraphy, marine geology, structural geology, geochemistry, and hydrogeology including a groundwater class taught by Ralph Heath of the United States Geologic Survey.

I have been a practicing State of California-licensed Professional Geologist for over 20 years and have been located in Ventura County since 1999. In the private sector, I have performed groundwater basin studies of varying scopes in Ventura, Santa Barbara, San Diego, Los Angeles, Riverside, San Mateo, and San Bernardino counties. As an employee of Ventura County, I served as the staff geologist for the Fox Canyon Groundwater Management Agency for two years. My professional experience has included preparing and reviewing technical work plans, performing surface water and groundwater studies, preparing technical reports, preparing draft ordinances for consideration, performing groundwater pumping enforcement activities, preparing and editing groundwater management plans, and consulting to private landowners and corporations on groundwater litigation and water rights issues. If you have any questions regarding my education or experience, please contact me by email at laber@numericsolutions.com or by phone at (805)794-0894.

Sincerely,

(Signed electronically)

Christian S. Laber, MS, CAPG No. 6826
Numeric Solutions, LLC

Attachments: CV for Christian S. Laber
List of References
Conflict of Interest
Fee Schedule

CHRISTIAN S. LABER, MS, PG
Professional Geologist (State of California #6826)
Numeric Solutions, LLC
1536 Eastman Avenue, Suite D, Ventura, CA
(805)794-0894; laber@numericolutions.com

I have 25+ years of professional experience as a Geologist, Project Manager, and Technical Program/Field Operations Manager. My expertise is performing geologic, geochemical, and hydrogeologic analyses in support of groundwater development projects, groundwater basin assessment/modelling studies, environmental site characterization, and remediation projects. I have been responsible for the design, management, and/or implementation of over 100 projects including groundwater supply projects, well installation and siting studies, aquifer testing and analysis, groundwater basin analysis, conceptual model development, environmental site assessments, soil and groundwater remediation feasibility and optimization studies, remediation construction projects, water source vulnerability assessments, and health risk assessments. I have applied this expertise as a consultant/contractor for private property owners, government agencies (DOD, DOE, CalEPA, etc), and commercial clients (major oil, semiconductor, solid waste, etc.). I have also worked in the public sector as the technical lead for a groundwater management agency. My most recent and active projects involve surface water and groundwater resource characterization, groundwater management, and regulatory support for private landowners involved in water rights litigation, groundwater basin planning, and/or adjudication actions.

Select Project Experience

- **Water Resources Consultant** – Independent consultant to private land owner managing a wide-range of surface and groundwater quality and quantity issues in Ventura County, CA. Projects included siting, permitting, and installing groundwater monitoring and production wells; collecting and interpreting water level data; collecting and interpreting surface and groundwater quality data; performing stream gauging studies; designing, installing, and maintaining a multi-well and surface water level monitoring system that provides real-time feedback to comprehensive water management software system; supervising and integrating geophysical studies with surface and subsurface geologic studies; performing historic oil and water well research; providing technical and policy analysis of local and state water supply/groundwater management legislation; and providing litigation support for various property rights and water rights issues.
- **Project Manager; Technical Lead:** Independent consultant to private land owner seeking alternative water source for emergency supply and fire suppression water at rugged 30-acre hillside property in Southern California. Developed scope of work and supervised multi-faceted geophysical site investigation. Integrated geophysical study with self-collected geologic data to develop new conceptual hydrogeologic model for fault block with no known water wells or groundwater resource. Identified two potential targets for groundwater development and supervised the installation and development of two successful domestic supply wells. Consulted to landowner on complex conveyance and storage plan and provided pre- and post-project permitting services.
- **Water Resources Consultant** – Independent consultant to private land owner managing multiple commercial agricultural properties in Ventura County, CA. Performed review of current well conditions and well histories. Identified opportunities for repair and replacement and secured permits. Supervised installation of multiple 1,000+ foot wells and performed pumping tests to characterize well yield and groundwater quality. Assisted integration of new wells into existing well network. Assisted owner with multiple-agency regulatory compliance issues and provided policy analysis of regulatory agency-proposed pumping allocation schemes and sustainability plans.

- **Staff Geologist:** Employee of County Dept. of Public Works and groundwater management agency in southern California. Performed technical analyses, completed administrative tasks, and supported intra- an inter-agency enforcement activities. Represented district in regional water resource meetings. Edited and presented Agency's AB3030 groundwater management plan and developed stakeholder-based implementation approach approved by Board. Prepared Agency's first annual report in 5 years. Prepared and submitted successful application to California Department of Water Resources for over \$230K in grant funding (Prop. 84) to modernize Agency groundwater extraction reporting and update groundwater management plan.
- **Lead Geologist:** for multi-disciplinary consulting team serving large municipal water department in San Bernardino County California. Multi-faceted project focused on groundwater resource management coupled with remediation compliance order for 5-mile long chlorinated VOC plume. Responsibilities included development and presentation of new 3-D conceptual hydrogeologic model based on review and interpretation of 1,100 well logs. Organized project team and developed numeric correlation process to assist rapid integration of borehole descriptive logs and downhole geophysical log data into geologic model using petroleum industry software. Developed hydrostratigraphic model based on structural analysis, depositional environment analysis, and pump test response. Assisted lead hydrogeologist/program manager with implementation of multiple basin-wide pumping tests and preparation of summary reports. Performed third party review of extraction/production well design.
- **Project/Program Manager and Technical Lead:** Project manager and technical lead for soil and groundwater characterization and remediation project at active asphalt/diesel refinery in Los Angeles County. Supervised multiple on- and off-site soil, groundwater, and soil gas assessment projects and developed 3D conceptual hydrogeologic model. Negotiated reduced off-site work by demonstrating absence of NAPL mobility, declining dissolved-phase concentrations, characterizing low or non-detect soil gas concentrations in residential area, and promptly satisfying Agency data requests. Developed interim remedial approach focusing on LNAPL recovery using a combination of VEPR and passive recovery. Increased hydrocarbon recovery by an order of magnitude and decreased cost per gallon recovered. Scoped and performed remediation pilot test using of AS-SVE with novel low emission cryogenic recovery technology. Developed plans for site-wide implementation based on successful test. Annual project budget \$350-450K per year. Time served as lead: 5 years.
- **Technical Manager:** for soil and groundwater remediation project involving separate- and dissolved-phase hydrocarbon plumes covering 70 acres at largest light products fuel distribution terminal in North America. Increased remediation system performance through identification of new extraction target areas using CPT-UVOST. Assisted field technical staff with application of novel remediation technology to gaps in extraction network using self-developed 3D conceptual hydrogeologic model. Quadrupled recovery rate to >200,000 gallons/year SPH in 3 months. Identified previously unrecognized risks to nearby municipal wellfield and developed recommendations for response. Also designed and implemented two pilot-scale groundwater dissolved-phase remediation systems (sparge/SVE & POB). Team won Clients' national H&S award given for safety record typically involving over 10K man hours/year. Managed up to 25-man technical staff and subcontractors as needed. Annual budget exceeded \$1.2 million.
- **Project Manager and Technical Lead:** for accelerated site characterization and remedial action at two different hydrocarbon pipeline release sites on third party property in dense urban portion of Los Angeles County. Implemented site characterization activities within 8 hours and performed rapid

characterization identifying low level of risk to receptors. Successfully negotiated reduced remedial scope and achieved closure on both projects within 2 years of initial assessment.

- **Site Manager:** Accelerated site characterization and review of remediation system for chlorinated solvent/DNAPL impacted groundwater at semiconductor facility in Silicon Valley, CA. Utilized adaptive sampling strategy with real-time CPT, continuous core, and aquifer test data to characterize plume. Revised 3D conceptual model identifying unrecognized geologic heterogeneity and contaminant pathways. Assisted design of PRB and focused P/T remedial alternatives. Client used findings to reduce O/M and settle lengthy litigation. Total project budget exceeded \$450,000.

Professional Certifications and Registrations

Professional Geologist, California , No. 6826 (current).

40-Hour OSHA Health & Safety Certification (29 CFR 1910.120). 8-Hour Haz Waste Supervisor, multiple.

8-Hour OSHA Health & Safety Annual Certification Updates (current).

Drill Rig Safety, Excavation Safety, Confined Space Entry, FAA Airfield Operations et al.

Los Angeles Refinery Safety Operations (LA-RSO), Rail Safety Training

Publications and Presentations

- Laber, C.S., 2010. Poster presentation. *Use of CPT-UVOST (LIF) to characterize disparate hydrocarbon plumes in a heterogeneous environment*; Poster Presentation at CPT-10: Second International Symposium on Cone Penetration Testing, May 9-11, Huntington Beach, California.
- Fox Canyon Groundwater Management Agency 2006-2007. Author and presenter of multiple publications and presentations supporting Agency objectives; (e.g., see *FCGMA Database, Part III* at http://www.fcqma.org/downloads/FCGMA_Presentation-Database&CreditProgram-Part3Rev3.pdf).
- MacPherson, J., and Laber, C.S., (2006): *Aerobic TBA Remediation*, Co-author; National Groundwater Association Annual Meeting.
- Laber, C.S., Bollier, J., MacPherson, J., Fah, D., (2005). Co-presenter. *Use of High Resolution 3-D Stratigraphy to Reduce Life Cycle Remediation Costs of Large Scale Separate- and Dissolved-Phase Plumes, (Location deleted), California*, BP Environmental Technology Technical Exchange Meeting.
- Laber, C.S., Einarson, M.D., Fowler, W.L., Watson, M.J., (1998). Presenter. *3D Hydrogeologic Model in Heterogeneous Geologic Environments*, Santa Clara Valley, California, Oral presentation, NGWA Annual Meeting.
- Laber, C.S., Baker, P.A., (1990). Presenter. *Inorganic Geochemistry and Diagenesis of organic-rich sediments in the Miocene Monterey formation at Shell Beach, California*, AAPG Annual Meeting.

Education and Select Training

M.S. Geology (Geochemistry), Duke University, Durham, NC. 1990.

B.A. Geology; Wittenberg University, Springfield, OH. 1987.

Sampling Protocol for Remedial Investigation Feasibility Studies, UCSD Extension, 1993.

Data Quality Objectives, UCSD Extension, 1993.

Cone Penetration Testing for Environmental Investigations, Gregg In-Situ, 1998.

Groundwater Hydrology, Princeton Groundwater, 1998.

Hydraulic Fracturing in California, An Environmental Perspective, GRA, 2012.

Groundwater Modeling, GRA 2012.



February 25, 2019

Mr. Bryan Bondy
Upper Ventura River Groundwater Agency
P.O. Box 1779
Ojai, CA 93024

Subject: Qualifications for UVRGA Technical Review Group - List of References for Christian S. Laber

Dear Mr. Bondy:

In response to the request for qualifications (RFQ) issued by the Upper Ventura River Groundwater Agency (UVRGA), I am providing the following three references. Note that for most of the last five years, we have provided professional geologic services relevant to the proposed project to exclusively one organization. As such, two of the references provided (Gleeson and Eisen) are for professional services provided beyond the 5-year time period.

Mr. Ron Bowman
Lovingfoss and Bowman, Incorporated
5574 Everglades Street, Suite B
Ventura, CA 93003
(805)732-4014
ron@l-binc.com

Mr. Joe Chrisman
Hathaway, Perrett, Webster, Powers, Chrisman & Gutierrez
200 Hathaway Building
P.O. Box 3577
Ventura, CA 93006
(805) 644-7111
jchrisman@hathawaylawfirm.com

Ms. Kathryn Gleeson
World Energy
Paramount, CA
(562) 748-4613 xt. 202613
kgleeson@worldenergy.net

Mr. Mark Eisen
Stantec Consulting
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
(805) 276-0155
meisen@stantec.com



February 25, 2019

Mr. Bryan Bondy
Upper Ventura River Groundwater Agency
P.O. Box 1779
Ojai, CA 93024

Subject: Qualifications for UVRGA Technical Review Group - Conflict of Interest Discussion for Christian S. Laber

Dear Mr. Bondy:

In response to the request for qualifications (RFQ) issued by the Upper Ventura River Groundwater Agency (UVRGA), please find the following discussion regarding potential conflicts of interest in performing technical review work for the UVRGA.

At the present time, Numeric Solutions, LLC provides water resource consulting services to one private property owner in located in the Ojai Groundwater Basin. In the past we have also provided oil and gas resource related consulting services to a number of small and medium-sized independent petroleum production firms, land owners, or mineral rights holders in the Ojai Basin and surrounding areas. We also provide professional services to a number of entities with financial and/or property-ownership interests in the Lower Ventura River Groundwater Basin on an ongoing basis.

Although some of these entities are named as cross-defendants in pending litigation regarding the Ventura River, I do not believe participation in the UVRGA's TRG poses a conflict of interest because these client's properties are either located in a different groundwater basin or their interests are not in opposition to the UVRGA's stated mission. In addition, I have also consulted with these clients and they are not opposed to my participation in the TRG.

If you have any further questions, please contact me by email at laber@numericsolutions.com or by phone at (805)794-0894.

Sincerely,

(Signed electronically)

Christian S. Laber, MS, CAPG No. 6826
Numeric Solutions, LLC

February 25, 2019

Mr. Bryan Bondy
Upper Ventura River Groundwater Agency
P.O. Box 1779
Ojai, CA 93024

Subject: Qualifications for UVRGA Technical Review Group – Fee Schedule for Christian S. Laber, Numeric Solutions, LLC.

Dear Mr. Bondy:

In response to the request for qualifications (RFQ) issued by the Upper Ventura River Groundwater Agency (UVRGA), please find the following proposed Fee Schedule.

Year	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/2022
Professional Service Rate	\$170/hr	\$170/hr	\$180/hr	\$180/hr
Field Service Rate	\$160/hr	\$160/hr	\$170/hr	\$170/hr
Expenses Additional at Cost +10%				

Costs for additional services by Numeric Solutions, LLC provided upon request.

If you have any additional questions regarding this proposed fee schedule, please contact me by email at laber@numericsolutions.com or by phone at (805)794-0894.

Sincerely,



(Signed electronically)

Christian S. Laber, MS, CAPG No. 6826
Numeric Solutions, LLC