

# Las Posas Valley Groundwater Basin Technical Advisory Committee Meeting

Wednesday July 31, 1:00 PM

Via Zoom:

<https://us02web.zoom.us/j/84168071218?pwd=Kv42H0XegH4TthbvJUgzTrzACgXM8b.1>

Webinar ID: 841 6807 1218

Passcode: 150451

## NOTICE OF MEETING

NOTICE IS HEREBY GIVEN that the Las Posas Basin Technical Advisory Committee (TAC) will hold a special meeting via Zoom at **1 PM on Wednesday July 31, 2024**.

## AGENDA

- A. Call to Order**
- B. Roll Call**
- C. Agenda Review**
- D. Public Comments**
- E. TAC Member Comments**
- F. Regular Agenda**
  - 1. Approve the Minutes of the July 15, 2024 Initial Meeting** (attached)
  - 2. TAC Administrator's Report on Policy and Procedural Questions Raised During July 15, 2024 Initial Meeting:**
    - i. Are TAC members required to post physical locations on agenda for regular and other meetings?
    - ii. Do Brown Act requirements also pertain to non-voting TAC members and are non-voting members required to provide public financial disclosures consistent with Form 700?
  - 3. Discussion of Basin Optimization Plan Tasks 1 and 2:**
    - i. Project evaluation criteria
    - ii. Technical evaluation of projects for including in the Basin Optimization Plan
  - 4. Committee Consultation**

The Las Posas Basin Watermaster has requested consultation from the TAC on a draft scope of work to prepare the Las Posas Valley Basin 2025 Optimization Yield Study. The Judgment requires the Watermaster to approve a scope of work and budget for the technical study to assess and establish the Basin Optimization Yield with committee consultation. The attached request acknowledges that the scope and budget are currently incomplete and that a revised complete draft will be referred to the TAC for consultation once United Water Conservation District provides the outstanding scope and budget information.

The Watermaster has provided a memorandum requesting TAC consultation as soon as possible and transmitting the Draft Scope of Work to Prepare the Las Posas Valley Basin 2025 Basin Optimization Yield Study.

The TAC will discuss the draft scope of work and associated budget and provide feedback for transmittal to the Watermaster.

**5. Update on Committee Consultation Review Schedule**

The TAC will receive an update on the schedule for upcoming committee consultations from the Watermaster Representative.

**G. Items for Future Agenda**

Potential items for future agenda will be considered by the TAC

**H. Adjourn**

**Attachment 1**

**Minutes of the July 15, 2024 TAC Meeting**

# Las Posas Valley Groundwater Basin Technical Advisory Committee Meeting

Meeting Minutes  
for  
July 15, 2024

## A. Call to Order

TAC Administrator Chad Taylor called the meeting to order at 10:01 AM. Tony Morgan noted that a temporary Chair was required to run the meeting until the election of officers in the first item of the regular agenda. Tony Morgan nominated Chad Taylor to serve as temporary chair to preside over the meeting until the election of officers. Bob Abrams seconded the nomination which passed in a unanimous vote of the three voting members of the TAC (Tony Morgan, Bob Abrams, and Chad Taylor).

## B. Roll Call

All TAC members were present (via Zoom):

### Voting Members

- Chad Taylor
- Tony Morgan
- Bob Abrams

### Non-Voting Members

- Kimball “Kim” Loeb
- Bryan Bondy

## C. Agenda Review

There were no requested changes to the agenda.

## D. Public Comments

No public comments were received.

## E. Watermaster Executive Office Comments

Arne Anselm welcomed everybody to first TAC meeting and thanked the voting and non-voting members for their participation. He expressed that there are short-term needs, particularly with the 5-year GSA update, with hard deadlines. He noted that the TAC gets its direction from the Watermaster and is an advisory committee. The PAC has a role in the Judgment to advise the Watermaster on how to guide the TAC.

Chad Taylor responded that these comments are valuable and there will be more conversation about the roles of the committees.

## F. TAC Member Comments

Bryan Bondy noted that if TAC members want to do a field trip to the Basin, he is happy to facilitate this. There is complicated geology in the basin, and there is no replacement for a field trip to help establish a technical understanding. Chad Taylor indicated that he intends to take Bryan up on this generous offer.

Bob Abrams agreed that a field trip would be an excellent opportunity.

Tony Morgan said it would be good to get together and also learn from Mr. Bondy's expertise about the Basin.

## **G. Regular Agenda**

### **1. Election of Officers (Chair and Vice Chair) and establish Time and Place of Regular Meeting Dates (Judgment § 6.5).**

- i. Mr. Morgan asked if there is a restriction on Mr. Taylor being both Chair and Administrator. Brief discussion determined that there is not.
- ii. The position of TAC Chair was opened for nominations. Mr. Morgan moved to nominate Mr. Taylor for the position of Chair. Mr. Abrams seconded the motion. No additional nominations were presented. The vote for Chad Taylor as TAC Chair was unanimously approved.
- iii. Mr. Taylor nominated Bob Abrams to be Vice Chair. Mr. Abrams said he could but has limited time. He nominated Tony Morgan. Mr. Taylor seconded the motion. The vote for Mr. Morgan as Vice Chair was unanimously approved.
- iv. Chad Taylor recommended monthly meetings because of the relatively short timeline for upcoming items expected to be brought to the TAC. He noted that the schedule could be changed later. Bob Abrams and Tony Morgan said this seems reasonable and monthly is an appropriate frequency to start with.
- v. Mr. Taylor asked if there is appropriate day/week for the monthly meeting. Kim Loeb indicated that the Watermaster / Fox Canyon Groundwater Management Agency Board meets on Wednesdays. Ian Prichard (Chair of the Las Posas Valley PAC) noted that the PAC meets the 1<sup>st</sup> and 3<sup>rd</sup> Thursday at 3 pm. Chad Taylor suggested 11 am on Thursdays. Mr. Morgan recommended Tuesday afternoons. Mr. Abrams, Mr. Taylor, Mr. Loeb, and Mr. Bondy all confirmed availability on Tuesday afternoons.
- vi. Chad Taylor asked when in the month. Mr. Morgan suggested 3<sup>rd</sup> Tuesday of the month because it would be two days before PAC meetings.
- vii. Mr. Taylor suggested third Tuesday of the month at 2 pm. This was unanimously agreed upon by all voting and non-voting TAC members.

### **2. Discussion/Planning for Brown Act Compliance.**

Informational presentation of Brown Act overview provided to the Borrego Basin Watermaster is attached to the meeting agenda.

Mr. Taylor opened discussion of the Brown Act and its application to the TAC. The Judgment requires the TAC to be consistent with Brown act, with the specific exception that meetings are to be held virtually and be open to the public. Specific components of the Brown Act were reviewed.

Mr. Taylor asked for thoughts from TAC members on how the Brown Act applies to a 3-person committee.

Mr. Morgan asked if members are required to post their location. Mr. Taylor said he can look this up in the Judgment and report back next meeting.

Bryan Bondy asked if Brown Act and Form 700 requirement apply to non-voting members. Mr. Taylor said he will review this question and respond in the next TAC meeting.

### **3. Review TAC Role and Responsibilities.**

Chad Taylor summarized the role of the TAC and the committee relationship with the Watermaster. He noted that TAC and PAC are committees required in the Judgment as part of Stakeholder Participation. Mr. Taylor referenced the summary document included in the agenda packet that includes every reference to committee consultation in the Judgment and recommended that TAC members review this summary. Mr. Taylor also conveyed that the TAC will be asked by the Watermaster to review documents identified in the Judgment and also provide technical guidance on items outside the tasks specified in the Judgment. The TAC may also request additional technical review of items not identified by the Watermaster and the Watermaster can elect to have the TAC or others complete the related technical analyses.

### **4. Discussion/Planning for TAC tasks from Judgment:**

Chad Taylor noted that the technical review items identified in the Judgment are listed in the agenda.

- i. – iii. GSP 5-Year Evaluation, Basin Optimization Plan, and Basin Yield Optimization Study

Mr. Taylor asked for the Watermaster or other TAC members to provide an update on the first item in the list, the GSP 5 Year Evaluation.

Kim Loeb introduced Trevor Jones from Dudek who provided a presentation “Overview of Ongoing Technical Evaluations in the Los Posas Valley Basin”, a presentation that has been provided at two previous public workshops – the material was not new to this meeting. Mr. Jones proceeded to provide a high-level overview of the status of the GSP 5-Year Evaluation, Basin Optimization Plan, and Basin Yield Optimization Study.

A copy of the presentation is attached to these minutes.

Mr. Taylor opened discussion following the presentation asking Mr. Jones to specify if the 5-year evaluation was an amendment to the GSP. Mr. Jones clarified that this evaluation is not intended to be an amendment, but a stand-alone evaluation of the GSP. A GSP amendment will follow the evaluation to implement changes identified in the evaluation. Mr. Taylor asked after the schedule for producing and submitting the amended GSP and Mr. Jones said that it would be submitted to DWR as soon as possible, with a target to have it ready by the regulatory deadline for the GSP 5-Year Evaluation, which is January 13, 2025. However, Mr. Jones noted that completion and submittal of the amended GSP may require additional time.

Chad Taylor asked if changes to sustainable management criteria, including minimum thresholds and measurable objectives are anticipated to be included in the GSP amendments. Mr. Jones said that it would affect one key well for

which minimum thresholds and measurable objectives were originally defined by modeling projections.

Mr. Taylor asked about how pumping was reduced in modelling no-project scenarios to define sustainable yield for the Basin. Mr. Jones said production was reduced uniformly and proportionally among all wells in each management area to identify sustainable conditions.

iv. Calleguas ASR Project Operations Plan

Mr. Taylor asked Bryan Bondy or others to provide a status update on the Calleguas ASR Study Group.

Mr. Bondy said that the Judgment doesn't provide much guidance on how the Calleguas ASR Study Group is to be commissioned. It is still unclear who is directing the effort to form this body. Arne Anselm was also unsure how the Calleguas ASR Study Group was intended to be formed.

Mr. Taylor indicated that the Judgment includes dates for completion of the Calleguas ASR Project Operations Plan.

v. Water Year 2024 Annual Report

Mr. Taylor asked about anticipated timing of the next GSP Annual Report and when the TAC should anticipate seeing a draft.

Mr. Jones replied that the TAC should expect the draft 2024 Annual Report from Dudek early in 2025.

Mr. Taylor noted deadlines listed in Judgment, which include Interim Draft to the TAC and PAC by January 15<sup>th</sup> and Revised Draft to the Committees by February 1<sup>st</sup>.

vi. Watermaster Budget

When asked for an update on the Watermaster Budget Arne Anselm indicated that the budget for the current fiscal year has not yet been approved, but expectation that it will occur in August. He anticipates the budget for the next fiscal year from July 2025 through June 2026 will be available in time for approval by the Watermaster Board prior to the start of that fiscal year.

## 5. Committee Consultation

Mr. Taylor noted that the TAC has been asked to provide the first consultation on the project evaluation criteria and approach to technical evaluation of projects for inclusion in the Basin Optimization Plan. Mr. Taylor read out the summary of the request from the Agenda and noted that the reference materials for review were provided to all TAC members in the Agenda. The Watermaster has not set a date for return of TAC review but has asked for a response as soon as possible. Mr. Taylor asked if a meeting on July 23<sup>rd</sup> to discuss TAC member review was possible.

Tony Morgan indicated that the afternoon of July 23<sup>rd</sup> was likely not possible for him. Mr. Taylor requested thoughts in writing. Mr. Morgan indicated he should be able to provide comments in writing.

A meeting for the TAC to discuss individual member comments on the approach to technical evaluation of projects for the Basin Optimization Plan was tentatively set for Tuesday July 23 at 2 pm.

Mr. Morgan asked how TAC review is expected to be presented. Mr. Taylor noted that Judgment requires that recommendations are presented in recommendation reports prepared by the TAC Administrator with majority opinion and basis for opinion. The TAC is also required to include any dissent from majority opinion.

Bryan Bondy asked is the intent behind the technical review structure presented by the Watermaster is to prioritize or eliminate projects and noted that it would appear early to in the process to eliminate projects.

Kim Loeb responded that the list of projects described predates preparation of the GSP and that the intention is to review each project and produce a ranking based on the evaluation factors relevant in SGMA and for grant funding opportunities. The Watermaster does not intend to eliminate projects as part of this process but would like to assess individual project feasibility and priority. Mr. Loeb also noted that TAC input will be important to help the Watermaster develop identify other factors important for assessing the projects that will be included in the Basin Optimization Plan.

#### **H. Items for Future Agenda**

Chad Taylor opened discussion regarding agenda items for the next meeting and future meetings.

1. Mr. Taylor noted that the primary topic for the next meeting will be TAC review and discussion of Watermaster proposed approach for technical evaluation of projects for inclusion in the Basin Optimization Plan, as requested in item 5 above.
2. Tony Morgan requested an update of the schedule for upcoming review tasks.
3. Mr. Loeb informed the TAC that the Watermaster anticipates forwarding a draft schedule and budget for the Basin Optimization study. Chad Taylor requested a presentation from Watermaster staff or consultants to best prepare the TAC to review these and other upcoming items.

The TAC confirmed that future meetings will be held via Zoom with meeting links to be established by the Watermaster. Each meeting will have a unique Zoom link and login information that will be conveyed in future agenda.

#### **I. Adjourn**

Mr. Taylor made a motion to adjourn, and Mr. Abrams seconded.

Meeting adjourned at 11:14 AM.





# Overview of Ongoing Technical Evaluations in the Las Posas Valley Basin

LPV Technical Advisory Committee Meeting



TREVOR JONES  
**DUDEK**

JULY 15, 2024



# Introduction

- 5-Year GSP Evaluation – SGMA
- Basin Optimization Plan – Judgment
- Basin Optimization Yield Study – Judgment

# 5-Year GSP Evaluation

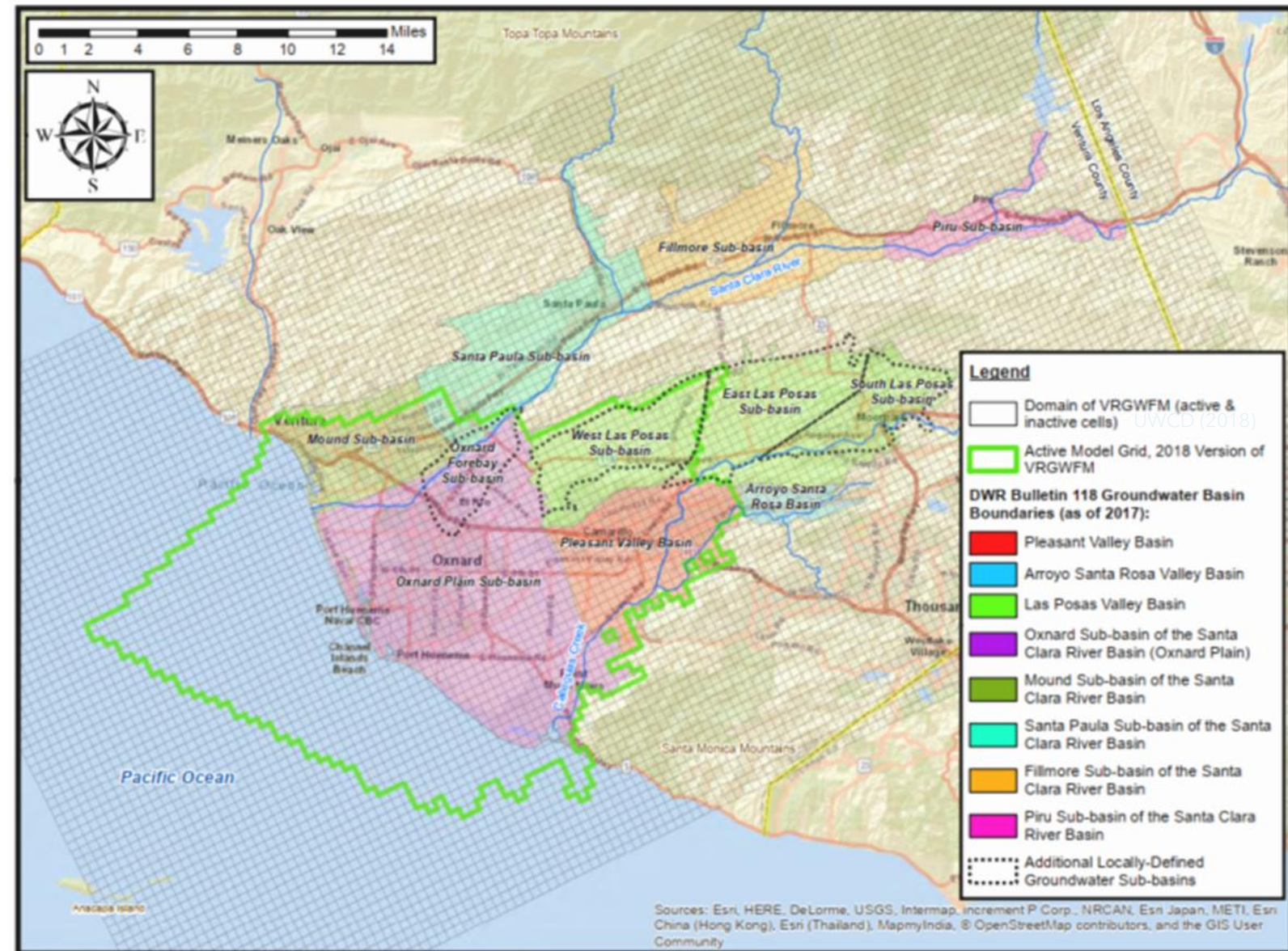
- Evaluation work started in early 2023
- Updated modeling complete
- Draft report available for Committee Consultation and public review anticipated early August 2024
- PAC & TAC review and public comments through October 2024
- Final draft report to FCGMA / Watermaster Board November 2024
- FCGMA / Watermaster Board adoption December 2024
- Submittal to DWR - due prior to January 13, 2025

# Numerical Model Update for the WLPMA

Modeling for the 5-Year GSP Evaluation

## Ventura Regional Groundwater Flow Model

- Numerical groundwater flow model developed and maintained by United Water Conservation District
- Updates since adoption of the GSP:
  - Expanded to encompass the Santa Paula, Filmore, and Piru Basins
  - Revised stratigraphic layering along the coast, near Port Hueneme and Point Mugu, based on additional geologic data
  - Updated coastal boundary conditions to better simulate groundwater elevations along the coastline
- Numerical model extended through September 30, 2022



UWCD (United Water Conservation District). 2018. Ventura Regional Groundwater Flow Model and Updated Hydrogeologic Conceptual Model: Oxnard Plain, Oxnard Forebay, Pleasant Valley, West Las Posas, and Mound Groundwater Basins. Open-File Report 2018-02. July 2018.

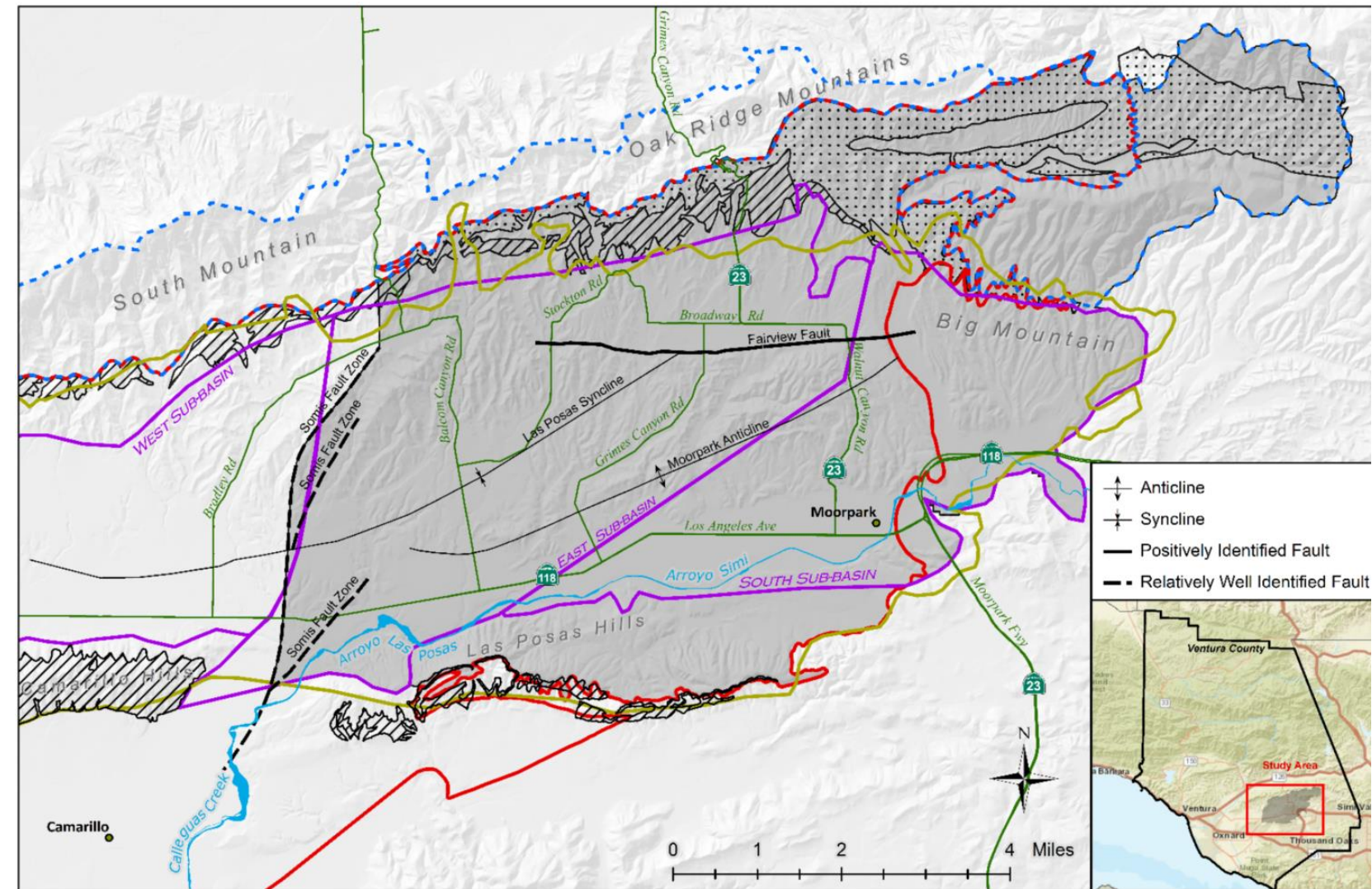


# Numerical Model Update for the ELPMA

Modeling for the 5-Year GSP Evaluation

## East Las Posas Model

- Numerical model provided to FCGMA by CMWD for 5-Year GSP Evaluation
- Numerical model extended through September 30, 2022, to validate predictive capabilities
- East Las Posas model was not revised as part of the 5-year GSP Evaluation



### Management Boundaries

- |   |                                |                       |
|---|--------------------------------|-----------------------|
| Historically Locally Recognized Las Posas Valley Sub-basins | Active Model Area              | Fox Canyon outcrop    |
| Fox Canyon Groundwater Management Area (FCGMA)              | Arroyo Simi / Arroyo Las Posas | Grimes Canyon outcrop |

CMWD (Calleguas Municipal Water District). 2018. Groundwater Flow Model of the East and South Las Posas Sub-Basins. Prepared by Intera Geoscience and Engineering Solutions. January 2018.

# Updated GSP Modeling Scenarios

Modeling for the 5-Year GSP Evaluation



## Future Baseline

### Updated pumping and expanded suite of projects

- Reflects recent pumping trends
- Includes projects that are currently funded and under construction in the LPVB and OPV



## No New Projects

### Sustainable pumping rate

- Includes projects currently funded and under construction in the LPVB and OPV



## Projects

### Integrates Management Actions and New Projects

- Adds future projects that are consistent with the Judgment and likely to be implemented in the LPVB and OPV
- Evaluates the impacts of demand reduction through voluntary temporary fallowing



## Projects With EBB

### Shifts the management framework

- Operation of UWCDs Extraction Barrier Brackish (EBB) water project
- **Only applicable for WLPMA**

# Baseline Model Scenario

Modeling for the 5-Year GSP Evaluation

## Projects simulated in the GSP:

- Conejo Creek Project
- North Pleasant Valley Desalter Project
- AWPf Deliveries for AG

## Change in projected water supply from GSP Baseline

- Scenario 1: Discharges from SVWQCP maintained at historical average
  - 3,600 AFY of additional recharge compared to the GSP
- Scenario 2: Discharges from SVWQCP maintained at 2016-2022 average
  - 2,400 AFY of additional recharge compared to the GSP

# New Baseline Projects

Project Name	Project Proponent	Basin	Anticipated Water Supply (AFY)	Projected Offset Pumping Reduction (AFY)
SVWQCP Discharges to Arroyo Las Posas	-	LPVB	3,600 / 2,400	0
Ferro-Rose Recharge Basin	UWCD	OPV*	2,500	Variable
Supplemental SWP purchase	UWCD	OPV*	6,000	Variable
Camarillo Recycled Water Deliveries to PVCWD	City of Camarillo	OPV*	1,300	1,300
Laguna road recycled water interconnect	UWCD	OPV*	0 - 1,500	0

\*Included because these projects impact water levels in the WLPMA

# No New Projects Scenario

Modeling for the 5-Year GSP Evaluation

- Projects, simulation period, and hydrology are consistent with the Baseline Scenario
- Groundwater extractions incrementally adjusted until:
  - **WLPMA**
    - No net seawater intrusion in Oxnard
  - **ELPMA**
    - No net decline in groundwater in storage
- Improves on previous estimate of sustainable yield through direct simulation rather than regression



# Projects Scenario

Modeling for the 5-Year GSP Evaluation

## New Future Projects

Project Name	Project Proponent	Anticipated Water Supply (AFY)	Projected Offset Pumping Reduction (AFY)
ZMWC Infrastructure Improvement	ZMWC	0	500
Importing of surplus water	<u>Unknown</u> Will be scoped, designed, and evaluated as part of the Basin Optimization Plan.		
Arroyo Las Posas storm water capture and recharge			
Desalter construction			
Recycled water delivery pipeline			
New or modified in lieu delivery infrastructure			
Using CMWD facilities for replenishment			

### Projects and Management Actions simulated in the GSP:

- Arundo Removal
- In-Lieu deliveries to WLPMA

### Sustainable Yield:

- Iterative adjustments to simulate pumping at the sustainable yield

### OPV Projects:

- New projects in the OPV include the Freeman Expansion
- This project will influence groundwater elevations in the WLPMA

# Projects with EBB Scenario

Modeling for the 5-Year GSP Evaluation

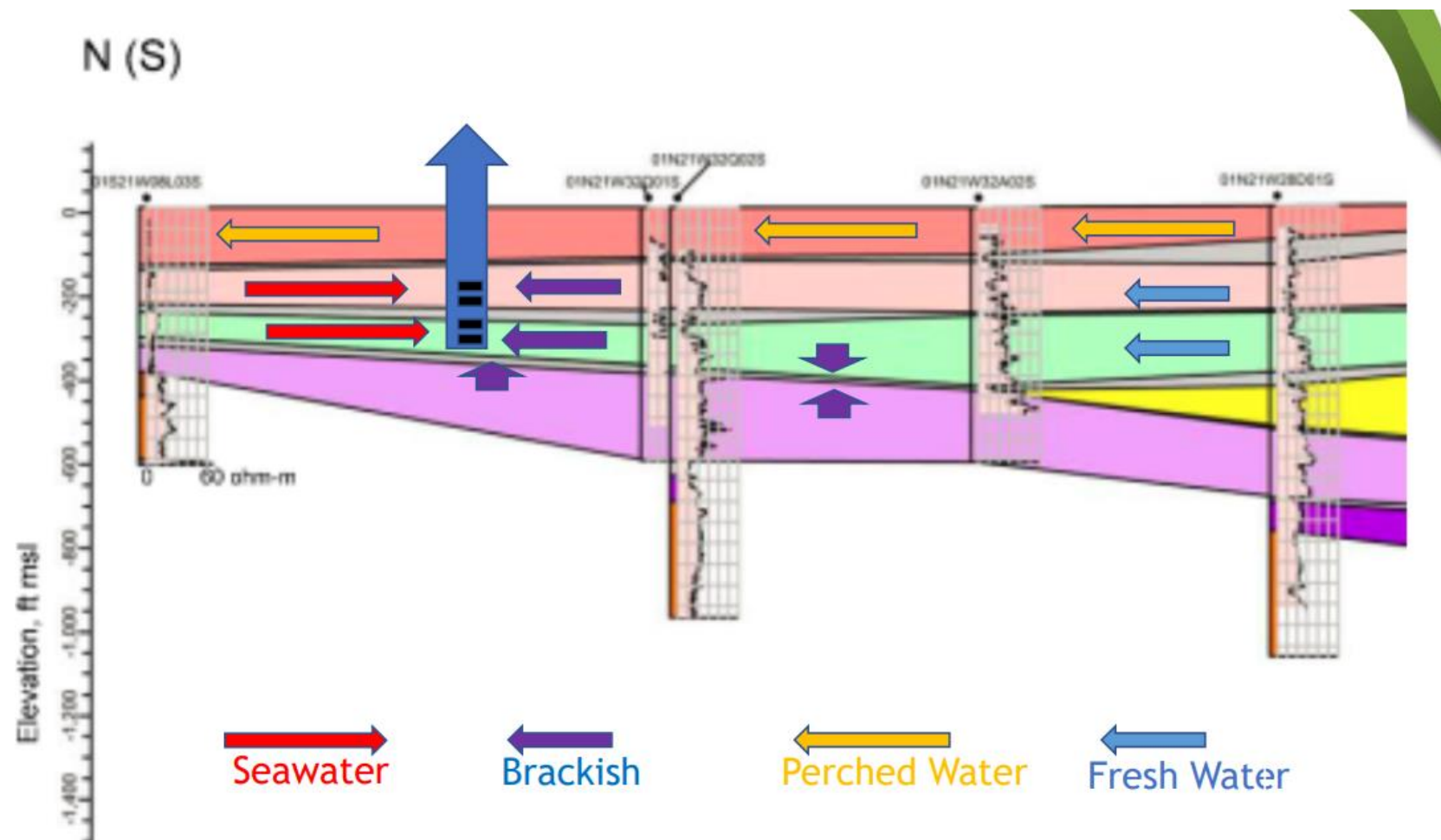
## EBB Design:

- Extraction of 10,000 AFY near Point Mugu
- 5,000 AFY of treated product water
  - 1,500 AFY delivered to Navy
  - 3,500 AFY delivered to Forebay for recharge

## Sustainable Yield and Management Criteria

- Focus on landward migration of saline water impact front
- Revised Minimum thresholds and measurable objectives

Project Name	Project Proponent	Anticipated Water Supply (Acre-Feet per Year)	Projected Offset Pumping Reduction
Extraction Barrier Brackish Water Project	UWCD	5,000	3,500 - 5,000



[https://www.unitedwater.org/wp-content/uploads/2022/10/UWCD\\_WSSIII-EBB-Water-Treatment-Project-2022-10-19.pdf](https://www.unitedwater.org/wp-content/uploads/2022/10/UWCD_WSSIII-EBB-Water-Treatment-Project-2022-10-19.pdf)

# Basin Optimization Plan

- Per the Judgment, scope includes:
  - Criteria for determining priority and feasibility of each Basin Optimization Project
  - Description of Basin Optimization Projects likely to be practical, reasonable, and cost-effective to implement prior to 2040 to maintain Operation Yield at or close to 40,000 AFY
  - Analysis whether any Basin Optimization Projects are 1) consistent with SGMA, and 2) will prevent or alleviate, or cause or exacerbate, Undesirable Results or Material Injury
  - Prioritization schedule for Basin Optimization Projects implementation
  - Schedule for Basin Optimization Projects which are to be implemented to be evaluated, scoped, designed, financed, and developed
  - Five-year budget for the costs of capital improvements, and O&M of the Basin Optimization Projects
- PAC & TAC review of draft Basin Optimization Plan

# Basin Optimization Yield Study

- Establishes the Basin Optimization Yield
  - Evaluated every 5 years
  - Initial evaluation for Water Years 2025 through 2039
  - Establishes necessary extraction Rampdown Rate
- Draft scope of work and budget for study to be referred to TAC for Committee Consultation

# Next Steps

- Draft 5-Year GSP Evaluation anticipated to be available for review in early August 2024
- Draft Basin Optimization Plan evaluation criteria referred to TAC
- Draft Basin Optimization Yield scope of work and budget to be referred to TAC for Committee Consultation

## **Attachment 2**

**Committee Consultation for the Draft Scope of Work to Prepare the Las Posas Valley Basin 2025 Basin Optimization Yield Study**

# FOX CANYON GROUNDWATER MANAGEMENT AGENCY

## LAS POSAS VALLEY WATERMASTER

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### MEMORANDUM

**Date:** July 16, 2024  
**To:** Las Posas Valley Watermaster Technical Advisory Committee  
**From:** Kudzai F. Kaseke, Assistant Groundwater Manager  
**Subject:** Committee Consultation for the Draft Scope of Work to Prepare the Las Posas Valley Basin 2025 Basin Optimization Yield Study.

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Dear Las Posas Valley Watermaster Technical Advisory Committee (TAC):

Attached for your review and committee consultation is the Draft Scope of Work to Prepare the Las Posas Valley Basin 2025 Basin Optimization Yield Study. The Las Posas Valley Adjudication Judgment requires that Watermaster approve a scope of work and budget for a technical study to assess and establish the Basin Optimization Yield, following Committee Consultation. (Judgment, § 4.10.1.1.). Watermaster staff acknowledge that the Draft Scope of Work as presented is incomplete and will refer the complete Draft back to your committee for consultation once United Water Conservation District supplies their time and budget estimates.

Watermaster staff working with a consultant (Dudek), have developed a draft scope of work for the 2025 Basin Optimization Yield Study. It is important to note that:

- 1) The draft scope of work assumes the Basin Optimization Yield study will be evaluated through a set of numerical model runs,
  - a. The draft budget includes budget for consultant to perform the modeling for the East Las Posas Management Area,
  - b. The draft budget includes budget for consultant to coordinate with United Water Conservation District, but the scope of work currently does not include time or budget for United Water Conservation District to perform the modeling for the West Las Posas Management Area. The budget in the attached Scope of Work thus does not represent the total cost to the Watermaster to prepare the Basin Optimization Yield Study.

Watermaster proposes that the TAC evaluate the draft scope of work and budget as presented with the understanding that once United Water Conservation District supplies their estimates, these will be brought before your committee for consultation. Please provide feedback via the email below to the Watermaster at your earliest convenience.

Please contact me at 805 654 2010 or [LPV.Watermaster@ventura.org](mailto:LPV.Watermaster@ventura.org) with any questions or concerns.



December 27, 2023

Kim Loeb  
Fox Canyon Groundwater Management Agency  
800 South Victoria Avenue  
Ventura, Ca 93009

**Subject: DRAFT Scope of Work to Prepare the Las Posas Valley Basin 2025 Basin Optimization Yield Study**

Dear Kim Loeb:

Dudek is pleased to provide this scope of work to support the Fox Canyon Groundwater Management Agency (FCGMA) in the development of the 2025 Basin Optimization Yield (BOY) Study for the Las Posas Valley Basin (LPVB). Dudek understands that the goal of the BOY Study is to quantify the BOY<sup>1</sup> and Rampdown Rate<sup>2</sup>, each of which will be defined in a manner consistent with the Judgement, sustainability goal for the LPVB, and the Sustainable Groundwater Management Act (SGMA). Additionally, Dudek understands that the development of this BOY Study will occur concurrently with critical basin management activities, including the development of the 5-year Groundwater Sustainability Plan (GSP) Evaluation, development of the Basin Optimization Plan, and development of Calleguas Aquifer Storage and Recovery Operations Plan. Because of this, we understand that the FCGMA will need to develop the BOY Study in a manner that efficiently and effectively incorporates new groundwater management information as it is developed by the FCGMA, with input from the Policy Advisory Committee (PAC) and Technical Advisory Committee (TAC). As the team who has actively partnered with the FCGMA in the development and implementation of the GSP for the LPVB, we are uniquely familiar with the projects identified in the Judgement and are well suited to support the FCGMA in their development of the BOY Study.

## Scope of Work

As the Watermaster for the LPVB, FCGMA is responsible for calculating the BOY and Rampdown Rate. To support FCGMA in this, Dudek proposes that the numerical groundwater flow models for the LPVB be used to simulate the impact of future groundwater extractions and projects on groundwater levels in the LPVB. Dudek will use the numerical groundwater flow model for the East Las Posas Management Area (ELPMA)<sup>3</sup> and Dudek recommends

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<sup>1</sup> *Las Posas Valley Water Rights Coalition v. Fox Canyon Groundwater Management Agency. Case No. VENC100509700* (Judgement) defines the Basin Optimization Yield as, “the estimated yield that is projected to be available to achieve sustainable groundwater management by 2040.[...] The Basin Optimization Yield will take into account: (i) water available from native groundwater inflows; (ii) Return Flows; (iii) reasonably anticipated enhanced yield (i.e., managed replenishment excluding water stored and dedicated to the Calleguas ASR Project) projected to be available by Water Year 2040 consistent with the projected Basin Optimization Plan; and (iv) opportunities for optimization of the Sustainable Yield achieved by relocating Extraction and transmission of water to avoid Undesirable Results. The Basin Optimization Yield will also, through Adaptive Management, take into account circumstances including: (a) improved understanding of Basin conditions and hydrogeologic parameters as a result of new data over time; (b) the current status of Basin Optimization Projects; and (c) changing hydrological conditions”.

<sup>2</sup> The Judgement defines the Rampdown Rate as, “The rate of Rampdown beginning in Water Year 2025 and each Water Year thereafter, which will result from the Basin Optimization Study”, and defines that the Rampdown Rate shall be calculated, “by dividing the amount of any deficit between the then-effective Operating Yield (e.g. 40,000 AFY) and the Basin Optimization Yield by fifteen (i.e. fifteen annual increments)”.

<sup>3</sup> Calleguas Municipal Water District, 2018, Groundwater Flow Model of the East and South Las Posas Sub-Basins – Preliminary Draft Report. Prepared by Intera Geoscience and Engineering Solutions. January 2018.



that the West Las Posas Management Area (WLPMA) analyses be performed in coordination with the United Water Conservation District (UWCD) using the Updated Coastal Plain numerical groundwater flow model currently in use for development of the 2025 GSP Update for the Oxnard Subbasin, Pleasant Valley Basin, and LPVB. The scope of work below describes Dudek’s approach to quantifying the BOY and Rampdown Rate.

## Task 1 – Model Scenario Development

The Judgement requires development of a Basin Optimization Plan that defines the suite of projects that are likely to be “practical, reasonable, and cost-effective to implement prior to 2040 to maintain the Operating Yield at 40,000 AFY or as close thereto as achievable” (Section 5.3.2.2 of the Judgement). The Judgement requires that FCGMA prepare an initial draft of the Basin Optimization Plan that will include project details (e.g. schedules, costs, feasibility, etc.), a project prioritization schedule, and a schedule for the Basin Optimization Projects to be evaluated, scoped, designed, financed, and developed (Section 5.3.2.4 and 5.3.2.5 of the Judgement).

Dudek understands that the Final Basin Optimization Plan will not be adopted by the Watermaster Board until the summer of 2024. Therefore, to facilitate efficient development of the BOY Study, Dudek will use the project feasibility and implementation timelines in the draft Basin Optimization Plan to prepare a proposed suite of projects for inclusion in the BOY Study. As needed and appropriate, Dudek will coordinate with FCGMA and individual project proponents to define the project implementation details required for modeling, such as proposed in lieu and recycled water delivery recipients, conditions amenable to stormwater diversion along the Arroyo Las Posas, and timelines/conditions favorable for using Calleguas facilities for LPVB replenishment.

### Assumptions

- The model scenario will *only* include projects identified in the *draft* Basin Optimization Plan that are “practical, reasonable, and cost-effective to implement prior to 2040”.
- Development of the model scenario and BOY Study project suite will not undergo PAC and TAC review.
- If individual project proponents do not respond to a request for additional information on project implementation details Dudek will use professional judgment to develop the project scenario.

**Task 1** ..... \$6,905.00

## Task 2 – ELPMA Numerical Modeling

### Task 2.1 – Baseline Model Scenario

Following development of the BOY Study project suite, Dudek will develop a baseline model scenario that simulates groundwater conditions in the ELPMA through water year 2069. To remain consistent with the GSP, the baseline model scenario will use the hydrologic period from 1930-1979, modified by DWR’s 2070 central tendency climate change factors. Groundwater withdrawals in the baseline model scenario will be set at the initial Operating Yield established in the Judgement, such that total extractions from the LPVB equal 40,000 AFY. Projects will be simulated according to the schedules defined in the draft Basin Optimization Plan.

Using the simulation results from the baseline scenario, Dudek will develop groundwater budgets, calculate the change in groundwater in storage, and compare groundwater levels at key wells to the minimum thresholds and

measurable objectives in the ELPMA to characterize the efficacy of the Basin Optimization Projects in avoiding undesirable results in the LPVB.

### Assumptions

- The Baseline scenario will be modeled using the existing version of the numerical groundwater flow model of the ELPMA (CMWD 2018). This model is currently being used for development of the 2025 LPVB GSP Update.
  - Baseline modeling will *not* include model validation, re-calibration, or uncertainty quantification.
- Well by well extraction rates will be defined using the allocation schedule set forth in Exhibit C of the Judgement.
- Model results will not undergo PAC and/or TAC review until review of the *draft* BOY Study.

**Task 2.1** .....\$28,845.00

## Task 2.2 – Alternative Pumping Scenarios and Rampdown Rate

If the Basin Optimization Projects do not avoid undesirable results when groundwater extractions in the LPVB equal 40,000 AFY, Dudek will perform up to three (3) additional scenarios to define a groundwater production rate that avoids undesirable results. For these scenarios, Dudek will uniformly reduce groundwater extractions across the ELPMA until undesirable results are avoided. Dudek has not included scope and budget to simulate localized restrictions on extractions within the ELPMA, as defined in section 4.10.3 of the Judgement.

If the BOY is lower than 40,000 AFY, Dudek will calculate the Rampdown Rate in accordance with Section 4.10.1.4 of the Judgement.

### Assumptions

- The alternative pumping scenarios will be modeled using the existing version of the numerical groundwater flow model of the ELPMA (CMWD 2018). This model is currently being used for development of the 2025 LPVB GSP Update.
  - The alternative pumping scenarios modeling will *not* include model validation, re-calibration, or uncertainty quantification.
- Well by well extraction rates will be defined using the allocation schedule set forth in Exhibit C and the Protocols and Formulas to Determine Allocations in Exhibit D of the Judgement.
- Alternative pumping scenarios will not include localized restrictions on extractions within the ELPMA.
- Development of the alternative pumping scenarios and corresponding model results will not undergo PAC and/or TAC review until review of the *draft* BOY Study.

**Task 2.2** .....\$12,465.00

**TASK 2 TOTAL** .....\$41,310.00

## Task 3 – WLPMA Modeling Coordination

Dudek understands that the numerical modeling for the WLPMA will be performed by UWCD. To support coordination between the WLPMA and ELPMA modeling efforts, Dudek has included scope and budget to attend up to four (4) coordination calls, develop up to four (4) pumping scenarios, and analyze up to four (4) sets of numerical model outputs provided by UWCD for incorporation into the BOY Study.

### Assumptions

- All numerical modeling for the WLPMA will be performed by UWCD using the same version of the Ventura Regional Groundwater Flow Model that is being used to support preparation of the 2025 GSP Updates for the Oxnard Subbasin, Pleasant Valley Basin, and LPVB.
  - The WLPMA modeling will *not* include model validation, re-calibration, or uncertainty quantification.
- Well by well extraction rates will be defined using the allocation schedule set forth in Exhibit C and the Protocols and Formulas to Determine Allocations in Exhibit D of the Judgement.
- Alternative pumping scenarios will not include localized restrictions on extractions within the WLPMA.
- Development of the model scenarios and corresponding model results will not undergo PAC and TAC review until review of the *draft* BOY Study.

Task 3 .....\$10,795.00

## Task 4 – Draft and Final Basin Optimization Yield Study

Dudek will summarize results from the numerical modeling in the draft BOY Study. Dudek will prepare one (1) draft BOY Study and, pursuant to the Judgement, provide the draft to the PAC and TAC for review and comment. Dudek will, as appropriate and in consultation with FCGMA, revise the draft BOY Study based on feedback from the PAC and TAC.

The revised draft BOY Study will be provided to the Watermaster Board for review and discussion. Dudek will prepare the final BOY Study based on feedback provided by the Watermaster Board and will submit a final BOY Study for approval by Watermaster Board meeting.

### Assumptions

- Dudek will provide electronic copies of the draft BOY Study to the PAC and TAC.
- The draft BOY Study will undergo one (1) round of internal review by FCGMA staff, one (1) round of external review by the LPVB PAC and TAC, and one (1) round of external review by Watermaster Board.
- The PAC will provide one (1) redline edit version of the draft BOY study with all PAC member comments collected for Dudek to review.
- The TAC will provide one (1) redline edit version of the draft BOY study with all TAC member comments collected for Dudek to review.

- Dudek will, as appropriate and in consultation with FCGMA staff, revise the draft BOY Study following each round of review and provide the Watermaster with one (1) electronic copy of the final BOY Study.

Task 4 .....\$39,540.00

## Task 5 – Watermaster Recommendation Response Reports

The Judgement requires that the draft BOY Study scope of work and draft BOY Study be provided to the PAC and TAC for formal review and comment. The PAC and TAC may provide the Watermaster with recommendation reports for both the BOY Study scope of work and BOY Study that shall be presented to the Watermaster Board. Prior to presenting the recommendations to the Board, Watermaster staff may prepare formal response reports that document responses to the PAC and TAC recommendations. Dudek has included time and budget to support the Watermaster staff in the development of response reports for both the draft scope of work and BOY Study. The time and budget provided is based on Dudek’s professional judgement. If PAC and TAC comments vary greatly from our estimate, we will discuss options for addressing these comments with FCGMA staff. If Dudek and staff agree that the time budgeted below is insufficient to address the comments, Dudek will prepare a revised budget for Watermaster approval detailing the additional work required to adequately respond to the comments.

### Assumptions

- Dudek will prepare one (1) draft response report for the BOY study scope of work recommendation report and one (1) draft response report for the BOY Study recommendation report. Each draft response report will be provided to FCGMA for one (1) round of internal review.
- Dudek will, as appropriate and in consultation with FCGMA staff, revise the draft response reports and provide the Watermaster with one (1) electronic copy for consideration during review of the BOY Study scope of work and BOY Study report.
- The budget for this task is based on Dudek’s professional judgement.

Task 5 .....\$31,860.00

## Task 6 – Committee Meetings

The Judgement requires that the BOY Study be developed in consultation with the PAC and TAC and approved by the Watermaster Board. To support these coordination efforts, Dudek has included time to prepare for and attend both in-person and virtual meetings to discuss the development of the BOY Study with the TAC<sup>4</sup> and Watermaster Board. Under this task Dudek will prepare for and attend up to six (6) meetings according to the following schedule:

**Table 1. Anticipated Meetings**

Meeting No.	Meeting Topic	Committee	Type
1	Scope of Work	Technical Advisory Committee	Virtual
2	Scope of Work	Watermaster Board	In Person

<sup>4</sup> Dudek’s committee engagement will be focused on the technical development of the Basin Optimization Study and input from the PAC will be provided by the Watermaster and in recommendation reports.

**Table 1. Anticipated Meetings**

Meeting No.	Meeting Topic	Committee	Type
3	Draft Study	Watermaster Board	In Person
4	Recommendations on the Draft Study	Technical Advisory Committee	Virtual
5	Recommendations on the Draft Study	Watermaster Board	In Person
6	Adoption of the BOY Study	Watermaster Board	In Person

Task 6 ..... \$28,240.00

**Assumptions**

- Up to two (2) Dudek staff members will attend up to two (2) virtual meetings with the TAC. Dudek has not included travel costs in our budget assumptions for these meetings. If the TAC meetings require in-person attendance the budget will need to be revised or the total number of meetings Dudek attends will need to be reduced. If the TAC requests additional staff members attend, the budget will need to be revised or the total number of meetings Dudek attends will need to be reduced.
- Up to two (2) Dudek staff members will attend up to four (4) in-person meetings with the Watermaster Board.

## Task 7 – Project Management

Dudek anticipates that the BOY Study will be developed over a 1-year time frame (Table 2). To facilitate efficient development of the BOY Study, Dudek has included scope and budget for biweekly (every other week) coordination calls with FCGMA staff, and general project management activities.

Task 7 ..... \$21,530.00

## Schedule

Dudek anticipates that this draft scope of work will be provided to the LPVB PAC and TAC in March 2024 and that the finalization and implementation of the BOY Study scope of work will be completed in accordance with the timeline specified in Table 2.

**Assumptions**

- This schedule assumes that the *draft* Basin Optimization Plan for the LPVB will be developed with sufficient time to incorporate the findings into Task 1. If the *draft* Basin Optimization Plan is not prepared prior to the initiation of Task 1, Dudek will coordinate with FCGMA to prepare a revised schedule that will be disseminated to the PAC and TAC for review and feedback.
- This schedule additionally assumes that the numerical modeling performed by the UWCD can be completed in coordination with FCGMA and Dudek over a five (5) month time frame. Dudek will work with FCGMA and UWCD to facilitate this, however, Dudek understands that UWCD may have additional obligations that may impact their modeling schedules. In the event that the numerical modeling cannot be performed within this time frame, Dudek will coordinate with FCGMA to prepare a revised schedule that will be disseminated to the PAC and TAC for review and feedback.

**Table 2. Schedule**

Description	Tasks Covered	Anticipated Duration (weeks)
LPVB Committee review of the draft BOY Study scope of work	-	6
Recommendation Report review, BOY Study scope of work revisions, and response report development	5 <sup>a</sup>	6
Final BOY Study scope of work development following Watermaster Board review	5 <sup>a</sup>	5
Development of the draft BOY Study	1, 2, 3, 4 <sup>b</sup>	22
LPVB Committee review and Recommendation Report development	-	6
Recommendation Report review, draft BOY Study revisions, and Response Report development	4 <sup>c</sup> , 5 <sup>d</sup>	6
Final BOY Study development following Watermaster Board review	4 <sup>c</sup>	4
<b>Total Anticipated Project Duration</b>		<b>55 weeks (approx. 1 year)</b>

**Notes**

- <sup>a</sup>Covers development of the Response Reports to the draft BOY scope of work Recommendation Reports.
- <sup>b</sup>Covers development of the draft BOY Study.
- <sup>c</sup>Covers development of the revised draft BOY Study.
- <sup>d</sup>Covers development of the BOY Study Response Report.
- <sup>e</sup>Covers development of the final BOY Study.

## Cost Estimate

Table 3 includes a summary of Dudek’s estimated cost to complete each task of this work plan. A detailed cost estimate, which includes a breakdown of estimated hours by staff and billing rate is included as Attachment A.

### Assumptions

- This cost estimate reflects all assumptions outlined in Tasks 1 through 7. If the LPVB PAC and/or TAC recommend revisions to the BOY Study scope of work, Dudek will coordinate with FCGMA staff to prepare an updated fee estimate that incorporates the recommended revisions.

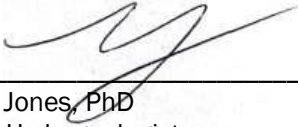
**Table 3. Cost Summary**

Task	Task Title	Cost Estimate
1	Model Scenario Development	\$6,905.00
2	ELPMA Numerical Modeling	\$41,310.00
2.1	Baseline Model Scenario	\$28,845.00
2.2	Alternative Pumping Scenarios and Rampdown Rate	\$12,465.00
3	WLPMA Modeling Coordination	\$10,795.00
4	Draft and Final Basin Optimization Yield Study Report	\$39,540.00
5	Watermaster Response Reports	\$31,860.00
6	Committee Meetings	\$28,240.00
7	Project Management and Coordination	\$21,530.00

**Table 3. Cost Summary**

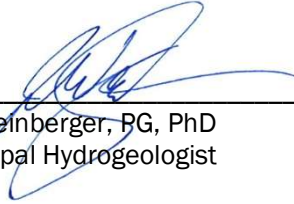
Task	Task Title	Cost Estimate
	Total Cost	\$180,180.00

Sincerely,



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Trevor Jones, PhD  
Senior Hydrogeologist



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Jill Weinberger, PG, PhD  
Principal Hydrogeologist

DRAFT



# **Attachment A**

## Detailed Cost Estimate



**DRAFT LPVB Basin Optimization Yield (BOY) Study Detailed Cost Estimate**

Dudek Labor Hours and Rates										
		Principal Hydrogeologist/Engineer II	Sr. Hydrogeologist IV/Engineer IV	Sr. Hydrogeologist III/Engineer II	Project Hydrogeologist III/Engineer III	Project Hydrogeologist III/Engineer II	TOTAL DUDEK HOURS	DUDEK LABOR COSTS	OTHER DIRECT COSTS	TOTAL FEE
<i>Project Team Role:</i>										
<i>Billable Rate:</i>		\$295.00	\$250.00	\$230.00	\$185.00	\$175.00				
<b>Task 1</b>	<b>Define Project Suite and Model Scenarios</b>									
1.1	Review Basin Optimization Plan; Define Basin Optimization Suite and Implementation Timeline; Coordinate with Agencies	9	17				26	\$6,905.00		\$6,905.00
	<b>Subtotal Task 1</b>	<b>9</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>26</b>	<b>\$6,905.00</b>		<b>\$6,905.00</b>
<b>Task 2</b>	<b>ELPMA Numerical Modeling</b>									
2.1	Baseline Model Scenario	3	24	32	60	20	139	\$28,845.00		\$28,845.00
2.2	Alternative Pumping Scenarios and Rampdown Rate	3	12	18	24		57	\$12,465.00		\$12,465.00
	<b>Subtotal Task 2</b>	<b>6</b>	<b>36</b>	<b>50</b>	<b>84</b>	<b>20</b>	<b>196</b>	<b>\$41,310.00</b>		<b>\$41,310.00</b>
<b>Task 3</b>	<b>WLPMA Modeling Coordination</b>									
3.1	Coordination, Meetings, and Technical Analyses	5	10	20	12		47	\$10,795.00		\$10,795.00
	<b>Subtotal Task 3</b>	<b>5</b>	<b>10</b>	<b>20</b>	<b>12</b>	<b>0</b>	<b>47</b>	<b>\$10,795.00</b>		<b>\$10,795.00</b>
<b>Task 4</b>	<b>Draft and Final Basin Optimization Yield Study</b>									
4.1	Draft Basin Optimization Yield Study (Delivered to PAC and TAC)	12	40	12	12	32	108	\$24,120.00		\$24,120.00
4.3	Draft Basin Optimization Yield Study (Revised based on PAC and TAC feedback - Delivered to Watermaster Board)	6	8	8		16	38	\$8,410.00		\$8,410.00
4.4	Final Basin Optimization Yield Study	6	8	8		8	30	\$7,010.00		\$7,010.00
	<b>Subtotal Task 4</b>	<b>24</b>	<b>56</b>	<b>28</b>	<b>12</b>	<b>56</b>	<b>176</b>	<b>\$39,540.00</b>		<b>\$39,540.00</b>
<b>Task 5</b>	<b>Watermaster Response Report(s)</b>									
5.1	Draft response report to PAC/TAC SOW Recommendation Report	6	10				16	\$4,270.00		\$4,270.00
5.2	Final response report to PAC/TAC SOW Recommendation Report	2	4				6	\$1,590.00		\$1,590.00
5.3	Draft response report to PAC/TAC Basin Optimization Study Recommendation Report	12	32	8	8	24	84	\$19,060.00		\$19,060.00
5.4	Final response report to PAC/TAC Basin Optimization Study Recommendation Report	4	8	4	4	12	32	\$6,940.00		\$6,940.00
	<b>Subtotal Task 5</b>	<b>24</b>	<b>54</b>	<b>12</b>	<b>12</b>	<b>36</b>	<b>138</b>	<b>\$31,860.00</b>		<b>\$31,860.00</b>
<b>Task 6</b>	<b>Committee Meetings</b>									
6.1	TAC Meetings <sup>a</sup>	10	10				20	\$5,450.00		\$5,450.00
6.2	Watermaster Board Meetings <sup>b</sup>	40	40				80	\$21,800.00	\$990.00	\$22,790.00
	<b>Subtotal Task 6</b>	<b>50</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>\$27,250.00</b>	<b>\$990.00</b>	<b>\$28,240.00</b>
<b>Task 7</b>	<b>Project Management and Coordination</b>									
7.1	Team Calls	30	30				60	\$16,350.00		\$16,350.00
7.2	Project Management	4	16				20	\$5,180.00		\$5,180.00
	<b>Subtotal Task 7</b>	<b>34</b>	<b>46</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>80</b>	<b>\$21,530.00</b>		<b>\$21,530.00</b>
	<b>Total Hours</b>	<b>152</b>	<b>269</b>	<b>110</b>	<b>120</b>	<b>112</b>	<b>763</b>			
	<b>Total</b>	<b>\$44,840.00</b>	<b>\$67,250.00</b>	<b>\$25,300.00</b>	<b>\$22,200.00</b>	<b>\$19,600.00</b>		<b>\$179,190.00</b>	<b>\$990.00</b>	<b>\$180,180.00</b>

**Notes**

<sup>a</sup>Assumes preparation and attendance at two TAC meetings to discuss: (1) the draft Scope of Work and Budget and (2) the draft BOY Study report. Cost assumes that Dudek will attend virtually.

<sup>b</sup>Assumes preparation and attendance at four in-person Watermaster Board meetings to discuss: (1) the draft Scope of Work and Budget, (2) the draft BOY study report, (3) the BOY Study Recommendation Reports provided by the PAC and TAC, and (4) the final adoption of the BOY Study report.