

March 23, 2023

SPECIAL MEETING NOTICE

WATER STORAGE EXPLORATORY COMMITTEE

Board Members of the Water Storage Exploratory Committee

Director Rebecca Eisenberg

Director Nai Hsueh

Director Richard P. Santos

Staff Support of the Water Storage Exploratory Committee

Rick L. Callender, Esq., Chief Executive Officer

Melanie Richardson, Assistant Chief Executive Officer

Aaron Baker, Chief Operating Officer, Water Utility

Rachael Gibson, Chief of External Affairs

J. Carlos Orellana, District Counsel

Brian Hopper, Senior Assistant District Counsel

Vincent Gin, Deputy Operating Officer, Water Supply Division

Christopher Hakes, Deputy Operating Officer, Dam Safety & Capital Delivery Division

Emmanuel Aryee, Deputy Operating Officer, Water Utility Capital Division

Marta Lugo, Assistant Officer, Office of the Chief of External Affairs

Gregory Williams, Deputy Operating Officer, Raw Water Division

Ryan McCarter, Assistant Officer, Dam Safety & Capital Delivery Division

Kirsten Struve, Assistant Officer, Water Supply Division

Cindy Kao, Imported Water Manager, Imported Water Unit

Julianne O'Brien, Pacheco Project Manager, Pacheco Project Delivery Unit

Metra Richert, Unit Manager, Water Supply Planning & Conservation Unit

Charlene Sun, Treasury and Debt Manager

Andrew Garcia, Senior Water Resources Specialist, Imported Water Unit

Samantha Greene, Senior Water Resources Specialist, Water Supply Planning & Conservation Unit

A special meeting of the Santa Clara Valley Water District (SCVWD) Water Storage Exploratory Committee is to be held on **Wednesday, March 29, 2023, at 11:00 a.m. at Headquarters Building Boardroom, 5700 Almaden Expressway, San Jose CA 95118. The Public and non-presenting staff may Join Zoom Meeting** <https://valleywater.zoom.us/j/98246045660>.

The meeting agenda and corresponding materials can be found on our website for your convenience. <https://www.valleywater.org/how-we-operate/committees/board-committees>

WATER STORAGE EXPLORATORY COMMITTEE MEETING

Public Join Zoom Meeting

<https://valleywater.zoom.us/j/98246045660>

Meeting ID: 982 4604 5660

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Dial by your location

+1 669 900 9128 US (San Jose)

Meeting ID: 982 4604 5660



Santa Clara Valley Water District Water Storage Exploratory Committee Meeting

**Headquarters Building Boardroom
5700 Almaden Expressway
San Jose CA 95118**

SPECIAL MEETING AGENDA

**Wednesday, March 29, 2023
11:00 AM**

District Mission: Provide Silicon Valley safe, clean water for a healthy life, environment and economy.

**WATER STORAGE EXPLORATORY
COMMITTEE**

Director Richard P. Santos, District 3
Director Nai Hsueh, District 5
Director Rebecca Eisenberg, District 7

All public records relating to an item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the Office of the Clerk of the Board at the Santa Clara Valley Water District Headquarters Building, 5700 Almaden Expressway, San Jose, CA 95118, at the same time that the public records are distributed or made available to the legislative body. Santa Clara Valley Water District will make reasonable efforts to accommodate persons with disabilities wishing to attend Board of Directors' meeting. Please advise the Clerk of the Board Office of any special needs by calling (408) 265-2600.

Vincent Gin
Christopher Hakes
(Staff Liaisons)

Glenna Brambill (Committee
Liaison)
Management Analyst II
(408) 630-2408,
gbrambill@valleywater.org

Note: The finalized Board Agenda, exception items and supplemental items will be posted prior to the meeting in accordance with the Brown Act.

Santa Clara Valley Water District
Water Storage Exploratory Committee
SPECIAL MEETING
AGENDA

Wednesday, March 29, 2023

11:00 AM

HQ Boardroom

*****IMPORTANT NOTICES AND PARTICIPATION INSTRUCTIONS*****

Santa Clara Valley Water District (Valley Water) Board of Directors/Board Committee meetings are held as a “hybrid” meetings, conducted in-person as well as by telecommunication, and is compliant with the provisions of the Ralph M. Brown Act.

To maximize public safety while still maintaining transparency and public access, members of the public have an option to participate by teleconference/video conference or attend in-person. To observe and participate in the meeting by teleconference/video conference, please see the meeting link located at the top of the agenda. If attending in-person, you are required to comply with Ordinance 22-03 - AN ORDINANCE OF THE SANTA CLARA VALLEY WATER DISTRICT SPECIFYING RULES OF DECORUM FOR PARTICIPATION IN BOARD AND COMMITTEE MEETINGS located at <https://s3.us-west-2.amazonaws.com/valleywater.org.if-us-west-2/f2-live/s3fs-public/Ord.pdf>

In accordance with the requirements of Gov. Code Section 54954.3(a), members of the public wishing to address the Board/Committee at a video conferenced meeting, during public comment or on any item listed on the agenda, should use the “Raise Hand” tool located in the Zoom meeting link listed on the agenda, at the time the item is called. Speakers will be acknowledged by the Board Chair in the order requests are received and granted speaking access to address the Board.

- Members of the Public may test their connection to Zoom Meetings at: <https://zoom.us/test>
- Members of the Public are encouraged to review our overview on joining Valley Water Board Meetings at: <https://www.youtube.com/watch?v=TojJpYCxXm0>

Valley Water, in complying with the Americans with Disabilities Act (ADA), requests individuals who require special accommodations to access and/or participate in Valley Water Board of Directors/Board Committee meetings to please contact the Clerk of the Board’s office at (408) 630-2711, at least 3 business days before the scheduled meeting to ensure that Valley Water may assist you.

This agenda has been prepared as required by the applicable laws of the State of California, including but not limited to, Government Code Sections 54950 et. seq. and has not been prepared with a view to informing an investment decision in any of Valley Water’s bonds, notes or other obligations. Any projections, plans or other forward-looking statements included in the information in this agenda are subject to a variety of

uncertainties that could cause any actual plans or results to differ materially from any such statement. The information herein is not intended to be used by investors or potential investors in considering the purchase or sale of Valley Water's bonds, notes or other obligations and investors and potential investors should rely only on information filed by Valley Water on the Municipal Securities Rulemaking Board's Electronic Municipal Market Access System for municipal securities disclosures and Valley Water's Investor Relations website, maintained on the World Wide Web at <https://emma.msrb.org/> and <https://www.valleywater.org/how-we-operate/financebudget/investor-relations>, respectively.

Under the Brown Act, members of the public are not required to provide identifying information in order to attend public meetings. Through the link below, the Zoom webinar program requests entry of a name and email address, and Valley Water is unable to modify this requirement. Members of the public not wishing to provide such identifying information are encouraged to enter "Anonymous" or some other reference under name and to enter a fictional email address (e.g., attendee@valleywater.org) in lieu of their actual address. Inputting such values will not impact your ability to access the meeting through Zoom.

Join Zoom Meeting:
<https://valleywater.zoom.us/j/98246045660>

Meeting ID: 982 4604 5660

Join by Phone:

1 (669) 900-9128, 98246045660#

1. CALL TO ORDER:

1.1. Roll Call.

- 2. TIME OPEN FOR PUBLIC COMMENT ON ANY ITEM NOT ON THE AGENDA.** *Notice to the Public: Members of the public who wish to address the Committee on any item not listed on the agenda should access the "Raise Hand" tool located in Zoom meeting link listed on the agenda. Speakers will be acknowledged by the Committee Chair in order requests are received and granted speaking access to address the Committee. Speakers comments should be limited to two minutes or as set by the Chair. The law does not permit Committee action on, or extended discussion of, any item not on the agenda except under special circumstances. If Committee action is requested, the matter may be placed on a future agenda. All comments that require a response will be referred to staff for a reply in writing. The Committee may take action on any item of business appearing on the posted agenda.*

3. ELECTION OF CHAIR AND VICE CHAIR:

3.1. Election of Chair and Vice Chair.

Recommendation: Elect 2023 Chair and Vice Chair.

Manager: Candice Kwok-Smith, 408-630-3193

Est. Staff Time: 5 Minutes

[23-0317](#)

4. APPROVAL OF MINUTES:

4.1. Approval of Minutes.

[23-0318](#)

Recommendation: Approve the October 13, 2022, Meeting Minutes.

Manager: Candice Kwok-Smith, 408-630-3193

Attachments: [Attachment 1: WSEC 10132022 Draft Mins](#)

Est. Staff Time: 5 Minutes

5. REGULAR AGENDA:

5.1. Los Vaqueros Reservoir Expansion Project Update.

[23-0319](#)

Recommendation: Receive and discuss update on Los Vaqueros Reservoir Expansion Project.

Manager: Vincent Gin, 408-630-2633

Attachments: [Attachment 1: LVE March Update](#)

Est. Staff Time: 15 Minutes

5.2. Permanente Quarry Reconnaissance Study.

[23-0320](#)

Recommendation: Receive update and provide feedback on the feasibility of using Permanente Quarry for water storage.

Manager: Kirsten Struve, 408-630-3138

Attachments: [Attachment 1: Permanente Quarry Summary Report Final Draft 06](#)
[Attachment 2: PowerPoint Presentation](#)

Est. Staff Time: 15 Minutes

5.3. Update on B. F. Sisk Dam Raise and Reservoir Expansion Project.

[23-0321](#)

Recommendation: Receive and Discuss Information Regarding the B.F. Sisk Dam Raise and Reservoir Expansion Project.

Manager: Vincent Gin, 408-630-2633

Attachments: [Attachment 1: PowerPoint Presentation](#)

Est. Staff Time: 15 Minutes

5.4. Standing Items.

[23-0322](#)

Recommendation: A. This agenda item allows the Committee to receive verbal or written updates and discuss the projects listed in the summary. These items are generally informational; however, the Committee may request additional information from staff:

B. This is informational only and no action is required.

Manager: Candice Kwok-Smith, 408-630-3193

Est. Staff Time: 10 Minutes

5.5. Review Water Storage Exploratory Committee Work Plan and the Committee's Next Meeting Agenda.

[23-0323](#)

Recommendation: Review the Committee's Work Plan to guide the Committee's discussions regarding policy alternatives and implications for Board deliberation.

Manager: Candice Kwok-Smith, 408-630-3193

Attachments: [Attachment 1: WSEC 2022 Work Plan](#)

[Attachment 2: WSEC 2023 Work Plan](#)

Est. Staff Time: 5 Minutes

6. CLERK REVIEW AND CLARIFICATION OF COMMITTEE REQUESTS.

This is an opportunity for the Clerk to review and obtain clarification on any formally moved, seconded, and approved requests and recommendations made by the Committee during the meeting.

7. ADJOURN:

7.1. Adjourn.



Santa Clara Valley Water District

File No.: 23-0317

Agenda Date: 3/29/2023

Item No.: 3.1.

COMMITTEE AGENDA MEMORANDUM Water Storage Exploratory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:

Election of Chair and Vice Chair.

RECOMMENDATION:

Elect 2023 Chair and Vice Chair.

SUMMARY:

Per the Board Resolution, the duties of the Chair and Vice Chair are as follows:

The officers of each Committee shall be a Chair and Vice Chair, both of whom shall be members of that Committee. The Chair and Vice Chair shall be elected by the Committee, each for a term of one year commencing on January 1 and ending on December 31 and for no more than two consecutive terms. The Committee shall elect its officers at the first meeting of the calendar year. All officers shall hold over in their respective offices after their term of office has expired until their successors have been elected and have assumed office.

The Chair shall preside at all meetings of the Committee, and he or she shall perform other such duties as the Committee may prescribe consistent with the purpose of the Committee.

The Vice Chair shall perform the duties of the Chair in the absence or incapacity of the Chair. In case of the unexpected vacancy of the Chair, the Vice Chair shall perform such duties as are imposed upon the Chair until such time as a new Chair is elected by the Committee.

Should the office of Chair or Vice Chair become vacant during the term of such office, the Committee shall elect a successor from its membership at the earliest meeting at which such election would be practicable, and such election shall be for the unexpired term of such office.

Should the Chair and Vice Chair know in advance that they will both be absent from a meeting, the Chair may appoint a Chair Pro-tempore to preside over that meeting. In the event of an unanticipated absence of both the Chair and Vice Chair, the Committee may elect a Chair Pro-tempore to preside over the meeting in their absence.

BACKGROUND:

The District Act provides for the creation of advisory boards, committees, or commissions by resolution to serve at the pleasure of the Board.

Accordingly, the Board has established Advisory Committees, which bring respective expertise and community interest, to advise the Board, when requested, in a capacity as defined: prepare Board policy alternatives and provide comment on activities in the implementation of the District's mission for Board consideration. In keeping with the Board's broader focus, Advisory Committees will not direct the implementation of District programs and projects, other than to receive information and provide comment.

Further, in accordance with Governance Process Policy-3, when requested by the Board, the Advisory Committees may help the Board produce the link between the District and the public through information sharing to the communities they represent.

The Board may also establish Ad-hoc Committees to serve in a capacity as defined by the Board and will be used sparingly.

ATTACHMENTS:

None

UNCLASSIFIED MANAGER:

Candice Kwok-Smith, 408-630-3193



Santa Clara Valley Water District

File No.: 23-0318

Agenda Date: 3/29/2023

Item No.: 4.1.

COMMITTEE AGENDA MEMORANDUM Water Storage Exploratory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:

Approval of Minutes.

RECOMMENDATION:

Approve the October 13, 2022, Meeting Minutes.

SUMMARY:

A summary of Committee discussions, and details of all actions taken by the Committee, during all open and public Committee meetings, is transcribed and submitted for review and approval.

Upon Committee approval, minutes transcripts are finalized and entered into the District's historical records archives and serve as historical records of the Committee's meetings.

ATTACHMENTS:

Attachment 1: 10132022 WSEC Draft Minutes

UNCLASSIFIED MANAGER:

Candice Kwok-Smith, 408-630-3193



SANTA CLARA VALLEY WATER DISTRICT (VALLEY WATER)
WATER STORAGE EXPLORATORY COMMITTEE

DRAFT MINUTES

THURSDAY, OCTOBER 13, 2022

(Paragraph numbers coincide with agenda item numbers)

A special meeting of the Water Storage Exploratory Committee (Committee) was held on October 13, 2022, at Santa Clara Valley Water District, 5700 Almaden Expressway, San Jose CA 95118.

1. CALL TO ORDER

The Water Storage Exploratory Committee was called to order by Committee Chair Pro Tem Director Richard P. Santos at 1:03 p.m.

1.1 ROLL CALL

Valley Water Board Members in attendance were: Director Richard P. Santos (District 3), and Director John L. Varela (District 1).

Valley Water Staff in attendance were: Aaron Baker, Glenna Brambill, Andrew Garcia, Samantha Greene, Andy Gschwind, Michael Haggerty, Christopher Hakes, Brian Hopper, Dana Jacobson, Cindy Kao, Candice Kwok-Smith, Jessica Lovering, Michael Martin, Ryan McCarter, Carlos Orellana, Angus Parton, Steve Peters, Don Rocha, Kirsten Struve, Charlene Sun, Darin Taylor, and Jing Wu.

Guests in attendance were: Melanie Carrido (MWH Constructors), Katja Irvin (Sierra Club-Loma Prieta Chapter), Hon. Steve Jordan (BAWSCA and Purissima Hills Water District), Marguerite Patil, Ph.D. (Contra Costa Water District {CCWD}), Taryn Ravazzini (LVE Project Joint Powers Authority (JPA), Gavin Tasker-Barnard Construction), Bill Tuttle (San Jose Water Company-SJWC), and Hon. John Weed (Alameda County Water District-ACWD).

Public in attendance were: Lisa Avestedt, Hon. Jim Beall, Ryan Castillo, Bob Green, Arthur Keller, Ph.D., Kaho Khong, Manny JID/RD1606, and Director Linda J. LeZotte (Valley Water District 4).

2. TIME OPEN FOR PUBLIC COMMENT ON ANY ITEM NOT ON AGENDA

There was no one present who wished to speak.

3. APPROVAL OF MINUTES

3.1 APPROVAL OF MINUTES

It was moved by Director Richard P. Santos, second by Director John L. Varela, and by unanimous vote carried to approve the minutes of the July 13, 2022, meeting of the Water Storage Exploratory Committee as presented.

4. ACTION ITEMS

4.1 VALLEY WATER PARTICIPATION RECOMMENDATION FOR THE LOS VAQUEROS RESERVOIR EXPANSION PROJECT

Michael Martin reviewed the materials as outlined in the agenda item.

The Water Storage Exploratory Committee took the following action:

It was moved by Director John L. Varela, second by Director Richard P. Santos, and unanimously approved staff's recommendation that the Board consider approving the Multi-Party Agreement Amendment #4 for the Los Vaqueros Reservoir Expansion Project.

4.2 STANDING ITEMS

Cindy Kao reviewed the materials as outlined in the agenda item.

Water Banking Opportunities

Pleasant Valley:

- Continuing to discuss long-term exchange opportunities with Pleasant Valley Water District

Aquaterra:

- Revised Feasibility Study has been completed and VW has finished reviewing. There are some data gaps and VW will be checking to see if this is a feasible and sound financial investment

AVEK:

- Working with Metropolitan Water District (MWD) on Phase 1
- Valley Water (VW) is interested in the second phase of the project and are interested in doing a pilot program with them (banking water then testing to see if it works and will review criteria and other concerns)
- VW staff will be visiting site on October 18th to see Phase 1 construction
- Working with interested parties to develop a MOU regarding plant activities

Sites:

- VW staff reviewing the draft guiding principles on concepts relating to allocation and project benefit
- Additional discussions on governance and finance along with addressing VW's comments and concerns
- Release of the EIR/EIS expected January 2023
- Final draft of the benefits and obligations agreement targeted for mid-2023
- Final funding commitment expected to occur mid-2024 after securing the water right permit and WIFIA loan

Attachment 1

Page 2 of 3

B. F. Sisk Dam Raise and Reservoir Expansion:

- Coordinating and participating with San Luis and Delta-Mendota Water Authority (SLDMWA-Authority) cost and benefit allocation
- Reclamation and Authority have revised the addendum to the feasibility report VW took issue on the cost allocation

Director John L. Varela reported on the ACWA Region 5 Program and Tour:

- Potential new opportunities, theme surrounding: recycled water, water purification, sustainable groundwater supply, and agriculture
- Toured one water facilities and defunct desalination plant
- Start possible discussion around conveyance and storage with Monterey Peninsula

The Water Storage Exploratory Committee took no action.

4.3 REVIEW WATER STORAGE EXPLORATORY COMMITTEE WORK PLAN AND THE COMMITTEE'S NEXT MEETING AGENDA

Glenna Brambill reviewed the materials as outlined in the agenda item.

It is requested that the next meeting include an update on the Pacheco Reservoir Project and some discussion on the conveyance and storage with Monterey Peninsula.

5. CLERK REVIEW AND CLARIFICATION OF COMMITTEE ACTIONS

Glenna Brambill noted there was one action item for Board consideration.

Agenda Item 4.1

The Water Storage Exploratory Committee took the following action:

The Water Storage Exploratory Committee unanimously approved staff's recommendation that the Board consider approving the Multi-Party Agreement Amendment #4 for the Los Vaqueros Reservoir Expansion Project.

6. CLOSED SESSION

6.5 DISTRICT COUNSEL REPORT ON CLOSED SESSION

There was no report as the Committee elected to postpone the Closed Session.

7. ADJOURNMENT

Committee Chair Pro Tem Richard P. Santos adjourned the meeting at 1:20 p.m.

Glenna Brambill
Board Committee Liaison
Office of the Clerk of the Board

Approved:

Attachment 1
Page 3 of 3



Santa Clara Valley Water District

File No.: 23-0319

Agenda Date: 3/29/2023

Item No.: 5.1.

COMMITTEE AGENDA MEMORANDUM Water Storage Exploratory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:

Los Vaqueros Reservoir Expansion Project Update.

RECOMMENDATION:

Receive and discuss update on Los Vaqueros Reservoir Expansion Project.

SUMMARY:

The Santa Clara Valley Water District (Valley Water) continues to evaluate participating in the Los Vaqueros Reservoir Expansion Project (LVE Project) led by the LVE Project Joint Powers Authority (JPA). At the August 23, 2023 Valley Water Board meeting, the Board directed staff to pursue 50,000 acre-feet of storage and adequate conveyance to deliver stored water in dry years. This memorandum summarizes the current status of the JPA administration, service agreement development, and other key LVE Project agreements.

JPA Administration

Valley Water is one of eight members that make up the JPA, which is responsible for planning, construction, coordinating partner use of facilities, ensuring adequate funding, and delivering project water. The JPA Board has been meeting since November 2021 and is working to take over administration of the LVE Project from Contra Costa Water District (CCWD). Director Eisenberg was appointed to represent Valley Water on the JPA Board with Director Santos as the alternate. The JPA Board has selected Taryn Ravazzini as Executive Director, James Ciampa as legal counsel, and Rosemarie Perea as Clerk of the Board. The JPA has released a Request for Proposals (RFP) for a Program Management Services Contract to provide additional staff to assist with the administration of the JPA.

Service Agreement Development

The Service Agreement will define each agency's share in storage and conveyance and establish associated cost allocations for construction and operations. The JPA Board and each of the member agencies will need to approve a Service Agreement to meet the requirements for final Water Storage Investment Program (WSIP) funding and to start construction of the LVE Project. Staff level

discussions began in February 2023, focusing on how the JPA will organize service agreement development. The JPA has hired Ibrahim Khadam to support Service Agreement development and has formed three work groups to date to allow for more focused partner discussions and negotiations.

The three work groups are working on storage, conveyance, and determining what decisions need to be completed prior to action on the Service Agreement. For storage, the Partners need to allocate available storage since the LVE Project is currently oversubscribed with approximately 170 thousand acre-feet (TAF) of requests for the 115 TAF available. The conveyance work group is discussing allocating the cost of new and improved conveyance facilities and developing a methodology for sharing capacity when requests exceed available capacity. The third group is discussing what other agreements must be in place prior to the Service Agreement. Some of the key other agreements are discussed below.

Other LVE Project Agreements

There are several agreements that the JPA Board will need to approve in addition to the Service Agreement:

1. Design & Construction Agreement - will define the roles and responsibilities between the JPA and CCWD during construction. CCWD will be the lead for constructing the proposed new and expanded facilities, but the JPA will approve LVE Project elements before they move forward to construction.
2. Contracts for Administration of Public Benefits - this state contract, and comparable federal contracts, specifies public benefits required for state and federal funding of the LVE Project. Public funding is expected to be received through WSIP, the Water Infrastructure Improvements for the Nation Act (WIIN Act), and the Bipartisan Infrastructure Law.
3. Facilities Usage Agreements - the JPA will enter into agreements with CCWD and East Bay Municipal Utilities District (EBMUD) for the use of their facilities. CCWD owns and operates the facilities to divert water from the Delta and convey it to Los Vaqueros Reservoir. EBMUD will allow use of their Freeport intake near Sacramento and has an intertie with CCWD. Partners have submitted comments on the fees proposed by CCWD, including how CCWD is: factoring in the full capacity of CCWD facilities which is more than partners can use; retaining priority use of the system; and not providing LVE Project partners any property rights while expecting the partners to contribute to land costs.

Off Ramps

The Service Agreement is scheduled to be brought to Valley Water's Board for consideration during the second half of 2023. The Valley Water Board can still decide against participation in the LVE Project at this point and withdraw Valley Water from the JPA without incurring future obligations. Prior to Valley Water approving the Service Agreement, the JPA Agreement allows a partner to withdraw for any of the following reasons:

- if the Engineer's estimate is too high,
- if other partners withdraw,

-
- if state or federal funding is withdrawn or comes with unacceptable conditions,
 - if unacceptable permit conditions are attached to the project, or
 - if an LAP cannot obtain a long-term water supply.

Once the Service Agreement is approved and the Final Funding Agreement is awarded by the California Water Commission (CWC), withdrawal from the LVE Project must be approved by the JPA Board.

Next Steps

CCWD continues with negotiations on water rights and environmental permits with state and federal agencies necessary to complete the LVE Project. Agencies have been supportive of the LVE Project. Staff will continue to provide regular updates to the Water Storage Exploratory Committee on the Service Agreement negotiations and LVE Project progress. The timeline for major LVE Project milestones is below:

- Mid to late 2023: WSEC and Board consideration of Service Agreement
- Late 2023: Final Funding Agreement with CWC
- Late 2023: Start of construction on the initial LVE Project elements
- 2023-2025: Construction of Transfer-Bethany Pipeline
- 2027-2029: Construction of dam raise, pumping facilities, and conveyance improvements
- 2030: LVE Project in full operation

ATTACHMENTS:

Attachment 1: PowerPoint Presentation

UNCLASSIFIED MANAGER:

Vincent Gin, 408-630-2633

Water Storage Exploratory Committee **Meeting**
March 29, 2023



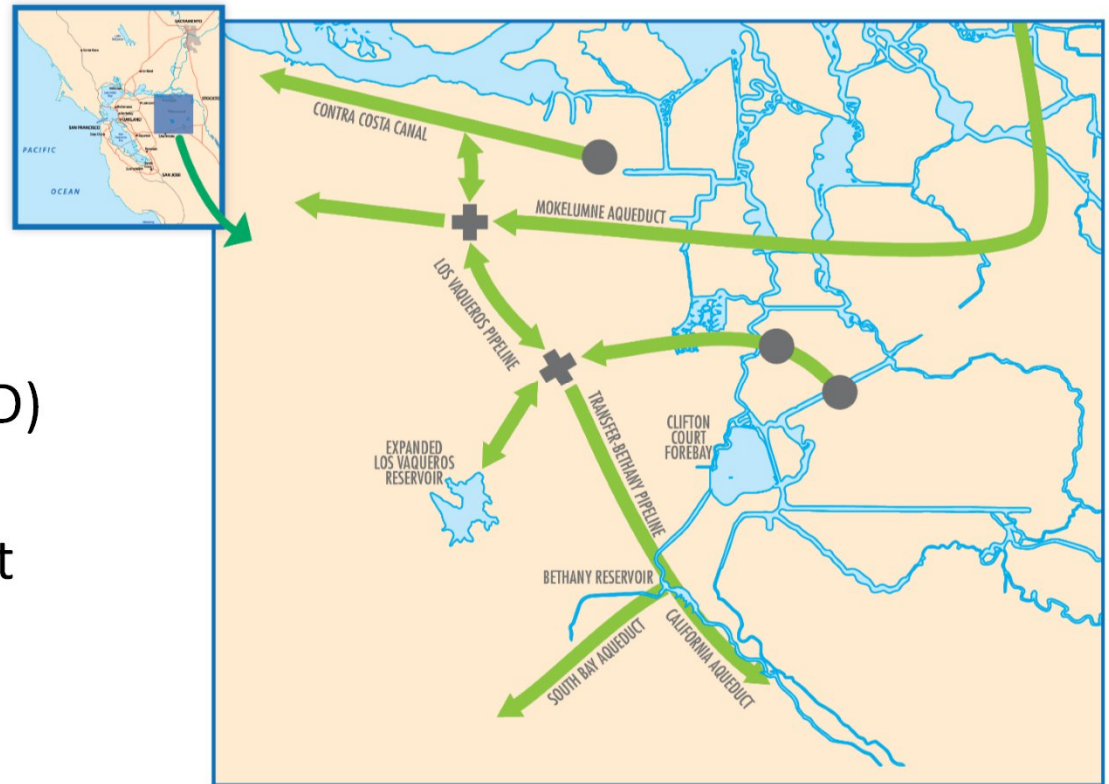
Los Vaqueros Expansion Project Update

Presented by: Michael Martin, Associate Water Resources Specialist



Project Description

- Expansion of Los Vaqueros Reservoir to add 115 TAF of storage
- Use of three existing CCWD intakes and Freeport (EBMUD)
- Construction of Transfer Bethany Pipeline will connect the CCWD system to the California Aqueduct



Local Agency Partners

Alameda County Water District

Contra Costa Water District

- City of Brentwood

East Bay Municipal Utility District

Grassland Water District

San Francisco Public Utilities
Commission

- Bay Area Water Supply and
Conservation Agency

San Luis & Delta-Mendota Water
Authority

- Byron Bethany Irrigation District
- City of Tracy
- Del Puerto Water District
- Panoche Water District
- Westlands Water District

Valley Water

Zone 7 Water Agency



JPA Organization

JPA Board

- Finance Committee
- Operations and Engineering Committee
- Communications and Outreach Committee

JPA Staff

- Taryn Ravazzini – Executive Director
- James Ciampa – Legal Counsel
- Rosemarie Perea – Clerk
- RFP for Program Management Services currently out

Partner Staff Workgroups

- Legal Workgroup
- Financial Workgroup
- Design Review Team



5

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JPA Agreements

Service Agreement (all partners and JPA)
Usage Fee Agreements
Contract for Administration of Public Benefits
Operations and Maintenance Agreements
WIFIA Loan Agreement
Resource Agency Permits
Water Rights Changes



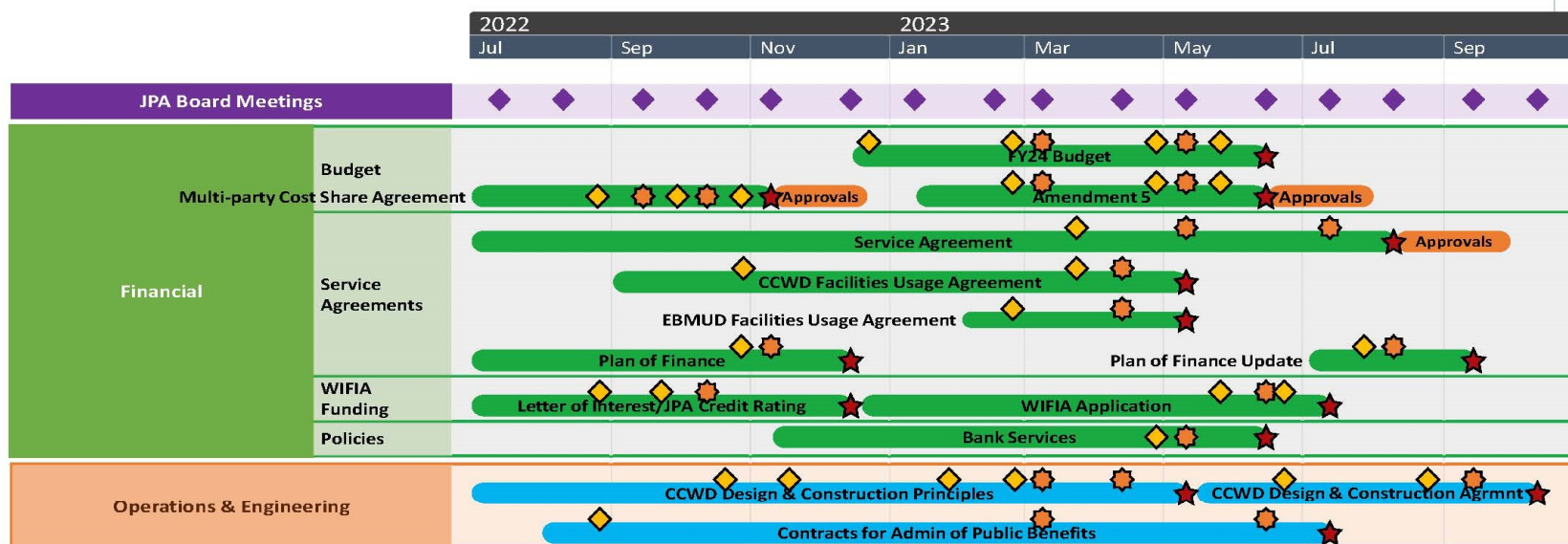
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JPA Policy Calendar

Los Vaqueros Reservoir Joint Powers Authority
Draft 2023 Major Policy Calendar
Dates Subject to Change

 CWC Award Hearing



Future Agreements to Develop (Schedules TBD)

EBMUD Design & Construction Agreement, Conveyance Agreement(s) (e.g., SBA), O&M Agreements, CCWD Backstop Agreement

Key: ◆ Committee Discussion ★ Board Discussion ★ JPA Board Action

January 2023



Off-Ramps

- Service Agreement
- Engineer's estimate is too high,
- Other partners withdraw,
- Unacceptable funding or permit conditions,
- Cannot obtain a long-term water supply.

Once the Service Agreement and Final Funding Agreement is awarded by the CWC, withdraw from the LVE Project must be approved by the JPA Board.



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Santa Clara Valley Water District

File No.: 23-0320

Agenda Date: 3/29/2023

Item No.: 5.2.

COMMITTEE AGENDA MEMORANDUM Water Storage Exploratory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:

Permanente Quarry Reconnaissance Study.

RECOMMENDATION:

Receive update and provide feedback on the feasibility of using Permanente Quarry for water storage.

SUMMARY:

Background

The Permanente Quarry (Quarry) site is located in the foothills west of the city of Cupertino. The Quarry is a limestone and aggregate mining operation containing over 900 acres, which has the potential of storing up to 14,000 acre-feet of water. According to state records, mining began in the early 1900s. Lehigh Cement Plant and Permanente Quarry operate under several permits issued by the County of Santa Clara, and other local, state and federal agencies. This includes the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), which issued a Cease and Desist Order to the Lehigh Southwest Cement Company due to excessive concentrations of selenium along Permanente Creek.

In 2022, the Santa Clara Valley Water District (Valley Water) hired GEI Consultants, Inc. (GEI) to conduct a reconnaissance-level study (Study) of the Quarry to determine the Quarry's potential to be used as a raw water storage facility. The Study also included potential flood risk reduction that could result from using the Quarry in this manner. The Study found that there were numerous feasibility challenges with the project, including structural stability, contamination of stored water, potential land use issues, environmental impacts, and costs. The benefits to water supply and flood risk reduction were found to be small compared to the challenges and costs. This memorandum summarizes the challenges and risks associated with the development of the Quarry as a raw water storage facility.

Infrastructure Alternatives

The Study analyzed three infrastructure alternatives for supplying the Quarry with water.

- Alternative 1 would supply water to the Quarry via a pipeline from the Stevens Creek raw

water pipeline. This option would transfer imported water, or water from Anderson or Calero Reservoirs to the Quarry, via a new pipeline and pump station from the Stevens Creek Pipeline to the Quarry.

- Alternative 2 would supply water to the Quarry directly from Stevens Creek Reservoir via a new pipeline and pump station. This option would require new appropriate water rights or modifying existing water rights for Stevens Creek.
- Alternative 3 would provide water to the Quarry by constructing a small diversion dam on Permanente Creek to divert water to the Quarry, which would make use of an average annual runoff of 1,040 acre-feet. A mechanism to get water back into Valley Water's conveyance facilities was not included as a part of this analysis.

The reconnaissance level study only estimated physical infrastructure costs, which are: \$19 to \$31 million (Alternative 1), \$17 to \$40 million (Alternative 2), and \$1.8 million (Alternative 3). The reconnaissance level estimates did not include some significant cost elements such as regulatory permitting, water right acquisition, real property acquisition, modifications to Valley Water infrastructure, operations and maintenance, stabilization of the quarry, treatment of the stored water, and remediation. Further engineering and analysis would be required for a more complete project cost.

Project Feasibility Challenges

GEI evaluated multiple feasibility criteria for using the Quarry for raw water storage. Structural challenges outlined in the report include: (i) the seismically active nature of the site that is subject to earthquakes; (ii) the presence of landslides, some of which have been detected at the site as recently as 2001 and may require slope stabilization activities; and (iii) the location of the site is within the Franciscan Assemblage, which features rock that has many joints and fractures that may need to be grouted.

Based on the SFRWQCB Cease-and-Desists Order and various water quality studies conducted at the Quarry, water quality concerns include selenium, nickel, total dissolved solids (primarily sulfate), iron, manganese, and elevated selenium concentrations, which may leach into and contaminate any water stored onsite if a raw water storage was developed.

Another challenge relates to issues with land use changes. Firstly, the project may not be compatible with the current zoning designation for the Lehigh property, which would require Valley Water to apply for a Conditional Use Permit with the County Planning Commission. This process would require documentation of potential project impacts, which could ultimately prevent the permit from being granted. Secondly, due to the fact that the Quarry has already been approved to be backfilled as a result of the 2012 Reclamation Plan Amendment, the reservoir project would require Santa Clara County to amend the plans to remove backfilling, or otherwise revise the plan to make the Quarry suitable as a water storage reservoir.

The requirement for new water rights and in-stream flow requirements would be a challenge for Alternatives 2 and 3 due to the presence of steelhead in Stevens Creek and California red-legged frog in Permanente Creek. The South-Central California Coast steelhead and the California Red-

Legged Frog are listed as threatened under the federal Endangered Species Act. The project would also result in a range of additional environmental impacts related to water quality, biological resources, cultural resources noise generation, energy use, and greenhouse gas emissions.

Conclusion

Given the initial analysis found only small water supply and flood protection benefits compared to the high estimated cost, staff does not recommend pursuing additional feasibility analysis at this time.

ATTACHMENTS:

Attachment 1: Permanente Quarry Summary Report Final Draft

Attachment 2: PowerPoint Presentation

UNCLASSIFIED MANAGER:

Kirsten Struve, 408-630-3138

Technical Memorandum

To: Santa Clara Valley Water District
 From: GEI Consultants
 cc:
 Date: June 6, 2022
 Re: Reconnaissance-Level Study of Permanente (Lehigh) Quarry Site –
 Summary Report
 GEI Project No. 1906330

1 Introduction

At the request of Santa Clara Valley Water District (Valley Water), GEI Consultants, Inc. (GEI) was contracted to perform a reconnaissance-level desktop assessment of the Permanente Quarry (Quarry) site with respect to its ability to serve as a future raw water storage facility (or reservoir). Four individual Technical Memoranda (TM) were prepared, focusing on specific issues of this project, including:

- TM1: Hydrogeologic Setting and Water Quality
- TM2: Existing Conditions, Potential Environmental Issues, and Regulatory Requirements
- TM3: Hydrologic Setting and Flood Conditions
- TM4: Existing Valley Water Infrastructure and Water Supply Availability

GEI staff met with Valley Water staff to review annotated outlines of each of these TMs to identify additional data and information that could support the study. The TMs were updated to reflect the information needed to support this study. This report summarizes the information included in the TMs, provides conclusions regarding the project feasibility, and identifies next steps.

1.1 Valley Water

Valley Water is an independent special district/local agency that provides wholesale water supply, groundwater management, flood protection, and stream stewardship. Its service area includes all of Santa Clara County, which is located at the southern end of San Francisco Bay. The county encompasses approximately 1,300 square miles and has a population of about 1.9 million (Valley Water, 2019). Long-term average water use in Santa Clara County is approximately 310,000 acre-feet per year (AFY) (Valley Water, 2022). This water is used for domestic, municipal, commercial, industrial, institutional, and agricultural purposes (Valley Water, 2019).

The Quarry is located in Santa Clara County west of the city of Cupertino in the foothills west of Stevens Creek Boulevard. The Quarry is also adjacent to Permanente Creek (Valley Water, 2019 Permanente Quarry). The Quarry consists of an approximately 630-acre operations area within an approximately 3,500-acre parcel owned by Lehigh Southwest Cement Company (Lehigh). The Quarry produces cement-grade limestone and construction aggregates. Lehigh manages the site and will reclaim the site by approximately 2030 in accordance with the *Reclamation Plan Amendment for Permanente Quarry*

(Reclamation Plan) (Santa Clara County, 2011). Valley Water is evaluating the potential for converting the Quarry into a raw water reservoir (proposed project or project). As part of this project, Valley Water would be changing the future use of the Quarry from the current 2012 Reclamation Plan Amendment and instead develop the facilities necessary to use the Quarry as a reservoir to store and deliver raw water.

2 Background Information

2.1 Local Geologic and Hydrogeologic Setting

The Quarry is underlain by highly deformed and faulted rocks of the Franciscan Assemblage. The eastern portion of the Quarry, including portions of the cement plant and the East Materials Storage Area, are underlain by rocks of the Santa Clara Formation. On the eastern edge of the property modern alluvial deposits associated with Permanente Creek overly these formations.

The Quarry is located approximately two miles east-northeast of the San Andreas fault zone which is capable of a Richter Magnitude 8 earthquake. The Sargent Berrocal Fault Zone (SBFZ), part of the Santa Cruz Mountains front-range thrust fault system, parallels the San Andreas to the east and forms the eastern-most structural boundary of the area. Near the Site, the SBFZ consists of two northwest-trending, sub-parallel faults, the Monta Vista Fault Zone on the northeast and the Berrocal Fault Zone on the southwest (SFBRWQCB, 2018). This seismically active area experiences earthquakes that may result in landslides. Several large landslide deposits have been mapped by various investigators along the slopes flanking the Quarry. A recent landslide occurred in the crest of the north slope of the Quarry in January 2001 (Golder, 2011). The potential for landslides in the reservoir generating a tsunami will need to be considered in the design and operation of the reservoir.

Permanente Creek is located on the south side of the Quarry and is approximately 50 to 100 feet below the Quarry pit rim. The creek is separated from the Quarry by a natural ridge that may act as a natural dam. Additional studies will need to be conducted to evaluate the effectiveness of the ridge to perform as a dam and may determine the operating water surface elevation in the Quarry.

Limited amounts of groundwater occur in the fractured bedrock around the Quarry, however, the occurrence of groundwater within the Franciscan Assemblage is almost exclusively within secondary openings such as joints, fractures, shear zones, and faults, in contrast to primary porosity or pore spaces within the rock. Because of the limited amount of storage capacity and the relatively low permeability, the Franciscan Assemblage is considered by the Department of Water Resources (DWR) to be non-water bearing with respect to production of usable quantities of water.

The Santa Clara sub-basin (2-9.02) of the Santa Clara Valley Groundwater Basin (2-009.02) lies east of the Quarry. The western boundary of the Santa Clara Valley Groundwater Basin is generally considered to be the contact of the alluvial valley deposits with the consolidated bedrock formations in the Santa Cruz Mountains. The contact between the alluvial valley and the bedrock formations is the Monta Vista Fault Zone, which may limit hydraulic communication between the bedrock and alluvium.

2.2 Land Use and Environmental Conditions

The majority of the Lehigh property and area containing the Quarry basin is zoned as Hillside (HS)–Design Review Combining District, Santa Clara Valley Viewshed (d1) by Santa Clara County. This designation does not explicitly include reservoirs or similar infrastructure facilities. The Lehigh property contains the Kaiser Permanente Quarry Mining District, which is eligible for listing in the California Register and considered an historical resource. The 2012 Reclamation Plan Amendment ensures the

Quarry is compliant with State and local mining laws and includes backfilling the Quarry basin (where the reservoir would be located) by approximately 2030 with 60 million short tons of overburden rock currently stored onsite. With implementation of the reclamation plan, existing emissions of air pollutants and greenhouse gases and noise generation associated with mining activities would cease and fuel tanks and other hazardous materials containers would be hauled offsite.

Permanente Creek extends along the southern limits of the Quarry operations area and then flows to the north around the east end of the Quarry, eventually discharging into San Francisco Bay. Stevens Creek Reservoir is located nearby to the southeast of the Lehigh property and discharges to Stevens Creek, which also flows north to San Francisco Bay. The Lehigh property contains a variety of habitat and land cover types, including oak woodlands, riparian areas, and wetlands associated with Permanente Creek. California red-legged frog (*Rana draytonii*), a federal and state protected species, have been documented on the Lehigh property, and Permanente Creek near the Quarry provides aquatic habitat for this species. No habitat for special-status plants has been observed on the Lehigh property during past surveys. The present-day hydrology of the Permanente Creek watershed does not support anadromous fish. Stevens Creek contains Central California Coastal steelhead (*Oncorhynchus mykiss irideus*). Other special-status species including birds, bats, and mammals have the potential to inhabit the Lehigh property.

2.3 Water Quality Setting

Permanente Creek and Stevens Creek are on the 303(d) list of impaired waterbodies due to selenium, diazinon, toxicity, and trash (SWRCB, 2018). Prior to 2014, surface water quality sampling along Permanente Creek showed selenium concentrations above the benchmark established by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Basin Plan (CRWQCB, 2015). As a result, SFBRWQCB issued Cease and Desist Order No. R2-2014-0011 (later amended through Order No. R2-2017-0030) to Lehigh southwest cement company, which required treatment of effluent discharges into Permanente Creek to comply with required concentrations of selenium. In accordance with the order, an Interim Treatment System (ITS) began treating stormwater in the fall of 2014 to mitigate contaminant exceedances in water draining into Permanente Creek (Golder Associates, 2015). Results of weekly influent and effluent sampling for the constituents of concern are as follows:

- Selenium influent ranged from 40 to 97 µg/L, with an average concentration at 61 µg/L. After treatment, effluent concentrations averaged 5.1 µg/L. Sample results marginally met the benchmark value of 5; however, concentrations were below the maximum daily effluent limit (MDEL) of 8.2 µg/L stated in the NDPES permit.
- Nickel was also addressed in Golder's memorandum because approximately 67 percent was removed by the ITS. Influent concentrations averaged 67 and peaked at 110 µg/L. Effluent concentrations were 18 µg/L, which is well below the established benchmark of 82 µg/L.
- Hexavalent chromium, mercury, and settleable solids were also tested. Only negligible concentrations were detected in the influent.

To better understand the selenium exceedances, Golder conducted sampling during the 2016/17 wet season to investigate where the greatest selenium concentrations occur and develop a stormwater management plan. Results of the sampling program indicate that elevated selenium (concentrations greater than the National Toxics Rule criteria of 5 µg/L) is predominately found in the Eastern Material Storage Area and the swale that drains stormwater to Permanente Creek. Runoff and/or sheet flow samples collected from the slopes of the Quarry were generally less than 5 µg/L.

As of 2019, Lehigh installed the Final Treatment System to treat all facility discharges to remain in compliance with NDPES Permit No. CA0030210. Waste Order No. R2-2019-0024, adopted by SFBRWQCB on July 10, 2019, indicated that water quality conditions were in full compliance by October 1, 2017. As a result, the Cease-and-Desist Order was rescinded.

The Valley Water Urban Runoff Pollution Prevention Program performed water quality sampling from 2012 to 2021 along Stevens Creek. The average concentrations of the constituents measured such as salinity, pH, DO, and ammonia generally met benchmarks identified in the Basin Plan (CRWQCB, 2015), but measurements of inorganic parameters, such as metals, were not analyzed.

In addition to the Pollution Prevention Program samples, water quality testing was conducted on stormwater runoff and groundwater monitoring wells surrounding the Quarry. Groundwater samples from monitoring wells surrounding the Quarry show elevated concentrations of TDS (predominately sulfate), iron, manganese, and molybdenum. These constituents are commonly found in bedrock formations, particularly in stagnant groundwater samples.

2.4 Hydrologic Setting and Flood Protection

Permanente Creek watershed consists of 17.5 square miles of land with a main channel of 13 miles in length and discharges into the southern San Francisco Bay (South Bay) (Santa Clara County, 2011). The mean annual precipitation of the Permanente watershed ranges from 21 inches to 35 inches. The drainage area on Permanente Creek upstream of the West Branch Permanente Creek is 3.65 square miles. The design discharges are 757 cubic feet per second (cfs) for a 10-year flood event (with a 10% exceedance probability) and 1,350 cfs for a 100-year flood event (with a 1% exceedance probability) (Schaaf & Wheeler, 2016).

Stevens Creek watershed includes the Stevens Creek Reservoir and Stevens Creek, which runs easterly to Stevens Creek Reservoir, then northerly downstream of the reservoir to the South Bay. The drainage area of Stevens Creek upstream of the Reservoir is 17.26 square miles. Mean annual precipitation ranges from 29 inches to 41 inches. Calculated design peak flows found a 10-year flood event flow of 3,000 cfs and a 100-year flood event flow of 5,500 cfs (Valley Water, 2007).

Currently, there are no flood control structures upstream of Permanente Quarry. However, modifications were constructed on the Permanente Creek flood channel as of December 2018. Additional improvements were made to the Permanente Creek Diversion Channel into lower Stevens Creek to provide additional flood protection. The Rancho San Antonio County Park off-stream flood detention facility provides storage of 75 acre-feet to divert high flows from Permanente Creek to reduce flood risk (Schaaf & Wheeler, 2016). Additional information on the hydrologic setting and flood protection are included in Technical Memorandum No. 3- Hydrologic Setting and Flood Conditions.

3 Project Assumptions

While there is a considerable amount of very specific information available to evaluate the Quarry project, numerous assumptions were made to prepare this reconnaissance-level feasibility study. The following assumptions represent some high-level considerations to simplify the analysis to meet the project schedule. These focus on what are believed to be the most relevant features of the project that may affect the feasibility of using the Quarry for raw water storage.

3.1 Use of Permanente Quarry for Raw Water Storage

The Quarry is being considered to provide raw water storage for Valley Water. There are currently other uses being considered by Santa Clara County. The following assumptions were used regarding the condition and state of the Quarry for this study.

- The Permanente Quarry will be reclaimed with or without Valley Water using the site as a reservoir, as required by the *2012 Reclamation Plan Amendment* approved by Santa Clara County; therefore, the baseline conditions should be updated to reclaimed Permanente Quarry. The raw water storage facility could store up to 14,000 acre-feet of water in the existing Quarry basin.
- Construction impacts are not likely related to project feasibility. Larger construction-related impacts/issues should be acknowledged, and it should be mentioned that these issues will need to be further evaluated.

3.2 Use of Stored Water

At this time, there is not a single intended use of the water stored in the Quarry. The intended use of the water stored may influence the duration of water stored in the Quarry.

- **Short-Term Storage:** One option may include using the quarry for short-term storage that would be exercised on a regular basis (annually). Under this option, the water would be stored in the quarry for a relatively short time, on the order of months to a few years.
- **Long-Term Storage:** One option may include using the quarry for long-term storage that would be exercised on an emergency basis to deliver the stored water to a treatment plant for potable uses by Valley Water customers. Under this option, the water may be stored in the quarry for a relatively long period of time, on the order of years. This option may result in greater degradation of water quality from being stored in the Quarry. Losses from seepage and evaporation would be greater than the short-term storage option.

One specific end use of water stored in the Quarry could be to offset deliveries to the Semitropic groundwater banking program. This approach would divert a portion of the Central Valley Project (CVP) and State Water Project (SWP) water through the Stevens Creek Pipeline (SCP), which would normally be diverted to Semitropic Groundwater Storage Bank (SGSB) in Kern County and store it locally instead. This would provide direct access to this water instead of relying on in-lieu replacement of water through the groundwater banking program. The Quarry would provide much less storage (about 14,000 acre-feet) than the storage capacity at the SGSB (350,000 acre-feet), so it would not be considered a replacement for the SGSB storage, but it could provide more direct access both physically and temporally to Valley Water.

3.3 Water Supply Availability

Three potential sources of surface water were identified as a source of supply for this study and are labelled a through c as described below.

- (a) **Imported Water:** Water for storage in the Quarry may be provided from imported water from Valley Water's CVP or SWP contract supplies. The imported supplies would be conveyed to the Quarry from San Luis Reservoir and/or the South Bay Aqueduct through Valley Water's existing

infrastructure. The delivery of imported water to the Quarry through the SCP and would be based on the timing and available capacity of the Valley Water system.

- (b) **Local Watershed Diversions:** Water for storage in the Quarry may be provided from local watersheds including the Permanente Creek watershed or Stevens Creek watershed. Either of these sources would require a new or changed water right. Local supplies would have to meet downstream flow requirements for water quality and environmental flows, so only water in excess of these flow requirements would be available for diversion to storage. This option would likely divert water to storage in the Quarry during high-flow events. The operations may include frequent short-duration diversions during the winter months when larger storms are likely. New water rights would be required for any diversions for either watershed.
- (c) **Local Reservoirs:** Supplies from other Valley Water reservoirs connected to the SCP, namely Anderson and Calero reservoirs, may be another source of water for storing in the Quarry. This supply source would utilize the same facilities to deliver water to the Quarry as the SWP and CVP supplies.

4 Infrastructure Alternatives

Based on the project assumptions above, three alternatives were identified to provide raw water sources to the Quarry. The approximate alignments of pipelines are identified in Figure 1.

- **Alternative 1 – Stevens Creek Pipeline to Quarry.** Transfer of imported raw water from existing contracted entitlements for SWP or CVP [supply (a) Imported Water]. May also include raw water from Anderson and Calero reservoirs [Supply (c) Local Reservoirs] to supplement imported water. Water would be supplied to the new Quarry reservoir via a new pipeline and a pump station connecting to Valley Water’s existing infrastructure through the SCP in Cupertino. The pipeline would be constructed in roadways to the extent possible. A tunnel may be used instead of a pipeline for a portion of the alignment on the Quarry property in lieu of a shallow excavation and installation of pipeline.
- **Alternative 2 – Stevens Creek Reservoir to Quarry.** Diversion of currently unallocated streamflow from Stevens Creek [Supply (b) Local Watershed Diversions] and transfer of water in Stevens Creek Reservoir (from new diversion) to the new Quarry reservoir. Conveyance of water from Stevens Creek Reservoir to the new Quarry reservoir via a new pipeline and pump station. A tunnel may be used instead of a pipeline for a portion of the alignment in lieu of a shallow excavation and installation of pipeline.
- **Alternative 3 – Permanente Creek Diversion to Quarry.** Optional diversion of new streamflow from Permanente Creek [Supply (b) Local Watershed Diversions]. This source could be used to supplement either Option 1 or 2 but would not provide a mechanism to get water back into Valley Water’s conveyance facilities. A small diversion dam would be constructed on Permanente Creek to divert water into a pipeline that conveys water via gravity to the Quarry. Additional infrastructure would be needed for water to be returned to Valley Water’s system. Infrastructure identified in alternative 1 or 2 may be included with this alternative.

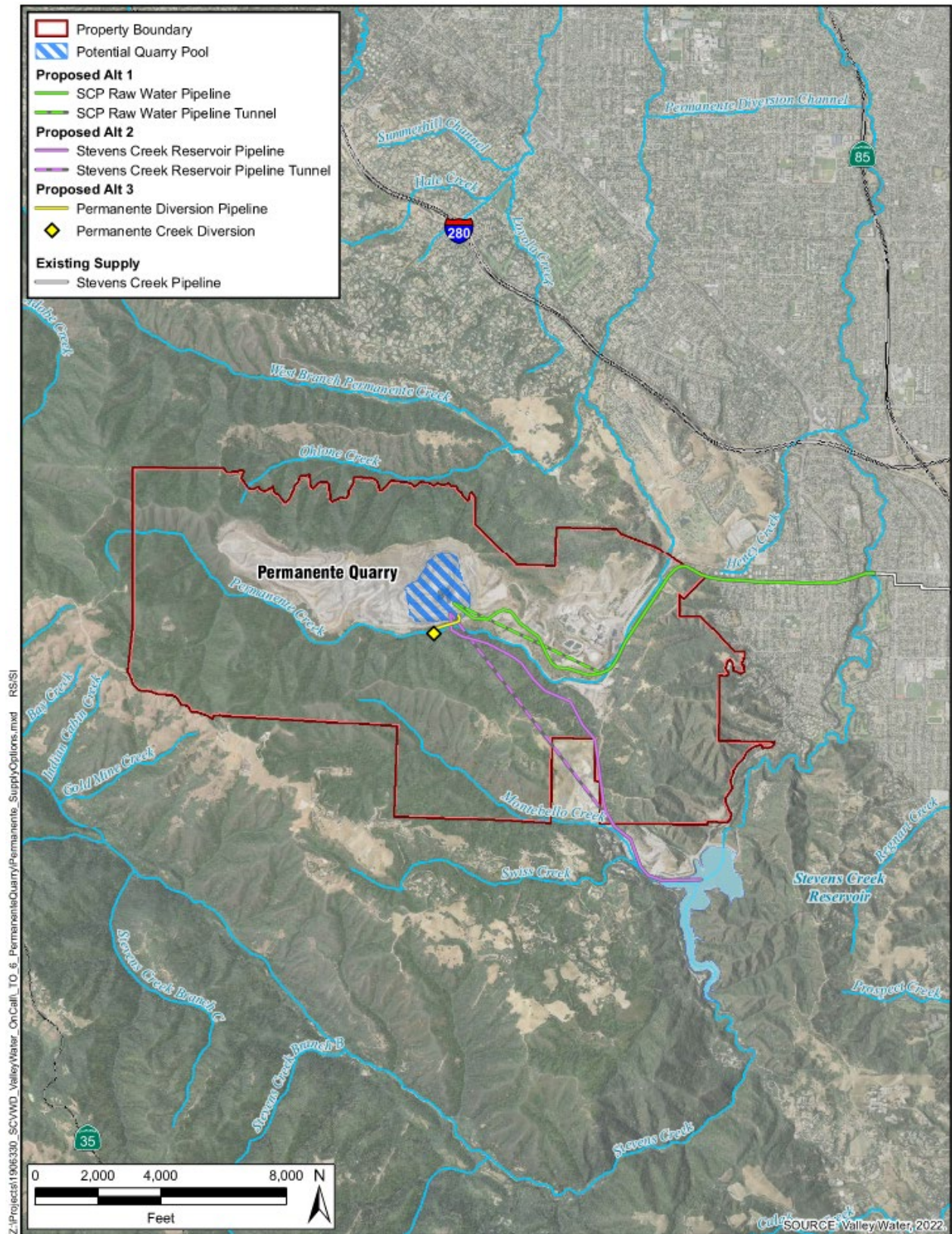


Figure 1: Water Supply Alternatives

4.1 Alternative Water Availability

Each of the above alternatives has different water sources, as noted, and different potential for providing water for storage in the Quarry. The average annual water available for each of these sources is described below.

- **Alternative 1**– Alternative 1 relies on SCP to convey water to the Quarry. Water supplies may be limited by either the capacity of the pipeline or the deliveries that could be provided to the pipeline. To determine an accurate estimate of the potential deliveries from SCP, additional system operations modeling would need to be run to calculate the potential deliveries from imported water sources [Supply (a) Imported Water] and Anderson and Calero reservoirs [Supply (c) Local Reservoirs]. For the purposes of this study, it will be assumed that raw water would be available at SCP at a flow rate of 20 cfs, for six months of the year, every three years. This calculates to approximately 2,400 acre-feet per year on average.
- **Alternative 2**– Alternative 2 leverages on any excess supplies not currently used on Stevens Creek [Supply (b) Local Watershed Diversions]. Stevens Creek currently operates under a pilot program based on the Fish and Aquatic Habitat Collaborative Effort settlement agreement, which requires minimum releases be made from Stevens Creek Reservoir based on time of year and storage in the reservoir. Valley Water also currently has an appropriative water right of 4,000 acre-feet, with a priority since 1931, for domestic and irrigation uses. The water right is put to beneficial use by storing water in Stevens Creek Reservoir, which has a total capacity of approximately 3,000 acre-feet, and by releasing it to the Stevens Creek for managed groundwater recharge. This alternative would require a new appropriative water right be acquired for Stevens Creek or modifying the existing water right by increasing its licensed amount and adding a new diversion point.
- **Alternative 3**– Alternative 3 leverages runoff from the relatively small 2.2 square mile Permanente Creek watershed [Supply (b) Local Watershed Diversions] upstream of the Quarry. The runoff at the Quarry was estimated using Natural Resources Conservation Service (NRCS) National Engineering Handbook SCS runoff equation and leveraging precipitation data from Valley Water precipitation gages. The average annual runoff in Permanente Creek upstream of the Quarry was estimated at 1,040 acre-feet. However, as noted earlier, Permanente Creek includes red-legged frog habitat, so additional analysis may be required to determine what, if any, flows need to be maintained to sustain that habitat.

4.2 Quarry Water End Use

As noted in Section 3.2, there is not a clear end use of the water stored in the Quarry at this time. This study assumes all alternatives provide a mechanism to convey water to SCP, which, with some potential modifications, could be pumped backward through the system to the Rinconada Treatment Plant or released into McClellan Percolation Ponds, Stevens Creek, and other creeks in the West Valley for groundwater recharge. The total annual groundwater recharge capacity of these recharge facilities totals about 15,200 AFY. The modifications required to reverse flow water through SCP will need to be studied to determine the specific infrastructure and operations requirements. Other end use options may be considered in future studies.

4.3 *Alternative Infrastructure Requirements*

This section identifies the major infrastructure requirements to convey water to the Quarry and tie the Quarry to the rest of Valley Water's conveyance system. Infrastructure requirements will be sized based on water supply availability and timing.

- **Alternative 1 – Stevens Creek Pipeline to Quarry:** To implement Alternative 1, the SCP will be extended to the Quarry. The same pipeline will be used to return water stored in the Quarry to the SCP. The static head at the Quarry is greater than 450 feet above the operating pressure of the existing SCP; therefore, a booster pump station is required to lift water to the quarry. A pump station at the Quarry is required to return flows to the SCP.
 - Pipelines: Approximately three miles of 24-inch steel pipeline will be installed from the existing turnout at Stevens Creek to the Quarry using an open trench method. This alignment requires that water is pumped above the Quarry rim. The 5,000 feet of the pipeline nearest to the Quarry could alternatively be installed in a tunnel. This would reduce the energy cost to pump water to the Quarry and enable the return flow to the SCP to take advantage of the reservoir head and reduce the pump station size at the Quarry when returning flow to the SCP.
 - Pump Stations: The operating pressure at the SCP should enable the booster pump station to be located beyond the residential area approximately one mile west of the current Stevens Creek turnout. A second pump station at the Quarry may be necessary to return water to the SCP depending on the minimum pool level to be maintained at the Quarry. The sizing of the potential pump stations considered the static head and pipe friction headlosses and minor (form) headlosses. Each pump station will require multiple pumps with electric motors in the range of 500 to 700 horsepower. For this study, we anticipated each pump station will consist of three (3) pumps.
 - Pressure Reducing Station: The return of flow to the SCP may create operating pressures greater than the operating pressure at the SCP turnout. Therefore, a pressure reducing station will be required.
 - Potential additional infrastructure to facilitate reverse flows: Additional check valves, gate valves, and surge pressure relief valves to protect the pipeline from hydraulic transients (water hammer) should be anticipated.
 - Other: The above requirements apply to use of Supply (a) Imported Water (from the SWP or CVP) only. Additional facility analysis should be conducted to determine if there are any additional infrastructure requirements for use of Supply (c) Local Reservoirs.
- **Alternative 2 – Stevens Creek Reservoir to Quarry:** To implement Alternative 2, a new pipeline will have to be constructed from the Stevens Creek Reservoir to the Quarry. The same pipeline will be used to return water stored in the Quarry to the Stevens Creek Reservoir. The static head at the Quarry is 480 feet greater than the reservoir. for this study, the delivery of water from the reservoir to the SCP is assumed to be accomplished with installation of a diversion off Stevens Creek at the SCP and installation of a pumpstation.
 - Pipelines: Approximately 2.5 miles of 24-inch steel pipeline will be installed from the Stevens Creek Reservoir to the Quarry using an open trench method. This alignment

requires that water is pumped above the Quarry rim. The 8,000 feet of pipeline nearest to the Quarry could be installed in a tunnel. This would reduce the energy cost to pump water to the Quarry and enable gravity return flow to Stevens Creek Reservoir.

- Pump Stations: A new pump station at Stevens Creek Reservoir will need to be constructed to deliver the available flows to the Quarry. A second pump station at the Quarry may be necessary to return water to the Stevens Creek Reservoir depending on the minimum pool level maintained at the Quarry. The sizing of the pump stations considered the static head and pipe friction and minor (form) headlosses. Each pump station will require multiple pumps with electric motors in the range of 500 to 700 horsepower. For this study we anticipated each pump station would consist of three (3) pumps.
- Potential additional infrastructure to facilitate reverse flows: Additional check valves, gate valves, and surge pressure relief valves to protect the pipeline from hydraulic transients (water hammer) should be anticipated.
- **Alternative 3 – Permanente Creek Diversion to Quarry:** Alternative 3 would divert water from Permanente Creek into the Quarry. Permanente Creek appears to be 50 to 100+ feet below the Quarry rim. A new diversion dam can be constructed across the creek to divert flow by gravity into the Quarry. The diverted water would not be returned to Permanente Creek but could be utilized as discussed in alternatives 1 and 2. The diversion dam height will enable the crest to be overtopped during large storm events.
 - Permanente Creek Diversion Dam: The dam can be earthen or a concrete weir structure to enable flow to be redirected into the Quarry. The height of the dam would be established to ensure required diversion flows, while minimizing the potential for inducing downstream flooding during high flows. The earthen dam would be hard-faced with reinforced concrete to allow overtopping of the dam during high flows. A small-diameter pipe could be installed to provide a minimum creek flow if needed for mitigation. If Alternative 3 is carried forward, an alternate design consideration could be installation of an inflatable rubber dam which could be lowered to allow flows in Permanente Creek to bypass the diversion if the Quarry were at full capacity.
 - Diversion off Permanente Creek: Water would be diverted into the Quarry in a 48-inch reinforced concrete pipe. The Quarry rim could be excavated to the proper elevation and backfilled to install the RCP, or the RCP could be run downstream to tie into a lower point on the Quarry rim. A reinforced concrete intake structure and outlet structure, including a coarse trash rack to mitigate animal or human access into the pipeline, would be constructed. The diversion pipe and dam will be located where the depth of the creek below the quarry road is least, to minimize the excavation depths for the diversion pipe.
 - Potential additional infrastructure to facilitate reverse flows: Additional infrastructure does not appear necessary, but this alternative does not provide a mechanism for water to be returned to Valley Water's existing infrastructure. Alternative 3 could complement Alternative 1 or Alternative 2.

4.4 Alternative Capital Cost Estimates

Reconnaissance-level (Class 5) cost estimates were developed for each of the above alternatives based on similar projects, standard cost estimating resources, and engineering judgement. For alternatives 1 and 2, the lower cost estimate represents construction of the conveyance pipeline using traditional trenching and installation while the larger value represents the estimate for boring a tunnel into the Quarry.

Table 1. Permanente Quarry Capital Cost Summary

Alternative	Amount
Alternative 1 - Stevens Creek Pipeline to Quarry	\$19 to \$31 Million
Alternative 2 - Stevens Creek Reservoir to Quarry	\$17 to \$40 Million
Alternative 3 - Permanente Creek Diversion to Quarry	\$1.8 Million

It is important to note that the costs identified above only address physical infrastructure costs and do not include the following additional costs, which could be fairly significant. Future studies should look at including these costs in future estimates. These costs could include:

- Site acquisition for the Quarry
- Right of way acquisition
- Other modifications to Valley Water infrastructure
- Purchase cost of imported water (Only applicable to Alternative 1)
- Operations and maintenance
- Conveyance energy costs (pumping)
- Potential costs of grouting joints and fissures in the Quarry
- Potential costs of slope stabilization in the Quarry
- Potential costs of treatment of water stored in the Quarry
- Permitting and/or mitigation
- Remediation costs
- Water loss due to evaporation and other conveyance losses

5 Project Feasibility Challenges

There are multiple criteria that need to be considered in evaluating the feasibility of using the Quarry for storage for this project. Some criteria may be of greater consequence to the overall project feasibility, and some are alternative-specific. A summary of these challenges is included in Table 2 below, and key changes are discussed in further detail in this section.

Table 2: Project Feasibility Challenges

Potential Impact	Quarry Use Feasibility Consideration	Alternative-Specific Feasibility Considerations	Feasibility Implications (Consequence)		
			High	Medium	Low
Change Mine Reclamation Plan	X		X		
Change in Lehigh Property Zoning	X		X		
Changes in Existing Water Rights		X		X	
Water Supply Availability		X	X		
Facilities and Operations		X		X	
End Use of Water		X		X	
Quarry Hydrogeologic Considerations	X				X
Source Water Quality		X			X
Stored Water Quality - RWQCB Water Quality Objectives	X	X	X		
Stored Water Quality – Public Health Standards	X		X		
California Red-Legged Frog		X		X	
In-Stream Flows and New Water Rights		X	X		
Other Environmental and Regulatory Factors	X	X		X	
Local Hydrologic Conditions	X				X
Project Costs	X	X	X		

Legend:

Potential issue that is regularly dealt with or can be easily evaluated or resolved
Potentially significant issue that does not affect project feasibility but could be challenging, costly, or affect the scope of the alternative
Critical issue that could result in the alternative being infeasible

5.1 Land Use Changes – All Alternatives

The reservoir project may not be compatible with the current HS-d1 zoning designation for the Lehigh property. If the project is not allowed within the HS-d1 designation, Valley Water can apply for a Conditional Use Permit with the Planning Commission. Since this is a discretionary permit, Santa Clara County would require CEQA documentation of potential project impacts and could decline to issue a permit. Therefore, obtaining this permit is a feasibility requirement of the project.

If the Quarry was used as a reservoir after ceasing mining operations, the Quarry basin could not be backfilled and reclaimed according to the approved 2012 Reclamation Plan Amendment. Therefore, the reservoir project requires Santa Clara County to amend the currently approved reclamation plans for the Quarry basin. It is not currently known if there are significant issues that preclude Santa Clara County from amending the reclamation plan without backfilling the basin, or if actions other than backfilling would need to be taken to reclaim the Quarry basin consistent with applicable mining laws. The project would be infeasible if the 2012 Reclamation Plan Amendment cannot be changed to remove backfilling of the Quarry basin, or this reclamation activity revised to otherwise make the Quarry basin suitable for a

reservoir at the capacity desired by Valley Water. Since the 2012 Reclamation Plan Amendment requires backfilling the Quarry basin by approximately 2030, there is also a timeline constraint as any changes to this plan would need to be approved prior to reclamation.

5.2 *Stored Water Quality – All Alternatives*

The SFBRWQCB Basin Plan includes water quality objectives that are intended to be protective of the identified beneficial uses for waterbodies; the beneficial use designation and the accompanying water quality objectives collectively define the water quality standards for a given waterbody or region. The Basin Plan contains water quality objectives including for specific chemical constituents, municipal and agricultural water supplies, and groundwater. All waters shall be maintained free of toxic substances in concentrations that are lethal to aquatic organisms or that produce other detrimental responses.

The project would not result in discharges of reservoir water to Permanente Creek. Under Alternative 1, the reservoir may not be waters of the U.S./State regulated by the RWQCB; however, this determination may depend on ultimate end uses of the water supplied by the reservoir. If water is ultimately used for groundwater recharge, applicable groundwater quality standards would need to be met. Under Alternative 2, the quality of water in the reservoir would need to meet water quality objectives related to beneficial uses, including those specified for Stevens Creek Reservoir, Stevens Creek, groundwater, and municipal water supplies.

Based on the SFRWQCB Cease-and-Desists Order, and various water quality studies conducted at the Quarry, constituents of concern include selenium, nickel, total dissolved solids (primarily sulfate), iron, and manganese. Elevated selenium concentrations have occurred in the past from overburden removed from the Quarry and stored onsite and from native soils (similar to the removed overburden) in the swale that discharges to Permanente Creek.

Samples collected from the limestone sediments within the Quarry have less than 5 µg /L of selenium (which is also the current four-day average limitation for selenium in the National Toxics Rule cited by the Basin Plan). Other metals like hexavalent chromium and mercury were detected in negligible concentrations at the ITS influent. Nickel was detected in moderate concentrations, but the average was approximately one-half the basin threshold. These trace metals may also be leaching from overburden but were not tested at various sites like selenium.

Samples collected from water pooled in the Quarry indicate total dissolved solids, iron, and manganese may leach into the stored water. With the relatively small volume of water tested, these constituents are slightly higher than their respective Secondary Maximum Contaminant Level (MCLs). Further evaluation is needed to fully understand potential degradation. Reclamation of the Quarry and other potential constituents of concern, such as algal toxins, should also be considered in further analysis.

If reservoir water quality is anticipated to exceed and violate applicable public health and/or RWQCB water quality objectives and cannot be mitigated onsite below these levels, the project/alternative would be considered infeasible.

5.3 *New Water Rights and In-Stream Flow Requirements – Alternatives 2 and 3*

Stevens Creek contains Central California Coastal steelhead and reductions in streamflow could impact habitat and migration. Existing diversions from Stevens Creek are subject to the requirements of Valley Water's Fish and Aquatic Habitat Collaborative Effort. New water rights under Alternative 2 would be subject to maintaining the same levels of instream flows to protect steelhead. Water stored in the Quarry reservoir would ultimately be conveyed back to Stevens Creek Reservoir and released downstream,

resulting in additional changes to the existing hydrograph of Stevens Creek. While this could result in periods of increased instream flows compared to existing conditions, further study is required to identify potential impacts to steelhead and other special-status species and desired flow levels during periods of the year when releases may occur.

Since the present-day hydrology of the Permanente Creek watershed does not support anadromous fish, it is not anticipated that diversion of Permanente Creek flows would need to consider instream flows for anadromous fish. However, the California red-legged frog and potentially other special-status amphibians are present in Permanente Creek, and aquatic habitat for these species could be permanently impacted due to reduced streamflow from new diversions under Alternative 3.

Potential effects to special-status species from stream diversions would be reduced by limiting diversions to flows during larger storm events. However, if insufficient flow is available after in-stream flow requirements, Alternative 2 and/or 3 could be infeasible.

5.4 Project Alternative Costs – All Alternatives

Ultimately, the cost of project infrastructure, property, and operations and maintenance can make a project economically infeasible. This study focused on approximating the major infrastructure requirements and determining the capital costs of these improvements. Additional expenses include acquisition of the Quarry site, operations and maintenance, and any mitigation measures. These will need to be considered to determine the overall cost of water that could be stored in the Quarry to augment Valley Water supplies.

6 Conclusions and Recommendations

6.1 Conclusions

Below is a summary of the conclusions presented in the four Reconnaissance-Level Study of Permanente (Lehigh) Quarry Site Technical Memoranda.

6.1.1 Conclusions from TM1: Hydrogeologic Setting and Water Quality

TM1 described the existing hydrogeologic setting and water quality conditions to inform Valley Water of issues that could make the project infeasible, require further analysis to understand, or be costly.

TM1 described the Quarry as located within the Franciscan Assemblage consisting of metamorphose sediments. Groundwater stored within the joints and fractures of the Franciscan Assemblage is considered by DWR to be non-water bearing with respect to production of usable quantities of water. The Quarry is located in a seismically active area that is subject to earthquakes. Because the reservoir would be located within the Quarry pit it is the seismic activity is not expected to determine the overall project feasibility, but the Quarry has a history of landslides that may affect project design and operations. Additional studies could be undertaken to better understand the roll of the joint and fracture system in groundwater flow and identify the need for grouting. Additionally, more information may be needed to evaluate the need for slope stabilization activities to reduce the threat from landslides into the reservoir.

TM1 synthesized the available water quality information to serve as a feasibility level assessment of the Quarry in the context of Valley Water's proposal to use the Quarry to store raw water. While there is a considerable amount of data available, reports that were referenced for this study were prepared for the purpose of demonstrating compliance with waste discharge permitting requirements. Use of these studies

relied on data interpretations and conclusions relevant to the purpose of the study and applied to Valley Water's proposed use of the quarry.

6.1.2 Conclusions from TM2: Existing Conditions, Potential Environmental Issues, and Regulatory Requirements

TM2 describes how the feasibility of developing a reservoir project at the Quarry depends on amending the *2012 Reclamation Plan Amendment* to change plans for backfilling the Quarry and potentially discretionary approval from the County for a Use Permit or zoning amendment to develop a reservoir at the Quarry. In addition, instream flow requirements need to be considered in state water rights for new diversions of water on Permanente Creek for CRLF and on Stevens Creek for steelhead. The reservoir project, including development and operation of the reservoir and associated infrastructure, would result in a range of environmental impacts, including to water quality, biological resources and especially CRLF, cultural resources and especially the Kaiser Permanente Quarry Mining District, noise generation, energy use, and greenhouse gas emissions, among others. With further site-specific study, there may be opportunities to avoid or reduce impacts to some of these resources during project planning and design. The project would also require several permits from federal, state, and local regulatory agencies and compliance with the California Environmental Quality Act and possibly the National Environmental Policy Act, if federal approvals are required or funding is provided (refer to TM 2 for more details on regulatory approvals).

6.1.3 Conclusions from TM3: Hydrologic Setting and Flood Conditions

TM 3 presents the hydrologic setting for the Permanente and Stevens Creek watersheds and describes the existing and potential flood risk associated with the project. The use of the Quarry for storage of raw water is anticipated to have limited effect on the downstream flood risk. The Quarry is off-stream and would thus have limited uncontrolled runoff into the Quarry and is anticipated to have sufficient freeboard to accommodate the limited water entering the Quarry during a precipitation event.

6.1.4 Conclusions from TM4: Existing Valley Water Infrastructure and Water Supply Availability

TM4 presented an assessment of the existing infrastructure and sources of water that could potentially be leveraged in utilizing the Quarry as a raw water storage reservoir. Based on this assessment, three sources were identified including (a) Imported Water, (b) Local Watershed Diversions, and (c) Local Reservoirs. From these sources, three different alternatives were defined which could be constructed to convey water to the Quarry. These alternatives include:

- Alternative 1 – Stevens Creek Pipeline to Quarry
- Alternative 2 – Stevens Creek Reservoir to Quarry
- Alternative 3 – Permanente Creek Diversion to Quarry

The potential water supplies for each of these alternatives was estimated using readily available data and information. It should be noted that none of these alternatives are estimated to be able to regularly fill the Quarry, and it would take multiple normal years to fill. Additionally, there are minor losses and environmental flow considerations which need to be refined to provide more accurate estimates of the water available for storage.

A high-level assessment of the infrastructure requirements was developed for each of the alternatives. Based on these infrastructure requirements, reconnaissance level cost estimates were developed, but

additional work is needed to define project costs which are not directly related to the infrastructure elements.

6.2 Recommendations on Further Considerations for this Project

- Additional studies could be undertaken to better understand the roll of the joint and fracture system in groundwater flow and identify the need for grouting. Additionally, more information may be needed to evaluate the need for slope stabilization activities to reduce the threat from landslides into the reservoir.
- GEI recommends conducting a comprehensive analysis of the sample methods and results to evaluate the water quality data strictly for the perspective of the proposed future use to accurately characterize impacts of using the Quarry as a storage reservoir.
- GEI recommends an independent review of sample results and water quality characterization based on analysis of sample methods (i.e., stormwater sampling, wall scouring then sampling, sampling stagnant pond water, etc.), then applying the data interpretations to Valley Water's proposed use of the Quarry.
- There are monitoring wells onsite to detect potential contaminant migration. The Operations, Maintenance and Contingency Plan are used to address contaminant leaching so GEI suggests making a public records request to the SFRWQCB, for items such as lab reports. A subsequent phase of this feasibility study could be conducted to evaluate if stored water would seep into the groundwater and potentially mobilize contaminants from buried wastes.
- Further evaluation of water quality, including, but not limited to, source water quality for Alternatives 1 through 3, stormwater quality, Quarry basin geology and soils, presence of historic contamination in the Quarry basin, approaches to Quarry basin reclamation (in lieu of filling the basin), and effects of dilution from water storage, among others. Modeling project water quality would help clarify if applicable public health and RWQCB water quality objectives may be exceeded by the project.
- If local water supplies from either Permanente Creek or Stevens Creek are used as the supply for the Quarry, additional hydrologic modeling would be needed to determine the timing and refine the volume of supplies that might be available for storage in the Quarry.
- If imported water is used as the supply for the Quarry, Valley Water would then have to decide how to balance their available supplies in the Quarry compared to storage in San Luis Reservoir. This may require hydraulic modeling of the Valley Water conveyance system to identify the timing and available capacity to deliver water to the Quarry. This study may identify additional infrastructure not yet identified.
- In conjunction with the water supply modeling, a pipeline hydraulic model should be developed to refine and optimize the pipeline and pumpstation sizing to maximize water supplies.
- The end use of the water stored in the reservoir would need to be determined. Currently this study has identified several opportunities for the end use of the water but, to better refine the infrastructure requirements, an end use will need to be determined.

- Coordination with Santa Clara County is needed to determine requirements and options for modifying the 2012 Reclamation Plan Amendment to eliminate backfilling of the Quarry basin and to determine if a zoning change and Conditional Use Permit are required for the project.
- Define the potential costs which are not currently quantified in this TM to better understand the total potential costs associated with the Quarry.

6.3 *Response to Task Order Requests*

Additional planning studies are necessary to further evaluate the technical and economic feasibility of using the Quarry as raw water storage. The additional information would be needed to refine the project purpose (use of the stored water) to evaluate the feasibility based on water supply availability, infrastructure and operational requirements, and impacts on water quality. There are additional environmental considerations and regulatory requirements that would also need to be addressed. The specific questions identified in the Task Order are summarized below.

- **Description of potential to utilize quarry site to store and distribute raw water.** This is the primary purpose of this summary report and four supporting TMs. This topic is covered from a wide variety of feasibility topics.
- **Rough determination of infrastructure needed including costs based on analysis of piping, pumps, and other required infrastructure.** Description of required infrastructure is included in Section 4, and further detailed in Technical Memorandum No. 4 – Existing Valley Water Infrastructure and Water Supply Availability.
- **Discussion of operational feasibility (including where to source water - would it come from local or imported water).** Description of water supply sources are covered in Section 3.3 and Section 4 and are further detailed in Technical Memorandum 4 – Existing Valley Water Infrastructure and Water Supply Availability.
- **Discussion of potential changes to current site hydrology benefits for flood protection (drainage pattern) and other potential flood benefits.** Descriptions of hydrology and flood protection are covered in Section 2.4 and further detailed in TM 3 – Hydrologic Setting and Flood Conditions.
- **Water quality risks, both for water supply use as well as environmental risk of continued water storage onsite.** Water quality risks are covered in Sections 2.3 and 5.2. This topic is also discussed in all the TMs covering water quality related to storage in the Quarry, the environment, and surface water quality.
- **Other potential benefits or risks (i.e., community issues/risks, geophysical risks).** This is discussed throughout this TM and the other four TMs.
- **Recommendations on further considerations for this project.** Recommendations are explicitly answered in Section 6.1.
- **Citations to all references and data used (all referenced reports and data to be compiled and delivered to Valley Water).** The references used to support this reconnaissance-level feasibility study are listed in Section 7 – References. They include numerous references provided by Valley Water and additional references and data identified by the project team. The references and data were reviewed by GEI staff and Valley Water staff through a series of four interviews focused on each of the draft TMs.

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Permanente Quarry Reconnaissance Study

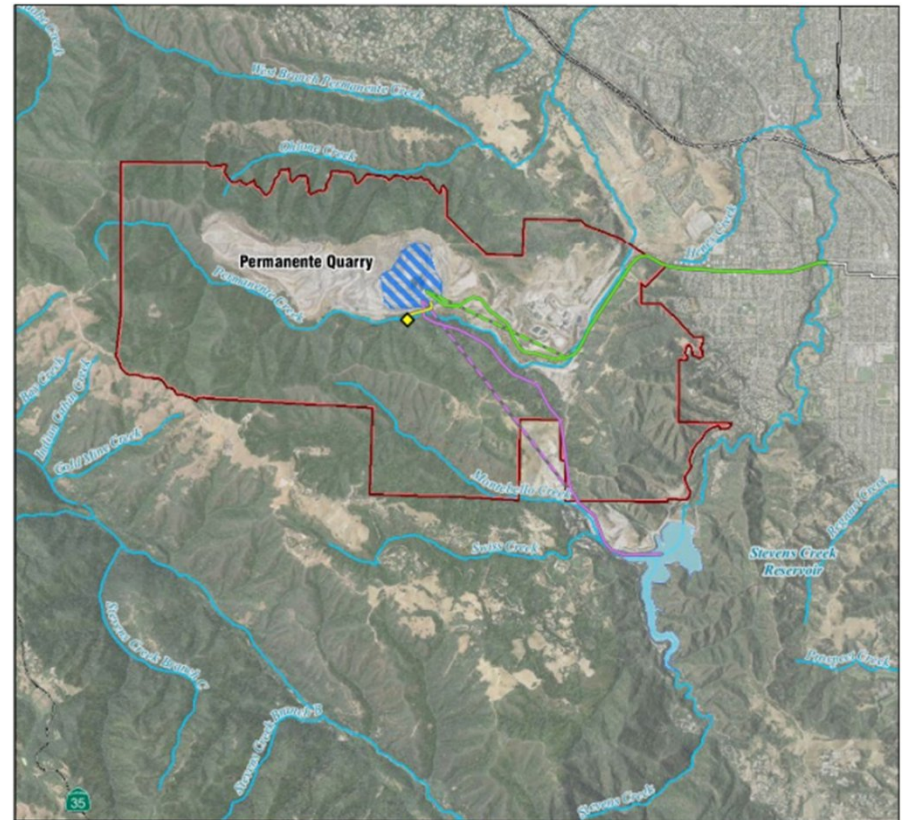
Water Shortage Exploratory Committee
March 29, 2023



valleywater.org

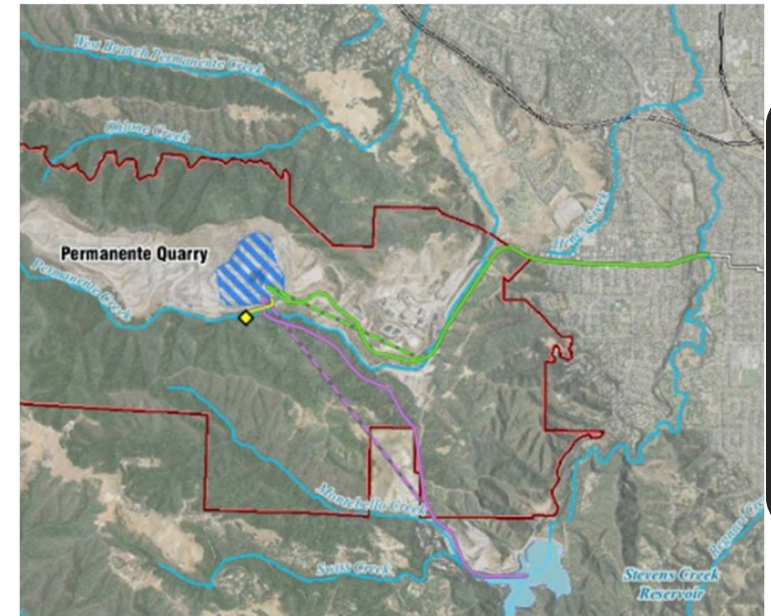
Permanente (Lehigh) Quarry

- Located in the foothills west of Cupertino.
- Run by Lehigh Southwest Cement Company starting in the early 1900s.
- A reconnaissance-level study was conducted in 2022 to evaluate quarry site as raw water storage facility.
- The quarry has the potential to store up to 14,000 acre-feet of water



Quarry Infrastructure Alternatives

Alternative	Alt. 1 - Stevens Creek Pipeline	Alt. 2 - Stevens Creek Reservoir	Alt. 3 - Creek diversion
Infrastructure Requirements			
Pipelines	3 miles of 24-inch	2.5 miles of 24-inch	300 ft of 48-inch
Infrastructure	1-2 pump stations	1-2 pump stations	Diversion Dam
Water Source			
	Imported Water	Steven Ck. Reservoir	Local Diversion



Capital Cost Estimate (million 2022\$)

Not included in cost estimate:

1. Permitting
2. Water right acquisition
3. Infrastructure modifications
4. Operations and maintenance
5. Stabilization of the quarry
6. Treatment of stored water
7. Remediation

Alt. 1 - Stevens Creek Pipeline	Alt. 2 - Stevens Creek Reservoir	Alt. 3 - Creek diversion
\$19 to \$31	\$21 to \$44	\$1.8*

* Alt 3 does not include infrastructure to return water back to the raw water system

Feasibility Challenges

5

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- Stability: prone to earthquakes and landslides
- Water quality
- Land use changes: zoning designation and backfill reclamation plan
- New water rights required
- Threatened species in watershed



Conclusion

- Small water storage facility (14 TAF)
- Small flood protection benefits
- High estimated cost
- Feasibility challenges





Santa Clara Valley Water District

File No.: 23-0321

Agenda Date: 3/29/2023

Item No.: 5.3.

COMMITTEE AGENDA MEMORANDUM Water Storage Exploratory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:

Update on B. F. Sisk Dam Raise and Reservoir Expansion Project.

RECOMMENDATION:

Receive and Discuss Information Regarding the B.F. Sisk Dam Raise and Reservoir Expansion Project.

SUMMARY:

The U.S. Bureau of Reclamation (Reclamation) and the San Luis & Delta-Mendota Water Authority (SLDMWA) are jointly developing the B.F. Sisk Dam Raise and Reservoir Expansion Project (Project), which would raise B.F. Sisk Dam by 10 feet and increase the storage capacity of San Luis Reservoir by 130,000 acre-feet (AF). This increase is in addition to the 12-foot raise being performed as part of the B.F. Sisk Safety of Dams Modification Project being undertaken by Reclamation and the Department of Water Resources (DWR), which is meant to address seismic concerns of the existing dam but will not increase the storage capacity of the reservoir.

San Luis Reservoir is a key facility shared by the State Water Project (SWP) and Central Valley Project (CVP) and is critical to the delivery of Santa Clara Valley Water District's (Valley Water) imported water supplies. Water stored in San Luis Reservoir can be directly accessed by Valley Water and delivered through Reclamation's San Felipe Division facilities, which are operated by Valley Water. Valley Water has the opportunity to participate in the Project and is currently supporting project development through its membership in the SLDMWA. Negotiations with Reclamation regarding key components of the project description will likely begin in several months; key project components include how storage may be used and how water supplies produced by the project may be allocated. If negotiations are fruitful, the Project could provide Valley Water with reliable new storage capacity, diversifying its storage portfolio consistent with a key Water Supply Master Plan (WSMP) strategy. The Project could also generate new surplus water supplies that, without expanded storage south of the Delta, would not otherwise be available.

Reclamation is currently pursuing a Basis of Negotiation, which is an internal administrative

procedure that will allow it to begin negotiating with the prospective Participants and ultimately determine how the benefits and costs of the Sisk Dam Raise will be allocated.

Project Funding

The initial planning for the Sisk Dam Raise was performed through a \$2.4 million consulting contract approved by the SLDMWA Board of Directors, the costs for which were shared among all SLDMWA members. In early 2022 a subset of SLDMWA members, including Valley Water, elected to continue the development of the Project through an activity agreement, rather than as an obligation of the entire membership. Valley Water has committed approximately \$235,000 to this effort to date.

The Project is eligible for federal funding for up to 50 percent of Project construction costs under the Water Infrastructure Improvements for the Nation Act (WIIN Act). For planning purposes Reclamation and SLDMWA have assumed that the federal government would provide the maximum possible funding and that the new storage capacity would be shared equally, with 50 percent, or 65,000 AF, being allocated to Reclamation for CVP purposes, and 65,000 AF being allocated to Project participants (Participants). However, this split may change and is subject to future negotiations.

Participants would be responsible for paying for their share of the Project construction costs, possibly through the SLDMWA or individually, although details have not yet been discussed. Reclamation's share of the Project may be further subdivided into two portions: one portion paid by Reclamation and requiring no reimbursement by water agencies, and another portion that would require reimbursement by water agencies. The non-reimbursable portion is anticipated to provide benefits to wildlife refuges and road improvements that benefit the public in general. The reimbursable portion may provide benefit to existing CVP water agencies but the cost, which would be provided up-front by Reclamation, would have to be paid back to Reclamation by CVP water agencies, including Valley Water.

Project Benefits

For Participants, the Project is anticipated to provide benefits that can be grouped into two main categories; 1) dedicated storage, and 2) wet year water supply. Storage capacity is expected to be dedicated to each Participant in proportion to the amount of funding provided. Participation percentages are yet to be determined and will be negotiated among Participants, and later with Reclamation.

The Sisk Dam Raise may also allow Reclamation to divert surplus supplies from the Delta under its existing water rights for the CVP, typically during wet years. Surplus supplies generated by Reclamation's share of new storage could be used to increase south of Delta water supply allocations while surplus supplies generated by the Participants' share could be provided to them in their respective share of new reservoir capacity.

Participants may also be able to store non-CVP water in its share of storage capacity, such as transfer supplies and SWP supplies, including Article 21 water. Article 21 water is made available to SWP contractors during high flow events, typically after San Luis Reservoir fills and must be directly

delivered or diverted to a non-SWP storage facility immediately as it becomes available. Valley Water has rarely been able to take advantage of these opportunities because local supplies are typically abundant at times when Article 21 is available, and because of its lack of alternative storage capabilities for imported water. Although Valley Water has invested in groundwater banking, groundwater banks typically are limited in their ability to receive large amount of water over short periods of time. Unlike groundwater banks, surface storage reservoirs are currently better able to take a “big gulp”. DWR’s records indicate that Article 21 was available in 10 of the last 20 years, but Valley Water was only able to take delivery of 13 percent of its allocated share. In the years DWR kept detailed accounting, Valley Water was unable to capture approximately 10,000 AF of Article 21 per year.

A significant portion of the water supply benefits of the Delta Conveyance Project (DCP) are expected to be provided as Article 21 supplies. Current modeling indicates that DCP would make Article 21 water available two to three times more often. If the DCP is ultimately built and Valley Water participates, it will be critical for Valley Water to make investments in projects such as the Sisk Dam Raise to fully realize these benefits.

Staff anticipates that the Participants would have control of their non-CVP water supplies stored in their share of the enlarged San Luis Reservoir, either choosing to hold that water in storage for future use or convey the water to new or existing groundwater storage facilities for recovery during dry years. It is expected that these non-CVP supplies stored in the Participant’s respective share of the reservoir would be protected from spill during times when the existing San Luis Reservoir fills. In the past 20 years Valley Water has averaged approximately 35,000 AF of water stored in San Luis Reservoir from year to year. While Valley Water operates to minimize spill risk in San Luis, a total of 77,800 AF was spilled over the past 20 years. These spills occurred over four years, with an average spill volume of approximately 20,000 AF per year.

Project Costs

The latest capital construction cost estimate for the Sisk Dam Raise is \$987 million in 2021 dollars, not including financing costs. Cost savings are anticipated to be achieved because the Project involves the modification of an existing facility rather than construction of an entire new facility, and because it would occur concurrently with the B.F. Sisk Safety of Dam Modification Project. The breakdown of costs by major project element is shown in Table 1 below. Total annual O&M costs are anticipated to be approximately \$6.6M.

Table 1: Sisk Dam Raise Capital Costs

Project Feature	Capital Cost (\$2021)
<i>Dam Raise</i>	<i>\$464M</i>
<i>State Route 152 Improvement</i>	<i>\$453M</i>
<i>Design, Permitting, Project Management</i>	<i>\$70M</i>
Total Capital	\$987M

If Valley Water participates in the Project, its share of costs would depend on the amount of storage it

ultimately elects to purchase. Table 2 indicates Valley Water's anticipated capital cost obligation under a range of participation scenarios, assuming that Participants are allocated 65,000 AF of new storage capacity.

Table 2: Range of Potential Costs for Valley Water

Participation Level	Storage Capacity (AF)	Capital Cost (\$M)	Annual O&M Cost (\$M)
8.5%	5,525	\$42	\$0.3
15%	9,750	\$74	\$0.5
50%	32,500	\$247	\$1.7
100%	65,000	\$493	\$3.3

Water Supply Master Plan Context

Valley Water's internal water supply planning analysis recognizes that Valley Water may be overly dependent on the Semitropic Groundwater Storage Bank in Kern County to meet its storage needs, and that greater diversification of storage investments may be required to meet level of service goals in the future. As described in the WSMP, Valley Water's existing supplies exceed our needs in some years, and additional facilities would increase flexibility and the ability to store these excess supplies for use in dry years. The Ensure Sustainability strategy described in the WSMP includes elements to secure and optimize existing supplies and infrastructure. The Sisk Dam Raise could provide storage diversification and optimize existing infrastructure by providing additional dedicated storage and leveraging supplies available through Valley Water's existing imported water contracts. It could also increase Valley Water's ability to fully realize the benefits of the Delta Conveyance Project, which is best paired with new south-of-Delta storage. Valley Water is in the process of updating the WSMP and this Project, in addition to other storage projects, will be evaluated as part of this process.

Next Steps:

Staff plans to bring the Project to the Water Storage Exploratory Committee in early May to seek its recommendation to go to the full Board in late May for the purpose of providing an overview of the upcoming funding decision. Staff would then bring a recommendation to the full Board in June for continued funding for the Project planning phase. Reclamation estimates that a total of \$20 million in planning funding will be required collectively from Project participants. An initial request of \$2.5 Million will be needed from participants in June of 2023 to sustain Project planning through September of 2023. It is anticipated that an additional \$7.5 million, to be provided jointly by Participants, will be required through July 2024, but the timing and size of future funding requests has not yet been decided. Options being considered include quarterly funding requests of \$2.5 million each, or a larger request to cover a longer timeframe if negotiations with Reclamation result in meaningful progress. Valley Water's share of these costs will depend on the Board's decision regarding Valley Water's preliminary participation level. Negotiations with Reclamation to define Project benefits and costs will likely conclude several months after the initial funding decision is made, and Valley Water will likely have the opportunity to adjust its participation level for subsequent funding requests.

ATTACHMENTS:

Attachment 1: PowerPoint Presentation

UNCLASSIFIED MANAGER:

Vincent Gin, 408-630-2633



B.F. Sisk Dam Raise and Reservoir Expansion Project

Water Storage Exploratory Committee Meeting, March 29, 2023



Santa Clara County is reliant on water supplies imported from the Central Valley watershed

Water Supplies:

50% Imported Water

- 40% Sacramento-San Joaquin Delta (groundwater replenishment and drinking water treatment plants)
- 10% Hetch Hetchy

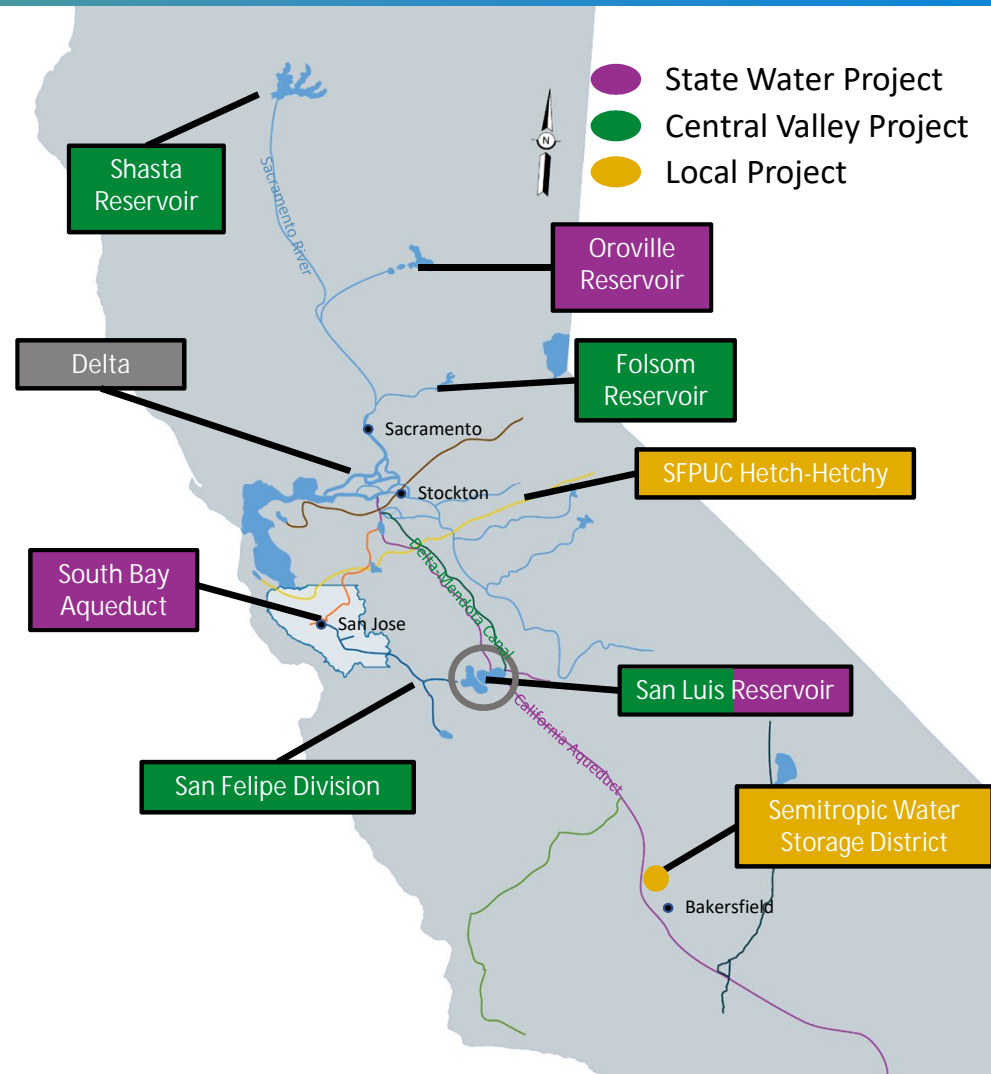
30% Local Water

- Natural groundwater
- Reservoirs to groundwater
- Reservoirs to drinking water treatment plants

5% Recycled Water

15% Water Conservation

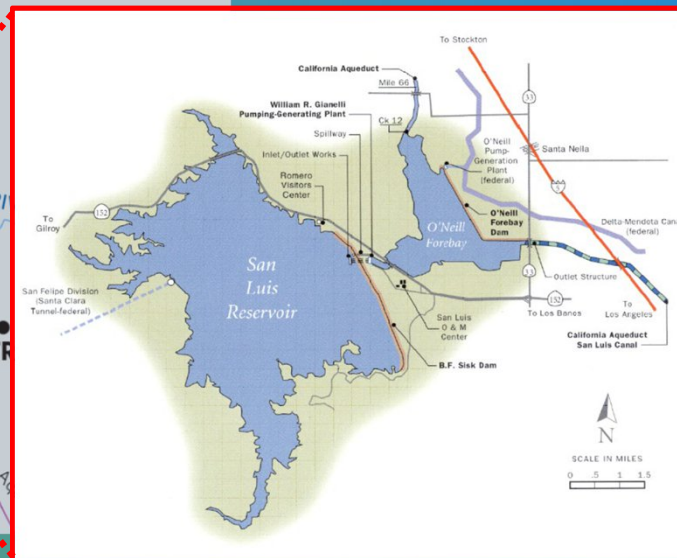
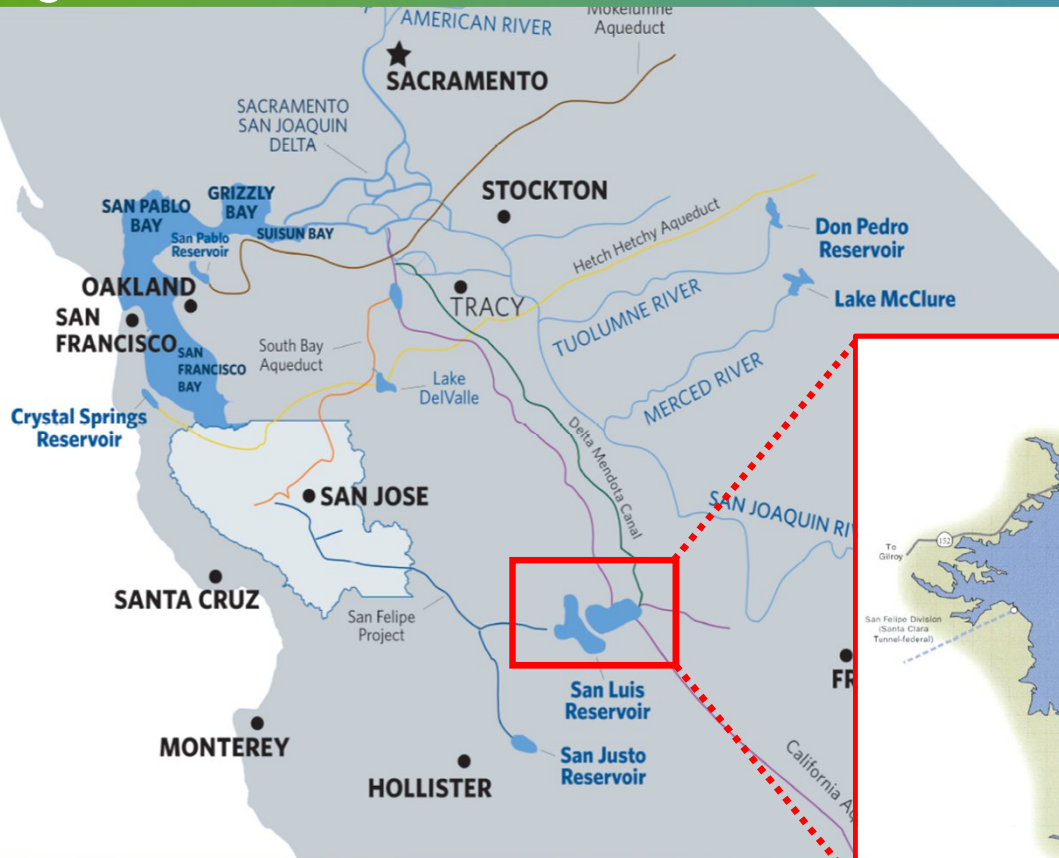
100% TOTAL SUPPLIES



Project Location

Location: San Luis Reservoir
Merced County

Existing Facility: Integrated Operations
Direct Access



Concurrent Projects

Safety of Dams Project:

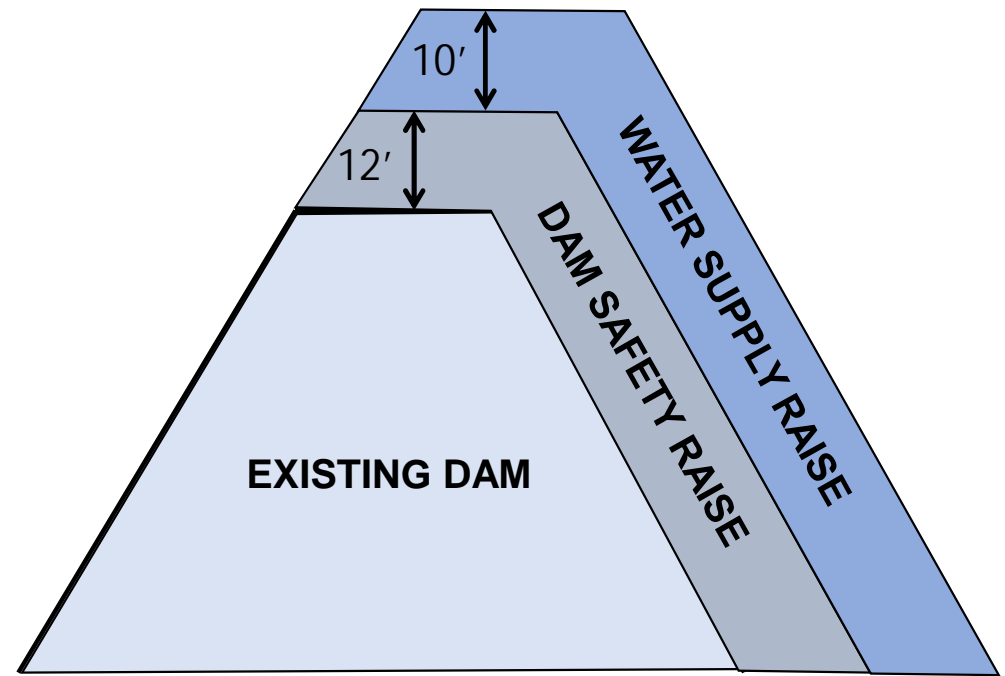
- Seismic repairs
- No additional storage

B.F. Sisk Dam Raise Project:

- 130,000 acre-feet (AF) new storage

Combined Projects:

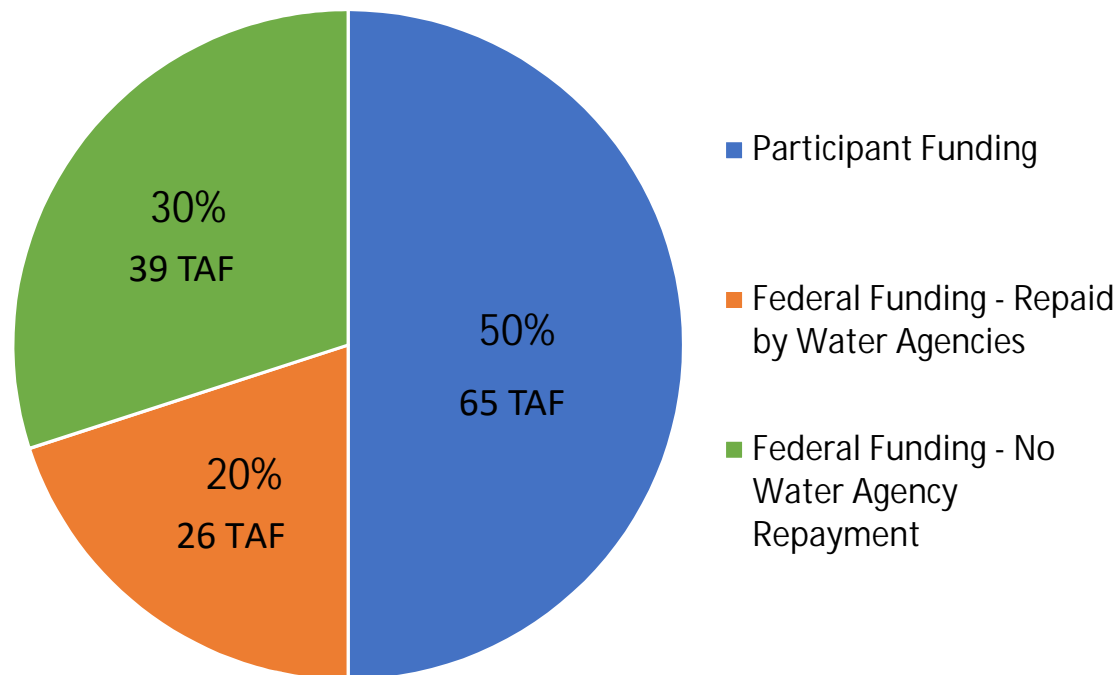
- Cost and schedule savings
- Reduced environmental impact



Potential Share of Project Funding and Storage

➤ WIIN Act: Up to 50 percent

➤ Project Partners: Remaining amount



Project Benefits

- Anticipated project benefits – subject to future negotiation
 - Dedicated storage capacity for existing water supplies
 - Protection of stored water from spill
 - Capture of new surplus water
 - Improved reliability of CVP allocation

Project Costs

Project Feature	Capital Cost (\$2021)
Dam Raise	\$464M
State Route 152 Improvement	\$453M
Design, Permitting, Project Management	\$70M
Total Capital Cost	\$987M

- Total annual O&M cost estimate: \$6.6 million

Range of Participation and Costs

- Valley Water's potential share of 130,000 AF of new storage capacity
 - Assumes 65,000 AF is dedicated to project partners

Investor Participation Level	Storage Capacity (AF)	Capital Cost	Annual O&M Cost
8.5%	5,525	\$42M	\$0.3M
15%	9,750	\$74M	\$0.5M
50%	32,500	\$247M	\$1.7M
100%	65,000	\$493M	\$3.3M

Planning Costs and Milestones

- Participants' Planning Cost Estimate: \$20M
 - VW Share of Planning Costs: \$1.7M - \$20M
 - VW Funds Committed to Date: \$235,000

Project Milestones & Funding Schedule



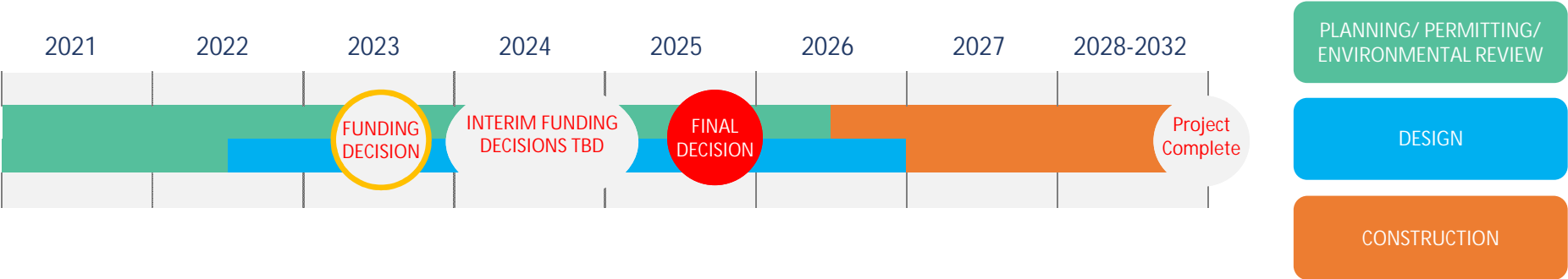
Board Decision Schedule

Participant planning costs:
(Valley Water share TBD)

\$2.5M - July 2023
\$7.5M - September 2023-July 2024
\$10M - October 2024

Construction funding:

\$474 Million - October 2025





Valley Water

Clean Water • Healthy Environment • Flood Protection

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Santa Clara Valley Water District

File No.: 23-0322

Agenda Date: 3/29/2023

Item No.: 5.4.

COMMITTEE AGENDA MEMORANDUM Water Storage Exploratory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:

Standing Items.

RECOMMENDATION:

- A. This agenda item allows the Committee to receive verbal or written updates and discuss the projects listed in the summary. These items are generally informational; however, the Committee may request additional information from staff:
- B. This is informational only and no action is required.

SUMMARY:

Standing Items will allow regular reports from staff on subjects that may be of interest to the committee members.

Staff may provide a verbal update at the 3-29-2023, meeting if there is reportable/updated information.

- 1. Update on Los Vaqueros Reservoir Expansion Project (LVE) Transfer Bethany Pipeline (TBP) and Update on Management of South Bay Aqueduct (SBA) Facilities (*see agenda item 5.1*)
- 2. Del Puerto (*No Update*)
- 3. Water Banking Opportunities including but not limited to Pleasant Valley Water District (*Verbal Update*)
- 4. Pacheco/San Luis Reservoir Low Point (*No Update*)
- 5. Semitropic (*No Update*)
- 6. Sites (*No Update*)
- 7. B.F. Sisk Dam Raise Project (*see agenda item 5.3*)
- 8. Shasta (*No Update*)

ATTACHMENTS:

None.

UNCLASSIFIED MANAGER:

Candice Kwok-Smith, 408-630-3193



Santa Clara Valley Water District

File No.: 23-0323

Agenda Date: 3/29/2023

Item No.: 5.5.

COMMITTEE AGENDA MEMORANDUM

Water Storage Exploratory Committee

SUBJECT:

Review Water Storage Exploratory Committee Work Plan and the Committee's Next Meeting Agenda.

RECOMMENDATION:

Review the Committee's Work Plan to guide the Committee's discussions regarding policy alternatives and implications for Board deliberation.

SUMMARY:

The Committee's Work Plan outlines the Board-approved topics for discussion to be able to prepare policy alternatives and implications for Board deliberation. The work plan is agendaized at each meeting as accomplishments are updated and to review any work plan assignments by the Board.

BACKGROUND:

Governance Process Policy-8:

The District Act provides for the creation of advisory boards, committees, or committees by resolution to serve at the pleasure of the Board.

Accordingly, the Board has established Advisory Committees, which bring respective expertise and community interest, to advise the Board, when requested, in a capacity as defined: prepare Board policy alternatives and provide comment on activities in the implementation of the District's mission for Board consideration. In keeping with the Board's broader focus, Advisory Committees will not direct the implementation of District programs and projects, other than to receive information and provide comment.

Further, in accordance with Governance Process Policy-3, when requested by the Board, the Advisory Committees may help the Board produce the link between the District and the public through information sharing to the communities they represent.

ATTACHMENTS:

Attachment 1: 2022 WSEC Work Plan

File No.: 23-0323

Agenda Date: 3/29/2023
Item No.: 5.5.

UNCLASSIFIED MANAGER:

Candice Kwok-Smith, 408-630-3193

2022 Work Plan: Water Storage Exploratory Committee

Update: March 2023

The annual work plan establishes a framework for committee discussion and action during the annual meeting schedule. The committee work plan is a dynamic document, subject to change as external and internal issues impacting Valley Water occur and are recommended for committee discussion.

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
1	<p>Standing Items:</p> <ol style="list-style-type: none"> Update on Los Vaqueros Reservoir Expansion Project (LVE) Transfer Bethany Pipeline (TBP) and Update on Management of South Bay Aqueduct (SBA) Facilities Del Puerto Water Banking Opportunities including but not limited to Pleasant Valley Water District Pacheco/ San Luis Reservoir Low Point Semitropic Sites B.F. Sisk Dam Raise Project Shasta 	<p>1-27-2022</p> <p>3-7-2022</p> <p>7-13-2022</p> <p>10-13-2022</p>	<ul style="list-style-type: none"> Receive quarterly reports on standing items. (Information) 	<p>Accomplished January 27, 2022:</p> <p>The Committee received verbal reports on the following projects:</p> <p>GROUNDWATER BANK UPDATE: reported on by <u>Cindy Kao</u></p> <p>McMullin GSA Groundwater Bank:</p> <ul style="list-style-type: none"> McMullin is continuing to develop a joint EIR/EIS and updating a Feasibility Study (expanding and revising it as part of the USBR approval process for CVP Banks) environmental review work and early design of the project facilities McMullin is working on developing a funding and participation agreement. VW staff is working to secure additional information about project costs, milestones, and timeline. DWR's comments on the McMullin GSP which, if not already released, will be released on January 28th. Imported Water Unit staff will be reviewing <p>AVEK Groundwater Bank:</p> <ul style="list-style-type: none"> We've worked with them to develop a draft Pilot Banking Agreement - to test the feasibility of the bank for us and understand any administrative challenges that may arise. The intent is to allow us to put down a small amount of water (flexibility for up to 15,000 AF) <p>The intent is to effectively test the ability to return the water and secure the necessary agreements with DWR. And to test the ability of AVEK will store "banked" water in San Luis Reservoir on behalf of Valley Water for direct recovery</p>

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

Attachment 1
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2022 Work Plan: Water Storage Exploratory Committee

Update: March 2023

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
				<p><u>PACHECO RESERVOIR EXPANSION PROJECT</u> <u>UPDATE:</u> reported on by <u>Ryan McCarter</u></p> <ul style="list-style-type: none"> • Draft EIR is out for public comments until February 15, 2022, then staff will compile comments for final EIR • 2nd Phase field investigation gather additional data for the power transmission line and access at dam site, working with Division of Safety of Dams (DSOD) for work-plan get buy-in on the Phase 2 geotechnical investigation • Correspondence with the DSOD on the dam type, had question on the heart fill may be long road to get approved and permitted so considering switching to the earth fill site upstream site, looking at alternative analysis and will go over this information at the February 16, 2022, meeting • WIFIA application working on submitting April 2022 • Potential partnership opportunities and discussions are ongoing, the consultant team is on board • Pacheco Pass Water District (PPWD) meeting held January 25, 2022, Board Members: Ryan Bergamini. Mark Tobias.; Shawn Bourdet, Garrett Haertel and Scott Rossi. <ul style="list-style-type: none"> ▪ PPWD planning on moving forward with the spillway repair <p><u>SITES:</u> reported on by Cindy Kao</p> <ul style="list-style-type: none"> ▪ In December, the California Water Commission voted in favor of the feasibility of the Sites project, which keeps the project eligible for \$800M in WSIP funding

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2022 Work Plan: Water Storage Exploratory Committee

Update: March 2023

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
				<ul style="list-style-type: none"> ▪ The project is up for the next phase of funding and we are being asked to consider executing an amendment to the existing agreement that would cover funding for the next 3 years. ▪ Staff is analyzing the current status of the project - (benefits, costs, and financial information) ▪ Current Participants are being asked to seek approval to continue funding by the end of March ▪ We are hoping to bring our recommendation to the next meeting of this committee before going to the full board in March. <p><u>B.F. SISK DAM RAISE PROJECT:</u> reported on by <u>Cindy Kao</u></p> <ul style="list-style-type: none"> • Valley Water Staff is coordinating with the San Luis & Delta-Mendota Water Authority (SLDMWA) on developing the project description and cost sharing consideration. We have been told that a cost share agreement is expected to be developed this spring. The SLDMWA voted to hire a project manager to move the project forward more efficiently. • Staff thanked and gave credit to Valley Water partner, Jeff Cattaneo, District Manager-District Engineer of San Benito County Water District for his idea and key driver for the hiring of the project manager. <p><u>SEMITROPIC:</u> reported on by <u>Cindy Kao</u></p> <ul style="list-style-type: none"> • Through December, VW recovered approximately 35,959 acre-feet from Semitropic • VW currently has roughly 297,208 AF in storage (~85% full) • Imported Water Unit staff will be reviewing DWR's comments on the Semitropic and Kern Subbasin GSPs which, if not already released, will be released on January 28th. <p>The Water Storage Exploratory Committee took no action</p>

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2022 Work Plan: Water Storage Exploratory Committee

Update: March 2023

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
				<p>Accomplished March 7, 2022: The Committee received verbal reports on the following projects: UPDATE ON LOS VAQUEROS RESERVOIR EXPANSION PROJECT (LVE) TRANSFER BETHANY PIPELINE (TBP) AND UPDATE ON MANAGEMENT OF SOUTH BAY AQUEDUCT (SBA) FACILITIES reported on by Michael Martin</p> <ul style="list-style-type: none"> JPA will be meeting on Wednesday, March 8, 2022, the agenda includes actions on a Diversity policy and Board Meeting Decorum Policy, and discussions on hiring an Executive Director, the FY23 budget, a Claims Policy, and CEQA Policy. provided a briefing to Chair Kremen and Director LeZotte as the representatives to the JPA Board. An overview of the FY23 budget will be discussed at this Wednesday's JPA meeting and be going through a staff workgroup, discussions, the financial committee, and to the JPA Board this spring. Once a FY23 budget is in place, that will lead to an interim funding agreement between the JPA members in the fall to keep the project funded through the end of 2023 or until the JPA fully takes over financial administration. During the February JPA Board meeting, The JPA decided to go with a more rapid approach in bringing on an Executive Director and recruitment will likely start in April/May with assistance from a Board ad-hoc committee. Staff is still planning on bringing a discussion for VW participation in the coming months. Negotiations are upcoming that will influence the staff recommendation on participation. project schedule indicates VW will need a participation decision at the end of CY 22 or early CY 23. <p>DEL PUERTO CANYON RESERVOIR reported on by Cindy Kao:</p> <ul style="list-style-type: none"> December 15, 2021, CA Water Commission approved the feasibility of the project which

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2022 Work Plan: Water Storage Exploratory Committee

Update: March 2023

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
				<p>makes it eligible to apply for funds if Prop 1 is opened for more applications</p> <ul style="list-style-type: none"> VW Staff just learned about a group of 10 Friant Users filed a lawsuit in November 2020 alleging that the Exchange Contractors do not have the right to store their water in the reservoir, the lawsuit reflects their concern that there could be some indirect impact if those Exchange Contractors store water instead of taking direct delivery of that water <p>*please place the lawsuit information in the Board's Non-Agenda Packet</p> <p><u>GROUNDWATER BANK UPDATE</u> reported on by <u>Cindy Kao</u></p> <p>McMullin:</p> <ul style="list-style-type: none"> Imported Water Unit Staff reviewed DWR's comments on the King's subbasin which includes the GSP's 1 of which is the McMullin area Groundwater Sustainability Agency's (GSA) GSP and DWR sent an incomplete determination letter to state the GSP is inadequate and must be fixed 180 days Local GSA's have until July 27, 2022, to revise and re-submit their plans VW is participating in the McMullin board meetings and tracking the proposed revisions to the GSPs <p>Antelope Valley East Kern (AVEK) partnership:</p> <ul style="list-style-type: none"> Draft pilot banking agreement was developed, and the term sheet was sent to AVEK to review, and they are evaluating and seeking board approval before it is approved <p><u>PACHECO RESERVOIR EXPANSION PROJECT UPDATE:</u> reported on by <u>Ryan McCarter</u></p>

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2022 Work Plan: Water Storage Exploratory Committee

Update: March 2023

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
				<ul style="list-style-type: none"> The Public comment period for the draft EIR closed February 15, 2022, and comments from nearly 200 different sources were received. Many of the comments were from members of the public opposing the project. Also had several regulatory agencies and NGOs also submitted comments on many different topics, as usual. The team will be compiling all the comments and working to address them and incorporate them into the Final EIR. The team had a very productive meeting with DSOD with regards to the dam type we are proposing on February 16, 2022. We shared our intentions to submit 30% design plans for an earthfill dam at the upstream site next month. DSOD was pleased that Valley Water decided to discontinue pursuing the hardfill dam concept. It was agreed that it could be a long process to vet the concept with DSOD. The critical activities over the next few months will be processing the Draft EIR comments and working on the 30% level design that will include plans and a new construction cost estimate *public comment letters can be made available to the Board in the Non-Agenda Packet when available. <p>SEMITROPIC: reported on by Cindy Kao</p> <ul style="list-style-type: none"> January 2022 VW recovered 3,736 acre feet water from semitropic, we're continuing to receive water from bank and VW has roughly 293,000 acre feet in storage and is about 84% full DWR sent an incomplete determination letter to Kern Subbasin GSP to state the GSP is inadequate and must be fixed 180 days

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2022 Work Plan: Water Storage Exploratory Committee

Update: March 2023

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
				<p>(issue=land subsidence, water quality, reduced storage levels)</p> <ul style="list-style-type: none"> Local GSA's have until July 27, 2022, to revise and re-submit their plans VW is participating in the Semitropic, Kern Groundwater Authority, and Kern County Agency board meetings and tracking the development of the GSPs 123 TCP is being worked on by VW staff and the committee will receive an update when completed <p><u>B.F. SISK DAM RAISE PROJECT:</u> reported on by <u>Cindy Kao</u></p> <ul style="list-style-type: none"> February 23, 2022, the San Luis and Delta-Mendota Water Authority (SLDMWA/Authority) re-released RFP to solicit bids for full time Project Manager for the Sisk Dam Raise project, and proposals are due by March 29, 2022, The Authority is planning on soliciting participation of the project through an activity agreement executed among the interested members of SLDMWA with an option for participation by non SLDMWA members as well. The activity agreement was to be considered for approval at the March 10, 2022, SLDMWA board meeting. VWV currently developing principles of agreement in advance of negotiations with Reclamation to nail down and clarify for all the potential participants of what the benefits and the costs and cost allocation approach to be agreed upon, also working with the Authority to identify what those principles are <p>The Water Storage Exploratory Committee took no action.</p>

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2022 Work Plan: Water Storage Exploratory Committee

Update: March 2023

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
				<p>Accomplished July 13, 2022: The Committee received the following reports: <u>Del Puerto Canyon Reservoir:</u></p> <ul style="list-style-type: none"> •Del Puerto and Exchange Contractors continue to work on the project •No fatal flaws found in work to date. Geotechnical work is upcoming. •Del Puerto WD looking to obtain Integrated Regional Water Management (IRWM) implementation grant funds to support continued work. •They are not interested in working with partners at this time, but after geotechnical evaluation to ensure feasibility, they plan to look for partnering. •CEQA lawsuit update will come to the Committee <p><u>Water Banking Opportunities</u> <u>Pleasant Valley:</u></p> <ul style="list-style-type: none"> •Discussing long-term exchange opportunity with Pleasant Valley WD while they continue evaluating the viability of a water bank and necessary infrastructure improvements. <p><u>Aquaterra:</u></p> <ul style="list-style-type: none"> •Revised Feasibility Study has been completed and is under review by staff and other interested parties. We finished our review. There are some gaps on water quality and other data. •They are revising their Groundwater Sustainability Plan (GSP) and will submit revisions on July 27th, 2022. •Staff continues to participate in McMullin's Board Meetings and track proposed revisions to the GSP. <p><u>AVEK:</u></p> <ul style="list-style-type: none"> •AVEK is in the process of developing the first phase of their groundwater bank with MWD. •Valley Water is interested in the second phase of the bank and are interested in doing a pilot program with them.

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2022 Work Plan: Water Storage Exploratory Committee

Update: March 2023

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
				<ul style="list-style-type: none"> •AVEK Staff went to their Board and the Board would like to have a discussion with their staff in the fall. •So AVEK is holding off on further discussions with us until after they've talked to the Board in a few months. <p><u>Semitropic:</u></p> <ul style="list-style-type: none"> •Continuing recovery on our behalf totaling 10.5 TAF thru May. •ST submitted GSP updates submitted to Kern Groundwater Authority (KGA) on June 15th. •KGA will compile the updates from all their member agencies and plans to adopt revisions on July 20th •Submittal to DWR by deadline July 27th. <p><u>Sites:</u></p> <ul style="list-style-type: none"> •On June 28, 2022, the Board approved sending in a letter to the Sites Project asking to be put on the waiting list to increase our participation level. The letter is drafted and will be going out shortly. <p><u>B. F. Sisk Dam Raise and Reservoir Expansion:</u></p> <ul style="list-style-type: none"> •San Luis and Delta-Mendota Water Authority (SLDMWA) awarded a consulting contract to Hallmark Group to serve as the Project Manager for the Sisk Dam raise project. •Valley Water is currently working with participating SLDMWA members to develop principles of agreement, which is intended to provide assurances to prospective participants prior to making a larger financial commitment. <p><u>Shasta Dam:</u></p> <ul style="list-style-type: none"> •Reclamation is not performing any further work related to the Raise of Shasta Dam at this time. •The project has not received any additional WIIN Act funding as recent appropriations language prohibits the use of these funds for the project.

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2022 Work Plan: Water Storage Exploratory Committee

Update: March 2023

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
				<p>The Water Storage Exploratory Committee took no action.</p> <p>Accomplished October 13, 2022:</p>
2	Update on Los Vaqueros Reservoir Expansion Project:	<p>1-27-2022 6-17-2022 7-13-2022 10-13-2022</p>	<ul style="list-style-type: none"> Receive Update on Los Vaqueros Reservoir Expansion Project 	<p>Accomplished January 27, 2022: Accomplished June 17, 2022: The Committee received an update on the Los Vaqueros Reservoir Expansion Project and took no action.</p> <p>Accomplished July 13, 2022: The Committee received an update on the Los Vaqueros Reservoir Expansion Project and took the following action: The Committee unanimously approved staff's recommendation that the Board consider Valley Water begin negotiations of Los Vaqueros Reservoir Expansion Project (LVE) participation level of 30 to 50 Thousand Acre Feet of Storage and conveyance to deliver dry year supplies via the Transfer Bethany Pipeline. <i>On August 23, 2022, The Board approved increasing the Los Vaqueros Reservoir Expansion Project storage capacity to 50 thousand acre-feet.</i></p> <p>Accomplished October 13, 2022: The Committee received an update on the Los Vaqueros Reservoir Expansion Project and took the following action The Water Storage Exploratory Committee unanimously approved staff's recommendation that the Board consider approving the Multi-Party Agreement Amendment #4 for the Los Vaqueros Reservoir Expansion Project. <i>On November 22, 2022, the Board approved staff's recommendation in approving the Multi-Party</i></p>

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2022 Work Plan: Water Storage Exploratory Committee

Update: March 2023

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
				<i>Agreement Amendment #4 for the Los Vaqueros Reservoir Expansion Project</i>
3	Review of 2022 Water Storage Exploratory Committee Work Plan	1-27-2022 3-7-2022 7-13-2022 10-13-2022	<ul style="list-style-type: none"> Review the Committee's 2022 Work Plan. 	<p>Accomplished January 27, 2022: The Committee reviewed the work plan and added a discussion on agricultural water needs.</p> <p>Accomplished March 7, 2022: Accomplished July 13, 2022: Accomplished October 13, 2022: The Committee reviewed the work plan and took no action.</p>
4	Update on Sites Reservoir Project: Third Amendment to 2019 Reservoir Project	3-7-2022	<ul style="list-style-type: none"> Receive an update on the Sites Reservoir Project. 	<p>Accomplished March 7, 2022: The Committee received an update on the Sites Reservoir Project: Third Amendment to 2019 Reservoir Project and took the following action: The Water Storage Exploratory Committee took the following action: The Committee by roll call vote unanimously approved staff's recommendation that the Board consider authorizing the Chief Executive Officer to execute the Third Amendment to 2019 Reservoir Project Agreement for a participation level of 0.2 percent of the total project and a funding commitment of \$200,000 covering calendar years 2022 through 2024 and appoint the Valley Water Project Agreement Member Primary and Alternative Representatives. <i>On March 22, 2022, the Board of Directors took action approving staff's recommendation.</i></p>

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Attachment 1
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2022 Work Plan: Water Storage Exploratory Committee

Update: March 2023

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
5	Sites Reservoir Project: Letter to Request Opportunity to Increase Valley Water's Participation Level	6-17-2022	<ul style="list-style-type: none"> Receive an update on the Sites Reservoir Project. 	<p>Accomplished June 17, 2022: The Committee received an update on the Sites Reservoir Project: Letter to Request Opportunity to Increase Valley Water's Participation Level The Committee by roll call vote unanimously approved staff's recommendation that the Board consider authorizing the Chief Executive Officer to send a letter expressing Valley Water's potential interest in increasing our participation level in the planning phase of the Sites Reservoir Project if space in the project becomes available and is supported by future analysis. <i>On June 28, 2022, the Board of Directors took action asking staff to revise the last sentence of the first paragraph of the draft letter to state that staff is committed to returning to the Board of Directors for future decision on participation level, subject to additional analysis of the project and Valley Water's other investments.</i></p>
6	Discussion on the Agricultural Water Needs	TBD	<ul style="list-style-type: none"> Discussion on the agricultural water needs, 	
7	Groundwater Bank Update	TBD	<ul style="list-style-type: none"> Receive and discuss information regarding potential groundwater storage projects 	
8	Pacheco Reservoir Expansion Project Update (San Luis Reservoir Low Point Projects)	TBD	<ul style="list-style-type: none"> Receive and discuss information regarding the status of Pacheco Reservoir Expansion Project (San Luis Reservoir Low Point Projects) 	

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2023 Work Plan: Water Storage Exploratory Committee

Update: March 2023

The annual work plan establishes a framework for committee discussion and action during the annual meeting schedule. The committee work plan is a dynamic document, subject to change as external and internal issues impacting Valley Water occur and are recommended for committee discussion.

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
1	Election of Chair and Vice Chair	3-29-2023	• Elect 2023 Chair and Vice Chair	
2	Standing Items: 1. Update on Los Vaqueros Reservoir Expansion Project (LVE) Transfer Bethany Pipeline (TBP) and Update on Management of South Bay Aqueduct (SBA) Facilities 2. Del Puerto 3. Water Banking Opportunities including but not limited to Pleasant Valley Water District 4. Pacheco/ San Luis Reservoir Low Point 5. Semitropic 6. Sites 7. B.F. Sisk Dam Raise Project 8. Shasta	3-29-2023	• Receive quarterly reports on standing items. (Information)	
3	Update on Los Vaqueros Reservoir Expansion Project	3-29-2023	• Receive Update on Los Vaqueros Reservoir Expansion Project	
4	Permanente Quarry Reconnaissance Study.	3-29-2023	• Receive update and provide feedback on the feasibility of using Permanente Quarry for water storage.	

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Attachment 2
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2023 Work Plan: Water Storage Exploratory Committee

Update: March 2023

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
5	Update on B. F. Sisk Dam Raise and Reservoir Expansion Project.	3-29-2023	<ul style="list-style-type: none">• Receive and Discuss information regarding the B. F. Sisk Dam Raise and Reservoir Expansion Project	
6	Review of 2023 Water Storage Exploratory Committee Work Plan	3-29-2023	<ul style="list-style-type: none">• Review the Committee's 2023 Work Plan.	

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

Attachment 2
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