Valley Water

Clean Water • Healthy Environment • Flood Protection

October 16, 2023

AMENDED COPY

MEETING NOTICE & REQUEST FOR RSVP

TO: ENVIRONMENTAL AND WATER RESOURCES COMMITTEE

Jurisdiction	Representative	Representative	Representative
District 1	Swanee Edwards	Loren Lewis	
District 2	Charles Ice	Elizabeth Sarmiento	
District 3	Hon. Bob Nuñez	Charles Taylor	
District 4	Bob Levy		
District 5	Hon. Patrick S. Kwok	Mike Michitaka	
District 6	Eleni Jacobson	Jim Piazza	
District 7	Tess Byler	Arthur M. Keller, Ph.D.	

The special meeting of the Environmental and Water Resources Committee is scheduled to be held on **Monday, October 16, 2023, at 6:00 p.m.** in the Headquarters Building Boardroom located at the Santa Clara Valley Water District, 5700 Almaden Expressway, San Jose, California. Dinner will be served.

Enclosed are the meeting agenda and corresponding materials. Please bring this packet with you to the meeting. Additional copies of this meeting packet are available on-line at https://www.valleywater.org/how-we-operate/committees/board-advisory-committees

A majority of the appointed membership is required to constitute a quorum, which is fifty percent plus one. A quorum for this meeting must be confirmed at least 48 hours prior to the scheduled meeting date or it will be canceled.

Further, a quorum must be present on the day of the scheduled meeting to call the meeting to order and take action on agenda items.

Members with two or more consecutive unexcused absences will be subject to rescinded membership.

Please confirm your attendance **no later than Thursday, October 12, 2023, Noon,** by contacting Dave Leon at 1-408-630-2406, or daveleon@valleywater.org.

Enclosures

Environmental and Water Resources Committee Meeting

ZOOM LINK is now for the public only-committee members will need to be in-person unless other arrangements were made prior to posting:
https://valleywater.zoom.us/j/94403145442

Meeting ID: 944 0314 5442
One tap mobile
+16699009128,,94403145442# US (San Jose)

Dial by your location
+1 669 900 9128 US (San Jose)
Meeting ID: 944 0314 5442

Santa Clara Valley Water District
Environmental and Water Resources Committee Meeting

Headquarters Building Boardroom
5700 Almaden Expressway
San Jose CA 95118

REGULAR MEETING
AMENDED AGENDA

Monday, October 16, 2023
6:00 PM

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

Loren Lewis, Committee Chair
Charles Ice, Committee Vice Chair

Director Barbara F. Keegan, District 2
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.

John Bourgeois
Vincent Gin
(Staff Liaisons)

Dave Leon, (COB Liaison)
Assistant Deputy Clerk II
daveleon@valleywater.org
1-408-630-2406

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
Environmental and Water Resources Committee

REGULAR MEETING
AGENDA

Monday, October 16, 2023	**6:00 PM**	**Headquarters Building Boardroom** **5700 Almaden Expressway** **San Jose CA 95118**

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 during public comment or on any item listed on the agenda, may do so by filling out a Speaker Card and submitting it to the Clerk or using the "Raise Hand" tool located in the Zoom meeting application to identify yourself in order to speak, at the time the item is called. Speakers will be acknowledged by the Board/Committee 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/94403145442
Meeting ID: 944 0314 5442
Join by Phone:
1 (669) 900-9128, 94403145442#

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 Board/Committee on any item not listed on the agenda may do so by filling out a Speaker Card and submitting it to the Clerk or using the "Raise Hand" tool located in the Zoom meeting application to identify yourself to speak. Speakers will be acknowledged by the Board/Committee Chair in the order requests are received and granted speaking access to address the Board/Committee. Speakers' comments should be limited to three minutes or as set by the Chair. The law does not permit Board/Committee action on, or extended discussion of, any item not on the agenda except under special circumstances. If Board/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 Board/Committee may take action on any item of business appearing on the posted agenda.

3. APPROVAL OF MINUTES:

3.1. Approval of Minutes. 23-1027

Recommendation: Approve the August 21, 2023, Meeting Minutes.

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

Attachments: Attachment 1: 08212023 EWRC Draft Mins

Est. Staff Time: 5 Minutes

4. REGULAR AGENDA:

4.1. Update on Fisheries Improvements. 23-1029

Recommendation: Receive an update on Fisheries Improvements. This is a discussion item and the Committee may provide comments if applicable, however no action is required.

Manager: John Bourgeois, 408-630-2990

Attachments: Attachment 1: Fisheries Improvements PPT

Est. Staff Time: 15 Minutes

4.2. Receive Information and Provide Feedback on the Development of Valley Water's Water Supply Master Plan 2050. 23-1030

Recommendation: Receive an update on the Water Supply Master Plan 2050 Development and provide feedback on the Water Supply Master Plan 2050 planning framework and engagement plan.

Manager: Kirsten Struve, 408-630-3138

Attachments: Attachment 1: Model Approach & Development
Attachment 2: WSMP Project Description
Attachment 3: No-Regrets Package Update
Attachment 4: WSMP 2050 Development

Est. Staff Time: 30 Minutes

4.3. Review and Receive Updates on the Environmental and Water Resources Committee's Working Groups. 23-1031

Recommendation:
A. Review and receive updates on the Environmental and Water Resources Committee's Working Groups, and
B. Provide comments to the Board on implementation of Valley Water's mission applicable to working groups' recommendations

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

Attachments: Attachment 1: Working Groups October 2023

Est. Staff Time: 5 Minutes

4.4. Review Environmental and Water Resources Committee Work Plan, the Outcomes of Board Action of Committee Requests; and the Committee's Next Meeting Agenda. 23-1032

Recommendation: Review the Committee 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: EWRC Work Plan 2023

Est. Staff Time: 5 Minutes

5. INFORMATION ITEM

5.1. Review Fiscal Year 2023-2024 Board Work Plan. 23-1033

Recommendation: Review the Board'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: Board Strategic Plan FY2023-24

Est. Staff Time: 10 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 REPORTS;

7.1. Director's Report

7.2. Manager's Report

7.3. Committee Member Report

7.4. Informational Link:
https://www.valleywater.org/how-we-operate/committees/board-committees

- Board Policy and Planning Committee (BPPC)
- Stream Planning and Operations Committee (SPOC) (formerly FAHCE Ad Hoc Committee)
- Environmental Creek Cleanup Committee (ECCC) (formerly Homeless Encampment Committee)
- Water Storage Exploratory Committee (WSEC)

https://www.valleywater.org/how-we-operate/committees/board-advisory-committees

- Water Conservation and Demand Management Committee (WCaDMC)

https://www.valleywater.org/your-water/water-supply-planning/monthly-water-tracker

- Water Tracker

8. ADJOURN:

8.1. Adjourn to Regular Meeting at 6:00 p.m., on Monday, January 22, 2024.

Santa Clara Valley Water District

File No.: 23-1027

Agenda Date: 10/16/2023
Item No.: 3.1.

COMMITTEE AGENDA MEMORANDUM
Environmental and Water Resources Committee

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

SUBJECT:
Approval of Minutes.

RECOMMENDATION:
Approve the August 21, 2023, 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.

ENVIRONMENTAL JUSTICE IMPACT:
There are no environmental Justice impacts associated with this item.

ATTACHMENTS:
Attachment 1: 08212023, EWRC Draft Meeting Mins.

UNCLASSIFIED MANAGER:
Candice Kwok-Smith, 408-630-3193

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ENVIRONMENTAL AND WATER RESOURCES COMMITTEE

DRAFT MINUTES

MONDAY, AUGUST 21, 2023

(Paragraph numbers coincide with agenda item numbers)

A special scheduled meeting of the Environmental and Water Resources Committee (Committee) Meeting was held on January 23, 2023, at Santa Clara Valley Water District, Headquarters Building, 5700 Almaden Expressway, San Jose, California.

1. CALL TO ORDER/ROLL CALL

Committee Chair Loren Lewis called the meeting to order at 6:08 p.m. A quorum was established with 11 Members present.

Members in attendance were:

Jurisdiction	Representative	Representative	Representative
District 1	Swanee Edwards	Loren Lewis	
District 2	Charles Ice	Elizabeth Sarmiento*	
District 3	Hon. Bob Nuñez*	Charles Taylor	
District 4	Bob Levy		
District 5	Mike Michitaka		
District 6	Jim Piazza		
District 7	Tess Byler	Arthur M. Keller, Ph.D.	

Members not in attendance were:

Jurisdiction	Representative	Representative	Representative
District 5	Hon. Patrick S. Kwok		
District 6	Eleni Jacobson		

*Committee Members arrived at the noted time below.

Board members in attendance were: Director Rebecca Eisenberg (Board Representative) and Director Nai Hsueh (Board Alternate).

Staff members in attendance were: Glenna Brambill, Vincent Gin, Samantha Greene, Jason Gurdak, Chris Hakes, Michele King, Metra Richert, and Jing Wu.

Public in attendance were: Valley Water Director Tony Estremera (District 6), Katja Irvin (Sierra Club-Loma Prieta Chapter), CS, and Valley Water Director John L. Varela (Board Chair, District 1).

2. PUBLIC COMMENT

There was no one present who wished to speak.

*Hon. Bob Nuñez arrived at 6:04 p.m.

3. APPROVAL OF MINUTES

3.1 APPROVAL OF MINUTES

It was moved by Charles Ice, seconded by Tess Byler, and majority vote carried, to approve the January 23, 2023, Environmental and Water Resources Committee meeting minutes as presented. Three abstentions by Loren Lewis, Hon. Bob Nuñez, and Charles Taylor.

3.2 APPROVAL OF MINUTES

It was moved by Charles Ice, seconded by Tess Byler, and majority vote carried, to approve the April 17, 2023, Environmental and Water Resources Committee meeting minutes as presented. Three abstentions by Loren Lewis, Hon. Bob Nuñez, and Charles Taylor.

4. REGULAR AGENDA ITEMS

4.1. FLOOD-MANAGED AQUIFER RECHARGE PRELIMINARY FEASIBILITY STUDY FOR SANTA CLARA COUNTY

Samantha Greene reviewed the materials as outlined in the agenda item and answered questions as needed.

*Elizabeth Sarmiento arrived at 6:12 p.m.

The Environmental and Water Resources Committee discussed the following: adding Valley Water's watersheds to the overlay maps, percolation ponds, stormwater capture, farming, agricultural accounting set ups, jurisdictional maps, question on water rights, aquifer recovery, injection wells, treated sewer systems, water recharge, scheduling, groundwater basins, robust water conservation programs, available lands, and grant funding.

Chris Hakes, Vincent Gin, and Jason Gurdak were available to answer questions,

The Environmental and Water Resources Committee took no action.

4.2 DROUGHT RESPONSE PLAN - DRAFT DROUGHT TRIGGERS AND ACTIONS

Samantha Greene reviewed the materials as outlined in the agenda item and answered questions as needed.

The Environmental and Water Resources Committee discussed the following: step graphs, template (State/Federal level), scope of plan, relationship to One Water Plan, surface water index, proposed exit triggers/stages/DSCI, quantifying water wise projects, converting grass, and how would exit triggers work.

Vincent Gin was available to answer questions

The Environmental and Water Resources Committee took no action.

4.3 REVIEW AND RECEIVE UPDATES ON THE ENVIRONMENTAL AND WATER RESOURCES COMMITTEE'S WORKING GROUPS

There were no updates from the working groups.

The Environmental and Water Resources Committee took no action.

4.4 REVIEW OF ENVIRONMENTAL AND WATER RESOURCES COMMITTEE WORK PLAN, THE OUTCOMES OF BOARD ACTION OF COMMITTEE REQUESTS AND THE COMMITTEE'S NEXT MEETING AGENDA

Glenna Brambill reviewed the materials as outlined in the agenda item and Committee Chair/Vice Chair will work with staff to confirm October agenda items.

The Environmental and Water Resources Committee took no action.

5. INFORMATION ITEM

5.1 STANDING ITEMS REPORT

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

The Environmental and Water Resources Committee took no action.

6. CLERK REVIEW AND CLARIFICATION OF COMMITTEE'S REQUESTS TO THE BOARD

Glenna Brambill reported there were no action items for Board consideration.

7. REPORTS

7.1 DIRECTOR'S REPORT

Director Nai Hsueh reported on:

- Board/Committees took a recess in July
- August 22nd Board meeting will have the following items on the agenda: Encampments along Waterways and the Pacheco Reservoir Project Update

Director Rebecca Eisenberg advised Committee Members that she is opened to meeting with anyone that would like to speak with her on environmental or scientific areas of concern.

7.2. MANAGER'S REPORT

Vincent Gin reported on:

- Water Supply work, Recharge Program encourage committee members to look at the ponds/aquifers along Hwy 85 and other areas within the County.

7.3 COMMITTEE MEMBER REPORTS

Glenna Brambill reported

- District 3 (Director Richard P. Santos) has a vacancy since Laurel Pathman has resigned, please help fill this and other vacancy for the Committee

7.4 INFORMATIONAL LINK REPORTS

Links are contained in the agenda.

8. ADJOURNMENT

8.1 ADJOURN

Committee Chair Loren Lewis adjourned at 7:35 p.m. to the next regular meeting on Monday, October 16, 2023, at 6:00 p.m.

Submitted by:

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

Approved:

Santa Clara Valley Water District

File No.: 23-1029

Agenda Date: 10/16/2023
Item No.: 4.1.

COMMITTEE AGENDA MEMORANDUM
Environmental and Water Resources Committee

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

SUBJECT:
Update on Fisheries Improvements.

RECOMMENDATION:
Receive an update on Fisheries Improvements. This is a discussion item and the Committee may provide comments if applicable, however no action is required.

SUMMARY:
This item was added to the Committee's Work Plan as a discussion item. Staff will provide a status update on various fisheries improvements.

BACKGROUND:
Staff will discuss various District fisheries improvement projects and provide some insights on upcoming efforts.

ENVIRONMENTAL JUSTICE IMPACT:
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:
Attachment 1: Fisheries Improvements PPT

UNCLASSIFIED MANAGER:
John Bourgeois, 408-630-2990

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VW Fisheries Progress and Improvements

Environmental and Water Resources Committee, October 16, 2023

Progress by the numbers

- 20+ Fish Barriers Remediated
- 3+ Miles of Geomorphic Creek Restoration
- 7+ Gravel and Large Woody Debris Enhancements
- 10+ Scientific Studies and/or Fisheries Feasibility Studies
- 5+ Years of Watershed Specific Fisheries Monitoring and Reporting
- 40+ juvenile rearing monitoring stations
- 10+ PIT antenna stations
- 600+ juvenile steelhead PIT tagged since 2018
- 4 Oxygenation Systems Operated to Reduce Methyl Mercury Production
- 3 automated fish counters
- 100 + Stream Gages Maintained 35+ Gages with 24-Hour Alert Radios
- 3 Years of Implementation of FAHCE Plus Pilot Flow Program

History of Fisheries Improvements

1998

- Coyote & Guadalupe -discontinued use of in-stream gravel dams
- Upper Penitencia Creek -Maybury Weir Retrofit and Fish Screen
- Guadalupe River- SJWC Low-Flow Crossing Remediation

1999

- Guadalupe River- Alamitos Drop Structure Fish Ladder Install
- Upper Penitencia Ck -Noble Fish Ladder and Fish Screen Install
- Coyote Creek Percolation Pond Fish Ladder Install

2000

- Guadalupe River- Hillsdale Avenue Bridge Fish Barrier Removal
- Guadalupe Creek – Masson Fish Ladder and Fish Screen Install

2001

- Guadalupe Ck- 1.6 mile Geomorphic and Riparian Restoration

2002

- Stevens Creek - Stream Gage 35 Barrier Removal
- Chinook Salmon Genetics Study- Santa Clara County

2003

- Guadalupe River - Old Julian Street Fish Barrier Removal

Hillsdale Avenue Fish Barrier Removal

Before- The concrete apron associated with the Hillsdale Bridge and deteriorated stream conditions downstream were impeding fish passage

After- In conjunction with bridge improvements made by the City of San José, instream bridge framework was removed, and boulder structures were used to construct a series of step-pools to adjust for the slope changes and provide fish passage.

History of Fisheries Improvements (cont.)

2004

- Guadalupe River - St. John Street Weir Fish Barrier Removal
- Guadalupe Creek - Stream Gage 43 Weir Retrofit

2006

- Guadalupe Mercury TMDL begins- Solar bees, calcine removal, habitat restoration, fisheries studies

2007

- Alamitos Creek –2300 ft Geomorphic restoration at Greystone Ln

2008

- Guadalupe Creek – U Frame Channel Fish Ladder Install
- Steelhead Population Genetics Study- Santa Clara County

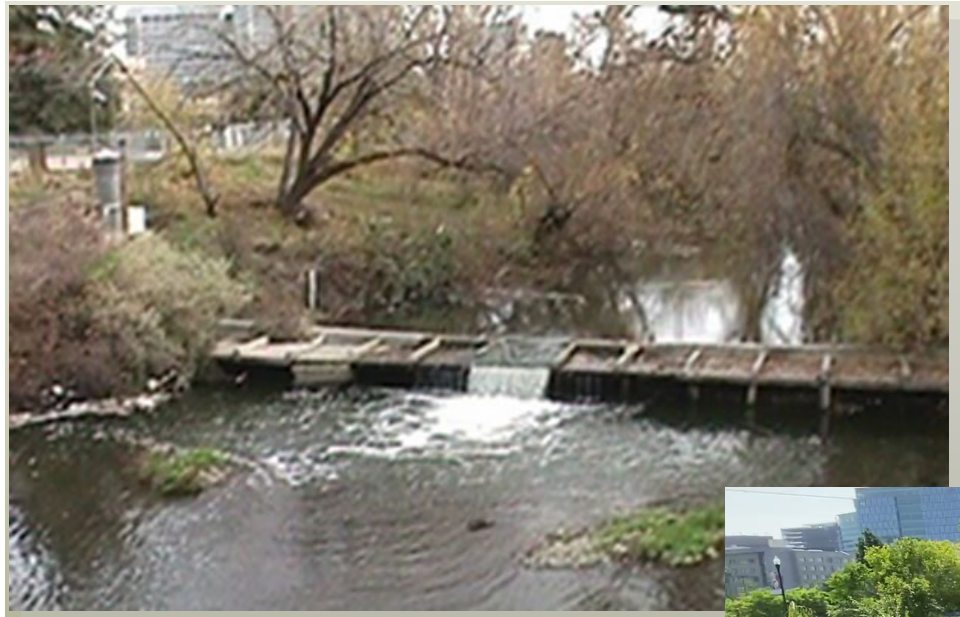
2009

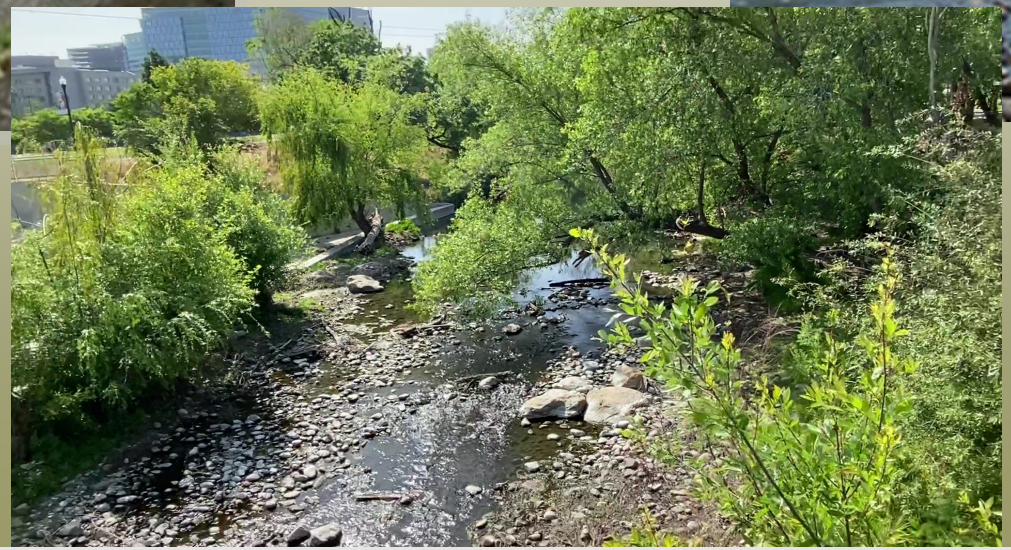
- Stevens Creek -geomorphic restoration at Blackberry Farm:
  Removed 4 fish barriers, installed gravel, LWD and performed riparian habitat restoration
- Upper Penitencia Creek – LWD installed at Capital Ave.

2013

- Guadalupe Watershed Reservoirs – Hypolimnetic Oxygenation installed to reduce methyl- mercury

St. John Street Stream Gage Weir Fish Barrier Removal





Before- The stream gage weir was a small dam-like structure with a single abrupt drop

After- Replaced the existing weir with stepped riffles that provided habitat, enhanced fish passage and improved channel stability..

Stevens Creek Restoration at Blackberry Farm

Before

Narrow channel, failed concrete lining, and low flow crossings presented fish barriers

After

Vegetated log crib walls stabilize banks,
fish barriers removed,
boulders stabilize channel,
channel widened and backwaters added

History of Fisheries Improvements (cont.)

2014

- Guadalupe River- Highway 880 Weir Retrofit for Fish Passage

2015

- Stevens Creek – LWD/Gravel installed at Clearcreek Ct
- Guadalupe River – LWD/Gravel installed at Blossom Hill Rd

2016

- Stevens Creek- Evelyn Fish Ladder Remediation

2018

- North County Large Woody Debris and Gravel Study
- Moffett Fish Ladder Engineering Analysis
- Ogier Ponds Feasibility Study
- Alamitos Creek - LWD/Gravel installed at Mazzone Dr
- Stevens Creek – LWD/Gravel installed at McClellan Ranch
- FAHCE Programmatic Fisheries Monitoring Begins

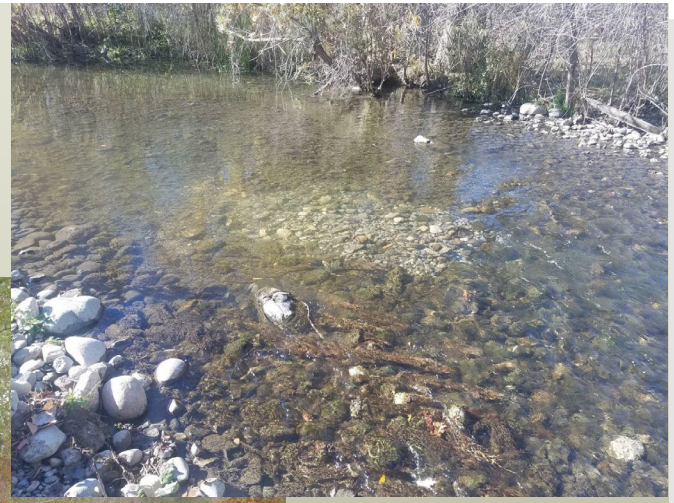
2019

- Los Gatos Creek – LWD/Gravel installed at Hwy 17

Los Gatos Creek LWD/Gravel Augmentation Project

Before – Lack of instream habitat complexity in Los Gatos Creek

After – LWD and gravel add complexity to the channel near Creekside Drive and Highway 17



History of Fisheries Improvements (cont.)

2020

- Stevens Ck – Fish Passage Study
- Pilot Implementation of FAHCE Plus rule curves Guadalupe and Stevens Cks (Year 1)

2021

- Lake Almaden Planning Study and Final EIR
- Guadalupe River – Gravel augmentation in downtown
- FAHCE Program Two Creeks Draft EIR
- Coyote Creek Singleton Road Fish Barrier Removal

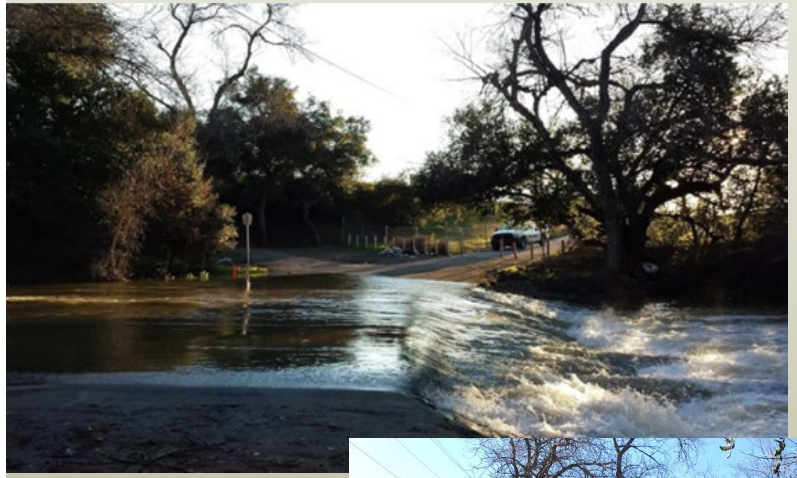
2022

- Uvas Ck – LWD and Gravel Augmentation between Miller Ave. and Santa Tersea Blvd.

2023

- FAHCE Program Two Creeks Final EIR
- Anderson Dam Seismic Retrofit Draft EIR
- Uvas Ck- Bolsa Road Fish Barrier Removal and 1700 foot Geomorphic Restoration

Coyote Creek Fish Barrier Removal at Singleton Road



Before – Existing road crossing was a fish barrier

After – new clear span bridge with stable channel

Uvas Creek Fish Habitat Improvement Project

Before – Lack of instream habitat complexity

After – LWD, rootwads and gravel add complexity to the channel between Santa Teresa and Miller Ave.

Uvas Creek- Bolsa Road Fish Barrier Remediation and Geomorphic Restoration (in progress)

Before –Old Denil style fishway gets easily clogged and can create a velocity barrier, in addition there were bank failures downstream

After – Bank and grade stabilization using native materials to create a graduated riffles.

Upcoming Improvements

- Coyote Ck – Live Oak Restoration Site Planning and Design
- Coyote Ck – Ogier Ponds Restoration Site Planning and Design
- Coyote Ck – Coyote Perc Facility and Fishway Improvements
- Stevens Creek – Moffett Fishway Site Planning and Design

File No.: 23-1030

Agenda Date: 10/16/2023
Item No.: 4.2.

COMMITTEE AGENDA MEMORANDUM
Environmental and Water Resources Committee

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

SUBJECT:
Receive Information and Provide Feedback on the Development of Valley Water's Water Supply Master Plan 2050.

RECOMMENDATION:
Receive an update on the Water Supply Master Plan 2050 Development and provide feedback on the Water Supply Master Plan 2050 planning framework and engagement plan.

SUMMARY:
The Water Supply Master Plan (WSMP) is the Santa Clara Valley Water District's (Valley Water) guiding document for long-term water supply investments to ensure water supply reliability for Santa Clara County. Updated about every five years, this long-range plan assesses future county-wide demands and evaluates and recommends water supply and infrastructure projects to meet those demands to achieve Valley Water's level of service (LOS) goal through the planning horizon. Valley Water's LOS goal is "Meet 100 percent of annual water demand during non-drought years and at least 80 percent demand in drought years."

The most recent plan, Water Supply Master Plan 2040, was adopted by the Valley Water Board of Directors (Board) in 2019. This memorandum presents the framework of and progress on the development of the WSMP 2050, including planning goals and strategies, water supply needs, list of projects under consideration, and project evaluation criteria. It also provides the plan for board, committee and stakeholder engagement, as well as a timeline for completing the plan.

Planning Goals and Strategies
The WSMP 2050 proposes establishing planning goals to guide what Valley Water intends to achieve. Valley Water's mission is to provide a safe and reliable water supply now and in the future. To that end and consistent with Board Ends Policies, the proposed planning goals of the WSMP 2050 are to:

- Ensure reliability and sustainability of the existing water supply system

- Diversify water supplies to meet the Level of Service goal
- Minimize the risk of shortage and disruption
- Maintain affordable water rates through cost-effective water supply investments and management

The WSMP 2040 recommended three strategies to help guide water supply investment decisions. Staff recommends updating these strategies to be better aligned with the planning goals, while preserving the gist of the existing strategies. The proposed strategies are:

1. Secure existing supplies and infrastructure
2. Expand water conservation and reuse
3. Increase system reliability and flexibility

Together, these three strategies establish a framework for providing a sustainable, reliable, and affordable water supply and strike a balance between protecting what we have, investing for the future, and making the most use of the existing water supply system.

Planning Horizon

For the WSMP 2050, staff recommends using a planning horizon of around 30 years (i.e. to 2050), rather than the previously used 20 years. This longer timeframe strikes a good balance between data availability and the uncertainty related to future conditions and will enable the full benefits of large infrastructure projects to be captured, as they often take several decades to be fully implemented and functioning. In addition, the 2050 planning horizon will ensure consistency between the updated WSMP and next Urban Water Management Plan, which Valley Water is required to update in 2025.

Planning Approach

To explicitly account for uncertainty affecting many factors in water supply planning and provide further flexibility in decision-making, a scenario planning approach is recommended to present alternatives of how the future might unfold, rather than one single forecast as was done with past plans. The approach involves analyzing several possible future conditions that bookend future water supply and demand possibilities, and identifying projects and programs that can meet water supply needs under each future condition.

With this approach, Valley Water is proposing to analyze four alternative futures based on the combination of demand projections and forecasted imported water supplies. Imported water accounts for about half of Valley Water's annual supply and is often reduced during droughts. Imported water availability is the primary driver for reliability and therefore the most appropriate proxy for overall supply. The proposed four futures are:

A. Stable demand and stable imported supplies
B. Stable demand and reduced imported supplies
C. High demand and stable imported supplies
D. High demand and reduced imported supplies

The demand projections were developed from Valley Water's demand model as described in Attachment 1. Valley Water's demand modeling integrates the understanding of historic water use trends, housing and economic growth, climate change, and post-drought water use rebound. The stable demand, representing low end, assumes demands stay flat at 2025 levels through 2050, in

part owing to the success in making water conservation a way of life and mitigating the impacts of growth on water use. The high demand assumes significant, unmitigated impacts from growth and severe climate change, which increases outdoor water use in particular. The forecasted 2050 countywide stable and high demands are approximately 330,000 acre feet per year (AFY) and 370,000 AFY, respectively, assuming Valley Water achieves its long-term conservation goals of 110,000 AFY by 2040. If water conservation goals are not achieved, demands are projected to be significantly higher, which highlights the importance of water conservation in reducing water demands. Staff is currently developing proposals for 2050 conservation targets as part of the WSMP 2050 development. The actual countywide water use for the year 2022, the last dry year of a three-year drought, was 283,900 AFY.

The imported water baseline supply scenarios were selected from Department of Water Resources (DWR) modeling. The modeling assumes existing regulatory conditions and State Water Project (SWP) and Central Valley Project (CVP) infrastructure and takes into account climate change impacts. The stable imports scenario represents SWP and CVP deliveries with small impact from climate change, while the reduced imports scenario represents significantly impacted deliveries, p articularly during droughts.

Baseline Needs Assessment Under Alternative Futures
Under each of the four future conditions, water supply needs under baseline condition were assessed using modeling analysis. With no new investment, the baseline condition assumes completion of planned local dam seismic retrofits by 2035 (Almaden, Anderson, Calero, Guadalupe), achieving long -term water conservation goals (2040), and maintaining Valley Water assets.

Valley Water's current contract for participation in the Semitropic Water Storage District groundwater banking will expire in 2035. Given the challenges that Semitropic has faced related to water quality and new Sustainable Groundwater Management Act (SGMA) legislation and their potential impact on future groundwater banking at Semitropic, the modeling analysis considered two baselines - one with Semitropic still in place after 2035 and another one assuming Semitropic no longer available after 2035.

Under all four futures, Valley Water will experience water shortages if relying only on existing supplies and infrastructure, and the biggest challenge for meeting water supply needs will be multiple-year droughts. The shortages will start as early as 2030 in the future scenario of stable demand and reduced imported supplies. With Semitropic in place, the average shortages over a six-year drought in 2050 could range from 4,000 AFY to 76,000 AFY, and the shortages increase as demand increase and imported supplies decreases. Without Semitropic, the shortages could get worse, with a range from 30,000 AFY to 82,000 AFY, underscoring the importance of securing and diversifying groundwater banking. Valley Water's current system can handle the first two years of a multi-year drought, with shortage starting the third year. The projected shortages represent the targets that future water supply investment aim to meet to achieve Valley Water's LOS.

Projects Under Consideration
The WSMP 2040 evaluated a suite of projects, of which six were recommended for continued planning and investment. Staff has continued evaluating the rest of the projects, referred to as "backup projects," in case recommended projects do not work out. The WSMP 2040 project list was

reviewed to remove the ones currently not under active consideration and add new ones. The updated project list (Table 1) includes 18 projects that will be evaluated through the WSMP 2050 development for meeting future needs/goals. For organizational purposes, these projects are grouped as shown in Table 1, although their benefits are often more complex than indicated by this grouping. More detailed description of each project is provided in Attachment 2. Several South County projects are included to evaluate how to ensure a sustainable water supply for that area. In addition, Valley Water will continue to implement the 'no-regrets' package of conservation and stormwater capture projects identified in the WSMP 2040. The status of the 'no-regrets' package is provided in Attachment 3.

Table 1 Projects Under Consideration

Project Type	Project
Alternative Supply	Potable Reuse – Palo Alto
	Potable Reuse – San Jose
	Refinery Recycled Project
	Local seawater desalination project
Surface Supply	Delta Conveyance Project
	Sites Reservoir
	Stormwater - Agricultural Land Recharge (FloodMar)
	Stormwater capture
Storage	Pacheco Reservoir Expansion
	Los Vaqueros Expansion
	Groundwater Banking
	B.F. Sisk Dam Raise
Recharge & Pipelines	Coyote Valley Recharge Pond
	Lexington Pipeline
	Lexington-Montevina Water Treatment Plant Connection
	Butterfield Channel Managed Aquifer Recharge
	Madrone Channel Expansion
	San Pedro Ponds Improvement Project

For major projects, the additional information on water supply benefits and cost is provided in Tables 2 and 3. For supply projects, a unit cost was calculated using 30-year lifecycle cost (capital + annual O&M) with financing relative to proposed annual supply benefit. For storage projects, a "storage capacity cost" or cost per AF of storage capacity was calculated using 30-year lifecycle cost (capital + annual O&M) with financing relative to proposed storage capacity. However, actual project lifecycles vary, 30-year was chosen for ease of comparison at this stage, and longer lifecycles may be used in the future. These costs will be updated to consider additional details and modeling that will be

performed as part of portfolio development. All costs are represented in 2023 dollars.

Table 2 Preliminary Unit Cost of Major Supply Projects (2023$)

Project	Average Annual Supply (AF)	Capital Cost (Million$)	Annual O&M (Million$)	30 Year Lifecycle Cost Present Value (PV) (Million$)	Lifecycle Cost PV/ Supply PV ($/AF)
Potable Reuse - Palo Alto	8,000	782	14	1,169	7,842
Potable Reuse - San Jose	24,000	1,181	29	1,599	4,208
Refinery Recycled Project	8,000	265	9	445	2,834
Delta Conveyance Project	13,850	627	2.5	513	2,374
Sites Reservoir	380	10	0.05	10	1,270

Table 3 Preliminary Storage Capacity Cost of Major Storage Projects (2023$)

Project	Storage (AF)	Capital Cost (Million$)	Annual O&M (Million$)	30 year Lifecycle Cost (Million$)	Lifecycle Cost/ Storage Capacity ($/AF)
Pacheco Reservoir Expansion	134,000	2,210	2.5	2,700	20,149
B.F. Sisk Dam Raise	60,000	435	1.8	717	11,950
Los Vaqueros Expansion	30,000	100	3.8	258	8,600
Groundwater Banking	200,000	160	0.7	283	1,415

Project Evaluation Criteria

Project evaluation is a critical step in the WSMP 2050 development to identify the portfolios for recommendation. A list of 14 criteria (Table 4) was developed to evaluate and compare projects. The criteria are generally consistent with peer agency practices and the funding filters used by Valley Water's Capital Improvement Program. Among the proposed criteria, the water supply benefit and cost will be the most important and therefore the first criteria to be used to evaluate projects and

portfolios. Following that, the remaining criteria will be used to further differentiate among options. The project evaluation framework is intended to present a systematic and holistic approach to evaluate and ultimately recommend projects for selection within the context of the WSMP and financial constraints.

Table 4 Project Evaluation Criteria

Evaluation Criteria	Description
Water Supply Benefit	Quantifiable water supply benefits of the project
Cost/Rate Impact	Construction, planning/design, O&M, and other cost
Timing	The year the project will be in service
Technical Feasibility	Technical ability to implement the project
Operation	How the project operates, specifically how it connects to existing system and moves water around
Reliability	Reliability of the project in providing its primary benefits during periods of dry year need
Readiness/Likelihood of Success	The readiness of project implementation and chance of success
Flexibility	Operation/implementation across a wide range of conditions and whether it can enhance overall system flexibility
Jurisdiction/Partnership	Primary jurisdiction and partners of the project
Permitting/Legal Issues	Permits required and any legal Issues/concerns
Environmental Impacts/Justice	Anticipated positive or negative impacts on the natural environment and environmental justice
Public Acceptance	Public opinion and political support for the project
Inter-dependence	Whether the project will need other projects to be functioning or can magnify other projects
Risk/Challenges	Any significant risks/challenges that could potentially derail the project

Board and Committee Engagement Plan

Throughout the WSMP 2050 development process, staff plans to engage the Board and committees to present major milestones and progress and seek input and approval as follows:

- Engaging the board at regular board meetings for update and special workshops for in-depth discussions
- Engaging board committees as needed for discussion/recommendation on topics within their jurisdiction

  - Water Conservation and Demand Management Committee
  - Water Storage Exploratory Committee
  - Recycled Water Committee

- Presenting at board advisory committees and stakeholder meetings for information sharing and feedback
  - Agricultural Water Advisory Committee
  - Water Retailer Meeting
  - Environmental and Water Resources Committee
  - Water Commission Meeting
  - Youth Commission

Stakeholder Engagement Plan
Stakeholder engagement is an important component of the WSMP update process and will be carried out throughout the plan development. Valley Water plans to hold four meetings with retailers at various stages of the plan development to seek input. Two retailer meetings were held in March and July 2023, respectively, and another two are tentatively planned for January and September 2024.

In addition to formal meetings, committee meetings, and workshops, Valley Water will use the WSMP webpage (<https://www.valleywater.org/your-water/water-supply-planning/water-supply-master-plan>), stakeholder email list, and communication newsletter or other channels as ongoing opportunities to provide updates. Valley Water will update the WSMP webpage and use it as a central place to advertise committee and board meetings when the WSMP is on the agenda, post meeting materials, and provide a point of contact to ensure the public is engaged.

Expert panel
The development of the WSMP 2050 involves comprehensive review and evaluation of Valley Water's future water supply needs and various projects and portfolios for providing a reliable supply of water for Santa Clara County. The primary analysis of the WSMP 2050 is being performed by Valley Water staff, but an independent review from outside experts can help ensure the data, assumptions, and analysis of the plan are sound and justifiable. Therefore, Valley Water convened a panel of four experts to review staff's analyses:

- David Sunding, PhD - Professor at University of California, Berkeley
- Newsha Ajami, PhD - Chief Development Officer for Research, Lawrence Berkeley National Lab
- Michael Anderson, PhD - State Climatologist, Department of Water Resources
- Yung-Hsin Sun, PhD - Senior Principal Consultant, Sunzi Consulting LLC

The expert review will be focused on overall planning framework and approach, demand projection, cost analysis, project evaluation, and climate change analysis.

WSMP Update Timeline
The proposed timeline for the plan development is as follows. Staff proposes to return to the full Board with preliminary portfolio analysis in December 2023/January 2024.

- **2023**
  - Establishment of overall framework and procedures
  - Project/portfolio analysis and evaluation
  - Stakeholder engagement

- **2024**
  - Portfolio analysis and recommendation
  - Plan development
  - Stakeholder outreach
  - Plan adoption

ENVIRONMENTAL JUSTICE IMPACT:
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:
Attachment 1: 8/28/2023 WCaDMC Agenda Memo 4.4.
Attachment 2: WSMP Project Description
Attachment 3: 8/28/2023 WCaDMC Agenda Memo 4.3.
Attachment 4: WSMP 2050 Development

UNCLASSIFIED MANAGER:
Kirsten Struve, 408-630-3138

Santa Clara Valley Water District

File No.: 23-0806

Agenda Date: 8/28/2023
Item No.: 4.4.

COMMITTEE AGENDA MEMORANDUM
Water Conservation and Demand Management Committee

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

SUBJECT:
Valley Water Demand Model and Forecast.

RECOMMENDATION:
Receive and discuss Valley Water demand model and forecast.

SUMMARY:
As part of the Water Supply Planning program, Valley Water developed and maintains an econometric-based demand model. A reliable water demand forecast is needed to determine the level of investment necessary to meet Santa Clara County's future water supply needs. This memorandum summarizes Valley Water's demand modeling approach and provides the demand forecasts Valley Water proposes to use in its Water Supply Master Plan 2050.

Demand Model Approach

Valley Water's demand modeling integrates the understanding of historic water use trends, housing and economic growth, climate change, and post-drought water use rebound. The model was developed, calibrated, and validated using historic datasets, including sectoral water use provided by the retailers (e.g., residential, commercial, etc.), independent well owner pumping, weather, economic parameters, and housing information (Attachment 1).

The demand model is segmented by billing group (e.g., individual retailers, independent pumpers grouped by groundwater management zone, and agricultural users grouped by management zone). Each retailer is then further segmented into single family, multi-family, and commercial, industrial, and institution (CII) sectors. An econometric equation developed using historic datasets was created for each model segment. The model combines the segment-level equations with projected growth, climate, economic, and drought rebound parameters to forecast Santa Clara County demands. Given the uncertainty in each of the projected parameters, Valley Water is proposing to use a demand range for its Water Supply Master Plan 2050 analyses.

Forecasted Water Use

Valley Water used forecast information on housing and economic growth from the Association of Bay Area Governments (ABAG) Plan Bay Area 2040 and city general plans. Water rate forecasts were provided by the Valley Water Protection and Augmentation of Water Supplies (PAWS) analyses. Climate change data from global climate models were downscaled for Santa Clara County. Valley Water also included a drought rebound assumption that considered the muted rebound seen during the 2012-2016 drought and the Board of Directors (Board) June 2023 resolution to make water conservation a way of life.

Forecasted county-wide 2050 demands for Valley Water range from approximately 330,000-425,000 acre-feet per year (AFY) if Valley Water does not achieve its long-term water conservation goal of 110,000 AFY by 2040. If Valley Water achieves its conservation goal by 2040, then forecasted demands range from approximately 330,000 AFY-390,000 AFY. The lower bound, which is the same with and without conservation forecasts, assumes demands stay constant at 2025 levels through 2050, in part owing to the success in making water conservation a way of life and mitigating the impacts of growth on water use. From a historical perspective, water use dropped 25% in the last 5 years (from 148 gallons per person per day in 2017 to 111 gallons per person per day in 2022). In addition, the county population increased by 25% over the past 30 years, while water demand has decreased by about 8% in that time (1990-2020). The higher bound demand is significantly impacted by severe climate change and growth. As part of the Water Supply Master Plan update, Valley Water is developing a 2050 conservation target and will bring it to the committee for review when ready; thus, no conservation is accounted for between 2040-2050 in the reported forecasts.

Next Steps

Valley Water will continue to track growth, economic, and climatic factors that can impact demands and update forecasts as needed. Valley Water plans to use the demand forecast data in water supply modeling that will inform Water Supply Master Plan 2050 investment recommendations.

ENVIRONMENTAL JUSTICE IMPACT:
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:
Attachment 1: Demand Model Development
Attachment 2: PowerPoint Presentation

UNCLASSIFIED MANAGER:
Kirsten Struve, 408-630-3138

March 2, 2020

To: Samantha Greene, Ph.D.

From: Luke Wang
Jack Kiefer
Kinsey Hoffman
Leah Bensching

cc: Jing Wu, Metra Richert, Jessica Lovering

Technical Memorandum 3

Modeling Approach and Development

Introduction

Santa Clara Valley Water District (Valley Water) has developed a new model to forecast total water demand in Santa Clara County. Demand projections from the model will be used to support several planning initiatives and documents including:

- The 2021 Urban Water Management Plan (UWMP);
- Monitoring of and updates to the Water Supply Master Plan;
- Inputs to Valley Water's water supply planning model; and
- Evaluation of conservation programs and capital projects.

Valley Water manages a diverse portfolio of water supplies to provide water to Santa Clara County's 13 water supply retailers and non-retailer groundwater pumpers.[1] The majority of water users in Santa Clara County are customers of the water supply retailers. As a result, each retailer typically develops their own water demand forecasts. These forecasts are useful and have been used to inform Valley Water's prior UWMPs. However, Valley Water is responsible for County-wide water resource planning activities (e.g., groundwater management, treated water production, potable reuse development, surface water infrastructure management and development, and active conservation program implementation); collectively, these activities are better served by a consistent modeling approach and planning assumptions across the service area.

The purpose of this Technical Memorandum (TM 3) is to document the modeling approach selected to develop Valley Water's updated demand model. Major characteristics of the modeling approach include a statistical/econometric analytical framework, differentiation of rates of water use from drivers of growth, and model segmentation based on geography (e.g., retail agency), time of year, and water use sector. TM 3 also includes a summary of the statistical model fits and performance compared to historical

[1] Non-retail groundwater pumpers include private well owners that are outside of retailers' service areas.

observations of water consumption. Discussions of model fits and performance are organized based on water use sector segmentation and includes the following sectors:

- Single family;
- Multifamily;
- Commercial, Industrial, and Institutional (CII); and
- Non-retailer groundwater pumpers.

The model sectors are designed to establish baseline demand projections without considering additional future water conservation. Projections of future conservation savings are generated separately by Valley Water's water conservation model and then deducted from the baseline projections generated for the model sectors described herein.

Table of Contents

1. Modeling Approach

Valley Water's demand model is organized following the demand forecasting typology identified in TM 1.[2] This section provides a general overview of this approach to establish context for detailed discussions on model development in Sections 2 – 5 of this TM.

1.1 Model Segmentation

The demand model was segmented based on type of provider, i.e., retail agency or non-retail groundwater pumper. Within each provider type, the model was further segmented by geography, sector/billing classification, and time of year. For retail provided water, model geographies were based on each retail agency's service area within Santa Clara County. Billing classifications often differed among retail agencies necessitating standardization of billing classifications into common sectors (e.g., single family, multifamily, commercial, industrial, and institutional). Appendix A provides a detailed summary of the billing classifications for each retail agency, and the standardized sectors used for modeling; Valley Water directly solicited the retail agencies for input in standardizing billing classifications, particularly for classes that have the potential to span across multiple water use sectors (e.g., landscape irrigation and recycled water). Non-retail groundwater pumpers were organized geographically by groundwater basin charge zone, including W2 (representing the Santa Clara Plain sub-basin management area) and W5 (representing the Llagas sub-basin and Coyote Valley sub-basin management area). Water use classifications for non-retail groundwater pumpers are consistent across each charge zone and include agricultural, municipal, and domestic water use types. These water use classifications were ultimately organized into two model sectors, Municipal and Industrial (M&I) and Agricultural (Ag).

The retail agency demands were modeled using a monthly timestep, and non-retail groundwater pumper demands were modeled using an annual timestep. Non-retail groundwater pumper annual demands were then post-processed to monthly demands using a monthly distribution. Figure 1-1 further details the hierarchical structure of model segmentation.

[2] Technical Memorandum 1: Benchmark Analysis of Regional Demand Projection Models.

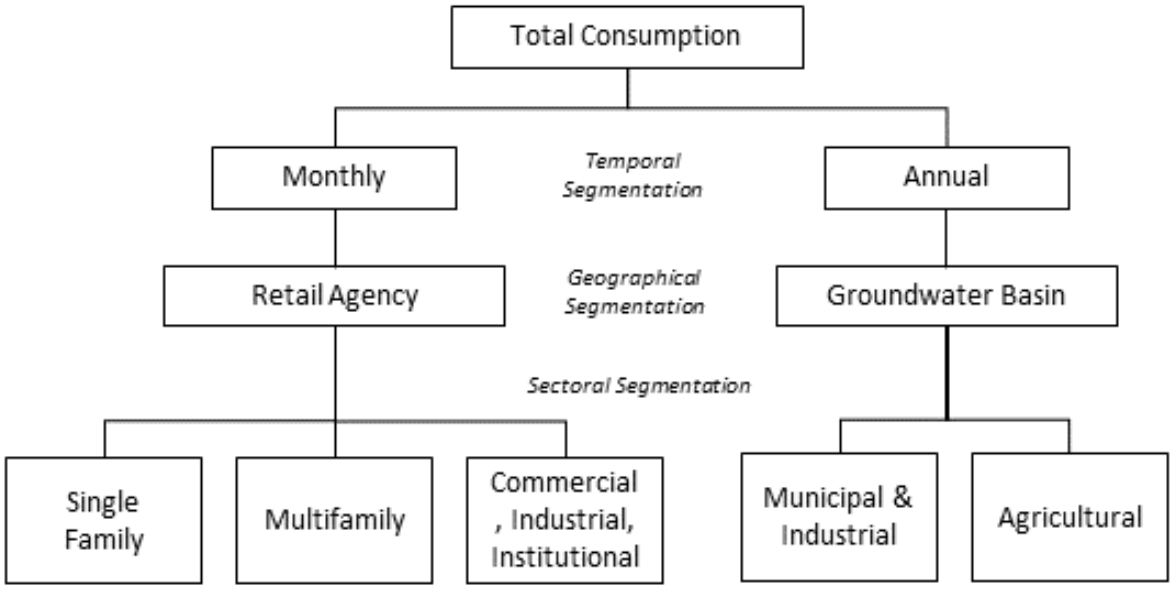


Figure 1-1: Hierarchy of Model Segmentation

1.2 Rate of Use Differentiation

Rate of use differentiation (i.e., characterizing consumption to reflect water using intensity) was applied in developing the retailer models. Rates of use were calculated given Equation (1) below, where for any given model sector Q reflects volumetric consumption, N is the count of driver units, and q is the rate of water use per driver unit.

$$Q \equiv N * \frac{Q}{N} \equiv N * q \quad (1)$$

Rate of use differentiation requires a reliable and consistent historical driver unit dataset for model development and a corresponding future dataset representing projected driver unit counts. Consistent and reliable driver unit datasets for the retailer models were developed using data from the California Department of Finance (CADOF; historical data) and the Association of Bay Area Governments (ABAG; future projected data).[3] Corresponding driver units were not available for the non-retailer groundwater pumpers, so models were developed on a volumetric basis. Table 1-1 documents the driver units and corresponding rate of use for each retail model sector.

Table 1-1: Driver Units and Rate of Use for Each Retail Model Sector

Model Sector	Driver Unit (*N*)	Corresponding Rate of Use (*q*)
Single Family Multifamily	Housing units	Consumption per housing unit
CII	Employees	Consumption per employee
CII (Stanford)	Population	Consumption per capita

[3] Refer to Technical Memorandum 2: Data Collection and Review (TM 2).

1.3 Method / Statistical Approach

Valley Water collected historical consumption data from its retail agencies,[3] which generally spanned the period 2000-2018.[4] This dataset was sufficient from temporal, geographical, and sectoral perspectives (following sectoral standardization) to explore fitting customized statistical / econometric models identified in TM 1.[2] Development of historical econometric models provide a strong analytical benefit in forecasting demand, as they allow for the estimation of cause-effect relationships between weather, price, socioeconomic, and other factors that lead to variability in water demand. Quantifying these causal relationships allows for analysis of "what-if" scenarios that are uncertain, but important to consider for planning (e.g., climate change, development patterns, drought recovery).

Development of statistical / econometric models is an iterative process. Figure 1-2 and Table 1-2 outline the process used to fit the econometric models.

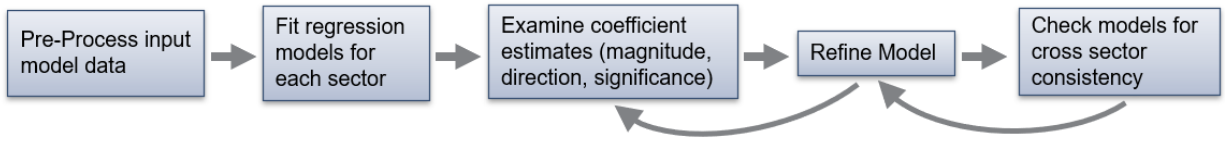


Figure 1-2: Process for Developing Statistical / Econometric Models

Table 1-2: Description of Model Fitting Procedures

Model Fitting Procedure	Description
Pre-process model input data[(a)]	Conduct necessary pre-processing calculations prior to model fitting, e.g.: • Geographical processing of driver units. • Calculate per-unit use. • Calculate natural logarithms of per-unit use and appropriate predictors. • Calculate departures from normal conditions for appropriate predictors (i.e., economic trend and weather). • Calculate any index, "dummy", or interacted parameters (e.g., seasonal cycle, geography, drought severity). • Smoothing monthly and bimonthly data to adjust for irregular billing cycles.
Fit regression models for each sector	Use statistical estimation software (e.g., R, SAS, EViews) to fit linear regression equations to per unit use with the initially selected predictor variables.
Examine coefficient estimates and measure of fit	Check measures of fit (e.g., R^2) and coefficient estimates for reasonable magnitude, direction/sign, and significance.
Refine model to improve measures of fit and coefficient estimates	If the model fit is poor or if coefficient estimates are illogical or insignificant, several actions can be taken, including but not limited to: • Identifying and removing outlier data points that have significant leverage on coefficient estimates. • Remove predictors with insignificant or illogical coefficient estimates from the regression equation. • Testing alternate specifications of predictor variables.
Check models for cross-sector consistency	Model fits and predictors are compared across sectors to judge estimates relative to prior expectations; e.g., testing if the relative effects of price and socioeconomic variables vary by sector in a logical way based on past experience.
[(a)] Model data pre-processing is detailed in TM 2.	

[4] Retail agencies submitted historical billing records of varying lengths. Sufficient retailers submitted records from 2000-2018 to establish model fits over the time period.

1.4 Summary of Model Predictors

Several model predictors were used to develop Valley Water's demand model. To be considered for use, potential predictors needed to pass the following conceptual criteria:

- Logical connection to explaining changes in water consumption;
- Historical record consistent with the time series of observed water consumption; and
- Availability of future projections consistent with the desired forecast horizon (i.e., 2020-2045) or a reasonable basis for assuming or generating projected values.

Initial selection of model predictors is discussed in detail in TM 2. However, during the model fitting process, derivatives of initial variables were also developed and included in subsequent model equations. One example is time lags on weather variables; supplementary variables were created from the temperature and precipitation time series at one to three-month lags. These lagged weather variables aimed to capture a delayed or persistent response in water use. A second example is an extended drought effect variable. The initial drought variables were directly calculated from historic water use restrictions. A supplemental drought variable was created that extended the last historic occurrence of mandatory water restrictions (2017) through the end of the historic dataset (2019); this "extended drought effect" variable was considered to represent inertia in behavioral changes in water use after the water use restrictions were no longer in place (i.e., delayed drought rebound). Table 1-3 details the predictors used to develop the demand models and identifies the expected sign and magnitude of the coefficient estimates resulting from the linear regression.

Table 1-3: Description of Demand Model Predictors

Predictor Variable	Log Transformed?	Expectations about Coefficient Estimates	Description
Departure from normal temperature[a]	Yes	Positive sign	Represents difference from long-term temperature. Higher than normal temperatures are associated with higher demands.
Departure from normal precipitation[a]	Yes	Negative sign	Represents difference from long-term precipitation. Higher than normal rainfall is associated with lower demands.
Seasonal index	No	Larger absolute magnitudes for agencies with greater seasonal peaking	Reflects the cyclical pattern in water use where demands a generally higher in the summer and lower in the winter. Represented in the model as a sine / cosine pair of variables.[b]
Price	Yes	Negative sign with absolute value between 0 and 1	Economic theory suggests negative correlation with demand.
Economic index	Yes	Positive sign	Several economic indices were explored as potential predictors[c] with the detrended Economic Cycles Research Institute (ECRI) selected as the index that produced the most reasonable coefficient estimates across model sectors. Water demand is positively correlated with economic fluctuations of the business cycle. The index is modeled in form of departures from long-term trend.
Housing density	Yes	Negative sign (commonly with absolute value between 0 and 1)	Housing density is negatively correlated with demand; on average, residences with more units per acre (or smaller parcel sizes) tend to use less water on outdoor uses.
Median income	Yes	Positive sign (commonly with absolute value between 0 and 1)	Economic theory suggests positive correlation of income with demand; generally geographical areas with higher median incomes tend to use more water.
Persons per household	Yes	Positive sign (commonly with absolute value between 0 and 1)	Positively correlated with demand; generally, residences with more people tend to use larger amounts of water.
Mix of Industries / economic activity[d]	Yes	N/A	The representation of industries / economic activity with a geographical area is related to the amount of water used within the CII sector. Fitted parameters for these variables are generally unique by utility, thus there is no generally accepted range of coefficient estimates.
Drought Severity	No	Negative sign	Reflects the effect of drought restrictions from the most recent drought (2014-2017, with extended restrictions though 2019) on water demand.[e] Defined as the presence of drought restrictions (represented as a binary) multiplied by the requested cutback (e.g. 0-30%).

[a] Lagged values of temperature and precipitation were also evaluated and included as model predictors as the influence of weather on water demand can persist several months.

[b] Most sectors have a single sine/cosine pair representing the seasonal cycle, except for Stanford. Stanford has two sine/cosine pairs to capture seasonal effects associated with the academic calendar. See Section 4.3 for additional discussion.

[c] Other economic indices explored as potential predictors are documented in TM 3.

[d] Detail on the derivation of specific predictors representing mix of industries / economic activity is documented in TM 3.

[e] A unique prediction variable was also evaluated for the 2008-2011 drought but was dropped during the model development process as the coefficient estimate was not statistically significant. The 2008-2011 drought overlapped with the severe economic downturn of the Great Recession which likely mutes its statistical significance.

2. Single Family Regression Development

This section reviews the development of the statistical regression for the single family residential sector.

2.1 Model Predictors and Fitted Coefficients

The fit for the final single family regression is presented in Table 2-1. Coefficient estimates are within the expected range for all explanatory variables.

Table 2-1: Single-Family Regression Predictors and Coefficients

Variable	Coefficient	Standard Error	t-Statistic	Probability
Intercept	3.821	0.324	11.776	<0.05
Seasonal index 1[(a)]	-0.283 (avg) -0.045 to -0.185	0.013 (avg) 0.008 to 0.026	-24.086 (avg) -7.379 to -24.086	<0.05
Seasonal index 2[(a)]	-0.262 (avg) -0.616 to -0.064	0.013 (avg) 0.008 to 0.026	-23.026 (avg) -44.960 to -3.786	<0.05
Departure from normal temperature	1.008	0.135	7.464	<0.05
Departure from normal temperature, 1-month lag	0.824	0.137	5.997	<0.05
Departure from normal temperature, 2-month lag	0.354	0.137	2.583	<0.05
Departure from normal temperature, 3-month lag	0.306	0.127	2.413	<0.05
Departure from normal precipitation	-0.008	0.003	-3.01	<0.05
Departure from normal precipitation, 1-month lag	-0.009	0.003	-3.649	<0.05
Departure from normal precipitation, 2-month lag	-0.004	0.003	-1.582	0.114
Price	-0.085	0.009	-9.942	<0.05
Economic index	0.945	0.101	9.316	<0.05
Housing density	-0.406	0.007	-60.745	<0.05
Median income	0.195	0.025	7.778	<0.05
Persons per household	0.473	0.04	11.907	<0.05
Drought severity, extended	-1.506	0.048	-31.109	<0.05

[(a)] Seasonal indices are unique to each retail agency.

Variables with an increasing effect on water use (i.e., a positive coefficient) included temperature, economic index, median income, and persons per household. Variables with a decreasing effect on water use (i.e., a negative coefficient) included precipitation, price, housing density, and the extended drought effect.

2.2 Historical Model Performance

Figure 2-1 shows the observed and predicted per-unit use for the single family sector in gallons per unit per day (gpud) calculated as a unit-weighted average across all retail agencies. Performance of the single family regression is summarized in Table 2-2 which shows performance metrics for unit-weighted average County-wide demand. Visual inspection of the time series plot and review of the model fit parameters showed good performance at the County-wide level, including strong agreement with the observed seasonal cycle and ability to reproduce declining consumption during the Great Recession, recovery between the Great Recession and the recent drought, and the sharp decline and muted recovery following the most recent drought.

Historical performance of the single family regression was also strong at the retail agency-level. Model fit statistics calculated at the retail agency-level generally mirrored County-wide performance. Model fit statistics and time series plots for each retailer are presented in Appendix B.

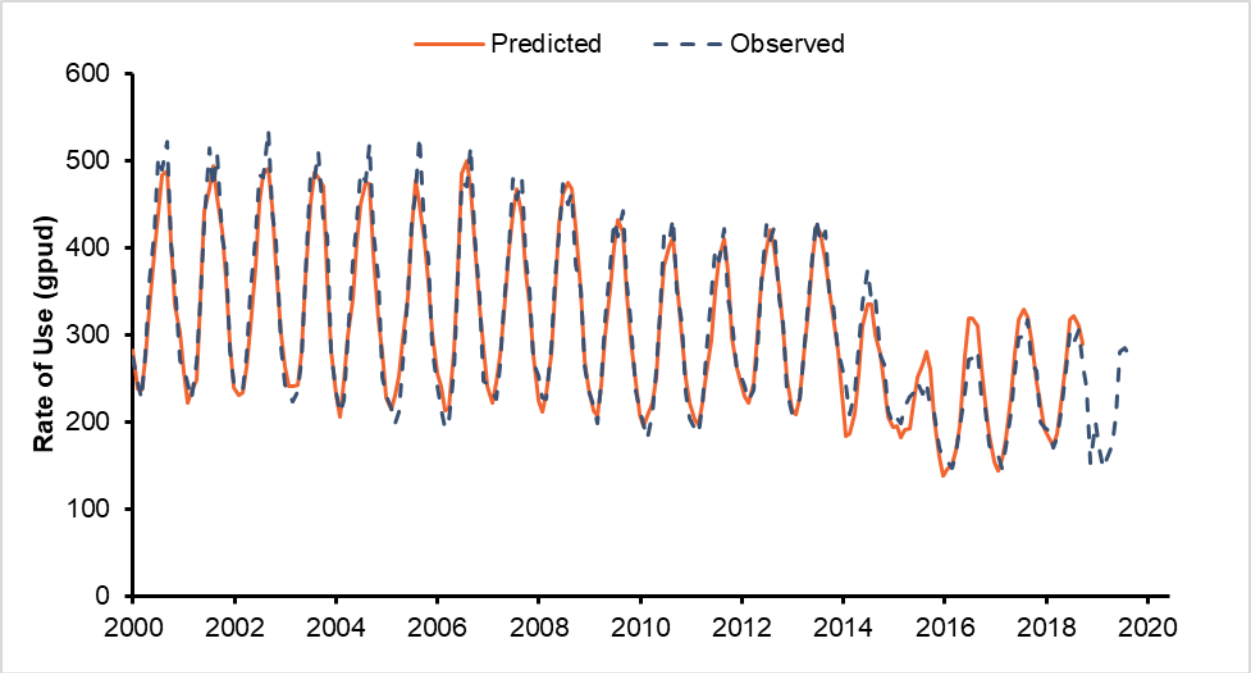


Figure 2-1: County-Wide Single-Family Observed and Predicted Per Unit Rate of Use

Table 2-2: County-Wide Single-Family Regression Performance Metrics

Regression Statistic[(a)]	Value
R-squared	0.95
Average Observed Value (gpud)	305.71
Mean Absolute Percentage Error	5.82%
Mean Bias	-1.13%

[(a)] Statistics calculated using County-wide unit-weighted average observations and predicted values from the regression fits.

3. Multifamily Regression Development

This section reviews the development of the statistical regression model for the multifamily residential sector.

3.1 Model Predictors and Fitted Coefficients

The fit for the final multifamily regression is presented in Table 3-1. Though most predictors are the same as the single family sector, several predictors (e.g., median income and 2-month lagged departure from precipitation) were dropped and certain predictors (e.g., the intercept term and drought severity) were allowed to vary by retail agency. These modifications to the model design resulted in stronger measures of fit and more reasonable coefficient estimates. Final coefficient estimates presented in Table 3-1 are within the expected range for all explanatory variables.

Table 3-1: Multifamily Regression Predictors and Coefficients

Variable	Coefficient	Standard Error	t-Statistic	Probability
Intercept	5.209	0.074	70.141	<0.05
Agency-specific intercepts[(a)]	-0.223 (avg) -0.719 to 0.280	0.013 (avg) 0.007 to 0.023	-31.555 (avg) -104.09 to 15.203	<0.05
Seasonal index 1[(b)]	-0.161 (avg) -0.372 to -0.056	0.012 (avg) 0.006 to 0.031	-16.311 (avg) -35.651 to -3.872	<0.05
Seasonal index 2[(b)]	-0.138 (avg) -0.255 to -0.056	0.012 (avg) 0.006 to	-13.943 (avg) -29.588 to -13.943	<0.05
Departure from normal temperature	0.488	0.098	4.974	<0.05
Departure from normal temperature, 1-month lag	0.514	0.100	5.155	<0.05
Departure from normal temperature, 2-month lag	0.397	0.094	4.226	<0.05
Departure from normal temperature, 3-month lag	0.194	0.092	2.101	<0.05
Departure from normal precipitation	-0.002	0.002	-1.127	0.260
Departure from normal precipitation, 1-month lag	-0.006	0.002	-2.954	<0.05
Price	-0.055	0.013	-4.347	<0.05
Economic index	1.568	0.091	17.226	<0.05
Housing density	-0.205	0.011	-18.105	<0.05
Persons per household	0.900	0.057	15.788	<0.05
Drought severity, extended[(c)]	-0.718	0.044	-16.294	<0.05

[(a)] Several agencies including San Jose Water Company, San Jose Municipal Water, Great Oaks Water Company, City of Gilroy, California Water Service, and the City of Sunnyvale were fitted with agency-specific intercept terms in order to optimize historical model performance.

[(b)] Seasonal indices are unique to each retail agency.

[(c)] Recorded drought severity coefficient estimate is for all agencies except San Jose Water Company, which was fitted an agency-specific drought severity coefficient.

Variables with an increasing effect on water use (i.e., a positive coefficient) included temperature, economic index, and persons per household. Variables with a decreasing effect on water use (i.e., a negative coefficient) included precipitation, price, housing density, and the extended drought effect.

3.2 Historical Model Performance

Figure 3-1 shows the observed and predicted per-unit use for the multifamily sector in gpud calculated as a unit-weighted average across all retail agencies.[5] Performance of the multifamily regression is summarized in Table 3-2 which shows performance metrics for unit-weighted average County-wide demand. Visual inspection of the time series plot and review of the model fit parameters showed good model performance at the County-wide level, including strong agreement with the observed seasonal cycle and ability to reproduce declining consumption during the Great Recession, recovery between the Great Recession and the recent drought, and the sharp decline and muted recovery following the most recent drought.

Historical performance of the multifamily regression was also strong at the retail agency-level. Model fit statistics calculated at the retail agency-level generally mirrored County-wide performance. Model fit statistics and time series plots for each retailer are presented in Appendix C.

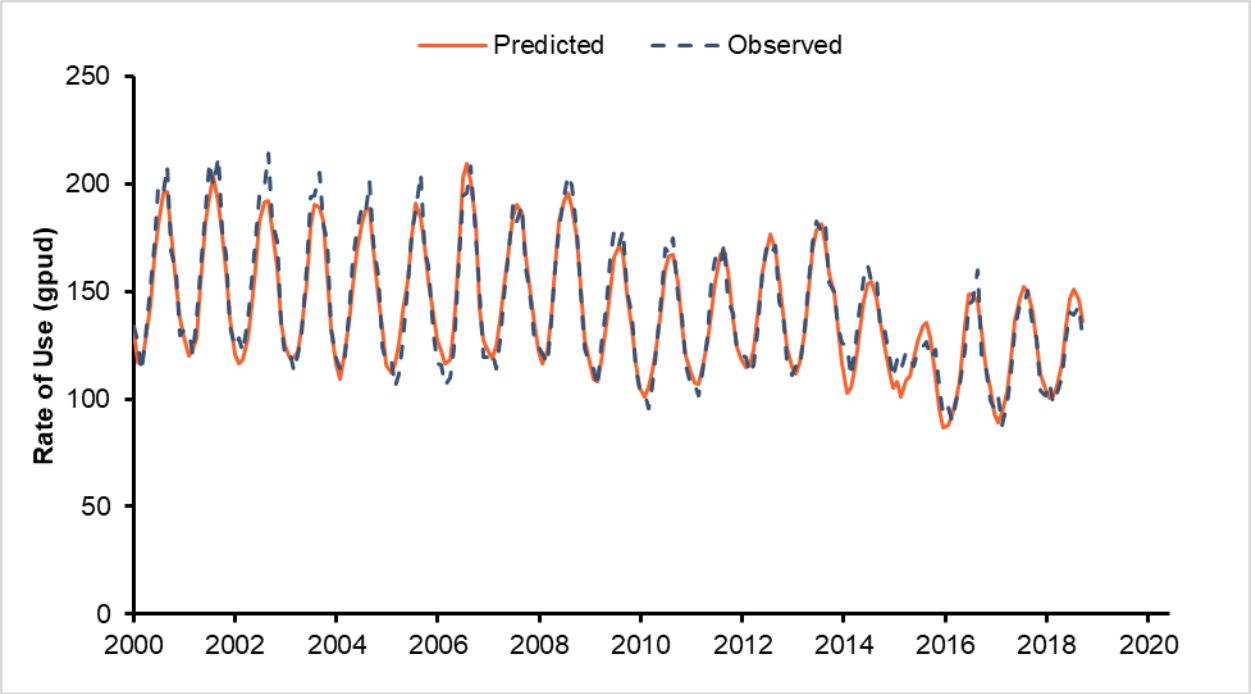


Figure 3-1: County-Wide Multifamily Observed and Predicted Per Unit Rate of Use

[5] Figure 3-1 excludes an outlier monthly observed datapoint for a single retail agency.

Table 3-2: County-Wide Multifamily Regression Performance Metrics

Regression Statistic[(a)]	Value
R-squared	0.94
Average Observed Value (gpud)	142.26
Mean Absolute Percentage Error	4.53%
Mean Bias	-0.87%
[(a)] Statistics calculated using County-wide unit-weighted average observations and predicted values from the regression fits.	

4. CII Regression Development

This section reviews the development of the statistical regression for the CII sector. Distinct regressions representing the commercial, industrial, and institutional water use sectors[6] were initially considered. However, different billing classification schemes among retail agencies introduced definitional uncertainty in sectoral water use and driver units. For example, certain agencies lacked a distinct industrial billing classification while others combined commercial and institutional categories. Additional verification of water use at the account-level was not possible given the data constraints for this project.[7] In response to these constraints and uncertainties, total use within the commercial, industrial, and institutional sectors was consolidated into a single composite CII regression. The benefit of combining these sectors is a more parsimonious representation with respect to number of sectors, while providing a means to use the mix of industries to explain CII water use variability across retail agencies.

4.1 Model Predictors and Fitted Coefficients

Model predictors for the final CII regression equation along with their statistics are in Table 4-1. Note that understanding/quantifying the types of economic activity occurring within the County are important to understanding changes in CII consumption over time. Since individual regressions for the commercial, industrial, and institutional sectors were not developed, predictor variables representing the relative proportion of employment among different industry groupings was used in the CII regression. Proportional employment based on industry grouping is meant to reflect the relative mix of industries / economic activity within each retail agencies' service area. Most CII model predictors are similar to those used for the single family and multifamily sectors, however certain variables (e.g., 3-month lagged departure from normal temperature) were excluded during the regression refinement process. Final coefficient estimates presented in Table 4-1 are within the expected range for all explanatory variables.

[6] Refer to Appendix A for a summary of standardized sectors by retail agency.

[7] The finest spatial resolution of all consumption data was at the retail agency-level.

Table 4-1: CII Regression Predictors and Coefficients

Variable	Coefficient	Standard Error	t-Statistic	Probability
Intercept	-0.186	0.268	-0.695	0.49
Seasonal index 1[(a)]	-0.29 (avg) -0.41 to -0.17	0.02 (avg) 0.01 to 0.03	-20.79 (avg) -33.3 to -9.2	<0.05
Seasonal index 2[(a)]	-0.34 (avg) -0.53 to -0.10	0.02 (avg) 0.01 to 0.03	-23.34 (avg) -39.2 to -3.5	<0.05
Departure from normal temperature	1.037	0.158	6.580	<0.05
Departure from normal temperature, 1-month lag	0.912	0.161	5.657	<0.05
Departure from normal temperature, 2-month lag	0.370	0.158	2.340	<0.05
Departure from normal precipitation	-0.003	0.003	-0.997	0.32
Departure from normal precipitation, 1-month lag	-0.007	0.003	-2.312	<0.05
Departure from normal precipitation, 2-month lag	-0.002	0.003	-0.692	0.49
Price	-0.062	0.025	-2.453	<0.05
Economic index	0.963	0.140	6.881	<0.05
Proportion of total Employment (Retail)	0.142	0.032	4.430	<0.05
Proportion of total Employment (Professional Services)	0.499	0.031	16.065	<0.05
Proportion of total Employment (Information, Government, and Construction)	0.093	0.026	3.508	<0.05
Proportion of total Employment (Industrial)	0.351	0.026	13.249	<0.05
Proportion of total Employment (Health Education, and Recreational Services)	0.466	0.059	7.923	<0.05
Drought severity, extended	-1.424	0.070	-20.232	<0.05
[(a)] Coefficients vary by retailer.				

Variables with an increasing effect on water use (i.e., a positive coefficient) included temperature, economic index, and the mix of industries/economic activity ratios. Variables with a decreasing effect on water use (i.e., a negative coefficient) included precipitation, price, and the extended drought effect.

4.2 Historical Model Performance

Figure 4-1 shows the observed and predicted per-unit use for the CII sector in gallons per employee per day (gped) calculated as a unit-weighted average for across all retail agencies. Performance of the CII model is summarized in Table 4-2 which shows regression performance metrics for county wide demand. Visual inspection and performance metrics showed good model performance including the same seasonal cycle and quantities. The CII regression was also able to reproduce declining consumption during the Great Recession, recovery between the Great Recession and the recent drought, and the sharp decline and muted recovery following the most recent drought.

Historical performance of the CII regression was also strong at the retail agency-level. Model fit statistics calculated at the retail agency-level generally mirrored County-wide performance. Model fit statistics and time series plots for each retailer are presented in Appendix D.

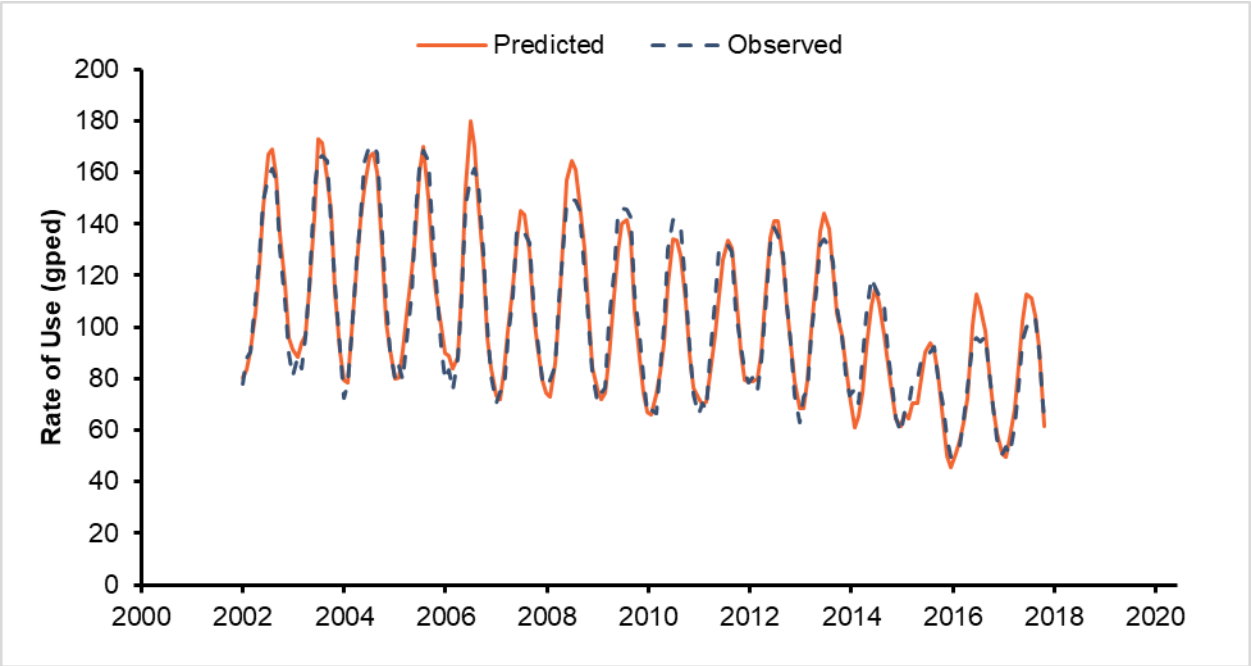


Figure 4-1: CII Observed and Predicted Rate of Use

Table 4-2: County-Wide CII Regression Performance Metrics

Regression Statistic[(a)]	Value
R-squared	0.96
Average Observed Value (gped)	103.89
Mean Absolute Percentage Error	5.08%
Mean Bias	-0.06%
[(a)] Statistics calculated using County-wide unit-weighted average observations and predicted values from the regression fits.	

4.3 Stanford University Regression Development

As an academic institution, Stanford University (Stanford) is considered part of the CII sector. However, an independent regression for Stanford was developed given its unique characteristics among retailers. Unlike other retail agencies, Stanford does not have accounts in the traditional sense as individual users are not billed. Additionally, employee water use as the sole driver unit (consistent with the CII sector for other retailers) is not appropriate for Stanford as students account for a significant portion of water use. This distinction informed the decision to use population (understood to be total faculty, staff, and students) as the driver unit for Stanford. Since the driver unit for the Stanford CII model was population, rather than jobs like the rest of the retailers' CII use, rate of use must be modeled separately. It is expected that the significant variables and/or magnitudes of coefficients would be different for Stanford than the other retailers' CII sectors due to the difference in driver units. A discussion of Stanford's regression predictors and fitted coefficients is presented in Appendix E. A summary of the Stanford's historical model performance is included in Appendix D.

5. Non-Retail Groundwater Pumper Regression Development

Historic water use for non-retail groundwater pumpers includes groundwater use by private well owners that are outside of retailers' service areas. Historic groundwater use was reported by groundwater basin and billing classification. The groundwater basins include Santa Clara Plain (referred to as charge zone "W2") as well as Coyote Valley sub-basin management area and the Llagas sub-basin and (referred to as charge zone "W5"). Water use was classified as either agricultural or municipal/industrial (M&I). M&I can include residential domestic water use.

Historical regression fits for non-retail groundwater pumpers were performed on annual water use. Agricultural water use was typically reported annually or semi-annually. M&I use was reported monthly or semi-annually. As a result, a monthly resolution for model fitting was not possible.

Further, historical model fits for non-retail groundwater pumpers were performed on a volumetric basis. Typical driver units for groundwater use, such as number of wells, did not support the "rate of use times driver" approach that was used for single family, multifamily, and CII model development.

Fitted models were only finalized for the M&I sector for the two groundwater basins. Agricultural use was often reported semi-annually (in January and July) and was estimated by a "table of averages" approach based on crop type, resulting in a lack of variability that could be modeled by predictor variables. Initial exploration of statistical/econometric model development showed that agricultural water use has been generally constant over the last twenty years and was not well-characterized by typical predictor variables.

5.1 Model Predictors and Fitted Coefficients

Model predictors for the non-retail groundwater pumpers M&I regression models along with their statistics are in Table 5-1. The two groundwater zones were modeled separately; a combined regression provided no improvement in the statistical significance of coefficients.

Table 5-1: Predictors for Non-Retail Groundwater Pumpers M&I Regression.

Basin	Variable	Coefficient	Std. Error	t-Statistic	Prob.
W2	Intercept	-0.59	4.08	-0.14	0.89
	Drought	-0.70	0.20	-3.54	<0.05
	Price	-0.81	0.06	-13.31	<0.05
	Temperature[(a)]	1.83	0.93	1.98	0.07
W5	Intercept	1.43	0.47	3.04	<0.05
	Number of Wells	0.19	0.04	5.56	<0.05
	Drought	-0.31	0.15	-2.09	0.06
	Price	-0.12	0.05	-2.41	<0.05
	Precipitation[(a)]	-0.09	0.02	-3.62	<0.05

[(a)] Temperature and precipitation for non-retail groundwater pumper models were in absolute terms, not departures from normal.

Variables with an increasing effect on water use (i.e., positive coefficient) included maximum temperature (used in the W2 model only) and number of wells (used in the W5 model only). Variables with a decreasing effect on water use (i.e., negative coefficient) included the extended drought effect,

price, and precipitation (used in the W5 model only). Economic indices, density, and median income were not found to be statistically significant for the groundwater M&I regressions. Note that temperature was found to be statistically significant for the W2 charge zone but not for the W5 charge zone regression, while precipitation was found to be statistically significant for W5 but not W2.

5.2 Historical Model Performance

Performance of the groundwater M&I regressions is summarized in Table 5-2. Figure 5-1 and Figure 5-2 show the observed and predicted demand for the M&I sector for groundwater charge zone W2 and W5, respectively. The M&I W5 regression had a lower correlation coefficient than all other model fits described in this TM, likely due to the relatively constant annual average water use over the available period.

Table 5-2: Regression Performance Metrics for Groundwater M&I Models

Regression Performance Metric	M&I, W2	M&I, W5
R-squared	0.96	0.81
Average Observed Value (mgd)	7.81	7.68
Mean Absolute Percent Error	4.32%	3.54%
Mean Bias	-0.22%	-0.09%

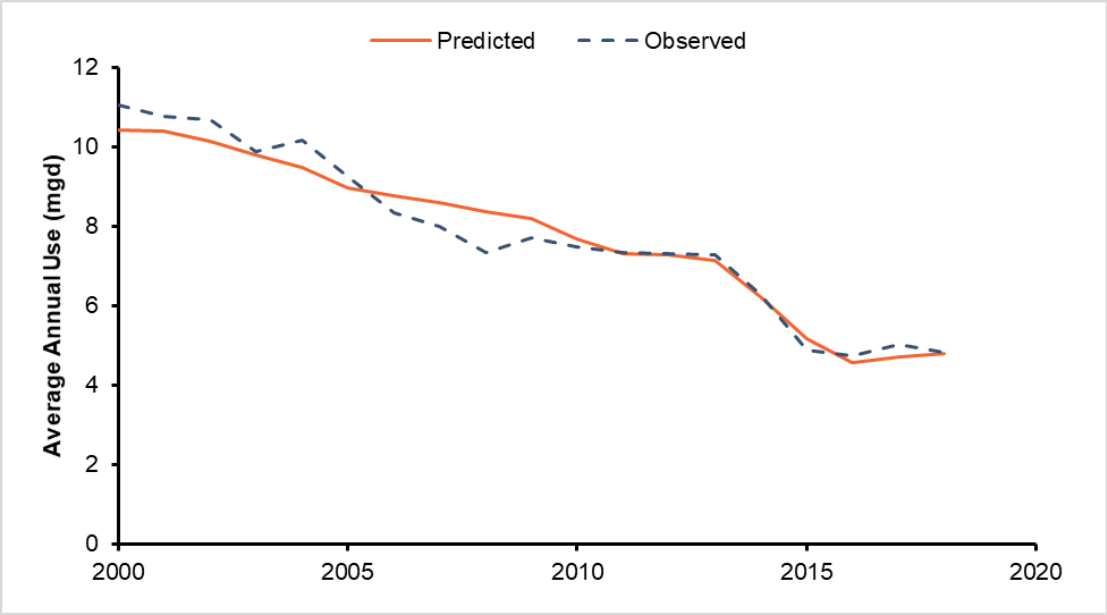


Figure 5-1: Observed and Predicted M&I Demand for Groundwater Basin W2

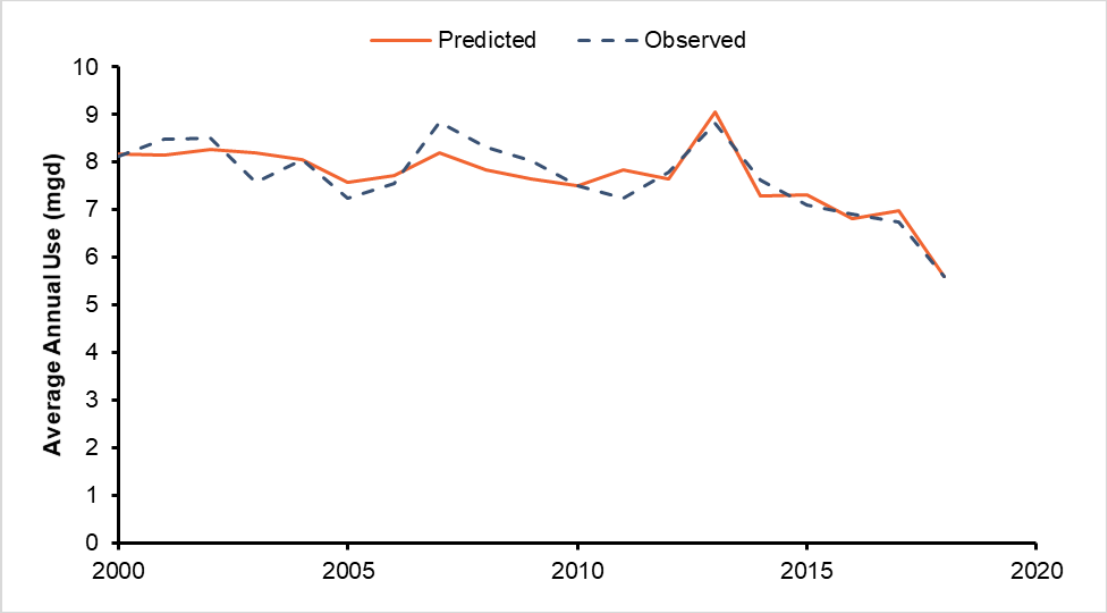


Figure 5-2: Observed and Predicted M&I Demand for Groundwater Basin W5

Figure 5-3 shows historic agricultural water use for the W2 and W5 charge zones. Agricultural water use in the W2 charge zone is less than 1 mgd and has been slightly declining over the last twenty years. Agricultural water use in the W5 charge zone has been generally constant over the last twenty years at approximately 23 mgd. Initial exploration of statistical/econometric model development showed that agricultural water use was not well-characterized by typical predictor variables. Agricultural water use in both charge zones would be well-represented by an average water use from a historical reference period that is then held constant into the future.

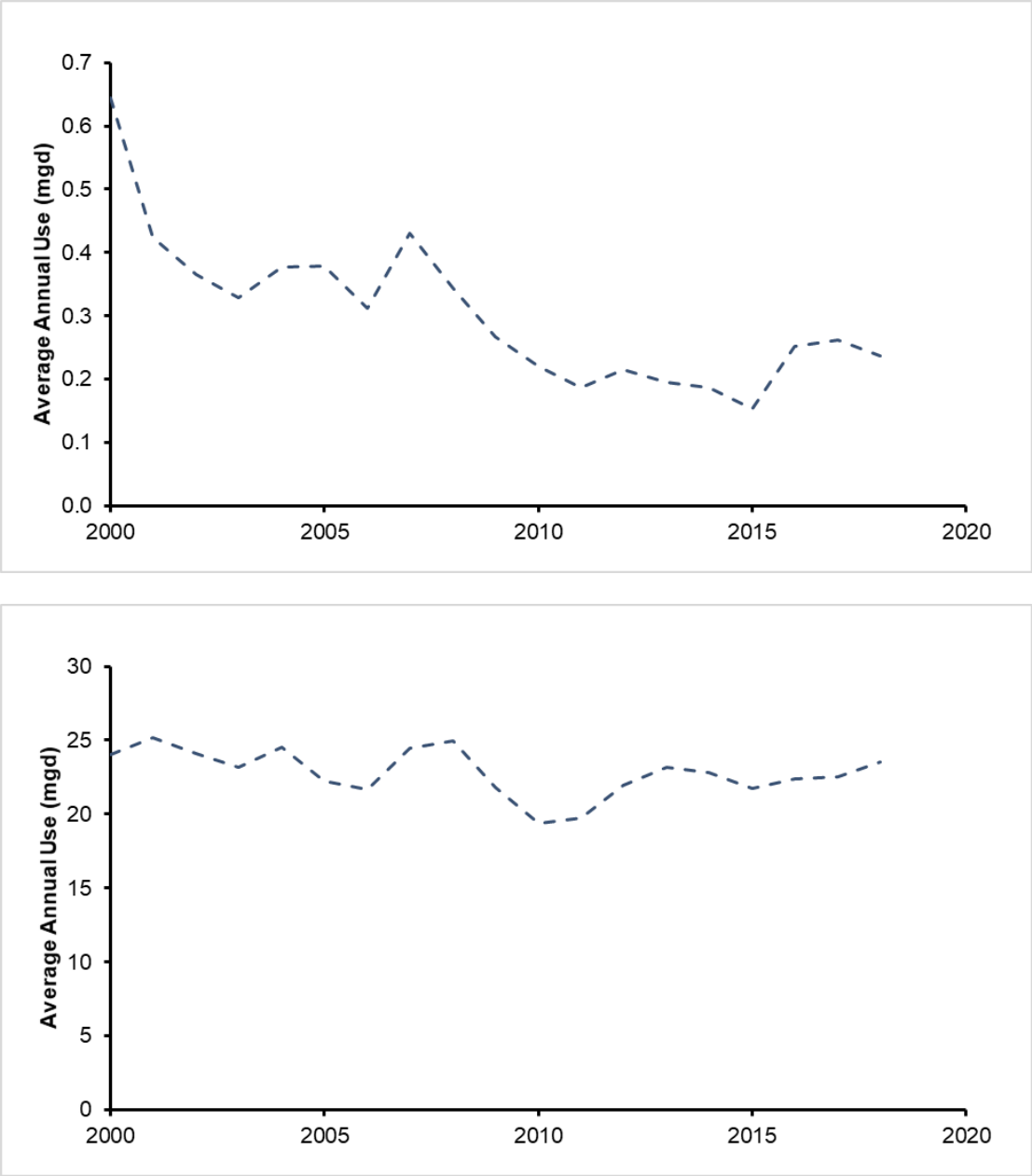


Figure 5-3: Observed Agricultural Demand for Groundwater Basin W2 (top) and W5 (bottom)

6. Summary / Conclusions

In summary, the statistical/econometric regressions presented in TM 2/4 show strong performance is explaining historical patterns of consumption over the last 20 years, including two major droughts and the Great Recession. All regressions had R-squared values of 0.81 or greater. The retailer-specific regressions, which represent the majority of water use in the County, had R-squared values of 0.94 or greater. None of the regressions demonstrated a large consistent bias. Based on this analysis, the regression reflect a suitable basis for forecasting.

The overall model approach allows for demand forecast scenario analysis based on varying assumptions of future conditions. Several forecast scenarios may be explored, including climate change-adjusted weather, alternate assumptions around the timing and magnitude of drought recovery, alternate assumptions around urban development, and/or different assumptions around future economic conditions. For any of these future scenarios, the model coefficients developed in this TM should be maintained as they reflect the best fitted estimates of causal relationships between external socioeconomic conditions and historical water demand given the available modeling data. Model scenarios can also be developed to address uncertainties in future predictor variables, such as housing / job growth and density. Future inputs in these scenarios could be conducted as a sensitivity analysis or be driven by alternate growth projections.

On a regular basis, overall model performance should be evaluated. Annually, forecasted consumption and input assumptions (e.g., driver unit counts, economic conditions, water rates, etc.) can be compared with observed conditions as data becomes available to monitor predictive performance. Less frequently (around every 5 years) model predictors should be revaluated using the process outlined in Figure 1-2. Major events, such as another drought or a severe economic recession may necessitate reexamination and/or refitting model coefficients and may cause changes in longer term expectations over the forecast period. As more data becomes available on the impacts of COVID-19 on County demographics and water use (e.g., potential shifts in CII to residential demand), reexamination of the underlying sectoral rates of water use as well as model coefficients should be conducted.

Water Supply Master Plan Project Description

Project Type	Project Name	Description
Alternative Supply	**Potable Reuse – Palo Alto**	Construction of an Advanced Water Purification Facility in Palo Alto capable of producing up to 10 MGD of purified water, for groundwater replenishment at the existing percolation ponds within the Los Gatos Recharge System Complex (LGRS). This project is included in the CIP.
	Potable Reuse – San Jose	Constructs an expanded advanced water purification facility in San Jose to increase purified water for potable reuse.
	Refinery Recycled Project	Builds a tertiary recycled water facility in Contra Costa County through a partnership with Central San. Central San would provide the recycled water produced from the facility to two oil refineries in Contra Costa County. Valley Water would then receive Contra Costa Water District's (CCWD) Central Valley Project (CVP) water currently used by the refineries. This project has an existing committee.
	Local Seawater Desalination Project	Proposes a seawater desalination project in Santa Clara County using seawater from the South San Francisco Bay to obtain a reliable local water supply. The project would provide treated water supplies directly to Valley Water's treated water system for distribution to customers but would generate brine effluent that requires management. This project is at the pre-feasibility stage
Surface Water Supply	**Delta Conveyance Project**	Modernizes the State Water Project (SWP) infrastructure by constructing alternative conveyance to divert up to 6,000 CFS from the Sacramento River north of the Delta and deliver it to SWP facilities at the southern end of the Delta. The project helps restore and protect the reliability of SWP water deliveries and, potentially, CVP water supplies south of the Delta.

	Sites Reservoir	By partnering with other agencies, builds an off-stream water supply reservoir north of the Delta to collect flood flows from the Sacramento River. This project would provide dry year yield and would be operated in coordination with the SWP and CVP, which could improve flexibility of the statewide water system.
	Stormwater - Agricultural Land Recharge (FloodMar)	Recharge stormflows on open space during the winter months. Feasibility study under way.
	Stormwater Capture	Constructs a stormwater capture and infiltration system. Site selection is still underway and will most likely require partnerships with other agencies.
Storage	**Pacheco Reservoir Expansion**	Enlarges Pacheco Reservoir from about 5,500 AF to 140,000 AF and connects the reservoir to the Pacheco Conduit. The reservoir plans to be filled with natural inflow and CVP supplies. Potential project benefits include water for downstream fisheries, emergency storage, and managing water quality impacts. This project is in the CIP.
	Los Vaqueros Expansion	Secures an agreement with CCWD and other partners to expand Los Vaqueros Reservoir by 115,000 AF, use CCWD intakes, and constructs a new pipeline (Transfer-Bethany) connecting the reservoir to the South Bay Aqueduct. This would provide storage and deliveries of delta surplus supplies. This project has a JPA.
	Groundwater Banking	Explores options for securing out-of-county storage through the development of new groundwater banks.

	B.F. Sisk Dam Raise	Increases the height of B.F. Sisk Dam and expands the capacity of San Luis Reservoir by 130,000 AF. New capacity would be shared by Reclamation and project participants and would be operationally integrated with the CVP. Benefits are expected to include dedicated storage capacity and supplemental imported water supply.
Recharge & Pipelines	**Coyote Valley Recharge Pond**	Constructs a new percolation pond(s) in Coyote Valley off-stream of Coyote Creek and near the Cross-Valley Pipeline (CVP). This project would require purchasing land and creating a new turn-out and diversion pipeline from the CVP to the pond. This project helps create operational flexibility for managed recharge operations in Coyote Valley, reducing its reliance on Coyote Creek flows and operational constraints.
	Lexington Pipeline	Constructs a pipeline between Lexington Reservoir (or Vasona Reservoir) and the raw water system to allow surface water from Lexington to be put to beneficial use elsewhere in the county. The pipeline may also convey some wet-weather flows to treatment plants or recharge facilities.
	Lexington-Montevina Water Treatment Plant Connection	Sends water from Lexington Reservoir to San Jose Water Company's (SJWC) Montevina WTP to allow for Lexington water to be used in the SJWC service area. The project would require construction of a pump station and intake pipe from Lexington to Montevina.
	Butterfield Channel Managed Aquifer Recharge	Connects Butterfield Channel to Valley Water's raw water conveyance system so imported water can be recharged along Butterfield Channel during the summer months when it is not used for stormwater conveyance.
	Madrone Channel Expansion	Expand managed aquifer recharge in Madrone Channel by adding one or two dams/ponds downstream of the existing Madrone Channel Pond #10. There's a reach approximately 4,600 feet in length between

		the dam for pond #10 and the confluence with East Little Llagas Creek, located downstream.
	San Pedro Ponds Improvement Project	Implements a project or program to enable the ponds to be operated at full capacity without interfering with existing septic systems in the vicinity.

Santa Clara Valley Water District

File No.: 23-0808

Agenda Date: 8/28/2023
Item No.: 4.3.

COMMITTEE AGENDA MEMORANDUM
Water Conservation and Demand Management Committee

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

SUBJECT:
Water Supply Master Plan 2040 Conservation and Stormwater Capture Project Update - "No Regrets" Package Implementation.

RECOMMENDATION:
Receive information on the "No Regrets" package implementation. This is a discussion item, and no action is required.

SUMMARY:
As part of the Water Supply Master Plan 2040 development, Santa Clara Valley Water District's (Valley Water) Board of Directors (Board) approved a "No Regrets" package for implementation in September 2017. The "No Regrets" package of conservation and stormwater capture projects and programs is broadly supported by stakeholders, relatively low cost, and can be implemented independently of other projects and programs in the Water Supply Master Plan 2040. These projects and programs include:

1) Advanced Metering Infrastructure
2) Leak Repair Incentives
3) Graywater Rebate Program Expansion
4) Model Water Efficiency New Development Ordinance
5) Stormwater Capture

This memo provides an update on the efforts and progress to date on the implementation of the "No Regrets" package. Valley Water is currently in the process of updating the Water Supply Master Plan. The "No Regrets" package will remain part of the updated plan for continued implementation as Staff develops and improves programs to increase savings rates required to meet the long-term water conservation savings targets of 99,000 acre-feet per year by 2030 and 110,000 acre-feet per year by 2040.

ADVANCED METERING INFRASTRUCTURE (AMI)

Advanced Metering Infrastructure (AMI) in concert with a proposed customer-side leak repair incentive program are critical elements to have in place by 2040. AMI facilitates customer engagement with their water usage and enables water retailers to track water usage remotely and frequently.

In 2019, Valley Water partnered with the Bay Area Water Supply and Conservation Agency (BAWSCA) on a study to identify each water retailer's metering and related system, data gaps, and potential for collaborative procurement for AMI as an option for the region. This study, performed by Manage Water Consulting, Inc. and Don Schlenger and Associates, was completed in June 2019. BAWSCA and Valley Water held a joint meeting to review the findings of the study with water retailers from the BAWSCA and Valley Water service areas. The meeting included presentations from project leads of several pilot studies funded by Valley Water's Water Conservation Research Grant Program (funding through Safe, Clean Water), including San Jose Water Company, City of Mountain View and Purissima Hills Water District.

Based on this research and stakeholder engagement, Staff developed AMI Program Guidelines in 2020 to encourage the installation of AMI meters, and to maximize their savings potential by pairing the meters with software that will give near real-time water data on an accessible online database, leak alerts, and water use reports. These guidelines were updated in a stakeholder review process concluding in May 2023 with input from water retailers currently or potentially interested in participating in the AMI Program. The guidelines were presented to the Retailer Water Conservation Subcommittee prior to finalizing.

As of July 2023, Valley Water has cost-sharing agreements providing four million in AMI funding in the following service areas:

- City of Morgan Hill (approx. 17,000 AMI meters funded),
- City of Milpitas (approx. 16,700 AMI meters funded), and
- City of Palo Alto (approx. 21,000 AMI meters funded in June 2023).

Additionally, Purisima Hills Water District has received funding for approximately 1,000 AMI meters through the Safe, Clean Water Program, while the City of Gilroy has funded approximately 14,400 AMI meters through an Integrated Resources Water Management Proposition 1 grant applied for with Valley Water support. While AMI implementation progress across service areas varies, an estimated 48,000 AMI meters have been installed to date in the county through a combination of Valley Water cost-share agreement funding, Valley Water grant funding, and Valley Water support for external grant funding.

Valley Water's goal is to collaborate with retailers and cities throughout our service area to implement AMI through incentives, grants, and support letters (i.e., IRWM, California Public Utilities Commission, etc.). The conservation budget includes dedicated funding to assist in the implementation of this program.

LEAK REPAIR INCENTIVES

Though customers are alerted of possible leaks much more quickly with AMI, a trained workforce is required to fix leaks expeditiously. Valley Water and BAWSCA determined the need for a leak certification (i.e., establishing a licensing program) or certificate program to provide professionals with the necessary skills to identify and repair leaks. After completing this proposed training program, professionals will be placed on a reliable, objective resource list for landlords and homeowners to address leaks.

To conduct comprehensive research and offer training framework recommendations, Valley Water and BAWSCA collaborated on a contract in 2021 with the California Water Efficiency Partnership (CalWEP), a non-profit organization aiming to maximize urban water efficiency and conservation throughout California. The research and deliverables from this partnership will be utilized by Staff to determine logistical aspects of the future training program as well as to develop an RFP to procure a vendor responsible for managing and operating the future program. Phase 1 is complete and encompassed surveying agencies from multiple regions, interviewing and facilitating focus groups with industry experts, and conducting extensive online research. This process highlighted the interest and need across California for an affordable, relevant, and accessible leak detection and repair training program that highlights the importance of water conservation. Phase 2 will be completed later in Summer 2023.

Additionally, Valley Water is conducting two pilots focused on low-income, disadvantaged, or underrepresented communities:

Leak Assessment and Repair Pilot

This vendor-supported pilot is leveraging an existing program between Richard Heath and Associates, Inc. (RHA) and Pacific Gas and Electric's (PG&E's) Energy Savings Assistance (ESA) Program. The program retrofit leaking fixtures and sprinklers, in addition to performing a meter-check for leaks and providing water conservation resources.

Toilet Repair and Retrofit Pilot

This pilot is being performed concurrently with the Leak Assessment and Repair Pilot. This pilot project replaces 1.6 or greater gallon per flush (gpf) toilets with high-efficiency, WaterSense-certified 0.8 gpf toilets. To date, 43 toilet retrofits have taken place and an additional 25 are expected to take place for the month of July.

A total of 211 households have been served through both pilots. The pilots are expected to wrap up in mid-August. Staff will then evaluate water savings and resource requirements to determine whether evolving pilots into a full program is cost-effective in meeting the long-term water conservation savings targets.

GRAYWATER REBATE PROGRAM EXPANSION

In partnership with the non-profit Ecology Action between June 2019 and June 2020, the Graywater Direct Installation Program completed 307 site assessments and installed 71 laundry-to-landscape

graywater systems. 64% of low-income participants chose the no-cost, self-installation option. Ecology Action provided construction assistance to all 36 self-installations throughout the installation process.

These graywater systems replaced potable water irrigation on nearly 31,700 square feet of landscaped area, resulting in a project water savings of 522,386 gallons/year, or 32.1 acre-feet over a 20-year project life. The average 2020 value in water utility bill savings for each participating household was $48/year. This pilot also trained 20 landscape professionals including 3 licensed contractors who performed work as subcontractors under Ecology Action.

Though at the time the pilot occurred, it was not deemed cost-effective to continue as a standalone program, Valley Water is considering including comparable installation services under its planned procurement to replace the current Lawn Busters Program with Our City Forest. The Outdoor Conservation Direct Install Program Request for Proposal update was discussed at the November 2022 Water Conservation and Demand Management Committee.

Valley Water has continued to develop its Graywater Laundry to Landscape Rebate Program by partnering with cost-sharing retailers to double the overall rebate from $200 to $400 in those service areas. In addition to the direct install pilot, Valley Water has issued an additional 42 rebates, for a total of 113 Graywater Laundry to Landscape systems installed in Santa Clara County. While Valley Water does not currently plan to rebate for more advanced Graywater systems, we have provided additional graywater system resources including guides, evaluation tools, virtual workshops and webinars, informational and instructional videos, and a list of local graywater installers available at www.watersavings.org <http://www.watersavings.org>.

MODEL WATER EFFICIENCY NEW DEVELOPMENT ORDINANCE

The Model Water Efficiency New Development Ordinance (MWENDO), developed in 2015 by the Santa Clara County Water Efficient New Development Task Force, composed of representatives from Santa Clara County, several cities, Valley Water, Sustainable Silicon Valley, and Joint Venture Silicon Valley, is intended to be adopted by jurisdictions in Santa Clara County to ensure water use efficient in new development. The ordinance, which has received support from the local Sierra Club chapter, is designed to be customizable depending on cities' needs and includes a variety of water efficiency measures for new developments such as:

- Single-Family Residential
- Multi-Family Residential and Nonresidential Projects
- Commercial Facilities

Valley Water continues to monitor actions related to the adoption of MWENDO and provide staff support to municipalities as part of ongoing efforts to support cities' and the County's interests in expanding water efficiency measures. To assist jurisdictions with MWENDO adoption, Valley Water has developed a template staff/Council agenda report, a cost-effectiveness study, and instructions for filing with the California Building Standards Commission (CBSC) and California Energy Commission (CEC). So far, Valley Water has reached out to every jurisdiction in the county at the City Manager or

City Council level for their consideration and adoption of the MWENDO. At this time, no cities in Santa Clara County have yet officially adopted MWENDO, however, some cities already have many of these measures as part of their existing municipal code and may consider additional measures to be included as part of the upcoming 2025 building code adoption cycle.

While the 2022 version of California's Title 24 building code update was effective January 1, 2023, jurisdictions can adopt additional reach codes like MWENDO at any time. Currently, Valley Water is finalizing updates to the ordinance to reflect the latest Title 24 updates and water conservation reach code best practices. The revised MWENDO will include a supplemental provision to encourage cities and the County to prohibit irrigation of decorative, non-functional turf with potable water on CII sites within their jurisdictions.

STORMWATER CAPTURE

Stormwater capture can have water quality, water supply, flood management, environmental, and community (e.g., aesthetics, recreation, and education) benefits. The "No Regrets" package proposed evaluating stormwater capture projects to develop at least 1,000 acre-feet per year (AFY) on average of stormwater water supply (which brings the 2040 target from 109,000 to 110,000 acre-feet saved per year). To this end, Valley Water is evaluating, and in part implementing, two different scales of stormwater capture projects - "centralized" and "decentralized":

"Centralized" projects are those that capture water from multiple parcels and/or are municipal projects, including "green streets" projects and stormwater recharge on open space (e.g., Flood-Managed Aquifer Recharge). "Decentralized" projects focus primarily on keeping stormwater onsite and/or private citizen projects. Valley Water has implemented two decentralized programs - rain barrel/cistern rebates and rain garden rebates.

Centralized Projects

To support the evaluation of centralized projects, Valley Water led the development of the Storm Water Resources Plans (SWRP) for the northern part of Santa Clara County flowing to the Bay and for the South County area flowing towards Pájaro Watershed. The SWRPs develop, prioritize, and plan "centralized" stormwater projects in Santa Clara County that are typically located on public lands. Valley Water will continue to track city and County efforts, develop partnerships where there may be complementary project interests; and seek grant funding for partnership projects.

In addition to the SWRPs, staff are also investigating the potential to use open space for stormwater recharge. An example of this type of project is in the Central Valley where floodwaters are diverted onto some orchards to recharge the aquifer. The planned flooding for groundwater recharge is referred to as flood-managed aquifer recharge (Flood-MAR). Staff are monitoring the pilot projects to determine impacts and benefits to crops, water quality, and water supply. As noted by the California Department of Water Resources (DWR), "complex technical, legal, and institutional barriers and challenges affect the planning and implementation of Flood-MAR projects" including water rights, permitting, and environmental considerations. However, recognizing the broad potential benefits of Flood-MAR, DWR is leading the statewide efforts to evaluate these issues with stakeholders with the

goal of expanding Flood-MAR on agricultural lands and working with landscapes throughout California. Staff are engaging in these statewide efforts. In addition, Valley Water recently completed a preliminary feasibility analysis on Flood-MAR in Santa Clara County. The study indicates there may be sites that could support stormwater recharge, but site level analyses would need to be done to determine project feasibility. The preliminary feasibility study will be presented to the WCADM and EWRC in August.

Decentralized Projects

Regarding “decentralized” projects, Valley Water launched Rainwater Capture rebates under its Landscape Rebate Program on January 1, 2019. This program, which encourages customers to participate in decentralized stormwater capture, includes rebates for rain barrels, cisterns, and rain gardens.

The program rebate amounts are as follows: $35 per qualifying rain barrel installed to collect rainwater from existing downspouts; $0.50 per gallon for diverting existing downspouts to qualifying cisterns; and $1 per square foot of roof area diverted (up to $300 per site) into an installed rain garden to collect roof water runoff. Cities of Cupertino, Milpitas, Morgan Hill, and Santa Clara as well as San José Municipal Water Services have or currently cost share with Valley Water to increase Rainwater Capture rebate amounts. Since 2019, 56 cisterns (50,345 gallons), 657 rain barrels, and 90 rain garden (from ~61,000 sq ft of roof surface) rebates have been issued. Additional details are available at <https://valleywater.dropletportal.com/overview/>.

ENVIRONMENTAL JUSTICE IMPACT:
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:
Attachment 1: PowerPoint Presentation
Attachment 2: Water Conservation Flyer

UNCLASSIFIED MANAGER:
Kirsten Struve, 408-630-3138

Water Conservation Rebates and Programs

Valley Water

Say YES to Saving Water!

Valley Water's water conservation rebates and programs are designed to make water conservation easier, helping you say YES to saving water. Learn more about all of our conservation programs and resources by visiting ***watersavings.org***.

Online Shopping Cart

Valley Water offers free water conservation devices that can help you save water. You can request free water efficient devices and free resources to evaluate your water use efficiency. Visit ***cloud.valleywater.org/shopping-cart*** to order your FREE gear and literature today!

Landscape Rebate Program

The Landscape Rebate Program can help you create beautiful drought resilient landscapes. Get started by finding more information at ***valleywater.dropletportal.com***. Make sure you submit an online application for approval and schedule a pre-inspection **before beginning any work** on your project.

Rebate Caps

The following landscape rebate site caps apply to the combined program components, including Landscape Conversion, Large Landscape Lawn to Mulch, Irrigation Equipment Upgrade and Rainwater Catchment.

- $3,000 for single-family or multi-family residential properties (4 or fewer units)
- $100,000 for all commercial, industrial, institutional properties or multi-family residential properties (5 or more units)

Rebate rates and caps may be higher in some areas. Other programs are capped separately.

Landscape Conversion

Any property with qualifying high-water using landscapes (i.e., lawn or functional swimming pools) can receive a rebate of at least $2 per square foot (sq. ft.) for converting to a drought resilient landscape.

Large Landscape Lawn to Mulch

Any commercial, industrial, institutional properties or multi-family residential properties can receive a rebate of at least $1 per sq. ft. for converting a qualifying lawn to a minimum of 3 inches of mulch (minimum 15,000 sq. ft. lawn area). The irrigation system watering any trees in the converted lawn area needs to be converted to a low-flow irrigation system. Golf course options are offered.

A converted low-water use garden featuring California poppies in bloom.

Irrigation Equipment Upgrade

Rebates are offered for replacing old, inefficient irrigation equipment with new, qualifying high-efficiency equipment, including:

- High-efficiency nozzles (up to $5 each)
- Rotor sprinklers or spray bodies with pressure regulation and or check valves (up to $20 each)
- Rain Sensors (up to $50)
- Flow sensors, hydrometers, and dedicated landscape meters (up to $1,000)
- Smart irrigation controllers (up to $300–$2,000 each)
- Sprinkler to In-Line Drip Conversion ($0.25 per sq. ft.)

Rainwater Capture

Rainwater capture or diversion projects collecting rainwater from existing downspouts can receive rebates for the following:

- Rain barrels up to 199 gallons (up to $35 per barrel)
- Cisterns 200 gallons or more ($0.50 per gallon)
- Rain gardens ($1 per sq. ft. of roof area diverted, up to $300)

Graywater Rebate Program

Receive at least $200 per home for transforming your clothes washer into a graywater system. Plants don't need drinking water to thrive: reuse graywater in your yard! Apply online and find how-to videos at ***watersavings.org***. No pre-inspection is required but **wait for approval before beginning any work**.

Landscape Surveys

Request to have your landscape and irrigation system surveyed by a trained irrigation professional for FREE. Following the survey, the specialist will provide you with a customized report, outlining any apparent leaks or inefficiencies, suggestions for irrigation scheduling, and recommendations for money-saving landscape rebates. Whether your landscape is small or large, we have a program to fit your needs.

- ### Water Wise Outdoor Survey Program

  A Water Wise Outdoor Survey is for landscapes at single-family, small commercial, industrial, institutional properties or multi-family residential sites up to half an acre. To get started, have a recent copy of your water bill on hand and submit a request at ***valleywater.org/outdoor-survey***.

  Call **408-630-2000** or email ***waterwise@valleywater.org*** with questions. If you are a customer of San Jose Water Company, please contact them directly to schedule a CATCH survey at **408-279-7900** or ***customer.service@sjwater.com***.

- ### Large Landscape Program

  A Large Landscape Survey is for landscapes at commercial, industrial, institutional properties or multi-family residential common areas with over half an acre. Also, free landscape water budgets are available for some properties, which compare your actual irrigation use to a property specific budget. Visit ***waterfluence.com*** to see if your property already receives this free benefit. Request a survey at ***watersavings.org***.

Commercial and Facility Rebates

Receive up to $100,000 for replacing or updating equipment with water-efficient technology that results in measurable water savings. This custom rebate based on the measured amount of water saved is available to qualifying facilities including facilities like businesses, schools, hospitals and government buildings. The rebate is $4 per 100 cubic ft. of water saved per year, or 100% of the project cost (excluding labor and taxes), whichever is less.

Fixture Replacement Program

Replace old qualifying fixtures for FREE! Inefficient fixtures can be replaced for free by licensed plumbers at qualifying commercial, industrial, institutional properties or multi-family residential properties. Inefficient fixtures that qualify include toilets, urinals, showerheads, faucet aerators, and pre-rinse spray valves. Sign up at ***blusinc.com***, call **800-597-2835**, or ***customerservice@blusinc.com***.

Submeter Rebate Program

Submeters can save 10-30% of water used! Received at least $150 per installed water submeter by upgrading from a single meter. Accessory dwelling units (ADUs or granny units), mobile home parks, apartments, and condominium complexes can qualify. There is no rebate cap when all eligibility requirements are met.

Report Water Waste

Help local residents and businesses preserve our shared water supply by confidentially reporting water waste and violations of outdoor water-use restrictions. Any specific notes like location, date and time, or frequency will help our inspectors follow up. To report water waste, you may do one of the following:

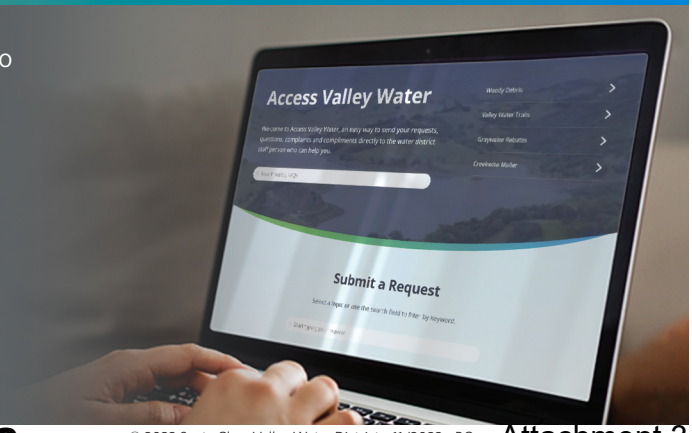
- Use our Access Valley Water app (by downloading or using the QR code)
- Email ***waterwise@valleywater.org***
- Call **408-630-2000**

CONTACT US

To find out the latest information on Valley Water projects or to submit questions or comments, use our **Access Valley Water** customer request system at ***access.valleywater.org***.

FOLLOW US

scvwd
valleywater
valleywater
Join our mailing list: ***https://delivr.com/2uz9z***



Water Supply Master Plan 2050

Environmental and Water Resources Committee Meeting, 10/16/2023

Long-Range Water Supply Planning

- Uncertain future
- Aging infrastructure
- Incomplete information
- Imminent decisions on generational opportunities for investment

WSMP 2050 Updates

Goals

Planning horizon

Wider range of values

Portfolio approach

Recognition of uncertainty

Planning Goals to Achieve Level of Service

System reliability

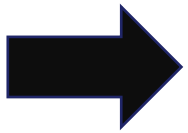
Supply diversification

Reduced shortage risk

Affordable rates

Proposed Water Supply Strategy

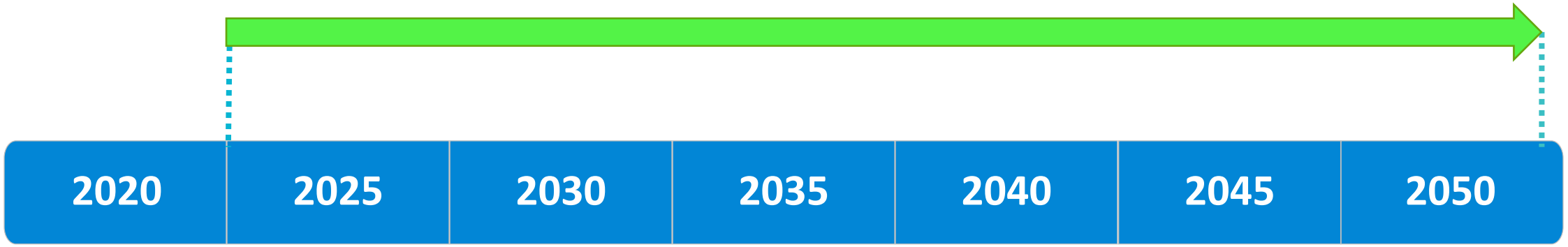
1. Secure existing supplies and infrastructure
2. Increase water conservation and reuse
3. Optimize the use of existing supplies and infrastructure



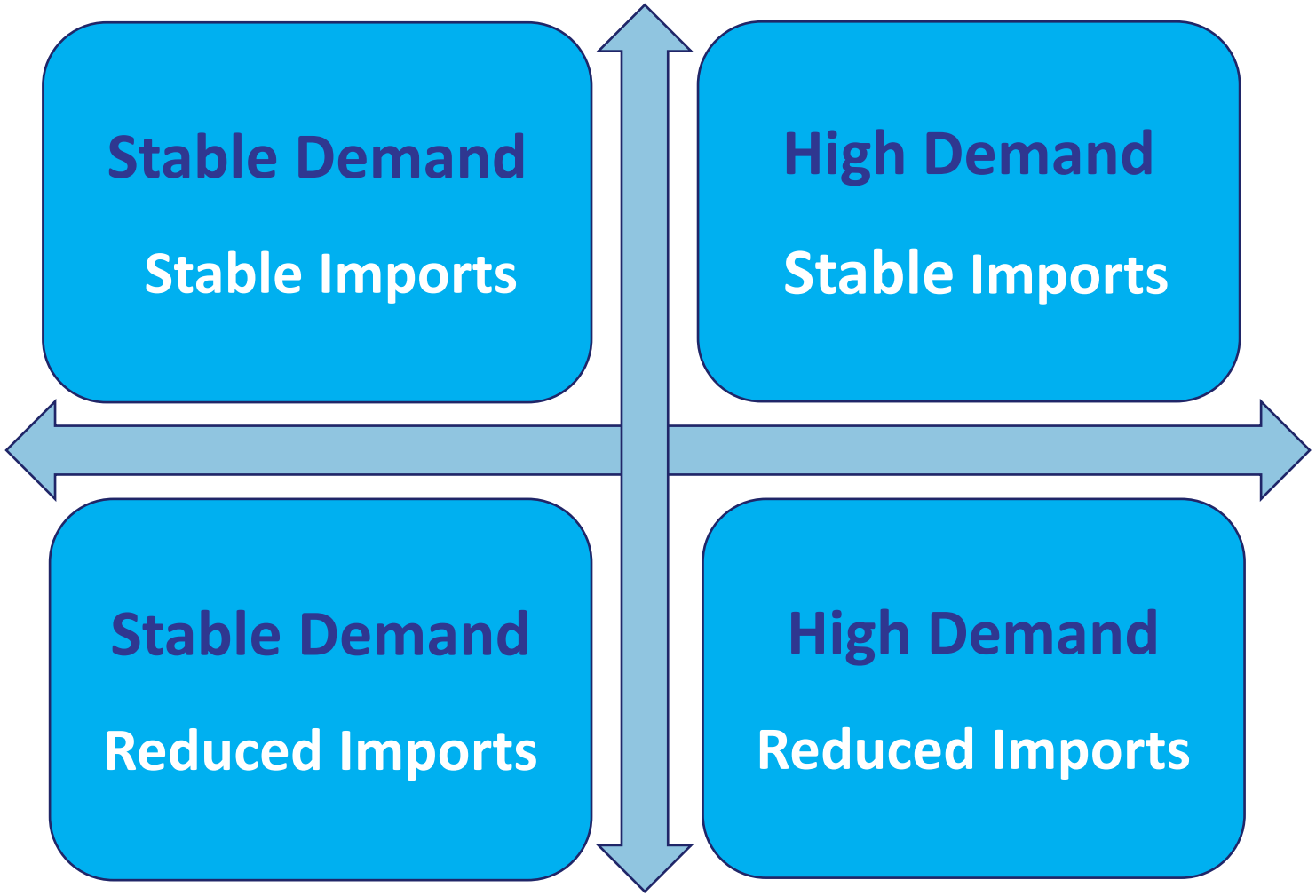
1. Secure existing supplies and infrastructure
2. Expand water conservation and Reuse
3. Increase system reliability and flexibility

Planning Horizon

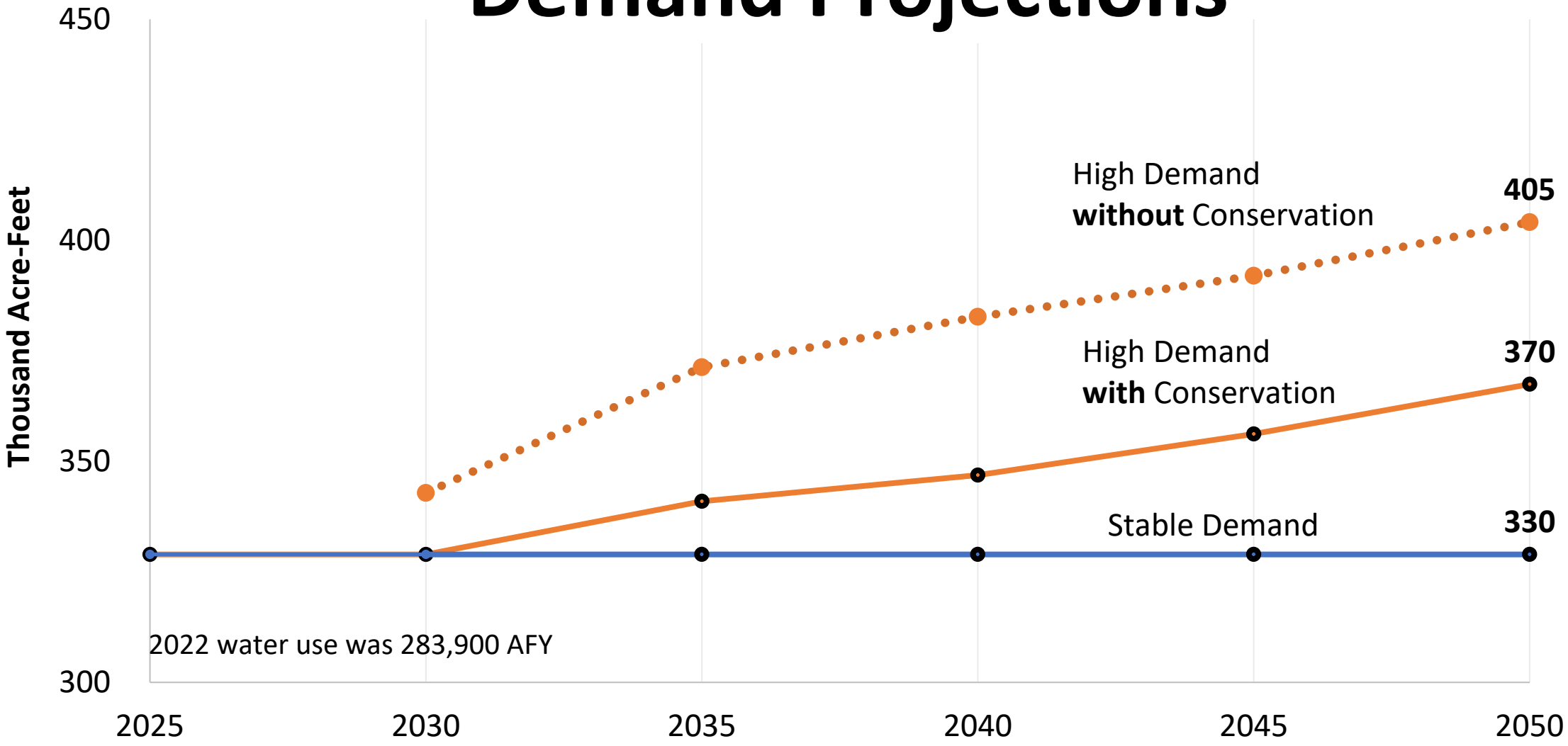
20 years → 30 years



Planning Approach – Scenario Planning



Demand Projections



Demand modeling integrates historic water use trends, housing and economic growth, climate change, and post-drought water use rebound.

Imported Water Supply

Two imported water scenarios

- Stable imports
- Reduced imports

Climate change considered

Baseline Assumptions

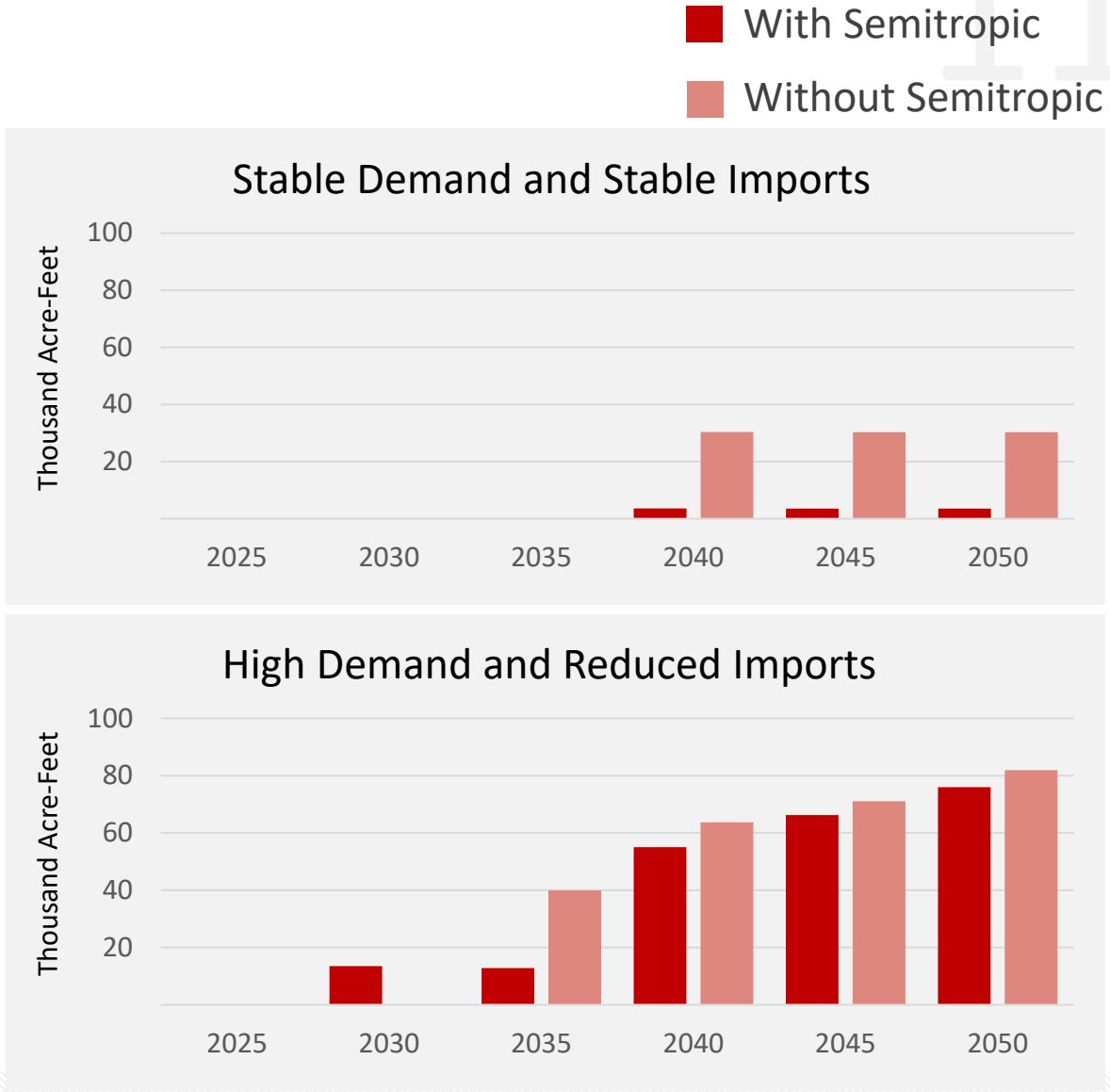
Achieve 2040 conservation goal

Complete dam seismic retrofits by 2035

Maintain Valley Water assets

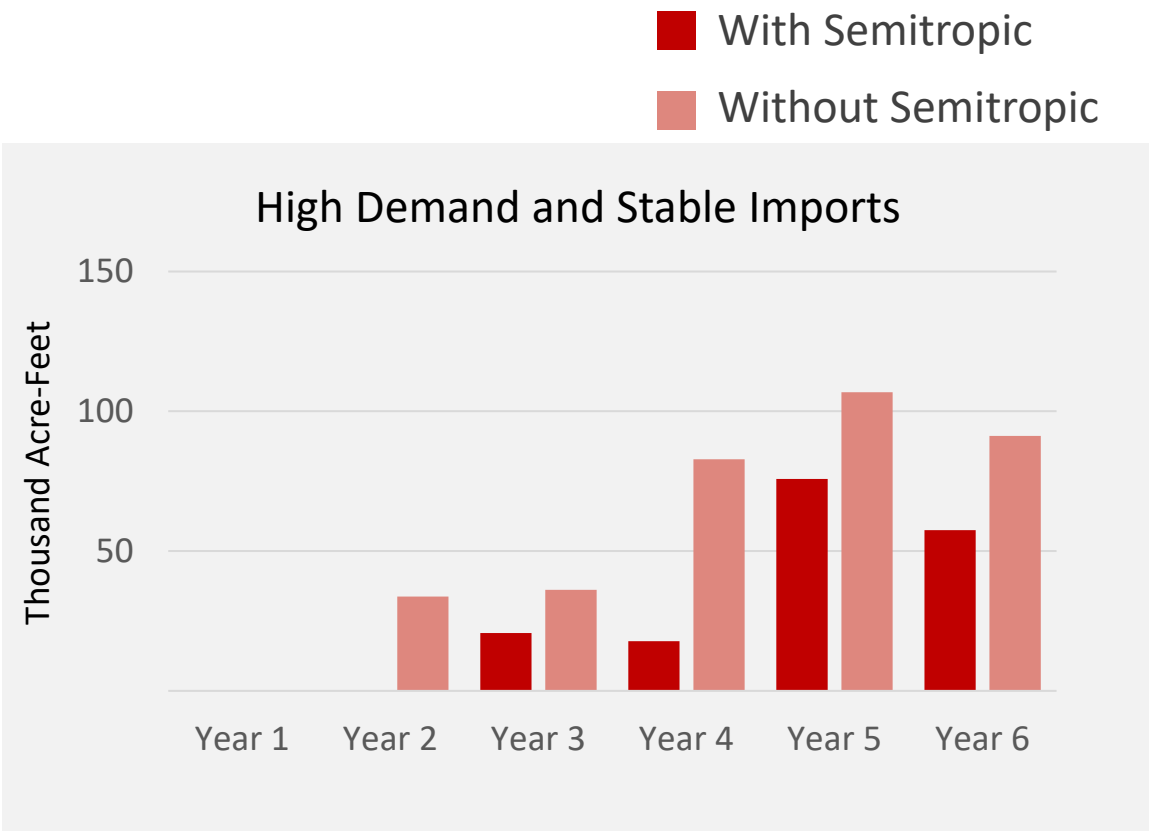
Baseline Assessment – Planning Horizon

- Shortage in all scenarios and as early as 2030
- Average annual shortages 4-76 TAF in 2050
- Out-of-County groundwater storage important



Baseline Assessment – Drought in 2050

- 2-year drought manageable
- Need for investment



Future Investment Options

- Alternative supply - dependable during drought/year round
- Local and imported surface supply - increase reliability and resilience
- Storage - capture excess water supply in wet years to be used during drought years

Projects Under Consideration

- Conservation (20+)
- Alternative Supply (4)
- Surface Supply (4)
- Storage (4)
- Recharge & Pipelines (6)

Project Evaluation Criteria

- **Water Supply Benefit**
- **Cost/Rate Impact**
- Timing
- Technical Feasibility
- Operation
- Reliability
- Readiness/Likelihood of Success
- Flexibility
- Jurisdiction/Partnership
- Permitting/Legal issues
- Environmental Impacts/Justice
- Public Acceptance
- Inter-dependence
- Risk/Challenges

Preliminary Unit Cost of Major Supply Projects

All costs are 2023 dollars

Project	Average Annual Supply (AF)	Capital Cost (M$)	Annual O&M (M$)	30 Year Lifecycle Cost Present Value* (M$)	Lifecycle Cost PV/ Supply PV ($/AF)
Potable Reuse - Palo Alto	8,000	782	14	1,169	7,842
Potable Reuse – San Jose	24,000	1,181	29	1,599	4,208
Refinery Recycled Project	8,000	265	9	445	2,834
Delta Conveyance Project	13,850	627	2.5	513	2,374
Sites Reservoir	380	10	0.05	10	1,270

* Project lifecycles vary, 30-year selected for comparison purpose

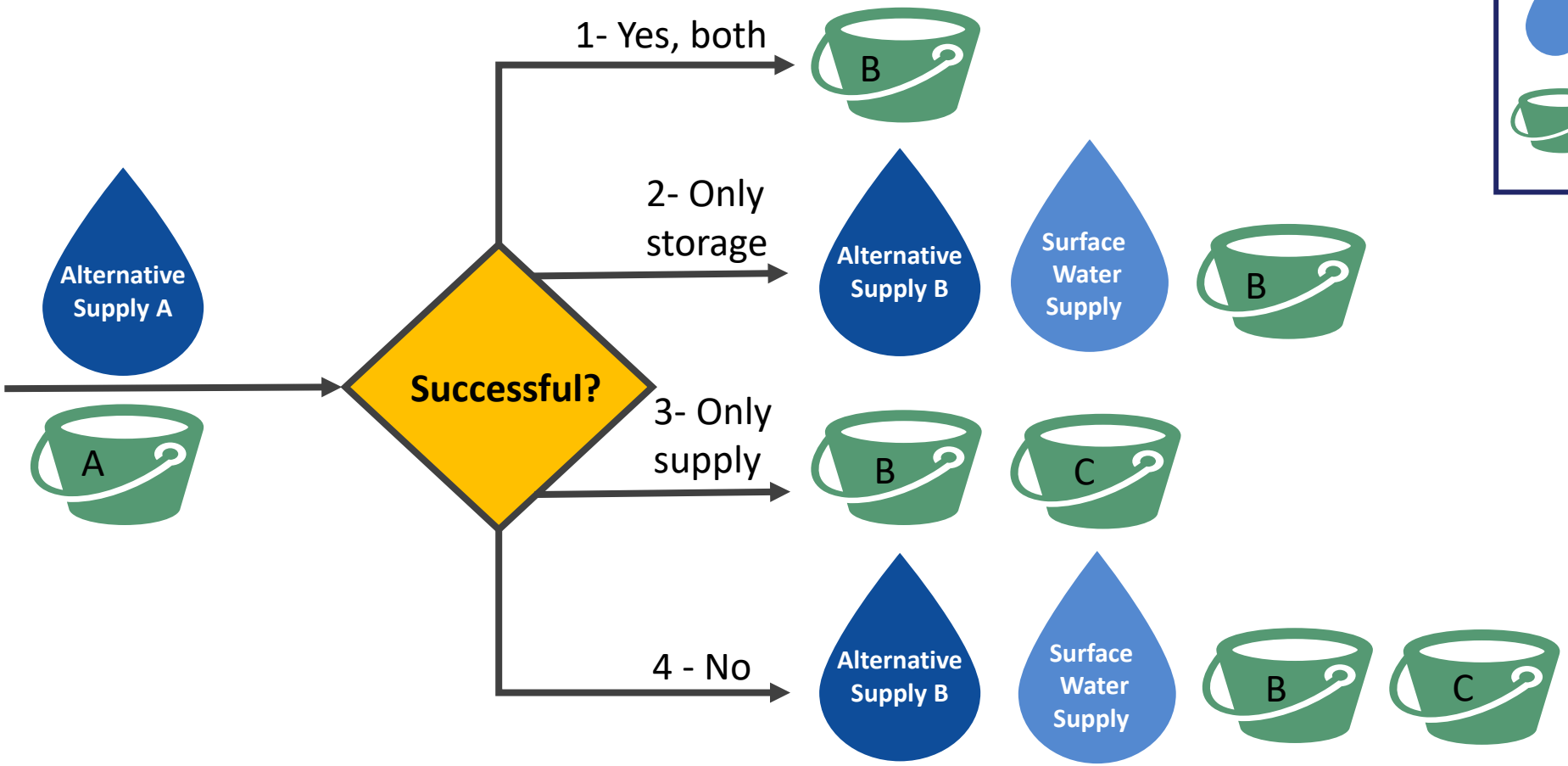
Preliminary Storage Capacity Cost of Major Storage Projects

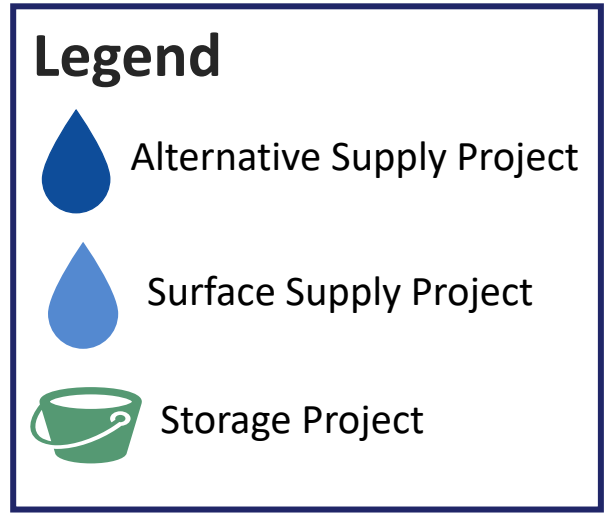
All costs are 2023 dollars

Project	Storage (AF)	Capital Cost (M$)	Annual O&M (M$)	30 Year Lifecycle Cost* (M$)	Lifecycle Cost /Storage Capacity ($/AF)
Pacheco Reservoir Expansion	134,000	2,210	2.5	2,700	20,149
B.F. Sisk Dam Raise	60,000	435	1.8	717	11,950
Los Vaqueros Expansion	30,000	100	3.8	258	8,600
Groundwater Banking	200,000	160	0.7	283	1,415

* Project lifecycles vary, 30-year selected for comparison purpose

Decision Tree





valleywater.org

Board/Committee Engagement Plan

- Board meeting and workshop
- Board Committees
  - Water Conservation and Demand Management Committee
  - Water Storage Exploratory Committee
  - Recycled Water Committee
- Advisory Committees/Stakeholder meetings
  - Agricultural Water Advisory Committee
  - Water Retailer Meeting
  - Environmental and Water Resources Committee
  - Water Commission Meeting
  - Youth Commission

Stakeholder Engagement Plan

- Retailer meetings
- WSMP webpage for update and contact
- Stakeholder email list, communication newsletter or other channels as ongoing opportunities for updates

Expert Panel

Provide independent review:

- Planning approach and framework
- Demand projection
- Project cost analysis
- Project evaluation
- Climate change analysis

WSMP Update Schedule

2023

- Establish overall framework and procedures
- Project/portfolio analysis and evaluation
- Stakeholder engagement

2024

- Portfolio analysis and recommendations
- Plan development
- Stakeholder outreach
- Plan adoption

Feedback Requested

- Planning goals
- Proposed strategies
- Planning approach
- Projects
- Evaluation criteria

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Santa Clara Valley Water District

File No.: 23-1031

Agenda Date: 10/16/2023
Item No.: 4.3.

COMMITTEE AGENDA MEMORANDUM
Environmental and Water Resources Committee

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

SUBJECT:
Review and Receive Updates on the Environmental and Water Resources Committee's Working Groups.

RECOMMENDATION:

A. Review and receive updates on the Environmental and Water Resources Committee's Working Groups, and

B. Provide comments to the Board on implementation of Valley Water's mission applicable to working groups' recommendations.

SUMMARY:
At the Committee's October 2021, meeting, the Committee approved the working groups' structure to align with the issues and policies that the Board of Directors has on their work plan and calendar for the fiscal year.

The Board will continue to keep the Committee informed of the working groups' activities and results.

This will be a standing agenda item.

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 Board 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, Board 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 Board's 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: 2023 EWRC Working Groups Spreadsheet

UNCLASSIFIED MANAGER:
Candice Kwok-Smith, 408-630-3193

FY 2023 EWRC Working Groups

PLEASE SIGN UP TODAY!

Working Group Number/Title	Member Name	Lead	Total Members
EWRC Oversight Manager: John Bourgeois, jbourgeois@valleywater.org, 1-408-630-2990			
1 INTEGRATED WATER RESOURCES MANAGEMENT:			
Valley Water Staff Liaison: Brian Mendenhall, bmendenhall@valleywater.org, 1-408-630-3093	Tess Byler Charles Ice Loren Lewis Elizabeth Sarmiento	Elizabeth	3
2 WATER SUPPLY:			
Valley Water Staff Liaison: Jing Wu, jwu@valleywater.org, 1-408-630-2330	Arthur M. Keller, Ph.D. Hon. Patrick S. Kwok Mike Michitaka Jim Piazza		4
3 NATURAL FLOOD PROTECTION:			
Valley Water Staff Liaison: Katie Muller, kmuller@valleywater.org, 1-408-630-2934	Arthur M. Keller, Ph.D. Mike Michitaka Charles Taylor		3
4 ENVIRONMENTAL STEWARDSHIP:			
Valley Water Staff Liaison: John Bourgeois jbourgeois@valleywater.org, 1-408-630-2990	Swanee Edwards Bob Levy Jim Piazza	Bob	3
5 CLIMATE CHANGE:			
Valley Water Staff Liaison: Brian Mendenhall, bmendenhall@valleywater.org, 1-408-630-3093	Bob Levy Elizabeth Sarmiento Charles Taylor	Bob	3

FY 2023 EWRC Working Groups

PLEASE SIGN UP TODAY!

Working Group Number/Title	Member Name	Lead	Total Members
Lead Member			

SPECIAL NOTES:

See 2021 EWRC Working Group Restructure Guidelines.

Members should limit the number of working groups they participate in because of possible Brown Act Violations (2-3 groups only).

Please Note: You will be sharing your phone number and email address with the other members when signing up for a working group.

When planning meetings, the Group Chair (Lead) should contact Glenna via email (gbrambill@valleywater.org) and John Bourgeois (jbourgeois@valleywater.org) with meeting date/time and location and how many members are expected to attend.

Santa Clara Valley Water District

File No.: 23-1032

Agenda Date: 10/16/2023
Item No.: 4.4.

COMMITTEE AGENDA MEMORANDUM
Environmental and Water Resources Committee

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

SUBJECT:
Review Environmental and Water Resources Committee Work Plan, the Outcomes of Board Action of Committee Requests; and the Committee's Next Meeting Agenda.

RECOMMENDATION:
Review the Committee work plan to guide the committee's discussions regarding policy alternatives and implications for Board deliberation.

SUMMARY:
The attached Work Plan outlines the topics for discussion to be able to prepare policy alternatives and implications for Board deliberation. The work plan is agendized 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 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.

ENVIRONMENTAL JUSTICE IMPACT:
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:
Attachment 1: EWRC 2023 Work Plan

UNCLASSIFIED MANAGER:
Candice Kwok-Smith, 408-630-3193

2023 Work Plan: Environmental and Water Resources Committee

Update: September 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 the District occur and are recommended for committee discussion. Subsequently, an annual committee accomplishments report is developed based on the work plan and presented to the District Board of Directors.

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING DATE	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
1	**Election of Chair and Vice Chair for 2023**	January 23	•Committee Elects Chair and Vice Chair for 2023. **(Action)**	**Accomplished January 23, 2023:** The Committee unanimously approved Loren Lewis as the 2023 Environmental and Water Resources Committee Chair and Charles Ice as the 2023 Environmental and Water Resources Committee Vice Chair.
2	**Annual Accomplishments Report**	January 23	•Review and approve 2022 Accomplishments Report for presentation to the Board. **(Action)**	**Accomplished January 23, 2023:** The Committee unanimously approved the 2022 Annual Accomplishments Report.
3	**Update Status of Working Groups**	January 23 April 17 August 21 October 16	•Receive updates on the status of the working groups. ***(Action)*** •Submit requests to the Board, as appropriate.	**Accomplished January 23, 2023, August 21, 2023:** The Committee received no updates from the Working Groups. **April 17, 2023:** The Committee meeting adjourned due to lack of quorum.
4	**Review of Environmental and Water Resources Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda**	January 23 April 17 August 21 October 16	•Receive and review the 2023 Board-approved Committee work plan**. (Action)** •Submit requests to the Board, as appropriate.	**Accomplished January 23, 2023, August 21, 2023:** The Committee received updates and reviewed the 2023 Board-approved Committee work plan and took no action.

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING DATE	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
				April 17, 2023: The Committee meeting adjourned due to lack of quorum.
5	**Standing Items Report Fiscal Year 2023 Goals and Strategies:**	January 23 August 21	•Receive quarterly reports on standing items. **(Information)**	**Accomplished January 23, 2023, and August 21, 2023:** The Committee received updates on the standing items and took no action.

GOAL	OBJECTIVE	FY23 TACTICS	MONITORING COMMITTEE
INTEGRATED WATER RESOURCES MANAGEMENT ***"Efficiently manage water resources across business areas."***	*Objective #1 Challenge/Opportunity* *The maintenance of Valley Water's infrastructure is crucial to ensuring we continue to provide safe, clean water and critical flood protection for our communities. Timely maintenance is the most cost-effective investment, whereas deferred maintenance disproportionately increases costs and causes unplanned outages and failures risking the population of the county. In addition, aging assets are reaching the end of the design life and will require major recapitalization.*	• Develop a Fuel Management Policy to guide the incorporation of wildfire planning efforts in an integrated and programmatic way. • Continue a robust preventive maintenance program including monitoring asset condition and risk. • Strategically plan for larger infrastructure renewal projects through Safe Clean Water Project F8 – Sustainable Creek Infrastructure for Continued Public Safety; Water Treatment Plant, Distribution System, and SCADA Implementation Plans; Watersheds and Water Utility Operations and Maintenance Plans; and various Asset Management Plans. • Advance infrastructure renewal projects identified in strategic planning efforts by initiating new Capital or Small Capital Projects, or by conducting work as part of ongoing operations projects. • Develop comprehensive infrastructure master plans for all water utility treatment plant and distribution infrastructure (e.g. pipelines and pump stations) to plan out 30-year capital investments that meet future regulatory requirements, and fold in projects identified in the Asset Management and Operations & Maintenance Plans. • Expedient execution of the adopted Capital program and projects.	Board Policy and Planning Committee (BPPC) CIP Committee (CIPC)
	Objective #2 Challenge/Opportunity *Valley Water continues to pursue legislative and administrative solutions to resolve regulatory and permitting issues at the federal and state levels. The Board's efforts will continue to focus on improving internal capacity when applying for permits, as well as continuing to build*	• Continue to provide for agency-wide regulatory planning and permitting effort and pursue other efforts at the state and federal level to expedite permit review. •Continue to foster better relationships with regulatory agencies and open dialogue with environmental, environmental justice and other stakeholders.	BPPC

Yellow = Update Since Last Meeting
Blue = Action taken by the Board of Directors

	relationships with regulatory agencies and staying abreast of the regulatory environment.	•Continue to work with the Regional Water Quality Control Board (RWQCB) under the terms of our memorandum of understanding (MOU) to expedite issue resolution and prevent regulatory overreach. •Collaborate with RWQCB on the Steelhead Regional Temperature Study.	
WATER SUPPLY ***"Provide a reliable, safe, and affordable water supply for current and future generations in all communities served."***	*Objective #1 Challenge/Opportunity* *Half of Santa Clara County's water supply is imported from outside the county. At this time, when there is a lot of water, Valley Water may not be able to take advantage of these supplies due to limitations in existing storage and transmission infrastructure as well as regulatory constraints. Having a diverse portfolio of storage options helps Valley Water be resilient. Therefore, Valley Water is evaluating whether diversifying its storage portfolio could help maximize our use of storage and stored water recovery under future conditions. Water storage in reservoirs also provides environmental, recreational, and incidental flood risk reduction benefits. Challenges include determining the appropriate level of participation for Valley Water in collaborative water storage projects and prioritizing projects within funding constraints.*	•Explore opportunities to develop new surface and groundwater storage projects that help Valley Water meet future water supply needs and be resilient to climate change. •Determine level of participation for projects and decisions about partnerships in accordance with the Water Supply Master Plan and water affordability. •Explore partnership opportunities for the Pacheco Reservoir Expansion Project •Validate Valley Water's continued participation in the Pacheco Reservoir Expansion Project during the MAP review process, bi-annual budget development, and following review and certification of the project's Environmental Impact Report (EIR).	Water Storage Exploratory Committee (WSEC)
	Objective #2 Challenge/Opportunity *The Water Supply Master Plan's "Ensure Sustainability" strategy includes securing existing water supplies and infrastructure. Valley Water's local and imported water supplies are vulnerable to climate change impacts, droughts, earthquake, and regulatory requirements that may restrict the amount of available water.*	•Participate in and influence decisions regarding the Delta Conveyance Project. •Participate in regional water supply resilience efforts. •Build and maintain effective partnerships to increase resiliency. •Complete and implement infrastructure master plans and asset management plans. •Partner with the California Department of Water Resources (DWR) to ensure reliability of the South Bay Aqueduct.	Water Conservation and Demand Management Committee (WCaDMC) (Groundwater) CIPC (infrastructure projects)
	Objective #3 Challenge/Opportunity *Recycled and purified water is a drought resilient, locally controlled water supply important to long-term sustainability. The Water Supply Master Plan includes developing up to 24,000 acre-feet per year of purified water by 2040. Purified water is recycled water that has been treated further using reverse osmosis and other advanced treatment to make it fit for drinking. Valley Water is pursuing indirect potable reuse which would use this purified water to replenish our groundwater. Implementation challenges include securing wastewater supply contractual agreements with wastewater agencies, available land, stringent regulatory requirements, and implementation costs.*	•Implement the first phase of the Purified Water Program, including release of a Request For Proposal (RFP) and enter into a contract for an Indirect Potable Reuse project that is implemented via a Public Private Partnership. • Implement the Countywide Water Reuse Master Plan. • Develop a Comprehensive Water Reuse Agreement for South County to advance water reuse and its production, distribution, and wholesaling in South County. • Continue to actively be involved with the Direct Potable Reuse (DPR) guidance and ensure Valley Water is positioned to implement a DPR project in the future. • Continue collaboration on the Silicon Valley Advanced Water Purification Center including building a strong collaborative relationship with the San José-Santa Clara Regional Wastewater Facility to expand the facility.	Recycled Water Committee (RWC)

	Objective #4 Challenge/Opportunity *As our largest reservoir, Anderson serves not only as a critical water supply facility, but also supports Valley Water's mission of flood protection and environmental stewardship. Given the reservoir's critical importance to ensuring safe, clean water for our communities and to protect public safety, it is imperative that the Anderson Dam Seismic Retrofit Project (ADSRP) move forward expeditiously. This includes the reconstruction of the Dam and completion of the interim risk reduction measures resulting from the February 20, 2020, directive from the Federal Energy Regulatory Commission (FERC).*	• Maintain the Anderson Reservoir level at the FERC directed level. • Complete the construction on the Anderson Dam Tunnel Project (ADTP). • Complete the design of the ADSRP. • Continue to work with appropriate regulatory agencies to advance the ADSRP. • Release the Draft Environmental Impact Report for the ADSRP. • Obtain all necessary permits for ADSRP construction. • Continue to educate and engage the public, key stakeholders, decision makers, and elected officials of the project progress and construction timeline. • Coordinate long term ADSRP operations with the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE).	CIPC Stream Planning and Operations Committee (SPOC)
	Objective #5 Challenge/Opportunity *Droughts are a recurring feature of California's climate and may intensify with climate change. Water conservation is an essential component in providing a reliable water supply and Valley Water has set a water conservation goal for annual water savings of 99,000 acre-feet (AF) by 2030 and 109,000 AF by 2040. As Valley Water faces challenges from climate change and drought, water conservation will continue to be amongst the most cost-effective tools for efficiently meeting current and future demands while mitigating droughts.*	• Continue communication and educational outreach to promote Valley Water's water conservation programs. • Increase collaboration with our retailer partners to promote Valley Water's water conservation programs. • Implement new water conservation programs and engagement strategies identified within the Water Conservation Strategic Plan. • Engage and support private-sector stakeholders, local, state, and federal agencies that promote water conservation. • Develop and implement a Drought Response Plan with support and input from our retailer partners and the broader community to guide short-term behavioral changes during water shortages.	WCaDMC
NATURAL FLOOD PROTECTION **"Provide Natural Flood Protection to reduce risk and improve health and safety."**	Objective #1 Challenge/Opportunity *Valley Water is challenged to sustain ecosystem health while managing local water resources for flood protection and water supply. By using an integrated approach to planning and designing flood protection planning, there is an opportunity to create projects with multiple benefits.*	• Make significant progress on One Water plans for the Guadalupe and Pajaro watersheds. • Complete construction of Reaches 1-3 of the Shoreline Phase I Project and pursue funding alternatives for Reaches 4-5 to provide 100-year coastal flood risk management, ecosystem restoration, recreational opportunities, and resiliency for sea level rise. • Complete construction of Phase 2A of the Upper Llagas Flood Protection Project to provide flood protection and habitat enhancement. • Advance the Palo Alto Flood Basin Project into construction, a repair project to ensure a functional flood basin with wetland habitat. • Advance the Sunnyvale East/West Channels Project into construction to provide 100-year storm water flood protection. • Compete the U.S. Army Corps of Engineers Upper Guadalupe River Project General Reevaluation Study to provide 100-year flood protection. • Advance the San Francisquito Creek upstream 101 Project into construction to provide flood protection.	CIPC BPPC

		• Advance the Coyote Creek Flood Mitigation and Flood Protection Projects into construction to provide flood protection for an event equivalent to the 2017 storm event.	
	Objective #2 Challenge/Opportunity *As Valley Water continues to advance flood protection projects, the Board has an opportunity to strengthen relationships and improve coordination with conservation and environmental justice groups, as well as other local jurisdictions, with a specific focus on ensuring the voices of disadvantaged communities are equitably represented.*	• Advance One Water Countywide Framework in a comprehensive manner that includes diverse community-wide stakeholders and the incorporation of environmental justice policies in all planning efforts. • Continue progress on flood protection capital projects consistent with Valley Water's commitment to the Safe, Clean Water Program and equitability in all regions. • Plan flood risk reduction projects to provide a minimum level of protection countywide.	CIPC BPPC
ENVIRONMENTAL STEWARDSHIP ***"Sustain ecosystem health while managing local water resources for flood protection and water supply."***	*Objective #1 Challenge/Opportunity* *Valley Water's projects and programs require integrated planning to ensure capital improvements, operations, and maintenance activities are balanced with environmental stewardship goals. Valley Water strives to protect and restore habitats to support native species throughout Santa Clara County.*	• Continue to develop an integrated water resource plan for each watershed, including appropriate metrics to monitor Valley Water's impacts on and benefit to the environment. • Implement high priority actions included in the Climate Change Action Plan. • Make significant progress on the grant-funded planning study for the San Tomas Aquino Calabazas Creek Realignment Project. • Advance construction for the Bolsa Creek and Hale Creek projects to begin in Summer 2022. • Advance Almaden Lake Improvement Project to begin construction in 2023. • Continue to develop and build on partnerships with environmental organizations and tribal communities when developing projects.	BPPC
	Objective #2 Challenge/Opportunity *Valley Water continues to coordinate with local cities and agencies to improve the health of our local waterways, including pollution prevention and addressing threats to water quality. Opportunities exist to further collaborate with the County, cities, and social services agencies on encampment abatement efforts and to develop long-term solutions for the homeless to keep our creeks clean.*	• Continue efforts to protect the ecosystem and water quality of our water Bodies and the integrity of our infrastructure. Such efforts include preventing stormwater pollution, increased implementation of green stormwater infrastructure, addressing mercury pollution, and homeless encampment clean ups. • Coordinate with the County, cities, and other service providers to try to ensure the permanent removal of homeless encampments from creeks and trails. • Continue partnerships and investments on a regional scale such as the South Bay Salt Pond Restoration and Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP).	Environmental Creek Cleanup Committee (ECCC) (SPOC)
	Objective #3 Challenge/Opportunity *For nearly 20 years, Valley Water has been working to resolve a water rights complaint surrounding fish, wildlife, water quality, and other beneficial uses in Coyote Creek, Guadalupe River, and Stevens Creek watershed areas. Challenges include completing the environmental review process, obtaining federal and state permits from multiple regulatory agencies, refining and processing water rights change petitions, the technical complexity of the fisheries impacts analysis, coordination with*	• Finalize the June 2021 Guadalupe River and Stevens Creek Environmental Impact Report (EIR) consistent with existing stakeholder agreement. • Advance 10 water right change petitions for securing water right orders. • Continue to implement the pilot flow program in Guadalupe and Stevens Creek. • Continue to implement feasibility studies, monitoring activities, and Planning and construction of various fish passage improvements as identified in existing stakeholder agreement. • Continue fisheries monitoring program.	SPOC

	other ongoing related projects and managing stakeholder expectations.	• Continue to support an adaptive management program that encompasses all three creeks.	
CLIMATE CHANGE ***"Mitigate Carbon Emissions and Adapt Valley Water Operations to Climate Change Impacts."***	*Objective #1 Challenge/Opportunity* *Valley Water's ability to fulfill its mission will be challenged in the future by warmer temperatures, changing precipitation patterns, reduced snowpack, and rising sea levels. Valley Water has been working on greenhouse reduction efforts since 2008 and many adaptation actions over the past decade; however, with adoption of the Climate Change Action Plan there is an opportunity for greater impact.*	•Update carbon accounting and establish new emissions reduction goal if needed. •Make significant progress on development of an agency-wide greenhouse gas reduction plan.	Climate Adaptation and Sustainability Committee (CAaSC)
BUSINESS MANAGEMENT ***"Promote effective management of water supply, flood protection, and environmental stewardship through responsive and socially responsible business services."***	*Objective #1 Challenge/Opportunity* *Valley Water is committed to creating and maintaining a diverse, inclusive, and equitable work environment that is devoid of discrimination and harassment and provides equal opportunity employment and advancement. Valley Water aims to implement the same values in the community through its flood protection, water supply, and environmental stewardship projects, and has an opportunity to serve as a leader for racial equity, diversity, and inclusion throughout the state.*	•Develop and implement a Diversity, Equity and Inclusion Master Plan that institutes best practices to address internal and external disparities and builds an organizational culture that is consistent with the Board's Resolution addressing racial equity, diversity, and inclusion. • Remain committed to environmental justice and the fair treatment and meaningful engagement of all people regardless of race, color, national origin, religion, gender identity, disability status, tribe, culture, income, immigration status, or English language proficiency, with respect to the planning, projects, policies, services, and operations of Valley Water. • Continue to collaborate with external stakeholders that are engaged in developing diversity, equity, and inclusion initiatives and actively participate in and provide leadership for diversity, equity, and inclusion efforts throughout the state. • Advance and foster mutually beneficial partnerships with regional tribal communities.	Diversity & Inclusion Ad Hoc Committee (DIAHC)

6	**One Water Plan – Guadalupe and Upper Pajaro Watershed Plans' Metrics, Targets, and Prioritization Criteria**	April 17	•Receive information on the metrics and targets, and prioritization criteria for the Guadalupe and Upper Pajaro Watershed Plans. **(Action)** •Provide feedback to staff.	**April 17, 2023:** The Committee meeting adjourned due to lack of quorum.
7	**Update on Valley Water's Encampment Cleanup Operations**	April 17	•Receive an update on Valley Water's Encampment Cleanup Operations. **(Information)**	**April 17, 2023:** The Committee meeting adjourned due to lack of quorum.
8	**Provide Feedback to the Board Policy and Planning Committee on the Committee's Purpose and Accomplishments and Suggest Areas of Improvement**	April 17	•Review feedback provided to the Board Policy and Planning Committee on February 6, 2023, by the Board Advisory Committees' Chairs/Vice Chairs on the Committees'	**April 17, 2023:** The Committee meeting adjourned due to lack of quorum.

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			purposes and accomplishments, and suggest areas of improvement **(Action)** •Provide additional feedback for BPPC consideration.	
9	**Flood-Managed Aquifer Recharge Preliminary Feasibility Study for Santa Clara County**	August 21	•Receive a presentation on the Flood-Managed Aquifer Recharge Preliminary Feasibility Study for Santa Clara County. **(Information)**	**Accomplished August 21, 2023:** The Committee received a presentation on the Flood-Managed Aquifer Recharge Preliminary Feasibility Study for Santa Clara County. and took no action.
10	**Drought Response Plan - Draft Drought Triggers and Actions**	August 21	•Receive and discuss Drought Response Plan Update. **(Action)**	**Accomplished August 21, 2023:** The Committee received and discussed the Drought Response Plan Update and took no action.
11	**Fisheries Improvements Progress**	October 16	•Receive information on the Fisheries Improvements Progress. **(Information)**	
12	**Water Supply Master Plan Update**	October 16	•Receive and discuss the Water Supply Master Plan Update**.** **(Action)**	
13	**Review Fiscal Year 2023-2024 Board Work Plan**	October 16	•Review Fiscal Year 2023-2024 Board Work Plan **(Information)**	

BOARD WORK PLAN GOALS:

1. **Integrated Water Resources Management** - Goal: Efficiently manage water resources across business areas.
2. **Water Supply** – Goal: Provide a reliable, safe, and affordable water supply for current and future generations in all communities served.
3. **Natural Flood Protection –** Goal: Provide natural flood protection to reduce risk and improve health and safety.
4. **Environmental Stewardship** – Goal: Sustain ecosystem health while managing local water resources for flood protection and water supply.
5. **Addressing Encampment of Unsheltered People** – Goal: Humanely assist in the permanent relocation of unsheltered people on Valley Water lands along waterways and at water supply and flood risk reduction facilities in order to address the human health, public safety, operational, and environmental challenges posed by encampments.
6. **Climate Change** – Goal: Mitigate carbon emissions and adapt Valley Water operations to climate change impacts.
7. **Business Management** – Goal: Promote effective management of water supply, flood protection, and environmental stewardship through responsive and socially responsible business services.

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Santa Clara Valley Water District

File No.: 23-1033

Agenda Date: 10/16/2023
Item No.: 5.1.

COMMITTEE AGENDA MEMORANDUM
Environmental and Water Resources Committee

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

SUBJECT:
Review Fiscal Year 2023-2024 Board Work Plan.

RECOMMENDATION:
Review the Board's work plan to guide the committee's discussions regarding policy alternatives and implications for Board deliberation.

SUMMARY:
The attached Work Plan outlines the Board-approved topics for discussion to be able to prepare policy alternatives and implications for Board deliberation.

BACKGROUND:
In May 3, 2023, the Board conducted its annual planning session to evaluate and refine goals, objectives, challenges, and opportunities and identify the specific areas requiring tactical engagement and monitoring during Fiscal Year 2023-2024 (FY24).

During the strategic planning session, the Board participated in a facilitated discussion and received staff recommendations for the FY24 Board Work Plan. After providing comments and feedback, the Board directed the Board Policy and Planning Committee (BPPC) to review the information collected and develop a draft FY24 Board Work Plan, in collaboration with staff, for Board review and approval.

The BPPC met June 5, 2023, to provide input on the draft FY24 Board Work Plan, and the Board approved their work plan on June 24, 2023.

ENVIRONMENTAL JUSTICE IMPACT:
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:

Attachment 1: Board's FY24 Work Plan

UNCLASSIFIED MANAGER:
Candice Kwok-Smith, 408-630-3193

Valley Water

FY 2023-24

Board Work Plan

Board's Work Plan 2023–2024

Valley Water

Chair's Message

At the Santa Clara Valley Water District, we manage a complex water resource system that provides clean, safe water, flood protection and stewardship of streams and creeks to about 2 million residents and businesses here in Santa Clara County.

As elected officials, we are tasked with balancing the needs of our constituents and the county-wide challenges we face including our aging infrastructure, the need for storage capacity and federal funding for both our water supply and flood protection projects. While the goals identified in our Board Governance Policies provide guidance to achieve Valley Water's mission, the Board's work plan is a roadmap for the year ahead. It also helps us provide appropriate financial resources and staff through our budget process.

Part of our annual strategic planning process, my fellow board members and I have identified specific areas that we will be monitoring closely and engaging as necessary. We believe diversifying our water supply portfolio through recycled and purified water efforts and partnerships and pursuing storage opportunities will ensure water supply during this drought and the next one. At the same time, reducing flood risks and preparing our county for emergencies will remain top of mind. This year we have added a goal to assist in the relocation of unsheltered people along Valley Water's waterways and to enhance collaboration with countywide agencies to find solutions to homelessness.

While our role is as policy makers, we will continue to engage in discussions through board committees, provide direction, and monitor progress in the focus areas. We also remain committed to supporting diversity, equity and inclusion initiatives to attract and maintain our valued workforce.

I am honored to lead my fellow board members during these challenging times and together, we'll continue to focus on providing safe, secure and equitable water for everyone in Santa Clara County.

John L. Varela
Board Chair
Santa Clara Valley Water District

Valley Water

Founded in 1929, the Santa Clara Valley Water District (Valley Water) is the primary water resources agency for Santa Clara County, with key water supply, water quality, flood protection, and environmental stewardship responsibilities.

Valley Water Mission

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

Values

1. Valley Water is entrusted to serve the public by carrying out its mission for the benefit of the community.
2. Valley Water is committed to providing excellent service to all customers.
3. All individuals are unique and important, and will be treated with fairness, dignity, and respect.
4. Valley Water takes pride in its work and is accountable to carry out its responsibilities safely with honesty and integrity.
5. Initiative, leadership, personal development, and training are vital for continuous improvement.
6. Open communication, cooperation, and teamwork are shared responsibilities and essential to the successful performance of Valley Water's work.
7. Valley Water is committed to creating an inclusive work environment, which reflects and supports the diversity of the community and enriches our perspectives.
8. Valley Water strives to support a work culture and workplace environment that attracts and retains superior employees empowered to make decisions about, and take responsibility for, how they do their jobs.
9. Valley Water is committed to its employees and supports market-based competitive compensation that is equitable and rewards accomplishment and encourages high performance.
10. Valley Water is committed to sustaining a healthy work-life balance for its employees and places a high value on all the things that provide enrichment and fulfillment, including work and career, health and fitness, family and relationships, spirituality, community service, hobbies and passions, intellectual stimulation, rest and recreation.

Board of Directors

The Santa Clara Valley Water District Board of Directors (Board) is comprised of seven members, each elected from equally-divided districts. Specific job outputs of the Board include connecting with the community in Santa Clara County, developing policies to further Valley Water's mission, and monitoring the performance of the organization.

The Board governs with an emphasis on outward vision, encouragement of diversity in viewpoints, strategic leadership more than administrative detail, and proactivity rather than reactivity.

The Board meets twice a month on the second and fourth Tuesday. All meetings are conducted in accordance with the Brown Act.

Left to right: Tony Estremera, District 6; Nai Hsueh, District 5; Richard P. Santos, District 3; John L. Varela, District 1; Barbara Keegan, District 2 ; Jim Beall, District 4; Rebecca Eisenberg, District 7

Board Committees

The Board of Directors has established Board Committees to assist in performing its job. Committees meet regularly and are conducted in accordance with the Brown Act.

- Agricultural Water Advisory Committee
- Board Audit Committee
- Board Ethics and Conduct Ad Hoc Committee
- Board Policy and Planning Committee
- Capital Improvement Program (CIP) Committee
- Diversity and Inclusion Ad Hoc Committee
- Environmental and Water Resources Committee
- Environmental Creek Cleanup Committee
- Joint Recycled Water Committee with the City of Sunnyvale
- Joint Recycled Water Policy Advisory Committee with the Cities of San Jose and Santa Clara (TPAC)
- Joint Recycled Water Policy Committee with the Cities of Palo Alto, East Palo Alto, and Mountain View
- Joint Water Resources Committee with the Cities of Morgan Hill and Gilroy
- Recycled Water Committee
- San Felipe Division Reach One Committee
- Santa Clara Valley Water Commission
- Santa Clara Valley Water District Youth Commission
- Stream Planning and Operations Committee (SPOC)
- Water Conservation and Demand Management Committee
- Water Storage Exploratory Committee

Purpose of the Board Work Plan

The purpose of the Fiscal Year 2023-2024 Board Work Plan is to inform the public, community and stakeholders about the Board's strategic focus and how it supports Valley Water's mission and long-term goals and objectives.

To perform its job, the Board adheres to established Board Governance Policies. Included in the Board Governance Policies are Ends Policies, which are long-term goals and objectives for each of Valley Water's core business areas (Water Supply, Natural Flood Protection, Water Resources Stewardship, and Climate Change Mitigation and Adaptation).

Every year, the Board conducts planning sessions to evaluate their goals, objectives, challenges, and opportunities, and identifies the specific areas requiring tactical engagement for the upcoming fiscal year. The Board outlines their focus areas and process for monitoring progress in the Board Work Plan.

Throughout the year, the Board provides input, direction, and oversight on Valley Water's budget, Capital Improvement Program, and other program plans and master plans to ensure there is funding and support to accomplish Valley Water's mission. A strategy implementation is monitored by the Board through Executive Limitation requirements, staff-developed programs and plans, assigned Board Committee work, and Board Appointed Officer performance evaluations.

FY 2023–24 Board Work Plan Goals

Integrated Water Resources Management

GOAL:

Efficiently manage water resources across business areas.

Water Supply

GOAL:

Provide a reliable, safe, and affordable water supply for current and future generations in all communities served.

Natural Flood Protection

GOAL:

Provide natural flood protection to reduce risk and improve health and safety.

Environmental Stewardship

GOAL:

Sustain ecosystem health while managing local water resources for flood protection and water supply.

Addressing Encampments of Unshelterd People

GOAL:

Humanely assist in the permanent relocation of unsheltered people on Valley Water lands along waterways and at water supply and flood risk reduction facilities in order to address the human health, public safety, operational, and environmental challenges posed by encampments.

Climate Change

GOAL:

Mitigate carbon emissions and adapt Valley Water operations to climate change Impacts.

Business Management

GOAL:

Promote effective management of water supply, flood protection, and environmental stewardship through responsive and socially responsible business services.

INTEGRATED WATER RESOURCES MANAGEMENT

GOAL: *Efficiently manage water resources across business areas.*

Objective 1	Protect and maintain existing assets and infrastructure and advance new projects.
Challenge/ Opportunity	The maintenance of Valley Water's infrastructure is crucial to ensuring we continue to provide safe, clean water and critical flood protection for our communities. Timely maintenance is the most cost-effective investment, whereas deferred maintenance disproportionately increases costs and may result in unplanned outages and failures. In addition, there is a list of assets that are reaching the end of their design life and will require significant recapitalization.
FY24 Tactics	• Develop a Fuel Management Policy to guide the incorporation of wildfire planning efforts in an integrated and programmatic way. • Continue a robust preventive maintenance program including monitoring asset condition and risk. • Strategically plan for larger infrastructure renewal projects through Safe Clean Water Project F8 – Sustainable Creek Infrastructure for Continued Public Safety; Water Treatment Plant, Distribution System, and SCADA Master Plan Implementation Projects; Watersheds and Water Utility Operations and Maintenance and Asset Renewal Plans; and other Asset Management Plans. • Advance infrastructure renewal projects identified in strategic planning efforts by initiating new Capital or Small Capital Projects, or by conducting work as part of ongoing operations projects. • Expediently execute adopted Capital program and projects.
Monitoring	• Board Policy and Planning Committee • Capital Improvement Program Committee
Related Staff Plans	• Safe, Clean Water and Natural Flood Protection Program • Water Treatment Plant Master Plan Implementation Project • Distribution System Master Plan Implementation Project • SCADA Master Plan Implementation Project • Watersheds and Water Utility Five-Year Operations and Maintenance and Asset Renewal Plans • District-wide Asset Management Plan • Watershed Asset Management Plan • San Felipe Division Reach 1 FY23 Asset Condition Report • Capital Improvement Program FY 2024-28 Five-Year Plan

INTEGRATED WATER RESOURCES MANAGEMENT

Objective 2	Improve internal capability to negotiate and acquire regulatory permits.
Challenge/ Opportunity	Valley Water continues to face increased project costs and extended timelines due to sometimes conflicting regulatory mandates from external agencies. Valley Water continues to pursue legislative and administrative solutions to resolve regulatory and permitting issues at the federal and state levels. Efforts should focus on staff capability and expertise, and the ability to negotiate effectively and build positive relationships with key regulatory agencies.
FY24 Tactics	• Continue to pursue efforts at the state and federal level to expedite permit review. • Keep local, state, and federal legislators up to date on critical projects in case escalation is necessary. • Continue to foster relationships at all levels within regulatory agencies and maintain an open dialogue with environmental and other stakeholders. • Continue to work with the Regional Water Quality Control Board (RWQCB) and the State Water Quality Control Board (SWQCB) under the terms of our Memorandum of Understanding (MOU) to ensure that they protect water supply interests consistent with their authority.
Monitoring	• Board Policy and Planning Committee • Capital Improvement Program Committee • Stream Planning and Operations Committee
Related Staff Plans	• One Water Plan

INTEGRATED WATER RESOURCES MANAGEMENT

Objective 3	**Educate the community, elected officials, and external stakeholders on our management of water resources in Santa Clara County.**
Challenge/ Opportunity	A reliable supply of clean water is necessary for the social, economic, and environmental wellbeing of Santa Clara County. Valley Water must effectively communicate with the public on our management of water resources around several key issues including: the cost of water, the public perception of costs of different types of water, how to effectively implement our water supply strategies into the future, as well as our flood protection and environmental stewardship efforts.
FY24 Tactics	• Continue to apply strategies for effective community/stakeholder engagement and education. • Continue to develop and refine metrics to understand and improve the return on investment (ROI) of outreach strategies. • Continue increasing efforts to educate the public about the mix of different types of water in Valley Water's portfolio, as well as our flood protection and environmental stewardship efforts. • Engage directly with local government jurisdictions through strategic meetings. • Continue engagement with cities on flood plain management, Community Rating System (CRS) program, and emergency action plans. • Directly involve the Valley Water Board of Directors, local area partners, retailers, and the public with all water supply Master Plan development processes. Share the plan widely, and at the phase of a project where project alternatives are considered, key issues such as the cost of water, quality of water, reliability of our infrastructure, and strategies for implementing different improvement projects with varying levels of service will be explained through public meetings.
Monitoring	• Board of Directors • Capital Improvement Program Committee • Recycled Water Committee
Related Staff Plans	• Water Supply Master Plan • Countywide Water Reuse Master Plan • Water Treatment Plant Master Plan • Distribution System Master Plan

WATER SUPPLY

GOAL: *Provide a reliable, safe, and affordable water supply for current and future generations in all communities served.*

Objective 1	Pursue new and diversified water supply and storage opportunities.
Challenge/ Opportunity	Half of Santa Clara County's water supply is imported from outside the county. During years when there is a lot of water, Valley Water may not be able to take advantage of these supplies due to limitations in existing storage and transmission infrastructure as well as regulatory constraints. Having a diverse portfolio of storage options helps Valley Water be resilient. Therefore, Valley Water is evaluating whether diversifying its storage portfolio could help maximize our use of storage and stored water recovery under future conditions. Water storage in reservoirs also provides environmental, recreational, and incidental flood risk reduction benefits. Challenges include determining the appropriate level of participation for Valley Water in collaborative water storage projects and prioritizing projects within funding constraints. In addition, as part of the Water Supply Master Plan, Valley Water continues to pursue the "no regrets" package which addresses advanced metering infrastructure, Graywater Rebate Program expansion, leak repair incentives, New Development Model Ordinance, and stormwater capture (agricultural land recharge, stormwater recharge in San Jose and Saratoga, rain barrel rebates, and rain garden rebates).
FY24 Tactics	• Explore opportunities to develop new surface and groundwater storage projects that help Valley Water meet future water supply needs and be resilient to climate change. • Update the Water Supply Master Plan to provide information on participation levels, water supply benefits and costs of various portfolios to support water supply project and partnership decisions, including the "no regrets" package. • Determine level of participation for projects and decisions about partnerships in accordance with the Water Supply Master Plan and water affordability. • Pursue additional funding and partnership opportunities for the Pacheco Reservoir Expansion Project. • Evaluate Valley Water's continued participation in water storage projects during the MAP review process, bi-annual budget development, and other project-specific milestones. • Explore, evaluate, and make progress on additional stormwater capture feasibility as part of the "no regrets" package.
Monitoring	• Water Storage Exploratory Committee • Recycled Water Committee • Water Conservation and Demand Management Committee
Related Staff Plans	• Water Supply Master Plan • Annual Monitoring and Assessment Program (MAP) Updates • Stormwater Resource Plans

WATER SUPPLY

Objective 2	Secure existing water supplies and water supply infrastructure.
Challenge/ Opportunity	The Water Supply Master Plan's "Ensure Sustainability" strategy includes securing existing water supplies and infrastructure. Valley Water's local and imported water supplies are vulnerable to climate change impacts, droughts, earthquakes, and regulatory requirements that may restrict the amount of available water.
FY24 Tactics	• Participate in and influence decisions regarding the Delta Conveyance Project. • Participate in regional water supply resilience efforts. • Build and maintain effective partnerships to increase resiliency. • Complete and implement infrastructure master plans and asset management plans. • Partner with the California Department of Water Resources (DWR) to ensure reliability of the South Bay Aqueduct.
Monitoring	• Water Conservation and Demand Management Committee (Groundwater) • Capital Improvement Program Committee (infrastructure projects)
Related Staff Plans	• Water Supply Master Plan • Groundwater Management Plan • Infrastructure and Asset Management Plans

WATER SUPPLY

Objective 3	Lead purified water efforts with committed partners.
Challenge/ Opportunity	Recycled and purified water is a drought resilient, locally controlled water supply important to long-term sustainability. Purified water is recycled water that has been treated further using reverse osmosis and other advanced treatment to make it fit for drinking. Valley Water is pursuing indirect potable reuse which would use this purified water to replenish our groundwater. Implementation challenges include securing wastewater supply contractual agreements with wastewater agencies, available land, stringent regulatory requirements, and implementation costs.
FY24 Tactics	• Implement the first phase of the Purified Water Program, including release of a Request for Proposal (RFP) and enter into a contract for an Indirect Potable Reuse project that is implemented via a Public Private Partnership. • Implement the Countywide Water Reuse Master Plan. • Develop a Comprehensive Water Reuse Agreement for South County to advance water reuse and its production, distribution, and wholesaling in South County. • Continue to actively be involved with the Direct Potable Reuse (DPR) guidance and ensure Valley Water is positioned to implement a DPR project in the future. • Implement the Letter of Intent executed with the Cities of San José and Santa Clara to expand collaboration on the Silicon Valley Advanced Water Purification Center to develop a second potable reuse project. • Continue to pursue recycled water grant funding. • Continue to expand communications strategies to increase public awareness and acceptance of the Purified Water Program. • Increase outreach to key stakeholders such as elected officials, chambers of commerce, environmental groups, and community organizations to increase support for the expansion of purified water for potable reuse.
Monitoring	• Recycled Water Committee
Related Staff Plans	• Water Supply Master Plan • Countywide Water Reuse Master Plan

WATER SUPPLY

Objective 4	Complete the Anderson Dam Seismic Retrofit Project.
Challenge/ Opportunity	As our largest reservoir, Anderson serves not only as a critical water supply facility, but also supports Valley Water's mission of flood protection and environmental stewardship. Given the reservoir's critical importance to ensuring safe, clean water for our communities and to protect public safety, it is imperative that the Anderson Dam Seismic Retrofit Project (ADSRP) move forward expeditiously. This includes the reconstruction of the dam and completion of the interim risk reduction measures resulting from the February 20, 2020 directive from the Federal Energy Regulatory Commission (FERC).
FY24 Tactics	• Maintain the Anderson Reservoir level in compliance with the FERC mandate. • Continue the construction on the Anderson Dam Tunnel Project (ADTP). • Continue the design of the ADSRP. • Continue to work with appropriate regulatory agencies to advance the ADSRP. • Release the Draft Environmental Impact Report for the ADSRP. • Pursue necessary permits for ADSRP construction. • Continue to educate and engage the public, key stakeholders, decision makers, and elected officials of the project progress and construction timeline. • Coordinate ADSRP operations with the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE). • Compile lessons learned during the design, permitting and construction of the ADSRP to inform future capital project delivery.
Monitoring	• Capital Improvement Program Committee • Stream Planning and Operations Committee
Related Staff Plans	• Safe, Clean Water and Natural Flood Protection Program • Fish Habitat Restoration Plan • Coyote Feasibility Study • Water Supply Master Plan • Capital Improvement Program FY 2024-28 Five-Year Plan • Ogier Ponds Feasibility Study

WATER SUPPLY

Objective 5	Make water conservation a California way of life in Santa Clara County.
Challenge/ Opportunity	Droughts are a recurring feature of California's climate and may intensify with climate change. Water conservation is an essential component in providing a reliable water supply and Valley Water has set an aggressive water conservation goal for annual water savings of 99,000 acre-feet (AF) by 2030 and 109,000 AF by 2040. As Valley Water faces challenges from climate change and drought, water conservation will continue to be amongst the most cost-effective tools for efficiently meeting current and future demands while mitigating droughts.
FY24 Tactics	• Build on the recent drought's momentum and continue achieving water savings from the public and encouraging conservation as a way of life through year-round educational outreach, effective water conservation programs, and media campaigns. Continue enforcement program of water waste restrictions as needed. • Continue communication and educational outreach to promote Valley Water's water conservation programs. • Increase collaboration with our retailer partners to promote Valley Water's water conservation programs. • Implement new water conservation programs and engagement strategies identified within the Water Conservation Strategic Plan. • Engage and support private-sector stakeholders, local, state, and federal agencies that promote water conservation. • Develop and implement a Drought Response Plan with support and input from our retailer partners and the broader community to guide short-term behavioral changes during water shortages. • Ensure water conservation programs support disadvantaged community members. • Engage in opportunities and make efforts to obtain water use data from Valley Water retailers. • Expand outreach and engagement to local businesses and corporations so they can be more actively involved in water conservation efforts.
Monitoring	• Water Conservation and Demand Management Committee
Related Staff Plans	• Water Conservation Strategic Plan • Water Supply Master Plan • Safe, Clean Water and Natural Flood Protection Program

NATURAL FLOOD PROTECTION

GOAL: *Provide natural flood protection to reduce risk and improve health and safety.*

Objective 1	**Protect people and property from flooding by applying a comprehensive, integrated watershed management approach that balances environmental quality, sustainability, and cost.**
Challenge/ Opportunity	Valley Water is challenged to sustain ecosystem health while managing local water resources for flood protection and water supply. By using an integrated approach to planning and design, there is an opportunity to create flood protection projects with multiple benefits.
FY24 Tactics	• Strengthen partnerships with the county and local municipalities to improve collaboration and coordination on flood protection projects and areas that are subject to flooding. • Complete One Water plans for the Guadalupe and Pajaro watersheds. • Complete construction of Reaches 1-3 of the Shoreline Phase I Project and pursue funding alternatives for Reaches 4-5 to provide 100-year coastal flood risk management, ecosystem restoration, recreational opportunities, and resiliency for sea level rise. • Complete construction of Phase 2A of the Upper Llagas Flood Protection Project to provide flood protection and habitat enhancement; and finalize Natural Resources Conservation Service (NRCS) funding agreement and begin construction for Phase 2B. • Explore federal funding and grant opportunities to advance the Palo Alto Flood Basin Project into construction, a repair project to ensure a functional flood basin with wetland habitat. • Advance the Sunnyvale East/West Channels Project into construction to provide 100-year storm water flood protection. • Work with USACE to design Upper Guadalupe River Project to provide 100-year flood protection. • Continue to partner with the San Francisquito Joint Powers Authority (JPA) on the San Francisquito Creek upstream 101 Project. • Continue design and construction of the Coyote Creek Flood Mitigation and Flood Protection Projects. • Begin to evaluate and prioritize addressing areas in the county known to flood on a regular basis.
Monitoring	• Capital Improvement Program Committee • Board Policy and Planning Committee • Safe Clean Water and Natural Flood Protection Program Independent Monitoring Committee
Related Staff Plans	• One Water Plan • Safe, Clean Water and Natural Flood Protection Program

NATURAL FLOOD PROTECTION

Objective 2	**Provide flood protection equitably in all regions of the County, prioritizing disadvantaged communities.**
Challenge/ Opportunity	As Valley Water continues to advance flood protection projects, the Board has an opportunity to strengthen relationships and improve coordination with conservation and environmental justice groups, as well as other local jurisdictions, with a specific focus on ensuring the voices of disadvantaged communities are equitably represented.
FY24 Tactics	• Advance One Water Integrated Water Resources Master Plan through diverse community-wide stakeholder engagement for the Guadalupe and Upper Pajaro watersheds. • Continue progress on flood protection capital projects consistent with Valley Water's commitment to the Safe, Clean Water Program and equitability in all regions. • Plan flood risk reduction projects to provide a minimum level of protection countywide.
Monitoring	• Capital Improvement Program Committee • Board Policy and Planning Committee
Related Staff Plans	• One Water Plan • Safe, Clean Water and Natural Flood Protection Program

ENVIRONMENTAL STEWARDSHIP

GOAL: *Sustain ecosystem health while managing local water resources for flood protection and water supply.*

Objective 1	**Plan and design projects with multiple benefits, including protecting ecosystem functions, enhancing habitat, and improving connectivity, equitably in all regions of the County.**
Challenge/ Opportunity	Valley Water's projects and programs require integrated planning to ensure capital improvements, operations, and maintenance activities are balanced with environmental stewardship goals. Valley Water strives to protect and restore habitats to support native species throughout Santa Clara County.
FY24 Tactics	• Continue to develop an integrated water resource plan for each watershed, including appropriate metrics to monitor Valley Water's impacts on and benefit to the environment. • Complete Greenhouse Gas Reduction Plan as part of the Climate Change Action Plan implementation. • Make significant progress on the grant-funded planning study for the San Tomas Aquino Calabazas Creek Realignment Project (which includes Pond A4). • Complete construction of the Bolsa Creek Project by December 2023. • Initiate access improvements and beneficial reuse of sediment at Pond A4. • Continue to develop and build on partnerships with environmental organizations and tribal communities when developing projects.
Monitoring	• Board Policy and Planning Committee • Capital Improvement Program Committee
Related Staff Plans	• One Water Plan • Climate Change Action Plan

ENVIRONMENTAL STEWARDSHIP

Objective 2	**Protect creeks, bay, and other aquatic ecosystems from threats of pollution and degradation.**
Challenge/ Opportunity	Valley Water continues to coordinate with local cities and agencies to improve the health of our local waterways, including pollution prevention and addressing threats to water quality. Opportunities exist to further collaborate with the County, cities, and social services agencies on encampment management efforts and to develop long-term solutions for unhoused individuals to keep our creeks clean.
FY24 Tactics	• Continue efforts to protect the ecosystem and water quality of our water bodies and the integrity of our infrastructure. Such efforts include preventing stormwater pollution, increased implementation of green stormwater infrastructure, addressing mercury pollution, encampment clean ups, and other efforts under Safe Clean Water B and F priorities. • Continue partnership with City of San José to continue trash rafts removals. • Continue partnerships and investments on a regional scale such as the South Bay Salt Pond Restoration and Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). • Initiate Clean Camps Clean Creeks and portable toilet facility programs. • Finalize Memorandum of Agreement (MOA) with City of San José to manage encampments within stormwater Municipal Regional Permit (MRP) discharge sites on Coyote Creek. • Expand opportunities for volunteers to support cleanup efforts and events. • Support legislative efforts to eliminate or reduce waste entering waterways.
Monitoring	• Environmental Creek Cleanup Committee
Related Staff Plans	• One Water Plan • Santa Clara Valley Urban Runoff Pollution Prevention Program • Stormwater Resource Plan • Safe, Clean Water and Natural Flood Protection Program

ENVIRONMENTAL STEWARDSHIP

Objective 3	Complete and implement the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE) agreement.
Challenge/ Opportunity	For over 25 years, Valley Water has been working to resolve compliance challenges and disagreements surrounding fish, wildlife, water quality, and other beneficial uses in the Coyote Creek, Guadalupe River, and Stevens Creek watershed areas. Challenges to implementing the FACHE agreement include completing the environmental review process, obtaining federal and state permits from multiple regulatory agencies, refining and processing water rights change petitions, the technical complexity of the fisheries impacts analysis, coordination with other ongoing related projects, and managing stakeholder expectations.
FY24 Tactics	• Prioritize the implementation of the FAHCE agreement and related efforts as soon as possible. • Finalize the June 2021 Guadalupe River and Stevens Creek Environmental Impact Report (EIR). • Advance 10 water right change petitions for securing water right orders. • Continue to implement the FAHCE Plus pilot flow program in Guadalupe and Stevens Creek. • Continue to implement feasibility studies, monitoring activities, and planning for various fish passage and habitat improvements as identified in existing stakeholder agreement. • Continue fisheries monitoring program. • Continue to support an adaptive management program that encompasses all three creeks. • Continue coordination with the ADSRP project.
Monitoring	• Stream Planning and Operations Committee
Related Staff Plans	• Fish Habitat Restoration Plan for Coyote Creek, Guadalupe River, and Stevens Creek Watersheds • Seismic Retrofit Programs for Dam Safety • Aquatic habitat restoration plans/feasibility studies/site-specific improvements affecting all three watersheds (e.g., Countywide Large Woody Debris Program) • Collaborative agreements for in-stream habitat improvements (e.g., Singleton Fish Barrier Removal with City of San José, Ogier Pond Feasibility Study in collaboration with the County) • One Water Plan

ADDRESSING ENCAMPMENTS OF UNSHELTERED PEOPLE

GOAL: *Humanely assist in the permanent relocation of unsheltered people on Valley Water lands along waterways and at water supply and flood risk reduction facilities in order to address the human health, public safety, operational, and environmental challenges posed by encampments.*

Objective 1	**Collaborate with agencies and other service providers to address the challenges posed by encampments and their impacts to waterways, water supply, and flood risk reduction facilities, including supporting the provision of outreach, counseling, transitional or affordable housing, or other services by these agencies and service providers.**
Challenge/ Opportunity	The number of unsheltered individuals living in Santa Clara County has increased by 36 percent in the last five years, rising from 7,394 in 2017 to 10,028 in 2022, according to the Homeless Point-in-Time Count and Survey. In 2022, 77% of the unhoused population in the county were unsheltered, and Valley Water estimates that over 2,300 have taken refuge on Valley Water's property or land easements. The waterways in Santa Clara County are flashy, meaning seemingly small creeks quickly can turn into raging torrents, surprising unsheltered people often hidden in riparian vegetation and potentially resulting in drownings or serious injury. These riparian areas include threatened and endangered species, sensitive constructed and natural habitats, and public infrastructure that is critical to water supply, groundwater recharge, and flood risk reduction activities.
FY24 Tactics	• Coordinate with the County, cities, and other service providers in a regional approach to safely relocate unsheltered individuals living along waterways and at water supply and flood risk reduction facilities. • Initiate Clean Camps Clean Creeks and portable toilet facility programs. • Enhance Valley Water's participation in countywide collaboration efforts to address challenges associated with homelessness. • Implement MOA with Santa Clara County to provide outreach services to unsheltered individuals living within waterways and at water supply and flood risk reduction facilities countywide. • Implement MOA with City of San José to provide comprehensive services to unsheltered individuals living within the high-risk flood zones of the Coyote Creek project footprint. • Develop a framework from internal working group recommendations on both short- and long-term strategies to address the challenges posed by encampments of unsheltered people living on Valley Water lands along waterways and at water supply and flood risk reduction facilities. • Work to develop a method to track encampments located on Valley Water lands along waterways and at water supply and flood risk reduction facilities to measure effectiveness of collaborative efforts.
Monitoring	• Environmental Creek Cleanup Committee
Related Staff Plans	

ADDRESSING ENCAMPMENTS OF UNSHELTERED PEOPLE

Objective 2	**Collaborate with the County and municipal partners to secure the safety of unsheltered people living on Valley Water lands along waterways and at water supply and flood risk reduction facilities, as well as secure the safety of residential neighbors and Valley Water staff.**
Challenge/ Opportunity	There are a number of growing safety concerns and challenges for the large number of unsheltered individuals and families living in encampments along waterways and water resource facilities with many of these located in high-risk flood areas and vulnerable to the perils of rushing stormwaters in creeks, which can result in serious injury or fatalities. There are additional challenges, concerns and risks for Valley Water staff who work to manage encampment generated trash and debris as well as community members who reside in the proximity of existing encampments. Valley Water staff managing cleanup operations and maintenance of and around encampments are frequently exposed to weapons, biowaste, and dangerous animals (oftentimes off-leash dogs), and at times aggressive and intimidating behavior from unhoused individuals. Staff require support from jurisdictional police departments (PD) to provide a safe environment when carrying out cleanup and maintenance operations, which increases operational costs for added security and places limitations on the operation schedule contingent on PD availability, potentially causing delays in important services (such as facility inspections, vegetation management, flood protection, and biological surveys). Lastly, residential neighbors have a similar level of exposure to some of these dangers, including wildfire hazards that can occur from campfires, solar panels and use of propane tanks in vegetated areas.
FY24 Tactics	• Coordinate with the County and municipal partners, in a regional approach to identify lands to provide transitional or affordable housing or other services, allowing for unsheltered individuals and families to be safely relocated from flood risk areas, and reducing challenges for Valley Water staff performing operations and maintenance along waterways and at water supply and flood risk reduction facilities. • Continue working with the County, municipal partners and police departments to support Valley Water staff safety, as well as the public safety of unsheltered individuals and residential neighbors when conducting encampment cleanup operations and maintenance activities. • Continue to perform weed abatement and fuel reduction work around encampments to reduce wildfire risks. • Implement agreements with the County and municipal partners to provide outreach or other necessary services to unsheltered individuals living along waterways and at water supply and flood risk reduction facilities countywide.
Monitoring	• Environmental Creek Cleanup Committee
Related Staff Plans	

CLIMATE CHANGE

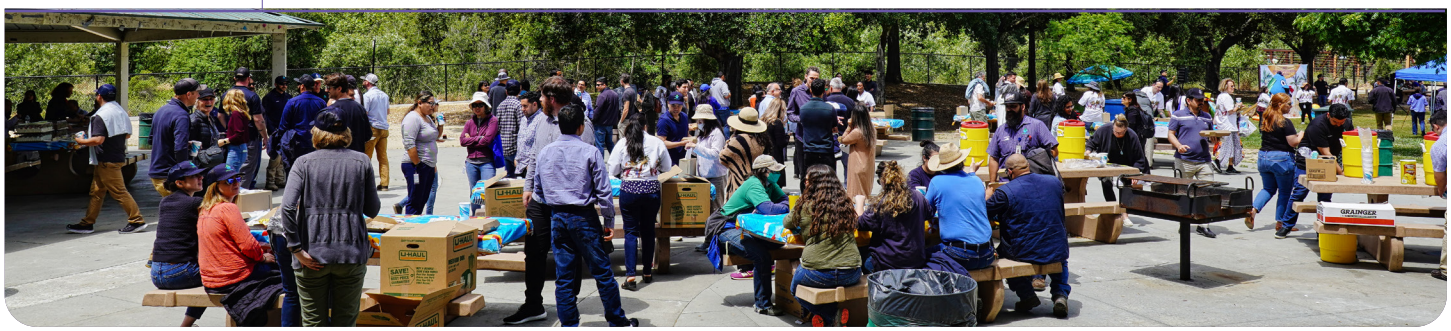
GOAL: *Mitigate carbon emissions and adapt Valley Water operations to climate change impacts.*

Objective 1	Address future impacts of climate change to Valley Water's mission and operations.
Challenge/ Opportunity	Valley Water's ability to fulfill its mission will be challenged in the future by warmer temperatures, changing precipitation patterns, reduced snowpack, and rising sea levels. Valley Water has been working on greenhouse reduction efforts since 2008 and many adaptation actions over the past decade; however, with adoption of the Climate Change Action Plan there is an opportunity for greater impact.
FY24 Tactics	• Complete Greenhouse Gas Reduction Plan: Identify specific and measurable actions to reduce emissions and approve long-term emissions reduction goals ensuring that all Valley Water activities are considered. • Continue to monitor progress on adaptation actions as identified in the Climate Change Action Plan and support high priority projects such as the South San Francisco Bay Shoreline. • Ensure incorporation of environmental justice (EJ) considerations into planning and processes to support mitigation of carbon emissions and climate change impacts. • Explore opportunities for carbon sequestration in all our programs and projects.
Monitoring	• Board Policy and Planning Committee
Related Staff Plans	• Climate Change Action Plan

BUSINESS MANAGEMENT

GOAL: *Promote effective management of water supply, flood protection, and environmental stewardship through responsive and socially responsible business services.*

Objective 1	**Incorporate racial equity, diversity and inclusion throughout Valley Water as a core value.**
Challenge/ Opportunity	Valley Water is committed to creating and maintaining a diverse, inclusive, and equitable work environment that is devoid of discrimination and harassment and provides equal opportunity employment and advancement. Valley Water aims to implement the same values in the community through its flood protection, water supply, and environmental stewardship projects and has an opportunity to serve as a leader for racial equity, diversity, and inclusion throughout the state.
FY24 Tactics	• Continue to monitor implementation of a Diversity, Equity and Inclusion Master Plan that institutes best practices to address internal and external disparities and builds an organizational culture that is consistent with the Board's Resolution addressing racial equity, diversity, and inclusion. • Remain committed to environmental justice, equity, and the fair treatment and meaningful engagement of all people regardless of race, color, sex, gender, gender identity, gender expression, sexual orientation, disability status (mental and physical), medical condition, genetic information, ancestry, national origin, immigration status, age, marital status, tribe, culture, income, religion, military status, or English language proficiency, with respect to the planning, projects, policies, services, and operations of Valley Water. • Continue to collaborate with external stakeholders that are engaged in developing diversity, equity, and inclusion initiatives and actively participate in and provide leadership for diversity, equity, and inclusion efforts throughout the state. • Continue to advance and foster mutually beneficial partnerships with regional tribal communities.
Monitoring	• Diversity & Inclusion Ad Hoc Committee
Related Staff Plans	• Racial Equity, Diversity & Inclusion Master Plan



BUSINESS MANAGEMENT

Objective 2	**Maintain appropriate staffing levels and expertise while prioritizing the safety of our staff.**
Challenge/ Opportunity	The Board recognizes that Valley Water's workforce is the critical component to providing clean, safe drinking water, effective flood protection, and environmental stewardship. The Board therefore remains committed to supporting the recruitment of capable employees with knowledge and subject matter expertise, investing in staff training to meet changing skills and capacity needs, developing the necessary policies and guidance that strengthen employee safety, and establishing Valley Water as an employer of choice.
FY24 Tactics	• Implement an automated forecasting tool to develop and finalize a long-term staffing strategy that aligns with future capital and operational needs. • Continue to implement initiatives that will expand hiring outreach to individuals that are disabled or have health conditions/impairments, military veterans, and formerly incarcerated individuals, with an emphasis on hiring from the local region. • Develop next generation and career pathways program to provide internal and external development for professional growth. • Advance the development of a skilled trades apprenticeship program. • Maximize the safety of staff working in creeks, encampments, and Valley Water facilities, and continue to promote health & safety guidance to protect staff from public health emergencies and environmental impacts.
Monitoring	• Environmental Creek Cleanup Committee • Diversity & Inclusion Ad Hoc Committee • Financial Sustainability Working Group
Related Staff Plans	

BUSINESS MANAGEMENT

Objective 3	Provide affordable and cost-effective level of services.
Challenge/ Opportunity	The Board understands its responsibility to regularly evaluate and monitor Valley Water's financial status to ensure the level of services provided are reasonable and cost effective. As such, driving continual improvement efforts are key to delivering affordable and effective services while controlling expectations regarding what Valley Water can achieve and what it can afford to do. In addition, the affordability of water continues to be a major issue faced by communities across the nation, particularly disadvantaged communities. The Board has an opportunity to raise issues around water affordability at local and statewide levels and advocate for changes that benefit disadvantaged communities.
FY24 Tactics	• Complete 3-4 Board-initiated or management-initiated performance audits, or other performance improvement efforts, benchmarking studies, or best practice implementations. • Establish Valley Water as a statewide leader in conversations around water affordability. • Implement Biennial Budget for FY24. • Continue to seek and obtain grants and funding opportunities from federal, state and other sources.
Monitoring	• Board Audit Committee • Financial Sustainability Working Group
Related Staff Plans	• Operating and Capital Budget • Board and Management Audit Reports

Appendix A

Board Governance Policies/Ends Policies

The Board has adopted **Board Governance Policies** which describe how the board conducts its business, what they have directed the Board Appointed Officers (BAO) to accomplish, and constraints on the BAOs that establish prudent and ethical boundaries within which all activity and decisions must take place.

Ends Policies, also referred to as **Long Term Goals and Objectives**, provide direction to the BAOs to accomplish Valley Water's mission.

A full list of the Board Governance Policies can be found here:
https://www.valleywater.org/how-we-operate/board-governance-policies

Ends Policy E-1: Mission and General Principles

In implementing Board directions, staff will be guided by the following general principles:

1.1. An integrated, socially equitable, and balanced approach in managing a sustainable water supply, effective natural flood protection, and healthy watersheds is essential to the future of all communities served.
1.2. Effective public engagement by Valley Water is achieved through transparent, open communication that informs and generates participation among all communities, including disadvantaged communities, communities of color, and communities with limited English proficiency, as well as other key stakeholders.
1.3. Collaboration with government, academic, private, non-governmental, and non-profit organizations, as well as diverse and disadvantaged communities is integral to accomplishing the Valley Water mission.
1.4. A net positive impact on the environment and providing benefits equitably across all communities is required in order to accomplish the Valley Water mission.
1.5. Recognize that Valley Water operations and services are critical to the economic vitality of Silicon Valley, ensuring that economic benefits are equitable for all communities that we serve.
1.6. As standard practice, all work products shall be visually pleasing, sustainable, cost-effective, culturally appropriate, equitable across all communities, and reflect the characteristics of the surrounding urban setting and natural habitat using appropriate materials, colors, shapes, art works, vegetation, and surface treatments. This includes the naming of facilities in a manner that is respectful of all diverse communities.
1.7. Valley Water is committed to environmental justice and shall provide for the fair treatment and meaningful engagement of all people regardless of race, color, gender identity, disability status, national origin, tribe, culture, income, immigration status, or English language proficiency, with respect to the planning, projects, policies, services, and operations of Valley Water. Environmental Justice is achieved when all people receive:
    - equitable consideration in the planning and execution of flood protection, water supply, safe drinking water, water resources stewardship projects, and protection from environmental and health hazards, and
    - equal access to Valley Water's decision-making process.

Ends Policy E-2: Water Supply Services

Valley Water provides a reliable, safe, and affordable water supply for current and future generations in all communities served.

GOAL
2.1. Meet 100 percent of annual water demand during non-drought years and at least 80 percent of demand in drought years.
GOAL
2.2. Protect and sustain the county's existing, diverse water supplies.

Objectives

2.2.1. Manage groundwater to ensure sustainable supplies and avoid land subsidence.
2.2.2. Aggressively protect groundwater from the threat of contamination.
2.2.3. Protect imported water supplies and associated contracts and partnerships.
2.2.4. Protect and manage local surface water supplies and associated water rights.
2.2.5. Deliver reliable, high quality drinking water from water treatment plants.

GOAL

2.3. Protect and maintain existing water infrastructure.

Objectives

2.3.1. Plan for infrastructure maintenance and replacement to reduce risk of failure.
2.3.2. Prioritize funding for maintenance and replacement of existing water infrastruture over investments in new infrastructure.
2.3.3. Prepare for and respond effectively to water utility emergencies.

GOAL

2.4. Increase regional self-reliance through water conservation and reuse.

Objectives

2.4.1. Maximize utilization of all demand management tools.
2.4.2. Incentivize water use efficiency and water conservation.
2.4.3. Promote, protect and expand potable and non-potable water reuse.
2.4.4. Promote stormwater capture and reuse.

GOAL

2.5. Manage water resources using an integrated, science-based approach.

Objectives

2.5.1. Plan for future water supply needs.
2.5.2. Promote efficient and reliable operation of water supply systems.
2.5.3. Promote water supply projects with multiple benefits, including environmental stewardship and flood protection.
2.5.4. Invest in and rely on science to support planning and decision-making.
2.5.5. Build and maintain effective partnerships to achieve water supply goals.

GOAL

2.6. Promote access to equitable and affordable water supplies.

Objectives

2.6.1. Promote equal access to clean, safe, and affordable water supply across all communities served.
2.6.2. Maintain affordable water rates through cost-effective water supply investments and management.
2.6.3. Continue customer assistance and incentive programs.

Ends Policy E-3: Natural Flood Protection

Natural flood protection is provided to reduce risk and improve health and safety for residents, businesses, and visitors, now and into the future.

GOAL

3.1. Maintain flood protection facilities to design levels of protection.

Objectives

3.1.1. Prioritize maintenance of existing facilities over construction of new capital projects.
3.1.2. Inspect and maintain facilities on a regular basis.
3.1.3. Perform maintenance using maintenance guidelines updated on a regular basis.

GOAL

3.2. Assist people, businesses, schools, and communities to prepare for, respond to, and recover from flooding through equitable and effective engagement.

Objectives

3.2.1. Develop, maintain, and communicate emergency action plans.
3.2.2. Develop, maintain, and communicate flood information to the community.

3.2.3. Provide expertise in flood forecasting and flood warning systems to municipalities.
3.2.4. Provide expertise to encourage public agencies to reduce flood risk and protect floodplain benefits.

GOAL

3.3. Increase the health and safety of residents countywide by reducing community flood risk.

Objectives

3.3.1. Provide equitable, timely, and achievable flood protection for health and safety.
3.3.2. Protect people and property from flooding by applying a comprehensive, integrated watershed management approach that balances environmental quality, sustainability, and cost.

Ends Policy E-4: Water Resources Stewardship

Water resources stewardship protects and enhances ecosystem health.

GOAL

4.1. Use a science-based, inclusive approach to protect Santa Clara County's watersheds and aquatic ecosystems for current and future generations.

Objectives

4.1.1. Develop and share data to support resilient ecosystems and healthy populations of native species.
4.1.2. Monitor stream, reservoir, and Bay ecosystem health.
4.1.3. Use data to prioritize and equitably implement actions to reduce pollution, restore endangered species habitat, and enhance ecosystem function.

GOAL

4.2. Sustain ecosystem health while managing local water resources for flood protection and water supply.

Objectives

4.2.1. Plan and design projects with multiple benefits, including protecting ecosystem functions, enhancing habitat, and improving connectivity, equitably in all regions of the county.
4.2.2. Operate Valley Water facilities to balance water supply, flood protection, and ecosystem sustainability.

GOAL

4.3. Encourage inclusive, sustainable management of water resources in the Bay-Delta and its watersheds to protect imported water supply.

Objectives

4.3.1. Meet future water supply demand through diverse and coordinated water supply planning.
4.3.2. Promote holistic ecosystem management through science-based decision-making.
4.3.3. Actively engage in the protection of source water quality through collaboration and funding.

GOAL

4.4. Prevent and address pollution of local streams, reservoirs, and the Bay, equitably across all communities. Protect waterbodies from pollution and degradation.

Objectives

4.4.1. Encourage stormwater capture, treatment, and reuse.
4.4.2. Prepare and respond to spills and dumping that threaten local waterways.
4.4.3. Collaborate with agencies and nonprofits to address homelessness and its impacts to Santa Clara County Waterways.

GOAL

4.5. Engage the community to promote watershed stewardship by providing meaningful engagement in Valley Water programs for all people regardless of race, color, gender identity, disability status, national origin, tribe, culture, income, immigration status, or English language proficiency.

Objectives

4.5.1. Provide appropriate and equal public access to Valley Water's streamside and watershed lands.
4.5.2. Engage and educate the community in stream and watershed protection.
4.5.3. Build partnerships to protect and enhance watersheds and aquatic ecosystems.

Ends Policy E-5: Climate Change Mitigation and Adaptation

Valley Water is carbon neutral and provides equitable, climate-resilient water supply, flood protection, and water resource stewardship to all communities in Santa Clara County. This will be accomplished through the implementation of the Climate Change Action Plan.

GOAL

5.1. Minimize greenhouse gas emissions from Valley Water's operations.

Objectives

5.1.1. Expand the use of clean technology in vehicles, equipment, and buildings, and develop carbon-efficient construction and service delivery practices.

5.1.2. Optimize energy use and expand renewable energy portfolio.

5.1.3. Incentivize low carbon practices, projects, and efforts by employees, contractors, and partners.

GOAL

5.2. Adapt Valley Water's assets and operations to reduce climate change impacts.

Objectives

5.2.1. Improve the resiliency of Santa Clara County's water supply to drought and other climate change impacts.

5.2.2. Provide equitable protection from sea level rise and flooding, prioritizing disadvantaged communities.

5.2.3. Improve ecosystem resiliency through water resources stewardship.

5.2.4. Prepare for climate-related emergencies and provide equal access to information and services, particularly to disadvantaged communities.

Appendix B

Staff Program Plans and Master Plans

Program plans and master plans are developed by staff to achieve the Board's long-term goals and objectives in relation to Valley Water's mission and overall business management.

Below is a list of program and master plans that have been referenced in the Board Work Plan. Other plans not listed below can be obtained by contacting the Office of the Clerk of the Board at **(408) 630-2277** or ***clerkoftheboard@valleywater.org***.

- Board Audit Reports
  https://www.valleywater.org/board-audit-committee-audit-reports
- Capital Improvement Program
  https://www.valleywater.org/how-we-operate/five-year-capital-improvement-program
- Climate Change Action Plan
  https://www.valleywater.org/your-water/water-supply-planning/climate-change-action-plan
- Countywide Water Reuse Master Plan
  https://www.valleywater.org/your-water/recycled-and-purified-water
- Groundwater Management Plan
  https://www.valleywater.org/your-water/where-your-water-comes/groundwater/sustainable
- Ogier Ponds Feasibility Study
  https://www.valleywater.org/project-updates/ogier-ponds-coyote-creek-separation-project
- One Water Plan
  https://www.valleywater.org/project-updates/one-water-plan
- Operating and Capital Budget
  https://www.valleywater.org/how-we-operate/financebudget
- Racial Equity, Diversity and Inclusion Master Plan
  https://www.valleywater.org/how-we-operate/about-valley-water/office-racial-equity-diversity-inclusion
- Safe, Clean Water and Natural Flood Protection Program
  https://www.valleywater.org/safe-clean-water-and-natural-flood-protection-program
- Santa Clara Valley Urban Runoff Pollution Prevention Program
  https://scvurppp.org/
- Stormwater Resource Plan
  https://scvurppp.org/swrp/
- Water Conservation Strategic Plan
  https://www.valleywater.org/droughtsaving-water/studies-and-reports
- Water Supply Master Plan
  https://www.valleywater.org/your-water/water-supply-planning/water-supply-master-plan
- Water Utility Infrastructure Master Plan
  https://www.valleywater.org/project-updates/water-utility-infrastructure-master-plan-implementation-projects

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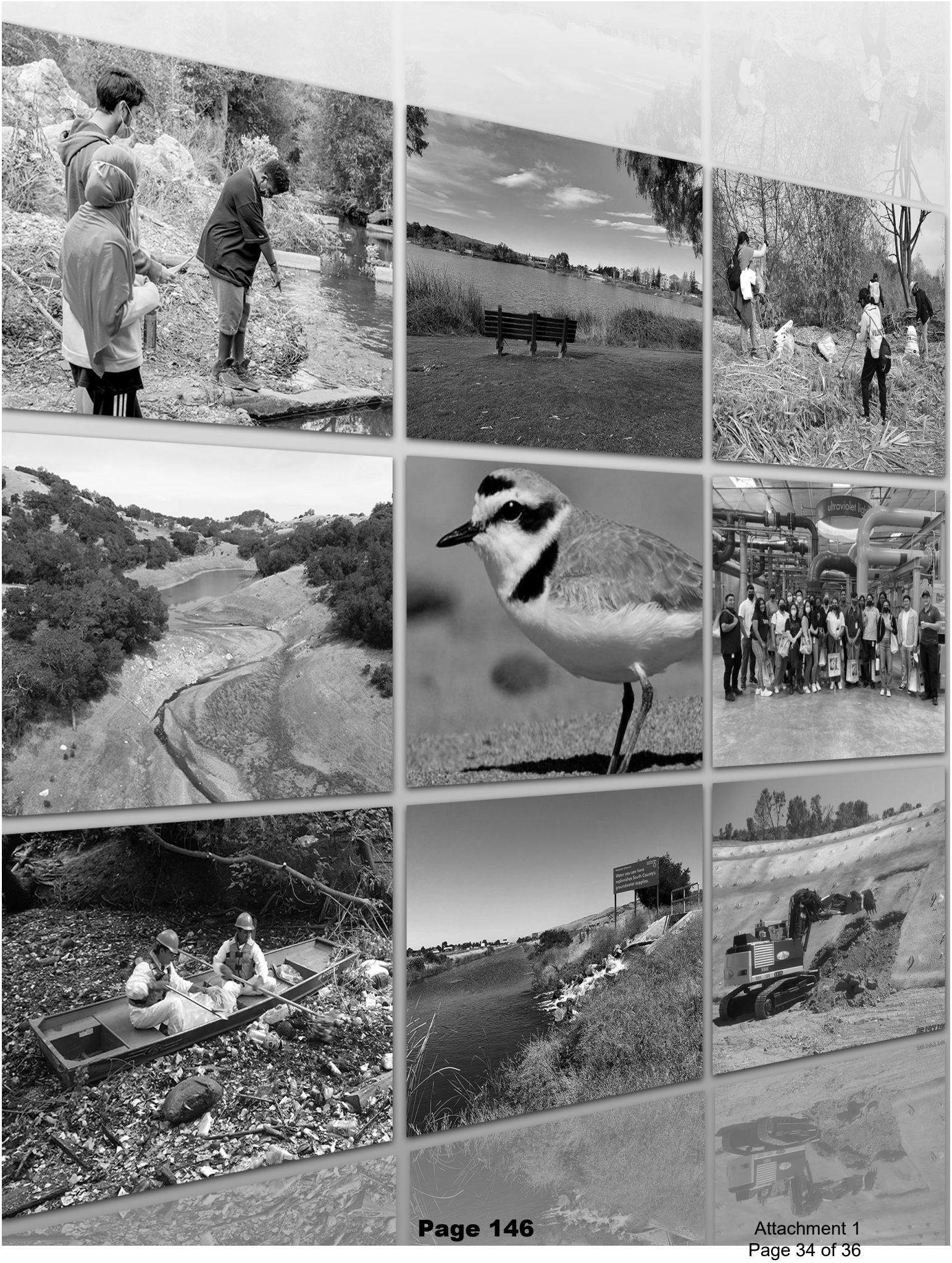
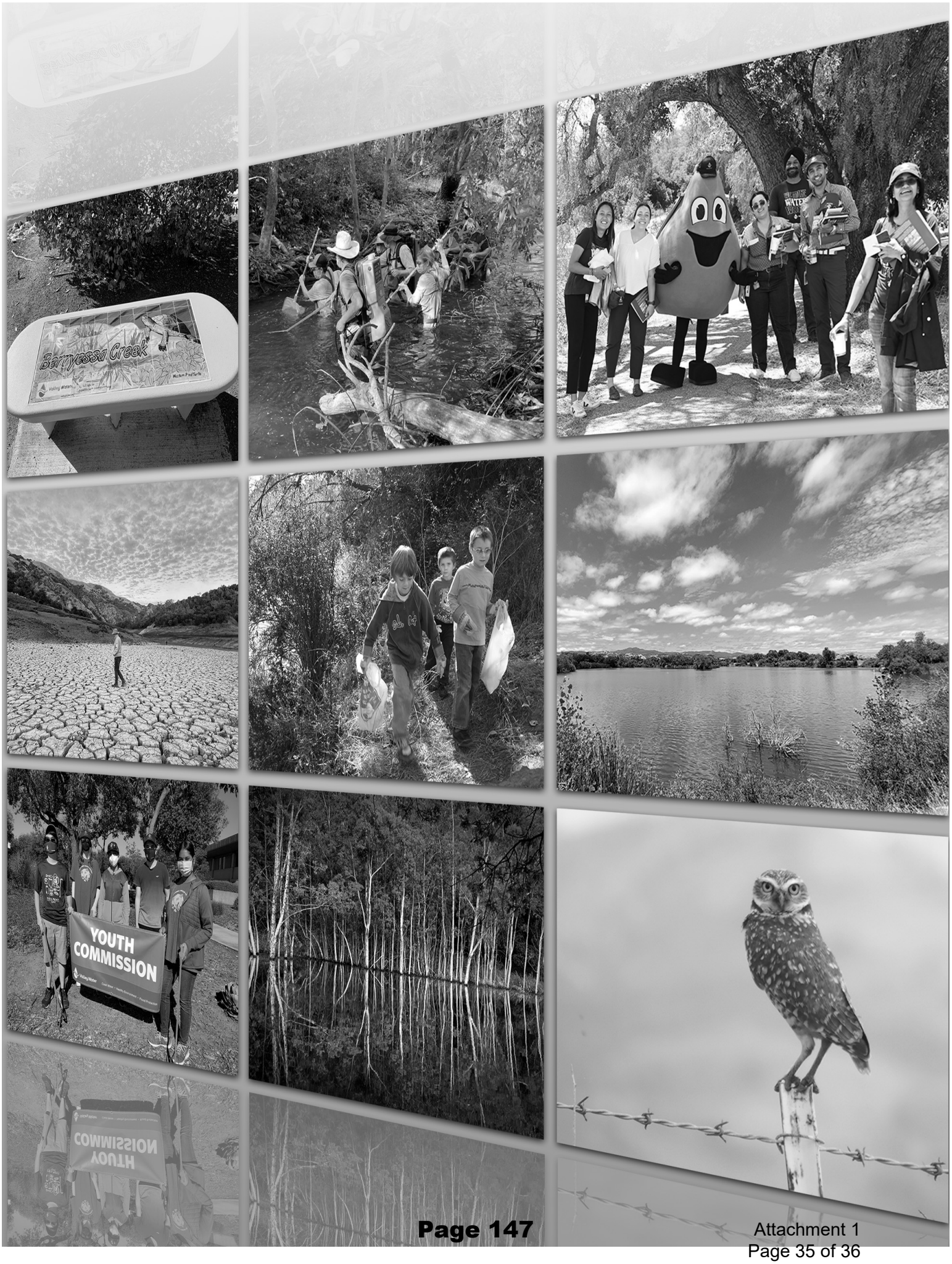

ultraviolet light
Water you see here replenishes South County's groundwater supplies.


Berryessa Creek
YOUTH COMMISSION

Valley Water

Clean Water • Healthy Environment • Flood Protection

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