

November 29, 2023

MEETING NOTICE
SANTA CLARA VALLEY WATER DISTRICT
RECYCLED WATER COMMITTEE

Members of the Recycled Water Committee:

District 6 Director, Tony Estremera, Committee Chair
District 3 Director, Richard Santos, Committee Vice Chair
District 4 Director, Jim Beall, Member

Staff Support of the Recycled Water Committee:

Rick Callender, Chief Executive Officer
Melanie Richardson, Assistant Chief Executive Officer
Darin Taylor, Chief Financial Officer
Aaron Baker, Chief Operating Officer, Water Utility
Christopher Hakes, Chief Operating Officer, Watersheds
Tina Yoke, Chief Operating officer
Rachael Gibson, Chief of External Affairs
Carlos Orellana, District Counsel
Brian Hopper, Sr. Assistant District Counsel
Vincent Gin, Deputy Operating Officer
Emmanuel Aryee, Deputy Operating Officer
Bhavani Yerrapotu, Deputy Operating Officer
Marta Lugo, Deputy Administrative Officer
Tony Ndah, Deputy Administrative Officer
Sam Bogale, Deputy Operating Officer
Donald Rocha, Assistant Officer
Kirsten Struve, Assistant Officer
Lisa Bankosh, Assistant Officer
Charlene Sun, Treasury and Debt Manager
Hossein Ashktorab, Unit Manager, Recycled & Purified Water
Carmen Narayanan, Financial Planning & Revenue Manager
Metra Richert, Unit Manager, Water Supply Planning and Conservation Manager
Lei Hong, Utility Ops & Maintenance Manager
Medi Sinaki, Sr. Engineer-Recycled & Purified Water
Girle Jacobson, Sr. Engineer-Treatment Plant Design
Henry Barrientos, Associate Civil Engineer
David Tucker, Associate Engineer – Civil
Zachary Helsley, Associate Civil Engineer
Elise Latedjou-Durand, Senior Environmental Planner
Ricardo Barajas, Program Administrator
Samantha Greene, Senior Water Resource Specialist
Lakeisha Bryant, Public Info Rep III
Karen Adriano, Staff Analyst

A Santa Clara Valley Water District Special Recycled Water Committee meeting has been scheduled to occur at 10:00 a.m. on Wednesday, December 6, 2023 in the Headquarters Building Boardroom located at the Santa Clara Valley Water District, 5700 Almaden Expressway, San Jose, California.

Members of the public may join the meeting via Zoom Teleconference at:

<https://valleywater.zoom.us/j/99518153521>

The meeting agenda and corresponding materials are located on our website:

<https://www.valleywater.org/how-we-operate/committees>





Santa Clara Valley Water District Recycled Water Committee Meeting

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

Join Zoom Teleconference:
<https://valleywater.zoom.us/j/99518153521>

SPECIAL MEETING AGENDA

**Wednesday, December 6, 2023
10:00 AM**

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

RECYCLED WATER COMMITTEE

Tony Estremera - District 6, Chair
Richard Santos - District 3, Vice Chair
Jim Beall - District 4, Member

During the COVID-19 restrictions, all public records relating to an open session 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 to the public through the legislative body agenda web page 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 participate in the legislative body's meeting. Please advise the Clerk of the Board Office of any special needs by calling (408) 265-2600.

KIRSTEN STRUVE
Committee Liaison

NICOLE MERRITT
Assistant Deputy Clerk II
Office/Clerk of the Board
(408) 630-3262
nmerritt@valleywater.org

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

Santa Clara Valley Water District
Recycled Water Committee
SPECIAL MEETING AGENDA

Wednesday, December 6, 2023

10:00 AM

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

Join Zoom Meeting:
<https://valleywater.zoom.us/j/99518153521>

*****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 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/99518153521>
Meeting ID: 995 1815 3521
Join by Phone:
1 (669) 900-9128, 99518153521#

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 October 27, 2023 Recycled Water Committee Minutes. [23-1215](#)
- Recommendation: Approve the minutes.
- Manager: Candice Kwok-Smith, 408-630-3193
- Attachments: [Attachment 1: 102723 RWC Meeting Minutes](#)
- Est. Staff Time: 5 Minutes

4. REGULAR AGENDA:

- 4.1. Receive Purified Water Program Update Including Partnerships with the Cities of Palo Alto/Mountain View and San José/Santa Clara and Provide Feedback. [23-1208](#)
- Recommendation: Receive update and provide feedback on the following topics:
- A. Collaboration effort with partners
 - Cities of Palo Alto and Mountain View
 - Cities of San José and Santa Clara
 - B. Public Private Partnership
 - C. Outreach
- Manager: Kirsten Struve, 408-630-3138
- Attachments: [Attachment 1: PowerPoint](#)
- Est. Staff Time: 10 Minutes
- 4.2. Receive Update on Valley Water's Efforts to Actively Engage on Direct Potable Reuse (DPR) Regulations and Provide Feedback. [23-1209](#)
- Recommendation: Receive update and provide feedback on DPR regulatory developments.
- Manager: Kirsten Struve, 408-630-3138
- Attachments: [Attachment 1: PowerPoint](#)
- Est. Staff Time: 5 Minutes
- 4.3. Receive an Update on the Water Supply Master Plan Potable Reuse Goal and Potential Amount of Wastewater Available for Water Reuse. [23-1213](#)
- Recommendation: Receive an update on the Water Supply Master Plan Potable Reuse Goal and Potential Amount of Wastewater Available for Water Reuse.
- Manager: Kirsten Struve, 408-630-3138
- Attachments: [Attachment 1: PowerPoint](#)
- Est. Staff Time: 10 Minutes

- 4.4. Receive Information on Recycled Water Activities and Projects [23-1211](#)
Associated with Valley Water's Distribution Portion of the South County Recycled Water System, as well as Recent Master Planning Updates with South County Partners and Provide Feedback.

Recommendation: Receive information on recycled water activities and projects associated with Valley Water's distribution portion of the South County Recycled Water System, as well as recent master planning updates with South County partners, and provide feedback.

Manager: Kirsten Struve, 408-630-3138

Attachments: [Attachment 1: PowerPoint](#)

Est. Staff Time: 10 Minutes

- 4.5. Receive an Update on the 7th Independent Advisory Panel Meeting for an Evaluation of Valley Water's Purified Water Program. [23-1212](#)

Recommendation: Receive information on the 7th meeting of the Independent Advisory Panel for an evaluation of Valley Water's Purified Water Program.

Manager: Kirsten Struve, 408-630-3138

Attachments: [Attachment 1: IAP Report](#)

Est. Staff Time: 5 Minutes

- 4.6. Receive and Discuss the 2023 Recycled Water Committee Work Plan, Upcoming Discussion Items, and Upcoming Meeting Date. [23-1216](#)

Recommendation: Receive information on the 2023 Recycled Water Committee Work Plan, and provide feedback on upcoming discussion items and next meeting date.

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

Attachments: [Attachment 1: 2023 Revised Work Plan](#)

Est. Staff Time: 5 Minutes

5. 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.

6. ADJOURN:

- 6.1. Adjourn to Regular Meeting at 12:00 p.m., on January 24, 2024.

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Santa Clara Valley Water District

File No.: 23-1215

Agenda Date: 12/6/2023
Item No.: 3.1.

COMMITTEE AGENDA MEMORANDUM Recycled Water Committee

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

SUBJECT:

Approval of October 27, 2023 Recycled Water Committee Minutes.

RECOMMENDATION:

Approve the minutes.

SUMMARY:

In accordance with the Ralph M. Brown Act, 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 to the Committee for review and approval.

Upon Committee approval, minutes transcripts are finalized and entered into Valley Water'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: 102723 RWC Meeting Minutes

UNCLASSIFIED MANAGER:

Candice Kwok-Smith, 408-630-3193

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RECYCLED WATER COMMITTEE MEETING

DRAFT MINUTES

**SPECIAL MEETING
FRIDAY, OCTOBER 27, 2023
11:00 AM**

(Paragraph numbers coincide with agenda item numbers)

1. CALL TO ORDER:

A special meeting of the Santa Clara Valley Water District (Valley Water) Recycled Water Committee (Committee) was called to order in the Valley Water Headquarters Building Boardroom at 5700 Almaden Expressway, San Jose, California, and by Zoom teleconference, at 11:00 a.m.

1.1. Roll Call.

Committee members in attendance were District 4 Director Jim Beall, District 3 Vice Chairperson Richard P. Santos, and District 6 Director Tony Estremera, Chairperson presiding, constituting a quorum of the Committee.

Staff members in attendance were: Brandon Adriano, Karen Adriano, Aaron Baker, Nastaran Basiri, Lakeisha Bryant, Vincent Gin, Walter Gonzalez, Andrew Gschwind, Brian Hopper, Girlie Jacobson, Michele King, Emelia Lamas, Dave Leon, Nicole Merritt, Tony Ndah, Steve Peters, Don Rocha, Medi Sinaki, Diahann Soleno, Kirsten Struve, Charlene Sun, Darin Taylor, David Tucker, and Beckie Zisser.

Public in attendance were: Phillippe Daniel (Liquisti LLC), Jan Davel (CDM Smith), Katja Irvin (Sierra Club), Ramana Chinnakotla (City of Sunnyvale), and XXX-XXX-8150.

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

Chairperson Estremera declared time open for public comment on any item not on the agenda. There was no one who wished to speak.

3. APPROVAL OF MINUTES:

3.1. Approval of September 27, 2023 Recycled Water Committee Meeting Minutes.

Recommendation: Approve the minutes.

The Committee considered the attached minutes of the September 27, 2023 Committee meeting.

Public Comments:
None.

It was moved by Vice Chair Santos and seconded by Director Beall, and unanimously carried that the minutes be approved.

4. REGULAR AGENDA:

- 4.1. Receive Purified Water Program Update Including Partnerships with Cities of Palo Alto/Mountain View and San Jose/Santa Clara and Provide Feedback.

Recommendation: Receive an update and provide feedback on the following topics:

- A. Collaboration effort with partners
 - Cities of Palo Alto and Mountain View
 - Cities of San Jose and Santa Clara
- B. Public Private Partnership
- C. Outreach

Kirsten Struve reviewed the information on this item, per the attached Committee Agenda Memo.

Kirsten Struve was available to answer questions.

Public Comments:
None.

The Committee received and noted the information and took no formal action; and Director Santos expressed support for the continued purified water education opportunities assisting the public with becoming more receptive.

- 4.2. Receive South Santa Clara County Water Reuse Collaboration Update and Provide Feedback.

Recommendation: Receive an update on Technical Work Group discussions and provide feedback.

David Tucker reviewed the information on this item, per the attached Committee Agenda Memo, and per the information contained in Attachment 1.

David Tucker and Kirsten Struve were available to answer questions.

Public Comments:
None.

The Committee received the information, took no formal action, and noted the following:

- The Committee noted the total cost for the whole South County system project for the past 10 years as roughly \$48 million and half a million to be spent this year on extending pipelines with the approved capital project funding by the Board in 2014.
- The Committee directed staff to return with a future agenda item possibly for the RWC December 2023 meeting to include a further detailed update that includes the history with a breakdown of the funding sources, the plant's capacity and buyers for the recycled water, and confirmation of the role of the County to provide clarity on the current South Santa Clara County partnerships.

4.3. Receive Update on the Environmental Feasibility Study for Seawater Desalination in Santa Clara County.

Recommendation: Receive update and information on the environmental feasibility of constructing a seawater desalination plant in Santa Clara County and discuss next steps.

Medi Sinaki reviewed the information on this item, per the attached Committee Agenda Memo, and per the information contained in Attachment 1.

Medi Sinaki and Kirsten Struve were available to answer questions.

Public Comments:

Katja Irvin requested clarification regarding the amount of outreach to local environmental groups for the environmental feasibility study.

Kirsten Struve confirmed that this was a preliminary study based on existing documents with no outreach completed at this time with additional details to be provided as this item progresses since potable reuse is the current focus for staff because it utilizes wastewater and less energy.

The Committee received the information, took no formal action, and noted the following:

- Director Beall noted for staff to follow up on including public input once the contractor is selected around March 2024 and once the contractor's report is available.
- Director Santos requested staff to follow up on the option of using the brine from desalination to address the challenges of non-native vegetation by discharging it into the Alviso Slough or rivers and the recycled water options for addressing sea-level rising.
- The Committee directed staff to follow up on looking into options for touring other local desalination facilities and confirmed support of including a status update on desalination in the Water Supply Plan portfolio for the Board.

5. 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.

Nicole Merritt confirmed there were no Items for Board consideration, but confirmed staff direction for a future agenda item regarding a further detailed update for the South County Water Reuse Collaboration under Item 4.2, and follow up from staff into touring options for the local desalination facilities, and noted support of a report on the status of desalination to the Board.

6. CLOSED SESSION:

6.1. CLOSED SESSION CONFERENCE WITH LEGAL COUNSEL

Conference with Real Property Negotiators Pursuant to Government Code Section 54956.8 Setting Negotiation Parameters for Price and Terms of Payment for Purchase, Sale, or Exchange of Property Interest in APNs 116-01-013 and 008-05-005

Agency Negotiators: Rick Callender, Melanie Richardson, Aaron Baker, Kirsten Struve, Girlie Jacobsen

Negotiating Parties: City of Palo Alto

6.2. District Counsel Report on Closed Session.

Brian Hopper reported that in regard to Item 6.1., the Committee met in Closed Session with all members participating and took no reportable action.

7. Adjourn:

6.1. Adjourn to Special Meeting at 10:00 a.m. on December 6, 2023.

Chairperson Estremera adjourned the meeting at 12:09 p.m., to the special meeting at 10:00 a.m. on December 6, 2023.

Nicole Merritt
Assistant Deputy Clerk II

Date Approved:



Santa Clara Valley Water District

File No.: 23-1208

Agenda Date: 12/6/2023

Item No.: 4.1.

COMMITTEE AGENDA MEMORANDUM Recycled Water Committee

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

SUBJECT:

Receive Purified Water Program Update Including Partnerships with the Cities of Palo Alto/Mountain View and San José/Santa Clara and Provide Feedback.

RECOMMENDATION:

Receive update and provide feedback on the following topics:

- A. Collaboration effort with partners
 - Cities of Palo Alto and Mountain View
 - Cities of San José and Santa Clara
- B. Public Private Partnership
- C. Outreach

SUMMARY:

A. Collaboration Efforts with Partners

Palo Alto and Mountain View

Valley Water continues to make progress on the agreements for the proposed future purification facility with the City of Palo Alto, including a lease agreement for the former Los Altos Treatment Plant site as well as the site for the Source Water Pump Station; an easement for pipeline tie ins; and an Operations and Maintenance Agreement.

Staff continues to meet every two weeks with Palo Alto's Planning Department. On November 2nd, renderings of the Source Water Pump Station at the Palo Alto Regional Water Quality Control Plant were part of Palo Alto's presentation on its small salt removal facility to their Architectural Review Board (see PowerPoint attached). This is because both the Valley Water pump station and the salt removal facility are located on the same parcel. There was no feedback from the Architectural Review Board on the Source Water Pump Station renderings; all discussion was focused on Palo Alto's salt removal facility and its potential impact on the visual character of the Baylands setting.

Also in November, Valley Water submitted a second permit application to Palo Alto's Planning Department to continue funding Planning related coordination.

Collaboration with cities and entities along the pipeline route is continuing, including the development of conditional clearance, acknowledgment letters, and encroachment agreements.

San José and Santa Clara

Discussions with the cities of San José and Santa Clara regarding a future project in San José are ongoing and progress was presented at the joint Valley Water Board of Directors and San José City Council meeting on November 17, 2023. The Council and Valley Water unanimously approved the staff recommendation and urged staff from both agencies to move as quickly as possible on the following items:

- Confirm support for pursuing a joint project to meet local water supply needs, including a demonstration and full-scale project that is the largest size practicable;
- Confirm support for the development of a feasibility study for the full-scale project;
- Confirm support for the development of land lease and minimum wastewater delivery within two years;
- Confirm support for a coordinated public outreach program; and
- Update the Joint Recycled Water Policy Advisory Committee twice a year or as needed.

Staff from the cities and Valley Water are addressing all needed elements for a collaborative direct potable reuse project. The technical, environmental, and regulatory considerations are just as critical and complex as the financial and institutional arrangements. Several considerations are already being studied, including wastewater availability and water supply system connection. As discussed at the meeting, a necessary first step to ensure a full-scale facility can be permitted is the development of a demonstration facility which will also ensure the most efficient technology, operator training and certification, and public support. The San José Purified Water Project - Phase 1 was one of the initially validated projects presented to the Capital Improvement Program committee on November 13th and the Board on November 14th. Further discussion is expected at the Joint Recycled Water Policy Advisory Committee meeting scheduled for December 15, 2023.

B. Public Private Partnership Update

Valley Water continues to provide updates on technical information available as well as updates on the schedule as needed to the shortlisted teams.

C. Public Outreach

Staff continues to host public and private tours at the Silicon Valley Advanced Water Purification Center (Purification Center). In October and November 2023, 491 members of the public participated in an in-person tour. October began with a tour for San José Mayor Mahan, where staff led a presentation on Valley Water and partnering with the City of San José on a potable reuse project near the current facility. Staff also participated in San Jose State University's Sustainability

Ecosystems to Food Systems Fair to raise awareness of the benefits of purified water to increase the local water supply. Staff also assisted with an in-person town hall for San José Councilmember David Cohen and conducted an in-person tour with the Association of California Water Agencies. In the coming weeks, staff will host a group of environmental organizations at the Purification Center.

Staff also continues to refine their comprehensive outreach strategy for potable reuse, which will include more in-person tabling events, town halls and the potential for a mobile tour-on-the-go trailer for community events.

ENVIRONMENTAL JUSTICE IMPACT:

There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:

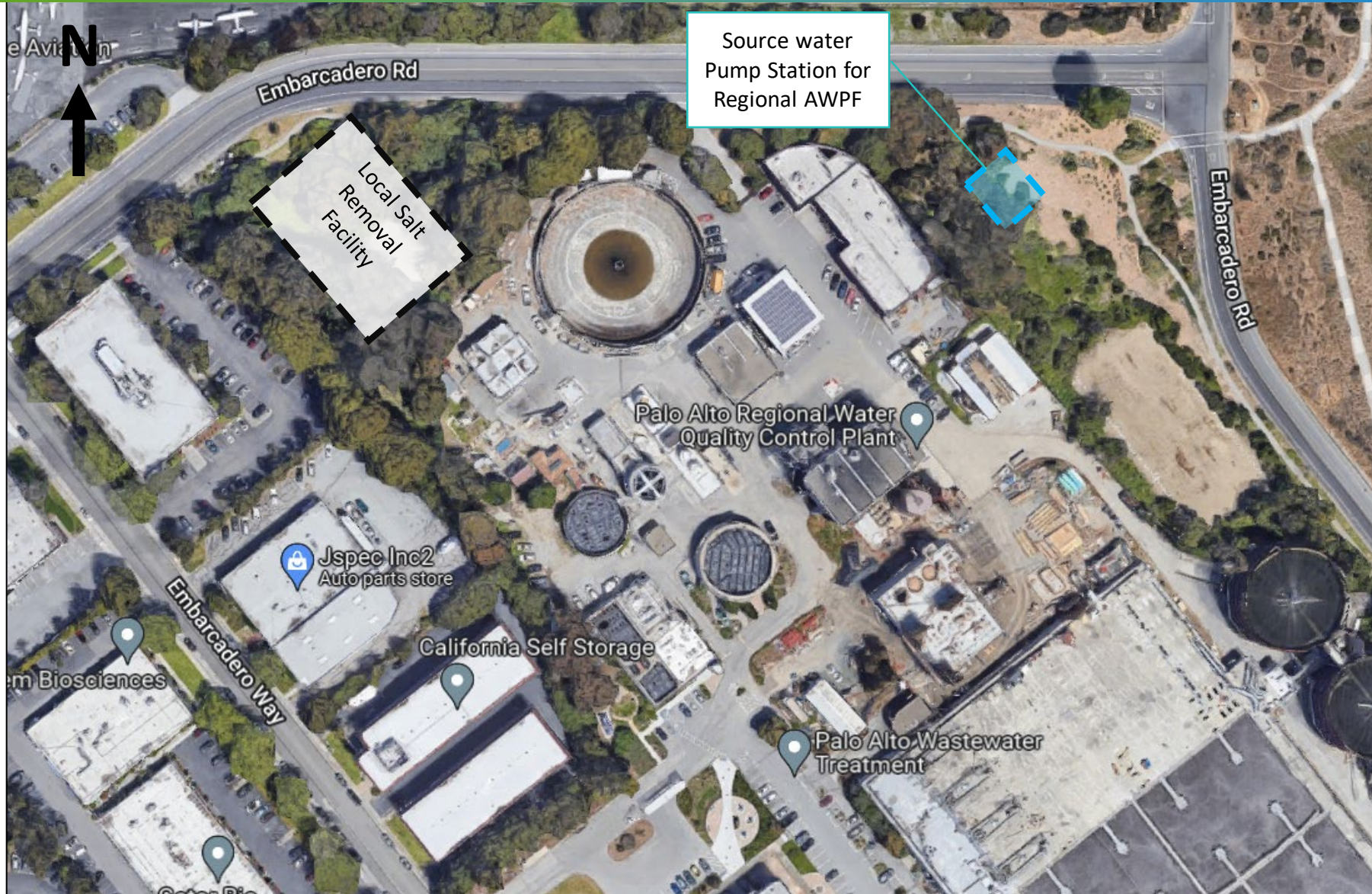
Attachment 1: PowerPoint

UNCLASSIFIED MANAGER:

Kirsten Struve, 408-630-3138

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Valley Water Purified Water Project



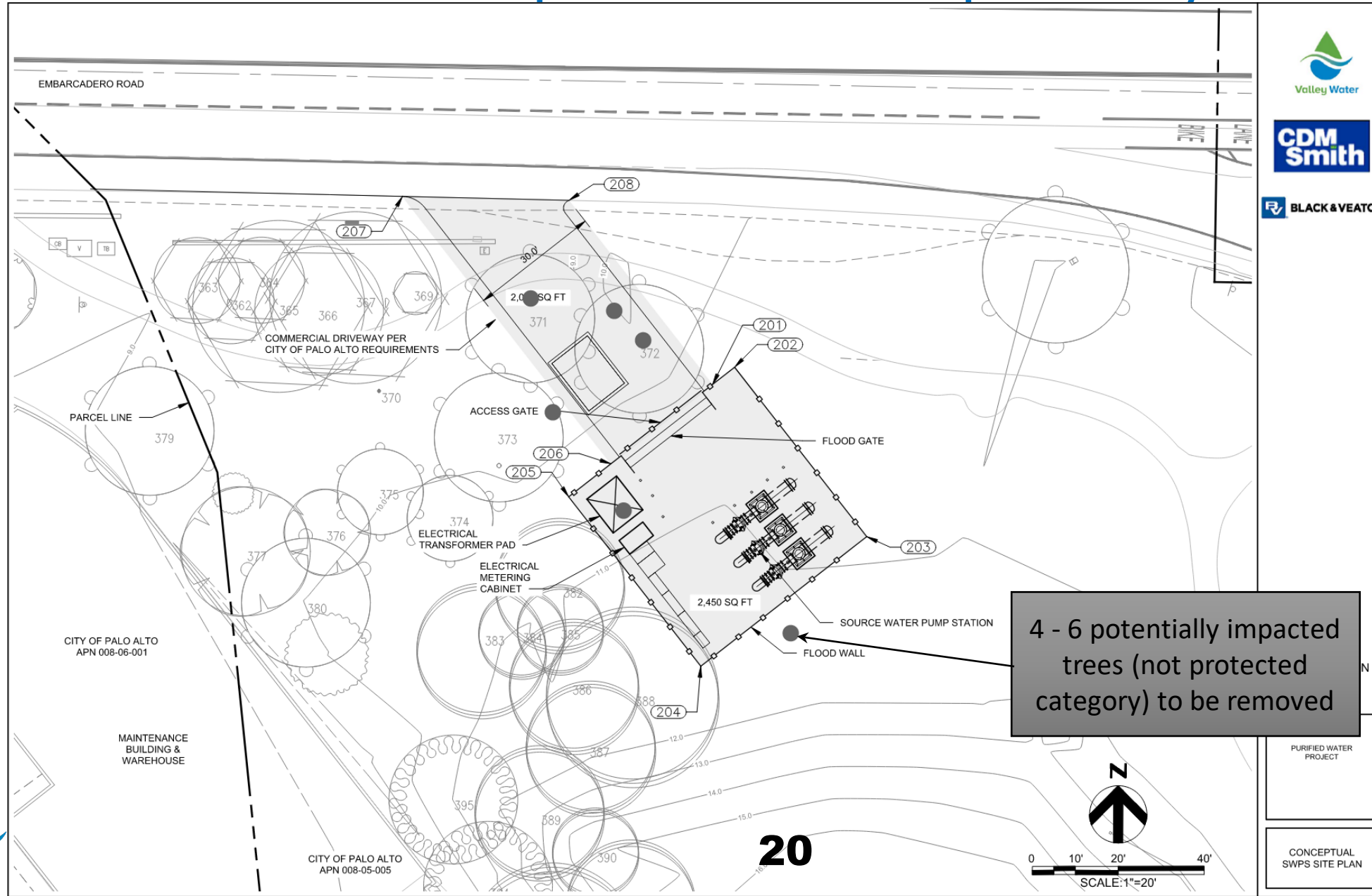
Source Water Pump Station (SWPS) Location

valleywater.org

Recycled Water Committee
December 6, 2023

Source Water Pump Station Conceptual Layout

2



4 - 6 potentially impacted trees (not protected category) to be removed



0 10' 20' 40'
SCALE: 1"=20'

PURIFIED WATER PROJECT
CONCEPTUAL SWPS SITE PLAN

valleywater.org

SWPS Renderings

3



SWPS Renderings (Embarcadero Rd.)

4



valleywater.org



SWPS Renderings (Embarcadero Rd. Intersection)

5



valleywater.org



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Santa Clara Valley Water District

File No.: 23-1209

Agenda Date: 12/6/2023

Item No.: 4.2.

COMMITTEE AGENDA MEMORANDUM Recycled Water Committee

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

SUBJECT:

Receive Update on Valley Water's Efforts to Actively Engage on Direct Potable Reuse Regulations (DPR) and Provide Feedback.

RECOMMENDATION:

Receive update and provide feedback on DPR regulatory developments.

SUMMARY:

At the September 2023 Recycled Water Committee, an update was provided on the July 21st, 2023, release by the California State Water Resources Control Board (Water Board) of the draft Direct Potable Reuse (DPR) regulations.

Since then, on October 17th, 2023, the Water Board released revisions to the DPR regulations - which included significant changes incorporating some of the comments - and started the 15 days comment period that ended on Nov. 6th, 2023. No additional comment letters have been submitted by any major organizations or water/wastewater agencies in California. The modifications included:

- Allowing alternative treatment mechanism for pathogen control

This combined with the existing treatment train flexibility for the chemical control should allow for new technologies to be incorporated into the DPR treatment train for the future DPR systems provided that an independent advisory panel states the proposed technology/process is protective of public health.

- Added Total Organic Carbon (TOC) flexibility for reservoir consistent with the WRCA request at the Water Board DPR Workshop of Sep. 2023, requested by the Panel

Attenuation of elevated TOC concentration of limited duration with mixing in a reservoir downstream of the advanced treatment may be used to temporarily increase the TOC critical limit.

- Additional specifications on the roles of agencies involved in DPR projects as it pertains to source control

Further clarifications that only the wastewater agency having the authority over the source control program needs to be part of the joint plan under Direct Potable Reuse Responsible Agency (DiPRRA) Joint Plan as opposed to all of the smaller wastewater agencies that may contribute to the wastewater treatment plant also being involved.

Valley Water has worked with other partners and stakeholders to ensure progression of these important regulations and staff will continue to monitor further developments of DPR regulations. At this juncture, the regulations are near their final form and would be moving through several administrative steps which include:

- Water Board adoption hearing
- Submission of rulemaking file to the Office of Administrative Law (OAL)
- Approval by OAL
- Filing with the Secretary of State
- Signing of the regulations by the Secretary of State, making them effective

It is anticipated that the regulations would become effective in the early Spring of 2024.

ENVIRONMENTAL JUSTICE IMPACT:

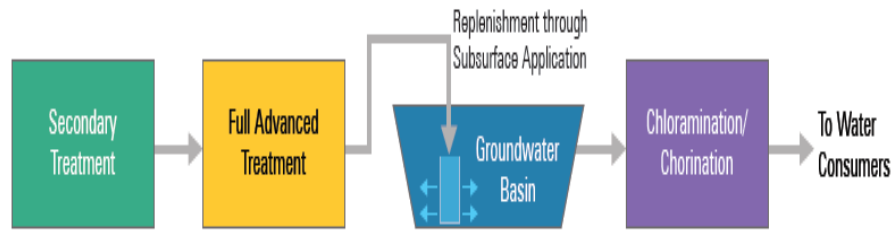
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:

Attachment 1: PowerPoint

UNCLASSIFIED MANAGER:

Kirsten Struve, 408-630-3138



Update on Direct Potable Reuse Regulations

Recycled Water Committee Dec. 6, 2023

Major Regulatory Steps (2023)

- Updated draft regulations made available by DDW in July 2023
- Public hearing held on Sep. 8, 2023
- Newly revised version of the draft regulations issued on Oct. 17, 2023
- 15 days comment period ended on Nov. 6, 2023 (no comments received by the Water Board)

Progression of Regulations (2023 – 2024)

2023

- Water Board adoption hearing (Dec. 2023)
- Submission of rulemaking file to the Office of Administrative Law (OAL)

2024

- Approval by OAL
- Filing with the Secretary of State
- Signing of the regulations by the Secretary of State
- Regulations go into effect

It is anticipated that the regulations would become effective in the early Spring of 2024.

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Santa Clara Valley Water District

File No.: 23-1213

Agenda Date: 12/6/2023

Item No.: 4.3.

COMMITTEE AGENDA MEMORANDUM Recycled Water Committee

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

SUBJECT:

Receive an Update on the Water Supply Master Plan Potable Reuse Goal and Potential Amount of Wastewater Available for Water Reuse.

RECOMMENDATION:

Receive an update on the Water Supply Master Plan Potable Reuse Goal and Potential Amount of Wastewater Available for Water Reuse.

SUMMARY:

During the May 4, 2023 Recycled Water Committee meeting, Valley Water staff presented a high-level overview of potential wastewater available for future water reuse countywide. The high-level overview built upon information developed as part of Valley Water's 2021 Countywide Water Reuse Master Plan (CoRe Plan) which evaluated the opportunities and constraints of expanded recycled (non-potable reuse or NPR) and purified water (potable reuse or PR) countywide. As part of Valley Water's Water Supply Master Plan 2040 (Master Plan), Valley Water staff has previously planned that an additional 33,000 AFY of non-potable reuse will be developed by 2040. The Master Plan also includes the development of an additional 24,000 AFY of potable water reuse, above and beyond the current target for 33,000 AFY of non-potable reuse.

Staff reviewed recent wastewater and recycled water flow data to update the 2021 CoRe Plan values and presented the maximum wastewater availability, not considering reductions due to current and future NPR, environmental and regulatory flow diversions, system losses, seasonal variability, future potable reuse, conservation impacts, and options for Reverse Osmosis concentrate management etc.

Valley Water staff has continued to refine estimates of countywide wastewater availability based on discussion with partner agencies, further analysis of recent flow data, investigations of project specific constraints, and identification of limitations for utilizing future purified water. This refinement has resulted in reductions to the values presented on May 4, 2023.

For example, based on wastewater flow data from the most recent multi-year drought, wastewater availability was found to be more variable and more impacted by drought conditions than previously estimated. Potential wastewater supply for a future Palo Alto facility decreased from 20,000 AFY estimated in the CoRe Plan, to approximately 10,000 AFY based on historically low wastewater flows.

Staff will present information on the updated wastewater availability, including recent wastewater flow information and constraints that may limit water reuse. Except for the Palo Alto project, which has had extensive coordination on these values, the following values will need to be further refined with partner agency staff to determine actual potential purified water production.

Partner Agency	Potential Future Wastewater Availability (AFY)	Potential Purified Water Production (AFY)
<i>Palo Alto</i>	10,000	8,000
<i>Sunnyvale</i>	5,600	4,800
<i>San José / Santa Clara</i>	est. 40,000	24,000 - 32,000
<i>SCRWA</i>	Fully Utilized in the Summer	--
Countywide Total:	55,600	36,800 - 44,800

The certainty of wastewater availability estimates varies between partner agencies depending on the level of maturity of potential projects, availability of previous planning studies, and availability of data. Some estimates are established in prior agreements, whereas others should be considered potential maximums subject to further refinement.

Valley Water is in the process of updating its Water Supply Master Plan, which will evaluate and recommend projects and portfolios to meet future water supply needs. Based on recent evaluations, Valley Water staff will work to update water reuse goals to help diversify our future water supplies with a locally-controlled, drought-resilient supply. These updates will be brought to the Board of Directors for consideration and input as part of the Master Plan 2050 update process. For portfolio development, the following amounts are currently being used: Palo Alto 8,000 AFY, San Jose 24,000 AFY and desalination 24,000 AFY.

ENVIRONMENTAL JUSTICE IMPACT:

There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:

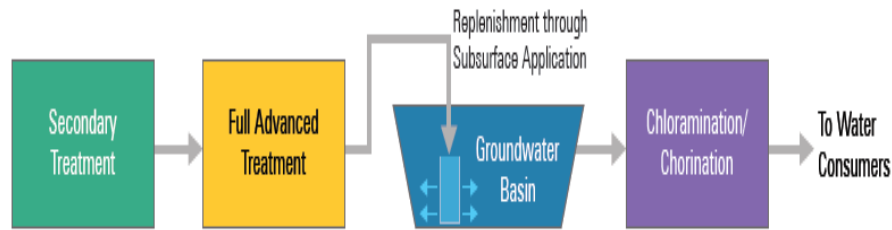
Attachment 1: PowerPoint

File No.: 23-1213

Agenda Date: 12/6/2023
Item No.: 4.3.

UNCLASSIFIED MANAGER:
Kirsten Struve, 408-630-3138

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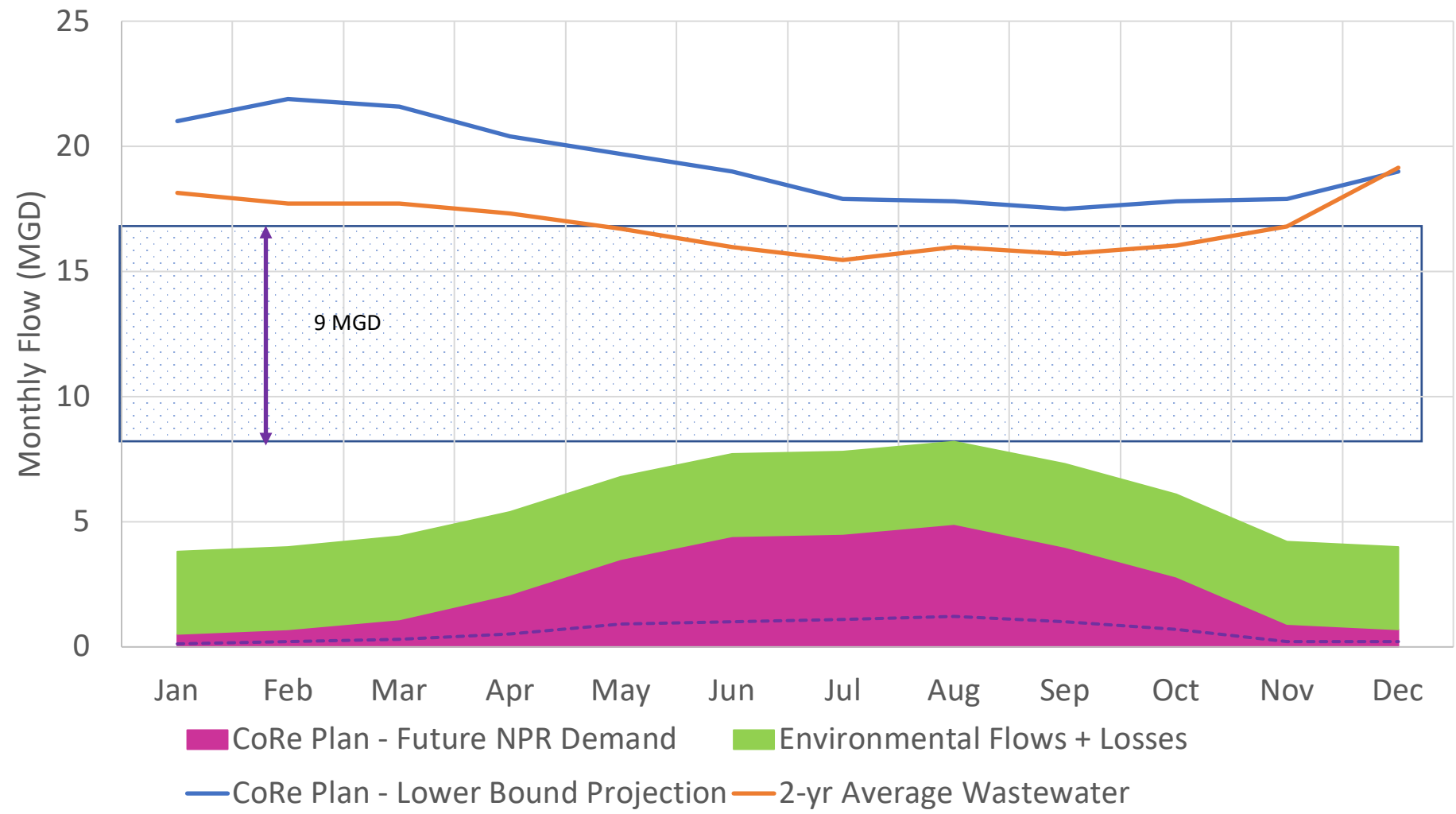
Water Supply Plan Potable Reuse Goal and Potential Amount of Wastewater Available for Reuse

Recycled Water Committee Dec. 6, 2023

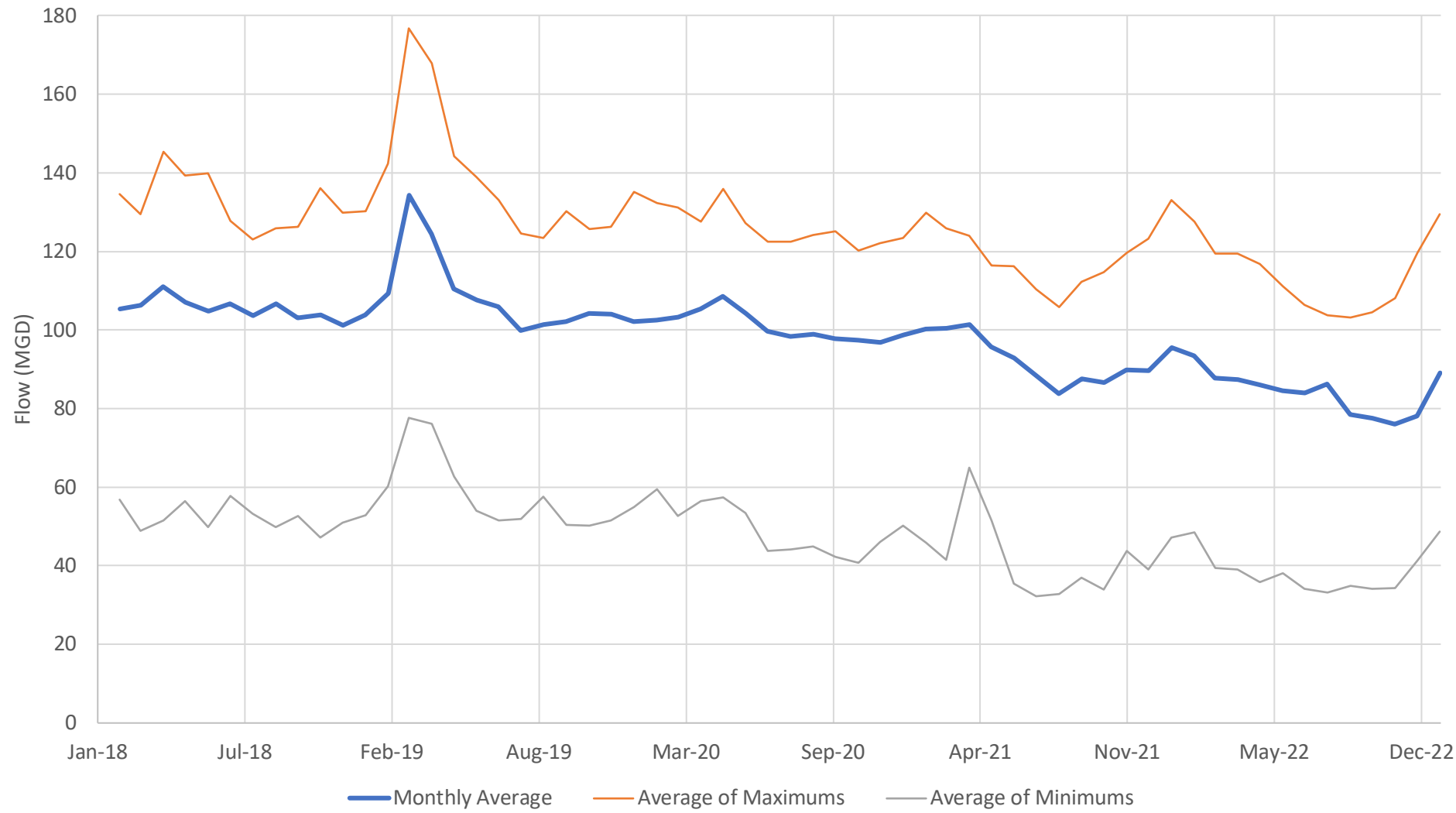
Maximum Wastewater Availability

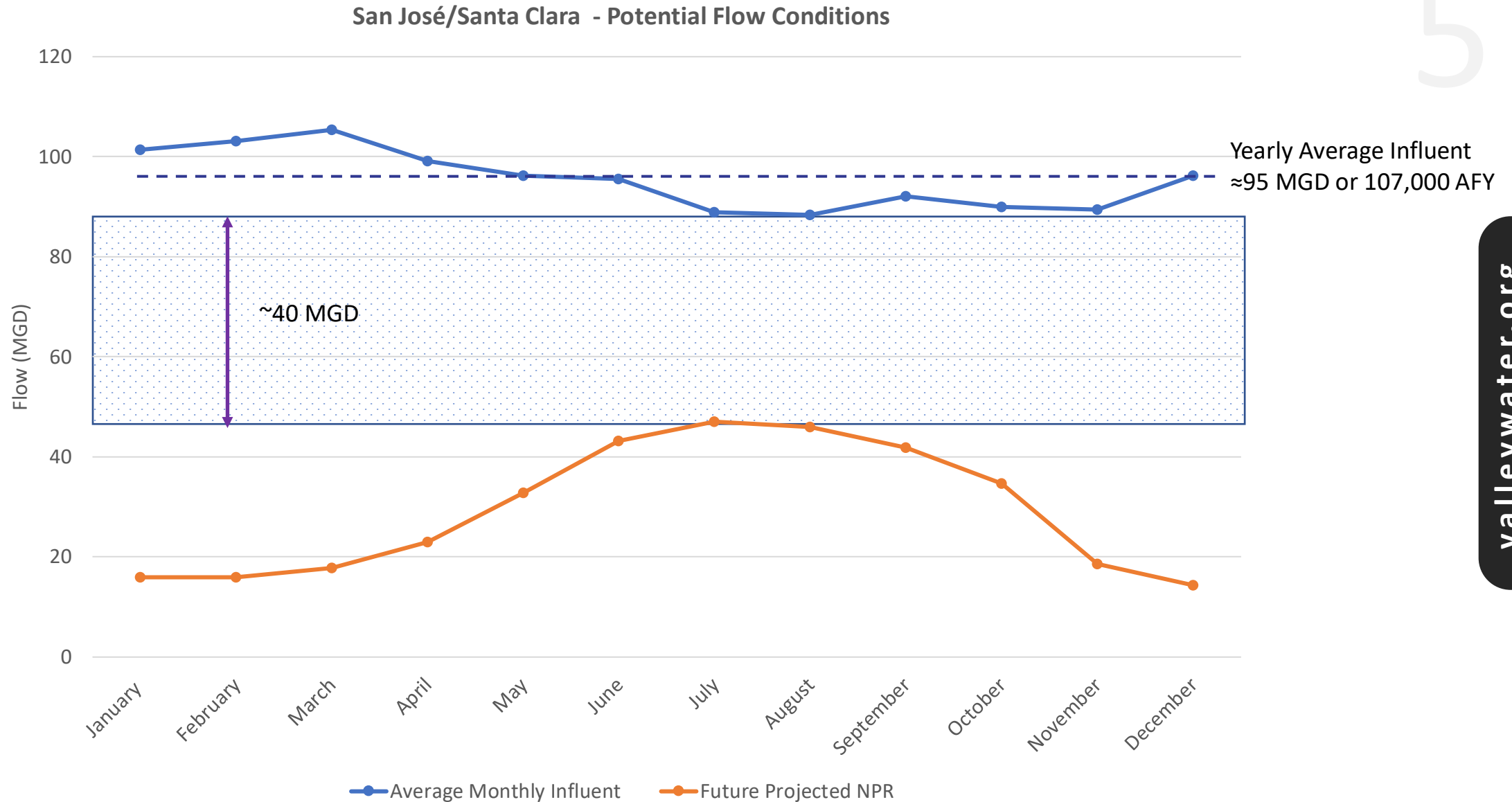
- Previously presented in May 4, 2023 Recycled Water Committee
- Early estimates were maximum wastewater influent availability.
- Estimates have been refined after review of recent data and discussions with partner agencies.

Palo Alto Wastewater and Recycled Water Flow



San Jose - Santa Clara RWF - Monthly Average Influent Flows





Partner Agency	Potential Future Wastewater Available (AFY)	Potential Purified Water Production (AFY)
Palo Alto	10,000	8,000
Sunnyvale	5,600	4,800
San Jose/ Santa Clara	40,000	24,000 – 32,000
SCRWA	Fully Utilized in Summer	--
Countywide Total:	55,600	36,800 – 44,800



Santa Clara Valley Water District

File No.: 23-1211

Agenda Date: 12/6/2023

Item No.: 4.4.

COMMITTEE AGENDA MEMORANDUM Recycled Water Committee

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

SUBJECT:

Receive Information on Recycled Water Activities and Projects Associated with Valley Water's Distribution Portion of the South County Recycled Water System, as well as Recent Master Planning Updates with South County Partners and Provide Feedback.

RECOMMENDATION:

Receive information on recycled water activities and projects associated with Valley Water's distribution portion of the South County Recycled Water System, as well as recent master planning updates with South County partners, and provide feedback.

SUMMARY:

In response to a request from the Recycled Water Committee at the October 27, 2023 meeting, this item will present recycled water activities and projects associated with the distribution portion of the South County Recycled Water System which is owned and operated by Valley Water, as well as recent master planning updates with our South County partners. The staff presentation will include the history of water reuse collaboration in South County, and will discuss the following topics:

- Water Reuse Agreements - discussion of water reuse agreements governing the production, delivery, and retailing of non-potable recycled water in South County.
- Master Planning Activities - master planning activities supporting water reuse in South County, including a synopsis of capital improvements supporting production of tertiary treated recycled water at the South County Regional Wastewater Authority (SCRWA) and improvements to the distribution storage systems by Valley Water.
- Recycled Water Facilities - historical perspective of infrastructure supporting the production and distribution of recycled water in South County.
- Water Reuse Investments - examination of capital and operating investments related to the production and distribution of recycled water in South County, including a review of income derived through water reuse.
- Funding History and Opportunities - description of funding history supporting water reuse in South County, including potential future grant opportunities to expand water reuse.

-
- Joint Water Resources Committee - analysis of the formation and implementation of the Joint Water Resources Committee to collaborate on water resource challenges in South County.
 - Water Reuse and Future Demands - review of past and projected water reuse in South County, and opportunities for recycled and purified water expansion in the future.

The discussion will close with future planning and opportunities to promote and expand recycled and purified water reuse in South County.

Recycled Water Agreements in South County

Water reuse collaboration between Valley Water and the City of Gilroy, the City of Morgan Hill, and the South County Regional Wastewater Authority (SCRWA) dates back to 1978, when the Gilroy Reclamation and Irrigation Project pipeline was first constructed. In 1999, Valley Water entered into partnership agreements (“Producer-Wholesaler-Retailer agreements”) with Gilroy, Morgan Hill, and SCRWA to develop a marketable recycled water program, which included expansion of the Wastewater Treatment and Reclamation Plant (WWTP), located in Gilroy, and the recycled water distribution system. Under the Producer-Wholesaler-Retailer agreements, SCRWA is the recycled water producer, Valley Water is the wholesale distributor, and Gilroy and Morgan Hill are the recycled water retailers.

South County Recycled Water System

Currently recycled water is distributed for landscape and industrial purposes in the City of Gilroy, as well as for agricultural purposes in the unincorporated county areas adjacent to SCRWA. There are 17.3 miles of pipeline, with the latest portion completed just this year, and providing future water reuse along West Luchessa Avenue between SCRWA and the Glen Loma development. The water reuse distribution and storage systems serve an average of 12 customers, who account for approximately 2100 acre-feet of reuse annually. The current capacity of the system is 8.5 million gallons per day (MGD), with ongoing capital expansion to 11 MGD by 2025. System storage is supported by a 1.5 million gallon storage tank and a 3 million gallon on-site reservoir. During summer month peak demand, all available wastewater is recycled, being constrained by on-site storage limitations and distribution system pumping capacity.

Committee Engagement

The Joint Water Resources Committee (Valley Water, City of Gilroy, City of Morgan Hill, SCRWA) was established by the Valley Water Board of Directors on February 14, 2017, to advance common South County Water interests and receive input from stakeholders and interested parties related to various water resource issues in South County, including identifying the current and future demand for recycled water as well as jointly identifying funding sources for implementation of the South County Recycled Water Master Plan; and facilitating policy discussion and sharing of technical information on furthering development and use of recycled water in South County.

In 2021, the Joint Water Resources Committee recommended the establishment of a Technical Working Group to evaluate the opportunities and constraints of adopting a comprehensive reuse

agreement for South County, with consistent terms and conditions countywide, and to advance water reuse and purified water production and distribution.

Master Planning

An integral element of the above agreements was the preparation of a Master Plan for additional recycled water projects. The first *South County Recycled Water Master Plan* (2004 Master Plan) was completed in 2004. The plan identified Immediate-Term, Short-Term, and Long-Term recycled water investment projects to improve the South County recycled water system's reliability and to expand the use of recycled water in South County. In 2015, Valley Water and its South County partners developed an update to the 2004 Master Plan that supported the continued expansion of water reuse in South County. This report - the *2015 South County Recycled Water Master Plan Update* - included a capital improvement program and associated costs for recycled water expansion preferred alternatives. This plan also evaluated the feasibility of emerging issues including indirect potable reuse (IPR) and direct potable reuse (DPR). In 2023, the Technical Work Group developed further updates to the 2015 Master Plan Update - the *2023 South County Recycled Water Master Plan Update* - that include revisions to the current reuse infrastructure (new pipelines), recycled water customer updates and their reuse potentials, evaluations of potential new users along the distribution system, incorporation of planned future system upgrades, and an updated discussion of constraints to ongoing operation and future expansion options. The 2023 Master Plan Update is currently undergoing final revisions and will be brought back to the Committee in early 2024.

ENVIRONMENTAL JUSTICE IMPACT:

There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:

Attachment 1: PowerPoint

UNCLASSIFIED MANAGER:

Kirsten Struve, 408-630-3138

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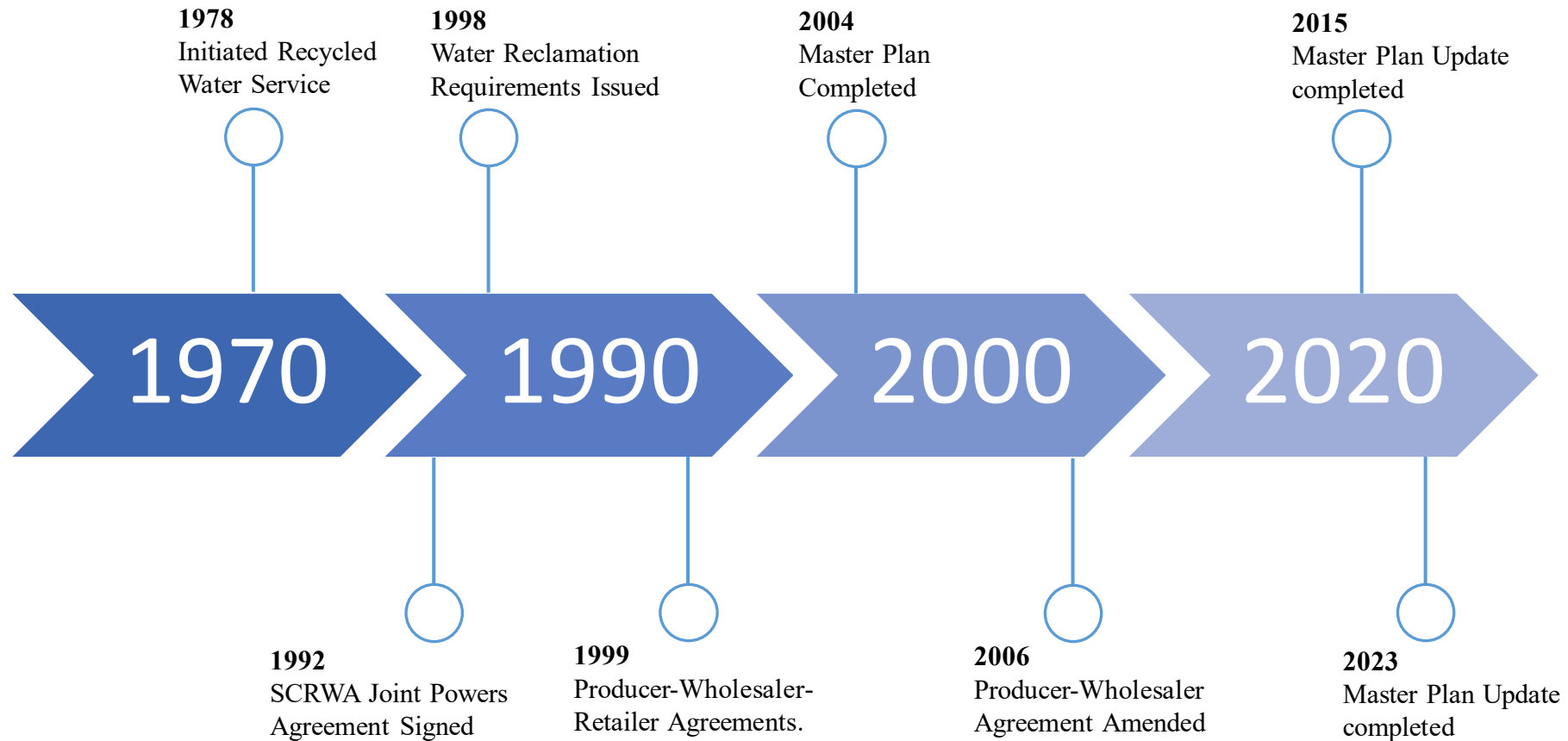


SOUTH COUNTY RECYCLED WATER SYSTEM & MASTER PLAN UPDATE

Presented by: David Tucker, Associate Engineer

Recycled Water Committee December 6, 2023

History of Reuse Collaboration



South County Regional Wastewater Authority

- **1992 JPA** (Gilroy 60%, MH 40%)
- **Central Coast NPDES Permit**
- **Contract Operations (Jacobs)**
- **Capacity - 8.5 MGD (11 MGD 2025)**



South County RW System

- **SCRWA Produces RW**
- **VW Wholesales RW**
- **Gilroy Retails RW**
- **SWRCB Regulates RW**



South County RW Agreements

- **1999 Producer - Wholesaler**
- **1999 Wholesaler - Retailer**
- **2006 Producer - Wholesaler**
- **2023 Agreement Review**



South County RW System Map



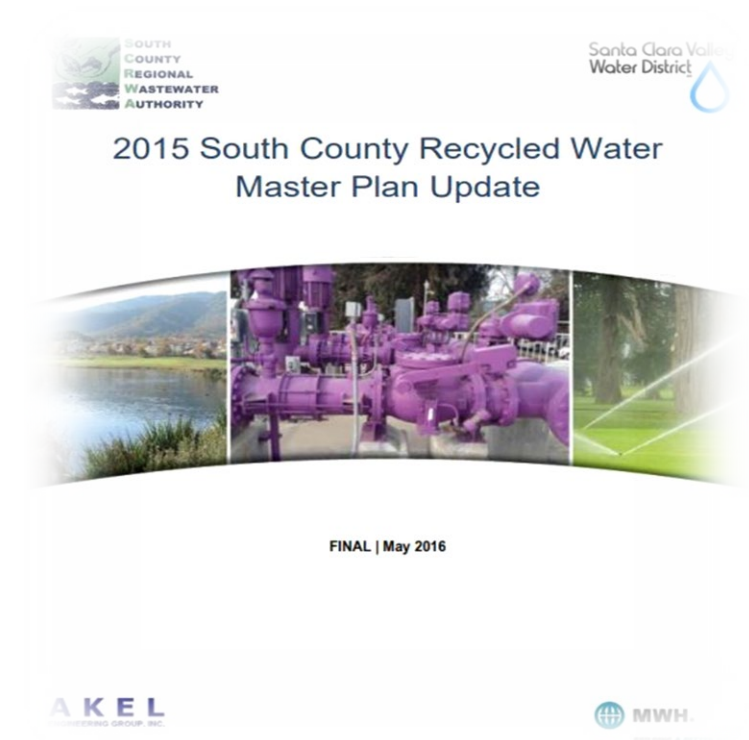
South County RW Key Facts

- **Operating Since 1978**
- **17.3 Miles of Pipeline**
- **12 Customers**
- **2100 AFY (1.9 MGD)**



South County RW Master Planning

- **2004 RW Master Plan**
- **2015 RW Master Plan Update**
- **2023 RW Master Plan Update**



Benefits of Master Planning Implementation

- **Water Supply Reliability**
- **Expands Reuse Markets**
- **Create system Redundancy**



South County RW Investments

- **SCRWA \$62M WWTP Upgrades**
- **VW \$48M Distribution System**
- **VW Annual Revenue = \$440k**
- **VW O&M Costs = \$206K**



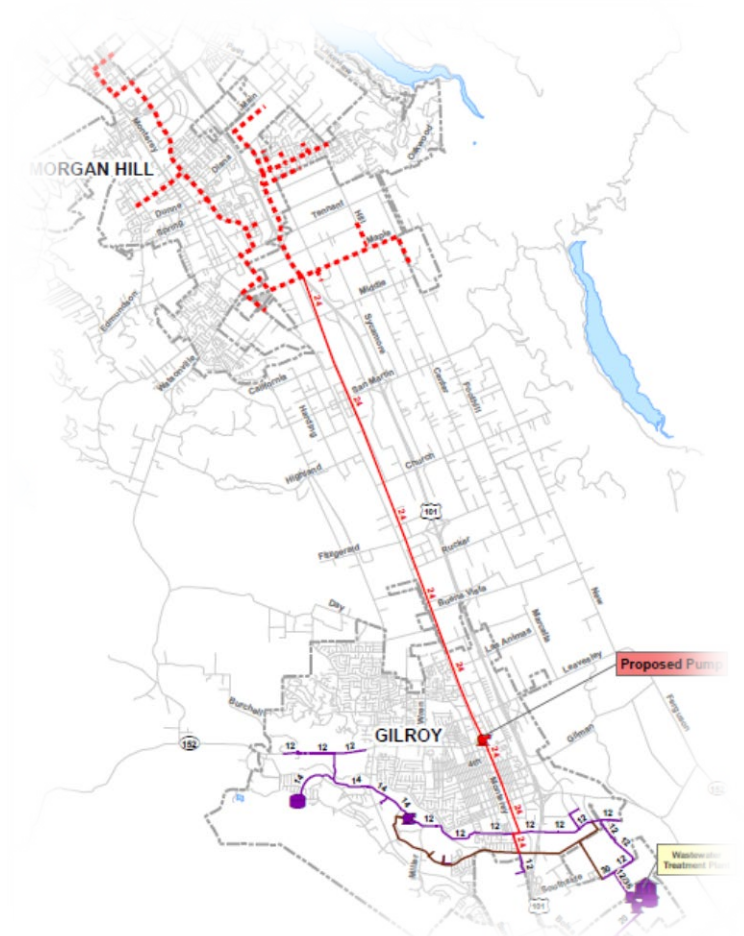
2023 MP Recommendations



Morgan Hill Water Reuse Opportunities

- **Potentially Feasible Options**

- Direct Potable Reuse
- NPR+ from SBWR
- MH AWPf for GWR
- MH AWPf for SWA
- Recycled Water from SCRWA
- SCRWA AWPf for GWR in MH



South County RW Federal Funding

- **2016 BOR Title XVI (\$5.7M)**
- **2023 BOR Planning (\$330K)**
- **Feasibility Study**
- **Storage Priority**



Joint Water Resources Committee

- **Interagency Forum (2017)**
- **Roles & Responsibilities**
- **Advance Common Interests**
 - Water Supply Planning
 - Funding Sources Identification
 - Water Reuse Development
 - Homelessness Impacts



Questions?



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Santa Clara Valley Water District

File No.: 23-1212

Agenda Date: 12/6/2023

Item No.: 4.5.

COMMITTEE AGENDA MEMORANDUM Recycled Water Committee

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

SUBJECT:

Receive an Update on the 7th Independent Advisory Panel Meeting for an Evaluation of Valley Water's Purified Water Program.

RECOMMENDATION:

Receive information on the 7th meeting of the Independent Advisory Panel for an evaluation of Valley Water's Purified Water Program.

SUMMARY:

In 2012, Valley Water contracted with the National Water Research Institute (NWRI) to establish an Independent Advisory Panel (IAP) of water reuse academics, industry leaders, regulatory experts to review and provide feedback on Valley Water's developing Purified Water Program. Since then, the IAP has met several times to review technical materials and provide recommendations on program developments. NWRI established the Independent Advisory Panel Program to provide objective, third-party scientific review of projects or programs within the water and wastewater communities. NWRI Panels are used by public agencies, state agencies, and companies when a project involves challenging issues that would benefit from having an independent third-party scientific and technical review by national experts.

The most recent meeting on June 21st, 2023, was the 7th IAP meeting where Valley Water staff presented to the Panel on efforts undertaken pertinent to the Purified Water Program, including the following topics:

- General Update on the Proposed Purified Water Project in Palo Alto
- Treatment Trains and Direct Potable Reuse Readiness
- Groundwater Basin Studies and Reverse Osmosis Concentrate Management (ROCM) Progress; and

- Outreach Efforts

The Panel's input and comments on these efforts have been finalized and delivered to Valley Water staff in November 2023 as a comprehensive report, which is attached. Staff will be incorporating recommendations of the IAP as they continue to move forward with the implementation steps of the Purified Water Project.

ENVIRONMENTAL JUSTICE IMPACT:

There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:

Attachment 1: IAP Report

UNCLASSIFIED MANAGER:

Kirsten Struve, 408-630-3138



Valley Water Potable Reuse Program

Independent Advisory Panel Meeting Report • June 21, 2023

Prepared for

Valley Water
5750 Almaden Expressway
San Jose, CA 95118-3686

Prepared by

National Water Research Institute
18700 Ward St.
Fountain Valley, CA 92708

November 6, 2023

Updated Final Report



Disclaimer

This report was prepared by an Independent Advisory Panel (Panel), which is administered by the National Water Research Institute. Any opinions, findings, conclusions, or recommendations expressed in this report were prepared by the Panel. This report was published for informational purposes.

About NWRI

A 501c3 nonprofit organization and Joint Powers authority, the National Water Research Institute (NWRI) was founded in 1991 by a group of California water agencies in partnership with the Joan Irvine Smith and Athalie R. Clarke Foundation to promote the protection, maintenance, and restoration of water supplies and to protect public health and improve the environment.

We assemble teams of scientific and technical experts that provide credible independent review of water projects, develop recommendations that support investment in water infrastructure and public health, and enable water resource management decisions grounded in science and best practices.

NWRI's member agencies include Inland Empire Utilities Agency, Irvine Ranch Water District, Los Angeles Department of Water and Power, Metropolitan Water District of Southern California, Orange County Sanitation District, and Orange County Water District.

For more information, please contact:

National Water Research Institute
18700 Ward Street
Fountain Valley, California 92708 USA
www.nwri-usa.org

Kevin Hardy, Executive Director
Mary Collins, Communications Manager
Suzanne Sharkey, Water Resources Scientist and Project Manager



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Introduction

This report presents a brief history of the Valley Water Potable Reuse Program (the Project) and a summary of Panel findings and recommendations, followed by specific recommendations that address the topics presented during the meeting on June 21, 2023.

Panel History

In 2013, the National Water Research Institute of Fountain Valley, California, appointed local and national water industry experts to an Independent Advisory Panel to provide a credible, third-party, science-based review of potable reuse as a potential future water supply option, as proposed by Valley Water (formerly the Santa Clara Valley Water District) of San Jose, California. The goal of the Panel review is to help Valley Water staff and stakeholders make informed decisions about potable reuse in the Valley Water service area. See **Appendix A** for information about the NWRI Panel process.

NWRI Independent Advisory Panel Members

The Panel members for Valley Water provide expertise in advanced water treatment technologies and plant operations, water recycling regulations, hydrogeology, water quality and analytical methods, and risk assessment for waterborne pathogens and chemicals. The Panel members are:

- Co-Chair: James Crook, PhD, PE, Environmental Engineering Consultant
- Co-Chair: Katherine Cushing, PhD, San Jose State University
- Jean Moran, PhD, California State University East Bay
- Adam Olivieri, DrPH, PE, EOA, Inc.
- Mehul Patel, PE, Orange County Water District
- Shane Snyder, PhD, Nanyang Technological University, Singapore
- Rupam Soni, PE, Metropolitan Water District of Southern California
- Sunny Wang, PE, City of Santa Monica

Click on Panel member names to view their profiles on the NWRI website or visit www.nwri-usa.org/experts.



Project Description

In collaboration with several South Bay agencies, Valley Water’s goals are to develop and expand recycled and purified water to:

- Protect water consumers from the impacts of climate change.
- Create a new, drought-resilient, and locally controlled water supply.
- Reduce dependency on imported water.
- Protect the region’s groundwater supply.

Since the Panel last met on July 29, 2020, the Valley Water project has evolved into a proposed public private partnership (P3) that will build an advanced water treatment facility (AWTF) using a design-build-finance-operate-maintain model. Under this structure, a private entity will partner with Valley Water to deliver an advanced water treatment facility consisting of a three-step treatment process: microfiltration, reverse osmosis (RO), and ultraviolet disinfection.

The first component of Valley Water’s Purified Water Program is intended to produce up to 24,000 acre-feet per year (AFY) of advanced treated water by 2025. Long-term, the district’s goal is to produce up to 45,000 AFY of purified water. A request for proposals (RFP) from prospective P3 partners is planned to be released in the third quarter of 2023.

June 2023 Panel Meeting

The seventh meeting for the Valley Water Project was held on June 21, 2023. Before the meeting, Project stakeholders, NWRI staff, and the Panel Co-Chairs identified the following goals and objectives:

- Review and discuss key recommendations from the meeting on July 29, 2020
- Introduce the Panel to the proposed indirect potable reuse (IPR) project with the City of Palo Alto
- Review key policy, regulatory, and technical elements of the project
- Allow time for the Panel to begin drafting their recommendation report



Pre-Meeting Review Materials

Before the meeting, Valley Water provided the following documents for the Panel to review:

- A letter that described the purpose of the pre-meeting review documents
- Section 1: Introduction & General Information about the RFP
- Indirect Potable Reuse Los Gatos Recharge System Model Simulations, by Todd Groundwater
- Final Zones of Controlled Drinking Water Well Construction Technical Memorandum, by Todd Groundwater
- Valley Water Revised Approach for Groundwater Monitoring and Zones of Controlled Drinking Water Well Construction
- Preliminary Tracer Study Results for Los Gatos Recharge System Groundwater Replenishment Reuse Project, by Todd Groundwater
- Final Technical Memorandum Task 3 Monitoring and Compliance Points, by Cordoba Corporation
- Title 22 Engineering Report Framework
- Concurrence with Proposed Regulatory Process for Discharge of Reverse Osmosis Concentrate from an Advanced Water Purification Facility in Palo Alto, by San Francisco Bay Regional Water Quality Control Board
- Table 2: Reverse Osmosis Concentrate (ROC) Studies to Support National Pollutant Discharge Elimination System (NPDES) Reissuance (updated on 04/20/2023)
- NWRI Panel Report for Meeting 6, dated September 11, 2020



Report Appendices and Exhibits

Appendices A, B, and C clarify the panel process and the June 21 meeting. Appendix D lists the acronyms used in this report. Exhibits, which are provided separately, include documents from two Southern California water recycling agencies. The appendices and exhibits are as follows:

- Appendix A—About the NWRI Panel Process
- Appendix B—Meeting agenda
- Appendix C—A list meeting attendees
- Exhibit 1—Orange County Water District (OCWD) Waste Discharge Requirements and Master Recycling Permit
- Exhibit 2—Second Amended and Restated Joint Exercise of Powers Agreement for the Development, Operation, and Maintenance of the Groundwater Replenishment System and the Green Acres Project (OCWD)
- Exhibit 3—Sustainable Water Infrastructure Project (SWIP) Design/Build Agreement, Exhibit 5 – Permit List (City of Santa Monica)
- Exhibit 4—SWIP Design/Build Agreement, Exhibit 6A – Pre-Commissioning, Commissioning, Functional, and Acceptance Testing Requirements (City of Santa Monica)
- Exhibit 5—SWIP Design/Build Agreement, Exhibit 6B – Guaranteed Plant Performance Parameters (City of Santa Monica)

In addition, the Panel refers the Valley Water Project Team to the City of Santa Monica's SWIP engineering report at <https://www.santamonica.gov/sustainable-water-infrastructure-project-swip>



Findings and Recommendations

The findings and recommendations presented here are derived from a review of the materials provided to the Panel, presentations from the Valley Water Project Team, discussions during the meeting, and Panel member discussion after the meeting. The general Panel comments are followed by recommendations.

General Panel Comments

The technical aspects of the project are generally appropriate and comprehensive. The Panel commends Valley Water for selecting and moving forward with plans to design, build, and operate an IPR project with the City of Palo Alto using a P3 framework. The proposed IPR project will produce an estimated 11,200 AFY of fully advanced treated water for IPR through surface spreading at the Los Gatos Recharge System complex located in the City of Campbell.

The Panel appreciates the effort that the Valley Water Project Team took to update the Panel on progress since the last meeting in 2020. The documents and presentations were informative and illustrative of the significant progress that has been made since the last meeting. The Board of Directors' support for water reuse continues to be robust.

Given the experience that Panel members Mehul Patel and Sunny Wang have had working in water reuse at the operational level, it may be helpful for the Project Team to confer with them to get additional insights on how best to prepare the upcoming RFP. Their input may help the Project Team meet overall treatment performance, design/operation requirements, water quality performance, and cost goals. They are available for a meeting to discuss Valley Water Project Team questions.

The Panel is pleased and excited about the forthcoming issuance of the RFP and looks forward to hearing more about project planning and implementation at our next meeting. More details on specific documents prepared for and presentations given during the June 21, 2023, meeting are presented below. We encourage Valley Water to continue discussing future project options with the



City of San Jose, however we recognize that the immediate focus of reuse efforts will be the Palo Alto P3 Project.

The Panel has the following additional recommendations:

- Due to the complexity and evolution of the Project, completion by the planned date of late 2028/early 2029 appears optimistic.
- It is essential to clarify tasks and responsibilities for the City of Palo Alto, Valley Water, and the P3 contractor team in the Project planning stage to support the financial, technical, and regulatory viability of the project.
- The additional financial, technical, and regulatory responsibilities associated with IPR and direct potable reuse (DPR) projects are fundamentally distinct from Valley Water's current role of wholesale water provision, flood protection, and environmental protection—particularly for permitting. The Panel's comments throughout this report reflect its perspective on how to incorporate these additional responsibilities into Valley Water's operations and planning.
- Progress with community outreach is proactive and uses multiple strategies to reach target audiences.

Introduction to the Proposed Purified Water Project

After the introduction to the proposed P3 Project, the Panel had the following recommendations:

- Valley Water should review the California State Water Resources Control Board (State Water Board) Department of Drinking Water (DDW) proposed draft DPR regulations on technical/managerial/financial capacity and clarify how the key components would be addressed as part of a P3 arrangement. It is important to clarify the oversight role that Valley Water will play in future project expansion or the addition of DPR.
- Clarifying Valley Water's role and oversight on source water production for potable reuse is important. It appears that Valley Water plans to rely on the City of Palo Alto for implementation and enforcement of source control regulations as required by its waste discharge requirements (WDRs). Given that Palo Alto's WDRs are designed for its own operations and not for



potable reuse source water, the Panel feels that Valley Water needs to take a more active role in source control efforts.

- Studies of nature-based reverse osmosis concentrate treatment alternatives, such as horizontal levees, can provide useful information for how ROC could be best managed. The Panel suggests completing and analyzing relevant studies soon and incorporating applicable findings into the contract documents.
- Valley Water should consider Palo Alto's ability to or responsibility for providing source water in a known total dissolved solids (TDS) range (for example 900–1,000 mg/L) and to hold them accountable in the contracting process. The RFP could include a requirement that the P3 entity quantify risk caused by potential variations in source water quality.
- Include a cost estimate exercise, or similar, in the RFP to better understand the cost distribution of capital vs. operations and maintenance costs.

Project Permitting Approach

The Panel notes that the overview for the permitting approach and outline for the Title 22 engineering report generally appear appropriate and comprehensive, with a few recommendations:

- Valley Water should verify with DDW staff that the engineering report addresses the monitoring and reporting requirements and confirm that the monitoring and reporting approach are acceptable for this project. Further, the Title 22 report should also address emergency operations, especially for the Palo Alto and full advanced treatment facilities.
- Ideally, the P3 entity will be responsible for completing all necessary studies and reports to obtain required permits, because this process can impact schedule, design, and cost. Valley Water can be the lead entity to engage with regulators, but transferring permitting responsibility to the P3 entity, as they would be under contract to produce technical and design documents to support it, would streamline the project schedule and minimize risk to Valley Water.

Valley Water would still be the lead agency, but the P3 would be responsible for producing all required documents and scheduling to obtain each permit.



An example permit responsibility list is provided in Exhibit 3 (provided separately) as a model for Valley Water to consider. For example, the following permitting items could be transferred to the P3:

- Title 22 Engineering Report
- Operations Optimization Plan
- Completion of DDW and Regional Water Quality Control Board (RWQCB) site inspection to obtain a letter from DDW and RWQCB stating that the inspection is satisfactory.
- Compliance with Technical, Managerial, and Financial requirements under Title 22, including managing asset and data responsibilities as well as providing all information necessary to ensure compliance.
- Any provisions for the possibility of implementing direct potable reuse in the future. (Future DPR from the facility would likely necessitate renegotiating the P3 entity contract.)
- Given the implementation and operation time frame of the P3 delivery, Valley Water should also consider how changes in regulatory requirements may need to be negotiated with the P3 entity when they are adopted.
- A project-specific climate vulnerability assessment (projected sea level rise, increased saltwater intrusion, greater flood risk, etc.) will be required as part of new or amended WDRs or National Pollutant Discharge Elimination System permits with the Regional Water Quality Control Board. Valley Water should determine what entity will be responsible for preparing the permitting documents.



Treatment Train and Attaining Log Reduction Values

Following the presentation and discussion about the treatment train and attaining log reduction values (LRVs), the Panel recommends:

- Consider clarifying and differentiating between the pre-design report and the Title 22 report based on goals for each document. Although they are related, the goals of these two reports are different. The pre-design report is best suited for contracting with the P3 provider and the Title 22 report's primary function is compliance. For example, topics such as ROC recovery, membrane cleaning intervals, chemical consumption, and energy consumption are not relevant for regulatory compliance but are important for P3 contractual requirements.
- Add a section on critical control points (CCPs) and how to handle off-spec conditions when a CCP is not met. CCPs are key criteria for regulatory agencies.
- Evaluate alternative post-treatment approaches for the purified water. Although the use of CaCl_2 for IPR is appropriate, it may not be ideal for future DPR applications for treated water augmentation. The increased chloride content may impact corrosion potential of distribution mains or household plumbing.
- The Panel notes that monitoring reports shown on page 4 of the Task 3 Technical Memo from Cordoba may need to include a monthly pathogen LRV report that summarizes compliance based on online analyzer values. This is a requirement for IPR facilities to comply with groundwater recharge regulations. The Panel understands that the project will initially be designed as a tertiary spreading project, which may not require such a report in its current form.
- Note that the WDRs and Water Reclamation Requirements require quarterly reporting in addition to annual reporting; the report may include records of operational problems/plant updates, corrective and preventative maintenance measures, the volume of influent/effluent produced, constituents of emerging concern (CEC) detections, any changes in operating



parameters, and source water/pretreatment program information. These requirements need to be taken into consideration for the P3 contract.

- The P3 contract should define and characterize the source water quality envelope that the AWTF will be designed for or consider putting this responsibility on the P3. For example, the contract should specify the treated water quality requirements of the project and for the P3 entity to characterize source water quality during preliminary design to ensure that the selected treatment processes and design will meet treated water quality requirements. If the AWTF reverse osmosis system must handle all source water conditions, including substantial variations in TDS or total organic carbon (TOC), then the RFP must clearly define the project's operating ranges and establish performance criteria for the P3.
- The P3 contract should also consider including treatment performance goals for individual treatment processes to support compliance with LRVs, warranty conditions of individual treatment process equipment, and operation requirements such as minimum RO recovery.

Reverse Osmosis Concentrate Management

Generally, Valley Water's blending and discharge approach, along with content in the State Water Board letter, appears appropriate for this project. Expansion of the project will most likely require an additional ROC management option although at Palo Alto, 10 million gallons per day (mgd) may be the treatment plant capacity. In addition, the Panel recommends:

- Valley Water would benefit from a better understanding of the interests and priorities of environmental groups, such as San Francisco Bay Estuary Institute, that may be concerned with ROC discharge into the Bay, specifically for CECs such as PFAS/PFOS.
- Maintaining open communication with DDW to ensure that the RFP aligns with DDW's agreement for Bay discharge along with possible future additional restrictions to the project's preferred discharge option.
- Developing a timetable to determine the viability and applicability of ROC treatment options including nature-based treatment systems. This would help the Project Team understand if additional ROC treatment scope will be



needed in the RFP. Valley Water should concisely summarize other ROC treatment options and show how that the schedule aligns with issuance of the RFP.

- Note that the State Water Board and the Bay Area Clean Water Agencies have been focused on nutrient reduction for years, and a general permit is the most likely approach for nutrient management. The Panel recommends that Valley Water determine how Palo Alto may address potential nutrient load reduction requirements.

Tracer Study and Groundwater Studies

The Panel agrees that the tracer test generally confirms the model results of two months of travel time. Further, it recommends:

- The Project Team should confirm that these test results would be accepted by DDW.
- The Project Team should plan for future tracer studies; these studies are a useful tool for the Project Team, not just a regulatory requirement.
- There may be issues with the detection limit or reporting limit for the tracer in well water, since a homogeneous medium, without dispersion, is unlikely in this setting. It is typical to see a tail on the breakthrough curve, but the tracer test results do not show that.
- Charcoal results and water results are shown on a log scale—but on linear scales, the charcoal peak is ahead of the water peak and tracks the water peak overall. Panel member Dr. Jean Moran has spoken with Jason Gurdak about how to address this finding. The two early peaks from charcoal samples are difficult to explain but are likely due to contamination. And although they are at relatively high concentrations, the peaks are not seen in corresponding water samples; however, the charcoal sample detections that occur during the tracer breakthrough curve do show detections in water samples.
- The Project Team should review the high-water table in the project area and consider that project water may daylight at Los Gatos Creek.



- If additional groundwater studies are warranted, consider modifying the model to reflect higher resolution by including an additional layer in the upper zone. Currently, there are wells with and without tracer detections in the upper layer of the model.
- If Valley Water anticipates increasing capacity of the recharge system, more tracer studies will likely be needed. If Valley Water is not seeking treatment credits from recharge, then existing data may be sufficient. Quantifying dilution, which is required for log removal credits, may require additional tracer tests and/or updating the model to accurately quantify flux in the zone affected by IPR. Only one pond (about 30 acre-feet) was tagged in this tracer test, but the ultimate volume of recharge in the Los Gatos area would be up to 18,000 acre-feet.
- Consider creating a schedule to update or revise the groundwater model. For example, Orange County Water District typically updates its model following tracer tests.
- A greater understanding of background PFAS/PFOA levels is needed. The Project Team should acknowledge low levels of PFAS in the pond and their likely source so that it is not attributed to the advanced treated water. A deep understanding of the current situation is critical before Valley Water project water enters groundwater to protect against future litigation risk.
- The Panel understands that Valley Water intends to use full advanced treatment to meet log reduction requirements in the groundwater recharge regulations. Valley Water is the exclusive water management agency under the Sustainable Groundwater Management Act (SGMA), and its Groundwater Management Plan is the approved alternative to the Groundwater Sustainability Plan required by the Department of Water Resources, which gives Valley Water standing to regulate groundwater extraction and well permitting. In addition, Santa Clara Valley Water District Board Resolution 18-04 memorializes the process to regulate groundwater extraction under SGMA, as needed.



Public Outreach

The wide range of outreach efforts and platforms used by Valley Water is impressive, especially the efforts made to pivot to online programs during the COVID-19 pandemic. Highlights include the community-centered approach and getting buy-in from knowledgeable medical experts and politicians. The Panel applauds Valley Water's ten years of outreach work on the proposed project. Going forward, it recommends:

- Continue to test messages, project awareness, and attitudes toward potable reuse with survey and focus groups. The publication from the local medical association could be shared with residents to see if that information is persuasive for people who are concerned about the health and water quality aspects of the project.
- Continue broad outreach through project design, construction, and operation phases, but also invest in community engagement to help move the project forward. This may include coordinating with cities that may have project facilities, garnering support from state and federal elected officials, and developing strong proponents who can speak for the project in the event of potential opposition. Partnerships with community-based organizations may also help connect with hard-to-reach communities.
- Develop a robust construction outreach program for all affected areas, especially along the proposed pipeline routes. As suggested in the meeting, branding along the construction route may add positive exposure through messaging such as, "This project created (number) new jobs," or "...provides a drought-proof water supply."



Appendix A • About NWRI Panels

NWRI Independent Advisory Panels are independent teams of internationally recognized experts that review challenging water resources management, policy, and investment issues. This process leads to decisions that are grounded in science and best practices. NWRI-facilitated Panels serve cities, counties, special districts, joint powers agencies, government agencies, nongovernmental organization partners, and private firms.

We have administered hundreds of Panel meetings across the country on topics that include water treatment and reuse infrastructure planning; design, commissioning, monitoring, and operations; groundwater quality and recharge management; surface water quality and reservoir design improvements; and a growing body of potable reuse policy guidance across the country.

NWRI Panels provide:

- Independent, third-party review and evaluation.
- Scientific and technical advice by relevant, leading industry experts.
- Help and support with challenging scientific questions and regulatory requirements.
- Reports on status, progress, findings, and recommendations as required by the engagement.
- Support in interactions with the public, decision makers, and regulators.



Appendix B • Meeting Agenda



Independent Advisory Panel on Valley Water Potable Reuse Program

Meeting 7 Agenda

Wednesday, June 21, 2023

Location

Valley Water – San Jose, CA

See Outlook calendar invite for remote access

Contacts

Tianna Manzoni: 562.708.0123

Suzanne Sharkey: 949.258.2093

Meeting Objectives

- Review and discuss key Independent Advisory Panel (Panel) findings and recommendations from last Panel Meeting held on July 29, 2020
- Introduce the Panel to the proposed Purified Water Project
- Review key policy, regulatory, and technical elements of the project
- Allow time for the Panel to begin drafting their recommendation report.

Time (Pacific)	Topic	Presenter
9:00 a.m.	Welcome, Introductions, and Review Agenda	Kevin Hardy, NWRI
9:10 a.m.	Valley Water Opening Remarks	Barbara Keegan, Board Vice Chair, Valley Water
9:15 a.m.	Introduction to the Proposed Purified Water Project	Hossein Ashktorab
9:35 a.m.	Key Policy and Regulatory Elements <ul style="list-style-type: none"> • 9:35am – Delivery by Public-Private Partnership • 9:45am – Approach to Permitting 	Kirsten Struve Medi Sinaki
10:05 a.m.	BREAK	
10:20 a.m.	Key Technical Elements <ul style="list-style-type: none"> • 10:20am Treatment Train and LRV Attainment • 10:30am – DPR Ready AWTP • 10:40am – ROC Management • 10:55am – Groundwater Basin Studies 	Zach Helsley Medi Sinaki Jason Gurdak

18700 Ward Street • Fountain Valley, CA 92708 • 714-378-3278 • nwri-usa.org



11:50 a.m. LUNCH BREAK

12:30 p.m.	Purified Water Outreach Accomplishments	Sherilyn Tran
1:15 p.m.	Final Q&A Session	Kevin Hardy, NWRI
1:30 p.m.	Private Panel Working Session	Jim Crook, Panel Chair Katherine Cushing, Panel Vice Chair
2:30 P.M.	Adjourn	

Independent Advisory Panel Members

- Co-Chair: James Crook, PhD, PE, Environmental Engineering Consultant – Remote Participation
- Co-Chair: Katherine Cushing, PhD, San Jose State University
- Jean Moran, PhD, California State University East Bay
- Adam Olivieri, DrPH, PE, EOA, Inc.
- Mehul Patel, PE, Orange County Water District
- Shane Snyder, PhD, Nanyang University
- Rupam Soni, PE, RCE, Metropolitan Water District of Southern California
- Sunny Wang, PE, City of Santa Monica

National Water Research Institute

- Kevin M. Hardy, Executive Director
- Mary C. Collins, Communications Manager
- Suzanne Sharkey, Project Manager
- Tianna Manzon, Research Project Coordinator



Appendix C • Meeting Attendees

Chanie Abuye
Ginachi Amah
Hossein Ashktorab
Randy Barnard
Henry Barrientos
Brian Bernados
Lakeisha Bryant
Dolly Chen
Jason Chiar
Arthine Cossey van Duyne
Phillippe Daniel
Jan Davel
Anthony DeSalvo
Eric Dunlavey
Rebecca Eisenberg
Melissa Gunter
Jason Gurdak
Zach Helsley
Pedro Hernandez
Maureen Hodgins
Lei Hong
Bob Hultquist
Katja Irvin
Jill Jamieson
Barbara Keegan, Valley Water Board Vice-Chair
Jeremy Lowe
Mark Millan
Cameron Kostigen Mumper
Dennis Murphy
Mansour Nasser
Brian Pecson



Jeff Provenzano

Medi Sinaki

Kirsten Struve

James Sylvain

Geoffrey Tick

Laura Toomey

Sherilyn Tran

Jonathan Uhler

Luisa Valiela

Peter Zhou

NWRI Panel Members

James Crook, PhD, PE, Environmental Engineering Consultant

Katherine Cushing, PhD, San Jose State University

Jean Moran, PhD, California State University East Bay

Adam Olivieri, DrPH, PE, EOA, Inc.

Mehul Patel, PE, Orange County Water District

Shane Snyder, PhD, Nanyang Technological University, Singapore

Rupam Soni, PE, Metropolitan Water District of Southern California

Sunny Wang, PE, City of Santa Monica

NWRI Staff

Kevin Hardy

Tianna Manzoni

Mary Collins

Suzanne Sharkey



Appendix D • Acronyms

AFY	acre–feet per year
AWTF	advanced water treatment facility
CEC	constituents of emerging concern
CCP	critical control point
DDW	Division of Drinking Water
DPR	direct potable reuse
IPR	indirect potable reuse
LRV	log reduction value
NPDES	National Pollutant Discharge Elimination System
P3	Public Private Partnership
PFAS	Perfluoroalkyl substances
PFOS	Perfluoro–1–octanesulfonic acid
RO	reverse osmosis
ROC	reverse osmosis concentrate
RWQCB	Regional Water Quality Control Board
SGMA	Sustainable Groundwater Management Act
SWB	State Water Board
SWIP	Sustainable Water Infrastructure Project
SWRCB	State Water Resources Control Board
TOC	total organic carbon
TDS	total dissolved solids
TMF	technical, managerial, and financial
WDRs	waste discharge requirements



Santa Clara Valley Water District

File No.: 23-1216

Agenda Date: 12/6/2023

Item No.: 4.6.

COMMITTEE AGENDA MEMORANDUM Recycled Water Committee

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

SUBJECT:

Receive and Discuss the 2023 Recycled Water Committee Work Plan, Upcoming Discussion Items, and Upcoming Meeting Date.

RECOMMENDATION:

Receive information on the 2023 Recycled Water Committee Work Plan, and provide feedback on upcoming discussion items and next meeting date.

SUMMARY:

Under direction of the Clerk, Work Plans are used by all Board Committees to increase Committee efficiency, provide increased public notice of intended Committee discussions, and enable improved follow-up by staff. Work Plans are dynamic documents managed by Committee Chairs and are subject to change.

At the February 22, 2023 meeting, the Committee approved the 2023 work plan that has agenda items necessary for the continuation of the recycled water projects. An updated 2023 work plan (Attachment 1) proposes changes for the remaining meetings in the year.

Staff solicits Committee feedback on any additional timeline information for holding discussions on the assigned Work Plan items, and confirmation of the next meeting dates.

ENVIRONMENTAL JUSTICE IMPACT:

There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:

Attachment 1: 2023 Revised Work Plan

File No.: 23-1216

Agenda Date: 12/6/2023
Item No.: 4.6.

UNCLASSIFIED MANAGER:

Candice Kwok-Smith, 408-630-3193

RWC 2023 WORK PLAN

Task	Agenda Item	January	February	March	April	May	June	July	August	September	October	December		
FY 23 Tactic 1: Advance the Purified Water Program by releasing an RFP for at least one locally-sponsored		CANCELED			CANCELED			RECESS						
1.1	Update on Purified Water Program including Partnership with Cities of San Jose and Palo Alto.		X	X		X	X		X	X	X	X		
1.2	Update on Public Private Partnership [P3] Procurement.		X	X		X	X				X	X	X	X
FY 23 Tactic 2: Implement the Countywide Water Reuse Master Plan.														
2.1	Implement the Countywide Water Reuse Master Plan (Core Plan)						X							
2.2	Joint Mtg Prep/Debrief: Joint Recycled Water Policy Advisory Committee			X			X							
2.3	Joint Mtg Prep/Debrief: Cities of Palo Alto/Mtn View.													
2.4	Joint Mtg Prep/Debrief: City of Sunnyvale.													
2.5	Update on SFPUC/BAWSCA Collaboration Efforts.													
2.6	Independent Advisory Panel.						X				X			X
FY 23 Tactic 3: Continue to actively be involved with Direct Potable Reuse (DPR) guidance and implement														
3.1	Actively Engage in Direct Potable Reuse										X	X		X
FY 23 Tactic 4: Develop a Comprehensive Water Reuse Agreement for South County to advance water reuse														
4.1	South Santa Clara County Water Reuse Collaboration.						X				X		X	X
FY 23 Tactic 5: Continue to monitor feasibility of desalination.														
5.1	Continue to monitor feasibility of desalination.			X									X	
Others														
6.1	Continue collaboration on the Silicon Valley Advanced Water Purification Center including building a strong collaborative relationship with the San Jose-Santa Clara Regional Wastewater Facility to expand the facility.		X								X			X
6.2	Regional discussion on options : Feasibility analysis of Recycled Water Exchange with Contra Costa Water District and Central Contra Costa Sanitary District and feasibility of desalination.		X											
6.3	Update on Bottling Purified and water tasting station at the SVAWPC.						X							
6.4	Urban Runoff Study with Stanford University.					X								
6.5	Outreach Efforts.													
6.6	Potential Amount of Wastewater for Water Reuse.				X						X			

*Blue strikes - items added on updated work plan
*Red strikes - items deleted from current work plan
** Being updated/removed in FY23 Board Work Plan

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