



May 25, 2017

## **NOTICE OF MEETING – REQUEST FOR RSVPS**

Members of the Joint Recycled Water Committee (City of Palo Alto/SCVWD)

### **Santa Clara Valley Water District:**

Director Hon. Tony Estremera – Vice Chair  
Director Hon. Barbara Keegan  
Director Hon. Gary Kremen

### **City of East Palo Alto:**

Mayor Hon. Donna Rutherford

### **City of Mountain View:**

Council Member Hon. Lenny Siegel

### **City of Palo Alto:**

Council Member Hon. Tom Dubois  
Council Member Hon. Cory Wolbach

### **Supporting Water District Staff Members:**

Norma J. Camacho, Interim Chief Executive Officer  
Stan Yamamoto, District Counsel  
Anthony Fulcher, Sr. Assistant District Counsel  
James Fiedler, Chief Operating Officer, Water Utility  
Katherine Oven, Deputy Operating Officer, Water Utility Capital  
Garth Hall, Deputy Operating Officer, Water Supply Division  
Angela Cheung, Deputy Operating Officer, Water Utility and Maintenance  
Hossein Ashktorab, Unit Manager, Recycled and Purified Water  
Luis Jaimes, Senior Project Manager, Recycled and Purified Water  
Henry Barrientos, Associate Engineer (Civil), Recycled and Purified Water  
Paolo Baltar, Assistant Engineer II Civil  
Elise Latedjou-Durand, Environmental Planner  
Kristen Yasukawa, Public Information Representative II  
Toni Vye, Staff Analyst, Recycled and Purified Water

### **Supporting City of Mountain View Staff Member:**

Gregg Hosfeldt, Assistant Public Works Director

**Supporting City of Palo Alto Staff Members:**

Beth D. Minor, City Clerk

Phil Bobel, Assistant Director of Public Works Department

Karin North, Manager, Watershed Protection

David Carnahan, Deputy Clerk

Jessica Brettle, Assistant City Clerk

A meeting of the Santa Clara Valley Water District Joint Recycled Water Committee (City of Palo Alto/SCVWD) will take place at **2:00 p.m. on Tuesday, June 6, 2017** at the Santa Clara Valley Water District's Headquarters Building Boardroom, 5700 Almaden Expressway, San Jose, California 95118.

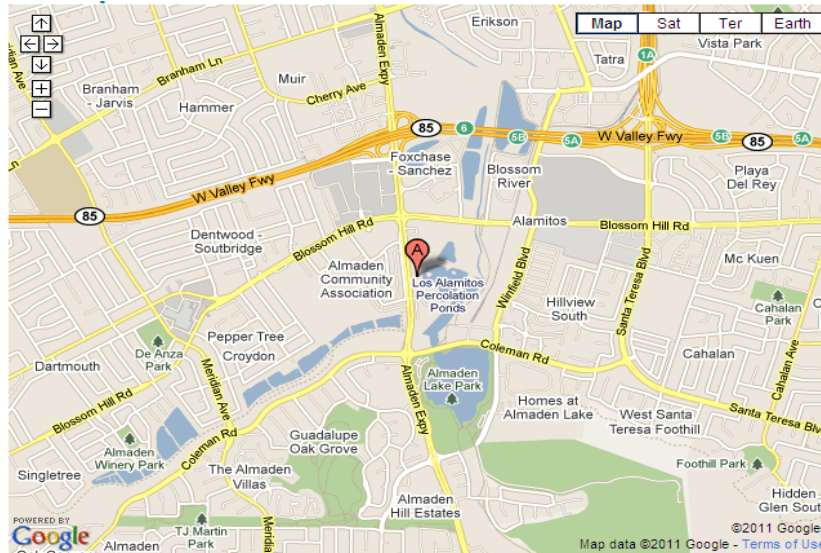
Enclosed for your convenience is a copy of the agenda and corresponding materials. Please bring these materials to the meeting with you.

Please RSVP at your earliest convenience by calling Glenna Brambill at 1-408-630-2408, or by email to [gbrambill@valleywater.org](mailto:gbrambill@valleywater.org)

Thank you!

Glenna Brambill  
Santa Clara Valley Water District  
Office of the Clerk of the Board  
1-408-630-2408

**Santa Clara Valley Water District - Headquarters Building,  
5700 Almaden Expressway, San Jose, CA 95118**



**From Oakland:**

- Take 880 South to 85 South
- Take 85 South to Almaden Expressway exit
- Turn left on Almaden Plaza Way
- Turn right (south) on Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

**From Morgan Hill/Gilroy:**

- Take 101 North to 85 North
- Take 85 North to Almaden Expressway exit
- Turn left on Almaden Expressway
- Cross Blossom Hill Road
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

**From Sunnyvale:**

- Take Highway 87 South to 85 North
- Take Highway 85 North to Almaden Expressway exit
- Turn left on Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

**From San Francisco:**

- Take 280 South to Highway 85 South
- Take Highway 85 South to Almaden Expressway exit
- Turn left on Almaden Plaza Way
- Turn right (south) on Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

**From Downtown San Jose:**

- Take Highway 87 - Guadalupe Expressway South
- Exit on Santa Teresa Blvd.
- Turn right on Blossom Hill Road
- Turn left at Almaden Expressway
- At Via Monte (first traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

**From Walnut Creek, Concord and East Bay areas:**

- Take 680 South to 280 North
- Exit Highway 87-Guadalupe Expressway South
- Exit on Santa Teresa Blvd.
- Turn right on Blossom Hill Road
- Turn left at Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

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**Joint Recycled Water Committee**

- Hon. Lenny Siegel, Council Member, City of Mountain View
- Hon. Donna Rutherford, Mayor, City of East Palo Alto
- Hon. Tom DuBois, Council Member, City of Palo Alto
- Hon. Cory Wolbach, Council Member, City of Palo Alto
- Hon. Tony Estremera, Board Member, Santa Clara Valley Water District – Vice Chair
- Hon. Barbara Keegan, Board Member, Santa Clara Valley Water District
- Hon. Gary Kremen, Board Member, Santa Clara Valley Water District

**AGENDA**

**JOINT RECYCLED WATER COMMITTEE  
(CITY OF PALO ALTO/SCVWD)**

**TUESDAY, JUNE 6, 2017**

**2:00 p.m.**

**Santa Clara Valley Water District  
Headquarters Building Boardroom  
5700 Almaden Expressway  
San Jose, CA 95118**

**Time Certain:**

**2:00 p.m.**

- 1. Call to Order/Roll Call**
- 2. Time Open for Public Comment on Any Item Not on the Agenda**  
*Comments should be limited to two minutes. If the Committee wishes to discuss a subject raised by the speaker, it can request placement on a future agenda.*
- 3. Approval of Minutes**  
3.1 Approval of Minutes – December 13, 2016, meeting
- 4. Election of Chair and Vice Chair**
- 5. Action Items**
  - 5.1 Update on Memoranda of Understanding to Assess Feasibility of Water Reuse Alternatives (Garth Hall/Phil Bobel/Gregg Hosfeldt)
    - A. District/City of Palo Alto Memorandum of Understanding
    - B. District/City of Mountain View Memorandum of Understanding**Recommendation: Receive information and discuss next steps.**
  - 5.2 Update on Northwest County Recycled and Purified Water Efforts (Garth Hall/Phil Bobel)
    - A. Advanced Water Purification System Feasibility Study
    - B. Northwest County Recycled Water Strategic Plan**Recommendation: Receive information and discuss next steps.**
  - 5.3 Update on Countywide Recycled and Purified Water Master Plan (Garth Hall)  
**Recommendation: Receive information and discuss next steps.**
  - 5.4 Update on Reverse Osmosis Concentrate Management Project (Garth Hall)

**Recommendation: Receive information and discuss next steps.**

5.5 Next Meeting and Tentative Items (Garth Hall)

**Recommendation: Discuss and confirm next meeting date, location, and tentative items.**

**6. Clerk Review and Clarification of Committee Requests and Recommendations**

*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 discussion of Item 4.*

**7. Adjourn**

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 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.

The Santa Clara Valley Water District will make reasonable efforts to accommodate persons with disabilities wishing to attend commission meetings. Please advise the Clerk of the Board office of any special needs by calling 1-408-630-2277.

Santa Clara Valley Water District  
Clerk of the Board Unit  
5700 Almaden Expressway  
San José, CA 95118

Palo Alto City Hall  
Office of the City Clerk  
250 Hamilton Avenue  
Palo Alto, CA 94301

**Joint Recycled Water Committee Purpose (City of Palo Alto/SCVWD):** *The City of Palo Alto and District Elected Officials Joint Recycled Water Committee was established for the purpose of developing a long-term proposal for how the District and the City of Palo Alto can work together on recycled water opportunities, to advance common interests, and to establish a collaborative process to facilitate policy discussion and sharing of technical information on recycled water issues.*



## JOINT RECYCLED WATER COMMITTEE

# DRAFT MINUTES

TUESDAY, DECEMBER 13, 2016  
2:00 PM

(Paragraph numbers coincide with agenda item numbers)

A meeting of the Joint Recycled Water Committee (Committee) was held on December 13, 2016, in the Administration Building Conference Room B108 at the Santa Clara Valley Water District (SCVWD), 5750 Almaden Expressway, San Jose, California.

### 1. **CALL TO ORDER/ROLL CALL**

A meeting of the Joint Recycled Water Committee was called to order by Chair Hon. Pat Burt at 2:09 p.m.

Committee Members in attendance were: City of Mountain View Council Member – Hon. Lenny Siegel, Mayor of East Palo Alto - Hon. Donna Rutherford, City of Palo Alto Council Member - Hon. Pat Burt; SCVWD Directors - Barbara Keegan, District 2, Tony Estremera, District 6; and Gary Kremen, District 7.

SCVWD Staff members in attendance were: Hossein Ashktorab, Henry Barrientos, Glenna Brambill, Norma Camacho, Vanessa De La Piedra, Jim Fiedler, Anthony Fulcher, and Katherine Oven.

City of East Palo Alto Staff Member in attendance was: Kamal Fallaha. City of Mountain View Staff Member in attendance was: Gregg Hosfeldt. City of Palo Alto Staff Members in attendance were: Phil Bobel and Karin North.

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

There was no one present who wished to speak.

### 3. **APPROVAL OF MINUTES**

It was moved by Director Tony Estremera, seconded by Director Barbara Keegan, and carried, by majority vote to approve the minutes of the September 27, 2016, Joint Recycled Water Committee meeting, with two corrections; Bayview parcel should be Stevens Creek and Santa Clara County Water District should be Santa Clara Valley Water District. Hon. Donna Rutherford abstained.

4. **ACTION/DISCUSSION ITEMS**

**4.1 FORMALIZATION OF COLLABORATION**

**A. UPDATED ON THE DRAFT MOU BETWEEN SCVWD, CITY OF PALO ALTO AND CITY OF MOUNTAIN VIEW**

Mr. Hossein Ashktorab reviewed the materials as outlined in the agenda item.

Mr. Phil Bobel from the City of Palo Alto was available to answer questions.

No action was taken.

**B. COUNTYWIDE RECYCLED AND PURIFIED WATER PLANNING EFFORTS**

Mr. Hossein Ashktorab reviewed the materials as outlined in the agenda item.

No action was taken.

**4.2 UPDATE ON NORTHWEST COUNTY RECYCLED AND PURIFIED WATER EFFORTS**

**A. ADVANCED WATER PURIFICATION SYSTEM FEASIBILITY STUDY PROJECT**

Mr. Henry Barrientos reviewed the materials as outlined in the agenda item.

Hon. Pat Burt, Director Barbara Keegan and Director Gary Kremen spoke regarding this item.

Mr. Hossein Ashktorab, Mr. Phil Bobel and Ms. Karin North of the City of Palo Alto were available to answer questions.

No action was taken.

**B. NORTHWEST COUNTY RECYCLED WATER STRATEGIC PLANNING EFFORT**

Mr. Hossein Ashktorab reviewed the materials as outlined in the agenda item.

No action was taken

**4.3 HOW FUTURE RECYCLED WATER PLANNING EFFORTS RELATE TO GREEN STORMWATER INFRASTRUCTURE AND BASEMENT DEWATERING**

**A. RECYCLED WATER PLANNING EFFORTS IN NORTHWEST COUNTY SHALL INCLUDE FUTURE GREEN STORMWATER INFRASTRUCTURE PROJECTS**

Mr. Phil Bobel from the City of Palo Alto reviewed the materials as outlined in the agenda item.

Hon. Pat Burt, Director Gary Kremen, Hon. Donna Rutherford, and Hon. Lenny Siegel, spoke regarding this item. Mr. Doug Muirhead a member of the public also spoke regarding this item.

Mr. Kamal Fallaha from the City of East Palo Alto, Mr. Gregg Hosfeldt from the City of Mountain View and Ms. Karin North of the City of Palo Alto were available to answer questions.

No action was taken



**B. EVALUATION OF BASEMENT CONSTRUCTION AND DEWATERING IN PALO ALTO AND POTENTIAL IMPACTS TO FUTURE IPR PLANS IN NORTHWEST COUNTY**

Mr. Phil Bobel from the City of Palo Alto reviewed the materials as outlined in the agenda item.

No action was taken

**4.4 NEXT MEETING AND TENTATIVE ITEMS  
JOINT RECYCLED WATER COMMITTEE MEETINGS FOR 2017**

Mr. Hossein Ashktorab reviewed the materials as outlined in the agenda item.

The next meeting a Chair will need to be selected since Hon. Pat Burt's term is up.

2017 meetings will be set on a quarterly basis.

**5. CLERK REVIEW AND CLARIFICATION OF COMMITTEE REQUESTS AND RECOMMENDATIONS**

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

**6. ADJOURNMENT**

Chair Hon. Burt, thanked everyone for their participation on the Committee.

Ms. Norma Camacho, Interim Chief Executive Officer of SCVWD and Director Tony Estremera both thanked Hon. Burt for his service.

Chair Hon. Burt adjourned the meeting at 3:24 p.m.

Glenna Brambill  
Office of the Clerk of the Board

Approved:





Committee: Joint Recycled Water  
City of Palo Alto/SCVWD  
Meeting Date: 06/6/17  
Agenda Item No.: 4  
Unclassified Manager: Garth Hall  
Email: GHall@valleywater.org

## COMMITTEE AGENDA MEMO

**SUBJECT:** Election of Chair and Vice Chair

### RECOMMENDED ACTION:

Elect the 2016 Chair and Vice Chair

### SUMMARY:

*This is an Action item:*

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

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

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

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

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

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

**BACKGROUND:**

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

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

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

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

**ATTACHMENT(S):**

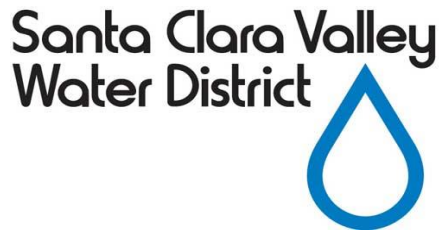
None

**JOINT RECYCLED WATER COMMITTEE**

- Hon. Lenny Siegel, *Council Member, City of Mountain View*
- Hon. Donna Rutherford, *Mayor, City of East Palo Alto*
- Hon. Tom DuBois, *Council Member, City of Palo Alto*
- Hon. Cary Wolbach, *Council Member, City of Palo Alto*
- Hon. Tony Estremera, *Board Member, Santa Clara Valley Water District – Vice Chair*
- Hon. Barbara Keegan, *Board Member, Santa Clara Valley Water District*
- Hon. Gary Kremen, *Board Member, Santa Clara Valley Water District*

# Joint Recycled Water Committee (City of Palo Alto/SCVWD)

June 6, 2017



# Presentation Overview

- 5.1 Update on Memoranda of Understanding to Assess Feasibility of Water Reuse Alternatives (Garth Hall/Phil Bobel/Gregg Hosfeldt)
- 5.2 Update on Northwest County Recycled and Purified Water Efforts (Garth Hall/Phil Bobel)
- 5.3 Update on Countywide Recycled and Purified Water Master Plan (Garth Hall)
- 5.4 Update on Reverse Osmosis Concentrate Management Project (Garth Hall)
- 5.5 Next Meeting and Tentative Items (Garth Hall)



Committee: Joint Recycled Water  
City of Palo Alto/SCVWD

Meeting Date: 06/06/17

Agenda Item No.: 5.1

Unclassified Manager: Garth Hall

City of Palo Alto: Phil Bobel

City of Mountain View: Gregg Hosfeldt

Email: [GHall@valleywater.org](mailto:GHall@valleywater.org)  
[phil.bobel@cityofpaloalto.org](mailto:phil.bobel@cityofpaloalto.org)  
[gregg.hosfeldt@mountainview.gov](mailto:gregg.hosfeldt@mountainview.gov)

## COMMITTEE AGENDA MEMO

**SUBJECT:** Update on Memoranda of Understanding to Assess Feasibility of Water Reuse Alternatives

- A. District/City of Palo Alto Memorandum of Understanding
- B. District/City of Mountain View Memorandum of Understanding

### RECOMMENDED ACTION:

Receive information and discuss next steps.

### SUMMARY:

The purpose of this agenda item is to provide the Joint Recycled Water Committee (Committee) with updates on partnerships under development between the Santa Clara Valley Water District (District) and the City of Palo Alto (Palo Alto), and the District and City of Mountain View (Mountain View). Palo Alto has finalized a Memorandum of Understanding (MOU) with the District, and staff from Mountain View and the District are currently negotiating the terms of a MOU. The two MOUs will assess the feasibility and potential funding to develop potable water reuse options in Santa Clara County. Attachment 1 summarizes key components of the MOUs.

#### A. District/Palo Alto Memorandum of Understanding

The proposed MOU between the District/Palo Alto describes both agencies' commitments to identify the requirements, issues, activities, resources, costs, and funding necessary to implement potable and non-potable water reuse alternatives. The terms of this MOU cover important assumptions and considerations such as source water availability, permitting, reverse osmosis concentrate management, land requirements, and governance. These assumptions and considerations will be negotiated by the District and Palo Alto in the future under a comprehensive agreement. Palo Alto is not currently discussing or planning to discuss effluent transfers with other agencies outside of the Palo Alto Regional Water Quality Control Plant (RWQCP) partner agencies during the term of this MOU. Terms of the draft MOU were presented at the most recent Joint Recycled Water Committee meeting, on December 13, 2016. The final MOU was brought to the District Recycled Water Committee on May 30, 2017, recommending the full Board of Directors approve execution of the MOU by the District's CEO.

B. District/Mountain View Memorandum of Understanding

During the development of the District/Palo Alto MOU, staff from both agencies and Mountain View determined that a separate MOU between the District and Mountain View would be necessary to better address the agencies' different commitments. Staff from the District and Mountain View are currently negotiating MOU terms, and expects to have a draft MOU ready to present to this Committee by September 2017. Commitments related to pursuing any water reuse alternatives, will be formalized in a comprehensive agreement to be negotiated by the District and Mountain View in the future.

**ATTACHMENT(S):**

Attachment 1: PowerPoint Presentation



# 5.1 Update on Memoranda of Understanding to Assess Feasibility of Water Reuse Alternatives

# 5.1 Update on Memoranda of Understanding to Assess Feasibility of Water Reuse Alternatives

## A) District/Palo Alto MOU (Pending District and Palo Alto City Council Approval)

	District/Palo Alto Key MOU Terms of Agreement
<b>Source Water and Quality</b>	<ul style="list-style-type: none"> <li>Up to 10 MGD treated wastewater from RWQCP partner agencies</li> </ul>
<b>Land</b>	<ul style="list-style-type: none"> <li>Potentially up to 4 acres</li> </ul>
<b>Commitment</b>	<ul style="list-style-type: none"> <li>Palo Alto will not discuss sale of treated wastewater with other potential wholesalers</li> </ul>
<b>RO Concentrate</b>	<ul style="list-style-type: none"> <li>Engineered wetlands, existing ponds, or San Francisco Bay</li> </ul>
<b>Governance</b>	<ul style="list-style-type: none"> <li>Joint Recycled Water Committee</li> <li>Technical Advisory Committee</li> </ul>
<b>Potential Impacts</b>	<ul style="list-style-type: none"> <li>Reduced flow to Bay</li> <li>Loss of existing open space</li> </ul>
<b>Schedule</b>	<ul style="list-style-type: none"> <li>Complete MOU by June 2017</li> <li>Complete Comprehensive Agreement by June 2019</li> </ul>

# 5.1 Update on Memoranda of Understanding to Assess Feasibility of Water Reuse Alternatives

## B) District/Mountain View MOU (Currently being negotiated)

	District/Mountain View Proposed Key MOU Terms of Agreement
<b>Commitment</b>	<ul style="list-style-type: none"> <li>Mountain View will not discuss sale of treated waste water with other potential wholesalers</li> </ul>
<b>RO Concentrate</b>	<ul style="list-style-type: none"> <li>Engineered wetlands, existing ponds, or San Francisco Bay</li> </ul>
<b>Governance</b>	<ul style="list-style-type: none"> <li>Joint Recycled Water Committee</li> <li>Technical Advisory Committee</li> </ul>
<b>Potential Impacts</b>	<ul style="list-style-type: none"> <li>Loss of existing open space</li> </ul>
<b>Schedule</b>	<ul style="list-style-type: none"> <li>Complete MOU by August 2017</li> <li>Complete Comprehensive Agreement by June 2019</li> </ul>

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Committee: Joint Recycled Water  
City of Palo Alto/SCVWD  
Meeting Date: 06/06/17  
Agenda Item No.: 5.2  
Unclassified Manager: Garth Hall  
City of Palo Alto: Phil Bobel  
Email: [GHall@valleywater.org](mailto:GHall@valleywater.org)  
[phil.bobel@cityofpaloalto.org](mailto:phil.bobel@cityofpaloalto.org)

## COMMITTEE AGENDA MEMO

**SUBJECT:** Update on Northwest County Recycled and Purified Water Efforts  
A. Advanced Water Purification System Feasibility Study  
B. Northwest County Recycled Water Strategic Plan

### RECOMMENDED ACTION:

Receive information and discuss next steps.

### SUMMARY:

The Santa Clara Valley Water District (District), continues to partner with the cities of Palo Alto and Mountain View to work on several recycled and purified water planning and expansion projects in Northwest County. This agenda memo provides updated information on the Northwest County Recycled Water Strategic Plan.

#### A. Advanced Water Purification System Feasibility Study Project.

The Advanced Water Purification Feasibility Study (Feasibility Study) will determine how to improve recycled water quality from the Regional Water Quality Control Plant (RWQCP). Deliverables in this effort include: an evaluation of the different treatment options to reduce total dissolved solids concentrations; treatment facility layout options within the existing RWQCP property; and additional storage and instrumentation needed to blend purified water with tertiary treated recycled water.

The Feasibility Study consultant submitted the Final Feasibility Study Report on April 4, 2017, outlining possible locations for the microfiltration, reverse osmosis, and concentrate treatment systems at the RWQCP. Staff from the District, Palo Alto and Mountain View have reviewed the submittals and have authorized the consultant to proceed with work on additional optional services. The optional services include the completion of a conceptual design for a 2.25 MGD Advanced Water Purification Facility (AWPF) within the existing RWQCP footprint, and a white paper to evaluate the use of land adjacent to the RWQCP for an additional AWPF capable of treating up to 6.7 MGD. This site is referred to as the Measure E Site, for future potable reuse projects. Completion of this effort is expected by September 2017.

B. Northwest County Recycled Water Strategic Planning Effort.

The Northwest County Recycled Water Strategic Plan (Strategic Plan) includes the expansion of recycled water from Palo Alto RWQCP to recycled water customers in Stanford, Los Altos, Los Altos Hills, Mountain View, East Palo Alto, and Menlo Park. Key deliverables include: a financial plan, preliminary design, funding strategies, and a study of groundwater in Northwest County. The purpose of the groundwater study is to compile baseline information on localized aquifer conditions including sources and quantities of recharge, groundwater pumping and water quality. This information will be used to evaluate the feasibility for potable reuse of advanced treated recycled water.

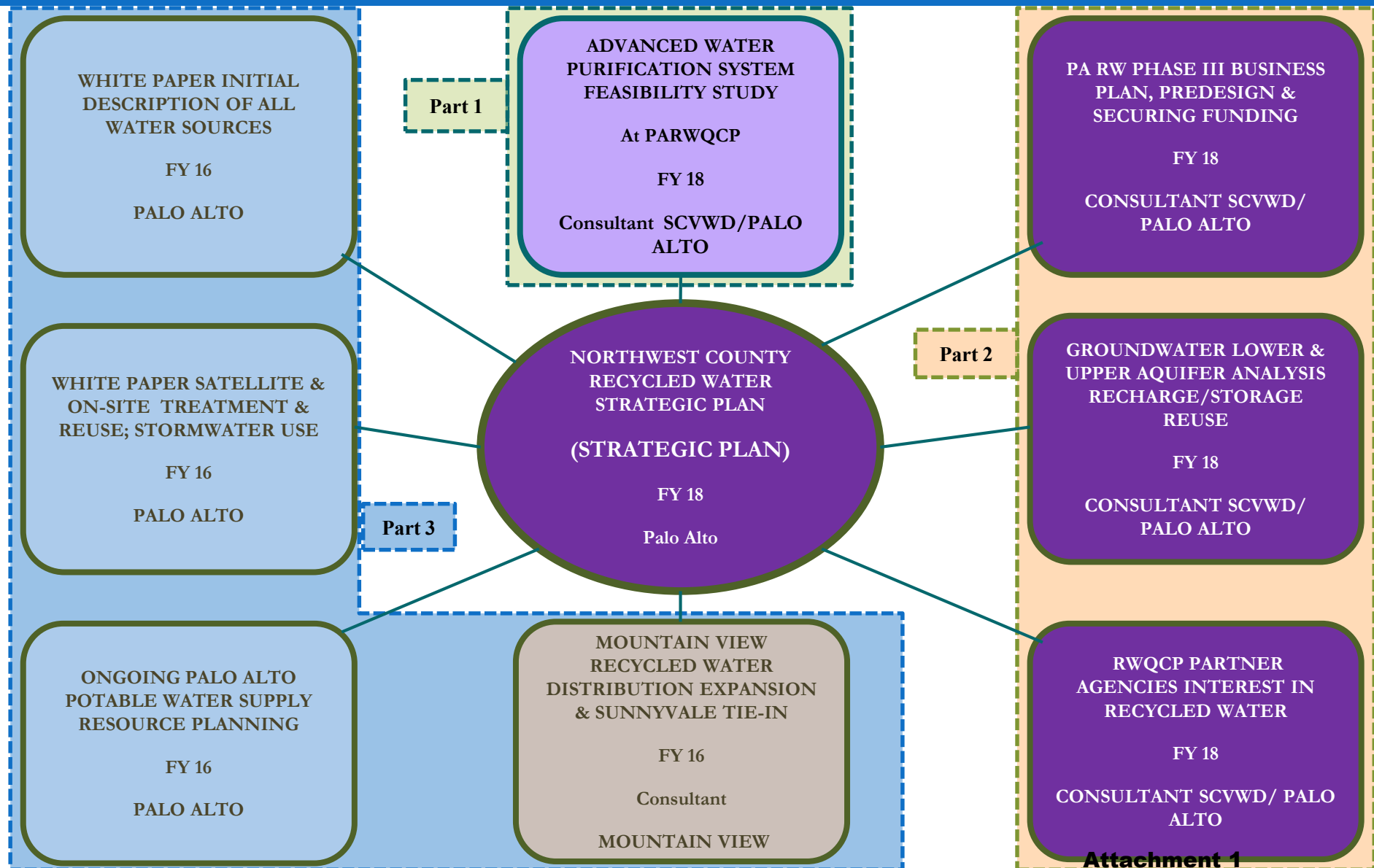
The Strategic Plan consultant is on track and has submitted several workplans for the major components including Phase III expansion to Stanford Research Park, Potable Reuse Feasibility, and External Funding strategies. The findings from the Strategic Plan will provide the basis for key elements of the District/Palo Alto and District/Mountain View comprehensive agreements.

**ATTACHMENT(S):**

Attachment 1: PowerPoint Presentation.

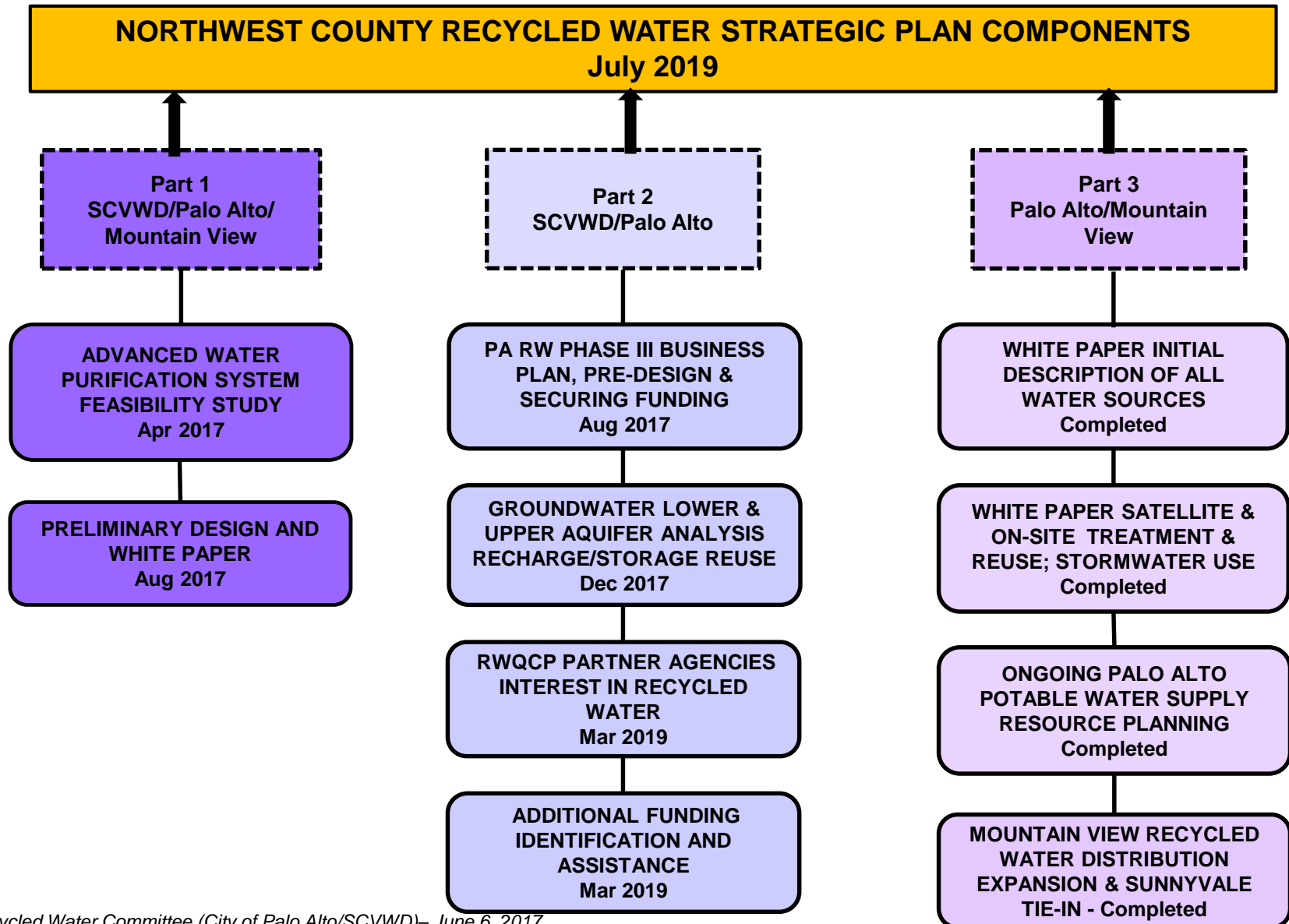
## 5.2 Update on Northwest County Recycled and Purified Water Efforts

# 5.2 Northwest County Recycled and Purified Water Efforts





# 5.2 Northwest County Recycled and Purified Water Efforts



# 5.2 Northwest County Recycled and Purified Water Efforts

## ***Advanced Water Purification System Feasibility Study***

### **Submittals:**

- Final Report submitted on April 4, 2017. District, Palo Alto and Mountain View staff reviewed submittals

### **Optional Services:**

- Conceptual Design for a 2.25 MGD Advanced Water Purification Facility
- White Paper on Measure E Site for a 6.7 MGD Advanced Water Purification Facility

### **Completion:**

- September 2017

# 5.2 Northwest County Recycled and Purified Water Efforts

## ***Advanced Water Purification System Feasibility Study***

### **Key Outcomes**

#### Treatment Technology Evaluation To Reduce TDS

- Electro-dialysis Reversal
- Forward Osmosis
- **Reverse Osmosis**

#### Treatment System Alternatives and Build-Out Capacity

- **Site 1: 2.25 MGD**
- Site 2: <1.125 MGD
- Site 3: 4.5 MGD
- **Site 4: 6.75 MGD**
- Site 5: 4.5 MGD

#### Next Steps

- Preliminary Design Document for **Site 1**
- White Paper on **Site 4** Feasibility

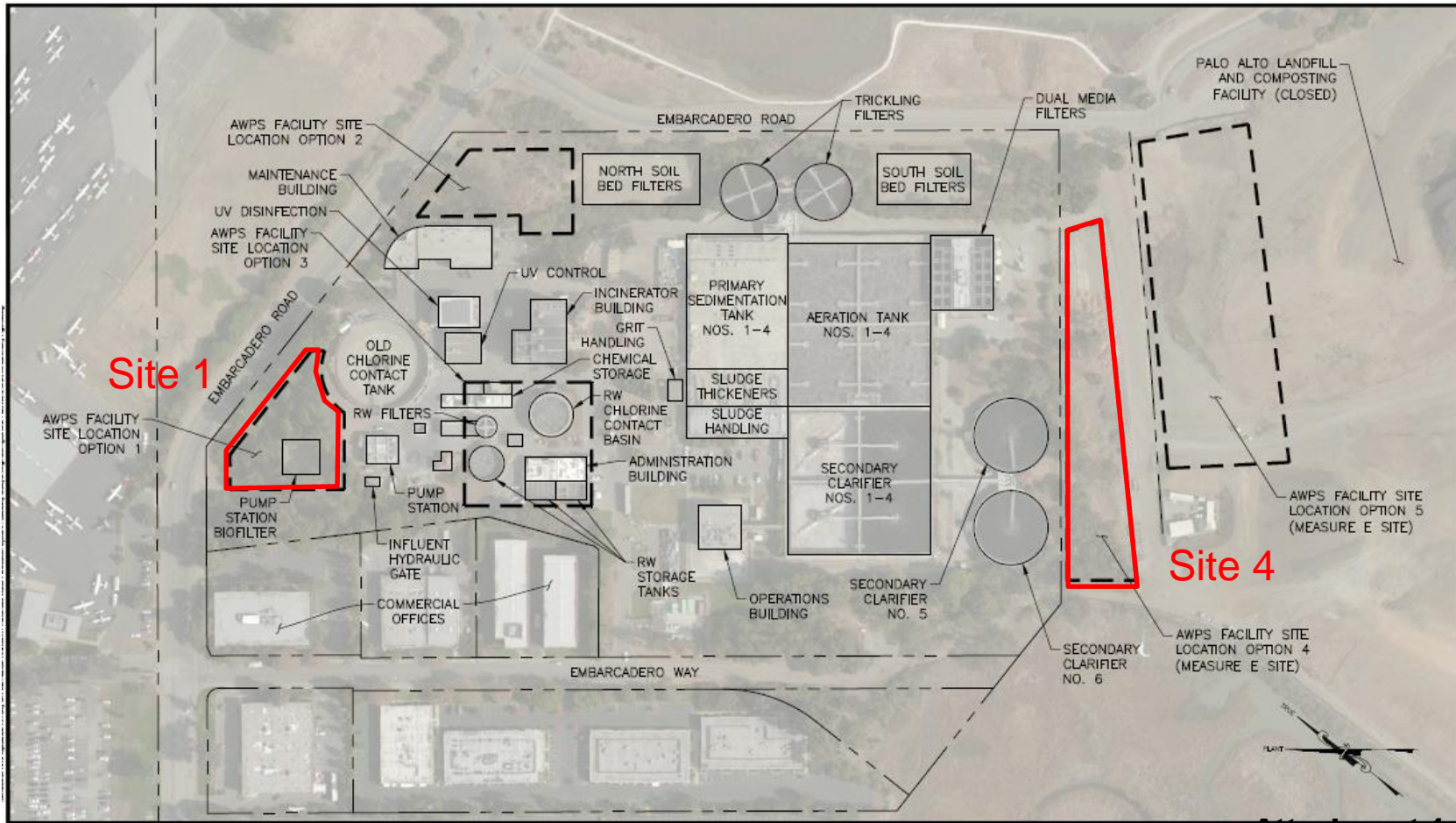
#### Future Benefits

- Improved recycled water quality to existing customers in Palo Alto and Mountain View
- Increased recycled water use for irrigation and cooling towers

# 5.2 Northwest County Recycled and Purified Water Efforts

## Advanced Water Purification System Feasibility Study

### Treatment System Site Alternatives



# 5.2 Northwest County Recycled and Purified Water Efforts

## ***Northwest County Recycled Water Strategic Planning***

### **Contract:**

- District/Palo Alto staff finalized cost and scope of work with consultant

### **Cost Share:**

- Executed District/Palo Alto Cost Share Agreement on December 15, 2016

### **Notice to Proceed:**

- December 2016

### **Completion:**

- Planned June 2019

# 5.2 Northwest County Recycled and Purified Water Efforts

## ***Northwest County Recycled Water Strategic Planning***

### **Key Objectives**

- **Phase III Expansion**  
Expand existing recycled water pipeline to South Palo Alto and Stanford Research Park
- **Northwest Groundwater Study**  
Conduct study to evaluate potable reuse feasibility (including localized aquifer conditions, sources and quantities of recharge, pumping and water quality)
- **Potable Reuse Study**  
Evaluate feasibility for potable reuse of advanced treated recycled water (potential locations to be determined as part of the study)
- **Expand Recycled Water to Partner Agencies**  
Evaluate the expansion of recycled water to Los Altos, Los Altos Hills, Mountain View, East Palo Alto and Menlo Park

*The above efforts also include consultant assistance with regulatory support and public outreach*



Committee: Joint Recycled Water  
City of Palo Alto/SCVWD  
Meeting Date: 06/06/17  
Agenda Item No.: 5.3  
Unclassified Manager: Garth Hall  
Email: [GHall@valleywater.org](mailto:GHall@valleywater.org)

## COMMITTEE AGENDA MEMO

**SUBJECT:** Update on Countywide Recycled and Purified Water Master Plan

**RECOMMENDED ACTION:**

Receive information and discuss next steps.

**SUMMARY:**

The purpose of this agenda item is to provide an update to the Joint Recycled Water Committee (Committee) on the Countywide Recycled and Purified Water Master Plan (Master Plan).

On January 27, 2017, District staff hosted a stakeholder workshop that brought together leadership from local producers, wholesalers, retailers, environmental groups, and stakeholders of water reuse systems to develop a vision statement and identify key components for the Master Plan. The workshop consisted of facilitated exercises focusing on visioning, opportunities, and challenges analysis. Participants from thirteen agencies provided feedback on ten proposed components of the Master Plan, including, stakeholder engagement, governance, regional planning and integration, water treatment and contributing sewersheds, economics and funding, water quantity and quality, environmental permitting and regulations, public perception and engagement, infrastructure and land, and schedule. Attending organizations were also asked to assign a representative from their agency to participate in a Technical Working Group, which will support development of the technical efforts of the Master Plan.

Additionally, staff developed a request for proposal (RFP) to support development of the Master Plan. The scope of services includes hydraulic modeling and economic analysis to assess feasible alternatives. The RFP was published on March 9, 2017. Staff is working through the procurement process to complete the consultant contract by June 2017.

**ATTACHMENT(S):**

Attachment 1: PowerPoint Presentation





## 5.3 Update on Countywide Recycled and Purified Water Master Plan

## 5.3 Countywide Recycled and Purified Water Master Plan Objectives

### **Develop Countywide Recycled and Purified Master Plan**

- Identify Sources of Water for Reuse and Determine NPR & PR Split
- Identify Regional, District, and Local Benefits
- Evaluate Governance Roles & Responsibilities and Provide Recommendations
- Evaluate Potential Regional Inter-Connectivity
- Evaluate Potential for New Infrastructure

NPR = Non-Potable Reuse

PR = Potable Reuse

## 5.3 Countywide Recycled and Purified Water Master Plan Scope

Define goals  
and objectives

Baseline  
analysis

Conceptual  
alternatives

Feasible  
alternatives

Recommended  
alternatives

Funding  
analysis

Master plan  
report

## 5.3 Countywide Recycled and Purified Water Master Plan Stakeholder Workshop No. 2



- 20 participants representing 13 agencies
- Developed a vision statement and identified key components of the Master Plan
- Began formation of a Technical Working Group



Committee: Joint Recycled Water  
City of Palo Alto/SCVWD  
Meeting Date: 06/06/17  
Agenda Item No.: 5.4  
Unclassified Manager: Garth Hall  
Email: [GHall@valleywater.org](mailto:GHall@valleywater.org)

## COMMITTEE AGENDA MEMO

**SUBJECT:** Update on Reverse Osmosis Concentrate Management Project

### RECOMMENDED ACTION:

Receive information and discuss next steps.

### SUMMARY:

The purpose of this agenda item is to update the Joint Recycled Water Committee on the Reverse Osmosis Concentrate Management (ROCM) Project currently underway by Santa Clara Valley Water District. The overall objective of the ROCM Project is to evaluate viable alternatives for managing reverse osmosis (RO) concentrate generated from advanced water purification facilities to be potentially built in various locations in the County, such as in the Cities of San José, Sunnyvale, Palo Alto, Gilroy and/or Morgan Hill.

This project is critical because it will address one of the key challenges in potable water reuse: proper management of the concentrated stream with high salt content generated by the process of water purification using advanced technologies. In addition, the scope of work includes testing of contaminants of emerging concern (CECs) that may be present in the RO concentrate, as well as pilot treatment of identified CECs by advanced oxidation processes and/or by engineered wetlands. The testing and piloting portion of the project will be carried out in partnership with the Bay Area Clean Water Agencies, the San Francisco Estuary Institute (SFEI), and professors from the University of California at Berkeley (UC Berkeley) and the Leland Stanford Junior University (Stanford). SFEI, UC Berkeley, and Stanford are sub-consultants to the project.

### ATTACHMENT(S):

Attachment 1: PowerPoint Presentation.



## 5.4 Update on Reverse Osmosis Concentrate Management Project

# 5.4 Update on Reverse Osmosis Concentrate Management Project

## Objective

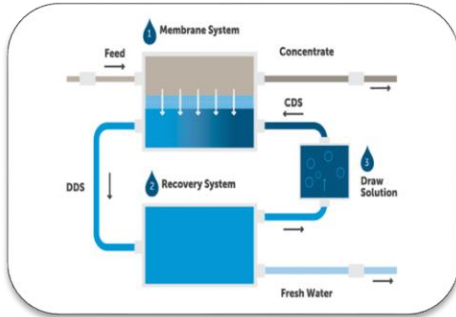
To develop comprehensive Reverse Osmosis Concentrate Management (ROCM) for five potential advanced water purification facilities in collaboration with:

- ▶ San José/Santa Clara Regional Wastewater Facility
  - ▶ South San José – up to 2 options
  - ▶ Expansion of the SVAWPC - up to 3 options
- ▶ Sunnyvale Water Pollution Control Plant - up to 3 options
- ▶ Palo Alto Regional Water Quality Control Plant - up to 3 options
- ▶ South County Regional Wastewater Authority - up to 2 options

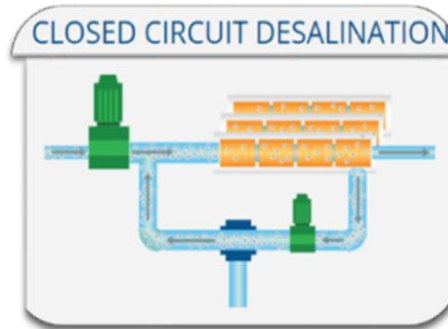


# 5.4 Update on Reverse Osmosis Concentrate Management Project

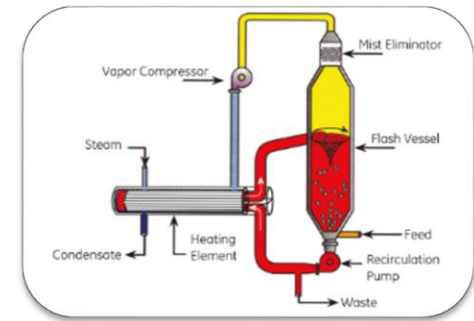
## Alternatives to be Evaluated



ROC Concentration



ROC Minimization



ROC Crystallization Mixed Salt



ROC Pre-Treatment



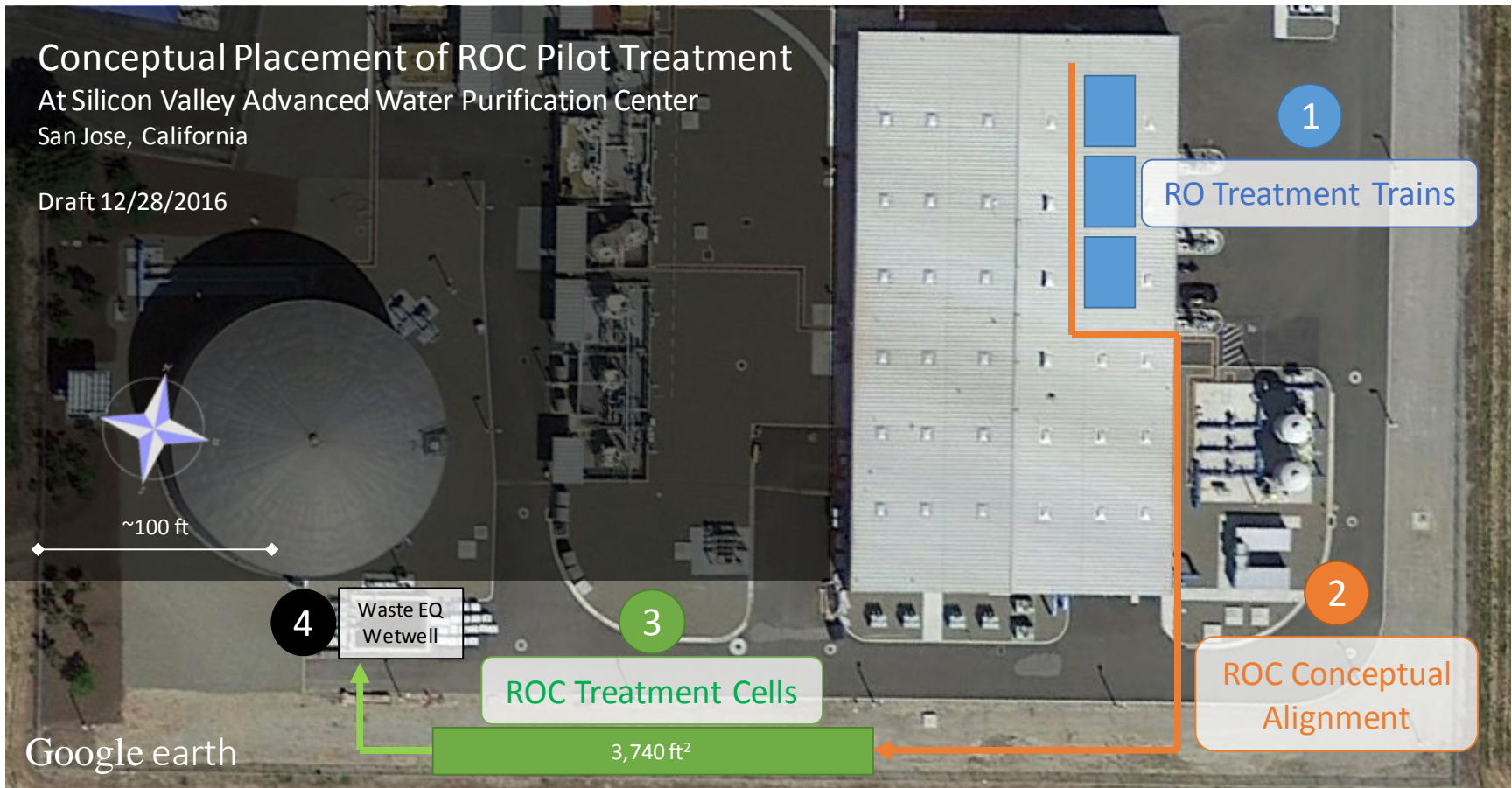
Treatment by Engineered Wetland



Discharge to New or Existing Outfall

# 5.4 Update on Reverse Osmosis Concentrate Management Project

## RO Concentrate Pilot Site





# 5.4 Update on Reverse Osmosis Concentrate Management Project



# 5.4 Update on Reverse Osmosis Concentrate Management Project



## Opportunity for Stakeholder Engagement

- District Stakeholders
- External Stakeholders
- Independent Advisory Panel
- Stakeholder participation
  - Meetings & workshops
  - Technical review – City of San José, BACWA
- Proposition 1 funding application
  - In partnership with research team and BACWA/CSJ.



Committee: Joint Recycled Water  
City of Palo Alto/SCVWD  
Meeting Date: 06/06/17  
Agenda Item No.: 5.5  
Unclassified Manager: Garth Hall  
Email: [GHall@valleywater.org](mailto:GHall@valleywater.org)

## COMMITTEE AGENDA MEMO

**SUBJECT:** Next Meeting and Tentative Items

**RECOMMENDED ACTION:**

Discuss and confirm next meeting date, location, and tentative items.

**SUMMARY:**

Consider and select dates for remaining 2017 calendar year.

**ATTACHMENT(S):**

None.

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# Handouts

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# Palo Alto Recycled Water Delivery and Expansion



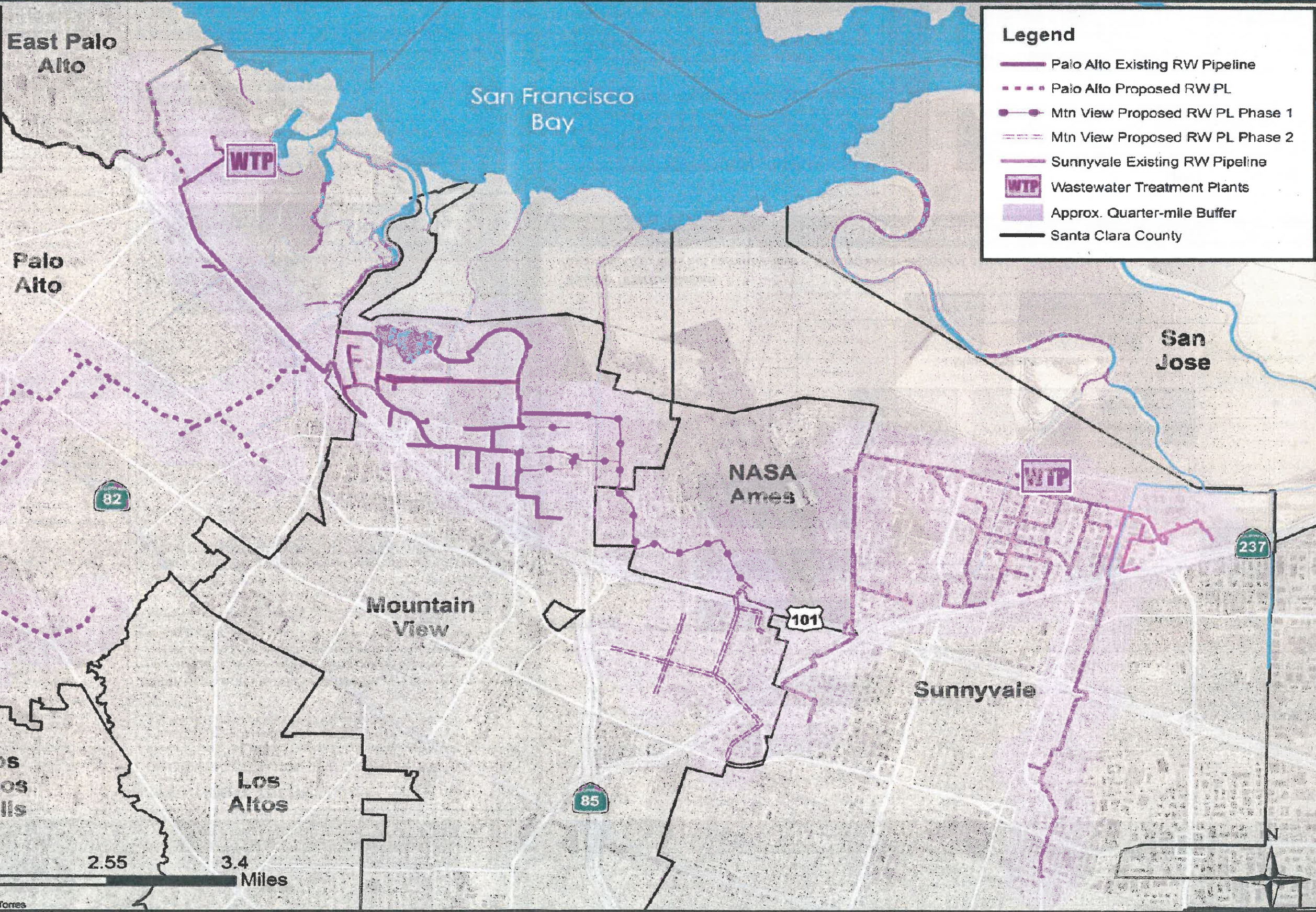
CITY OF **PALO ALTO**



CITY OF **MOUNTAIN VIEW**

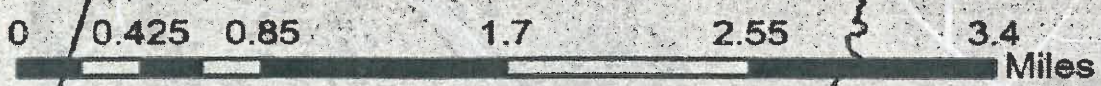


Santa Clara Valley Water District



**Legend**

- Palo Alto Existing RW Pipeline
- Palo Alto Proposed RW PL
- Mtn View Proposed RW PL Phase 1
- Mtn View Proposed RW PL Phase 2
- Sunnyvale Existing RW Pipeline
- Wastewater Treatment Plants
- Approx. Quarter-mile Buffer
- Santa Clara County





# RECYCLED WATER REFERENCE SHEET

(last updated 9/7/2016)

HANDOUT: AGENDA ITEM 5.3



## GLOSSARY

### WATER TYPES AND QUALITY

**EFFLUENT** is the treated water leaving the wastewater treatment plant to be discharged to the San Francisco Bay. At the RWQCP, only some of the effluent is treated further to produce recycled water.

**RECYCLED or RECLAIMED WATER** is wastewater that has undergone secondary or tertiary treatment to allow for beneficial reuse. Recycled water produced at the RWQCP is treated to tertiary standards including disinfection.

**SECONDARY TREATMENT** is a process where dissolved and suspended biological matter (including suspended solids) is removed so that the water may be disinfected and discharged into a stream or river, or used for irrigation at controlled locations.

**TERTIARY TREATMENT** is an additional treatment process beyond secondary treatment, where water is further filtered and disinfected. It can also include treatment processes to remove nitrogen and phosphorus in order to allow discharge into a sensitive ecosystem.

**ENHANCED RECYCLED WATER** is recycled water blended with advanced treated water to support additional uses and reduce total dissolved solids (TDS).

**ADVANCED TREATED WATER** is water that has undergone additional treatment beyond tertiary treatment to reduce salts, nutrients, trace organics and constituents of emerging concern (CECs). Common treatments include microfiltration, reverse osmosis, and advanced oxidation.

**PURIFIED WATER** is recycled water that has undergone further treatment processes and has been verified through monitoring to be safe for augmenting drinking water supplies. Some of these processes include microfiltration, reverse osmosis, and if needed advanced oxidation.

**SURFACE WATER** is water stored in a reservoir typically conveyed from another surface water source via pipelines or aqueducts.

**RAW WATER** is surface or groundwater that has not gone through an approved water treatment process.

**GRAYWATER** is water segregated from a domestic wastewater collection system and reused on site for nonpotable uses, it can come from showers, bathtubs, washing machines, and bathroom sinks, but not toilets or kitchen sinks.

**BLACKWATER** is untreated wastewater from kitchen sinks, toilets, and other polluting activities.

### WATER REUSE OPTIONS

**NONPOTABLE REUSE** is the beneficial reuse of recycled water for irrigation, industrial uses, or other non-drinking water purposes.

**POTABLE REUSE** is the use of recycled water for potable uses, such as drinking. This recycled water is purified to meet or exceed federal and state drinking water standards.

**INDIRECT POTABLE REUSE (IPR)** refers to the use of recycled water that has been further treated and introduced into an environmental buffer such as a surface water reservoir (through augmentation), or groundwater basin (through recharge), before being used for potable purposes. IPR regulations are specified in Title 22, Chapter 3, Division 4 of the California Code of Regulations (CCR).

**DIRECT POTABLE REUSE (DPR)** refers to the use of purified recycled water distributed directly into the raw water supply upstream of a drinking water treatment plant. In California, DPR regulations have not been adopted or specified in the CCR.

### TREATMENT TECHNOLOGY

**DUAL MEDIA FILTRATION (DMF)** refers to the removal of particles in the water using two different types of filter media, usually sand and finely granulated anthracite (a type of coal). DMF can remove turbidity and suspended solids as small as 10-20 microns under high filtration rate conditions.

**GRANULAR ACTIVATED CARBON (GAC)** is a form of carbon that is processed to be porous, with large surface area for adsorption and used to remove dissolved contaminants. GAC can remove halogenated compounds containing chlorine and fluorine, organic contaminants, odor, and taste.

**MICROFILTRATION (MF)** is an advanced treatment process that removes contaminants from water using semi-permeable membranes. MF membranes can remove contaminants as small as 0.08 microns such as bacteria. Ultrafiltration (UF) membranes have smaller pore sizes and can remove contaminants as small as 0.005 microns such as viruses and proteins.

**REVERSE OSMOSIS (RO)** is an advanced treatment process that removes dissolved salts and trace contaminants from water. High pressure forces the water through a semi-permeable membrane, while filtering most contaminants. RO membranes have much smaller pore sizes than microfiltration and ultrafiltration membranes and can remove contaminants as small as 0.0001 microns.

**RO PERMEATE** is the treated water that passes through the RO membrane.

**RO CONCENTRATE** is the by-product from the RO process. It contains a high concentration of salts and other contaminants from the source water.

**ADVANCED OXIDATION PROCESS (AOP)** is a chemically reactive process that breaks down trace organic contaminants as well as pathogens in the water by oxidation. AOPs typically use hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) and ultraviolet (UV) light.

**SOIL AQUIFER TREATMENT (SAT)** is the natural process that occurs when water travels through the ground and is purified by the physical and biological processes that naturally occur in the soil.

### STATE REGULATIONS

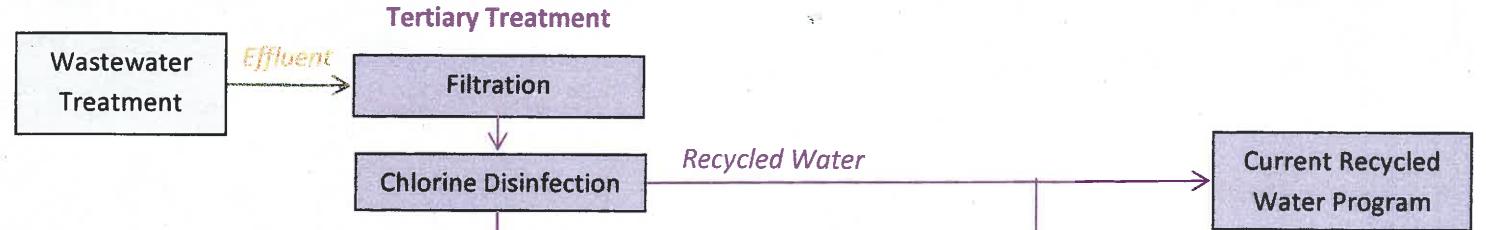
**TITLE 22 STANDARDS** are requirements established by the State Water Resources Control Board Division of Drinking Water for the production, distribution, and use of drinking water and recycled water. Recycled water standards are covered under Chapter 3, Division 4 of the California Code of Regulations, which outlines the different levels of treatment required for allowable uses of recycled water.

### SALINITY

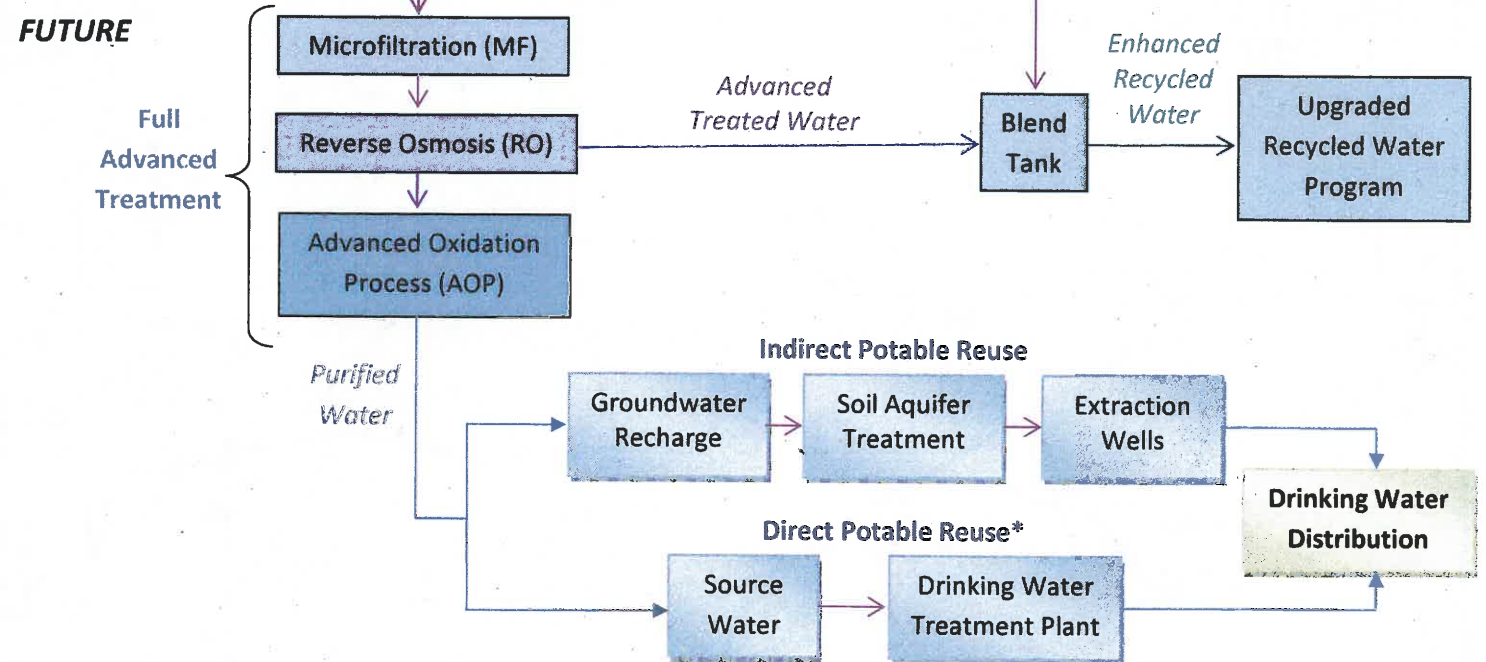
**TOTAL DISSOLVED SOLIDS (TDS)** is a measurement of salinity: the amount of salts, ions, and dissolved minerals per volume of water. The RWQCP aims to produce recycled water with a TDS of 600 mg/L and is moving towards developing advanced treatment in collaboration with the Santa Clara Valley Water District and the City of Mountain View to produce enhanced water with a TDS of approximately 450 mg/L for use on salt-sensitive species.

## GENERAL TREATMENT PROCESSES

### CURRENT



### FUTURE



\*Pending DDW Regulations

Note: Palo Alto does not currently have a drinking water treatment plant.

## ALLOWABLE USES

### Recycled Water

- Irrigation of:
  - Parks, playgrounds, schools
  - Residential & commercial landscapes
  - Cemeteries
  - Golf courses
  - Food crops, orchard, vineyard, pastures
  - Ornamental nursery & sod farm
- Impoundments & fish hatcheries
- Flushing toilets & urinals
- Decorative fountains
- Commercial laundries
- Street cleaning, dust control, soil compaction
- Boiler feed and cooling towers
- Flushing sanitary sewers
- Other uses approved under Title 22 Standards

### Enhanced Recycled Water

- All uses listed under Recycled Water
- Irrigation of salt-sensitive species (e.g. Redwoods Trees)
- Sensitive industrial uses

### Purified Water

- All uses listed under Enhanced Water
- Indirect potable reuse
- Direct potable Reuse

### STANDARD UNITS

MGD – Million Gallons per Day  
PPM – Parts Per Million  
mg/L – Milligrams per Liter