

January 2018 Stakeholder Workshops Summary

Participants

Bay Area Water Supply and Conservation Agency	Joint Venture Silicon Valley
California Water Service	League of Women Voters
City of Milpitas	Midpeninsula Regional Open Space District
City of Morgan Hill	Restore the Delta
City of Mountain View	San Jose Water Company
City of San Jose	Sierra Club Loma Prieta Chapter
City of Santa Clara	SPUR
Individual Residents	Sustainable Silicon Valley

Two participants provided written comments (enclosed) with copies to the Board or a request to share with the Board.

Question/Comment	Response at Workshop
Demands	
Retailers noted that UWMP projections are high, and actual demands have been flat, but WSMP projections (i.e. Trending Scenario) show increasing demand.	Trying to find balance. Don't want to overestimate or underestimate.
Have we looked at the impacts of increasing rates on water use?	
Need to add San Jose/Santa Clara interruptible contracts to contingency plan. Potential for increased demands on SCVWD system.	
Population increases are not driving demands. Decline in Delta supplies are not because of increasing demands.	
Level of Service/Droughts	
Should look at a lower level of service (mandatory restrictions and conservation targets combined with incentives) to force more efficient use of water. Look at Santa Monica's self-sufficiency goals.	
Should look at a lower level of service to reduce the level of investment needed. Should look at level as low as meeting 70% of demands during droughts.	
Don't want to invest in a higher level of service if the District is going to call for water use reductions/short-term conservation that is inconsistent with its Water Shortage Contingency Plan.	

Question/Comment	Response at Workshop
Need to be careful about lowering the level of service. If it is too low, people will want to wheel water into the county using the District's facilities.	
Describe cost of shortage during last drought – make part of the story.	
How do we deal with Statewide mandates that may exceed what is actually needed during droughts?	Participate in regulatory process; communicate that we've made investments to avoid having to mandate extreme reductions; communicate that we have been effective at water conservation programs and building a portfolio with investments in water use efficiency and water reuse.
Enhance cooperation between elected officials at the beginning of droughts. Can reduce impacts on rates by implementing earlier water shortage contingency plan actions.	
Look at frequency as well as magnitude of shortages.	We do, but difficult to present to most stakeholders.
Projects	
Agricultural Water Use Efficiency – Lost opportunity to not have a project dealing with agricultural water use efficiency.	
California WaterFix – Unclear how California Water Fix protects existing supplies and boosts water supply reliability.	
California WaterFix – Look at scenarios/portfolios that don't include California WaterFix. Specifically, look at potable reuse, water conservation, recycling, stormwater capture, leak reduction, and technology/innovation. Stakeholders mixed on looking at new dams.	
California WaterFix – How will costs and yields be affected by moving forward with a single tunnel? Would the project still include three new intakes in the North Delta?	
California WaterFix – Costs seem unrealistically low and yields seem unrealistically high.	

Question/Comment	Response at Workshop
Conservation - Why not do more?	We already have done the low-hanging fruit and are working on the stuff in the middle. However, water conservation programs are voluntary and there are some people we won't be able to reach no matter how much money we offer. We have direct installation programs that people don't utilize. But, we are also looking for new technology and innovation. We offer grants through the Safe Clean Water Program to support developing new program.
Desal/Brackish Groundwater Treatment	South Bay desal and shallow groundwater treatment not necessarily feasible. Regional desal seems like best option at this time, but needs to be a cooperative project. Still on BARR list and still on SCVWD list.
Groundwater Banking – Need to be more transparent about the issues with getting Semitropic water back in 2015. The lack of exchange capacity can be a significant issue.	
Land Fallowing during droughts.	Benefits primarily in Gilroy, less benefit in Morgan Hill where needs are greater in drought. On the list of potential projects.
New Dam in Coyote Watershed for Flood Protection	The water supply benefits of new storage seem relatively low, especially when operated primarily for other benefits (fisheries, flood protection, etc). Will forward to One Water team since the benefits would primarily be flood protection.
Onsite Reuse and Water Use Efficiency – Distributed reuse and water use efficiency across sectors (including commercial and industrial) can add sustainability to local water supply reliability and reduce the costs of projected shortfall. Includes rainwater capture and landscape retrofits.	
Onsite Reuse and Water Use Efficiency – When people use rain barrels and do onsite reuse, they will better realize the value of water and use it more carefully.	
Pacheco Reservoir – Need to clarify where the water supply yield is coming from. Is it from the Pacheco Creek watershed or surplus CVP supplies? Also, when is water going to local fishery and Refuges.	
Pacheco Reservoir - Why is the yield so low from such a large reservoir? Costs seem out of proportion to yield.	We're assuming a lot of the local runoff is going to fishery releases. Some of the benefit of the project is associated with reoperations/additional flexibility.

Question/Comment	Response at Workshop
Pacheco Reservoir – Would like to have more specific information on when the District is losing water because San Luis Reservoir spills.	
Pacheco Reservoir – Wouldn't moving from San Luis Reservoir to Pacheco Reservoir transfer the algae problem to Pacheco Reservoir?	
Pacheco Reservoir – Staff needs to be clear with Board that the project needs to be combined with multiple other projects in order to meet the reliability target.	
Potable Reuse – Los Gatos – Need to make sure the Board is aware of the downside of P3, especially since there will be excess capacity in wet years and will need to ramp down production at the plant.	
Potable Reuse – Los Gatos – Seems like it is pretty certain to happen. Why not use that as the baseline for all portfolios? California WaterFix not as certain.	Since we don't have agreements and permits in place, there is still some uncertainty.
Potable Reuse should be characterized as low risk.	
No Regrets Package – Meets ecosystem and environmental justice objectives.	
Non-Potable Recycled Water – Interested in seeing expanded recycled water. Where is recycled water in the plan?	Assuming retailer projections for recycled water from the Urban Water Management Plans. Need to add the Countywide Water Reuse Master Plan and existing plans/studies to the project list.
Recycled and Purified Water – The Countywide Water Reuse Master Plan should be completed before finalizing the Water Supply Master Plan to avoid a "cart before the horse" situation. Overall goal for water reuse should be as much as possible.	The purpose of the Water Supply Master Plan is to define the District's strategy for providing a reliable and sustainable water supply, which includes defining the preferred mix of water supplies and demand management for the future. The Countywide Water Reuse Master Plan will define how to achieve the water reuse goals established by the Water Supply Master Plan.
Reservoir Storage – Need to consider flood control storage in reassessing yield from our local reservoirs.	
Shallow Groundwater – Should look at reusing water from dewatering sites.	
SFPUC – They have high rates and high reliability in droughts. Can we get water from them?	They are actually looking for additional drought year supplies.

Question/Comment	Response at Workshop
Surface Water Storage Projects – It seems like a stretch to say dams have ecosystem benefits. Maybe label the objective as “Prop 1 Ecosystem Benefits.”	
Costs and Water Rates	
Should not make decisions about projects based on unit costs (cost/AF). Unit costs don’t tell the whole story and can be used to force decisions to implement unsustainable projects.	
The District’s strategy should be scalable and flexibility, so it can be implemented as needed with climate change and supply and demand changes.	
Most expensive supply is the water you don’t have.	
What is/is not included in the water rates forecast?	The baseline scenario includes California WaterFix, Potable Reuse (up to 45,000 AFY), No Regrets, and Transfer-Bethany Pipeline.
Not clear to public that all the projects the District has on its list are needed now and for future droughts. We shouldn’t overinvest. Are we planning on a gold-plated Cadillac when we really just need a Volkswagen?	
Need to have simple and clear explanation of what is needed and why.	
Staff seems to have a good handle on appropriate investment levels. Concerned that some may want unnecessary expensive projects.	
Staff should make it clear that adding expensive projects isn’t needed to meet future needs at this time. In other words, show that the costs of adding projects does not result in commensurate increasing is reliability.	
Need to show the rate impacts of the different projects and portfolios.	
Need to make sure that investments are made at the appropriate time. Don’t build a project now that isn’t needed for 40 years.	
The District should consider how it wants the public to perceive its actions. When the District sets rates, is it demonstrating that it is conscientious with regard to minimizing rate increases or will it appear that the District is spending unnecessarily.	

Question/Comment	Response at Workshop
Proposed rate increases are substantial and don't leave room for retailer needs in their systems.	
Don't propose a \$2 billion CIP if there is only a \$1 million budget.	
Need to have sustainable rates as well as a reliable water supply. The rates don't seem sustainable.	
Timing is important. Some of these projects can wait.	
Very difficult to justify 10% rate increases, essentially doubling rates over next 10 years, after they already doubled last 10 years. And some of these projects will have costs past Darin's forecast, are rates going to double again in the next 10 year window. This is not sustainable.	
Haven't adequately considered the effect of increased rates on demands. Rates are going up and demands are going down.	
Affordability needs to be a consideration. Discrepancy between the effect of rate increases on the east side vs. west side.	
Break out rate impacts without Prop 1 Water Storage Investment Program funding.	
Lower income people are hit harder by rate increases, but not drought surcharges.	
Do newcomers pay for new water requirements? Are there development fees?	Something at least one Board member is really interested in. Challenging because 1) new development doesn't appear to be increasing water use and 2) SCVWD is not a land use agency.
Are impact fees included in the costs of projects?	No, but will consider potential sources of revenue in developing the financing plan.
Other	
Staff should explain why "previously considered" projects were cut from the project list.	None of the projects are off the list forever. Some do not make sense at this time because 1) there are lower cost and/or more effective projects that achieve the same purpose or 2) there are issues with feasibility at this time. Staff will try to improve the descriptions on the project list.
Add a risk column to project summary table.	
Provide incentives to local urban growers who provide fresh produce to low income families via community gardening projects.	

Question/Comment	Response at Workshop
Should include ongoing recycled and purified water studies on the project list, e.g., Sunnyvale and Palo Alto partnerships, South County Recycled Water Master Plan. Should also consider direct potable reuse.	
Does the District have a recycled water target?	Yes, 10 percent of supply by 2025.
Would like to see information on the Countywide Water Reuse Master Plan on the District web site.	
Do not appear to be trying to reduce reliance on Delta. Please document how reduced reliance is measured. Disagree that reduced reliance means a lower percent of Delta water in the portfolio - believe it should be a reduction in water from the delta.	
People want to reduce water use so there is more water in the Delta and in creeks.	
Please put workshop materials on website.	
The District should do more meetings like this.	

From: Patrick Ferraro
To: [Tracy Hemmeter](#)
Cc: [Jerry De La Piedra](#); [Board of Directors](#); [Barbara Keegan](#); [Katja](#)
Subject: Re: SCVWD Water Supply Master Plan Workshop Presentation
Date: Monday, January 22, 2018 12:46:21 PM
Attachments: [image001.png](#)
[WSMP Update 2018 01 12.pptx](#)

Thanks Tracy and Jerry.

The workshop was well worth attending and I complement you both for fielding many tough questions and concerns about the track that the DRAFT Master Plan implies.

I want to re-state my concern that conducting a **Water Reuse Master Plan** should be completed before the finalization of the Water Supply Master Plan. Otherwise, the product will be a classic "cart-before-the-horse"

I was greatly encouraged last month by the "No Drop Left Behind" seminar sponsored by Sustainable Silicon Valley at the Mt. View Microsoft campus. Industry engagement in distributed reuse and water use efficiency can add substantially to local water supply reliability and reduce the projected costs of shortfalls. The same applies to domestic reuse, rainwater capture and landscape retrofits.

Affordability has become a greater concern for county residents and business, as evidenced by the well-organized resistance to San Jose Water Company's recent rate increase requests to the CPUC and the damage done during their administrative approach to implementing the mandated use reduction during the last drought. But again, I object to decision making based on unit costs developed to force decisions to implement unsustainable projects.

The "One Water" approach requires that the issue of flood control storage be a major consideration for re-assessing the yield from our local water resources. Also, the discussion has skipped the costs and benefits of direct potable reuse, which of course has the added risk of lack of public acceptance. The benefits to improving Delta water quality by blending with product water from the purification plants and reducing the need for Delta water make this project worth considering now.

Thanks again for your hard work and public service to our local communities.

Never Thirst!

Pat Ferraro, Former Director, SCVWD

On Mon, Jan 22, 2018 at 9:12 AM, Tracy Hemmeter <themmeter@valleywater.org> wrote:

Hi all,

Thanks to those of you that could attend the Water Supply Master Plan workshop on 1/12/18. I'm still working on updating our web page to have more current information, but thought I should at least get you the presentation from the workshop. There are some project specific slides at the end that I didn't use during the presentation, but I thought they

might be interesting.

Please let me know if you want to be removed this distribution list.

Thank you,

Tracy



TRACY HEMMETER

SENIOR PROJECT MANAGER
Water Supply Planning and Conservation
Santa Clara Valley Water District

5750 Almaden Expressway, San Jose, CA 95118
[\(408\) 630-2647](tel:(408)630-2647)
themmeter@valleywater.org

From: AlMeg
To: [Tracy Hemmeter](#)
Cc: [AlMeg](#)
Subject: material for consideration: Re: Santa Clara Valley Water District staff are holding a workshop on Friday, January 12 10AM-12Noon
Date: Wednesday, January 10, 2018 11:24:43 AM
Attachments: [image001.png](#)
[AG.MG.comment.memo.re.2017.Wat.Supp.Mast.Plan.docx](#)
[WaterFix.memo.for.Oct.17.2017.SCVWD.mtg.docx](#)

Hello, Tracy,

I just received your notice as a "forward", and would appreciate your seeing that my e-mail is added to your list of recipients, so that in the future, advance notice will be provided to my husband and me. We look forward to participating in Friday's meeting.

My husband and I re-submit the two attached documents (our memos, concerning water supply and the related WaterFix, previously submitted to the SCVWD Board) for inclusion in tomorrow's meeting and consideration by SCVWD staff, the Board and the public.

Thank you

Best regards,

Meg Giberson
amgibr-lwv@yahoo.com

From: Tracy Hemmeter [<mailto:themmeter@valleywater.org>]
Sent: Thursday, December 28, 2017 8:28 AM
Cc: Nina Hawk <NHawk@valleywater.org>; Garth Hall <ghall@valleywater.org>; Jerry De La Piedra <GDeLaPiedra@valleywater.org>; Rick Callender <rcallender@valleywater.org>; Rachael Gibson <rgibson@valleywater.org>; Paul Randhawa <PRandhawa@valleywater.org>
Subject: SCVWD Water Supply Master Plan Workshop - 1/12/18

Santa Clara Valley Water District (District) staff are holding a workshop on Friday, January 12, 2018, to get input on different water supply strategies that are being considered for the District's Water Supply Master Plan. The Water Supply Master Plan is the District's strategy for providing a reliable and sustainable water supply into the future in a cost-effective manner. At this workshop, staff will go over projected future water supplies and demands, describe the new projects being considered for the Water Supply Master Plan, and present potential water supply strategies for stakeholder discussion and input. The input will be presented to the District Board as part of the next Water Supply Master Plan update, probably in February 2018. The most recent update provided to the Board is available by clicking [here](#). I have also attached a summary of the projects that we are currently including in the potential water supply strategies.

Workshop time and location:

- **Date:** Friday, January 12, 2018
- **Time:** 10:00 am to Noon
- **Location:** District Headquarters Boardroom, 5700 Almaden Expressway, San Jose, 95118

Please RSVP so we can make sure we have appropriate number handouts and seats.

Happy New Year!

Tracy



TRACY HEMMETER
SENIOR PROJECT MANAGER
Water Supply Planning and Conservation
Santa Clara Valley Water District
5750 Almaden Expressway San Jose CA 95118
(408) 630-2647
themmeter@valleywater.org

TO: Honorable Members of the Santa Clara Valley Water District Board

FROM: Alan and Meg Giberson, ratepayers

RE: **2017 Water Supply Master Plan**

DATE: September 19, 2017

The Delta Reform Act of 2009 mandated reducing reliance on the Delta eight years ago. Water Code § 85021. The Water Supply Master Plan and update of 2012 and 2015 could have included these “no regret” projects, and more.

However, SCVWD’s 2017 Water Supply Master Plan (current draft) still looks to increase imports through WaterFix, seeking a projected 41,000 afy from WaterFix (more even than the 39,000 afy projected shortfall that was identified last week in the SCVWD 9/12/2017 staff packet “modeled long-term average” graphic).

Too much time and money have been spent on WaterFix tunnels, a project that is fraught and tainted by too many unknowns and behind-the-scenes negotiations, dodgy ownership and payment options. It is time to look to local and regional projects for the “shortfall” water and put a hold—preferably permanent—on WaterFix.

Strategies to reduce reliance on imported water such as conservation, recycling and stormwater capture can more than compensate for projected future delivery shortfalls (even without WaterFix).

Singapore, for example, with a population three times that of Santa Clara County, currently meets 40% of its water demand (~192,640 afy) with recycled water. By 2060 Singapore expects to meet up to 55% of its demand. Recycled water has allowed industries there to reduce their costs because of the high level of purity in the recycled water.

Creative local solutions acknowledging our situation should be pursued. Some of Santa Clara County is at or below sea level, where buildings’ lower levels are impacted by infiltrating water: basements of both residences and businesses need to be fitted out with pumps to remove the continuing inflow of water. At a recent SCVWD hearing, Roger Castillo, a local RCD director, pointed to the obvious: the water that pump stations remove from downtown buildings could be pumped to the upper watersheds to replenish the system. Palo Alto residents complained several years ago about large new construction that required ongoing pumping of basements—which then lowered the groundwater level for their areas. The same basement pumping situations are occurring elsewhere in this county.

Demand and supply can be managed through thoughtful, proactive, investments in projects that will benefit the health of our economy, our Bay and our community, as well as those of the Delta. What has been proposed in the “No Regrets Package” is a good start, but needs to be

pursued more intensively. Growing population doesn't have to mean increases in water use. Strategies that involve less imported water can meet reasonable demands.

The time factor also should be accounted for. The "no regrets" package can be started immediately, with costs and construction overseen by our local authorities, with foreseeable benefits to our economy. The WaterFix will not be operational for well over a decade, with as-yet-undetermined costs and uncertain product, but whose costs will require more ratepayer/taxpayer dollars immediately.

A State Water Resources Control Board policy established a mandate (in 2009) to increase the use of recycled water in California:

We strongly encourage local and regional water agencies to move toward clean, abundant, local water for California by emphasizing appropriate water recycling, water conservation, and maintenance of supply infrastructure and the use of stormwater (including dry-weather urban runoff) in these plans; these sources of supply are drought-proof, reliable, and minimize our carbon footprint and can be sustained over the long-term.

The SCVWD should consider the following examples of conservation and recycling projects that have been successfully planned or successfully implemented by others, as projects to emulate.

Water conservation—we are doing well, but could do better: Santa Clara Valley and Santa Clara Valley Water District can meet future demand even without WaterFix.

- There would be a **shortfall** of about **23%** of our modeled long-term average Delta imports in a future with no WaterFix (assuming the 39,000 afy shortfall mentioned in last week's memo) and increased restrictions on water from the Delta; according to SCVWD predictions — future shortfalls could equal 37,000 afy (average year, 2040) to 137,000 afy (drought, 2040)

- Conservation in the recent drought has already saved **28%** according to SCVWD (approximately 84,000 afy);

- conservation predicted in the 2012 Water Master Plan shows that conservation and water recycling strategies will reduce Delta water reliance by **25%**.

Water recycling—we could do more:

- SCVWD looks to only **32,000 acre-feet per year** (afy) of non-potable recycled water by 2040. Current recycle figure for the county is up to **≈15,000 afy**. (population of Santa Clara County ~ 1.9 million)

- **Singapore** (population ~ 5.7 million) recycles wastewater effectively

- recycled currently meets 40% water demand (**~192,640 afy**)

- has allowed industries to reduce their costs because of the high level of purity in the recycled water.

- **Orange County Water District** already recycles **103,000 afy** that it uses to recharge its underground aquifer for drinking water purposes (unit cost \$525 with subsidies and \$850 without subsidies)

- **LA County Sanitation Districts**, in partnership with Metropolitan Water District, are planning a Regional Recycled Water Program with an eventual production target of up to **168,000 afy**

- The **LADWP** reported in May 2010 that its water recycling/replenishment will use "about 50% less energy than it takes to import water from Northern California and the Colorado River and it will lessen the strain on California's Bay Delta."

- An April 2017 **SCVWD/EMC survey** showed many more voter/customers willing to pay for recycled water than were willing to invest in maintaining the level of imported water from the Sacramento-San Joaquin [Delta]

- A survey by the Bay Area Council in 2015 found **88 percent** in favor of **expanding recycled water** programs (See: <http://www.bayareacouncil.org/news/2015-bay-area-council-poll/> .)

- DWR's 2005 Water Plan found that "[t]here is a potential of about **0.9 million to 1.4 million acre-feet annually** of **additional** water supply from recycled water by the year 2030."

- Consequences of not cleaning up wastewater could be **finest of \$5 billion to \$10 billion**, which could be imposed on sewage treatment plants around the Bay for discharging substances that are fouling the Bay (http://www.mercurynews.com/bay-area-news/ci_24630366/san-francisco-bay-waters-are-becoming-clearer-but)

Local stormwater capture could potentially replace a large part of Santa Clara Valley's imported water.

- SCVWD used **imported water to fill its groundwater basins**, even when local water from this past rainy winter could have been used to recharge our local aquifers. (See: <http://www.mercurynews.com/2017/03/02/water-district-perc-ponds-pass-on-turbid-water-full-of-sediment/>). As SCVWD says, local aquifers hold nearly half the water used in the county and constitute a vast storage capacity (> 2 times local reservoirs).

- "**Groundwater basins** are the only thing that even approximate in size of storage [what] we're going to lose when we lose our snowpack in the decades to come." (Felicia Marcus, SWRCB Chair, speaking at a GGU water law conference, Jan. 2015)

- **Los Angeles** has proposed long-term stormwater capture of **179,000 acre-feet/year** (conservative estimate) to **258,000 acre-feet/year (afy)** (aggressive estimate) by 2099. Santa Clara Valley receives about the same amount of precipitation as LA and should prepare the same aggressive program.

- LA might even capture **up to 300,000 afy stormwater** says Dr. Richard Luthy, a Stanford professor of civil and environmental engineering and the director of the National Science Foundation's Engineering Research Center. <https://mavensnotebook.com/2016/08/18/stormwater-capture-treatment-and-recharge-for-urban-water-supply/>

- The October 2014 stormwater capture bill signed by Gov. Brown points to the opportunity to capture **more than 600,000 afy** within the Bay Area and Southern California.

Population growth, other areas' experience has shown, does not mean greater water demand (although population growth appears to be SCVWD stated reason for greater projected demand).

- In fact, **LA** population **grew by one million** while water **demand** stayed at about the **same level** for the **past 45 years** or so.

<https://www.newsdeeply.com/water/articles/2016/11/08/how-water-use-has-declined-with-population-growth> (Also see: **Urban Water Demand in California to 2100:**

Incorporating Climate Change (Aug. 2012) <http://pacinst.org/wp-content/uploads/2014/04/2100-urban-water-efficiency.pdf>)

- **San Francisco** Public Utilities Commission saw **water use drop 17 percent** for its retail customers between 2005 and 2015 while **population increased by 10 percent**.

• SCVWD in its 2012 Water Master Plan looked to a population growth of only 600,000 people by 2035 (ABAG projection) yet **claimed** that growth will result in an **increase** in water demands of **94,000 afy** by 2035

Leaks account for a lot of lost water:

- “Studies suggest that leak detection surveys could reduce annual water losses by **260,000 gallons per mile surveyed**, at a cost of \$300 per mile.” Oct. 2016, *The Cost of Alternative Water Supply and Efficiency Options in California* (Pacific Institute)
- DWR estimates that leaks in water district distribution systems siphon away more than **700,000 acre-feet of water** a year in California—enough to supply 1.4 million homes for a year. Audits of water utilities have found an average loss through leaks of 10 percent of their total supply. [From Governor’s 5/9/2016 drought message]

- **Finding leaks in pipes** may get easier -- saving money and water according to an MIT study.

https://www.wateronline.com/doc/finding-leaks-while-they-re-easy-to-fix-0001?vm_tId=2015739&user=92da4b24-340f-483f-abe0-59407f92cf31&utm_source=et_10759433&utm_medium=email&utm_campaign=WOL_08-10-2017&utm_term=92da4b24-340f-483f-abe0-59407f92cf31&utm_content=Finding+Leaks+While+They%2527re+Easy+To+Fix

Local jobs are created by local/regional projects (that can’t be outsourced):

- SEIU Local 721—the largest public sector union in Southern California—opposes California WaterFix/tunnels and questions the financial plan and higher costs of WaterFix. Their July 13, 2017 letter enumerates the jobs that environmentally sustainable water capture at the local level can create. SEIU Local 721 supports recycling and stormwater capture (Letter already submitted to SCVWD Board).

• The Sacramento Regional Sanitary upgrade will create up to 600 construction jobs (at peak construction) (see: <http://www.kcra.com/article/600-workers-will-build-2b-mega-project-in-sacramento/6419879>). Similar projects locally could create local jobs.

Tech: Silicon Valley technology can address many of these water supply issues, by using its ability to innovate, not by promoting an improvident WaterFix project.

Dams are a questionable proposition:

- dams and their reservoirs leak or lose billions of gallons of water to evaporation: <https://projects.propublica.org/killing-the-colorado/story/arizona-cotton-drought-crisis>
- a 2016 algae bloom in San Luis Reservoir became severe, resulting in an advisory level upgraded to “warning” from “caution”
<http://www.fresnobee.com/news/local/article110480652.html>

Conclusion: The proposed WaterFix has too many unknowns and uncertainties; it is not the water solution for Santa County residents and ratepayers. Other, better solutions should be aggressively pursued.

WaterFix unknowns and problem issues, for example, include:

- the **accusation that taxpayer money was “wrongly used”** to plan California water tunnel project according to an Inspector General report (federal), issue covered by the LA Times <http://www.latimes.com/local/california/la-me-water-tunnel-funds-20170908-story.html> (some \$50-80 million, depending on media reporting). Transparency and accountability have been lacking in this process
- whether WaterFix will be **legally considered** part of the SWP—an issue to be decided in “validation action” in Sacramento Court;
- if WF is not found to be part of SWP, then there is **questionable** ability under Water Code to **authorize bonds** to construct, etc.
- who will control project if **“validation action” fails** and DWR is not “owner”
 - proposal that Joint Finance JPA, or “designee”, could assume ownership, with question of who would control then (“ongoing negotiations, discussions” are being held, in private)
 - “In the scenario that DWR does not have the authority, **SWP contractors** that are members of the Finance JPA would have to **‘step up’ to pay the debt service** for the outstanding Finance JPA Bonds.” (from previous SCVWD Bd. Agenda Memo, Item 2.1, § F.1)
- whether State Water Board will allow the change in point of diversion to the proposed northern intakes (if not, the project will not go forward); the continued hearings on that are scheduled to begin in Jan. 2018
- WaterFix project projected **capital costs \$16.7 billion**, that may ultimately **cost up to \$60 billion or more**, including debt financing
- an ultimate **high cost** to SCVWD ratepayers (risk volatility is inherent in project)
- ultimate **water allocation** amount
 - can depend on % from SWP, CVP, etc., regulatory actions, SLR, climate change
 - SCVWD looks to approximately **28,000 to 44,300 afy gain from WaterFix**
- **opt-in/opt-out “choices”**: opt-in for CVP participation in WF; opt-out of SWP participation in WF
- will **ratepayers** of Santa Clara County still have to pay for WaterFix even if SCVWD opts out of participation in SWP part of WaterFix; will SCVWD opt in to participation under CVP?

October 13, 2017

TO: Honorable Members of the Santa Clara Valley Water District Board

FROM: Alan and Meg Giberson

RE: October 17, 2017, SCVWD WaterFix meeting

California WaterFix (CWF or WF) is a fantasy project. The years-long process of “study” has left a “project” that seems no more real than it did 10 years ago because so much about it is unknown. Only 5% to 10% of the project has been designed so far; 90% to 95% of its design has yet to be determined. With its legal status as part of the SWP uncertain, with construction costs unknowable because of WaterFix’s incomplete design stage, with as-yet-undeterminable borrowing costs (being dependent in part on whether a JPA or government/state actor will be the borrower), and with uncertain amounts of yield and cost per acre-foot of any WaterFix water, nothing about WaterFix can be relied on.

Currently available information demonstrates that WaterFix is a quagmire not a solution. California residents are being asked to trust, but there is insufficient data with which to verify. Need for this project cannot be demonstrated because local projects and local water sources will yield more reliable water at an equal or lesser cost.

COST will soar; COST OVERRUNS to be expected

CWF costs will rise above what has been promoted; accurate costs of construction and/or resulting cost per acre foot of water have not been—and cannot be— assured. CWF water costs presented to SCVWD board have been low-balled at \$600 per acre-foot (per SCVWD projects’ cost analysis, 9/19/17, Item 2.1-E, Handout, Attachment 4, revised page 13 of 42). However:

- staff has also labeled WaterFix cost as the riskiest, in a Weighted Cost Risk analysis of thirteen projects (Fig. 3, Attachment 3, SCVWD Item # 2.1, 9/19/17);
- costs will reach \$888 to \$1427 per acre-foot (in 2033 dollars) according to Kern documents (“Kern document” at <https://wrmsd.com/wp-content/uploads/2017/08/KCWA-CWF-Overview-Public-Version-Complete-9.15.17.pdf>, page 72).

Cost overruns have plagued projects in this state and elsewhere. The Bay Bridge and high-speed rail are but two California examples.

The Legislative Analyst’s Office also reported in 2009 an “upward expenditure cycle [of the SWP] ... due in part to the lack of effective budgetary oversight of the (State Water Project).” The LAO has recommended making the State Water Project’s entire budget part of the state budgeting process. Such a process might help CWF’s soaring bottom line, but such oversight seems extremely unlikely in view of DWR /CWF activities to date.

Kern Water Agency's consultant 5RMK, while noting that CWF design was only "5 to 10 percent complete", was told to base its estimate on a "design definition" requiring a 10 to 30 percent complete" project. (Kern County Water Agency's Analysis of California WaterFix Impacts—"Kern analysis"—page 27.) With just this minimal information, 5RMK signaled possible WF capital cost increases that could be more than one and one-half times 5RMK's lowest estimate. (Kern Analysis, page 76.)

FAULTY PROJECT DESIGN, reliability jeopardized:

Given the preliminary status of WaterFix design, all cost estimates are guesswork, based on missing and/or inadequate data. Comparisons and estimates cannot be considered reliable, and border on speculation because of so many unknowns.

The ~35% construction contingency figure reported for WaterFix by both SCVWD¹ and Kern County Water Agency would be drastically low for a large tunneling project such as this, given the "iron law of megaprojects": "over time, over budget, over and over again." Considering the 5% to 10% design stage² of WaterFix and the identified weakness of the construction method using concrete segments that are subject to leakage at segment joints, costs will soar with likely tunnel failure; water reliability will be jeopardized.

Initial DWR design documents indicate large segmented concrete tunnels are planned, but without the inner lining that had been considered earlier. (See: Informational comments submitted by Des Jardins for the 10/10/2017 SCVWD meeting, quoting DWR 2010a, p.9.) This cheaper design nearly guarantees leakage from sources such as: 1) seismic activity, 2) subsidence of the soft soils surrounding proposed tunnel placement, 3) long-term degradation of segmental concrete lining, resulting in 4) increased forces pulling the tunnels apart. Consequences will be increased cost to 1) redesign and construct tunnels, or 2) repair, if built as preliminarily designed.

The Des Jardins 10/10/2017 submission cited EMBUD's 2015 comments on the tunnel design:

Long-term degradation of segmental concrete lining may result in failure of the lining. In the event that the tunnel lining fails and results in a tunnel collapse or blowout, a collapse during operations would result in major ground movement extending to the ground surface and potentially sinkholes or blowout.

¹ SCVWD Sep 12, 2017 Board memo, Section D ("Total WaterFix costs"), Table 1 (Calif. WaterFix Cost Summary) cited "Contingency (36%)" under capital costs (and directly following "construction" costs

² Design is at only 5% to 10% stage ("the design definition for California WaterFix currently is between 5 to 10 percent complete", according to <https://wrmwsd.com/wp-content/uploads/2017/08/KCWA-CWF-Overview-Public-Version-Complete-9.15.17.pdf>

STATE AUDITOR'S REPORT critical of WATERFIX:

The State Auditor's Report is critical of WaterFix; it should be heeded as a warning not to proceed with the project. DWR's lack of transparency is not new, and bodes ill for any WaterFix future. The State Auditor's report re WaterFix (October 2017, Report 2016-132) indicates ongoing lax management on the part of DWR, which was responsible for:

- no demonstration of financial viability, incomplete financial analysis, yet "[t]he financial analysis is critical in determining whether water contractors are willing and able to pay for the construction of WaterFix" (State Auditor's Report, pages 34- 35);
- unqualified consulting firm hired, with multi-million dollar CWF contract, but no competitive bid process;
- amended contracts for BDCP consultant costs resulting in cost increases of nearly five times the original amount, with funding or spending "not fully track[ed]" (State Auditor's Report, page 17);
- no finished economic analysis;
- \$50 million allegedly misused to pay planning costs;
- planning alone 200%-500% over budget.

With DWR making the critical and final decisions re WaterFix management, WaterFix is a bad choice for Santa Clara Valley ratepayers.

DESIGN AND COST CONSIDERATIONS:

Design and cost considerations coalesce in ballooning costs if WaterFix is allowed to proceed. California already faces a staggering cost of infrastructure maintenance, leak detection and repair. Dams in California, for instance, need expensive upgrades/repairs.

- The same people (DWR) who brought us Oroville—with repair costs rising potentially to \$1 billion— have suggested a CWF design that proposes tunnel construction involving demonstrably problematic construction techniques. SWP contractors, such as SCVWD (and ratepayers), may be on the hook for expenses such as the Oroville repair, according to a statement by Gov. Brown's Department of Finance in February this year.
- Of the dams owned by SCVWD, the California Division of Safety of Dams September 2017 report listed four as only "fair", with significant downstream hazards due to extremely high potential for loss of life/infrastructure in the event of dam failure. SCVWD ratepayers will be on the hook for such catastrophic events.
- <https://www.eenews.net/stories/1060053463>: "The 240-foot Anderson Dam near Morgan Hill ... impounds a 90,000-acre-foot reservoir that is threatened by an earthquake on the same fault. If it fails, a deluge would reach the pricey real estate in Morgan Hill in less than 15 minutes. Downtown San Jose would be under 8 feet of water in three hours. The dam's owner, the Santa Clara Valley Water District, has sought to avoid surprises.... But that hasn't kept its price tag from ballooning. The project cost jumped from \$200 million to \$400 million when new geologic studies concluded the upstream slope of the dam could collapse in an earthquake."

BETTER CHOICE: RELIABLE, DROUGHT-PROOF, CLIMATE-RESILIENT, LOCAL WATER SOURCES

The Pacific Institute notes that **urban water conservation** and **efficiency** measures are less expensive than most new water supply options and are thus the most cost-effective ways to meet current and future water needs. Indeed, many residential and non-residential measures have a “negative cost,” which means that they save the customer more money over their lifetime than they cost to implement.

Stormwater capture projects can cost less, and use local water.

- A median cost of \$590 per af for large stormwater capture projects is projected by a Pacific Institute study/report. (The Cost of Alternative Water Supply and Efficiency Options in California, Pacific Institute, October 2016)
- UCSC’s Dr. Andy Fisher is currently working on distributed stormwater recharge projects in Pajaro Valley (“Pajaro”), which has a similar precipitation pattern to Silicon Valley’s. Pajaro receives no imported water; it is dependent on groundwater, which—at over 1 mafy—represents 83-85% of Pajaro’s demand. See: <https://mavensnotebook.com/2017/09/20/dr-andy-fisher-enhancing-groundwater-recharge-with-stormwater/>. The recharge initiative has four components: mapping, modeling, field project, monetizing incentives for stakeholders. Similar projects could help recharge Santa Clara Valley’s aquifers.
- Work by Dr. Richard Luthy, Stanford, also demonstrates enormous potential for stormwater capture. See: <https://mavensnotebook.com/2016/08/18/stormwater-capture-treatment-and-recharge-for-urban-water-supply/> Dr. Luthy projects the possibility that LA could boost its aggressive plan for stormwater capture (of 258,000 afy by 2099) **up to 300,000 afy stormwater**.
- Considerable tech expertise is available in Silicon Valley to address these, and similar, water source issues.

Alternate sources:

The averaged cost of \$400 per acre-foot of the nine projects listed in SCVWD 9/19/017 Water Supply Master Plan Update demonstrates potential for sourcing water from other than megaprojects such as WaterFix. (“Project and Programs Currently Being Considered for Inclusion in the 2017 Water Supply Master Plan”, Attachment 1, page 1 of 9).

- **Landscape conversion** can save up to 2,000,000 acre-feet per year in California, and is one of the lowest cost water supplies (The Cost of Alternative Water Supply and Efficiency Options in California, Pacific Institute, October 2016, page 17, Table 5, “Residential Water Efficiency Measures”)
- **Recycled water**
 - Recycled water has received **approvals** from numerous groups: Cal. Med. Assoc. (2012 Resolution 119-12); Santa Clara County voters (SCVWD/EMC April 2017 Survey); Bay Area Council 2015 (88 percent of those surveyed favored expanding recycled water programs); NRC/National Academies: Reuse of Municipal Wastewater has Significant Potential to Augment Future U.S. Drinking Water Supplies (“Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may

be significantly lower than, the risks of existing water supplies.”) (press release) Also see: <http://www8.nationalacademies.org/onpinews/newsitem.aspx?recordid=13303>.

- **Various areas and agencies** safely process and use large amounts of recycled water:

- OCWD 103,000 afy (project uses half the energy it would take to pump imported water; cost \$525/af with subsidies, \$850/af without subsidies);
- Singapore 192,640 afy;
- LA County Sanitation Districts plan up to 168,000 afy. LADWP reported in May 2010 that its water recycling/replenishment will use "about 50% less energy than it takes to import water from Northern California and the Colorado River and it will lessen the strain on California's Bay Delta."
- Del Puerto district (Stanislaus County) will receive 30,600 acre-feet of highly-treated wastewater (recycled water) from Modesto (from a \$100 million project) that will supply one-third of the needs for Del Puerto farmers and give them a stable water source; ultimately 59,000 afy is anticipated.

<http://www.modbee.com/news/state/california/water-and-drought/article30198939.html#storylink=cpy>

HIGH RISK: WaterFix was listed as the riskiest project in SCVWD staff's rating of 13 potential water supply projects. Members of the SCVWD board have also repeatedly mentioned being risk-averse; that risk aversion was again cited at the 10/10/2017 SCVWD board meeting. SCVWD and DWR documents have repeatedly reported that the WaterFix design is subject to change. (SCVWD staff reports, along with the Kern consultant 5RMK have identified the same 35% construction contingency.) WaterFix doesn't merit taking that risk.

BORROWING COSTS: If WaterFix is not legally considered part of the SWP (pursuant to a Validation Action in a Sacramento court) issuance of bonds may not be possible as a state action. Financing would then need to be provided through a JPA, which might have to pay higher interest rates than state-backed bonds receive. (And DWR has already had to increase its short-term—and thus more costly— borrowing capacity to pay for Oroville spillway repair work.)

CONCLUSION: A long, 15-year, delay in WaterFix water availability is projected (assuming all goes perfectly for the project, unlikely in view of the problematic design and multiple lawsuits challenging it). Local projects can be built faster and may be less costly, with local control and more reliable water as a result. History does not favor large infrastructure such as WaterFix; water transfer projects haven't been the solutions they were supposed to be. WaterFix is not the fix Santa Clara Valley needs.

Our five-page **memo submitted for the September 19, 2017, SCVWD 2017 Water Supply Master Plan** board hearing is hereby referenced and included in this memo, as if fully set forth herein.