Water Supply Master Plan 2040
Project List (as of February 2019)

Project	Project Status[1]	District Lifecycle Cost (Present Value, 2018)[2]	Average Annual Yield (AFY)[3]	Cost/AF	Relative Risk[4]
Anderson Reservoir Expansion: Increases reservoir storage by 100,000 AF to about 190,000 AF, increasing Valley Water's ability to capture and store local runoff. Planning for reconstruction of Anderson Reservoir to meet seismic standards is currently underway. Consideration of also expanding the reservoir would likely delay the required work.	Inactive	$1.2 billion	10,000	$5,300	TBD
Bay Area Brackish Water Treatment/Regional Desalination: Secures a partnership with other Bay Area agencies to build a brackish water treatment plant in Contra Costa County. Valley Water would receive up to 5 MGD of water in critical dry years. There are concerns permitting and the availability of water rights during dry periods when such a facility would be most needed. This project will require collaboration among multiple agencies and requires partners for moving forward.	Active	$80 million	1,000	$2,900	TBD

[1] Project status is either "Master Plan Project" for projects in the Water Supply Master Plan 2040, "Active" for projects where there is ongoing Valley Water activity and the project could be an alternative project for the Water Supply Master Plan, or "Inactive" for projects that could be potential future projects.
[2] Valley Water Lifecycle Cost (Present Value, 2018$) includes capital, operations, maintenance, rehabilitation, and replacement costs, as applicable, for a 100-year period, discounted back to 2018 dollars. Only Valley Water costs, after grants and other funding sources, are included. All costs are subject to change pending additional planning and analysis.
[3] The average annual yield of many projects depends on which projects they are combined with and the scenario being analyzed. For example, groundwater banking yields are higher in portfolios that include wet year supplies. Similarly, they would be lower in scenarios where demands exceed supplies and excess water is unavailable for banking.
[4] Valley Water staff complete risk ranking analyses in September 2017 and December 2018. Not all the potential projects were included in the analysis. "TBD" indicates the project was not included in either of the risk ranking analyses.

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Calero Reservoir Expansion: Expands Calero Reservoir storage by about 14,000 AF to 24,000 AF. Planning and design for Calero Reservoir Seismic Retrofit project is currently underway. Consideration of also expanding the reservoir would likely delay the required work.	Inactive	$180 million	3,000	$2,300	TBD
Church Avenue Pipeline: Diverts water from the Santa Clara Conduit to the Church Avenue Ponds. The Morgan Hill recharge projects provide the same or better yields at a lower cost.	Inactive	$31 million	1,000	$900	TBD
Conservation Rate Structures: Many retailers implement conservation rate structures. Given recent court rulings on rate structure, retailers are reluctant to add new conservation rate structures at this time	Inactive	TBD	TBD	TBD	TBD
Countywide Water Reuse Master Plan: Valley Water is working with local recycled water producers, retailers, and other stakeholders to develop a Countywide Water Reuse Master Plan (CWRMP) that will address key challenges in potable water reuse, including: (1) identification of how much water will be available for potable reuse and non-potable recycled water expansion, (2) evaluation of system integration options, (3) identification of specific potable reuse and recycled water projects, and (4) development of proposals for governance model alternatives including roles and responsibilities. The plan, which is scheduled to be completed in 2020, may identify additional reuse opportunities to incorporate into the Water Supply Master Plan.	Active	TBD	TBD	TBD	TBD

Project	Project Status[1]	District Lifecycle Cost (Present Value, 2018)[2]	Average Annual Yield (AFY)[3]	Cost/AF	Relative Risk[4]
Delta Conveyance Project (formerly known as California WaterFix): Constructs alternative conveyance capable of diverting up to 9,000 cubic feet-per-second from the Sacramento River north of the Delta and delivering it to the SWP pumps at the southern end of the Delta. The goal is to reduce impacts of diversions, help maintain existing deliveries, improve the ability to do transfers, help adapt to changing precipitation and runoff patterns, and protect water quality from sea level rise. The project has significant implementation complexity and stakeholder opposition. The State is currently revising the project from two tunnels down to one tunnel. A new project description is forthcoming.	Master Plan Project	$630 million	41,000	$600	High - Extreme
Del Valle Reoperations: This project, as currently envisioned, would allow for more storage in Lake Del Valle, a State Water Project facility in Del Valle Regional Park that is operated by East Bay Regional Park District. The benefits of the additional storage are primarily related to operational flexibility and water quality. The project may not increase long-term water supply yields or drought year yields.	Inactive				TBD
Dry Year Options / Transfers: Provides 12,000 AF of State Water Project transfer water during critical dry years through long-term agreements. Amount can be increased or decreased. There are uncertainties with long-term costs and ability to make transfers in critical dry years. Short-term water transfers and exchanges are part of routine Valley Water imported water operations.	Inactive	$100 million	2,000	$1,400	Low

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Groundwater Banking: Provides up to 120,000 AF of banking capacity for Central Valley Project and State Water Project contract water. Sends excess water to a groundwater bank south of the Delta during wet years and times of surplus for use during dry years and times of need. Amount could be increased or decreased. There are uncertainties with the ability to make transfers in critical dry years and Sustainable Groundwater Management Act implementation.	Active	$75 million	2,000	$1,300	Low
Lexington Pipeline: Constructs a pipeline between Lexington Reservoir and the raw water system to provide greater flexibility in using local water supplies. The pipeline would allow surface water from Lexington Reservoir to be put to beneficial use elsewhere in the county and increase utilization of existing water rights, especially in combination with the Los Gatos Ponds Potable Reuse project. In addition, the pipeline will enable Valley Water to capture some wet-weather flows that would otherwise flow to the Bay. Water quality issues would require pre-treatment/management. An institutional alternative could include an agreement to use some of Valley Water's Lexington Reservoir water right at San Jose Water Company's Montevina Water Treatment Plant.	Inactive	$85 million	3,000	$1,000	Low
Local Land Fallowing: Launches program to pay growers not to plant row crops in critical dry years. This would primarily save water in the South County. The South County recharge projects have similar or greater yields at a lower cost and are more consistent with County land use policy and grower interests.	Inactive	$50 million	1,000	$2,400	TBD

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Los Vaqueros Reservoir: Secures an agreement with Contra Costa Water District and other partners to expand the off-stream reservoir by 115 TAF (from 160 TAF to 275 TAF) and construct a new pipeline (Transfer-Bethany) connecting the reservoir to the South Bay Aqueduct. Assumes Valley Water's share is 30 TAF of storage, which includes an emergency storage pool of 20 TAF for use during droughts. Would require funding and operating agreements with multiple parties, likely including formation of a Joint Powers Authority.	Active	$131 million	3,600	$1,200	Medium
Morgan Hill Recycled Water: Constructs a 2.25 MGD scalping plant in Morgan Hill. Would need to replace a lower cost recycled water project in Gilroy due to capacity constraints on the system.	Inactive	$85 million	3,000	$1,100	TBD
Additional Conservation and Stormwater Projects and Programs	Master Plan Project	$60 million	11,000	$200	Medium
Advanced Metering Infrastructure (AMI): Implements a cost share program with water retailers to install AMI throughout their service area. AMI would alert customers of leaks and provide real-time water use data that allows users to adjust water use.		$20 million	4,000	$100	Low
Graywater Rebate Program Expansion: Expand Valley Water's existing rebate program for laundry-to-landscape graywater systems. Potentially could include a direct installation program and/or rebates for graywater systems that reuse shower and sink water.		$1 million	< 1,000	$3,300	Low
Leak Repair Incentive: Provides financial incentivizes homeowners to repair leaks.		$1 million	< 1,000	$9,200	Low

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New Development Model Ordinance: Encourages municipalities to adopt an ordinance for enhancing water efficiency standards in new developments. Components include submetering multi-family residences, onsite water reuse (rainwater, graywater, black water), and point-of use hot water heaters.		$2 million	5,000	$100	Medium
Stormwater - Agricultural Land Recharge: Flooding or recharge on South County agricultural parcels during the winter months.		$10 million	1,000	$1,000	Low
Stormwater - Rain Barrels: Provides rebates for the purchase of a rain barrels.		$10 million	< 1,000	$17,900	Low
Stormwater - Rain Gardens: Initiates a Valley Water rebate program to incentivize the construction of rain gardens in residential and commercial landscapes.		$10 million	< 1,000	$3,000	Low
Stormwater - San Jose: Constructs a stormwater infiltration system in San Jose. Assumes 5 acres of ponds. Potential partnership with City of San Jose.		$3 million	1,000	$100	Low
Stormwater – Saratoga #1: Constructs a stormwater infiltration system in Saratoga. Assumes 5 acres of ponds. Assumes easement rather than land purchase. Close to Stevens Creek Pipeline, so could also potentially be used as a percolation pond.		$3 million	< 1,000	$1,100	Low

Project	Project Status[1]	District Lifecycle Cost (Present Value, 2018)[2]	Average Annual Yield (AFY)[3]	Cost/AF	Relative Risk[4]
Pacheco Reservoir: Through a partnership with Pacheco Pass Water District, San Benito County Water District (SBCWD), and potentially other partners, Valley Water will enlarge Pacheco Reservoir from about 6,000 AF to about 140,000 AF and connect the reservoir to the San Felipe Division of the CVP. The primary water sources to fill the expanded reservoir would be natural inflows from the North and East Forks of Pacheco Creek. Supplemental flows to the expanded reservoir would arrive from Valley Water's SBCWD's share of contracted CVP pumped water from San Luis Reservoir. The project will be operated to provide water for fisheries downstream of the reservoir and increase in-county storage. Other potential benefits could include managing water quality impacts from low-point conditions in San Luis Reservoir and downstream flood protection. The project will also deliver water to up to eight south-of-Delta wildlife refuges in Merced County. Potentially significant environmental and cultural resource impacts.	Master Plan Project	$340 million	6,000	$2,000	Medium
Potable Reuse – Ford Pond: Constructs potable reuse facilities for 4,000 AFY of groundwater recharge capacity at/near Ford Ponds. Potable reuse water is a high-quality, local drought-proof supply that is resistant to climate change impacts. The project would require agreements with the City of San Jose and may require moving existing water supply wells.	Inactive	$295 million	3,000	$2,800	Medium
Potable Reuse – Injection Wells: Constructs potable reuse facilities for 15,000 AFY of groundwater injection capacity. Potable reuse water is a high-quality, local drought-proof supply that is resistant to climate change impacts. The injection wells could be constructed in phases and be connected to the pipeline carrying purified water to the Los Gatos Ponds. The project would require agreements with the City of San Jose and reverse osmosis concentrate management. Injection well operations are more complex than recharge pond operations.	Inactive	$1.2 billion	12,000	$3,100	High

Project	Project Status[1]	District Lifecycle Cost (Present Value, 2018)[2]	Average Annual Yield (AFY)[3]	Cost/AF	Relative Risk[4]
Potable Reuse - Los Gatos Ponds: Involves purifying water at an expanded Silicon Valley Advanced Water Purification Center in Alviso, pumping the water to Campbell, and using the purified water for groundwater recharge in the existing ponds along Los Gatos Creek. Potable reuse water is a high-quality, local drought-proof supply that is resistant to climate change impacts. Assumes up to 24,000 AFY of advanced treated recycled water would be available for groundwater recharge at existing recharge ponds in the Los Gatos Recharge System. Some of the outstanding issues with the project are reverse osmosis concentrate management and agreements with the City of San Jose or another wastewater provider.	Master Plan Project	$1.2 billion	19,000	$2,000	Medium
Refinery Recycled Water Exchange: Central Contra Costa Sanitary District (Central San) is a wastewater agency in Contra Costa County. It currently produces about 2,000 acre-feet per year (AFY) of recycled water, but has wastewater flows that could support more than 25,000 AFY of recycled water production. The conceptual program would involve delivering recycled water to two nearby refineries that are currently receiving about 22,000 AFY of CCWD Central Valley Project (CVP) water; in exchange Valley Water would receive some of CCWD's CVP water.	Active	TBD	11,000	TBD	TBD
Retailer System Leak Detection/Repair: Recent legislation requires retailers to complete annual water loss audits, which will then be used by the State to establish water loss standards. Staff will reconsider this alternative after the standards are developed.	Inactive	TBD	TBD	TBD	TBD
Saratoga Recharge: Constructs a new groundwater recharge facility in the West Valley, near the Stevens Creek pipeline. Would help optimize the use of existing supplies. Land availability and existing land uses limit potential project locations.	Inactive	$50 million	1,000	$1,300	Low

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Shasta Reservoir Expansion: A Feasibility Study and Environmental Impact Statement have been completed for a Shasta Reservoir Expansion. The United States Bureau of Reclamation concluded the project is technically feasible, and is conducting preliminary investigations. State law prohibits Prop 1 storage funding for the project and restricts funding for any studies. Staff will continue to monitor opportunities related to Shasta Reservoir Expansion. US Fish & Wildlife Service recommended against the project in 2014 because it would fail to protect endangered salmon in the Sacramento River. The State sued Westlands Water District for working on the EIS and planning studies. The judge has since ordered Westlands Water District to stop work and ruled that it violated state law for working on projects that would adversely affect the McCloud River. Westlands Water District has appealed the decision.	Incctive	TBD	TBD	TBD	TBD
Sites Reservoir: Establishes an agreement with the Sites JPA to build an off-stream reservoir (up to 1,800 TAF) north of the Delta that would collect flood flows from the Sacramento River and release them to meet water supply and environmental objectives. The project would be operated in conjunction with the SWP and CVP, which improves flexibility of the statewide water system but would be subject to operational complexity.	Active	$250 million	8,000	$1,200	High

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Shallow Groundwater Reuse: A feasibility study for the recovery and beneficial use of shallow groundwater was completed in 2009. Although potential sites for shallow groundwater reuse were identified, staff has identified several concerns. These concerns include water quality, sustainable yields, and lack of infrastructure for storage and conveyance. In addition, several reuse sites are in areas where recycled water is already delivered for non-potable use. Valley Water will new opportunities as they arise.	Inactive	TBD	TBD	TBD	TBD
South County Recharge – Butterfield Channel: Extends the Madrone Pipeline from Madrone Channel to Morgan Hill's Butterfield Channel and Pond near Main Street. Would help optimize the use of existing supplies. Would need to be operated in conjunction with the City's stormwater operations.	Master Plan Project	$10 million	2,000	$400	Low
South County Recharge - San Pedro Ponds: Implements a physical or institutional alternative to enable the ponds to be operated at full capacity without interfering with existing septic systems in the vicinity.	Active	$10 million	1,000	$400	TBD
South County Water Treatment Plant: Provides in-lieu groundwater recharge by delivering treated surface water to the Cities of Morgan Hill and Gilroy. Would require a connection to the Santa Clara Conduit or other raw water pipeline and pipelines from the plant to the cities' distribution systems. Valley Water owns two properties that could potentially be used for this project. The South County recharge projects provide similar benefits at significantly lower cost.	Active	$112 million	2,000	$2,400	TBD

Project	Project Status[1]	District Lifecycle Cost (Present Value, 2018)[2]	Average Annual Yield (AFY)[3]	Cost/AF	Relative Risk[4]
Stormwater – Saratoga #2: Constructs a stormwater infiltration system on a parcel in Saratoga. Assumes 5 acres of ponds. Currently zoned as ag land; assumes land purchase. About 0.6 miles from the Stevens Creek Pipeline. The cost-effectiveness is low due to the land purchase requirement. Other stormwater projects are included in the "No Regrets" package.	Inactive	$50 million	<1,000	$10,700	TBD
Temperance Flat Reservoir: Temperance Flat Reservoir would be located upstream of Friant Dam on the San Joaquin River. Staff's current analysis is that any water supply benefits to Valley Water from the project would be indirect, largely manifested by lowered requirements for Delta pumping for delivery to the San Joaquin Exchange contractors at the Delta-Mendota Pool.	Inactive	TBD	TBD	TBD	TBD
Transfer-Bethany Pipeline: The pipeline will connect Contra Costa Water District's (CCWD's) system to Bethany Reservoir, which serves the South Bay Aqueduct and the California Aqueduct. This project will enable Valley Water to receive Delta surplus supplies and some contract supplies through CCWD's system in the Delta instead of (or in addition to) the CVP and SWP pumps in the southern Delta. This will increase reliability and flexibility for Valley Water. The project would also facilitate other potential regional projects. Would provide an alternative to through-Delta conveyance of supplies from projects such as the Bay Area Brackish Water Treatment and Refinery Recycled Water Exchange projects. Also, it would facilitate conveyance of Delta surplus supplies or transfers from CCWD and East Bay Municipal Utility District. The pipeline is one element of the larger Los Vaqueros Reservoir Expansion Project, which is partnership between CCWD, Valley Water, and agencies in the Bay Area and Central Valley. Would require funding and operating agreements with multiple parties, likely including formation of a Joint Powers Authority.	Master Plan Project	$78 million	3,500	$700	Medium

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Uvas Pipeline: Captures excess water (e.g., water that would spill) from Uvas Reservoir and diverts the water to Church Ponds and a 25 acre-foot pond near Highland Avenue. The new pond would be adjacent to and connected by a pipe to West Branch Llagas Creek. The South County recharge projects provide similar or better yields at a lower cost.	Inactive	$90 million	1,000	$2,600	TBD
Uvas Reservoir Expansion: Would expand Uvas Reservoir by about 5,100 AF to 15,000 AF, reducing reservoir spills. Project would be located on Uvas Creek, which currently provides good steelhead habitat. Other water storage options under consideration provide better yield for the cost.	Inactive	$330 million	1,000	$20,500	TBD
Water Contract Purchase: Purchase 20,000 AF of SWP Table A contract supply from other SWP agencies. Would increase reliance on the Delta and be subject to willing sellers' availability. Could also include Long-Term Transfers being considered along with California WaterFix.	Active	$365 million	12,000	$800	Medium