2017 Water Supply Master Plan
Project and Program Descriptions (as of April 3, 2017)

This document summarizes the projects and programs that are, or have been, considered for inclusion in the 2017 Water Supply Master Plan. Only a subset of the projects or programs will be selected for implementation as part of the 2017 Water Supply Master Plan.

Projects and Programs Currently Being Considered for Inclusion in the 2017 Water Supply Master Plan

Project	Description	Average Annual Yield (AFY)[1]	District's Lifecycle Cost (2016$)
Agricultural Land Recharge	Constructs a recharge pond on a South County agricultural parcel that would receive water either from roadside ditches or adjacent hillslopes.	200	$20 million
Advanced Metering Infrastructure (AMI)	Implements a cost share program with retailers to replace current meters with AMI. AMI would alert customers of leaks, as well as provide real-time water use data. Water savings assumes the leaks would be fixed once detected.	4,000	$30 million
Anderson Reservoir Expansion	Increases reservoir storage by 100,00 AF to about 190,000 AF.	10,000	$2.0 billion
Butterfield Recharge	Extends the Madrone Pipeline from Madrone Channel to Morgan Hill's Butterfield Channel and Pond.	3,000	$30 million
Calero Reservoir Expansion	Expands Calero Reservoir storage by about 14,000 AF to 24,000 AF.	3,000	$510 million
California WaterFix	Constructs tunnels to convey water from north of the Delta to the south of Delta pumps to minimize impacts to fisheries, provide conveyance during a Delta outage, and adapt to climate change. Secures existing supplies.	Up to 30,000[2]	$1.8 billion
Church Avenue Pipeline	Diverts water from the Santa Clara Conduit to the Church Avenue Ponds	1,000	$50 million

[1] The average annual yield of many projects will depend on the other projects with which they are combined and the scenario being analyzed. For example, groundwater banking yields would likely be 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.

[2] The California WaterFix secures existing supplies in the scenario with more restrictive Delta water supply operations. Delta-conveyed supplies with the California WaterFix are about the same as deliveries under current operations. Without California WaterFix and with more restrictive Delta water supply operations, Delta-conveyed supplies would be about 30,000 AFY less on average.

Project	Description	Average Annual Yield (AFY)[1]	District's Lifecycle Cost (2016$)
Graywater Expansion	Expands existing District rebates to incentivize the installation of whole-house graywater systems that reuses laundry, shower, and sink water. The rebates would be for residential sites and certain applicable commercial sites.	100	$2 million
Groundwater Banking	Provides 50,000 AF of banking capacity for excess the 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.	500	$90 million
Leak Repair Incentive	Incentivizes homeowners to repair leaks.	300	$2 million
Local Land Fallowing	Launches program to pay growers not to plant row crops in critical dry years.	1,000	$90 million
Los Vaqueros Reservoir	Secures an agreement with Contra Costa Water District to expands the existing off-stream reservoir by 110,000 AF and construct a new pipeline connecting the reservoir to the South Bay Aqueduct. Could be constructed in phases.	2,000	$340 million
Model Ordinance	Encourages municipalities to adopt an ordinance that promotes enhanced water efficiency standards and develops alternate water supply sources in new and retrofitted developments. Potential components include submetering multi-family residences, onsite water reuse (rainwater, graywater, black water), and point-of use hot water heaters.	5,000	$1.4 million
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.	3,000	$220 million
Pacheco Reservoir Expansion	Expands the existing small Pacheco Reservoir to 130,000 AF, with 100,000 AF of storage for the District. Assumes District stores Central Valley Project supplies in the reservoir. Helps address San Luis Reservoir low-point issues. This project would be constructed in collaboration with Pacheco Pass Water District and San Benito County Water District	6,000	$1.5 billion
Potable Reuse-6K	Constructs additional potable reuse facilities. The 6K project involve 6,000 AFY of groundwater injection capacity. The 11K project includes the 6K project and 5,000 AFY of additional groundwater injection capacity. The 15K project includes the 11K projects and 4,200 AFY of groundwater recharge capacity at/near Ford Ponds.	4,000	$500 million
Potable Reuse – 11K		7,000	$990 million
Potable Reuse – 15K		10,000	$1.2 billion

Project	Description	Average Annual Yield (AFY)[1]	District's Lifecycle Cost (2016$)
Regional Desalination	Secures a partnership with other Bay Area agencies to build a Bay Delta desalination plant in Contra Costa County. District would receive 5 MGD of water in critical dry years.	1,000	$90 million
San Pedro Ponds	Retires the septic systems around the San Pedro Ponds and extends the City of Morgan Hill sewer system to these homes so the District can operate the groundwater recharge facility without high groundwater constraints.	1,000	$40 million
Sites Reservoir	Secures an agreement with the Sites JPA to construct an off-stream reservoir (up to 1.8 MAF) north of the Delta that would collect winter flood flows from the Sacramento River to increase water deliveries and provide in-stream flows to benefit the Delta ecosystem. Assumes District's share is 24,000 AF of storage.	16,000	$230 million
Stormwater – Saratoga 1	Constructs a stormwater infiltration system on a parcel in Saratoga. Assumes 5 acres of ponds. Currently zoned as ag land; assumes easement rather than land purchase. Adjacent to a school. About 0.6 miles from the Stevens Creek Pipeline	100	$15 million
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.	200	$60 million
Stormwater - Snell	Constructs a stormwater infiltration system at Martial-Cottle Park (Snell and Chynoweth) in San Jose. Assumes 5 acres of ponds. Potential partnership with the City of San Jose, County Parks, and State Parks. Adjacent to Canoas Creek.	900	$10 million
Stormwater-Rain Barrels	Provides rebates for the purchase of a rain barrels.	10	$1 million
Stormwater-Rain Gardens	Launches a District rebate program to incentivize the construction of rain gardens in residential and commercial landscapes.	300	$20 million
Transfers	Provides an additional 12,000 AF of State Water Project transfer water during critical dry years. Can also include long-term option agreements.	2,000	$250 million
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.	400	$120 million
Uvas Reservoir Expansion	Expands Uvas Reservoir by about 5,100 AF to 15,000 AF.	600	$450 million

Project	Description	Average Annual Yield (AFY)[1]	District's Lifecycle Cost (2016$)
Water Rights Purchase	Secures 20,000 AF of SWP Table A contract supply by purchase from other SWP agencies.	12,000	$760 million

Projects and Programs Previously Considered for Inclusion in the 2017 Water Supply Master Plan

Project	Discussion
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.
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. Staff is continuing to evaluate Del Valle reoperations in partnership with Alameda County Water District and Zone 7 Water Agency. If long-term water supply benefits are identified, staff will evaluate it as part of the Water Supply Master Plan.
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.
San Francisco Public Utilities Commission (SFPUC) Purchases	Increasing San Francisco Public Utilities Commission water deliveries to Santa Clara County is an on-going potential opportunity that is being evaluated through SFPUC's planning processes, the Bay Area Regional Reliability project, and potable reuse feasibility studies. The results of these efforts will be considered in future Water Supply Master Plan updates and/or subsequent annual reviews.
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 convey the water to reuse areas. In addition, the reuse sites are in areas where recycled water is already delivered for non-potable use.
Shasta Reservoir Expansion	A Feasibility Study and Environmental Impact Statement have been completed for a Shasta Reservoir Expansion. The United State Bureau of Reclamation concluded the project is technically feasible, but that non-federal partners would need to pay for project implementation. 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.
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 the District 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.

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