

Attachment 2. Criteria for evaluating the water supply alternatives

Criteria	Description	Rating
1. Meets annual water supply targets	Ability to meet CEO Interpretation S 2.4: “Develop water supplies designed to meet at least 100 percent of average annual water demand identified in the District’s Urban Water Management Plan during non-drought years and at least 90 percent of average annual water demand in drought years.”	 Meets S 2.4  Does not Meet S 2.4
2. Maintain groundwater storage	Maintaining groundwater storage provides reserves for use during droughts/emergencies and avoids permanent land subsidence. Board Ends Policy 2.1.1 calls for the District to “aggressively protect groundwater from the threat of contamination and maintain and develop groundwater to optimize reliability and to minimize land subsidence and salt water intrusion.”	Maintains groundwater storage above the “severe” stage in the District’s water shortage contingency plan  in >95% of years modeled  between 90-95% of years modeled  in < 90% of years modeled
3. Maintains storage in Semitropic Groundwater Bank	The District relies on Semitropic withdrawals to provide critical supplies during extended droughts. In addition, a key strategy in the 2012 Water Master Plan is to optimize the use of existing supplies and infrastructure by selling or exchanging up to 50,000 AF per year of imported water when Semitropic Groundwater Bank storage levels are nearly full and District water supply needs are otherwise met. This strategy can only be achieved if Semitropic storage levels are maintained.	Maintains storage in Semitropic Groundwater Bank above zero  in >95% of years modeled  between 80-95% of years modeled  in < 80% of years modeled
4. Secures existing imported water supplies	A key strategy of the 2012 Water Master Plan is to secure existing supplies and infrastructure. District imported supplies include SWP and CVP supplies as well as transfer supplies, dry year options, spot market transfers, and exchanges and make up 40% of the County’s existing water supply. This criterion also includes the ability to protect existing imported water infrastructure from seismic and flood induced Delta levee failure events, and improve conveyance capacity to secure transfer supplies. ¹ Board Ends Policy 2.1.3 calls for the District to “(p)rotect, maintain, and develop imported water.”	 Protects, maintains, or develops imported water  Does not protect, maintain, or develop imported water

¹ Over the past six years, increasing constraints on pumping from the Delta has reduced the ability to convey supplies across the Delta, affecting the SWP and CVP allocations as well as access to transfer supplies. The WaterFix is expected to improve conveyance capacity to secure transfer supplies in wetter years when more transfers are available at a lower price.

Criteria	Description	Rating
5. Provides locally controlled drought supplies	Droughts are the District's greatest water supply challenge and the frequency and severity of drought could increase in the future as the climate changes. Locally controlled drought supplies reduce the risks that anticipated dry-year supplies may not materialize and help mitigate drought risks.	☒ Provides more locally controlled drought supplies ☐ Provides some locally controlled drought supplies ☐ Does not provide locally controlled drought supplies
6. Adapts to climate change	CEO Interpretation S.2.7 of Ends Policy E-2 "there is a reliable, clean water supply for current and future generations" calls for the District to "incorporate climate change mitigation and adaptation into District planning efforts." Climate change is expected to increase sea level and change precipitation patterns, both of which can impact the District's water supplies. Sea level is projected to increase by 55 inches by 2100, resulting in increased salinity in the Delta and reduced exports if no action is taken to offset impacts. Modeling results indicate that changing weather patterns may also result in more intense storms over a shorter period of time. In addition, the frequency and severity of droughts may increase.	☒ Protects supplies from changes in precipitation patterns <u>and</u> sea level rise ☐ Protects supplies from changes in precipitation patterns <u>or</u> sea level rise ☐ Does not protect supplies from changes in precipitation patterns or sea level rise
7. Improves potable water quality	The quality of the District's source water supplies affects its uses within the county. Any improvement in the salinity of source waters is reflected in the potable water that is consumed, distributed through irrigation systems to landscaping, recharged into the groundwater basins, and recycled and reused. Board Ends Policy 2.1.1 calls for the District to "aggressively protect groundwater from the threat of contamination and maintain and develop groundwater to optimize reliability and to minimize land subsidence and salt water intrusion." Board Ends Policy 2.3.1 calls for the District to "meet or exceed all applicable water quality regulatory standards."	☒ Improves water quality for the District's treatment plants <u>and</u> groundwater ☐ Improves water quality for the District's treatment plants <u>or</u> groundwater ☐ Does not improve water quality for the District's treatment plants or groundwater

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8. Improves the environment	Board Ends Policy 4.1 calls for the District to “protect and restore creek, bay, and other aquatic ecosystems.” Alternatives were evaluated for their benefits to both the aquatic ecosystems within Santa Clara County and to the Delta ecosystem. Benefits to the local ecosystems were based on whether the alternative offset demands on local supplies such that there is the potential for increased flows in local streams.	 Improves aquatic ecosystems in Santa Clara County <u>and</u> in the Delta  Improves aquatic ecosystems in Santa Clara County <u>or</u> in the Delta  Does not improve aquatic ecosystems in Santa Clara County or in the Delta
9. Reduces reliance on the Delta	Section 85021 of the 2009 Delta Reform Act states that “the policy of the State of California is to reduce reliance on the Delta in meeting California’s future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency. Each region that depends on water from the Delta watershed shall improve its regional self-reliance for water through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts.”	 Greater reduction in reliance on the Delta  Some reduction in reliance on the Delta  Does not reduce reliance on the Delta
10. Provides statewide benefits	The quality of life and economic vitality of Santa Clara County is closely connected to the welfare of the State.	 Provides statewide benefits  Does not provide statewide benefits
11. Reduces greenhouse gas emissions	Board Ends Policy 4.3 calls for the District to “strive for zero net greenhouse gas emissions or carbon neutrality.” Alternatives were evaluated based on whether they resulted in reduced greenhouse gas emissions as well as on their relative contribution to increased emissions.	 Reduces greenhouse gas emissions  Increases greenhouse gas emissions  Significantly increases greenhouse gas emissions
12. Allows for phased implementation	Long-term planning studies include assumptions about future conditions, including assumptions regarding future water demands, precipitation patterns, availability of new technologies, status of listed species, and, in this case, imposition of future regulations related both to SWP/CVP operations as well as to water quality. Alternatives that can be implemented in phases, as needed, may be more desirable, though the costs to develop those alternatives may be higher in the future.	 Implementation can be phased over time as demands increase  Implementation cannot be phased over time as demands increase

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13. Cost	The cost per acre-foot includes fully financed capital costs and operations and maintenance costs as described in Section A.1 of the agenda memo. Each of the alternatives evaluated has a specific water supply capacity (e.g. 25,000 AFY of additional potable reuse capacity). However, each alternative contributes to the total water supply portfolio differently depending on numerous factors including past and present hydrology, storage levels, and the type of supply. The cost/AF of portfolio yield normalizes the total project costs by the average annual incremental increase to the total District water supply portfolio that the alternative provides.	Costs are presented on a per acre-foot of project capacity and a per acre-foot of portfolio yield basis