



Appendix K: Project List

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I = Implementation C = Conceptual Y = Complete P = No longer pursued	Sponsor	Project Name	Contact Info	Project Location or Lat/Long	Implementation/Conceptual: Study/Report	Category	Project Description	Project Benefits (3=good justification; 2=fair justification; 1=poor justification)	IRWMP Objectives (1 point each)	Resource Management Strategies (1 point each RMS)	DAC Benefits (0 = no; 3 = yes)	Tribal Community Benefits (0 = no; 3 = yes)	EI Considerations (0 = no; 3 = yes)	Econ. Feasibility (0 = insufficient, 5 = sufficient)	Total Score	Estimated Capital Costs	Estimated O&M Costs	Cost estimate prepared?	Estimated years of construction & start-up	Potential funding / financing sources	Cost/benefit analysis performed?	Climate Change Benefits	DAC Benefits	Tribal Benefits	EI issues	Updated		
P	Antelope Valley Conservancy	Antelope-Fremont Watershed Assessment Plan	Contact: Wendy Reed Phone: (661) 943-9000 Email: avconservancy@yahoo.com	Antelope-Fremont Valleys Watershed and upper Santa Clara River Watershed.	Study/Report	Plan	This completed project created a GIS tool for Antelope Valley Conservancy's assessment and planning for the preservation and restoration of sensitive natural systems of the Antelope-Fremont Valleys Watershed and upper Santa Clara River Watershed.	3 - 2,000 acres open space/habitat/conservation lands. This has proven unrealistic to fulfill because lead agencies are not fulfilling (a) their mitigation responsibilities (Sanitation District of LA County)	ENV: Preserve open space and natural habitats that protect and enhance water resources and species in the Antelope Valley Region.	Ecosystem Restoration Forest Management 1 Watershed Management	3	3	0	0	0	10	n/a	n/a	Yes	Complete	n/a	n/a		Yes			4/6/2018	
C	Antelope Valley Duck Hunting Club	Multi-use/Wildlife Habitat Restoration Project	Contact: Ed Renwick; Aracely Jaramillo Phone: (626) 300-3353 Email: Alaramillo@dpw.lacounty.gov (Co-sponsor: Waterworks), Wagas Land Company			Restoration Banking Conceptual	Duck Hunting Club in both Kern and LA County, started in 1925. The AV Region is a flyway zone for many migratory birds flying south and the Wagas Land Co. has been preserving habitat. It has been coordinating with District 40 and would like replace their potable water use with recycled water. The Club would allow District 40 to use a portion of the property for spreading, creating a potential banking opportunity for the region. The project would continue to preserve open space/habitat and would "free up" potable water for other uses. The habitat area's highest water need is during the winter time (approx. 80%). Permeability tests need to be performed to verify percolation.	Offset potable water use with recycled water Potential to bank water Continue to preserve open space and habitat	WS: Provide reliable water supply to meet the Antelope Valley Region's expected demand between now and 2035; and adapt to climate change. WQ: Maximize beneficial use of recycled water ENV: Preserve open space and natural habitats that protect and enhance water resources and species in the Antelope Valley Region. LU: Meet growing demand for recreational space CC: Mitigate against climate change	Urban Water Use Efficiency Conveyance - Regional/local Matching Water Quality to Use Ecosystem Restoration Land Use Planning and Management Water-dependent Recreation Watershed Management										Project would offset imported water.								
I	Antelope Valley Resource Conservation District	Antelope Valley Regional Conservation Project	Contact: Debra Gillis, AVRCD Phone: (661) 945-2604 Email: debraigillis@sbglobal.net	10143 West Avenue I, Lancaster, Ca. 93536 Lat: 34.703853° N, 118° 42' 13.9" W 34° 42. 2312" Long: 118.309141° W 118° 18' 32.9" - 118° 18.55485'		Habitat Education Implement ation	The AV Regional Conservation Project will provide education, water conservation landscape rebate programs and resource protection throughout the Antelope Valley to address water conservation, water conservation education, and climate change. The AV Regional Conservation Project will provide a water conservation landscape rebate program to homeowners' and commercial properties in the Antelope Valley and surrounding areas by providing rebates on landscape conversion to a water conservation landscape. It will also provide water conservation education to all ages through the Antelope Valley Resource Conservation District's Conservation Garden, located at the AVRCD Nursery in West Lancaster. The public can visit the conservation garden and learn about water efficient landscapes, proper plants for our region, and effective irrigation systems. The project will provide workshops on water conservation, sustainable landscaping, efficient irrigation, flood control, soil preparation, wildlife habitation and other related topics to provide resource protection and water conservation. The project will provide conservation outreach to Antelope Valley residents to reduce water supply demand. The project expands the uses of the conservation garden for the Antelope Valley, allowing the public and agencies a place to visit and hold events to teach about sustainable plantings, water conservation, and efficient irrigation to reduce water demand. The AVRCD is proposing to use 2.0 acres of the 5.00 acres that the District has allocated to start the conservation garden facility that will benefit the surrounding communities at large. The goals and objectives of the water conservation garden are: 1) Reduce residential and large landscape water use to outreach customers by 20%, 2) Provide educational programs on landscape design and maintenance to reduce water use to the general public 3) Provide all age educational programs on landscaping for future water savings 4) Provide beneficial uses to the Bay-Delta by providing water quality and water use reduction through conservation over a 15 year period. 5) Provide education and information on the prevention of soil erosion and mitigating the effects of climate change	3 - Water demand reduction through rebate programs 3 - 2.0 acres of recreational/open space creation 2 - water conservation, dust control, and flood management (through education) 1 - Use of solar to offset energy use 1 - GHG reduction through planting trees	WS: Provide a reliable water supply to meet the AV Region's expected demand between now and 2035; and adapt to climate change ENV: Preserve open space and natural habitats that protect and enhance water resources and species in the AV. LU: Meet growing demand for recreational space LU: Improve integrated land use planning to support water management CC: Mitigate against climate change.	Reduce Water Demand Agricultural Water Use Efficiency Urban Water Use Efficiency Pollution Prevention Economic Incentives Ecosystem Restoration Watershed Management 5 Outreach and Engagement Sediment Management	9	3	0	0	0	27	\$100K-\$1M	20K-30K	Yes	2019	State funding, local sponsors, Southern CA Edison and AVRCD	Yes see cost benefits sheets	The conservation project will provide conservation planning for future water demand, but no climate change analysis has been completed.	Yes. Disadvantaged areas within the Antelope Valley may not have resources to provide incentives for water conservation efforts, the Regional Conservation Project will provide the means to provide incentives.	None			1/24/2019 and 10/24/2022
C	Antelope Valley Resource Conservation District	Antelope-Fremont Valleys Stealth Watershed Rapid Response Program	Contact: Debra Gillis, AVRCD Phone: (661) 305-3405 Email: avrcd@carcd.org Partners: USDA, LA County Board of Supervisors				Not yet defined.																			1/6/2019		
Y	AVEK	Water Supply Stabilization Project – Westside Project (Westside Water Bank)	Contact: Matt Knudson Phone: 661-943-3201 Email: mknudson@avek.org			Banking	The project is an imported water stabilization program that utilizes SWP water delivered to the Antelope Valley Region's Westside for groundwater recharge and supplemental supply required for the Antelope Valley Region during summer peaking demand and anticipated dry years. This project includes additional facilities necessary for the delivery of untreated water for direct recharge (percolation basins) or indirect (in-lieu) recharge and for wells and pipeline for treated water conveyance.	3 - Supply 5,000 AFY to 10,000 AFY 3 - 15 acres open space 2 - 20 acres flood management. 2 - Future offset of water supply from Sacramento-San Joaquin Delta 1 - Reduce energy of transporting delta water	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Estab. A plan to meet supply needs of AV during a disruption of SWP deliveries. WS: Stabilize groundwater levels WQ: Provide drinking water that meets regulatory requirements and customer expectations. WQ: Protect and maintain aquifers FLD: Reduce negative impacts of stormwater, urban runoff, and nuisance water. LU: Maintain agricultural land use within the AV Region LU: Improve integrated land use planning to support water management CC: Mitigate against climate change	Conjunctive Management & Groundwater Drinking Water Treatment and Distribution Land Use Planning and Management								Yes	Complete				Yes				12/18/2018	
I	AVEK	AVEK Strategic Plan	Contact: Matt Knudson Phone: 661-943-3201 Email: mknudson@avek.org	info available at http://geocode.r.us western side of AV		Plan	The project contains a number of components, including supply. The plan identifies the Water Resources necessary to meet the long-term needs of the greater Antelope Valley Region. The Plan will specify the potential sources of water, their quantities, and the required scheduling in order to facilitate an orderly pace to local development; as is also consistent with current land use planning. The Plan will integrate with other regional planning documents by helping to guide future development in identifying the most beneficial projects and incorporating them into a long-term water resource plan for the greater Antelope Valley. Each of these projects will be of greater value as they are linked to the Plan's strategy for greater water supply and reliability. Various regional plans developed from local agencies along with expert reports generated from the current Antelope Valley Groundwater Adjudication process help to support the need for the Antelope Valley Water Resource Strategic Plan.	3 - Identify Water Supply 3 - Plan for offsetting Delta water supply	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Estab. a plan to meet supply needs of AV during a disruption of SWP deliveries WS: Stabilize groundwater levels WQ: Maximize beneficial use of recycled water LU: Improve integrated land use planning to support water management CC: Mitigate against climate change	Urban Water Use Efficiency Agricultural Lands Stewardship Watershed Management Recycled Municipal Water 6 Conjunctive Management & Groundwater Surface Storage - Local/Regional Land Use Planning & Management	7	3	0	0	0	22	\$100K-\$1M	None			IRWMP State Funding, Regional Support	No	Not at this time	Yes				12/18/2018

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I	AVEK	Water Supply Stabilization Project (WSSP) – Westside Expansion	Contact: Matt Knudson Phone: 661-943-3201 Email: mknudson@avek.org		Implement ation	Banking	The Water Supply Stabilization Program (WSSP) – Westside Expansion would add additional water banking capacity for the Antelope Valley by increasing the delivery of AVEK’s State Water Project (SWP) water into the region’s western area for groundwater recharge and supplemental supply required during summer peaking demand and anticipated dry years. The project would include sufficient land and facilities necessary for up to an additional 500,000 Acre-Feet of water storage used in order to firm up AVEK’s annual Table A imported supplies from the State. The project can be integrated with other regional water supply projects for increased reliability.	3 - Water Supply - ~6,000 AFY 2 - Water Quality - Soil aquifer treatment. Avoided expansion of Rosamond Treatment Plant 2 - Future offset of water supply from Sacramento-San Joaquin Delta 1 - Reduce energy of transporting delta water	8 <																		

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Y	Boron CSD	BCSD Arsenic Management Feasibility Study and Well Design	Contact: Natalie Dadey Phone: (760) 762-6127 Email:		Study/Report	Quality	The Boron Community Services District (BCSD) Arsenic Management Feasibility Study and Well Design Project consists of developing a hydrology study, preliminary engineering report, pilot well, and production well design to provide a recommended project to BCSD for arsenic management in their groundwater supply. The hydrogeology study will be completed to determine the best site, depth, and testing programs for a pilot test well. The pilot test well will be constructed to determine a recommended depth, screen interval, zone isolation and construction method for a new production well, assumed to be part of the eventual recommended construction project. Arsenic removal treatment may also be identified as part of the Construction Project.	3 - Water Quality o Ensure Compliance with arsenic MCL for BCSD customers o Reduction in arsenic concentrations in local groundwater supply 3 - Water Supply - Local o Improve Reliability - Replacement of aging wells with new wells o Improve Reliability - Development of new local groundwater supplies o Increase in availability of AVEK supplies for other uses 3 - Water Supply - Regional o Regional Reliability - Offset of imported water demands from the State Water Project (SWP) o Reduced Delta demands to help address CALFED Bay-Delta Program objectives o Reduction in total dissolved solids (TDS) imported from outside the Region o Energy Conservation o Avoided greenhouse gas (GHG) emissions	WS: Provide a reliable water supply to meet the AV Region's expected demand between now and 2035; and adapt to climate change WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WQ: Provide drinking water that meets regulatory requirements and customer expectations WQ: Protect and maintain aquifers CC: Mitigate against climate change	Drinking Water Treatment and Distribution Groundwater and Aquifer Remediation Salt and Salinity Management		3	3	0	0	0	20	\$427,000	None	Yes	n/a	Prop 84, Round 2	Yes - a cost effectiveness analysis was completed.	Project would offset imported water.	Boron is a DAC.	None	Unknown	4/11/2018	
I	City of Lancaster	Antelope Valley Recycled Water Master Plan	Contact: Gabriel B. Nevarez Phone: 661- 945-6801 Email: gnevarez@cityoflansterca.org	Antelope Valley	Study/Report	Recycled Plan	Palmdale, Lancaster, and Los Angeles County Waterworks all have studies regarding recycled water. This project would undertake the effort to prepare a regional master plan to consolidate the existing master plans/studies. The North Valley Regional Recycled Water System is intended to connect the Lancaster and Palmdale Wastewater Reclamation Plants with backbone recycled water line. A regional master plan incorporating the laterals, tanks, pumps, etc. necessary to construct an integrated delivery system for the Antelope Valley would ensure compatibility and efficiency throughout the system	3 - Water Supply: Offset up to 17,000 AFY of potable water use 3 - Offsets Delta water supply 3 - Reduces energy consumption	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC WS: Stabilize groundwater levels WQ: Maximize beneficial use of recycled water CC: Mitigate against climate change	Conveyance - Regional/local Conjunctive Management & Groundwater Recycled Municipal Water Matching Water Quality to Use Economic incentives		5	3	0	0	0	21	\$100K -\$1M	\$0		2014, 2015	State Grant Funding and Loan Program – Water Recycling Funding Program (WRFP), Planning Grants, Etc.	No	Project will diversify water supplies and help to adapt to climate change.	Since this Master Plan would benefit the entire Antelope Valley ground water basin as a whole, it would benefit the DACs within the Valley positively in regards to water supply.			8/20/2018	
I	City of Lancaster	Division Street and Avenue H-8 Recycled Water Tank	Contact: Gabriel B. Nevarez Phone: 661- 945-6801 Email: gnevarez@cityoflansterca.org	The proposed tank site is behind the existing pump station at 45540 Division Street. Lat: 34.710587 Long: - 118.130965	Implementation/Conceptual	Tank	Construction a 1 million gallon recycled water tank at the City's existing pump station at 45540 Division Street, just south of Avenue H-8. In order to provide a stable supply of recycled water in the North Valley Regional Recycled Water System, tanks and pumps will need to be installed throughout the system. This tank would take the place of Los Angeles County Waterworks District No. 40's existing tank, on loan to the City. Making recycled water available to more users will free up potable water and improve the groundwater situation within the Antelope Valley.	3 - Water Supply: 1,000+ AF 3 - Offsets Delta water supply 3 - Reduces energy consumption	WS: Provide reliable water supply to meet the Antelope Valley Region's expected demand between now and 2035 WS: Stabilize groundwater levels WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WQ: Maximize beneficial use of recycled water CC: Mitigate against climate change	Conveyance-regional/local Recycled municipal water Matching Water Quality to Use			3	3	0	0	0	20	\$1M-\$10M	\$25,000/year		2015, 2016	State Grant funding, Federal Funding, CIP.	No	Project will diversify water supplies and help to adapt to climate change.	Since the increased use of recycled water can offset potable water use, the groundwater table can be stabilized throughout the Antelope Valley. This will affect the DACs water situation beneficially.			8/20/2018
I	City of Lancaster	Pierre Bain Park Recycled Water Conversion	Contact: Gabriel B. Nevarez Phone: 661- 945-6801 Email: gnevarez@cityoflansterca.org	Appx. 15 acres on the SW corner of Ave. I and 5th Street East. Lat: 34.70392 Long: - 118.121817	Implementation	Pipeline Conversion	Construction of a recycled water main from the existing regional backbone in Division Street to Pierre Bain Park located at the southwest corner of Avenue I and 5th Street East and convert the irrigation system to use recycled water. This main extension will also make recycled Water available to the County Medical Center currently under construction on the northeast corner of Avenue I and 3rd Street East.	3 - Water Supply: Offset 75 acre-feet of irrigation per year 3 - Offsets Delta water supply 3 - Reduces energy consumption	WS: Provide reliable water supply to meet the Antelope Valley Region's expected demand between now and 2035 WS: Stabilize groundwater levels WQ: Maximize beneficial use of recycled water LU: Meet growing demand for recreational space CC: Mitigate against climate change	Conveyance - Regional/local Recycled Municipal Water Matching Water Quality to Use			3	3	0	0	0	20	\$770,000	\$10,000/year		2017	State Grant Funding and Loan Program – Water Recycling Funding Program (WRFP), Planning Grants, Etc.	No	Project will diversify water supplies and help to adapt to climate change.	Since this project would offset approximately 75 Acre-feet of potable a year and would benefit the entire Antelope Valley ground water basin as a whole, it would benefit the DACs within the Valley positively in regards to water supply.			8/20/2018
I	City of Lancaster	Whit Carter Park Recycled Water Conversion	Contact: Gabriel B. Nevarez Phone: 661- 945-6801 Email: gnevarez@cityoflansterca.org	Whit Carter Park is located on approximately 20 acres on the west side of Sierra Highway (45635) between Avenue H-6 and Avenue H-8. Lat: 34.712442 Long: - 118.139487	Implementation	Pipeline Conversion	Whit Carter Park currently uses water from LA County Waterworks, which is both GW and imported water. Construction of a recycled water main from the existing regional backbone in Division Street to Whit Carter Park located west of Sierra Highway at approximately Avenue H-7 and conversion of the irrigation system to recycled water. This main extension will also make recycled water available to the industrial park between Division Street and Sierra Highway, south of Avenue H.	3 - Will offset approximately 50 AF of irrigation per year 3 - Offsets Delta water supply 3 - Reduces energy consumption	WS: Provide reliable water supply to meet the Antelope Valley Region's expected demand between now and 2035 WS: Stabilize groundwater levels WQ: Maximize beneficial use of recycled water LU: Meet growing demand for recreational space CC: Mitigate against climate change	Conveyance - Regional/local Recycled Municipal Water Matching Water Quality to Use			3	3	0	0	0	20	\$815,417	\$10,000/year		2016	State Grant Funding and Loan Program – Water Recycling Funding Program (WRFP), Planning Grants, Etc. Matching funds could be a problem	No	Project will diversify water supplies and help to adapt to climate change.	No		1/24/2019	
I	City of Lancaster	Lancaster National Soccer Center Recycled Water Conversion	Contact: Gabriel B. Nevarez Phone: 661- 945-6801 Email: gnevarez@cityoflansterca.org	City of Lancaster Recycled Water Facilities and Operations Master Plan, RMC January 2006. Lat: 34.664242 degrees Long: - 118.077196 degrees	Implementation	Pipeline Conversion	Project consists of constructing a recycled water main from the existing regional backbone in Division Street to Lancaster National Soccer Center located on the northwest and northeast corners of Avenue L and 30th Street East and convert the irrigation system to use recycled water. This main extension could also make recycled water available to the Skytower Park and Eastside High School. Providing recycled water to the National Soccer Center and reducing the groundwater pumped by 500 Acre-feet per year has been identified in the on-going Groundwater Adjudication settlement proposal.	3 - Water Supply: 100-1,000 AF 3 - Offsets Delta water supply 3 - Reduces energy consumption	WS: Provide reliable water supply to meet the Antelope Valley Region's expected demand between now and 2035 WS: Stabilize groundwater levels WQ: Maximize beneficial use of recycled water LU: Meet growing demand for recreational space CC: Mitigate against climate change	Conveyance-Regional/local Recycled Municipal Water Matching Water Quality to Use			3	3	0	0	0	20	\$15,000,000	\$20,000/year		2018	State Grant Funding and Loan Program – Water Recycling Funding Program (WRFP), Planning Grants, Etc.	No	Project will diversify water supplies and help to adapt to climate change.	Since this project would offset approximately 500 Acre-feet of groundwater a year and would benefit the entire Antelope Valley ground water basin as a whole, it would benefit the DACs within the Valley positively in regards to water supply.			4/20/2018
C	City of Lancaster	Amargosa Creek Pathways Project	Contact: Gabriel B. Nevarez Phone: 661- 945-6801 Email: gnevarez@cityoflansterca.org		Conceptual	Restoration	This project involves the construction of a 12-inch lateral pipeline off the Regional Backbone at/ near Ave M conveying tertiary treated water to a point approximately one mile west and designed to deliver recycled water into the Amargosa Creek channel. Tertiary treated water would travel northerly within the Amargosa Creek roughly 4.7 miles, creating incidental recharge en route until collecting at Lake Lancaster (retention basin north of Ave H). Here, it would be available for irrigation and dust control at the Antelope Valley Fair Grounds and extended use to the west side of Lancaster and surrounding Antelope Valley Region.	Open space 1-100 AFY Water Supply (from percolating water)	WS: Provide reliable supply to meet AV's expected demand between now and 2035; and help to adapt to CC. FLD: Reduce negative impacts of stormwater, urban runoff, and nuisance water. FLD: Optimize the balance between protecting existing beneficial uses of stormwater and capturing stormwater for new uses ENV: Preserve open space and natural habitats that protect and enhance water resources and species in the Antelope Valley Region LU: Meet growing demand for recreational space LU: Improve integrated land use planning to support water mgmt.	Pollution Prevention Ecosystem Restoration Land Use Planning & Mgmt Flood Risk Management Watershed Management Sediment Management								Yes	3 to 5		No								

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C	City of Palmdale	Hunt Canyon Groundwater Recharge and Flood Control Basin	Contact: Mike Shahbakhti Phone: (661) 267-5439 Email: mshahbakhti@cityofpalmdale.org		Conceptual	Basin	The project entails construction of a new 3,000 AF detention/ recharge basin, located south of Pearblossom Highway at 57th Street East. The basin would be used to store aqueduct water to allow recharge into the aquifer, and would act as a detention basin during severe storms.	Approximately 300 acres of new wildlife habitat would be created by construction of this project. Water quality would be expected to improve as a result of reduced contaminated stormwater runoff Capture of up to 3,000 AF. Flood management/protection	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Stabilize groundwater levels WS: Establish a contingency plan to meet water supply needs of the Antelope Valley Regino during a plausible disruption of SWP deliveries. WQ: Protect natural streams and recharge areas from contamination. FLD: Reduce negative impacts of stormwater, urban runoff, and nuisance water. FLD: Optimize the balance between protecting existing beneficial uses of stormwater and capturing stormwater for new uses ENV: Preserve open space and natural habitats that protect and enhance water resources and species in the AV. CC: Mitigate against climate change	Conjunctive Management & Groundwater Ecosystem Restoration Recharge Areas Protection Flood Risk Management																4/24/2018		
C	City of Palmdale	Lower Amargosa Creek Recharge Project	Contact: Mike Shahbakhti Phone: (661) 267-5439 Email: mshahbakhti@cityofpalmdale.org		Conceptual	Recharge	Development of in-stream recharge of water from the State Water Project blended with recycled water. Integration with the Upper Amargosa Creek Recharge Project, Amargosa Water Banking and Stormwater Retention Project, and the North Los Angeles/Kern County Regional Recycled Water Project.	New Water supply (1,000+ AF).	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WS: Stabilize groundwater levels WQ: Protect natural streams and recharge areas from contamination. WQ: Maximize beneficial use of recycled water. CC: Mitigate against climate change.	Conjunctive Management & Groundwater Recycled Municipal Water Ecosystem Restoration Matching water quality to use											No			No	4/24/2018			
I	City of Palmdale	Upper Amargosa Creek Groundwater Recharge Project	Contact: Lynn Glidden Phone: 661-267-5300 Email: lglidden@cityofpalmdale.org	Latitude: 34°35'7.56"N Longitude: 118°10'22.55"W	Implementation	Recharge	Existing project footprint has 7 groundwater recharge basins which have proof of concept/design to infiltrate up to 9,400 AFY without downstream mounding. Project has a State approved Turnout at the CA Aqueduct with a 48” pipeline in State access roads and City Streets to the most upstream of the basins. Next Phase of the project is required environmental impact mitigation planting and monitoring on City-owned property.	2: 9,400 AFY of new supply created 3: Includes the long-term preservation and ehancement of biological resources in the Amargosa creek area. 3 - Offsets water supply from the Sacramento-San Joaquin Delta because it banks excess water in wet years for use in normal or dry years. 3 - Provides flood protection through a soil-cement channel that allows for infiltration and natural open space. 1 - Reduces energy consumption 1-Reduces greenhouse has emissions	WS: Provide reliable water supply to meet the Antelope Valley Region's expected demand between now and 2035. WS: Establish a contingency plan to meet water supply needs of the Antelope Valley Region during a plausible disruption of SWP deliveries. WS: Stabilize groundwater levels. WQ: Protect and maintain aquifers. FLD: Reduce negative impacts of stormwater, urban runoff, and nuisance water, and adapt to climate change impacts in the future. ENV: Preserve open space and natural habitats that protect and enhance water resources and species in the Antelope Valley Region. LU: Meet growing demand for recreational space. CC: Mitigate against climate change.	Urban water use efficiency Conveyance-delta Conveyance-regional delta Conjunctive management & groundwater Groundwater and aquifer remediation Urban runoff management Ecosystem restoration Recharge areas protection Sediment Management Watershed Management Flood risk management	11	0	3	0	0	3	\$1,000,000 - \$10,000,000	\$110,000	No	2024		No	Climate change analysis will be included in monitoring plan. The project restores natural habitat.	No	The City of Palmdale has retained consultants to consult with affected Native American Tribal communities regarding the Upper Amargosa Project. GEI assisted the City in completing a cultural resources inventory of the Project Area.	No		
C	EAFB	Antelope Valley Watershed Surface Flow Study	Contact: Richard Morris Phone: 661-810-9622 Email: richard.morris.6@us.af.mil	Antelope Valley	Study/Report	Study Restoration	The project would characterize the Antelope Valley surface water flow from the San Gabriel and Tehachapi Mountains to Rosamond and Rogers Lake. It would aim to determine the amount of flow and tributaries, the health of the lakebeds, and how much water is required to either keep them healthy or make them healthy. The project would determine the impacts of implementing current and future proposed water diversion/removal projects and impacts of continued retention basin development. It would quantify potential effects of future flood management projects.	Determine necessary flow to maintain habitat Quantify impacts of future water projects and management	WQ: Protect and maintain natural streams and recharge areas FLD: Optimize balance between existing beneficial uses of stormwater and capturing stormwater for new uses ENV: Preserve open space and natural habitats that protect and enhance water resources and species in the AV Region LU: Improve integrated land use planning to support water management	Ecosystem Restoration Forest Management Land Use Planning and Management Recharge Area Protection Water-dependent Recreation Watershed Management Flood Risk Management																		
Y	LACDPW	Quartz Hill Storm Drain	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov	50th Street, from Avenue M-8 to Avenue K-8	Implementation	Flood	As such, the project proposes construction of a storm drain, including several lateral connections and catch basins, to provide stormwater collection and conveyance. The project would connect to existing and new drainage facilities, with the improvements located mainly along 50th Street, from Avenue M-8 to Avenue K-8.	1 - Flood protection of 95 acres of County street right-of-way, and 1,108 acres of private property.	FLD: Reduce negative impacts of stormwater, urban runoff, and nuisance water.	Flood Risk Management	1	0	0	0	0	3	\$9,670,000		Yes	Complete					NA			
Y	LACDPW	Solar Power System at K-8 Division	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov	Avenue K-8 and Division Street in Lancaster	Implementation	Energy	The system is a 350-kilowatt, ground mounted single-axis tracker solar photovoltaic system, expected to produce 760,000 kilowatt-hours per year. The panels will power the three groundwater wells and four booster pumps on that site. The solar photovoltaic panels will be installed at a 2.5 acre Waterworks facility at Avenue K-8 and Division Street in Lancaster	1 - Reduce long-term energy costs at the site and reduce green house gas emissions.	CC: Mitigate against climate change.	System Reoperation	1	0	0	0	0	3	\$2 Million		Yes	Complete					NA			

I = Implementation C = Conceptual Y = Complete P = No longer pursued	Sponsor	Project Name	Contact Info	Project Location or Lat/Long	Implementation/ Conceptual; Study/Report	Category	Project Description	Project Benefits (3=good justification; 2=fair justification; 1=poor justification)	IRWMP Objectives (1 point each)	Resource Management Strategies (1 point each RMS)	DAC Benefits (0 = no; 3 = yes)	Tribal Community Benefits (0 = no; 3 = yes)	EI Considerations (0 = no; 3 = yes)	Econ. Feasibility (0 = insufficient, 5 = sufficient)	Total Score	Estimated Capital Costs	Estimated O&M Costs	Cost estimate prepared?	Estimated years of construction & start-up	Potential funding / financing sources	Cost/benefit analysis performed?	Climate Change Benefits	DAC Benefits	Tribal Benefits	EI issues	Updated
C	LACDPW	Big Rock Creek In-River Spreading Grounds	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Conceptual	Recharge	Big Rock Creek drainage area is 23 square miles. The creek runs from the San Gabriel Mountains north into the Antelope Valley. The Los Angeles County Flood Control District proposes to develop a spreading ground facility near the San Gabriel Mountain foothills in order to increase groundwater recharge. The facility will include earthen levees in and adjacent to the creek to capture and recharge stormwater from the creek into the groundwater basin. The Antelope Valley Watershed Region's continued and projected population growth will lead to increased water demand. Future estimates of the region's water budget predict an increasing shortfall in water supply. Developing in-stream groundwater recharge facility will increase groundwater recharge by an estimated 5,500 acre-feet per wet-year. This proposed project will improve the health and long-term sustainability of the basin, increase local groundwater supplies, and reduce the region's reliance on water imports.	Increase groundwater recharge by an estimated 5,500 acre-feet per wet-year Water supply (New Supply Created): 1,000+ AFY Water Quality – Area drained: 23 Sq. Mi.	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WS: Stabilize groundwater levels FLD: Optimize balance between existing beneficial uses of stormwater and capturing stormwater for new uses CC: Mitigate against climate change.	Conjunctive Management & Groundwater Flood Risk Management						\$9,000,000					No			No		
C	LACDPW	Little Rock Creek In-River Spreading Grounds	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Conceptual	Recharge	Little Rock Creek drainage area is 49 square miles. The creek runs from the San Gabriel Mountains north into the Antelope Valley. The Los Angeles County Flood Control District proposes to develop a spreading ground facility near the San Gabriel Mountain foothills in order to increase groundwater recharge. The facility will include earthen levees in and adjacent to the creek to capture and recharge stormwater from the creek into the groundwater basin. The Antelope Valley Watershed Region's continued and projected population growth will lead to increased water demand. Future estimates of the region's water budget predict an increasing shortfall in water supply. Developing in-stream groundwater recharge facility will increase groundwater recharge by an estimated 7,600 acre-feet per wet-year. This proposed project will improve the health and long-term sustainability of the basin, increase local groundwater supplies, and reduce the region's reliance on water imports.	Increase groundwater recharge by an estimated 7,600 acre-feet per wet-year Water supply (New Supply Created): 1,000+ AFY Water Quality – Area drained: 49 Sq. Mi.	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WS: Stabilize groundwater levels FLD: Optimize balance between existing beneficial uses of stormwater and capturing stormwater for new uses CC: Mitigate against climate change.	Conjunctive Management & Groundwater Flood Risk Management						\$4,000,000					No			No		
Y	LACSD	Lancaster WRP Effluent Management Sites	Contact: Monisha Brown Phone: 562-908-4288 Email:monishabrown@lacsds.org		Implement ation	Effluent	This project includes the following series of activities at proposed new effluent management sites: land acquisition, purchase and installation of irrigation equipment, development of an area wide farm management plan, site development, completion of associated studies and permits, soil sampling, and well investigation of proposed effluent management sites.	3 - Reduces further elevation of nitrate levels at management sites	WQ: Protect and maintain aquifers 3 WQ: Maximize beneficial use of recycled water	2 Surface Storage - Regional/Local Matching Water Quality to Use	2 3 0 0 0 10			Yes	Complete							Yes			4/2/2018	
Y	LACSD	Lancaster WRP Stage V	Contact: Monisha Brown Phone: 562-908-4288 Email:monishabrown@lacsds.org		Implement ation	RW Supply	The project involves construction and design of a new pump station, storage reservoirs, and other ancillary facilities needed to increase effluent storage capacity to 21 mgd. The project also includes land acquisition needed for site development.	3 - Providing approx. 14.1mgd of nitrified, tertiary recycled water 3 - Water Quality benefits	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WQ: Protect and maintain aquifers WQ: Maximize beneficial use of recycled water	4 Recycled Municipal Water Surface Storage - Regional/Local Groundwater and Aquifer Remediation Matching Water Quality to Use	4 3 0 0 0 17			Yes	Complete						Yes				4/2/2018	
Y	LACSD	Palmdale WRP Effluent Management Sites	Contact: Monisha Brown Phone: 562-908-4288 Email:monishabrown@lacsds.org		Implement ation	Effluent	This project includes the following series of activities at proposed new effluent management sites: land acquisition, purchase and installation of irrigation equipment, development of an area wide farm management plan, site development, completion of associated studies and permits, groundwater monitoring, and well abandonment.	3 - Reduces further elevation of nitrate levels at management sites	WQ: Protect and maintain aquifers 3 WQ: Maximize beneficial use of recycled water	2 Surface Storage - Regional/Local Matching Water Quality to Use	2 3 0 0 0 10			Yes	Complete							Yes				4/2/2018
Y	LACSD	Palmdale WRP Stage V	Contact: Monisha Brown Phone: 562-908-4288 Email:monishabrown@lacsds.org		Implement ation	RW Supply	This phase of the upgrade project includes the following series of activities: construction of an effluent pump station, force main, agricultural recycled water pump station, and an agricultural recycled water storage tank and reservoir; development of the new reservoir site and installation of monitoring wells; and design and construction of secondary/tertiary treatment facilities.	3 - Providing approx. 9.04 mgd of nitrified, tertiary recycled water 3 - Water Quality benefits	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WQ: Protect and maintain aquifers WQ: Maximize beneficial use of recycled water	4 Recycled Municipal Water Surface Storage - Regional/Local Groundwater and Aquifer Remediation Matching Water Quality to Use	4 3 0 0 0 17			Yes	Complete						Yes					4/2/2018
Y	LACWD 40	Aquifer Storage and Recovery Project: Additional Storage Capacity	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Implement ation	Pipeline	This project would increase the District's turnout capacity from AVEK through improvements made to existing infrastructure. Four older, smaller turnout pipelines would be replaced with larger ones to supply water to ASR wells.	3 - Water supply	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Est. a contingency plan to meet water supply needs of the AV Region during a plausible disruption of SWP deliveries WS: Stabilize groundwater levels WQ: Provide drinking water that meets regulatory requirements and customer expectations.	4 Conjunctive Management & Groundwater Drinking Water Treatment and Distribution	2 3 0 0 0 12			Yes	Complete							Yes			NA	
Y	LACWD 40	Aquifer Storage and Recovery Project: Injection Well Development	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Implement ation	Banking	The project involves the construction of ten new well sites in a groundwater depression area of the Antelope Valley Region to improve water supply reliability. The additional wells would be available for water injection during wet years and for water extraction during dry years.	3 - 12,000 AFY of supply	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Est. a contingency plan to meet water supply needs of the AV Region during a plausible disruption of SWP deliveries WS: Stabilize groundwater levels WQ: Provide drinking water that meets regulatory requirements and customer expectations.	5 Conjunctive Management & Groundwater Drinking Water Treatment and Distribution	2 3 0 0 0 13			Yes	Complete							Yes			NA	
Y	LACWD 40	North Los Angeles/Kern County Regional Recycled Water Project - Phase 2	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Implement ation	Pipeline	The Los Angeles/Kern County Regional Recycled Water Project outlines the foundation of a regional recycled water system in the Antelope Valley Region. The proposed system would distribute recycled water throughout the service area and provide a backbone system that could accommodate minimum and maximum demands and allow significant deliveries of recycled water to recharge areas. The recommended plans placement of the system components is based on an analysis of the service area demands, topography, and desired operating pressures. Specifically, the proposed system components of the recommended plan consist of: recycled water supply, a main pump station, booster pump stations, storage reservoirs, and distribution system. The construction of the recycled water supply system would be phased overtime and it is anticipated that all phases of construction would be completed by 2011. Recycled water users would include municipal medians, agriculture, commercial, golf courses, school yards, and parks as allowed by California Department of Health Services, Division 4, Title 22 (Title 22).	3 - Water supply conveyed 3 - Offset Delta Water 3 - Reduce energy consumption/GHG	WQ: Protect and maintain aquifers WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WQ: Maximize beneficial use of recycled water LU: Meet growing demand for recreational space CC: Mitigate against climate change.	5 Conveyance - Regional/local Recycled Municipal Water Matching Water Quality to Use	3 3 0 0 0 20			Yes	Complete							Yes			NA	

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Y	LACWD 40	Partial Well Abandonment of Groundwater Wells for Arsenic Mitigation	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Implementation	Quality	This project proposed arsenic mitigation of five groundwater wells using a proven and cost-effective non-treatment alternative to expensive treatment methods. Water Well Nos. 4-43, 4-54, 4-55, 4-58, and 4-59 were modified. Work included replacement of pumps and motors; grout sealing to the lower aquifer layers within the wells; development of foreshortened well columns, aquifer pump testing, water quality sampling; and other incidental and appurtenant work.	3 - Prevents loss of groundwater pumping and existing supply 3 - Ensures water quality that meets MCL requirements.	6 WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WQ: Provide drinking water that meets regulatory requirements and customer expectations. WQ: Protect and maintain aquifers CC: Mitigate against climate change	Drinking Water Treatment and Distribution Pollution Prevention	2	0	0	0	0	12	\$642,082		Yes	Complete						NA	
P	LACWD 40	North Los Angeles/Kern County Regional Recycled Water Project - Phase 3	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Conceptual	Pipeline	The Los Angeles/Kern County Regional Recycled Water Project outlines the foundation of a recycled water system in the Antelope Valley. The proposed system would distribute recycled water throughout the service area and provide a backbone system that could accommodate demands and allow significant deliveries of recycled water to recharge areas. The system consists of: recycled water supply, pump station, booster pump stations, storage reservoirs, and distribution systems.	Water supply conveyed Offset Delta Water Reduce energy consumption/GHG	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WQ: Maximize beneficial use of recycled water LU: Meet growing demand for recreational space CC: Mitigate against climate change	Conveyance - Regional/local Recycled Municipal Water Matching Water Quality to Use												Yes			9/19/2018		
P	LACWD 40	North Los Angeles/Kern County Regional Recycled Water Project - Phase 4	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Conceptual	Pipeline	The Los Angeles/Kern County Regional Recycled Water Project outlines the foundation of a regional recycled water system in the Antelope Valley Region. The proposed system would distribute recycled water throughout the service area and provide a backbone system that could accommodate minimum and maximum demands and allow significant deliveries of recycled water to recharge areas.	Water supply conveyed Offset Delta Water Reduce energy consumption/GHG	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WQ: Maximize beneficial use of recycled water LU: Meet growing demand for recreational space CC: Mitigate against climate change	Conveyance - Regional/local Recycled Municipal Water Matching Water Quality to Use												Yes					
P	LACWD 40	Ultra-Low Flush Toilet Change-out Program	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Conceptual	Demand	Project on hold due to funding The Districts is proposing an ULFT Change Out Program to distribute ULFTs to customers through one-day Saturday toilet distributions. The one-day distributions provide single-family residents with up to two free ULFTs. This proposal provides one annual one-day distribution events over a three-year duration. Each one-day event will include up to 1500 ULFTs for District No. 40 per year.	100 to 1,000 AFY conserved supply	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. CC: Mitigate against climate change	Urban Water Use Efficiency						\$ 100,000.00			1/1/2020						7/26/2018		
P	LACWD 40	Waste Water Ordinance	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Conceptual	Demand	Develop a year-round conservation program as an enforceable ordinance to reduce the impacts of water demand during drought years. May include watering schedule ordinance, water waste ordinance, and landscape ordinance for new development.	Conserving supply, but more information required to quantify benefit.	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. CC: Mitigate against climate change	Urban Water Use Efficiency																	
C	LACWD 40	Avenue K Transmission Main, Phases I-IV	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov	Phase I-IV will be aligned in Ave K and consist of: 8,000 ft from 10th St. West to 5th St. East; 8,000 ft from 5th St. East to 20th St. East; 10,800 ft from 10th St. West to 30th St. West; 5,350 ft from 20th St. East to 30th St East, respectively.	Conceptual	Pipeline	The project consists of four phases for a total of approximately 32,000 linear feet of 30-inch and 36-inch diameter steel transmission main. Phase I and II have been completed. Phase IV is in the process of being re-advertised; construction begins April 2019.	Firms up existing supply	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC.	Drinking water treatment and distribution Conveyance - Regional/local						Phase I: \$3.66M Phase II: \$3.65M									9/19/2018		
C	LACWD 40	Avenue M and 62th Street West Tanks	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Conceptual	Tank	This project would include the design and construction of four (4) 3 mgd water storage tanks.	Water supply, but more information required to quantify benefit.	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC.	Drinking water treatment and distribution Conveyance - regional/local						\$4 M											
C	LACWD 40	Implement ET Controller Program	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov	One project site has been identified in the LACWD 40, AV service area that includes 300 residential homes or large landscape sites (parks, golf courses, schools, etc.) with high water savings potential.	Conceptual	Demand	Project on hold due to funding. Develop and implement an ET controller pilot program in the Antelope Valley that can be used as a model to a future mandatory program for new development. The pilot program will include the purchase and installation of (estimated) two weather stations in a selected residential development and replace (approximately) 300 manually adjusted irrigation controllers with weather-sensitive irrigation controllers for the District's qualified customers.	100 to 1,000 AFY conserved supply	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. FLD: Reduce negative impacts of stormwater, urban runoff, and nuisance water. CC: Mitigate against climate change	Urban Water Use Efficiency Urban Runoff Management Pollution Prevention Outreach and engagement						\$ 100,000.00									7/26/2018		
C	LACWD 40	Water Conservation School Education Program	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Conceptual	Demand	Develop and implement a school education program to promote water conservation awareness and encourage stewardship among school-age children (fourth grade). This program is consistent with BMP No. 8, School Education Program to promote water conservation and water conservation related benefits, including working with school districts and private schools with within the District's service area to provide instructional assistance, educational materials, and classroom presentations that identify urban, agricultural, and environmental issues and conditions in the local watershed.	Conserving supply, but more information required to quantify benefit.	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. CC: Mitigate against climate change	Urban Water Use Efficiency Outreach and engagement												Yes					
Y	LACWD 40	North Los Angeles/Kern County Regional Recycled Water Project - Division Street Corridor	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Implementation	Pipeline	The Los Angeles/Kern County Regional Recycled Water Project outlines the foundation of a regional recycled water system in the Antelope Valley Region. The proposed system would distribute recycled water throughout the service area and provide a backbone system that could accommodate minimum and maximum demands and allow significant deliveries of recycled water to recharge areas. The recommended plans placement of the system components is based on an analysis of the service area demands, topography, and desired operating pressures. Specifically, the proposed system components of the recommended plan consist of: recycled water supply, a main pump station, booster pump stations, storage reservoirs, and distribution system. The construction of the recycled water supply system would be phased overtime and it is anticipated that all phases of construction would be completed by 2011. Recycled water users would include municipal medians, agriculture, commercial, golf courses, school yards, and parks as allowed by California Department of Health Services, Division 4, Title 22 (Title 22).	3 - Water supply conveyed 3 - Offset Delta Water 3 - Reduce energy consumption/GHG	9 WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WQ: Maximize beneficial use of recycled water LU: Meet growing demand for recreational space CC: Mitigate against climate change	Conveyance - Regional/local Recycled Municipal Water Matching Water Quality to Use	3	3	0	0	0	20			Yes	Complete				Yes			NA

	Sponsor	Project Name	Contact Info	Project Location or Lat/Long	Implementation/Conceptual Study/Report	Category	Project Description	Project Benefits (3=good justification; 2=fair justification; 1=poor justification)	IRWMP Objectives (1 point each)	Resource Management Strategies (1 point each RMS)		DAC Benefits (0 = no; 3 = yes)	Tribal Community Benefits (0 = no; 3 = yes)	EI Considerations (0 = no; 3 = yes)	Econ. Feasibility (0 = insufficient, 5 = sufficient)	Total Score	Estimated Capital Costs	Estimated O&M Costs	Cost estimate prepared?	Estimated years of construction & start-up	Potential funding / financing sources	Cost/benefit analysis performed?	Climate Change Benefits	DAC Benefits	Tribal Benefits	EI issues	Updated			
	Y	LACWD 40	North Los Angeles/Kern County Regional Recycled Water Project - Phase 1b	Contact: Evelyn Ballesteros Phone: (626) 300-4681 Email: eballesteros@dpw.lacounty.gov		Implement ation	Pipeline	The Los Angeles/Kern County Regional Recycled Water Project outlines the foundation of a regional recycled water system in the Antelope Valley Region. The proposed system would distribute recycled water throughout the service area and provide a backbone system that could accommodate minimum and maximum demands and allow significant deliveries of recycled water to recharge areas. The recommended plans placement of the system components is based on an analysis of the service area demands, topography, and desired operating pressures. Specifically, the proposed system components of the recommended plan consist of: recycled water supply, a main pump station, booster pump stations, storage reservoirs, and distribution system. The construction of the recycled water supply system would be phased overtime and it is anticipated that all phases of construction would be completed by 2011. Recycled water users would include municipal medians, agriculture, commercial, golf courses, school yards, and parks as allowed by California Department of Health Services, Division 4, Title 22 (Title 22).	3 - Water supply conveyed 3 - Offset Delta Water 3 - Reduce energy consumption/GHG	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WQ: Maximize beneficial use of recycled water LU: Meet growing demand for recreational space CC: Mitigate against climate change	5	3	3	0	0	0	20			Yes	Complete				Yes				NA	
	C	Leona Valley Town Council	Precision Irrigation Control System	Contact: Peggy Fuller Phone: 661-270-0771 Email: pfuller@leonavalleytc.org		Conceptual	Demand	The project is a proposed irrigation control system using electronic sensor probes at root level. Sensors relay data to a computer which controls irrigation valves, delivering a precise amount of water and effectively eliminating over-irrigation.	More than 150 AFY of conserved supply	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. FLD: Reduce negative impacts of stormwater, urban runoff, and nuisance water. CC: Mitigate against climate change																				
	C	Leona Valley Town Council	Stormwater Harvesting	Contact: Peggy Fuller Phone: 661-270-0771 Email: pfuller@leonavalleytc.org		Conceptual	Stormwater	This project includes the construction of stormwater collection of conveyance facilities, water filtration devices, and cisterns and collection tanks. Through advanced filtration methods, this project can also be expanded to create potable water for residential uses.	Once fully implemented, it is estimated that water conservation of up to 25 AFY could be realized. Improve flood management Improve water quality by reducing contaminants going into creeks	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WQ: Protect and maintain natural streams and recharge areas FLD: Reduce negative impacts of stormwater, urban runoff, and nuisance water. FLD: Optimize the balance between protecting existing beneficial uses of stormwater and capturing stormwater for new uses CC: Mitigate against climate change																				
	C	Little Rock Creek Irrigation District	SWP Turnout Upgrade	Contact: James Chaisson Phone: (661) 944-2015 Email: jchaisson@lrclid.com		Conceptual		The LCID is a State Water Contractor that is interested in upgrading their Turnout and conducting a EIR in order to bring extra water into the AV.	1 - More supply	WS: Provide reliable water supply to meet the AV Region's expected demand between now and 2035; and adapt to climate change WS: Stabilize groundwater levels WQ: Provide drinking water that meets regulatory requirements and customer expectations	3															4/12/2018				
	C	North Edwards WD	Arsenic Contamination Project	Contact: Dollie Kostopoulos Phone: (760) 769-4520 Email: dlcsd@ccis.com		Conceptual											\$1,100,000								Yes					
	I	Palmdale Recycled Water Authority	Phase 2 Distribution System	Contact: James Riley, Mike Shahbakhhti Phone: (661) 456-1020 Email: jriley@cityofpalmdale.org, mshahbakhhti@cityofpalmdale.org Partners: Palmdale Water District, City of Palmdale, Palmdale Recycled Water Agency (JPA between the City of Palmdale and Palmdale Water District)	Latitude: 34.5794, Longitude: 118.1165	Implement ation	Pipeline	The project will deliver approximately 500 AFY of tertiary-treated recycled water from LACSD No. 20 Palmdale Water Reclamation Plant to Schools, Parks, and Others (SPO) and irrigation for Landscape Maintenance Districts (LMDs) that are common landscaped areas irrigated from a single connection in residential areas. The project will serve 15 Landscape Management Distrctics (LMDs), four (4) schools and three (3) parks. The project will construct approximately 16,000 linear feet of of 24-inch recycled water main trunk line pipe connecting to the existing main and approximately 7,800 linear feet of lateral line pipe to provide service to Palmdale Oasis Park, Yellen Park, and Domenic Massari Park. Overall, the project will serve 15 Landscape Maintenance Districts (LMDs), four (4) schools and three (3) parks.	3 - New Water supply (500+ AF). 1 - Area drained 3 - Offset Delta Water 3 - Reduce Energy Consumption 1- Reduce GHG emissions 1 - Net Present Value per Acre Foot of \$3,800	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Establish a contingency plan to meet water supply needs of the AV region during a plausible disruption of SWP deliveries WQ: Maximize beneficial use of recycled water ER: Preserve open space and natural habitats that protect and enhance water resources and species in the AV Region LU: Improve integrated land use planning to support water management CC: Mitigate against climate change.	6	5	3	0	0	0	26	\$7,500,000				Potential low interest loan through State Revolving Funding program using Proposition one funds under the water recycling category and the Integrated Regional Water Managemen t category.		No Climate Change Analysis	Yes	None.	1/24/2019			
	I	Palmdale Water District	E. Avenue Q Recyled Water Extension	Contact: Scott Rogers Phone: (661) 456-1020 Email: srogers@palmdalewater.org	E. Avenue Q from 30th Street E to 20th Street E. Latitude: 34°35'14.8"N Longitude: 118°04'34.7"W	Implement ation	Pipeline	The E. Avenue Q Recycled Water Extension project (Project) will install approximately 5,280 linear feet of 12-inch pipeline in E. Avenue Q from E. 30th Street to E 20th Street. The project serves as the influent pipeline that will provide recycled water to the Palmdale Recycled Water Authority (PRWA)'s planned Pure Water Antelope Valley (Pure Water AV) Advanced Water Treatment Demonstration Facility (Demonstration Facility) to serve as a place for public education and tours, demonstration testing for permitting approval and full-scale design criteria development, and operator training. The Project will also potentially provide recycled water to one school and to Palmdale Water District (PWD)'s equipment yard.	3 - 4,725 AFY of new water supply 3 - 5,325 AFY volume treated 1 - Reduced reliance on water store in Lake Palmdale and Little Rock Reservoir, benefiting environmental and recreational resources. 2 - Project offsets water supply from Sacramento-San Joaquin Delta. 3 - Reduced energy consumption since recycled water reduces the energy required to import water from the Sacramento-San Joaquin Delta. 3 - Project avoids 1,331 tons of greenhouse gas emissions	WS: Provide reliable water supply to meet the Antelope Valley Region's expected demand between now and 2035. WS: Establish a contingency plan to meet water supply needs of the Antelope Valley Region during a plausible disruption of SWP deliveries. WS: Stabilize groundwater levels. WQ: Provide drinking water that meets regulatory requirements and customer expectations. WQ: Protect and maintain aquifers. WQ: Maximize beneficial use of recycled water. LU: Improve integrate land use planning to support water management. CC: Mitigate against climate change.	15	8	10	3	3	3	5	14	\$2,155,000	\$7,500	No, but preliminary costs estimates were prepared. A complete cost estimate is still being developed.	Construction: 2023 Project startup: 2024	Bond fund EPA WIFIA Program CA State Water Board SHF and Water Recycling Funding Program Bureau of Reclamation Title XVI Program	Not for the project specifically but the broader Pure Water AV Program.	12% of California's energy use is related to water, according to the CARB AB32 Scoping Plan . A key goal that the Plan identifies is to "Make conservation a California way of life by using and reusing water more efficiently through... water recycling, and reuse to help meet future water demands and adapt to climate change" (page 93). This Project, by supporting a regional water reuse effort, supports the AB32 Scoping Plan.	Yes	Yes	Yes		
	P	Palmdale Water District	ET Based Controller Program	Contact: James Riley Phone: (661) 456-1020 Email: jriley@palmdalewater.org		Conceptual	Demand	This project involves the installation of ET-based irrigation controllers for landscaped areas. This project can assist water purveyors in the Antelope Valley Region in meeting BMPs for water use efficiency and will reduce runoff from over watering of landscaped areas.	Approximately 240 AFY of supply conserved if used on 14 large landscape users in PWD's service area.	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. FLD: Reduce negative impacts of stormwater, urban runoff, and nuisance water. CC: Mitigate against climate change												Yes				4/11/2018				

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P	Rosamond CSD	Purchasing Spreading Basin Land	Contact: Brach Smith Phone: 661-256-3411 Email: bsmith@rosamondcsd.com		Conceptual	Basin	Purchase water spreading basins land in West Kern County from Avenue A to Rosamond B.	Supply benefit, but more information required to quantify benefit.	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Estab. A plan to meet supply needs of AV during a disruption of SWP deliveries. WS: Stabilize groundwater levels	Conjunctive Management & Groundwater Recharge Areas Protection																4/17/2018			
P	Rosamond CSD	RCSD Wastewater Pipeline	Contact: Brach Smith Phone: 661-256-3411 Email: bsmith@rosamondcsd.com		Conceptual	Pipeline	This project would include placing a 36-inch wastewater pipeline from LACSD to RCSD's WWTP. The total distance would be approximately 15 miles.	Increases potential users of recycled water	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WQ: Maximize beneficial use of recycled water CC: Mitigate against climate change	Conveyance - Regional/local Recycled Municipal Water Matching Water Quality to Use																4/17/2018			
P	Rosamond CSD	Tropico Park Pipeline Project	Contact: Brach Smith Phone: 661-256-3411 Email: bsmith@rosamondcsd.com		Conceptual	Pipeline	Place 16-inch recycled water pipeline from Gaskell Road north to Tropico regional Park area.	Potable water offset	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WQ: Maximize beneficial use of recycled water LU: Meet growing demand for recreational space CC: Mitigate against climate change	Conveyance-Regional/local Recycled Municipal Water Matching Water Quality to Use													Yes			4/17/2018			
P	Rosamond CSD	RCSD Arsenic Consolidation Project	Contact: Brach Smith Phone: 661-256-3411 Email: bsmith@rosamondcsd.com Partners: 10 mutuals		Implementation	Pipeline	Project will extend waterline from Lands of Promise N. to William Fisher and connect all 10 small water companies to the RCSD system. The water delivered to the WFM customers would be below the arsenic MCL level of 10 ppb. Land of Promise storage system would provide water volume and pressures to William Fisher that would be adequate to provide fire flows and meet RCSD, Kern County, and CDPH standards.	2 - Water Quality Improvement 3 - Improve reliability of drinking water system 3 - reduce energy consumption by improving system efficiency	WS: Provide reliable water supply to meet the Antelope Valley Region's expected demand between now and 2035; and adapt to climate change WS: Stabilize groundwater levels WQ: Provide drinking water that meets regulatory requirements and customer expectations. CC: Mitigate against climate change.	Conveyance - Regional/local System Reoperation Drinking Water Treatment and Distribution Matching Water Quality to Use Conjunctive Management & Groundwater		5	3	0	0	0	20			Yes				Yes					
I	Rosamond CSD	Wastewater Treatment Plant Rehabilitation and Groundwater Project	Contact: Brach Smith Phone: 661-256-3411 Email: bsmith@rosamondcsd.com	The proposed activity will take place at the RCSD WWTP, located in the Town of Rosamond, in Kern County. The Antelope Valley Groundwater Basin is impacted. 34.836803, 118.144221	Implementation	Wastewater	The proposed project consists of improvements to the existing RCSD wastewater treatment plant (WWTP) to remedy nitrate and total dissolved solids (TDS) contamination in the groundwater originating from the WWTP evaporation ponds. Water is currently discharged to evaporation ponds and left to evaporate, and the project proposes to treat water for recharge instead. The project will improve groundwater quality and increase groundwater supplies through groundwater recharge. 30% of end users are DAC. Project will implement innovative practices because disinfection will no longer be required since the discharge will be percolated, and as a result, it will take UV treatment offline, providing energy and cost savings.	1500 AFY water supply created 1.1 MGD Water Quality improved	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Stabilize groundwater levels WQ: Provide drinking water that meets regulatory requirements and customer expectations. WQ: Protect and maintain aquifers. WQ: Protect natural streams and recharge areas from contamination. ENV: Preserve open space and natural habitats that protect and enhance water resources and species in the Antelope Valley Region. CC: Mitigate against climate change	Conjunctive Management & Groundwater Drinking Water treatment and distribution GW and aquifer remediation Pollution prevention Salt and Salinity Management Recharge areas protection		6	3	0	0	0	22	12150000 Would take \$1.3-3M	\$	-		11/30/2020	District general funds or enterprise funds, water and sewer rates, developer or impact fees, connection fees, property taxes, and sales taxes.	no	The project will increase groundwater recharge, thereby enhancing local water supply reliability. As such, the project helps address climate change, particularly water supply uncertainties expected with climate change impacts. By increasing groundwater supplies, the project has the potential to reduce need for imported water supplies which are typically more energy-intensive than local groundwater. By reducing energy use, the project could in turn help reduce GHG emissions.	52% of the District's service area population is a DAC), of which approximately 48% is severelyDAC. The project will equally benefit DACs and non-DACs across the service area.		The ground water modeling to be conducted will help evaluate the impacts of the unauthorized WWTP discharges to help determine if impacts are disproportionately borne across the service area.	1/24/2019
C	Rosamond CSD	Fremont Valley Basin Potable Groundwater Well Treatment Project	Contact: Brach Smith Phone: 661-256-3411 Email: bsmith@rosamondcsd.com	The project would be located at 1 of 2 identified potential sites, north of the RCSD service area, overlying the FVGB, approximate location. 34.924256, 118.16349	Implementation	Wells	This project involves installation of a new groundwater extraction well in combination with wellhead treatment to produce groundwater from the Fremont Valley Groundwater Basin for potable uses. Additional studies will be needed to evaluate potential groundwater quantities from previously identified sites, as well as quality to determine necessary treatment.	1500 AFY water supply created 1.3 MGD water quality improved	WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Provide drinking water that meets the regulatory requirements and customer expectations CC: Mitigate against climate change	Conjunctive management & groundwater Drinking water treatment and distribution							\$ 8,700,000.00	\$ 144,000.00		3/1/2019	District general funds or enterprise funds, water and sewer rates, developer or impact fees, connection fees, property taxes, and sales taxes.		The project will make a new water supply (groundwater) available thereby enhancing local water supply reliability. As such, the project helps address climate change, particularly water supply uncertainties expected with climate change impacts. By providing a new water supply, the project has the potential to reduce need for imported water supplies which are typically more energy-intensive than local groundwater. By reducing energy use, the project could in turn help reduce GHG emissions.	52% of the District's service area population is a DAC), of which approximately 48% is severelyDAC. The project will equally benefit DACs and non-DACs across the service area.			12/12/2018		
C	Rosamond CSD	Tank 3 Hydro Turbine Generation Feasibility Study	Contact: Brach Smith Phone: 661-256-3411 Email: bsmith@rosamondcsd.com	The turbine would be located near the bottom elevation of RCSD's water storage tank, Tank 3, in the Town of Rosamond, in Kern County. 34.877163, 118.175056	Conceptual	Study	This project involves the construction of a hydroelectric turbine within the RCSD service area to generate green energy and revenue.	GHG emission reduction - 30KW-65KW electricity produced	CC: Mitigate against climate change.	Conveyance -regional/local Economic Incentives							\$ 331,000.00	\$ -			District general funds or enterprise funds, water and sewer rates, developer or impact fees, connection fees, property taxes, and sales taxes.	No	The project will facilitate hydropower generation and could potentially offset other power sources with higher GHG emissions. The project will facilitate hydropower generation, which has less GHG impacts than fossil fuel sources. Further, the project could potentially offset other power sources with higher GHG emissions.	52% of the District's service area population is a DAC), of which approximately 48% is severelyDAC. The project will equally benefit DACs and non-DACs across the service area.			12/12/2018		

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Y: working on expansion	Willow Springs Water Bank	Willow Springs Water Bank	Contact: Mark Beuhler, General Manager, Antelope Valley Water Bank Phone: 323-860-4829 Email: MBeuhler@avwaterbank.com Partners: Rosamond CSD, Valley Mutual Water Co., Semitropic Water Storage District	34.8339, -118.4139	Implementation	Banking	The Antelope Valley Water Bank will provide 1 million AFY of storage in the Antelope Valley Basin and the ability to recharge 280,000 AFY and recover 225,000 AFY. This storage could be used to regulate supplies on a seasonal and year-to-year basis by storing water when it is plentiful for later use when needed. The project is a conjunctive use and reservoir reoperation project integrating the SWP reservoir and conveyance system with south-of-Delta groundwater storage; it is strategically located near imported water supply wheeling infrastructure (1 mile from AVEK West Feeder and 8 miles from East Branch of the SWP California Aqueduct) providing a geographically logical means to store and regulate supplies.	3 - Recharge 280,000 AFY and recover 225,000 AFY 3 - About 1,800 acres of open space 2 - Water Quality from soil aquifer storage 3 - Future offset of water supply from Sacramento-San Joaquin Delta & improve ecosystem 3 - Recreational benefits ~320 acres of hiking and walking trails 3 - GHG reduction of 293,000 metric tons per year from onsite renewables, shifting of water deliveries to period of renewable energy surplus, and operation of the proposed water/energy bank	17 WS: Provide reliable supply to meet AV's expected demand between now and 2035, and help to adapt to CC. WS: Etab. A plan to meet supply needs of AV during a disruption of SWP deliveries. WQ: Provide drinking water that meets regulatory requirements and customer expectations. WQ: Protect and maintain aquifers LU: Maintain agricultural land use within the AV Region LU: Improve integrated land use planning to support water management CC: Mitigate against climate change	7 Conveyance - Regional/local Conjunctive Management & Groundwater Drinking Water Treatment and Distribution Land Use Planning and Management Recharge Area Protection	4	3	0	0	5	36	\$343,143,000.00	\$8,744,800 per year	Yes	Complete; expansion - planning 1/1/18-12/31/19	WSIP	Yes	Yes	Yes				1/24/2019