Apple Valley, CA

WATERSMART: DROUGHT RESILIENCY PROJECT GRANTS FY 2016

Apple Valley Desert Water Reuse Project

PREPARED FOR:

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April 11, 2016



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Task A – Increasing the Reliability of Water Supplies through Infrastructure Improvements Constructing new conveyance components

Executive Summary:

Date: April 11, 2016 Applicant: Town of Apple Valley City: Apple Valley County: San Bernardino State: California

Project Summary: The proposed project will help make Apple Valley, CA more resilient to periods of drought and ensure long-term water sustainability by enabling the use of safe, clean reclaimed water. It will "free up" 1,120 Acre Feet of potable water per year that is currently used for irrigating important urban green spaces. The Town of Apple Valley (population 70,924) requests \$300,000 (toward total project cost of \$1,372,500) to fund the pre-construction costs and a portion of the construction costs. At completion, the entire project will convert the irrigation system at five sites to reclaimed water including the municipal golf course, three town-owned parks, and one school campus. The Apple Valley Water Reclamation Plant (AVWRP) is set to come on line during the summer of 2017 and will provide the source of reclaimed water. Approximately 170 acres of turf are irrigated with potable water at the five proposed sites: Apple Valley Golf Course, Brewster Park, Phoenix Academy, Thunderbird Park, and Civic Center Park/Town Hall Park. These sites all have existing potable water irrigation infrastructure, including an irrigation pump station and water well at the golf course. The AVWRP will initially produce 1 million gallons per day (1,120 acre feet per year) of treated, reclaimed wastewater, (Phase I), and 2.5 million gallons per day (2,800 acre feet per year) at full build-out (Phase 2). The proposed project will transport reclaimed water from AVWRP to the five sites (approximately 3 miles total), and retrofit the existing irrigation system at each site to utilize reclaimed water. The reclaimed water infrastructure will be the first of its kind in the Town of Apple Valley, and could bring the amount of reclaimed water utilized in the Town from zero to ultimately 2.5 million gallons per day at project build-out. The proposed project is not located on a Federal facility. Schedule: The Town estimates that the project will take approximately 24 months to complete. The project is scheduled to begin July 1, 2016. Immediate Need: Currently, water pumped from the Mojave River Groundwater Basin provides 100% of the Town's potable drinking water supply, yet the Basin is in a state of overdraft. Additionally, the Basin is replenished by water from the State Water Project (SWP). The proposed project will provide the vital first step in the Town's process to utilize reclaimed water as a new source to irrigate and sustain valuable urban green spaces. Apple Valley, like all California communities struggling with the drought, must realize better water management practices to ensure adequate water for the future. Implementing recycled water use is key to managing periods of drought, and preserving our natural environments, native flora and fauna habitats, and green spaces for future generations.





Exhibit 1: Location of Apple Valley, CA in San Bernardino County

Background Data. The proposed project will be conducted in the Town of Apple Valley, located in San Bernardino County, California. Apple Valley has over 70,000 residents, and is located in California's Victor Valley, an area which has seen some of the fastest population growth in the State. According to the 2010 U. S. Census, the residents of Apple Valley identified as 69.1% White, 29.2% Hispanic or Latino, 9.1% African American, 1.1% Native American, 2.9% Asian, 0.4% Pacific Islander Pacific, 12.1% Other Races, and 5.2% from two or more races. Apple Valley has a median household income of \$48,432, with 20.2% of the population living below the federal poverty line. Apple Valley began as a bedroom community providing an affordable place to live for residents who worked in the larger cities of Los Angeles and Riverside (90 miles and 60 miles away, respectively).

Over the years, Apple Valley has developed its own artistic and recreational amenities while retaining a small town feel, making it a destination point for the surrounding "High Desert" communities. The proposed project will enable the Town to use recycled water to irrigate open green spaces and provide for their sustainable future. Using recycled water will provide year-round irrigation unaffected by drought conditions to ensure that several important green spaces in Apple Valley are preserved for the long-term. The entire population of Apple Valley and surrounding areas will benefit from the recreation, health, and enjoyment provided by these green spaces, while at the same time, increasing the reliability of our watersupplies.

Project Sites. The five proposed sites represent vital, open green spaces with manyfree-ofcharge amenities that benefit Apple Valley and are important to the quality of life for all residents. These are:



Lenny Brewster Sports Center: The sports facility provides 11 full-sized soccer fields, two regulation baseball fields, picnic tables and a playground that are open to the public year-round. The Center hosts at least seven sports tournaments per year and is used by local youth and amateur sports teams.

Total Acres = 39. Total Turf Acres = 34.

Civic Center Park: The multi-use park complex provides several playscapes, open, green play areas, pool and dog-park. The complex also includes the High Desert Region's only outdoor amphitheater which hosts concerts and plays free to the public throughout the year. Total Acres = 22. Total Turf Acres = 10.

Phoenix Academy: The school provides play space and playground for its 1,200 students whom over 50% identify as Hispanic or Latino and 90% are eligible for free or reduced price lunch. Total Acres = 35. Total Turf Acres = 20.

Thunderbird Park: The public park is adjacent to the Phoenix Academy and provides two playground areas, a turfed athletic field, picnic tables, and shade trees. The park is open to the public year-round.

Total Acres = 7. Total Turf Acres = 6.5.

Apple Valley Golf Course: This 18-hole golf course is open to the public, year-round, for a nominal fee.

Total Acres = 151. Total Turf Acres = 100.

The proposed project will provide the Town of Apple Valley, working in conjunction with the Victor Valley Wastewater Reclamation Authority (VVWRA), with the opportunity to utilize reclaimed water from the forthcoming Apple Valley Water Reclamation Plant (AVWRP) at five designated sites and retrofit the existing irrigation system at each site from potable to reclaimed water, including one irrigation pump station. This will allow the Town and the Apple Valley Unified School District the opportunity to utilize reclaimed water for irrigation and other approved purposes, rather than using more costly, and scarce potable water.

The future AVWRP facility is permitted to discharge treated effluent to the Apple Valley Golf Course, approximately three miles from the facility, and the main transmission line that will be used for reclaimed water distribution to the sites is currently being utilized to transmit wastewater to the VVWRA regional facility. The four other proposed sites fall along this main transmission line between the AVWRP and the Golf Course, (Yellow line in Exhibit 4). The project will focus on this three mile segment of pipeline and the necessary interties to each site (see Exhibit 4: *Map of Project Sites*). The VVWRA owns the main reclaimed water transmission line and is an advocate for this project, providing full access to the Town to tie into the main pipeline for irrigation. (Please see Attachment 5, VVWRA Support Letter.) The ultimate goal is to



provide reclaimed water to reduce the need for new or expanded water supplies, and the dependence on imported water supplies. VVWRA estimates that retrofitting these sites for reclaimed water could save the Town 1 million gallons per day of potable water, equating to 1,120 acre feet per year (AFY).

Water Sources. The single source of our water supply is local groundwater from the deep, underground Alto Basin, a sub-area of the adjudicated Mojave River Groundwater Basin. Liberty Utilities¹, a Canadian subsidiary, is the private water provider for 81% of water customers in the Town of Apple Valley. . The remaining 19% are served by other public and private water providers and by privately owned domestic water wells. As a member agency of Mojave Water Agency (MWA), Liberty Utilities (formerly Apple Valley Ranchos Water Company) is permitted to purchase imported water from the SWP to replenish the pumped groundwater. MWA has provided a letter of support for the proposed project and its subsequent reduction of reliance on SWP water (please see Attachment 5: Letters of Support). The SWP has been facing unprecedented challenges— several years of below-average rainfall and very low snowmelt runoff. In 2014, the SWP's water allocation was five percent (5%), the lowest final calendar year allocation in SWP history. More than 80% of the Town's water supply is obtained from 24 active wells which draw from the Alto Basin sub-area of the Mojave River Groundwater Basin. The Alto Basin area contains the Floodplain Aquifer and the Regional Aquifer. Water from the SWP is used to replenish these wells. The SWP is projecting that it will only be able to provide the Mojave Water Agency 10% of its full allocation in 2016. Importantly, the Mojave River Groundwater Basin has been in a state of continual overdraft for 50 years. The project will have a significant impact on total water use in the Town, substantially reducing the need to draw from aquifers, and in turn from imported water sources, to meet the current demand. In preparation for constructing the AVWRP, VVWRA conducted a study in 2009 to examine the impact that water conservation, drought, and economic factors would have on the flow patterns and projected flows in its service area. The study verified that current wastewater flows of 2.07 million gallons per day(MGD) in Apple Valley will provide more than adequate source water to the treatment plant which will then in turn be able recycle 2.0 MGD, at project completion in 2017. Any recycled water generated above what is needed by the project will be dedicated to reductions in groundwater withdrawals and overdraft. Percolation ponds at the AVWRP and lakes at the Apple Valley Golf Course that are incorporated into the project will also recharge the groundwater. This amount reduces water from natural water sources such as the Mojave River and Alto Basin as well as SWP projects such as Silverwood Lake and the Cedar Springs Dam, each used to replenish local groundwater.

Water usage. The Town of Apple Valley uses approximately 14,390 AF of potable water in municipal water demands annually. There are currently over 28,000 customer connections in

¹ Liberty Utilities is Liberty Utilities is a subsidiary of Algonquin Power and Utilities, a Canadian corporation that acquired the former private water provide known as the Apple Valley Ranchos Water Company (AVRWC). January 2016. http://www.libertyutilities.com/west/about/news_01112016cpr_avr.html



the Town of Apple Valley and surrounding areas. Our 2035 water consumption demand is estimated to be 25,808 AFY.

Exhibit 2: Town of Apple Valley

Current and Projected Water Consumption (AFY)							
Year	AFY						
2015	14,390						
2035	25,808						
Source: Apple Valley General	Plan, Apple Valley						
Ranchos Water Company 20	Ranchos Water Company 2010 Urban Water						
Management P	lan.						

Exhibit 3: Proposed Recycled Water Sites and Water Needs

Site	Total Acres	Total Turf Acres	Approximate Water Need
Apple Valley Golf Course	151	Approx. 100	600 AFY
Brewster Park	39	34	204 AFY
Civic Center Park/Town Hall	22	10	60 AFY
Phoenix Academy	Approx. 35	Approx. 20	58 AFY
Thunderbird Park	7	6.5	39 AFY
Totals	254	170.65	961 AFY

Historical drought conditions. Severe drought, population growth, and global climate change have made water management in California critically important. The watershed-based resource management problems faced by the Town of Apple Valley are linked to these factors, which have led to water restrictions and significant rate increases for customers.

On January 17, 2014, California Governor Jerry Brown declared a state of emergency for California. According to the California Department of Water Resources, snowpack in the Sierras, which supplies much of the State Water Project is still not enough to bring an end to California's continuing drought. Not only is Apple Valley's imported water supply affected by these conditions, but so are local surface and groundwater supplies, which are greatly reduced as a result of recent drought conditions. Now more than ever, Apple Valley is under pressure to implement alternative water sources because of these environmental factors and reduced supply from the SWP.

Working relationships with Reclamation. As stated above, AVRWC purchases imported water



from the SWP (a Reclamation project and facility) to replenish pumped groundwater to the Mojave River Groundwater Basin, which in turn, currently supplies all of Apple Valley's potable water demands. Apple Valley and Reclamation worked together as stakeholders to develop the Mojave Region IRWMP in 2004. In 2014, Apple Valley and VVWRA began working with Reclamation to implement the Apple Valley Subregional Water Reclamation Facility which is slated to come on line in the summer of 2017.



Apple Valley Desert Water Reuse Project

BOR WaterSMART: Drought Resiliency Project Grants 2016 Technical Proposal and Evaluation Criteria



Exhibit 4: Proposed project sites for irrigation system conversions. The AVWRP will provide at least 1 million gallons per day of clean, recycled water suitable for irrigation and industrial uses upon completion. Please see photos (next page) of the park and public recreation spaces that will be maintained and sustained for the long - term using reclaimed water.





Figure 1. Apple Valley Golf Course. The AV Golf Course has 100 acres of land needing irrigation, and is also the site of an irrigation pump station chosen for potential retrofit. The once-private course was nearly shut down before the Town purchased the property with a desire to utilize reclaimed water for irrigation.



Figure 2. Lenny Brewster Sports Center. Brewster Park has 34 acres of turf in need of irrigation, 11 full-size soccer fields, 2 baseball fields, picnic tables, and a playground. The Park hosts at least 7 sports tournaments each year.



Figure 3a. Civic Center Park Amphitheater. Home to the only amphitheater in the High Desert, along with playgrounds and a pool.



Figure 4. Phoenix Academy (PA). PA is a K-8th school in Apple Valley Unified School District, and has approximately 20 acres of turf requiring irrigation.



Figure 3b. Civic Center Dog Park. The Civic Center is also home to a dog park, and has over 9 acres of turf requiring irrigation.



Figure 5. Thunderbird Park. Adjacent to Phoenix Academy, the Park has 2 playground areas, picnic tables, shade trees, and a turfed athletic field, with 6.5 acres requiring irrigation.



Technical Project Description:

No	Lligh Lough Activities (Milestones	Lood	Evaluation	Start/	
NO.	Righ Level Activities/ Milestones	Leau	Technique	End Dates	
	Task #1: Grant Management				
1.1	Grant Award and Fully Executed Grant Agreement.	BOR/Town	Grant award executed.	06-2016/ 07-2016	
1.2	Grant Administration (expected to commence July 1, 2016, with project closeout June 30, 2018 (two years)	Town	Successful audit.	07-2016/ 06-2018	
1.3	Submit Request for Reimbursements.	Town	Request for reimbursement approved by BOR.	07-2016/ 06-2018	
1.4	Submit progress reports required by grant agreement.	Town	Progress reports submitted by Town.	07-2016/ 06-2018	
1.5	Complete final report and final payment request.	Town	Final report approved by BOR.	06-2018	
1.6	Project Close-out/Final Payment anticipated from BOR (two years from date Grant Agreement executed).	BOR/Town	Final payment from BOR.	06-2018	
1.7	Records Retention (3 years after final payment is made by BOR).	Town	District to retain records for three years.	06-2018/ 06-2021	
	Task #2: Design and Permitting				
2.1	Complete Facilities Planning for proposed project interties	Town	Facility plans on file.	01-2016/ 07-2016	
2.2	Complete Facilities Design for proposed project interties	Town	Facility designs on file.	01-2016/ 07-2017	
2.3	Obtain construction permits.	Town	Copies of all construction permits on file.	06-2016	
2.4	CEQA Research and develop Documentation (provided by in-house staff)	Town	Copies of CEQA documents.	07-2016	
	Task #3: Construction	-	1		
3.1	Request for Proposal for selection of Contractor	Town	Documentation of public request for proposals.	07-2016	
3.2	Execute agreement with selected Contractor	Contractor/ Town	Signed contract on file.	07-2016	
3.3	Construction Management	Contractor		07-2016/ 06-2018	
3.4	Mobilization	Contractor/ Town		07-2016	
3.5	Grading and earthwork for removal, replacement, or construction of recycled water lines, backflow prevention, and coupling.	Contractor/ Town	Notice of Completion issued signifying all work completed to	07-2016	

Exhibit 5: WORK PLAN APPROACH AND EVALUATION



No.	High Level Activities/Milestones	Lead	Evaluation Technique	Start/ End Dates
			satisfaction of Town (Notice of Completion).	
3.6	Connect irrigation water mains from existing recycled water lateral lines to five project sites.	Contractor/ Town	Notice of Completion.	07-2016/ 06-2018
3.7	Install recycled water meters at five project sites.	Contractor/ Town	Notice of Completion.	07-2016/ 06-2018
3.8	Retrofit irrigation pump station at golf course	Contractor/ Town	Notice of Completion.	07-2016/ 06-2018
3.9	Install new reclaimed "purple pipe" at Civic Center site	Contractor/ Town	Notice of Completion.	07-2016/ 06-2018
3.10	Install recycled water signage and identification tags.	Contractor/ Town	Notice of Completion.	07-2016/ 06-2018
	Task #4: Monitor Water Usage			
4.1	Develop monthly tracking reports (using recycled water meter data) for water usage for irrigation at five project sites.	Town	Recycle water meter data/tracking reports.	06-2018/ ongoing

Evaluation Criteria:

Evaluation Criterion A—Project Benefits

Additional water supplies. Based on historical potable water used at the combined five sites, the proposed project will save 961 AFY of water needed to provide turf irrigation water demands at the five sites.

14,390AFY (total current potable water usage) <u>– 961AFY (proposed site current potable water usage)</u> = 13,429AFY saved or 6.7% decrease in potable water usage.

The Town of Apple Valley uses approximately 14,390 AF of potable water in municipal water demands annually. Converting even a portion of this water usage from potable water to reclaimed water would have a significant positive impact on the Town's potable water supply and the ability to stretch water supplies during droughts. It will also reduce the need to draw on potable water from the State Water Project. As southern California faces a growing drought crisis, the Town is making every effort to conserve potable water for drinking supplies. In addition to changing consumer mindset about water usage habits, finding alternative sources of water for non-potable uses is key to preparing for the future. The proposed reclaimed water infrastructure project is a major step in reevaluating water consumption in Apple Valley, and increases the potential for additional alternative water usage in years to come.

Long-term resilience to drought. The proposed project will be the first step in the Town's plan to implement recycled water projects that will continue to benefit the Town and its residents for the life of the project's infrastructure, which is estimated to be 50 years. As stated above, reclaimed water in excess of what is needed at the five sites will recharge the Mojave River



Groundwater Basin. Excess recycled water not used for irrigation will be redirected to percolation ponds that recharge the groundwater basin. The basin recharge would help diminish the competition for dwindling potable water supplies by preventing the basin from becoming overdrawn, along with decreasing the need for SWP water to replenish the basin.

Benefits to fish, wildlife, and environment. The project will improve flow conditions to the Mojave River and enhance native habitats. Currently, all wastewater from the Town of Apple Valley is transmitted to the VVWRA Regional Treatment Plant. The Plant discharges to the Mojave River, which supports riparian habitat in the natural stream channel. The AVWRP will initially divert 1,120 AFY from the VVWRA system when it comes online. This will leave more than 13,000 gallons to provide to the Mojave River riparian habitat as stipulated in the April 2003 Memorandum of Understanding between VVWRA and the California Fish and Wildlife Department. The flow needed for Mojave River species to thrive (including the endangered Least Bell's Vireo and Southwestern Willow Flycatcher), especially during nesting, spawning, and hatching seasons is 9,900 AFY. The primary use for reclaimed water from the proposed project will be for landscape irrigation, initially at Apple Valley Golf Course, Brewster Park, Civic Center Park/Town



Exhibit 6. Southwestern Willow Flycatcher (Endangered).

Hall, Phoenix Academy, and Thunderbird Park. In extreme drought conditions, extraneous landscaping irrigation is one of the first uses of water to be limited or eliminated. By establishing a recycled water initiative and the infrastructure to continue converting more irrigation and industrial water system in the future, Apple Valley will be able to sustain important green spaces that help fight heat-island effects, sequester carbon dioxide, and provide important wildlife habitats. The five sites chosen for the initial reclaimed water irrigation conversion are publicly-accessible green spaces. In general, the Town utilizes native desert landscaping throughout its neighborhoods and commercial spaces. However, we also maintain specific green, oasis areas in the Town to provide respite from the desert palate, and to provide turf and landscaping to absorb the searing Mojave Desert sun.

Water management benefits. The project provides two important water management benefits:

 Commercial and Industrial Future Connections. The project will enable the Town to encourage and recruit potential recycled water customers and establish best practices for recycled water management in future projects. Industrial clients will benefit from this project as their distribution supply networks are expanded. The Town will target the local medical device manufacturers' industry, which has



historically been an intense user of the local water supply, as potential reclaimed water customers. Other supporting industries and future manufacturing facilities are also potential recycled water users.

2. Financial Savings. Using reclaimed water to sustain important urban green spaces, will provide significant savings for the Town of Apple Valley. Currently, the Town pays \$4.336 per 100 cubic feet (Cu ft) of potable water to its private water supplier, Liberty Utilities. One AF of water = 435.599 (Cu ft). Therefore, one AF of potable water purchased from Liberty Utilities costs: 435.599 X 4.336 =\$1,888.76. By comparison, when the recycled water is available from the local Sub-Regional Treatment Facility, the cost for this water will be approximately \$70 per acre foot. This is a significant cost savings of \$1,818.76 per AF.

When the Phase 1 project is complete the Town of Apple Valley will convert approximately 1,120 acre feet of potable water used for irrigation annually to use recycled water. This will result in a significant cost savings to the Town and its residents of \$2,037,011 annually.

1,120 Acre Feet X 1,818.76 (savings per acre feet by converting to Recycled Water) =\$2,037,011.20.

Evaluation Criterion B—Drought Planning and Preparedness

The proposed project is supported by and aligned with the Mojave Region Integrated Regional Water Management Plan (IRWMP) and the California State Water Plan. Both provide significant content related to drought resiliency planning.

Mojave Region IRWMP. The Mojave Region IRWM group is a collaborative, stakeholder-driven effort to manage all aspects of water resources in the region, and sets a vision for the next 10-plus years of water management in the High Desert. Apple Valley is one of over 110 stakeholders who participated in the development of the IRWM Plan. These stakeholders include 58 municipal water purveyors, seven municipal and county agencies, 14 state and federal agencies, and over 30 community interest groups. Over the last 10 years \$170 million in local, state, and federal dollars have been invested in High Desert water infrastructure and water supplies. This included the construction of pipelines and groundwater recharge sites, investment in new water supplies, and development of an aggressive water conservation program. The IRWM Planning process is a cycle that starts with identifying the community's water needs and finishes with financing and implementing projects. The process includes feedback and suggestions from stakeholders and members of the public to achieve the best outcome for the community. The 2014 IRWMP updates and expands upon the 2004 Plan, documents progress towards meeting Plan goals, identifies current regional water resource management needs and issues, and evaluates strategies for addressing the Region's challenges.



Recycled water and waste water treatment opportunities are included in the Plan to augment the overall water portfolio of the Mojave Region and recharge groundwater supplies that are affected by extreme drought and subsequent overdraft.

1	Balance future	Balance average annual future water demands with available
	water demands	future supplies to ensure sustainability throughout the Region
		between now and the 2035 planning horizon and beyond.
3	Maintain stability in	Maintain stability in previously overdrafted groundwater
	overdrafted	basins and reduce overdraft in groundwater basins
	groundwater basins	experiencing ongoing water table declines.
4	Reduce reliance on	Address the State policy goal of reducing reliance on the Delta
	Delta	by meeting water demands with alternative sources of supply
		during times when (SWP) supplies are reduced or unavailable
		due to droughts, outages, environmental and regulatory
		restrictions, or other reasons.
14	Increase use of	Increase the use of recycled water in the Region while
	recycled water	maintaining compliance with the Mojave Basin Area
		Judgment as applicable.

Exhibit 7: Mojave Region IRWMP Prioritized Objectives

The California State Water Plan. The State Plan provides a collaborative planning framework for elected officials, agencies, tribes, water and resource managers, businesses, academia, stakeholders, and the public to develop findings and recommendations and make informed decisions for California's water future. The Plan also evaluates different combinations of regional and statewide resource management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship. (Please see *Attachment 3: Existing Drought Contingency Plan* for detailed information).

The State Plan provides the following potential benefits of utilizing reclaimed water:

- Local and statewide water supply reliability;
- Municipal recycled water increases local supplies;
- Supports drought preparedness;
- Supports climate change mitigation and adaptation strategies;
- Provides environmental benefits; and
- Reduces energy consumption by lowering dependence on imported supplies.



Evaluation Criterion C—Severity of Actual or Potential Drought Impacts to be Addressed by the Project

Existing Drought Conditions.



Exhibit 8: Current California Drought Conditions Apple Valley is located in the extreme drought red-shaded area

In 2014, Governor Brown declared a drought state of emergency for California triggering a variety of water conservation measures and a request for California residents to voluntarily cut back on water use (*Orange County Register*, 1/18/14).

Even though recent precipitation fueled by El Nino has filled many of northern California's lakes, water experts say the California drought is not over. NASA senior water scientist Jay Famiglietti says the state's total water storage deficit is 13 trillion gallons. "To replace that kind of storage, we need a winter like

this and three or four just like this, if not even wetter than this one. So, we are definitely not out of the woods."

The State's water conservation plans for the SWP and its Bay Delta source are predicated on the assumption that individual regions in California become more self- sufficient by investing heavily in water conservation, water-use efficiency, **water recycling**, and conjunctive use of a region's surface or underground storage.

Climate change will also impact the Colorado River Basin, Southern California's single largest source of water outside the Central Valley. Scientists estimate a decrease of 6%-50% in annual river flow due to changes in precipitation cycles and snowpack²

Given the strong possibility of recurring drought conditions in the years ahead, it is critical for Apple Valley to take full advantage of the water recycling possibilities afforded by the new subregional water reclamation plant. Without recycled water, Southern California towns like Apple Valley are facing a future without the urban green spaces that substantially raise

² "Impacts of Climate Change on California's Water Supply," Global Energy Network Institute.



citizens' quality of life, particularly in disadvantaged communities. According to the U.S. Census Bureau, the poverty rate in Apple Valley is higher than the State's average, and income levels are well below the State's median.

The Apple Valley Climate Impact Plan states:

Rises in temperature have the potential to cause a shift in the hydrological cycle. Roughly 75% of analyzed climate change models agree that within the western United States there will be a 10% to 40% decrease in stream flows by 2050. According to the Institute for the Study of Planet Earth at the University of Arizona, it is estimated that a 2°C increase in temperature corresponds to a 9% to 21% decrease in stream flow on the Colorado River. The coast of California is likely to see a rise in sea level that could threaten shorelines, cause increased erosion, and loss of life and property. Sea level rise and storm surges could lead to flooding of low-lying property, loss of coastal wetlands, erosion of cliffs and beaches, saltwater contamination of drinking water, and damage to roads, causeways, and bridges.

Public health impacts. Public green spaces are vital to the health of our communities. They provide safe places for outdoor recreation, encourage healthy lifestyles, respite from the desert sun, and trees that provide shade and sequester carbon dioxide from the atmosphere.

The Community Vital Signs Initiative of San Bernardino County³ reports that disadvantaged households are three times more likely to live a sedentary lifestyle than people from households with incomes above \$50,000. This sedentary lifestyle exacerbates the prevalence of diabetes and obesity, with more than 25% of lower-income households having a body mass index of more than 35% (obese). Studies have shown that particularly for children, proximity to parks and outdoor recreation makes them less likely to become overweight or obese. Using recycled water will help ensure that parks and outdoor recreation spaces are sustainable for the long term for all residents, including those who are at risk of leading a sedentary lifestyle.

	Apple Valley	California
Median household income	\$48,432	\$61,094
Persons below poverty level	20.2%	15.9%

Exhibit 10: Apple Valley Income and Poverty⁴

Environmental impacts. The California SWP is the largest estuary on the West Coast of the Americas and supports a vast number of fish, birds, reptiles, and mammals, including the

³ http://communityvitalsigns.org/

⁴ Source: U.S. Census Bureau American Fact Finder 2009-2013.



endangered Southwestern Willow Flycatcher and Least Bell's Vireo. Unnecessary draws on SWP Waters contribute to the risk factors facing this fragile and important ecosystem. Any water that is not drawn from the SWP to replenish the Mojave River Groundwater Basin contributes to efforts to protect the water and habitat for federally listed threatened or endangered species. In addition, the AVWRP is expected to replace irrigation source water from the VVRWA, which discharges to Mojave River. By eliminating this draw on the VVRWA, more water will be replenished to the Mojave River, thus doubly contributing to the protection of this native ecosystem.

Economic impacts. One of the proposed project sites, the Apple Valley Golf Course (previously the Apple Valley Country Club), was originally slated to close due to the excessive cost and drain on vital water resources needed to irrigate its 100 turf acres which, in turn, could have created a drastic decrease in property values in the area. The Town bought the property with the intention of using recycled water to maintain the course and make the course open to the public.

Exhibit 10: Growth Projections

AVRWC Projected Population Estimates ⁵										
2010	2015*	2020	2025	2030	2035					
62,602	68,765	74,927	82,420	89,912	97,405					

*The Town population has already surpassed predicted 2015 numbers.

And finally, the Apple Valley service area is expected to increase by at least 26,000 people in the next 20 years. Water demands are expected to increase as the population grows. The AVRWC estimates that in 2035, potable water demands from the Town of Apple Valley will range from 23,462 AFY – 25,808 AFY, an increase of at least 9,072 AFY from 2014 numbers. The use of reclaimed water will help address this need. Significant potable water savings will be realized from utilizing reclaimed water to meet the Town's municipal irrigation and some industrial needs. This would reduce the need for the more costly water from the SWP, and help preserve the overdrawn supplies in the groundwater basin. Additionally, because reclaimed water originates from the community's wastewater, it is a predictable source that will provide a dependable water supply far into the future.

⁵ Apple Valley Ranchos water Company 2010 Urban Water Management Plan.



Evaluation Criterion D—Project Implementation

	Exhibit 11: Proj	ect S	ched	ule									
Apple	Valley Desert Water Reuse Project												
Assun	nes grant contracts in June 2016; Project begins July	1, 2	016			1				1			
Task	Timeline	Cal	enda	r Yea	ır	Cal	enda	r Yea	ar	Cal	enda	r Yea	ır
No.		201	.6 Qu	iartei	rs	201	17 Qi	iarte	rs	201	.8 Qu	arte	rs
	Major Project Tasks	1	2	3	4	1	2	3	4	1	2	3	4
1	Project Administration												
1.1	Grant Award and Fully Executed Grant Agreement												
	Grant Administration (expected to commence												
1.2	July 1, 2016, with project close-out June 30, 2018 – 25 months)												
1.3	Submit Request for Reimbursements												
1.4	Submit progress reports required by grant agreement												
1.5	Complete final report and final payment request												
	Project Close-out/Final Payment anticipated												
1.6	from BOR (25 months from date Grant												
	Agreement executed)												
1.7	Records Retention (3 years after final payment is made by BIR)												
2	Planning Design and Permitting												
2.1	Complete Facilities Plans for proposed project interties												
	Facilities Design is complete (AVWRP is under												
2.2	construction and scheduled to open summer												
	2017)												
2.3	Obtain construction permit.												
2.4	CEQA research and documentation development												
	(MND or ND assumed)												
3	Construction												
3.1	Request for Proposals from potential contractors												
3.2	Execute agreement with selected contractor												
3.3	Construction Management												
3.4	Mobilization												



Apple Assun	Valley Desert Water Reuse Project nes grant contracts in June 2016; Project begins July	1, 20	016										
Task	Timeline	Cal 201	enda .6 Qu	r Yea Iarte	ır rs	Cal 201	enda 17 Qı	r Yed Jarte	ır rs	Calendar Year 2018 Quarters			ır rs
<i>NO.</i>	Major Project Tasks	1	2	3	4	1	2	3	4	1	2	3	4
3.5	Grading and Earthwork for removal, replacement, or construction of recycled water lines, backflow prevention, and coupling												
3.6	Connect irrigation water mains from existing recycled water lateral lines to five project sites												
3.7	Install Recycled Water Meters at five project sites												
3.8	Convert irrigation pump station at golf course to recycled water use												
3.9	Install new reclaimed "purple pipe" at Civic Center site												
3.10	Install recycled water signage and identification tags												
4	Monitor Water Usage												
4.1	Develop monthly tracking reports (using recycled water meter data) for water usage for irrigation at five project sites												
Proje	ct completion and grant close out expected within 2	5 mo	onthe	s of g	rant	exec	utior	n, or	by Ju	ne 2	018.		

Permitting. The Town will identify and complete any environmental (CEQA and NEPA) work necessary for the reclaimed water retrofits proposed. The Town will obtain all required permits needed to proceed with construction. A resolution indicating support for the project was presented to the Town Council at the March 22, 2016, Town Council meeting; an approved and signed resolution is included with this application. The Town will investigate potential legal or institutional obstacles to the implementation of the proposed project. In addition, the Town will examine the agreements needed with other agencies that may be impacted by the irrigation system reclaimed water retrofits, repurposing existing pipelines and the installation of new reclaimed "purple pipe" interties.

Engineering and design work. The Facilities Planning and Facilities Design work for the proposed project is currently in development and will be complete before project start date.

New policies. Not applicable. The Town will follow all necessary requirements related to the use of reclaimed water including signage and other notices in areas the reclaimed water will be used.



Evaluation Criterion E-Nexus to Reclamation

There is a strong nexus between the project and Reclamation activities including:

2004: Reclamation was involved in developing the Mojave Region IRWMP along with the MWA and the Town of Apple Valley

2014: Reclamation provided funds to the Victor Valley Wastewater Reclamation Authority (VVWRA) to construct two sub-regional water reclamation plants (including the one in Apple Valley) to recharge the groundwater basin and serve recycled water customers in the city of Hesperia and the Town of Apple Valley.

Currently: Mojave Water Agency imports water from the California SWP (Reclamation project and property) to recharge the Mojave River Basin. The proposed project will also help recharge the basin and provide benefits to Reclamation projects areas. As stated above, the MWA is a strong supporter of Apple Valley's goal of utilizing recycled water for irrigation, thus reducing the Town's reliance on SWP water supplies.

Performance Measures:

Monitoring performance. The Town of Apple Valley has current baseline water usage for the project's proposed five sites and total imported potable water purchased from Liberty Utilities. Once the project is completed, there will be recycled water meters at each site to monitor recycled water usage. The Town will take monthly recycled water readings from the on-site meters and will also track imported water usage from Liberty Utilities to conduct monthly assessments reporting actual usage and savings. Apple Valley will be able to track all recycled water usage as new systems are implemented in the future.

End 19-page Technical Proposal



Environmental and Cultural Resources Compliance

Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

The project will require minimal earth-disturbing work at four of the five sites. The Civic Center site will require more extensive earth-disturbing work to install new reclaimed "purple pipe." The water lines that will be used for recycled water irrigation are already in existence and will only require retrofitting. There will be some dust and soil impacts during the time that the system will be converted. Large trucks and equipment will be advised to follow established roads and parking areas and avoid idling to keep environmental impacts at a minimum. The Town's Planning staff has determined the project will require a CEQA (California Environmental Quality Act) Mitigated Negative Declaration, which will be prepared by Town staff.

- Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project? There are no known species listed as a Federal threatened or endangered species in the project area.
- Are there wetlands or other surface waters inside the project boundaries that
 potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please
 describe and estimate any impacts the proposed project may have.
 There are no wetlands or other surface waters inside the project boundaries.
- When was the water delivery system constructed? The main pipeline that will transfer the reclaimed water was originally installed as a sewer main in 1991. It will be sanitized and repurposed as a reclaimed water main to carry the reclaimed water from the new sub regional scalping plant to the golf course percolation ponds.
- Will the proposed project result in any modification of or effects to, individual features
 of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those
 features were constructed and describe the nature and timing of any extensive
 alterations or modifications to those features completed previously.
 The proposed project will not result in any modification of individual features of a canalbased irrigation system such as headgates, canals, or flumes.
- Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your



local Reclamation office or the State Historic Preservation Office can assist in answering this question.

There are no buildings, structures, or features in the proposed project area that are listed or eligible for listing on the National Register of Historic Places.

- Are there any known archeological sites in the proposed project area? There are no known archeological sites in the proposed project area.
- Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

No. In fact, the proposed project will have a highly positive effect on all residents of the Town of Apple Valley and its surrounding areas including low income and minority populations. The project will ensure the sustainability of five of the Town's important green spaces.

• Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

No, the project will not have any impacts on sacred sites or tribal lands.

Will the proposed project contribute to the introduction, continued existence, or spread
of noxious weeds or non-native invasive species known to occur in the area? Note, if
mitigation is required to lessen environmental impacts, the applicant may, at
Reclamation's discretion, be required to report on progress and completion of these
commitments. Reclamation will coordinate with the applicant to establish reporting
requirements and intervals accordingly.

The proposed project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species.



Existing Drought Contingency Plans

The Mojave Region Integrated Regional Water Management Plan

The Mojave Region Integrated Regional Water Management Plan was adopted in June 2014. A link to the full plan can be found at http://www.mywaterplan.com/irwm-plan-documents.html. The importance of recycled water is cited on pages 3 9-10 and 3 27-29 and are reproduced below.

3.2.4 Recycled Water

While Mojave Water Agency (MWA) does not have the authority to determine how or where recycled water is used in the Region, all the local water agencies within the Mojave Region share many issues related to local and regional water supplies. Wastewater agencies that collect and treat wastewater within the Region share a common interest in maximizing the beneficial uses of treated wastewater. Wastewater is also imported to the Mojave Basin Area from several agencies as discussed in Section 3.2.2.4. This section simply identifies existing and projected wastewater flows by the wastewater agencies within the Region, and potential opportunities for the use of recycled water. Such use could serve to augment the overall water portfolio of the Mojave Region. The possible treated wastewater/potential recycled water flow projected to be available is shown in Table 3-8.

Table 3-8 Treated Wastewater/Potential Recycled Water Summary							
			Flow	s (afy)			
Agency	2010	2015	2020	2025	2030	2035	
City of Adelanto	2,800	4,481	8,177	12,322	19,042	19,042	
City of Barstow	2,240	2,464	2,688	3,025	3,249	3,249	
Victorville Water District	1,232	2,800	2,800	2,800	2,800	2,800	
Victor Valley Wastewater Reclamation Authority	14,450	16,578	19,042	21,843	24,979	28,564	
Helendale Community Service District	672	784	784	896	896	1,008	
Hi-Desert Water District	0	0	1,863	2,604	2,737	2,876	
Marine Corps Logistics Base	112	112	112	112	112	112	
Total	21,506	27,219	35,466	43,602	53,815	57,651	

3.4.4 Water Quality Considerations for Recycled Water Use

The SWRCB adopted a statewide Recycled Water Policy (Policy) on February 3, 2009 to establish uniform requirements for the use of recycled water. The purpose of this Policy is to increase the use of recycled water from municipal wastewater sources in a manner that implements state and federal water quality laws. The Policy states that salts and nutrients from all sources,



Apple Valley Desert Water Reuse Project BOR WaterSMART: Drought Resiliency Project Grants 2016 Attachment 3: Existing Drought Contingency Plans

including recycled water, should be managed on a basin wide or watershed wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses. The SWRCB finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional salt and nutrient management plans rather than through imposing requirements solely on individual recycled water projects. Salt and nutrient plans must include a basin/sub basin wide monitoring plan that specifies an appropriate network of monitoring locations. The monitoring plan should be site specific and must be adequate to provide a reasonable, cost-effective means of determining whether the concentrations of salt, nutrients and other constituents of concern as identified in the salt and nutrient management plans are consistent with applicable water quality objectives. A Salt and Nutrient Management Plan has been prepared concurrently with this update to the IRWM Plan.

3.4.5 Wastewater and Recycled Water Quality

Table 3-13 identifies the local water, wastewater, imported wastewater, and planning agencies that are within the Mojave Region and could potentially have a role in any recycled water activities. Local water agencies within the Region share many issues related to local and regional water supplies. Wastewater agencies that collect and treat wastewater within the Region share a common interest in maximizing the beneficial uses of treated wastewater. Wastewater is also imported to the Mojave Basin Area from several agencies as shown in Table 3-13. In addition, various land use planning agencies with general land use plans are included because they will coordinate where future growth is to occur. Wastewater discharges in the Region consist of land application. For wastewater treatment plants that rely on land disposal, wet weather can increase soil saturation and decrease percolation rates, thereby leading to unintentional wastewater discharges.

Table 3-13Participating Agencies in Recycled Water								
Water Agencies	Wastewater Agencies	Imported Wastewater Agencies	Planning Agencies					
City of Adelanto	City of Adelanto	Lake Arrowhead CSD	City of Adelanto					
Golden State Water Company - Barstow	City of Barstow	Big Bear Area Regional Wastewater Agency	City of Barstow					
Helendale Community Services District (CSD)	Helendale (CSD)	Crestline Sanitation District (SD)	City of Hesperia					
Hesperia Water District	Marine Corps Logistics Base (MCLB)		City of Victorville					
Hi-Desert Water District	Victor Valley Wastewater Reclamation Authority (VVWRA)		San Bernardino County Department of Public Works and Flood Control					
Joshua Basin Water District			San Bernardino County Planning Department					
San Bernardino County Service Areas 42 and 64			Town of Apple Valley					
Victorville Water District			Town of Yucca Valley					



The California State Water Plan

The importance of recycled water is also listed in the California State Water Plan Volume 3: Resource Management Strategies, Chapter 12: Municipal Recycled Water. Volume 3 can be found at <u>http://waterplan.water.ca.gov/docs/cwpu2013/Final/Vol3 Ch12 Municipal-Recycled</u> <u>Water.pdf</u>. The Plan pages 12 23-24 stating benefits of the use of recycled water in California are reproduced below.

Potential Benefits. Water recycling provides many benefits to local and statewide water supply reliability. Municipal recycled water increases local supplies, supports drought preparedness, supports climate change mitigation and adaptation strategies, provides environmental benefits, and can reduce energy consumption by lowering dependence on imported supplies.

Local Supply. Municipal recycled water has the advantage of being locally generated and reused. The availability of additional local supplies can provide resource-limited communities with additional options for meeting water supply demands. Areas with constrained or declining groundwater supplies or heavy dependence on imported water may realize significant benefit from appropriate reuse of treated municipal wastewater. Recycled water may provide more cost-effective water self-sufficiency options than other resource development alternatives. It can also provide additional water resources to address increased demands from population growth.

Drought Preparedness. Establishing recycled water capacity provides a more reliable water supply resource for water managers to access during drought cycles. Municipal recycled water as a water supply has less variability than traditional resources because domestic water disposal continues even during droughts. Wastewater production will decrease during a drought as households and commercial and industrial facilities conserve, but some wastewater generation will still occur.

Climate Change. Climate change is expected to increase atmospheric temperatures, resulting in a more variable precipitation regime and declining snowpack (California Department of Water Resources 2008). Consequences of the warming climate are anticipated to increase water demand for urban, agricultural, and environmental uses, with a concurrent reduction in water supply availability and reliability.

Municipal recycled water can support climate change adaptation by contributing to sustainability for urban water supplies facing changing climate conditions, particularly where local water supplies are limited. Recycled water can support climate change planning as a source of water for groundwater recharge, surface reservoir augmentation (not currently occurring in California, but occurring in other parts of the country), and salinity barriers for coastal aquifers. Although recycled water supplies can be affected by drought and increased conservation, the fluctuation is usually lower than other resources and is considered to be less sensitive to temperature and precipitation variation expected with climate change.



Apple Valley Desert Water Reuse Project BOR WaterSMART: Drought Resiliency Project Grants 2016 Attachment 3: Existing Drought Contingency Plans

Energy Savings. Wastewater treatment serves two functions — it makes the water suitable for discharge to the environment and then makes it suitable for beneficial use. When projects are analyzed, treatment energy is allocated to the two functions. Wastewater treatment — and its required energy and GHG emissions — to protect the environment are allocated to pollution control. Any additional treatment necessary to enable the water to be used beneficially is allocated to water supply. When recycled water is used as a water supply source, the energy required above that required for discharge plus the energy for distribution, is the allocation that would be compared for evaluation and comparison of alternative water supply options.

Implementing municipal water recycling could reduce energy consumption, which may also support California's climate change mitigation efforts. The water sector uses a significant amount of energy to convey water from its source to its use. The State Water Project uses two-three percent of the energy consumed in the state and is the single largest user of energy in California (Natural Resources Defense Council 2004). Water recycling can provide a lower-energy source of local water compared with importing water from other regions and desalination of ocean water or brackish waters. Energy savings are greatest when recycled water is used in close proximity to wastewater treatment sources and when additional treatment is not required beyond the treatment needed for wastewater disposal.

Wastewater generally is required to be treated to at least a secondary treatment level before it can be released to the environment. However, in many cases, tertiary treatment of wastewater discharge is required to protect public health or the environment. Recycled water used for most urban applications requires tertiary treatment, which requires a greater amount of energy to produce and, therefore, produces more greenhouse gases (GHG). GHG savings can be realized in two ways — first, not overtreating water that can be beneficially reused at lower levels of treatment, and second, reusing water beneficially that does not have downstream flow requirements. When tertiary treatment is already required for discharge, to take the further step to recycle the wastewater for urban uses, it is necessary only to install infrastructure to convey the recycled water to end users.

Energy savings realized by implementing a recycled water project depend on multiple factors, including the source of the water offset by the recycled water, the amount of increased treatment above that already required for disposal needed to reuse the water, and distance to the point of recycled water use. Research is also ongoing to develop lower-energy recycling methods, which would in turn reduce the GHG generation during the water recycling process. Overall, it is assumed that implementing recycled water would provide an energy use benefit by developing local resources versus importing fresh water. This energy use benefit would also be realized by considering "fit for purpose" in recycled water use planning and by avoiding treating water to a higher level than is necessary for its planned reuse, thus improving energy resource efficiency.



Apple Valley Desert Water Reuse Project BOR WaterSMART: Drought Resiliency Project Grants 2016 Attachment 4: Required Permits or Approvals

Required Permits or Approvals. The Town will identify and complete any environmental (CEQA and NEPA) work necessary for the reclaimed water retrofits proposed. The Town will obtain all required permits needed to proceed with construction. A resolution indicating support for the project was presented to the Town Council at the March 22, 2016, Town Council meeting; an approved and signed resolution is included with this application. The Town will investigate potential legal or institutional obstacles to the implementation of the proposed project. In addition, the Town will examine the agreements needed with other agencies that may be impacted by the irrigation system reclaimed water retrofits, repurposing existing pipelines and the installation of new reclaimed "purple pipe" interties.



Letters of Support

- 1. Mojave Water Agency
- 2. Victor Valley Wastewater Reclamation Authority
- 3. Senator Dianne Feinstein
- 4. Representative Paul Cook



<u>13846 Conference Center Drive</u> Apple Valley, California 92307 Phone (760) 946-7000 Fax (760) 240-2642 www.mojavewater.org

April 1, 2016

Mr. Frank Robinson, Town Manager Town of Apple Valley 14955 Dale Evans Parkway Apple Valley, CA 92307

RE: WaterSMART: Drought Resiliency Project Grants Program

Dear Mr. Robinson:

On behalf of the Mojave Water Agency (MWA), I am pleased to support Apple Valley's application to the Bureau of Reclamation's WaterSMART: Drought Resiliency Project Grants program to help fund the Town's efforts to implement the Apple Valley Recycled Water Project. This project will help manage water resources to meet future demands and will reduce the use of precious potable water when irrigating important green spaces.

The MWA is a state water contractor and partner with the Town of Apple Valley. MWA encompasses approximately 4,900 square miles of the High Desert in San Bernardino County and receives water from the State Water Project via the California Aqueduct and from the Mojave River Basin. Imported water supply is crucial to the area's survival, because local aquifers have been in overdraft since the early 1950's. For the past four decades, residents have been using more water than is replaced naturally. The MWA actively seeks sources of water, including supplemental water, and to deliver that water in the most effective manner. In 2014, we adopted the Mojave Integrated Regional Water Management (IRWM) Plan to manage all aspects of water resources in the region, and set a vision for the next 10-plus years of water management in the High Desert.

The MWA is pleased to be a partner with Apple Valley and applauds its efforts to reduce the use of potable water and implement recycled water infrastructure for irrigation purposes. We hope the Bureau of Reclamation agrees to approve your application.

Sincerely,

Kirby Brill General Manager



Victor Valley Wastewater Reclamation Authority

A Joint Powers Authority and Public Agency of the State of California 20111 Shay Road, Victorville, CA 92394 Telephone: (760) 246-8638 Fax: (760) 246-2898 e-mail: mail@vvwra.com

April 1, 2016

Mr. Frank Robinson, Town Manager Town of Apple Valley 14955 Dale Evans Parkway Apple Valley, CA 92307

RE: WaterSMART: Drought Resiliency Project Grants Program

Dear Mr. Robinson:

On behalf of the Victor Valley Wastewater Reclamation Authority (VVWRA), I am excited to support Apple Valley's application to the Bureau of Reclamation's WaterSMART: Drought Resiliency Project Grants program for grant monies to help fund the Town's efforts to implement the Apple Valley – Recycled Water project. The project will support the VVWRA goals of recharging groundwater supplies to the Mojave River Basin and to reduce the use of potable water for use in irrigation and industry.

VVWRA was originally formed by the Mojave Water Agency to help meet the requirements of the federal Clean Water Act and provide wastewater treatment for the growing area. VVWRA is a Joint Powers Authority, with a service area of 216 square miles, including the communities of Victorville, Hesperia, Apple Valley, and the San Bernardino County Service Areas of Spring Valley Lake and Oro Grande. We work closely with sub-regional water recycled water treatment facilities and currently treat nearly 13 million gallons of wastewater every single day.

The proposed project will utilize reclaimed water from the forthcoming Apple Valley Water Reclamation Plant (AVWRP) at five designated sites and retrofit the existing irrigation systems at each site from potable to reclaimed water, including one irrigation pump station. This will allow customers the opportunity to utilize reclaimed water for irrigation and other approved purposes, rather than more costly, and scarce potable water. The ultimate goal of the project is to provide reclaimed water to reduce dependence on imported water supplies. VVWRA estimates that retrofitting these sites for reclaimed water could save the Town 1 million gallons per day of potable water, equating to 1,120 acre feet per year (AFY).

We understand that recycled water is a valuable resource and we look forward to working with the Town to make the most of this opportunity.

Sincerely,

Logan Olds General Manager



SELECT COMMITTEE ON INTELLIGENCE - VICE CHAIRMAN COMMITTEE ON APPROPRIATIONS COMMITTEE ON THE JUDICIARY COMMITTEE ON RULES AND ADMINISTRATION

Hníted States Senate WASHINGTON, DC 20510-0504 http://feinstein.senate.gov

April 5, 2016

The Honorable Barb Stanton Mayor Town of Apple Valley 14955 Dale Evans Parkway Apple Valley, California 92307

Dear Mayor Stanton:

I write in support of the Town of Apple Valley's reclaimed water delivery infrastructure project. By using reclaimed water, this drought resiliency project will allow the Town to better manage water resources and decrease the demand for potable water.

This grant would allow Apple Valley to install a water pipeline that connects the city to its new subregional water reclamation plant. Expected to be completed by the summer of 2017, this project is estimated to produce approximately 1,120 acre feet of potable water per year, water that is currently used to irrigate a municipal golf course, local parks, and a school campus.

Accelerating the use of reclaimed water in this high desert region is of critical importance. This historic drought has only further highlighted the necessity of ensuring alternative water supplies. This is especially true for Apple Valley, given that the Mojave River Groundwater Basin is the Town's only source of potable drinking water. This proposed water reclamation project will not only improve the reliability of the Town's water supply, but it will also help to maintain important urban green spaces.

Thank you in advance for your consideration of the Town of Apple Valley's application. If you have any questions, please feel free to contact my San Francisco office at (415) 393-0707.

Sincerely,

Dianne Feinstein United States Senator

Congress of the United States House of Representatives Mashington, DC 20515–0508

March 30, 2016

The Honorable Barb Stanton, Mayor Town of Apple Valley 14955 Dale Evans Parkway Apple Valley, CA 92307

RE: Apple Valley - Recycled Water Project

Dear Mayor Stanton:

It is my pleasure to support the Town of Apple Valley in its pursuit of a grant award to implement a recycled water program. I understand the proposed project will retrofit five sites to allow for use of recycled water for irrigation. This will undoubtedly reduce imported potable water usage in irrigation and represents the first step in increasing the use of recycled water for better management of valuable water resources.

As a member of the House Committee on Natural Resources, I understand the importance of utilizing new water sources to help improve efficiencies in the management of our most precious resource, particularly here in Southern California. The proposed recycled water project is estimated to save the Town 1 million gallons of potable water per day. This is no insignificant achievement and I applaud your leadership in making this project come to fruition.

I support Apple Valley's application for grant funding to help conserve water resources in the 8th Congressional District. Please keep me abreast of any developments with this grant application. I may be reached at (760) 247-1815.

Sincerely.

Col. Paul Cook (Ret.) Congressman, 8th District of California



A Better Way of Life

I HEREBY CERTIFY that the attached copy of Resolution Number 2016-13, to which this certificate is attached, is a full, true, and correct copy of the original record maintained in my office, which was duly adopted by the Town Council of the Town of Apple Valley on March 22, 2016.

Dated this 24th day of March, 2016.

LA VONDA M-PEARSON, CMC OFFICE OF THE TOWN CLERK TOWN OF APPLE VALLEY

Yvonne Rivera, Deputy



By:

RESOLUTION NO. 2016-13

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF APPLE VALLEY, CALIFORNIA, APPROVING THE APPLICATION FOR GRANT FUNDS TO IMPLEMENT THE USE OF RECLAIMED WATER FOR IRRIGATION AT FIVE TOWN SITES UNDER THE WATERSMART: DROUGHT RESILIENCY PROJECT GRANT PROGRAM

WHEREAS, the President of the United States and the United States Department of the Interior have provided funds for the WaterSMART Program; and

WHEREAS, the Bureau of Reclamation has been delegated the responsibility for the administration of this grant program, establishing necessary procedures; and

WHEREAS, said procedures established by the Bureau of Reclamation require a resolution certifying the approval of application(s) by the applicant's governing board before submission of said application(s); and

WHEREAS, the applicant, if selected, will enter into an agreement with the Bureau of Reclamation to carry out the development of the proposal.

NOW THEREFORE, BE IT RESOLVED by the Town Council of the Town of Apple Valley as follows:

- 1. Approves the filing of an application for the WaterSMART: Drought Resiliency Project Grant Program by the Town of Apple Valley, requesting up to \$300,000 in funding support for the implementation of a reclaimed water project; and
- 2. Appoints the Town Manager of Apple Valley or his designee, to act as agent with legal authority to enter into the grant agreement, conduct all negotiations, execute and submit all documents including, but not limited to, applications, agreements, payment requests and any other grant required correspondence which may be necessary for the completion of the grant program; and
- 3. Certifies that the Town of Apple Valley has sufficient funds available to provide 50% of the total project costs as matching funds/in-kind contributions; and
- 4. Certifies that the Town Council of the Town of Apple Valley has reviewed and supports the proposed application; and
- 5. Certifies that the Town of Apple Valley will work with the Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

APPROVED and **ADOPTED** by the Town Council of the Town of Apple Valley this 22nd day of March, 2016.

Scott Nassif, Mayor/Pro Tem

ATTEST: La Vonda M-Pearson, Town Clerk

Town of Apple Valley Resolution No. 2016-13

STATE OF CALIFORNIA

COUNTY OF SAN BERNARDINO

TOWN OF APPLE VALLEY

I, LA VONDA M-PEARSON, Town Clerk for the Town of Apple Valley, Apple Valley, California, do hereby certify that Resolution No. 2016-13, duly and regularly adopted by the Town Council at a meeting thereof held on the 22nd day of March, 2016 by the following vote:

AYES: Council Members Emick, Cusack, Mayor Pro Tem Nassif.

NOES: None.

ABSTAIN: None.

ABSENT: Council Member Bishop, Mayor Stanton.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Town of Apple Valley, California, this 23rd day of March, 2016.

LA VONDA M-PEARSON, CMC TOWN CLERK

By:

Yvonne Rivera, Deputy

(SEAL)

