



JORDAN VALLEY WATER
CONSERVANCY DISTRICT

Turnkey Water Conservation Programs:

Flip Your Strip, Landscape Consultations, & Switch2Drip

Jordan Valley Water Conservancy District
8215 South 1300 West, West Jordan, Utah 84088

Program Manager: Courtney Brown
courtneyb@jvwcd.org
801-565-4399



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Executive Summary

April 24, 2017

Jordan Valley Water Conservancy District
West Jordan, Salt Lake, Utah

Project Summary:

Jordan Valley Water Conservancy District (JVWCD) is requesting funding to implement turnkey water conservation programs throughout its service area. Because 93 percent of JVWCD's water is delivered to Salt Lake Valley residents through cities and improvement districts (member agencies), turnkey programs will allow JVWCD to more effectively promote water conservation and manage its water supplies. The request for this funding is in response to JVWCD's 2014 conservation plan update and is based on feedback indicating that most member agencies lack the staff, time, and expertise needed to implement effective conservation programs on their own. Funding for turnkey programs (see project description on page 3) will allow JVWCD to implement water conservation programs on behalf of its member agencies as well as within its own retail area.

Project Length and Completion Date:

JVWCD will use funds from this grant to supplement its program budget through FY2019.

Federal Facilities:

This project is not located on a Federal facility.

Background Data

Source of Water Supply:

JVWCD's water comes from the Provo, Weber, and Duchesne rivers, local Wasatch streams, and groundwater in the Salt Lake Valley. Much of this water is supplied by Federal water projects including the Central Utah Project (CUP), Provo River Project (PRP) and Weber River Project (WRP).

Quantity of Water Supply Managed:

JVWCD manages and supplies 133,983 acre-feet of water.

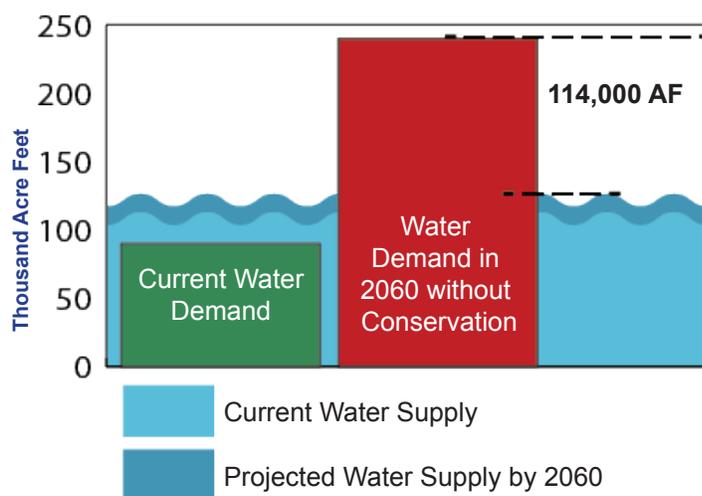
Current Water Uses:

JVWCD's water primarily supports residential and commercial potable use within Salt Lake County; however, JVWCD also delivers untreated water to irrigators in Salt Lake and Utah Counties to meet commitments under irrigation exchanges.

Water Users Served:

JVWCD serves a total population of approximately 682,000.

Current and Projected Water Demand:



Potential Shortfalls in Water Supply:

Utah's population is expected to double by the year 2060, but our water supply won't. Experts estimate that Utah will face water shortages as soon as 2040.

Total Length of Distribution Lines:

The approximate length of JVWCD's distribution lines is 335 miles.



Number and Sizes of Storage Tanks:

JVWCD has 30 storage facilities: 11 steel storage tanks ranging from 1MG to 8MG capacity and 19 concrete reservoirs ranging from 1MG to 100 MG capacity.

Number of Pump Stations and Capacities:

JVWCD operates 14 pump stations ranging from a capacity of 4 to 49 cubic feet per second.

Past Working Relationships with Reclamation:

2016: Grant from Reclamation to support JVWCD's Park Strip Replacement Program

JVWCD rebated residents for replacing lawn park strips with water efficient designs.

2014: Grant from Reclamation to help fund JVWCD's Conservation Plan Update

JVWCD updated its official water conservation plan as required by section 73-10-32 of Utah Code.

2011: Grant from Reclamation to support JVWCD's Water Check Program

Program offered house visits to residents to examine water usage and provide individualized watering recommendations.

2010: Grant from Reclamation to support JVWCD's Member Agency Grant Program

Program provided funds to water providers within JVWCD's service area to promote water conservation.

2006: Grant from Reclamation for Expansion of Conservation Garden Park

Using grant funds, JVWCD expanded its water conservation demonstration garden to include an Education Center where water conservation classes are taught.

2004: Grant from Reclamation to fund a Public Information Campaign

Reclamation helped fund a public water conservation campaign. The campaign included Garden fairs, printed materials, and the promotion of water conservation classes.

2002: Grant from Reclamation to fund a Public Information Campaign

Reclamation helped fund a public water conservation campaign. The campaign included Garden fairs, printed materials, and the promotion of water conservation classes.

1999: Grant from Reclamation for a Water Check Program

Program offered house visits to residents to examine water usage and provide individualized watering recommendations.



Project Description

Project Need:

Utah's population is expected to double in less than 30 years, but water supplies won't—and despite statewide campaigns and advertising efforts, only 20 percent of Utahns have made an effort to reduce water use in the past five years (iUtah, 2014). As a regional water provider, JVVCD must plan for the state's future water needs and recognizes that finding ways to help Utahns use water efficiently is becoming increasingly important.

Why Turnkey Programs?

Because 93 percent of JVVCD's water is delivered to end users through its member agencies, collaboration on water conservation efforts is critical. For several years, JVVCD has offered water conservation grants of \$50,000 to help member agencies fund meaningful water conservation-related activities, projects and programs—but money hasn't been enough. Feedback on JVVCD's grant program indicated that most member agencies do not have staff dedicated to water conservation and often lack the time and expertise needed to implement effective conservation programs.

To address this problem, JVVCD's 2014 water conservation plan update recommended expanding the member agency grant program to include turnkey options (programs developed and implemented by JVVCD on behalf of its member agencies). Using the turnkey approach, member agencies choose which of the offered programs are most appropriate for their service area, designate the amount of their grant funding to allocate to a particular program, and then allow JVVCD to implement the program on their behalf.

The turnkey approach will offer many benefits including the following:

- Member Agencies can select program(s) most

appropriate for their service areas.

- Large-scale implementation of programs will extend the reach of JVVCD's water conservation efforts and provide greater economies of scale.
- Programs will be vetted by JVVCD's staff and board prior to implementation.
- Member agency application and approval processes will be streamlined.
- Program expertise will be provided by JVVCD staff.

What Turnkey Options will be Offered?

JVVCD will offer the following turnkey options:

- Flip Your Strip
- Landscape Consultations
- Switch2Drip

1. Flip Your Strip (Park Strip Program)

Park strips are one of the largest water wasters in residential landscapes but can also be one of the easiest places to begin a transition to a more Utah-friendly yard. In this program, participants will receive a rebate of \$1.00 per square foot for converting their park strip from lawn to a water-efficient design. Those who attend a free park strip conversion class will receive \$1.25 per square foot.

Program Effectiveness:

Park strips typically use an isolated sprinkler zone and have little impact on other elements of a landscape—making them a good place to remove lawn. Plus, overhead sprinklers are not efficient in areas less than eight feet wide, so park strips with water-efficient designs and drip irrigation will save 5,000 to 8,000 gallons of water every year.

Program Overview:

- Participants will apply for Flip Your Strip on Utahwatersavers.com, a new website created specifically for this project (see page 11).



- Prior to each park strip conversion, JVVCD will measure and photograph the grass area to be removed. During this visit, homeowners will receive an information packet with installation and maintenance requirements.
- Pre-planned park strip designs will be available for homeowners to use in their conversion. This will help ensure that converted park strips are aesthetically pleasing and functional.
- All park strips will be required to have at least 60 percent low-growing plant coverage and may only use low-volume drip systems for irrigation.
- New park strips must be installed in accordance with local landscape codes.
- Each participant will sign an agreement stating that their park strip was installed in accordance with local landscape codes and ordinances.
- Participants who complete their park strip conversion will receive a rebate in the mail.

2. Landscape Consultations:

More than 60 percent of Utah's drinking water is used to sustain landscapes, many of which are not designed to grow here. Experts estimate that as much as 50 percent of water wasted outdoors is caused by inefficiencies in irrigation methods and systems. Free landscape consultations will provide personalized guidance to homeowners wanting to improve the water efficiency of their sprinklers and landscape. During a consultation, technicians will analyze each irrigation zone, address homeowner concerns, and provide education including landscape and watering recommendations.

Program Effectiveness:

A recent study in Utah shows that participants in programs like the Landscape Consultation Program use 30 percent less water in the year following the visit. During JVVCD's pilot landscape consultation program in 2016, 78 percent of those who participated were satisfied enough with the program to recommend it to

others and 90 percent of participants felt more confident in understanding their landscape's needs and how to operate their irrigation system. Ninety percent also reported that they have either implemented or plan to implement the program's recommendations.

Program Overview:

- Participants will request a free landscape consultation by visiting Utahwatersavers.com.
- Prior to the consultation, JVVCD will coordinate with member agencies to obtain water-use history for each participant.
- During the consultation, JVVCD staff will evaluate the participant's water meter, water pressure, and irrigation zones. Staff will also assess the landscape design for possible improvements.
- Participants will receive a customized watering schedule, irrigation suggestions, and recommendations for landscape improvement.
- Following the visit, JVVCD will send a summary report with final recommendations based on information gathered during the visit.

3. Switch2Drip:

Watering landscapes efficiently is one of the best ways to conserve water. One of the most common watering mistakes is using spray sprinkler systems where they are inefficient. Switch2Drip is an add-on to the landscape consultation program and offers a cash rebate of \$100 to homeowners for each existing sprinkler zone they convert to drip. Participants must receive a landscape consultation to be eligible for this program.

Program Effectiveness:

By converting existing spray sprinklers to drip irrigation, an average homeowner will save 4,000 gallons of water each year per 250 square feet. On average, drip irrigation systems are 20-40



percent more efficient than spray systems.

Program Overview:

- Participants will be made aware of the Switch2Drip program during their landscape consultation.
- If a homeowner is interested in participating in Switch2Drip, JVVCD staff will measure areas to be converted and take pictures during the landscape consultation.
- Following the consultation, participants will purchase and install drip irrigation system(s). Once the installation is complete, rebates will be mailed to participants who submit a photo of their converted area with a receipt for their drip system purchase.
- To be eligible for a rebate, spray sprinklers and drip irrigation may not be in the same zone. This may require moving heads or adding an additional valve.



E.1.1 Evaluation Criterion A

Planning Efforts Supporting the Project:

JVWCD's Conservation Plan was updated in 2014 using a grant from USBR and recommends expanding JVWCD's current member agency grant program to "include turnkey programs administered and managed by JVWCD on behalf of but including its member agencies." This recommendation came in response to feedback from member agencies that they often lack the staff, time, and expertise to implement water conservation programs. Turnkey options will make it easier for member agencies to participate in water conservation efforts within JVWCD's service area.

The specific turnkey programs being offered in this project were selected based on their cost effectiveness and ability to save water. The proposed project has been determined a priority because 93 percent of JVWCD's water is delivered to end users by its member agencies and collaboration will be critical to achieving conservation goals.

E.1.2 Evaluation Criterion B

Expected benefits and outcomes:

Water Savings:

Each turnkey program was evaluated for its cost effectiveness and potential for water savings. With grant funds from USBR, JVWCD will be able to offer more rebates and consultations than is currently budgeted.

Prolonged Available Water Supply:

If JVWCD achieves its water conservation goal of reducing per capita demand 25 percent by 2025, it can defer several water resource development projects that would otherwise need to be constructed. In addition, water supplied to JVWCD by existing federal water projects will be used more efficiently. JVWCD's supply planning

shows that water resource development projects can be deferred up to 17 years if a total of 55,000 acre-feet of water can be conserved by 2025.

Delayed Construction of New Municipal and Industrial (M&I) Water Facilities:

In addition to extending our water supply, conservation will reduce peak demands on our current systems and facilities. A reduction in per capita use will allow the existing water delivery system to meet the demands of new growth, deferring or postponing the construction of costly new infrastructure. JVWCD estimates that millions of dollars will be saved in water resource development and infrastructure costs by meeting its water conservation goal of 25 percent per capita reduction.

Increased Public Awareness:

Participants in each of the turnkey programs will learn better water management practices for their own properties. Learning how to correct inefficiencies at home will lead to better water management practices elsewhere.

Help Shape Public Policy:

Some municipalities and Home Owners Associations have ordinances that require lawn to be in park strips within their land use jurisdictions. To ensure water conservation savings from this program, it will become necessary to allow water-efficient park strips for any future residential and commercial developments. The Flip Your Strip program will provide viable and beautiful alternative park strips that could encourage policy makers to adopt appropriate landscape ordinances for Utah's arid climate.

Enhances Aquatic/Riparian Habitat:

Water conservation has a direct benefit to maintaining or even enhancing aquatic habitat since water can be left in or returned to the natural environment. Depending on the level

D.2.2.4. Evaluation Criteria



of water conservation achieved through these programs, JVVCD may continue to return a portion of its CUP Bonneville Unit water to Central Utah Water Conservancy District. These flows are used to maintain Provo River instream fishery flows and assist in recovering the June Sucker, an endangered species. JVVCD is currently turning back 6,300 AF annually.

Increased Information Sharing:

A requirement of participating in the turnkey programs is sharing water data with JVVCD. This data will allow JVVCD to better analyze the water savings that result from particular turnkey programs.

E.1.3 Evaluation Criterion C

Project Implementation Plan:

The concept of turnkey programs was presented to JVVCD's member agencies during a Conservation Action Committee meeting during March 2017. JVVCD intends to begin funding and implementing this program with the start of its new fiscal year in July of 2017. Program funding will be re-evaluated each fiscal year. Any funds received through this grant program would be used to subsidize programs through JVVCD's fiscal year 2019. An estimated project schedule is included below:

March 2017: Turnkey options are presented to JVVCD's member agencies.

March-July 2017: Member agencies determine which programs will be most effective for their service area and how funding should be used in their behalf.

July 2017-June 2018: JVVCD implements turnkey programs throughout its service area. Surveys are issued to random participants to receive program feedback. Water data is analyzed to determine short-term water savings.

July 2018-June 2019: Programs are revised

based on user feedback. Member Agencies re-select programs for their service areas.

July 2018-June 2019: Follow-up research will be conducted to see if participants from the first year are still saving water.

Required Permits:

No permits will be required for the implementation of this project.

Project Engineering and Design Work:

No engineering or design work will be performed specifically in support of this project.

Policies and Administrative Actions:

Some municipalities and Home Owners Associations have ordinances that may prevent residents from participating in certain programs. It is the responsibility of each member agency to examine its own city ordinances to determine whether it should allocate funds to a particular turnkey program.

E.1.4 Evaluation Criterion D

Project Nexus to Reclamation:

The proposed project aligns with Reclamation's mission to "meet increasing water demands of the West while protecting the environment." Conservation programs such as the proposed turnkey programs will conserve water being supplied by Reclamation water projects (CUP, PRP, and WRP), extend the remaining available capacity of Reclamation facilities such as the Jordan Aqueduct system, and defer construction of major capacity-building projects. Programs will also protect the environment by allowing more water to be left in or returned to the natural environment.

D.2.2.4. Evaluation Criteria



Will the Project Help Reclamation Meet Trust Responsibilities to any Tribe(s)?

No, this project does not address any of Reclamation's trust responsibilities with tribes.

Does the applicant receive Reclamation project water?

JVWCD is the largest petitioner of the Central Utah Project's Bonneville Unit (CUPBU) M&I water, receiving more than 50,000 acre feet (AF) annually, and a contract in place to receive an additional 21,400 AF in the next 5 years. As a major stockholder in the Provo Reservoir Water Users Company, JVWCD also receives deliveries associated with a substantial portfolio of water rights, including Deer Creek Reservoir storage rights (a Reclamation project facility constructed as part of the Provo River Project), direct flow water rights in the Provo and Weber Rivers systems, and Echo Reservoir storage rights on the Weber River (a Reclamation project facility constructed as part of the Weber River Project).

Is the project on Reclamation project lands or involving Reclamation facilities?

JVWCD operates and maintains the Jordan Aqueduct System, a Reclamation facility, on behalf of itself and the Metropolitan Water District of Salt Lake & Sandy. While proposed project activities will occur at residential homes within JVWCD's service area and not on Reclamation lands or facilities, all facilities operated by JVWCD will be affected by conservation savings.

Is the project in the same basin as a Reclamation project or activity?

Yes, JVWCD's service area receives water from several Reclamation projects including the Provo River Project, the Central Utah Project, and the Weber River Project.

Will the proposed work contribute water to a basin where a Reclamation project is located?

Yes, water conserved as a result of the proposed

Turnkey programs will remain in a basin where Reclamation provides water.

Environmental Compliance

Environmental Impact of Project:

The proposed project may include some earth-disturbing work as homeowners make modifications to their landscapes, including adjusting or changing irrigation systems, removing lawn from park strips, or planting Utah-friendly plants. Because work will only occur on already-developed properties, no impacts to historic water conveyance structures, soils, air quality, animal habitat, or endangered species are expected.

Project Impact on Threatened or Endangered Species:

There are no endangered species or critical habitats located on sites affected by the proposed project. However, water conserved through this project may be used to maintain Provo River instream fishery flows and assist in recovering the June Sucker, an endangered species.

Project Impact on Wetlands or Other Surface Waters:

The proposed project will occur on already-developed properties and will not impact any wetlands or other surface waters.

When was the water delivery system constructed?

Construction of JVWCD's infrastructure was started in 1951 and has been added to annually since then. For more details about or a timeline of construction of our delivery system, contact Megan Hatch at meganh@jvwcd.org.



Will the proposed project result in any modification of individual features of an irrigation system?

The proposed project will only result in possible modifications of residential irrigation systems on individual properties. The modifications may include adjusting watering schedules, zones, or switching from spray systems to drip.

Cultural Resources Compliance

Impact on Historic Places:

While historic sites are located within JWCD's service area, the proposed project will only occur on already-developed properties and will have no adverse effect on any building, structure or feature listed or eligible for listing on the National Register of Historic Places.

Impact on Known Archeological Sites:

There are no known archeological sites in the proposed project area.

Impact on Low Income or Minority Populations:

This project will allow any eligible resident to participate. Non-participation will not have any consequences.

Impact on Indian Sacred Sites or Tribal Lands:

No Indian sacred sites or tribal lands will be impacted by this project.

Project impact on the introduction, or spread of noxious weeds or non-native invasive species?

This program will only permit the installation of Utah-friendly plants and will discourage the spread of noxious weeds by utilizing mulch and drip irrigation to control weed spread.

D.2.2.6 Required Permits

No permits or approvals are required for this project.



JORDAN VALLEY WATER
CONSERVANCY DISTRICT

Delivering Quality Every Day

Resolution of the Board of Trustees

RESOLUTION NO. 17-08

APPROVING A WATERSMART APPLICATION FOR TURNKEY WATER CONSERVATION PROGRAMS

WHEREAS, Jordan Valley Water Conservancy District ("District") is implementing Turnkey Water Conservation Programs (the "Programs") to encourage the efficient use of water within its service area; and,

WHEREAS, the District is seeking funding assistance for its Programs from the United States Bureau of Reclamation through its WaterSMART Grants: Small-Scale Water Efficiency Projects program, as described in the District's grant application, which is attached as Exhibit A;

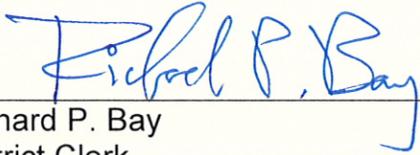
NOW, THEREFORE, BE IT RESOLVED by the Jordan Valley Water Conservancy District's Board of Trustees:

1. If the District's application is selected for funding under the Bureau of Reclamation WaterSMART Grants: Small-Scale Water Efficiency Projects program, District staff hereby are authorized and directed to negotiate with the Bureau of Reclamation for an agreement that includes the funding amounts specified in the District's grant application;
2. The General Manager hereby is authorized to execute the funding agreement described in paragraph 1 if she/he determines the agreement is in the best interests of the District.
3. This Resolution shall take effect immediately upon execution by an authorized member of the Board.

PASSED, ADOPTED AND APPROVED THIS 12TH day of April 2017.

Corey L. Rushton
Chair of the Board of Trustees

ATTEST:



Richard P. Bay
District Clerk

D.2.2.8. Funding Plan



How Non-Federal Funds will be Obtained:

Turnkey programs were included in JVVCD's 2017/2018 budget. Grant money from the US Bureau of Reclamation will allow JVVCD to increase its impact by funding more rebates and consultations than are currently available. No additional third-party funding is being sought for this project.

JVVCD's Cost Share Contribution:

JVVCD's cost share comes from budgeted water conservation funds as well as in-kind contributions of staff time.

Project Costs Incurred before the Project Start Date:

JVVCD is including development of Utahwatersavers.com, a program website, in its project costs. The total cost for the website will be \$47,000 to be paid as it is completed. This website is essential for the turnkey project because it will provide a place for residents to apply for and receive updates about rebates and programs available in their area. All turnkey programs will be listed on this site, and all applications will be made through this website.

Describe any funding requested or received from other federal partners:

No funding is being sought from other federal partners for this project.

Describe any pending funding requests that have not yet been approved, and explain how the project will be affected if such funding is denied:

No other third-party funding is being sought for this program.

FUNDING SOURCES	AMOUNT
Non-Federal Entities:	
Jordan Valley Water Conservancy District	\$74,940.75 (50 percent match)
Non-Federal Subtotal	\$74,940.75
Other Federal Entities	
Federal funding for this project is only being sought from Reclamation	
Requested Reclamation Funding	\$74,940.75



Salaries and Wages

The labor rates included in the budget proposal represent the actual labor rates of the identified personnel.

- *Conservation Programs Manager (Courtney Brown):*
The conservation programs manager is compensated at \$37.57/hour and will be responsible for overseeing JVVCD's Turnkey programs and fulfilling reporting requirements. JVVCD anticipates the conservation programs manager will spend 50 hours over the course of this project.
- *Conservation Coordinator:*
The conservation coordinator is compensated at \$24.59/hour and will implement Turnkey programs throughout JVVCD's service area. The estimated time requirements for each program are listed below:
 - Landscape Consultations:* 1.5 hours/consultation
 - Switch2Drip:* 15 minutes/rebate
 - Flip Your Strip:* 30 minutes/rebate
- *Part-Time Seasonal Staff:*
The cost for seasonal staff to assist the conservation coordinator is \$19.53/hour. Seasonal staff will accompany the conservation coordinator during landscape consultations.
 - Landscape Consultations:* 1.5 hours/consultation

Fringe Benefits

- *Conservation Programs Manager (Courtney Brown):*
The conservation programs manager receives fringe benefits at a rate of \$23.67/hour.
- *Conservation Coordinator:*
The conservation coordinator receives fringe benefits at a rate of \$19.43/hour.
- *Part-Time Seasonal Staff:*
Seasonal staff will not receive any fringe benefits.

Equipment

There is no special equipment required for this program.

Materials and Supplies

Mailing costs for each rebate will include envelopes, checks, and postage.

D.2.2.8. Budget Narrative



Contractual

JVWCD hired a contractor to build its program website. The total cost of the website will be \$47,000.

Environmental and Regulatory Compliance Costs

JVWCD does not anticipate any environmental and regulatory costs relating to this project.

Other Expenses

- *Travel:*

Travel costs include gas and vehicle maintenance needed to travel to and from conversion sites and consultations. Amounts were calculated by assuming an average of 15 miles per required visit at a rate of 54 cents per mile.

- *Rebates:*

Flip Your Strip Rebates: Participants in this program receive a rebate of \$1.00 per square for converting their park strip from lawn to a water-efficient design. Those who attend a free park strip class will receive \$1.25 per square foot. Because each rebate will vary based on the amount of lawn removed, the budget proposal was calculated using the average award amount from the 2016 Flip Your Strip program.

Switch2Drip Rebates: Participants who switch an irrigation zone from overhead spray to drip receive \$100 per zone converted.

- *Check Processing:*

For every rebate issued, JVWCD anticipates \$2.35 in administrative costs. This includes entering recipients into JVWCD's billing system, issuing the rebate, and auditing payments.

Indirect Costs

No indirect costs were included in this budget. All costs associated with the project are direct and can be documented as such.

Total Costs

The estimated total project cost is \$149,881.50 and JVWCD is requesting a 50 percent match from Reclamation. If the project does not receive federal funds, JVWCD will need to reduce the number of rebates and consultations offered.