

**Johnny Carson Park Irrigation Retrofit
400 Bob Hope Drive, Burbank, CA 91505**

Final Project Report



Agreement Number: R13AP35365
City of Burbank
150 North Third Street, Burbank, CA 91510
April 25, 2016

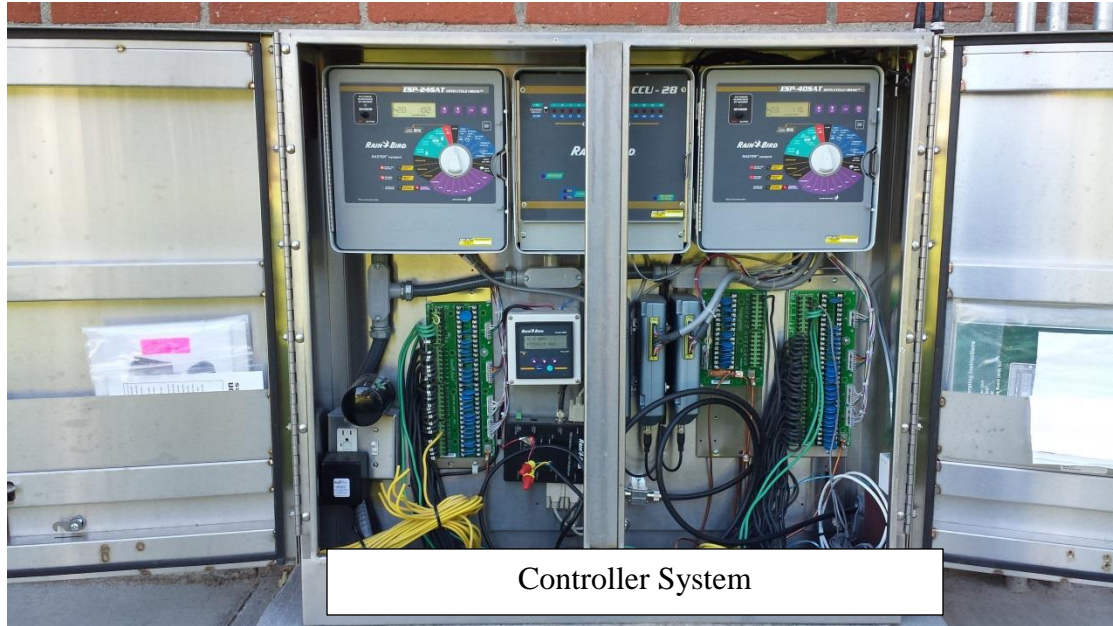
1. Recipient Information	
Recipient Name	City of Burbank
Project Name	Johnny Carson Park Irrigation Retrofit
Assistance Agreement No.	R13AP35365
Date of Award	09/2013
Estimated Completion Date	12/2015
Actual Completion Date	12/2015

2. Final Funding Information	Funding Amount
Non-Federal Entities	
1. City of Burbank Parks and Rec. Dept.	\$91,650.96
2. California River Parkway Grant (Prop 84)	\$434,811.67
3.	
<i>Non-Federal Subtotal:</i>	\$526,462.64
Other Federal Entities	
1.	\$0.00
2.	
3.	
<i>Other Federal Subtotal:</i>	
<i>Requested Reclamation Funding:</i>	\$100,000
<i>Total Project Funding:</i>	\$626,462.64

3. One Paragraph Project Summary:
<p>The Johnny Carson Park Irrigation Retrofit project will reduce potable water demands by retrofitting the antiquated and inefficient landscape irrigation system, and converting from potable water to 100% recycled water. The project supports the City's Recycled Water Master Plan and Sustainable Goals.</p>

4. Final Project Description:
<p>The City of Burbank retrofitted the existing antiquated and inefficient landscape irrigation system located at Johnny Carson Park, the City's largest and oldest park. The irrigation system was converted from potable water to 100% recycled water to serve this 8.75-acre park.</p> <p>The entire park irrigation system, including the controllers, valves, and pipelines were replaced with recycled water grade components (i.e. schedule 40 purple PVC pipe). While this may seem like a very simple conversion, regulations are very clear on steps that must be taken to ensure the public safety of those who may potentially come into contact with the recycled water, including permitting, proper and frequent signage, the coloring of all irrigation components a distinctive purple color to provide a visual indication of recycled water, and the proximity to potable water infrastructure to avoid. It is also required that all new, buried recycled water lines pressure/non-</p>

pressure) must be extruded, purple-colored Schedule 40(minimum) PVC pipe with the wording, “Caution, Recycled Water,” or similar such permanently affixed cautionary wording is an acceptable to the purple pipe, valve boxes, and exposed piping. The following photos show the new controller, piping, coverings/signage that indicates recycled water.







The recycled water used at the park is tertiary treated wastewater from the Burbank Wastewater Reclamation Facility. This water is regularly tested to meet or exceed water quality standards for recycled water and no known health hazards are presented by physical contact or through groundwater recharge for the water that percolates through the soil and into the aquifer; however, it is not approved for human consumption.

In order for the park to receive the recycled water, the Burbank Water and Power Department installed a recycled water pipeline and connection for the park, outside the scope of this agreement; however, without this pipeline, the irrigation conversion would not have been possible.

It is also worth noting that the irrigation system controller allows the Parks Maintenance Staff to remotely monitor the irrigation system and provides notices of issues to reduce unknown irrigation problems to persist for extended periods of times. This improves management of the irrigation system and the park, and reduces operations and maintenance costs.

5. Accomplishment of Project Goals:

Project Goal: Conserve 30 acre-feet of potable water annually.

The primary objectives for the proposed project were to:

- Retrofit the existing antiquated and inefficient landscape irrigation system.
- Convert the existing irrigation system from potable waterer to 100% recycled water.

The City has achieved both of these objectives, and will achieve the goal to conserve 30 acre-feet of water since the conversion of the irrigation to 100% recycled water was successful. Therefore, no potable water will be used at this park for irrigation purposes.

The project did encounter a few delays due to being part of a greater renovation project that experienced some delays, and there was also a re-engineering of the location of some of the irrigation pipelines during construction to avoid conflict with other infrastructure (i.e. potable water and existing electrical infrastructure).

The final project costs include the design, engineering, and construction management costs. The actual costs were not known at the time of the award plus, the added costs due to the change orders resulted in additional non-federal funds to complete the project.

The retrofit has greatly improved water management and conservation throughout the park with the replacement of a leaky system that often created puddles, damaging landscaping and pathways. The use of recycled water for irrigation at the park conserves 100% of the previously used potable water and allows the City to reduce demands for imported water from the State Water Project and/or from the lower Colorado River.

The secondary goal of the project was to decrease operations and maintenance costs and save energy. These savings were calculated based on reduced water rates (recycled water is cheaper than potable water); reduced operations and maintenance costs, and reduced energy costs associated with the treatment and delivery of potable water. The energy costs associated with the treatment of wastewater to supply the recycled water to the park was not included, because this cost is very small for this amount of water when considering the fact that the reclamation facility treats more than 10,000 acre-feet of recycled water annually; recycled water not distributed for reuse, is discharged to the Burbank Channel which then flows to the Los Angeles River.

The park is anticipated to open in the summer 2016; therefore, we are not able to currently quantify the actual operations and maintenance cost savings or the energy savings at this time. We are confident the calculated savings anticipated will be accurate based on calculated water conservation savings.

Staff can easily make adjustments to watering schedules and identify leaks or breaks before going to the park. Additionally, this improvement aligns with the City's Recycled Water Master Plan and Sustainability Goals.

6. Discussion of Amount of Water Conserved, Marketed or Better Managed:

- A. Recipient's total water supply per year: 24,470.67 acre feet annually as originally reported in the City's 2013 application is no longer accurate. A 5-year average of the City's water supply in 2015 shows a reduction in water supply to 21,131 acre-feet annually due to the 4-year drought and mandatory and voluntary conservation measures being implemented and restrictions to imported water.
- B. Amount of water conserved, marketed or better managed as a result of the project: The City will reduce reliance on potable water by 30-acre feet annually.
- C. Describe how the amounts stated in response to 6.B were calculated or estimated:
Describe the information/data being relied on to calculate/estimate the project benefits.
Calculations were made using a 3-year average of water use for the park from 2010-2013.
 - a. As appropriate, please include an explanation of any concerns or factors affecting

the reliability of the data/information relied on.

This project is part of a much larger renovation project; therefore, the park will not be open to the public until June/July 2016. As of the date of this report, the park irrigation was just recently initialized to test the system and begin watering the new landscaping. The estimated savings are based on the original water usage data prior to the project. The City is confident the cost saving benefits and water conservation benefits are accurate due to the fact that this project results in a 100% conversion to recycled water.

- b. Attach any relevant data, reports or other support relied on in the calculation/estimate of project benefits, if available.

Estimated savings per year in dollars: \$38,778*

- MWD Imported water: $\$847/\text{AF} \times 30 \text{ AF} = \$25,410$
- Annual Savings of Recycled Water Rate Vs. Potable Water: \$5,442
*Potentially another 20 to 40 percent in additional savings will likely be realized through the installation of an efficient irrigation system smart controller.² Assuming 30 percent of average summer usage: $6\text{AFY} \times \$1,321/\text{AF} \text{ (Summer Water Rate)} = \$7,926$

Estimated Energy Benefits:

Energy Savings: 19,560 kWh

- $652 \text{ kWh}^3 \times 30 \text{ AFY} = \text{kWh saved}$

Reduces Energy Costs –\$ 2,934

- Electricity rate: \$0.15/kWh

D. Use of Conserved Water: The City's goal is to use recycled water to reduce water demands and thereby reduce the amount of imported water supply needed. The 30 acre-feet of water saved with this project will result in an equal reduction in potable water demand, resulting in an equal reduction of imported water needed. The conserved water will reduce the amount of water imported to the City of Burbank and support greater water sustainability for the environment and for the region.

E. Future tracking of project benefits: A recycled water meter has been installed at the park site. This meter will track actual deliveries of recycled water to the park. The only potable water delivered will be for drinking water fountains and the restroom.

The benefits of this project will be tracked to show cost savings due to reduced costs of using recycled water instead of potable water and the environmental benefits. This information will be reported to the City's Sustainability Commission, Parks and Recreation Board, and/or the City Council as appropriate. The monetary savings will allow the Parks and Recreation Department to invest these funds to other services provided by the Department.

7. Discussion of Amount of Renewable Energy Added:

Renewable energy was not added as a result of this project.

8. Describe how the project demonstrates collaboration, stakeholder involvement or the formation of partnerships, if applicable:

The City of Burbank is comprised of multiple departments that work somewhat independently to best serve the needs of the community. This project required the coordination of the Parks and Recreation Department, the Public Works Department, and the Water and Power Department to design, seek funding, and manage the project. During the development of the design of the Park's renovation, the Park's Department worked closely with the community by holding multiple public workshops, managed a Facebook page, and worked with an advisory committee comprised of community members and City Council members to shape the final design. The Providence High School adjacent to the park provided the meeting rooms for all of the community meetings and as an active user of the park, is a strong supporter of the project.

An additional funding partner includes the California Resources Agency, which provided funding for this project and other park renovations under the River Parkways Grant Program.

9. Describe any other pertinent issues regarding the project:

There are no pertinent issues on this project.

10. Feedback to Reclamation regarding the WaterSMART Program:

The City of Burbank would like to express its gratitude for receipt of the funding that helped make this recycled water landscape irrigation conversion successful. The Reclamation staff has been helpful and City staff appreciates their guidance and flexibility as project delays and extensions were an unavoidable part of this project.

Attachments:

Final Project Costs Table

Marketing Materials (Workshop Flyer and Interpretive Signage)

Attachment 1

FINAL PROJECT COSTS TABLE

Budget Item Description	\$/unit and unit	Quantity	Reclamation	Non- Reclamation	Total Costs
Contractual/Construction					
Irrigation System Retrofit and Conversion to Recycled Water	\$2.41/SF	260,300	\$99,500	\$525,904.27	\$625,403.97
Environmental/Regulatory Compliance			\$ 500	\$558.37	\$1,058.67
Total Project Costs			\$100,000	\$526,462.64	\$626,462.64

Attachment 2

Workshop Flyer



Interpretive Signage

