Revised October 2011

System Optimization Review Grants

California

Bella Vista Water District, 2011 Water System Optimization Review- Water and Energy Efficiency Study

Reclamation Funding: $47,547 **Total Project Cost: $110,157**

The Bella Vista Water District in Shasta County will perform a system optimization review of the district's service area, including evaluating ditch lining and piping alternatives in the Cook & Butcher Ditch. The district estimates that such improvements have the potential to conserve approximately 800 acre-feet of water annually in an area that is experiencing increased competition for water supplies as a result of population growth. The district will also evaluate sites and capacities for new storage tanks to avoid pumping at peak times and will investigate the potential for solar energy at pumping stations.

Solano Irrigation District, Solano Irrigation District's Water Delivery Planning Study: Optimization of Conveyance and Level of Service

Reclamation Funding: $158,500 **Total Project Cost: $318,500**

The Solano Irrigation District will conduct a system optimization review as part of an effort to maximize efficient use of the district's average annual supply to help protect depleted groundwater supplies in the area. The district will review historical water supply and demand information, currently available supplies and the existing capacity of the surface water delivery system to better understand water management issues and the potential for improvements. The district will also compare water conservation delivery improvements based on their cost effectiveness.

City of Santa Monica, California, Development of a Sustainable Water Master Plan to Achieve Local Water Self-Sufficiency in the City of Santa Monica

Reclamation Funding: $300,000 **Total Project Cost: $640,112**

The city of Santa Monica will conduct a system optimization review as part of an effort to reduce its use of imported water supplies. They will evaluate water efficiency strategies to minimize potable and non-potable water demand and maximize the use of all local water resources, including the use of groundwater and recycled water. If the city is able to meet its goal of eliminating imported water it will also conserve approximately 8 to 10 million kilowatt-hours of energy per year as a result of reduced pumping.

Contra Costa Water District, System Optimization Review Project

Reclamation Funding: $150,000 **Total Project Cost: $535,000**

Through this System Optimization Review, Contra Costa Water District will study ways to improve the efficiency of its water treatment and delivery system for the District's municipal customers and will evaluate opportunities for water treatment improvements. The District will identify and prioritize water management issues and will complete computer water supply and water quality modeling of potential improvements to quantify benefits throughout the District's entire service area as well as the greater Bay Area.

Kansas

Southwest Kansas Groundwater Management District No. 3, System Optimization Review of the Associated Ditch System in Kearney and Finney Counties
Reclamation Funding: $ 111,625 Total Project Cost: $223,250
The Southwest Kansas Groundwater Management District No. 3 in Garden City will evaluate lining portions of the South Side Ditch. Based on past projects, the district's preliminary estimate is that improvements could save approximately 70 percent (12,000 acre-feet annually) of water currently being lost to seepage. The district will also identify locations for installing supervisory control and data acquisition systems and will determine the potential for installing renewable energy components, including low head hydroelectric facilities, wind powered headgates and solar powered headgates. The activities to be completed as part of this system optimization review are part of the district's efforts to increase energy efficiency in its use of the finite Arkansas River water supplies.

Utah

Cache County, Cache County Water Master Plan
Reclamation Funding: $78,659 Total Project Cost: $157,318
Cache County will conduct a system optimization review to evaluate regional water system improvements and strategies, including water marketing and aquifer storage and recovery. The county will also assess current energy usage in the delivery of water and will explore opportunities for the increased use of renewable energy in the system. The activities to be completed as part of this system optimization review are part of the county's efforts to make more efficient use of the available water resources in a region that is experiencing significant population growth. The study area includes 23 incorporated cities and 54 canal companies.

South Willard Water Company, South Willard Area Secondary Water Study
Reclamation Funding: $23.143.50 Total Project Cost: $46,287
The South Willard Water Company in Willard will conduct a system optimization review to assess opportunities for increased water use efficiency and to evaluate the options for installing a gravity-fed pressurized irrigation water system to alleviate the current strain on primary potable water supplies. The review will include investigation into, potential energy efficiency gains that could result through reduced pumping needs.

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Davis and Weber Counties Canal Company, Davis and Weber Canal Master Plan
Reclamation Funding: $83,327 Total Project Cost: $166,654

The Davis and Weber Counties Canal Company in northern Utah will conduct a system optimization review to develop a master plan for 8.9 miles of canal within the company's system. In 1999, the company experienced a breach in the upper portion of its canal, prompting the company to focus on preventing future interruptions to the water supply. The company will create a hydrologic model for the canal, identify current and future turnout locations, evaluate the current condition of the canal liner and pipes, and identify locations where real time flows are needed along the canal and metering canal turnouts. Areas with known seepage from the canal will be investigated in greater detail to verify that proposed improvements to the canal will solve the water loss issues and result in water conservation. The company also plans to investigate the potential of installing a 150 kilowatt capacity hydropower plant, which could be used to operate its water delivery system as well as to provide power to the grid system.