RECLAMATION

Managing Water in the West

Water District No. 11 Bear River for Innovative Water Conservation Measures American Recovery and Reinvestment Act of 2009 Environmental Assessment and Finding of No Significant Impact PRO-EA-10-008 PRO-FONSI-10-008

Upper Colorado Region
Provo Area Office

U.S. Department of the Interior
Bureau of Reclamation
Provo Area Office
Provo, Utah

March 2010

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Water District No. 11, Bear River for Innovative Water Conservation Measures American Recovery and Reinvestment Act of 2009 Environmental Assessment PRO-EA-10-008

Provo Area Office
Upper Colorado Region

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Introduction

Water District No. 11 has asked the Bureau of Reclamation (Reclamation), Provo Area Office, to approve its proposal to use Federal funds authorized by the American Recovery and Reinvestment Act of 2009 (ARRA), to make improvements to its canal system in Franklin, Caribou, and Bear Lake Counties, Idaho. This Environmental Assessment (EA), prepared in accordance with the National Environmental Policy Act (NEPA) , the Council on Environmental Quality (CEQ), and the Department of the Interior regulations implementing NEPA, analyzes and discloses the potential effects of the proposed project to the human environment.

Purpose and Need for Action

The proposed action is needed to improve water delivery and efficiency. The purpose of the project is for Water District No. 11 to use American Recovery and Reinvestment Act of 2009 (ARRA) funds, to install measuring devices and improve efficiencies by replacing open ditch with pipelines. The purpose of the proposed improvements is to conserve water, increase availability of water, increase the efficiency of the existing facilities, and replace deteriorated facilities before they can no longer function.

Proposed Action Alternative

The proposed action includes installation of 30 water measuring devices and real time automated water measuring devices and real time automated water diversion reporting systems for 19 of the 53 diversion points along the Bear River Basin in Idaho, to provide accurate and timely water diversion data and controls. The proposed action will also convert 39.97 miles of open ditch to pipelines. In addition, approximately 450 feet of canal will be lined with a polyurea lining.

Consistency with State or Local Water Plan – This project is located within the Bear River Basin, which is situated in the Southeast corner of the State of Idaho. The Bear River begins in the Uinta Mountains in the State of Utah. It flows northerly into the State of Wyoming. At river mile 245, it enters the State of Idaho. The river leaves Idaho at river mile 100 and enters Utah for the last time. After traveling 440 miles from its headwaters, the Bear River enters the Great Salt Lake.

Because of the close proximity of the project to the State of Utah and the knowledge that river basins do not follow political boundaries, it is important that the State of Idaho Water Plan and the State of Utah Water Plan be in harmony.

The Idaho State Water Plan emerges from a vision of Idaho in which water is used efficiently and is allocated through laws that fully conform to the prior appropriation doctrine. A goal of the state water plan is to secure greater productivity in both monetary and non-monetary terms, from existing water supplies. Water use policies are concerned with improvement in practices, procedures, and laws relating to exiting water use. Specific to the Bear River Basin, it is the policy of Idaho to encourage additional projects for the development of the water resources of the Bear River Basin, without regard to state boundaries.

The Bear River Compact and the interagency multi-state Bear River Commission, created to administer provisions of the Compact, provides additional Basin guidance. The compact has been in effect since 1958, and water allocations for the entire basin were adopted in 1978. The goal of Idaho's representatives on the Commission, should be to urge conjunctive management of ground and surface water resources within the Bear River Basin and to seek as much of the unconsumed flow entering the Great Salt Lake as possible for Idaho, while negotiating in good faith with the other states.

The State of Utah's role is to set policy, provide assistance, and protect statewide water resource interests. This guiding principle is the basis for the Utah State Water Plan. Utah recognizes the urgent need to implement effective water conservation measures. These coupled with other innovative water management technologies to meet future needs and lessen impacts of drought.

Out of the eleven river basins identified by the Utah plan, the Bear River was placed first on the planning list, mainly because of the relationship between the Bear River's water supply and the Wasatch front's projected demand. One goal of the river plan is to help direct the orderly planning, conservation, development, protection, and preservation of Utah's water resources at the local level. The intentions of these plans are that both the formulations of a plan and its implementation will provide for a balance of environmental, economic, social, and political factors.

Since irrigated agriculture is the largest user of water in Utah, many have suggested that using water more efficiently in agriculture is the main solution to meeting future water needs. Overall, this project is based on the statement that water agencies and institutions must fully integrate strategies and policies into their operations to address conservations and development of water resources, along with water quality, recreation, and environmental issues.

This project will address the following:

Water Seepage Losses – Preliminary soil data shows that the main canal travels through silty clay loam then through gravelly silt loam to very gravelly silt loam. Water loss for this system is most prevalent in the very gravelly silt loam.

Irrigation losses of 30% due to seepage, greatly reduce the efficiency of the entire irrigation system and the systems of other irrigation districts that co-mingle water. Upgrading the mainline from an earthen ditch to a buried pressurized mainline would eliminate water loss from seepage. It will increase water delivery by approximately 32,062 acre-feet. This figure is supported by results, as observed by the water master of two similar canal-to-pipeline replacement projects that were recently completed in the Preston, Idaho area. Referring to water lost in transit from storage to farm, the project sponsor states that, "with open ditches, conveyance loss will usually range between 25 and 40 percent of the diversion. Conveyance losses may be virtually eliminated by using a piping system."

Water Evaporation Losses – Estimates of free water surface evaporation are frequently obtained by multiplying pan evaporation by a pan coefficient. For this project the monthly pond evaporation was calculated using an evaporation map from the National Oceanic Atmospheric Administration evaporation atlas and monthly percentages of annual evaporation developed from monthly evapotranspiration and pan evaporation data (University of Idaho, 1992). This premise compares the evaporation in an irrigation ditch to a shallow pond and is useful for estimations only. Based on these calculations, it is estimated 3,206 acre-feet of water are lost.

Accurate Measurement - The delivery to farm or subsystems is not accurately measured or permanently recorded. The water is measured by the water master as the flow is released from the reservoirs or diverted from the river, according to the turns of the wheel at the headgate. Weirs located just below the Reservoirs and diversions, can verify this water amount. The weirs only measure the current diversions—it does not measure the delivery to the stockholders and is only estimated by the water master, due to the fact that no other weirs or measuring devices exist further down the system. The water use estimates are based on the number of sprinkler heads and sutomary usage times. Farmers cannot match deliveries to crop requirements. The irregularity in water delivery makes it impossible for the producer to make a key production decision on such things as fertility management and variety selection. Based on estimates, 4,765 acre-feet of water is lost due to inaccurate measurement devices.

Energy Savings – Pressurizing the pipeline will allow for most irrigators who currently pump (approximately half of the users) to reduce their pumping, or in some cases discontinue pumping altogether. This would allow electrical energy to be more abundantly available for other uses. Repairs to booster pumps would be scaled back because of less usage.

Noxious Weeds – Canadian thistle, dyers woad, leafy spurge, and water hemlock are noxious weeds found in the project area. This project would eliminate the spread of the noxious weed seed downstream.

Environmental Consequences

Proposed Action
There are no anticipated impacts to any of the following resources as a result of the proposed action: threatened and endangered species, farmlands, flood plains, water quality, wetlands, wild and scenic rivers, hazardous or solid wastes, air quality, National Register of Historic Sites and Native American concerns. A no effect determination was made on each of the following environmental issues as well as no adverse cumulative impacts.

To meet any requirements of state, Federal, and local environmental and cultural resource protection laws and regulations, the applicants prepared the environmental documentation for this project using the planning process practices of the NRCS. This process integrates environmental concerns throughout the planning, installation, and operation of the projects. Planning intensity, public involvement, and documentation of actions vary according to the scope of the action.

EVALUATION OF SIGNIFICANT CRITERIA		No	Yes	Uncertain
1.	This action or group of actions would have a significant effect on the quality of the human environment.	X		
2.	This action or group of actions would involve unresolved conflicts concerning alternative uses of available resources.	X		
EVALUATION OF ENVIRONMENTAL ISSUES				
1.	This action would have significant adverse effects on public health or safety.	X		
2.	This action would have an adverse effect on unique geographical features such as: wetlands, Wild or Scenic Rivers, or Scenic Rivers, refuges, floodplains, rivers placed on the Nationwide River Inventory, or prime or unique farmlands.	X		
3.	This action will have highly controversial environmental effects.	X		
4.	This action will have highly uncertain environmental effects or involve unique or unknown environmental risk.	X		
5.	This action will establish a precedent for future actions.	X		
6.	This action is related to other actions with individually insignificant, but cumulatively significant effects.	X		
7.	This action will affect properties listed, or eligible for listing in the National Register of Historic Places.	X		
8.	This action will adversely affect a species listed, or proposed to be listed, as endangered or threatened.	X		
9.	This action threatens to violate federal, state, local or tribal law or requirements imposed for protection of the environment.	X		
10.	This action will affect Indian trust assets.	X		
11.	This action will not accommodate access to or allow ceremonial use of Indian sacred sites by Indian religious practitioners to the extent practicable. Neither will it avoid adversely affect, to any practicable extent, the physical integrity of such sacred sites (E.O. 13007).	X		
12.	This action will disproportionately affect minority or low-income populations (E.O. 12898).	X		

No Action Alternative

Under the No Action Alternative, Reclamation would not authorize use of Federal funds for the replacement of the measurement devices, conversion of open ditch to pipeline, or installation of a polyurea lining. Under the No Action Alternative, water loss and seepage would continue to occur due to the use of the inefficient canals and measurement methods. Manual measurement and maintenance would continue which would not reduce seepage or improve water delivery efficiency. Approximately 40,033 acre-feet of

water are lost annually. Loss of water due to seepage, evaporation, and distribution requires far greater than necessary water appropriation for agriculture use, due to the inefficiency of the existing canal system.

Environmental Commitments

The following environmental commitments would be implemented as an integral part of the proposed action.

1. Standard Reclamation Management Practices--Standard Reclamation management practices would be applied during construction activities to minimize environmental effects and would be implemented in construction specifications. Such practices or specifications include sections in the present report on public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, and wildlife.

2. Additional Analyses--If the proposed action were to change significantly from that described in the EA because of additional or new information, such as requiring other spoil, gravel pit, or work areas outside the proposed construction site, additional environmental analysis including cultural and paleontological analyses may be necessary.

3. A 404 Permit or State Stream Alteration Permit (or both) may be required--Before beginning construction activities, the applicant would obtain from the U.S. Army Corps of Engineers a 404 Permit, Clean Water Act of 1977 (P.L. 217), or from the Department of Natural Resources a State Stream Alteration Permit. These permits would include discharges of dredged or fill material into the waters of the United States. Such activities associated with this project could include cofferdams, disposal sites for excavated material or construction material sources, and rebuilding dam embankments. The conditions and requirements of the 404 Permit would be strictly adhered to by Water District 11. Water District 11 would fully mitigate any loss of jurisdictional wetland with appropriate in-basin, in-kind mitigation as determined in consultation with the U.S. Army Corps of Engineers and the State of Idaho, and as required for obtaining a Corps 404 Permit or a State Stream Alteration Permit.

   Due to the fact that this project will impact temporary, artificial seepage induced wetland, the construction will be approved under an agricultural exemption. Alignment of the pipe and construction will be designed to minimize impact on this wetland.

4. An Idaho Pollutant Discharge Elimination System Permit may be required--A Idaho Pollutant Discharge Elimination System Permit would be required from the State of Idaho before any discharges of water, if such water is to be discharged as a point source. Appropriate measures would be taken to ensure that construction related sediments would not enter the canal either during or after construction.

5. A Water Quality Certification and a Storm Water Discharge Permit--Under authority of the Clean Water Act, construction may require from the Idaho Division of Water Quality, a Section 401 Water Quality Certification and a Section 402 Storm Water Discharge Permit.

6. Hazardous or Solid Wastes—Water District 11 will be responsible in making sure that any hazardous substance required or used for this project such as gasoline, diesel, paint and others would be properly labeled, stored and disposed according to the National Fire Protection Association [(NFPA) 704], the Hazardous Materials Identification System (HMIS) and the Resource Conservation and Recovery Act of 1976.

7. Water Quality Monitoring--If monitoring in the future documents significant water quality impacts from the proposed action, mitigation would be implemented by Water District 11 as necessary, to minimize those impacts.

8. Cultural Resources--Any person who knows or has reason to know that he/she has inadvertently discovered possible human remains on Federal land, must provide immediate telephone notification of the discovery to Reclamation's Provo Area Office archaeologist. Work would stop until the proper authorities were able to assess the situation onsite. This action would promptly be followed by written confirmation to the responsible Federal agency official with respect to Federal lands. The Idaho State Historic Preservation Office and interested Native American tribal representatives would be consulted immediately. This requirement is prescribed under the Native American Graves Protection and Repatriation Act (43 CFR Part 10); and the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470).

   A Class III cultural resource survey and SHPO consultation (if applicable) would need to be completed prior to construction on the following project features: 1) Preston Riverdale Canal, 2) Soda Canal South Branch, 3) Treasureton Canal, and 4) West Cache Flume Structure. In addition, any other structure or feature determined to have an eligible or recorded site associated with it, a Class III survey and SHPO consultation (if applicable) would also be required prior to construction.

9. Construction Activities Confined to Previously Disturbed Areas--All construction activities would be confined to previously disturbed areas, to the extent practicable, for such activities as work, staging, and storage; gravel pit; waste areas; and vehicle and equipment parking areas.

10. Public Access--Construction sites would be closed to public access. Temporary fencing, along with signs, would be installed to prevent public access. Water District 11 would coordinate with landowners or those holding special permits and other authorized parties regarding access to or through the project area.

11. Disturbed Areas--All disturbed areas resulting from the project would be smoothed, shaped, seeded, contoured, and rehabilitated to as near their pre-project construction condition as practicable. After completion of the construction and restoration activities, disturbed areas would be seeded at appropriate times with weed-free seed mixes. The composition of seed mixes would be coordinated with wildlife habitat specialists. Weed control on all disturbed areas would be required.

FINDING OF NO SIGNIFICANT IMPACT
Provo Area Office

Decision: It is my decision to authorize the proposed action identified in EA No. PRO-EA-10-008.

Finding of No Significant Impact: Based on the analysis of potential environmental impacts contained in the attached environmental assessment, I have determined that impacts are not expected to be significant and an environmental impact statement is not required.

Rationale for Decision: The decision to allow the proposed action does not result in any undue or unnecessary environmental degradation.

Recommended by:

_____ _____

Beverley C. Heffernan Date
Chief, Environmental Group

Concur:

_____ _____

Kerry L. Schwartz Date
Manager, Water and Environmental Resources Division

Approved by:

_____ _____

Bruce C. Barrett Date
Area Manager, Provo Area Office