

Project No. 21

Applicant Name	Hysham, Town of	
Project Name	Water System Improvements	
Amount Requested	\$125,000	
Other Funding Source	\$ 9,850	Applicant In-kind
Total Project Cost	\$134,850	
Amount Recommended	\$125,000	

Project History

The HID proposed this project to improve irrigation water delivery and management for seven irrigators and approximately 2,000 acres of row crops, small grains, and hay. Three 350 HP pumps deliver water from the Yellowstone River to the main canal, and a second pump station lifts a portion of its water right into its secondary re-lift canal using three 100 HP pumps. Currently, the canal is poorly graded, resulting in seepage losses and inefficient water deliveries. Additionally, the lack of control structures creates difficulties in providing water-surface elevation control. There is only a single check structure for a series of five irrigation turnouts over 5,500 feet of canal. The proposed project aims to improve water delivery and efficiency.

Proposed Solution

- Regrade 8,600 feet of the re-lift canal to a continuous positive slope;
- Increase freeboard along the bank as necessary;
- Install two additional concrete check structures;
- Adjust a 60-inch diameter irrigation culvert to maintain proper flow hydraulics; and
- Adjust five irrigation turnouts to maintain adequate irrigation deliveries to adjacent landowners.

Resource and Citizen Benefits Analysis

The project will conserve surface water through improved flow characteristics in the project reach. Improved flow characteristics should lead to reduced seepage losses. The estimated reduction in seepage loss over the project reach is 0.8 to 2.8 cfs. The project locally impacts the Yellowstone River, a significant and renewable resource, by creating a more efficient system for irrigation. With an anticipated seepage loss savings, a net reduction in energy demand related to pumping could be realized with appropriate water management by the HID. The district could realize energy savings of anywhere from 10,000 kWh to 42,000 kWh over the course of an irrigation season.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

EXHIBIT 15
 DATE Jan - 16, 2015
 HB 5

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