



Modernizing Idaho's Water Infrastructure

An Ongoing Story Series on the Idaho Water Resource Board's Aging Infrastructure Grant Program **ISSUE NO. 26**

Minidoka Irrigation District New B2 Check Structure/Headgate

Overview: Minidoka Irrigation District (MID) serves approximately 3,065 water users with 502 miles of canals, laterals and drainage systems in the greater Minidoka County area.

MID receives storage water from the Minidoka, American Falls, Palisades, and Jackson Dams. It's part of the Minidoka Project, one of the Bureau of Reclamation's oldest projects in the United States, dating to 1902.

The gravity portion of the Minidoka Project initially included canals and laterals diverting water from Minidoka Dam on the Snake River. As the southern portion of the project came online, MID assumed operation of laterals on the west side of the Southside canal, upstream of the first Burley Lift Station.

In working toward MID's goals of water conservation and improving water-delivery service, the District needed to reconstruct the B2 Check and Diversion Structure.

This structure is original to the construction of the District and last had improvements completed in the 1980s. The structure is capable of handling approximately 500 cubic feet per second when the canals are at maximum



Construction crew installs the gates on a new check/diversion structure in the winter of 2024-25 for Minidoka Irrigation District. (photo courtesy MID).

- **Type of project:** New check structure/headgate
- **Location:** Rupert, Idaho
- **Total project cost:** \$317,560
- **Idaho Water Resource Board Aging Infrastructure Grant:** \$89,431
- **Minidoka Irrigation District:** \$228,129
- **Start:** November 2024
- **Finish:** February 2025

capacity, however, the structure routinely handles approximately 350 cfs during daily operations.

The Challenge: Currently, the iron and concrete portions of the B2 structure were showing signs of aging; failure was imminent. If the structure failed, water that is currently being diverted to the B2 canal would continue to flow in the length of the B Canal and overtop or breach the canal. This structure is located just outside



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Minidoka Irrigation District new Check/Diversion Structure (cont.)

of the town of Rupert, Idaho. If the structure had failed, it would have caused catastrophic damage to crops, homes, businesses, and rail lines would be unavoidable.

The Solution: The plan for reconstruction includes rebuilding essentially the same structure in place, with improved materials to ensure structural integrity and longevity. The B2 check structure has operated as intended for 100 years; the design still works well for MID's needs. The ratchet gates on the old check structure will be replaced with screw gates to reduce employee strain and injury. Automated water-measurement devices will be installed to ensure proficiencies and optimal water levels are maintained.

Construction: In the fall of 2024, once the MID system was de-watered, demolition and removal of the existing structure began. Construction work was all performed by MID staff in-house.

Prep-work included the ground work and site preparation to begin the construction phase. Site prep included scraping and leveling the land to ensure the new structure was placed correctly.

Phase 2 featured the concrete work and construction - forming the structure, pouring concrete, and placing gates.

In Phase 3, MID installed automated water measurement devices and the electrical work.



The new gates for the check structure are 6 feet tall. (Courtesy MID)

Project Benefits: The construction and installation of the new, improved B2 Check Structure and Headgate will benefit the district in many ways. The most visible will be increased water efficiency. At a time when water conservation is crucial, every gallon conserved will be used in a beneficial way. Installing automated water-

measurement devices increases the efficiency of the structure, allowing for the water levels to be maintained at a near constant level, reducing fluctuation and waste.

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