



Oakes Test Area: STILL SERVING SOUTHEAST NORTH DAKOTA

By Kimberly Cook

The Oakes Test Area is a 5,000-acre irrigation test site south of Oakes in southeast North Dakota. Developed in 1980 by the U.S. Bureau of Reclamation (Reclamation), the Oakes Test Area was designed to study best management irrigation practices, water quality and management, and wetlands and wildlife.

The combination of field trials at the nearby NDSU Irrigation Research Site and actual irrigation operations at the Oakes Test Area have provided a wealth of important data to develop best management practices for irrigated agriculture in North Dakota, the United States, and the world. The test area has demonstrated that a well-managed irrigation system can produce high-value irrigated crops with minimal environmental impacts.

The layout of the Oakes Test Area makes it possible to precisely measure irrigation impacts on rivers, lakes, groundwater, and the environment under different conditions. A variety of crops have been irrigated at the Oakes Test Area, including corn, beans, potatoes, and onions.

The Oakes Test Area utilizes several features in order for it to function properly. A 1.25 mile unlined earthen canal conveys water from the James River to the Oakes Pumping Plant, where it is lifted 27 feet into the Oakes Canal. Water flows by gravity through the seven-mile-long canal to three lateral pumping plants, which then deliver water to an irrigator's field. Water flows to more than 50 farm turnouts through nearly 11 miles of pipe. A control valve at each farm turnout regulates water flows from the pipeline.

Irrigation delivery at the Oakes Test Area began in the spring of 1988, with authorization to irrigate up to 5,000 acres. Limited water supplies have prevented the test area from reaching its full potential, irrigating anywhere from 500-4,300 acres annually. In July 2006, the Dickey-Sargent Irrigation District's board of directors submitted a groundwater permit application to the State Water Commission for 5,000 acre-feet of water annually from the Oakes Aquifer to secure a stable water source for operation of the Oakes Test Area. In June 2008, the board applied for an additional groundwater permit from the Spiritwood



A radial gate structure on the Oakes Canal.

Aquifer for 4,000 acre-feet. A report released by the State Water Commission concludes there is not sufficient water to supply all of the pending irrigation permit applications and the Dickey-Sargent Irrigation District. Therefore, in order for the State Engineer to grant the Dickey-Sargent Irrigation District's permit, the Dickey-Sargent Irrigation District must enter into an agreement with the holders of the pending permits.

TITLE TRANSFER

The Dakota Water Resources Act of 2000 plays an important role in the future operation of the Oakes Test Area. Under this federal legislation, the Oakes Test Area and all operations of the facility must be transferred to the Dickey-Sargent Irrigation District or go through the federal surplus property process within two years after a Record of Decision is made regarding the Red River Valley Water Supply Project. A title transfer includes property and equipment transfers, assignment of easements, drain return flow water quality monitoring commitments, and the transfer of Reclamation-owned electrical transmission lines. A title transfer would also mean the irrigation district would operate with limited ties to Reclamation or

the Garrison Diversion Conservancy District (Garrison Diversion).

Several discussions took place between Reclamation, Garrison Diversion, and the Dickey-Sargent Irrigation District regarding the title transfer. A cost of service study was also conducted by Garrison Diversion to determine the feasibility of maintaining the Oakes Test Area in the event of a title transfer. The study estimated operation and maintenance costs and any capital improvement or replacement costs that may be encountered if the project was transferred.

Federal funding was eliminated for the Oakes Test Area in the 2011-2013 biennium, causing Garrison Diversion to make a request to Reclamation to restore funding for the Oakes Test Area. The request was denied.

The Dickey-Sargent Irrigation District has been investigating assuming ownership of the Oakes Test Area. Reclamation and Garrison Diversion have also evaluated and implemented ways to reduce costs at the Oakes Test Area to make it feasible for irrigators to assume responsibility for operation and maintenance costs.

The Dickey-Sargent Irrigation District came to an agreement with Reclamation, agreeing to pay all operation and maintenance costs associated with the Oakes Test Area



This portion of the Oakes Canal conveys water from the James River.

The Oakes Test Area is a 5,000-acre irrigation test site south of Oakes in southeast North Dakota.



for 2011. The Dickey-Sargent Irrigation District has signed a one-year contract with Reclamation, taking responsibility for all costs at the Oakes Test Area for operating and maintaining the irrigation system.

The \$425,000 contract with Reclamation will cover operation and maintenance costs, including power and variable costs. An additional \$2 per acre water service charge will be assessed to irrigators. A total of 4,046 acres will be served by the contract with Reclamation.

There are 25 landowners whose land receives irrigation water through the Oakes Test Area. One of these landowners is Gary Visto, who irrigates about 600 acres of corn and soybeans from the Oakes Test Area irrigation facilities. His father started irrigating out of the Oakes Test Area in 1988, and Gary has added additional acres. “The option to irrigate is great, not having to rely on Mother Nature all the time. Irrigating adds some extra work with

the additional maintenance and monitoring of equipment and fields, but it’s definitely an easier water method than the alternative in drier years,” says Visto. “We’re fortunate to be able to utilize the Oakes Test Area.”

The Dickey-Sargent Irrigation District was organized in 1957. An irrigation district is a governmental entity organized under state law by landowners for the purpose of acquiring, constructing, operating, and maintaining the works required to irrigate designated lands. Members of the district elect a board of directors.

Garrison Diversion will continue to operate the system as it has in the past. The operations and maintenance staff perform daily tasks that ensure the upkeep of the facility and equipment on site. Routine procedures include operating the pumps, cleaning drains, and servicing equipment.