

Garrison Diversion Operations & Maintenance 2010

By Kimberly Cook

Much as a hard working machine needs oil, the Garrison Diversion Unit (GDU) facilities need the Garrison Diversion Conservancy District's (Garrison Diversion) operations and maintenance (O&M) team to ensure smooth operations.

Each year, Garrison Diversion's O&M staff is responsible for completing routine maintenance duties along with several specialized projects. Special projects vary from year to year and can include a wide variety of tasks, big and small. This year, employees placed riprap, developed recreation areas, and much more.

Garrison Diversion's O&M team performs operations and maintenance of the GDU existing facilities under a cooperative agreement with the Bureau of Reclamation (Reclamation). The facilities include the McClusky Canal, New Rockford Canal, and Oakes Test Area. Other facilities associated with the GDU, such as the Snake Creek Pumping Plant, Jamestown Reservoir, and Arrowwood and Audubon National Wildlife Refuges, receive Garrison Diversion's O&M assistance when requested.

Garrison Diversion has the knowledge, specialized skill set, and equipment to complete a wide assortment of projects and, therefore, works in cooperation with the North Dakota State Water Commission (SWC), Reclamation, North Dakota Game and Fish Department, and U.S. Fish and Wildlife Service. The cooperative agreements between Garrison Diversion and these federal and state government agencies benefit everybody involved.

O&M employees are stationed at McClusky, Oakes, New Rockford, and Carrington. The O&M staff includes a professional engineer, master electrician, mechanic, painting and coating specialists, vegetative management specialists, and multiple heavy equipment operators. A safety coordinator also ensures a safe work environment for all employees by developing and promoting safety procedures and implementing a comprehensive safety program.

Garrison Diversion maintains a large fleet of equipment to ensure that a variety of jobs can be completed. Equipment includes bulldozers, front-end loaders, backhoes, and excavators. Multiple dump trucks and

Jetties under construction at the Arrowwood National Wildlife Refuge.





The O&M crew doing concrete work at Arrowwood.



Arrowwood's electronic fish barrier house is now in its new location.

tractors are also part of the equipment fleet. The equipment is maintained by the O&M staff.

Garrison Diversion's O&M staff works hard to complete its work plan of special projects each year. "This year, our O&M staff did an exceptional job completing the tasks within our work plan," says District Engineer Kip Kovar. "The crew has done a great job at increasing its proficiency in its already abundant skill set."

Garrison Diversion uses tons of field rock each year for various purposes. Field rock is purchased from area landowners and then hauled to Garrison Diversion's right-of-way. Dirt is screened from the rock using front-end loaders and a rock screen. In 2010, employees screened and hauled more than 2,500 loads of field rock, which is used as riprap along the McClusky Canal and will also be used to stabilize about 20 islands at Audubon National Wildlife Refuge. This year, some 24,000 feet of riprap was placed along the McClusky Canal. Riprapping the canal has been an ongoing project for approximately 10 years. Roughly 58 miles of the McClusky Canal are now riprapped.

Devils Lake Outlet

The Devils Lake Outlet is operated by the SWC, and Garrison Diversion provides O&M assistance as needed. O&M assistance on the Devils Lake Outlet increased during the summer months, as the outlet once again began its full-time operation. Throughout open water months, weekly water sampling was completed for the SWC;

The O&M crew hauls rock to use for the jetties at Arrowwood.



Garrison Diversion employees assisted in both monitoring and operating the outlet.

In addition, the O&M staff installed a sprinkler system in the surge tanks at the outlet to reduce the foaming action of the water in the tanks. This summer, two weeks were spent cleaning the water tanks, which stand at 90 and 100 feet tall. A 135-foot lift was rented in order to complete the work at such an extreme height.

Arrowwood National Wildlife Refuge

Through the cooperative agreement with the U.S. Fish and Wildlife Service, Garrison Diversion assists with projects at the Arrowwood National Wildlife Refuge. In 2010, two jetties were constructed by Garrison Diversion's O&M employees in order to keep sand and silt from plugging up the turnout at the Arrowwood bypass channel. In addition, the building which houses electronics for the electronic fish barrier was also moved to higher ground due to flooding risks. Garrison Diversion's O&M employees prepared the site and moved the building structure to its new location on higher ground.

Recreation Development

Four in-line lakes along the McClusky Canal are commonly referred to as the Chain of Lakes and include East Park Lake, West Park Lake, New Johns Lake, and Heckers Lake. The lakes provide numerous recreation opportunities such as fishing, camping, and boating. Through its partnership with Reclamation, Garrison Diversion continues to develop the recreation areas and perform maintenance duties at these lakes.

In 2010, multiple improvements were made to the recreation areas at East Park Lake and New Johns Lake. The fish cleaning station and RV dump station, which were installed in the fall of 2009, were made operational in 2010. O&M staff constructed

and painted two handicap accessible picnic shelters and formed and poured handicap accessible concrete parking pads. A new fishing pier was also placed at the New Johns day-use area. In order to direct visitors to the Chain of Lakes, recreation signs were placed throughout the area.

While Garrison Diversion's O&M staff does an exceptional job with specialized tasks each year, it is also required to perform routine maintenance duties to ensure the GDU facilities remain operational. Such tasks include weed control, water operations, and road maintenance. Maintenance on the McClusky, New Rockford, and Oakes Test Area canals must also be completed to keep them in good working condition. Each year, water is delivered through the McClusky Canal to be used for purposes such as livestock watering, wildlife mitigation areas, water quality improvements, irrigation, and fish and wildlife purposes. This year, approximately 4,000 acre-feet of water was delivered through the McClusky Canal. The canals and canal drains must be cleaned regularly, and cattails must be removed.

"I can't begin to say enough about our O&M crew members," says Kerry Beckman, Garrison Diversion's O&M superintendent. "They willingly tackle any project that comes their way. Our employees like a challenge and have the commitment it takes to finish their projects well."

Year after year, Garrison Diversion's highly skilled O&M staff is responsible for keeping the GDU facilities in top working order. Whether it is routine work or special projects, the O&M crew is the key element that keeps GDU facilities operating smoothly.



Garrison Diversion's O&M crew doing concrete work for a picnic shelter at East Park Lake.



The O&M crew doing concrete work at the McClusky shop.