

# The Oxbow

FROM THE NORTH DAKOTA STATE WATER COMMISSION

## Maple River Dam granted Sec. 404 Permit

By Pat Fridgen

After ten years of review, the U.S. Army Corps of Engineers finally granted the Cass County Joint Water Resource District their Section 404 permit—a key element required to proceed with construction on the Maple River Dam.

Maple River Dam will be located in southeast North Dakota, approximately eight miles north of Enderlin.

When completed, the dry dam will be a 70-foot high earthen embankment, capable of retaining 60,000 acre-feet of floodwater.

Maple River Dam is designed to provide flood protection along the Maple, Sheyenne, and Red Rivers, and it is the fourth phase of the Sheyenne River Flood Control Project. The other phases are the West Fargo Sheyenne River Diversion, the Horace to West Fargo Sheyenne River

Diversion, and the 5-foot flood pool raise at Baldhill Dam. As a dry dam, Maple River Dam will capture and hold floodwater until the flood peak passes – which will then be followed by a slow, controlled release of the floodwater downstream.

There are still a few items for the project sponsors to address before construction is completed, including a vote by downstream benefited properties to create an assessment district to finance 10 percent of the total project costs; and acquisition of the remaining 75 percent of land rights required for the dam, and its flood pool.

The project engineer, Jeffry Volk, from Moore Engineering of West Fargo expects that both matters will be completed by this fall as construction begins. The project is scheduled to be operational by the fall of 2005 with final completion by the fall of 2006.

## Contracts awarded for State's Emergency Devils Lake Outlet

By Pat Fridgen

At their April 16, 2004, meeting in Bismarck, the North Dakota State Water Commission approved two contracts worth more than \$9.5 million to continue construction on the state's emergency Devils Lake outlet.

The first contract approved at the April 16 meeting was Contract 2A/2B, which is for the construction of the Round Lake and Josephine pump stations. This contract was awarded to Excel Construction Incorporated of Sheridan, Wyoming, with a low bid of \$5,879,700. Construction on the Round Lake Josephine pump stations will start this spring, with completion anticipated for spring, 2005.

The second contract awarded was for the Round Lake and Josephine pipeline segments, or Contract 3. This contract was awarded to S.J. Louis Construction Incorporated,

of Waite Park, Minnesota, with a low bid of \$3,682,120. Construction on the Round Lake and Josephine pipeline segments will involve the installation of 2.9 miles of ductile iron pipe. Completion is scheduled for spring, 2005.

The only remaining contract to

be awarded is Contract 6, which is for telemetry. All other contracts were awarded at previous Commission meetings. The state expects all contracts on the emergency outlet to be completed by May 1, 2005, with operation to begin shortly thereafter. The total cost of the outlet is estimated at approximately \$28 million.



Workers are excavating the outlet channel near Long Lake. The excavated clay is being used to line other sections of the Devils Lake Outlet channel.

# Welcome to the Land of Extremes

By Pat Fridgen

We continually hear how North Dakota is a land of extremes. One day it's sunny and 75, the next day it's snowing and below freezing. But what has been particularly interesting, (or frustrating depending how you look at it), is the most recent events we are experiencing on a few of our larger water bodies.

As we entered the spring of 2004, we began to see record high elevations on Devils Lake in northeast North Dakota. By the middle of May, Devils Lake was at an elevation of 1448.2 feet above mean sea level (amsl) and rising—approximately two-tenths of a foot higher than the previous record high set in July and August 2001, of 1448.0 feet amsl.

In contrast, only 100 miles to the west, Lake Sakakawea was experiencing record low elevations, along with Lake Oahe to the south. By March 12, 2004, Lake Sakakawea had dipped to a record low of 1813.8 feet amsl, breaking the previous record of 1815 feet amsl, set in May 1991. By mid May 2004, the elevation of Lake Sakakawea was at 1814.3 feet amsl and falling—still almost a foot lower than the previous low set in 1991, and more than 20 feet below normal. It is also interesting to note that when



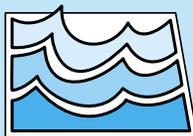
Travelers on Hwy. 281 met with 4-foot waves from Devils Lake in May.



Lake Sakakawea's Van Hook ramps rise out of mud flats also in May.

Lake Sakakawea set its new record low in March 2004, it was about 41 feet lower than the level it hit in the spring of 1997.

Lake Oahe is also experiencing extreme low pool elevations. It fell below its previous record low of 1580.7 feet amsl in October, 2003, and as of mid May 2004, Lake Oahe was still below the previous record low at an elevation of 1580 feet amsl. Like Lake Sakakawea, Oahe is expected to continue to fall as the summer goes on.



*The State Water Commission does not discriminate on the basis of race, color, national origin, sex, age, or disability in employment or the provision of services.*



## COMMISSION MEETING MINUTES

The North Dakota State Water Commission (Commission), chaired by Governor John Hoeven, acted on several items of business and was given status reports on continuing water management projects and programs at the April 16, 2004, meeting in Bismarck.

In action items, the Commission:

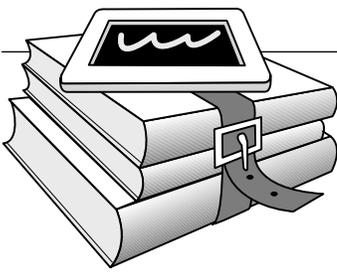
- Granted conditional approval of two cost-share requests from the Pembina County Water Resource District for the improvement reconstruction and extension of Pembina County Drain 16, and for the extension of Pembina County Drain 66, in the amounts of \$37,415 and \$70,158, respectively. Approval of cost-share for Pembina County Drain 16 is subject to the attainment of a positive local assessment vote. Approval of cost-share for Pembina County Drain 66 is contingent upon the attainment of a positive local assessment vote, issuance of required permits, and the receipt and approval of final plans.

- Awarded Contract 2A/2B of the state's emergency Devils Lake outlet project in the amount of \$5,879,700 to Excel Construction Incorporated of Sheridan, Wyoming (see related article in *The Oxbow*).

- Awarded Contract 3 of the state's emergency Devils Lake outlet project in the amount of \$3,682,120 to S.J. Louis Construction Incorporated of Waite Park, Minnesota (see related article in *The Oxbow*).

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# THE WATER PRIMER

## North Dakota Water: Use It or Lose It

By Michael Noone

In recent years, North Dakota has been involved in numerous lawsuits over the use of water within our state, including conflicts over water levels in Lake Sakakawea, and the Northwest Area Water Supply Project. Understanding how water rights are allocated is an important part of understanding how and why conflicts arise over the use of water, not only in North Dakota, but throughout the western United States.

North Dakota, like other western states, follows the prior appropriation doctrine for water rights. Prior appropriation, can be simplified into the phrase, “*first in use, is first in right.*” What this means, is that the first permitted and beneficial uses of water by a person, a company, or even a city, have priority over other users of the water when less water is available.

A good illustration of this idea is to imagine three farmers that live along a small stream. All three of these farmers have a permit to use one million gallons per day of water in a stream that flows at five million gallons per day to irrigate their crops. In a “normal” year, there should be no problems. But if a dry year comes along, and the stream flows at less than its normal amount, problems can arise.

If the stream’s “normal” flow has been completely allocated via water

use permits, and less of that water is available, then someone must lose their use of the water. In a prior appropriation state, such as North Dakota, the most senior of the permits has priority of use. If there was only enough water for the most senior wa-



ter right, then the other two farmers cannot legally use that water.

As you can imagine, situations like this can cause conflict among all of the users that depend on that water, whether it be for irrigation, industry, or even drinking water.

To take the concept of prior appropriation to the next level, now imagine the Missouri River. Along the Missouri River, you have multitudes of permitted water users, including farmers, power plants, factories, towns, and cities. In full, there are seven states, and 28 federally recognized tribes that have the potential to exert water rights on the Missouri River.

The Missouri River is the last great river in the continental U.S. that does not have all of its water appropriated. In the coming years, as populations grow in states or reservations in the Missouri River basin, water will become an increasingly rare commodity.

North Dakotans only need to look as far as the Colorado River for a preview of the future. Conflicts between various users and various uses of the Colorado River, which has had its flow completely divvied up, regularly makes headlines.

Conflicts and lawsuits over the best use of Missouri River water have shown that other states are already moving in this direction. In a recent article in the *Kansas City Star*, an official from the Missouri Department of Natural Resources is attributed with saying that recent lawsuits over Missouri River water are much broader than a case of recreation versus the barge industry, also citing court battles to prevent Missouri River water from being used by upstream states for irrigation and navigation projects.

Understanding what prior appropriation means for water development in North Dakota is absolutely vital in charting our course in the future. If we wait while others allocate North Dakota’s most plentiful supply of freshwater, we may find ourselves running out of water when we need it the most.