



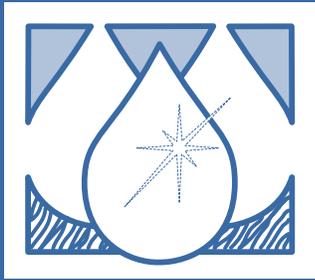
2007-2009



# NORTH DAKOTA Water Development Report

AN UPDATE TO THE  
1999 State Water Management Plan

North Dakota State Water Commission  
December 2006



**2007-2009  
WATER  
DEVELOPMENT  
REPORT**  
an update to the  
**1999 State Water  
Management Plan**  
December 2006

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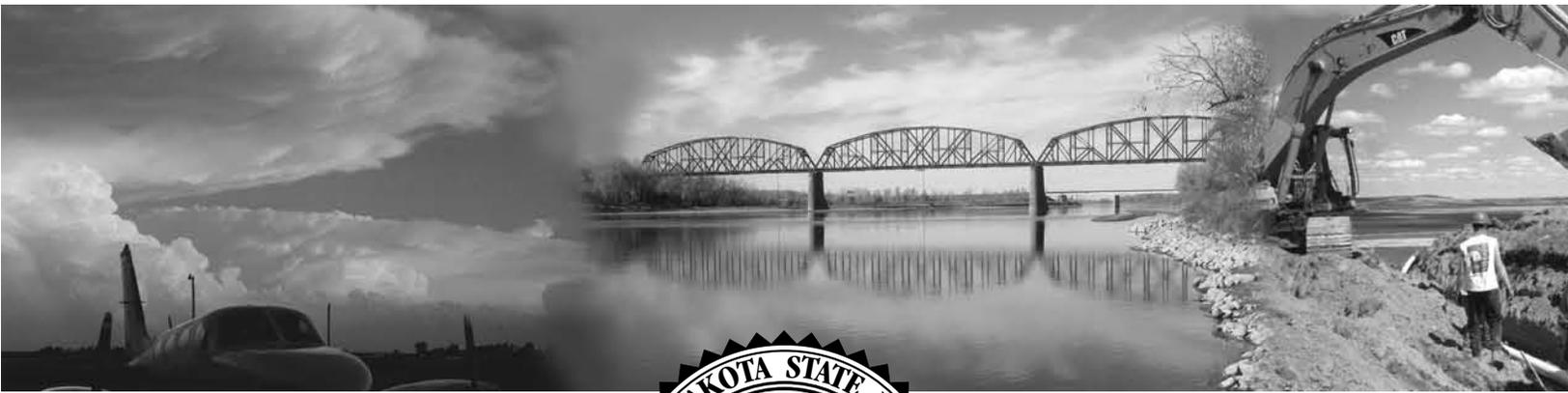
STATE ENGINEER  
& SECRETARY  
Dale L. Frink

STATE WATER COMMISSION  
PLANNING & EDUCATION  
STAFF

*Director:* Lee Klapprodt  
*Water Resource Planners:*  
Linda Weispfenning, Michael  
Noone, Bill Sharff  
*Natural Resource Economist:*  
Patrick Fridgen  
*Research Analyst:*  
Larry Knudtson  
*Graphic Artist:* Brenda K. Hove  
*Secretary:* Dawn Schock

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### A MESSAGE FROM THE STATE ENGINEER:

*I am pleased to present you with the 2007-2009 North Dakota Water Development Report, which is the third and final update of the 1999 State Water Management Plan (SWMP). The specific purposes of this document are outlined in the report, but generally speaking, it provides readers with information on North Dakota's past and current water development efforts, as well as the state's vision for water development in the upcoming biennium and beyond.*

*Over the course of the last several years, the State of North Dakota has taken an aggressive approach to developing and managing our water resources – most noticeably since the development of the 1999 SWMP. The reason for this tact was twofold. First, tremendous water development needs existed across the state that urgently needed to be addressed, particularly in the areas of flood control and water supply. And second, the Water Commission and its many constituents and water project supporters uniformly believe that our water resources should be managed and developed for the benefit of as many North Dakotans as possible. It's because of this common commitment that North Dakota's water community has been so successful over the years.*

*As North Dakota enhances its role in today's diversified global economy, I believe success in our immediate and distant future hinges upon our ability to pursue and advance the state's priority water development projects outlined in this report. From the smallest dam repair, to the largest regional water supply project the state has ever pursued, the Red River Valley Water Supply Project; all serve as important pieces in an overall water management philosophy that is aimed at improving the state's economy and the quality of life for the citizens of this great state.*

*With that, I hope you find the 2007-2009 Water Development Report to be informative, and I appreciate your interest in North Dakota's future water management and development efforts.*

Sincerely,

Dale L. Frink, P.E.  
North Dakota State Engineer



# Introduction

## Background

In 1999, the North Dakota State Water Commission (SWC or Commission) developed the 1999 State Water Management Plan (SWMP). The 1999 SWMP was by far the most comprehensive effort ever undertaken in North Dakota to identify the water development needs of the state. In response, the Legislature took notice of the state's growing water project needs by passing SB 2188, which set up the Water Development Trust Fund and provided authority to issue up to \$84.8 million in bonds to fund water projects statewide. In addition, the passage of House Bill 1475 devoted 45 percent of the state's tobacco settlement to the Water Development Trust Fund.

Then, in 2001, 2003, and 2005, updates and supplements to the 1999 SWMP were developed to provide updated water project information to the 57th, 58th, and 59th Legislative Assemblies. The 2001, 2003, and 2005 Water Development Reports provided updated information regarding the state's water development needs and funding abilities at those times. This report will serve a similar purpose during the 2007-2009 biennium and for the 60th Legislative Assembly.

## Purpose and Authority

The purpose of the 2007-2009 Water Development Report is to:

- serve as a supplement to the 1999 SWMP;
- provide up-to-date information regarding North Dakota's current and future water development project needs;
- provide current information regarding North Dakota's revenue sources for water development;
- serve as a formal request for funding from the Resources Trust Fund; and
- provide updated information regarding the Commission's cost-share policies.

By virtue of North Dakota Century Code, Section 61-02-14, Powers and Duties of the Commission; and Section 61-02-26, Duties of State Agencies Concerned with Intrastate Use or Disposition of Waters, the Commission is required to develop and maintain a comprehensive water plan for the sound management of North Dakota's water resources.

# Priority Project Updates

**S**ince the completion of the 1999 State Water Management Plan, the State of North Dakota, through the State Water Commission, has seen tremendous progress made in water development in all parts of the state. What is also important to recognize is that many of the state's large-scale water projects progressed despite the many obstacles that often face projects today. The following summary provides an update of progress that has been made and milestones that have been met on several of the state's priority water development efforts over the course of the last four bienniums.

## Grand Forks Flood Control

As the ten-year anniversary of the 1997 flood approaches, the City of Grand Forks has made tremendous strides to ready itself for future flood events. And, though some work remains to be completed, Grand Forks could currently handle a 1997-type flood event with the implementation of minor temporary flood control works in a few locations.

The Grand Forks flood control project consists of levees and a floodwall set back from the Red River. In addition, stabilization of an existing dam, removal of a former railroad bridge, interior

flood control features, numerous road and railroad closures, extension and expansion of an existing diversion channel, and construction of a new diversion channel with associated structural features, are all part of the project. By the fall of 2006, Phase I construction, the English Coulee Pump Station, and the 55th Street Pump Station were all 100 percent complete; the English Coulee Diversion and Phase II construction were 99 percent complete; and construction of Phase III and IV were 85 and 75 percent complete.

## Wahpeton Flood Control

The Wahpeton flood control project consists of a permanent levee system to protect the city, and a flood easement to keep breakout flows from being blocked in the future. Phase I construction has been completed, which includes interior pumping stations, detention ponds, and other interior flood control features. Almost all of Phase II has been designed for a portion of the in-town levee system, with construction anticipated for 2007. Phase III, which includes the remaining levee sections, is scheduled for completion sometime in 2010. Both Phase II and Phase III levee construction efforts must be completed in concert with levee constructions on the Breckenridge, Minnesota side of the Red River.

## Maple River Dam

Maple River Dam is located in southeast North Dakota, approximately eight miles north of Enderlin. The dam is scheduled for substantial completion in 2006, and will be operational in 2007. This dry dam is a 70-foot high earthen embankment, capable of temporarily retaining up to 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 completed as part of the Sheyenne River flood control project. The other completed phases are the West Fargo Sheyenne River Diversion, the Horace to West Fargo Sheyenne River Diversion, and the five-foot flood pool raise at Baldhill Dam.

## Southwest Pipeline

Since the development of the 1999 State Water Management Plan, a tremendous amount of progress has been made on the Southwest Pipeline Project. From 1999 to 2006, the number of rural water users had increased from just under 1,600 to about 2,900. And, the number of cities and other bulk water users increased from 25 to 43 during that same time period. Once again, in 2005, the Southwest Pipeline pumped more than a billion gallons of water from Lake Sakakawea. As a result

of prolonged drought conditions, particularly during the summer of 2006, preliminary estimates indicate that the Southwest Pipeline's 2006 water use from Lake Sakakawea could increase by almost 20 percent to about 1.35 billion gallons.

The Southwest Pipeline also recently contributed to North Dakota's energy development efforts by providing water to Red Trail Energy, an ethanol plant located in Richardton. When the plant is completed and fully operational in 2007, Southwest Pipeline will provide up to 315 million gallons of raw Missouri River system water annually. With Red Trail's future need for that much water, they will become the second largest water user on the Southwest Pipeline, behind only the City of Dickinson. In comparison, Dickinson currently uses just over 600 million gallons of Missouri River water per year.

## Northwest Area Water Supply

In the spring of 2002, construction began on the long-awaited Northwest Area Water Supply (NAWS) project. To date, almost all main transmission pipeline between Lake Sakakawea and Minot has been completed, including about 47 miles of 30 to 36 inch pipeline and isolation vaults. Additional project components to be completed along the main transmission line include an intake at Lake Sakakawea, some level of treatment facility at Max, a control structure at the basin divide, and a 3 million gallon raw water storage reservoir. These future facilities along the main transmission line will require court approval to proceed. Currently, the U.S. Bureau of Reclamation is working

to complete an Environmental Impact Statement (EIS) on the project. While the EIS is proceeding, the court has allowed design and construction to proceed on three NAWS projects including: the Minot High Service Pump Station, the pipeline between Berthold and Minot, and the pipeline within Minot.

When completed, NAWS will provide up to 2 million gallons of Missouri River water per day to at least 63,000 citizens of North Dakota. With additional rural development, NAWS could serve as many as 81,000.

## Red River Valley Water Supply

The Water Commission has worked in cooperation with the Garrison Diversion Conservancy District, and the U.S. Bureau of Reclamation in the preparation of the Environmental Impact Statement for the Red River Valley Water Supply Project. The Water Commission will continue to provide technical assistance and funding to develop a project that will be capable of meeting the Red River Valley's ever-increasing water supply needs.

## Municipal Rural and Industrial (MR&I) Water Supply Program

Because of North Dakota's MR&I program, regional and rural water systems have continued to expand throughout the state. As a result of this added assistance, there are now 32 regional water systems in North Dakota providing quality drinking water to 25 percent of the state's population. Over 160,000 residents are served by regional

water systems, including 294 cities, 21 subdivisions, and over 100,000 rural residents. Currently, all or part of 47 of North Dakota's 53 counties are served by regional water systems, and most have plans to expand to cover additional areas.

Just since 1999, MR&I projects have been completed for several water supply systems across the state, including: Langdon Rural Water, Ransom Sargent Rural Water, Rugby (NAWS), All Seasons Water Users District System Five, Glenfield Water Storage, Ramsey County Rural Water, Williams Rural Water, McKenzie County Rural Water, All Seasons Water Users District System Four, Minot (NAWS), Park River, Walsh Rural Water District, Stutsman Rural Water District, Underwood, North Valley Water District, Tri-County Water District, Williston, and LaMoure. In addition, studies were completed to develop improved water supplies at Carrington, Trail Rural Water District, Mountrail Rural Water, North Central Rural Water Consortium, South Central Regional Water District, Southeast Water District, and McLean Sheridan Rural Water.

## Devils Lake Flood Control

For more than a decade, flooding in the Devils Lake region has persisted, with little end in sight. In response, the State of North Dakota and the State Water Commission have determined that there is no single solution to the flooding problems in that region. Rather, a three-pronged approach, including infrastructure protection, upper-basin water management, and an outlet to the Sheyenne River, together, are the only means of providing some relief.

A great deal of progress has been made on all three fronts. In recent years, the state has provided assistance to the Devils Lake Joint Water Resource Board to help with the implementation of an irrigation test project that is aimed at utilizing upper basin waters for value added agriculture, while helping to reduce inflow into Devils Lake. At the same time, the Commission has continued to fund the Extended Storage Acreage Program to store floodwater in the upper portions of the basin. In addition, the Water Commission completed an outlet to the Shey-

enne River in the summer of 2004. However, outlet operation has been limited due to low flows and poor water quality in the Sheyenne River.

## General Water Management

Though larger, higher profile projects get most of the attention across the state, the Water Commission is also constantly cooperating with local sponsors to complete smaller water development efforts. General water management projects include rural flood

control projects, snagging and clearing, channel improvements, recreational projects, planning efforts, and special studies. Just since the completion of the 1999 State Water Management Plan, dozens of these projects have been completed each year. And through cooperative efforts with water resource districts and other local entities, the Water Commission will continue to strive to develop relationships and agreements to pursue the development of smaller projects that have big impacts to the communities and regions they benefit.

# State Water Development Program

**T**his section will briefly describe the inventory process used by the SWC Planning and Education Division to identify future water project or program funding needs. A discussion will also be provided of current water development activities, as well as project needs for the 2007-2009 biennium and beyond.

## The Inventory Process

As part of the SWC's water planning efforts, the Planning and Education Division once again solicited project and program information from potential project sponsors. The results provide the SWC with an updated inventory of water projects and pro-

grams that are expected to come forward for SWC cost-share in the upcoming 2007-2009 biennium and beyond. As in the past, the product of this effort, or this report, becomes the foundation that supports the State Water Commission's budget request to the Governor and Legislature.

To obtain updated and new project and program information from sponsors, the Planning and Education Division sent project information forms to county water boards, joint boards, and communities. The managers of major water projects, including the Dakota Water Resources Act - Municipal, Rural, and Industrial Program; Northwest Area Water Supply Project; and Southwest Pipeline Project, were also surveyed. Information

requested on the forms included general project descriptions, location, permit information, and identification of potential obstacles, among other basic aspects of the projects.

More importantly, sponsors were asked to assign the most realistic start dates possible to projects they expected to present to the SWC for cost-share consideration - particularly during the 2007-2009 and later bienniums. As part of that effort, project sponsors needed to take into consideration when a funding commitment from the SWC will be needed, and to identify when state dollars will be necessary for projects or programs to proceed.

Table 1: Completed Projects, 2005-2007 Biennium

PROJECT NAME
Traill County Drain #6
Red River Basin Commission Operations (NRFP)
Cavalier/Pembina Drains #2 and #3
Kummer Drain Outlet Improvement Reconstruction
Walsh County Drain #27 Improvement Reconstruction
Traill County Drain #13
ND Natural Resources Trust
Cass County Drain #15
USGS Discharge Measurements on Oak Creek and Tributaries to Lake Metigoshe
English Coulee Diversion Channel to Grand Forks Co. Drain #18
Upper Maple Retention Dam Feasibility Study
Cass County Drain #14
Oak Creek Snagging & Clearing
Walsh County Drain #31 Improvement Reconstruction & Extension
Red River Flood Insurance Mapping & Hydraulic Analysis (Fargo)
Tyrol Lateral Drain #4
Wild Rice Snagging & Clearing
32nd Ave. Fargo Dam Modification
ND Water Education Foundation Tours
Cass County Digital Aerial Survey, Phase I & II Hydraulic Analysis & Mapping
Cass County Swan Creek Diversion
Swan Creek Tributary Channel Improvements
ND Water Resources Research Institute
Coburn Drain #2 Reconstruction
North Cass County Elm River Snagging & Clearing
Richland County WRD Wild Rice River Snagging & Clearing
Red River Basin Commission Mainstem Modeling

As the project information forms were received by the SWC, each project is reviewed to determine if the proposed timeframes for project advancement are reasonable and justified by supporting information. After project reviews were completed, the information was transferred into the Planning and Education Division's water project database. This provides the SWC with updated project information for older projects and an accounting of new projects that have developed since the last inventory process, during the 2005-2007 biennium. The result

cost-share in future bienniums. As stated earlier, this is an invaluable tool for budget planning purposes both for the SWC and the Legislature.

### Project Inventories

The tables shown here will provide an inventory of: completed projects, 2005-2007 biennium (Table 1); currently active projects and funding, 2005-2007 biennium (Table 2); and future water development needs, 2007-2009 biennium (Table 3).

Table 2: Currently Active Projects and Funding, 2005-2007 Biennium

PROJECT OR CATEGORY	BUDGET	SWC/SE APPROVED
Grand Forks Flood Control	\$ 5,880,375	\$ 3,780,375
Wahpeton Flood Control	1,492,560	1,492,560
Grafton Flood Control	500,000	500,000
Fargo Flood Control	8,650,000	2,584,750
MR&I Water Supply	3,183,591	3,009,359
Irrigation Development	1,813,390	1,413,390
General Water Management	13,522,326	9,833,437
Missouri River Management	100,000	100,000
Baldhill Dam Flood Control	376,158	376,158
Maple River Dry Dam	13,421,692	13,421,692
Red River Valley Water Supply	150,000	150,000
Devils Lake Basin Development	600,000	457,631
Devils Lake Dike	3,241,123	3,241,123
Devils Lake Outlet	5,278,383	5,278,383
Devils Lake Outlet Operations	2,100,000	2,100,000
Nelson County Flood Relief	500,000	250,000
Southwest Pipeline	6,942,037	6,600,037
Weather Modification	350,000	350,000
Northwest Area Water Supply	4,983,554	4,983,554
<b>Total Cost</b>	<b>\$ 73,085,189</b>	<b>\$ 59,922,449</b>

of this inventory process is a comprehensive list of water projects throughout North Dakota that could come forward for new or additional

### Completed Projects, 2005-2007 Biennium

Table 1 lists the projects, programs, and studies that were completed during the 2005-2007 biennium as of October 2006.

### Currently Active Projects, 2005-2007 Biennium

The projects and project categories listed in Table 2 represent water development efforts that are being pursued in the current biennium. Several individual projects are listed in the table. However, a number of others fall under project categories, such as irrigation development or general water management, and therefore, are not individually identified in the table.

Table 2 represents the total 2005-2007 SWC project budget, and what the SWC had approved for project funding just over halfway through

the biennium. As the table suggests, the SWC had approved about 82 percent of the project budget by October 2006.

### Water Development Funding Needs, 2007-2009 Biennium

Table 3 contains projects that could move forward and request SWC cost-share in the 2007-2009 biennium. This accounting of projects simply represents a non-prioritized list of needs as submitted by water managers. It does not guarantee, in any way, that all of the projects listed will receive funding.

The list is organized into seven categories based on SWC cost-share policies, including: flood control, irrigation, snagging and clearing, water supply, studies/planning, rural flood control, and multi-purpose projects. The total financial need to implement all of the projects in the 2007-2009 inventory is at least \$277 million. The state's share of that total is about \$77 million, based on current cost-share requirements. The federal government and local project sponsors would be responsible to make up the balance.

ing biennium has the potential to be greater than portrayed here. In contrast, it should also be noted that water development projects can be delayed as a result of local or federal funding problems, permits, or environmental issues, which can substantially influence the actual need for any given biennium.

### Water Development Funding Needs, Beyond 2007-2009

The potential funding need that was reported by project sponsors beyond the 2007-2009 biennium, through 2013, exceeds \$340 million in total project costs. Projects included in this timeframe were either identified by project sponsors to move ahead beyond June 30, 2009, or they were placed into a later timeframe by SWC staff based on their knowledge of the project. Of special note, if the Red River Valley Water Supply Project proceeds in the coming years as expected, funding needs in this timeframe will increase dramatically.



It should be recognized that the 2007-2009 totals do not account for projects that may not seek funding in the current 2005-2007 biennium and will carry over to the next biennium. As a result, the actual need for the upcoming

Table 3: Water Development Needs in the 2007-2009 Biennium

#### Flood Control

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Red	Cass	Fargo Southside Flood Control	\$ 10,800,000	\$ 8,000,000	\$ 8,000,000	\$ 26,800,000
Red	Cass	Up. Maple River Watershed Floodwater Retention	0	1,450,000	1,450,000	2,900,000
Red	Cass	Swan Creek Watershed Floodwater Retention	0	1,250,000	1,250,000	2,500,000
Devils Lake	Multi-county	Devils Lake Flood Control	0	2,000,000	0	2,000,000
Red	Nelson	Kloten Flood Control	0	8,000	8,000	16,000
Red	Pembina	Renwick Dam Rehabilitation	3,250,000	875,000	875,000	5,000,000
Red	Richland	Wahpeton Flood Control	0	1,000,000	1,000,000	2,000,000
<b>Total</b>			<b>\$14,050,000</b>	<b>\$14,583,000</b>	<b>\$12,583,000</b>	<b>\$41,216,000</b>

#### Irrigation

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Statewide	Multi-county	Irrigation Development	\$0	\$2,000,000	\$2,250,000	\$4,250,000
<b>Total</b>			<b>\$0</b>	<b>\$2,000,000</b>	<b>\$2,250,000</b>	<b>\$4,250,000</b>

## Snagging & Clearing

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Red	Cass	Sheyenne River Snagging and Clearing	\$ 0	\$ 75,000	\$ 225,000	\$ 300,000
Red	Cass	Wild Rice River Snagging and Clearing	0	25,000	75,000	100,000
Red	Cass	Red River Snagging and Clearing	0	25,000	75,000	100,000
Red	Cass	Buffalo Creek Snagging and Clearing	0	50,000	150,000	200,000
Red	Cass	Maple River Snagging and Clearing	0	12,500	37,500	50,000
Red	Cass	Rush River Snagging and Clearing	0	12,500	37,500	50,000
Red	Grand Forks	Turtle River Snagging and Clearing	0	93,750	281,250	375,000
Red	Nelson	Sheyenne River Snagging and Clearing	20,000	10,000	30,000	60,000
Red	Richland	Wild Rice River Snagging and Clearing	0	40,000	120,000	160,000
<b>Total</b>			<b>\$20,000</b>	<b>\$343,750</b>	<b>\$1,031,250</b>	<b>\$1,395,000</b>

## Water Supply

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST*	TOTAL COST
Missouri	Multi-county	South Central Regional Rural Water System	\$12,129,500	\$5,000,000	\$17,129,500	\$34,259,000
Missouri	Burleigh	Bismarck Horizontal Collector Well Intake	299,000	0	229,000	528,000
Red	Cavalier	City of Langdon: Mt. Carmel Raw Water 2nd Line	669,900	0	375,300	1,045,200
Red	Dickey	City of Ludden Water Service	250,000	0	631,500	881,500
Missouri	Multi-county	BDW Water System	939,000	0	806,000	1,745,000
Missouri	McKenzie	McKenzie County Rural Water: System II	2,245,250	0	962,250	3,207,500
Missouri	McLean	N. Central Rural Water Consort. - Regional Sys.	7,728,000	1,932,000	4,140,000	13,800,000
Missouri	McLean	City of Garrison Water Storage Improvements	700,000	0	300,000	1,000,000
Missouri	Morton	Mandan Intake Replacement	5,775,000	0	2,475,000	8,250,000
Missouri	Mountrail	Parshall Water Treatment Facility Improvements	3,220,000	0	1,380,000	4,600,000
Red	Nelson	City of Lakota Water Supply	980,000	0	420,000	1,400,000
Red	Pembina	Drayton Dam Section 206 Improvement	323,500	0	0	323,500
Red	Pembina	Drayton Dam Upst.Channel Landslide Blockage	1,040,000	1,000,000	1,000,000	3,040,000
Devils Lake	Ramsey	City of Devils Lake: Emer. Water Source & Treat.	8,000,000	2,000,000	4,000,000	14,000,000
Red	Richland	SEWUD Regional Water Service - Reservoir G	0	0	2,700,000	2,700,000
Missouri	Multi-county	Southwest Pipeline Project	0	10,000,000	0	10,000,000
Souris	Multi-county	Northwest Area Water Supply	11,900,000	5,000,000	13,100,000	30,000,000
Red	Multi-county	Red River Valley Water Supply	0	12,000,000	12,000,000	24,000,000
Red	Traill	City of Hillsboro: Water Dist. System Improvements	0	0	256,425	256,425
Red	Traill	Traill Rural Water - Regional Expansion	0	2,100,000	900,000	3,000,000
Red	Walsh	Grafton Intake Replacement	97,000	0	77,000	174,000
Red	Walsh	Grafton Water Treatment Plant Improvements	2,283,000	0	1,867,000	4,150,000
Red	Walsh	Walsh Regional Water System Improvements	700,000	1,000,000	1,000,000	2,700,000
Missouri	Williams	Williston Regional Water Treatment Plant - Ph. III	2,000,000	2,000,000	18,820,000	22,820,000
Missouri	Williams	Tioga Rural Water	5,849,200	0	2,506,800	8,356,000
<b>Total</b>			<b>\$67,128,350</b>	<b>\$42,032,000</b>	<b>\$87,075,775</b>	<b>\$196,236,125</b>

\* In some instances, all or portions of local funding for water supply projects may come from the Drinking Water State Revolving Loan Fund, or Rural Development loans.

## Studies & Planning

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Red	Pembina	Pembina County Water Management Plan	\$ 0	\$ 50,000	\$ 50,000	\$ 100,000
<b>Total</b>			<b>\$0</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>\$100,000</b>

### Rural Flood Control

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Red	Cass	Cass County Drain #27	\$ 0	\$ 100,000	\$ 285,000	\$ 385,000
Red	Cass	Cass County Drain #NC-1	0	175,000	325,000	500,000
Red	Cass	Cass County Drain #14	0	175,000	325,000	500,000
Red	Cass	Rush River Channel Reconstruction	0	105,000	195,000	300,000
Red	Cass	Red/Wild Rice River Farmstead Ringdikes	0	175,000	325,000	500,000
Red	Cavalier	Billings Lake Channel Project	0	17,500	32,500	50,000
Red	Cavalier	Mt. Carmel Drain #3	0	21,000	39,000	60,000
Red	Cavalier	Mulberry Creek Phase II	0	105,000	195,000	300,000
Red	Cavalier	West Snowflake Creek Phase I	0	70,000	130,000	200,000
Red	Grand Forks	Arvilla Water Diversion Project	0	133,000	247,000	380,000
Red	Grand Forks	Cole Creek Channelization	0	133,000	247,000	380,000
Red	Grand Forks	Hazenbrook Channel & Erosion Control Structure	0	70,000	130,000	200,000
Red	Pembina	Pembina River Setback Dike System	0	105,000	195,000	300,000
Red	Pembina	Tongue River Cutoff	0	122,500	227,500	350,000
Red	Pembina	Drain #64 Drop Structure	0	35,000	65,000	100,000
Red	Pembina	Drain #66 New Outlet	0	66,500	123,500	190,000
Red	Richland	Project #14 Reconstruction	0	105,000	195,000	300,000
Red	Richland	Project #10 Reconstruction	0	245,000	455,000	700,000
Red	Walsh	Walsh County Drain #67A	0	85,000	185,000	270,000
Red	Walsh	Channel 3 Lower Forest River	0	85,000	185,000	270,000
<b>Total</b>			<b>\$0</b>	<b>\$2,128,500</b>	<b>\$4,106,500</b>	<b>\$6,235,000</b>

### Multi-Purpose

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Statewide	Statewide	Dam Repairs	\$ 0	\$14,645,300	\$8,834,700	\$23,480,000
Missouri	Multi-county	Missouri River Management	0	100,000	100,000	200,000
Statewide	Statewide	ND Cloud Modification	0	583,000	1,183,666	1,766,666
Devils Lake	Statewide	Devils Lake Up. Basin Water Utilization Test	1,050,000	780,000	1,170,000	3,000,000
<b>Total</b>			<b>\$1,050,000</b>	<b>\$16,108,300</b>	<b>\$11,288,366</b>	<b>\$28,446,666</b>

Table 3 Cont.: Summary of Water Development Needs, 2007-2009

PROJECT CATEGORY	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Flood Control	\$ 14,050,000	\$ 14,583,000	\$ 12,583,000	\$ 41,216,000
Irrigation	0	2,000,000	2,250,000	4,250,000
Snagging & Clearing	20,000	343,750	1,031,250	1,395,000
Water Supply	67,128,350	42,032,000	87,075,775	196,236,125
Studies & Planning	0	50,000	50,000	100,000
Rural Flood Control	0	2,128,500	4,106,500	6,235,000
Multi-Purpose	1,050,000	16,108,300	11,288,366	28,446,666
<b>TOTAL</b>	<b>\$82,248,350</b>	<b>\$77,245,550</b>	<b>\$118,384,891</b>	<b>\$277,878,791</b>

# Water Project Funding

**N**orth Dakota funds a majority of its water projects through the SWC. Funding that is funneled through the SWC for water development comes from several sources including: the state's General Fund; the Dakota Water Resources Act, Municipal, Rural, and Industrial (MR&I) Water Supply Program; the Resources Trust Fund; and the Water Development Trust Fund. In addition to these sources, the SWC is also authorized to issue revenue bonds for water projects, and the SWC has shared control of the Drinking Water State Revolving Loan Fund. There are also other federal funding sources that will be briefly discussed.

## General Fund

The executive budget includes almost \$10.7 million general fund dollars for agency operations. This is significant for projects because agency operations had been funded out of the Water Development Trust Fund for the past three bienniums. The trust fund money will now be available for projects. In addition, the executive budget includes \$3 million general fund dollars for the Red River Valley Water Supply project.

## MR&I

A main source of funding for water supply development in North Da-

kota is the Municipal, Rural, and Industrial (MR&I) Water Supply Program. The program receives funding through the federal Dakota Water Resources Act which channels grant funding through the Bureau of Reclamation. Rural Development funding through the United States Department of Agriculture has provided the majority of loans to cover the local share of MR&I projects.

The 1986 Garrison Reformulation Act authorized a federal MR&I grant program of \$200 million. To date, all of that funding has been obligated. Efforts to obtain additional federal funding authorization for the MR&I program were successful with the passage of the Dakota Water Resources Act of 2000. The Act provides resources for general MR&I projects, the Northwest Area Water Supply Project, the Southwest Pipeline Project, and a project to address water supply issues in the Red River Valley. An additional \$600 million was authorized; which includes a \$200 million grant for state MR&I, a \$200 million grant for Indian MR&I, and a \$200 million loan for a Red River Valley water supply.

Annual MR&I funding is dependent upon U.S. Congressional appropriation, and thus, varying annual appropriations result in project delays. As of September 2006, \$6.6 million in federal funds had been approved for North

Dakota's MR&I program for Federal Fiscal Years 2005 and 2006.

## Resources Trust Fund

Section 57-51.1-07.1 (2) of North Dakota Century Code requires that every legislative bill appropriating monies from the Resources Trust Fund (RTF), pursuant to subsection one, must be accompanied by a State Water Commission report. This report, the 2007-2009 Water Development Report, satisfies that requirement for requesting funding from the RTF for the 2007-2009 biennium.

The RTF is funded with 20 percent of the revenues from the oil extraction tax. A percentage of the RTF has been designated by constitutional measure to be used for water-related projects and energy conservation. The SWC budgets money for cost-share based on a forecast of oil extraction tax revenue for the biennium, which is provided by the Office of Management and Budget.

Revenues into the RTF for the 2005-2007 biennium are expected to total \$25.8 million. Future revenues from the oil extraction tax are highly dependent on world oil prices, which make it difficult to predict future funding levels. The November 2006 forecasts estimated new revenues of \$39.8 million for the 2007-2009 biennium from oil extraction.

Additional new revenue into the RTF will come from Southwest Pipeline reimbursements, MR&I program loan repayments (which amount to \$1 million per biennium through year 2017), interest, and oil royalties. Based on the November 2006 projections, the total new RTF revenue available for water development during the 2007-2009 biennium will be about \$43 million.

## Water Development Trust Fund

Senate Bill 2188 set up a Water Development Trust Fund as a primary means of repaying the bonds it authorized. House Bill 1475 allocated 45 percent of the funds received by the state from the 1998 tobacco settlement into the Water Development Trust Fund.

Revenues into the Water Development Trust Fund for the 2005-2007 biennium are expected to total almost \$19.4 million. This represents a reduction from the budgeted amount of approximately \$1.2 million. The Office of Management and Budget (OMB) estimates revenues of \$31.5 million for the 2007-2009 biennium. OMB reduced the 2007-2009 estimated revenues from the scheduled payments by 5 percent. These payment reduction amounts were made under a provision of the master settlement agreement referred to as the “non-participating manufacturer adjustment.”

The non-participating manufacturer adjustment is a provision of the master settlement agreement that requires states to enforce the terms of the settlement agreement with the smaller tobacco companies that were not a part of the original settlement. These requirements include collecting payments

from the smaller companies. The payment reductions are being challenged in court.

Revenues are anticipated to return to \$33.1 million per biennium for the 2009-2011 through 2015-2017 bienniums and then fall back to \$23.6 million for the 2017-2019 through 2023-2025 bienniums. Payments into the fund are scheduled through 2025 at a level based on inflation and tobacco consumption.

## Bonding

The SWC has bonding authority (NDCC 61-02-46) to issue revenue bonds of up to \$2 million per project. The Legislature must authorize revenue bond authority beyond \$2 million per project. In 1991, the Legislature authorized full revenue bond authority for the Northwest Area Water Supply Project, in 1997 it authorized \$15 million of revenue bonds for the Southwest Pipeline, and in 2001 it raised the Southwest Pipeline authority to \$25 million.

In 1999, the SWC was authorized to issue up to \$84.8 million in appropriation bonds under provisions of Senate Bill 2188. The Legislature’s intent was to partially fund flood control projects at Grand Forks, Devils Lake, Wahpeton, and Grafton, and to continue funding for the Southwest Pipeline. In March 2000, the SWC issued bonds generating \$27.5 million, thus reducing available bonding authority to \$57.3 million. Recognizing the need for water development projects in addition to those identified in SB 2188, the 2003 Legislature allowed authority for the unissued \$57.3 million to expire, but then authorized \$60 million of bonding authority for statewide water development projects. In June 2005, the Commission did issue bonds generating \$60 million. The

2005 Legislature also authorized an additional \$7 million of bonding authority for statewide water development projects in the 2005-2007 biennium. At the present time the SWC does not anticipate the need to issue these bonds.

Because the tobacco settlement dollars are not projected to remain uniform each year, the SWC set up a repayment schedule to correspond with the projected tobacco receipts. Although the repayment amounts are based on the projected receipts, the scheduled repayments must be made regardless of the actual receipts. Payments for existing water development bonds will be \$14 million for the 2007-2009 biennium, however funds must be available to make the August 1, 2009 payment. This payment occurs the second month of the new biennium prior to the receipt of any of that biennium’s tobacco settlement dollars. That repayment will be \$7.1 million.

## Drinking Water State Revolving Loan Fund

An additional source of funding for water supply development projects is the Drinking Water State Revolving Loan Fund (DWSRF). Funding is distributed in the form of a loan program through the Environmental Protection Agency administered by the North Dakota Department of Health (NDDH). The DWSRF provides below market-rate interest loans of 3 percent to public water systems for capital improvements aimed at increasing public health protection and compliance under the federal Safe Drinking Water Act.

The SWC’s involvement with the DWSRLF is two-fold. First, the NDDH must administer and disburse funds with the approval

of the SWC. Second, the NDDH must establish assistance priorities and expend grant funds pursuant to the priority list for the drinking water treatment revolving loan fund, after consulting with and obtaining the SWC's approval.

The process of prioritizing new or modified projects is completed on an annual basis. Each year, the NDDH provides an Intended Use Plan, which contains a comprehensive project priority list and a fundable project list. The 2007 comprehensive project priority list includes 90 projects with a cumulative total project funding need of \$258.7 million. The fundable list of 26 projects includes \$52 million for fiscal years 1997

through 2006. Available funding for the DWSRLF program for 2007 is anticipated to be approximately \$8.3 million.

### Other Federal Funding

With regard to other federal funding, the U.S. Army Corps of Engineers provides significant assistance to North Dakota for flood control projects. The Environmental Protection Agency, U.S. Bureau of Reclamation, U.S. Geological Survey, and the Natural Resources Conservation Service also contribute to the state's water development efforts in many different ways, including studies, project design, and project construction.

### Other Funding Options

In the future, it is expected that the state's ability to fund water development efforts will become more limited as funding sources remain largely the same, while project costs continue to dramatically increase. As such, the State of North Dakota should begin to consider other potential funding sources for water projects, as they have done in the past when needs far exceeded available funding. It was this type of planning that established the Resources and Water Development Trust Funds that have advanced critical water projects in all parts of the state.

# Funding Priorities for the 2007-2009 Biennium

This section discusses the state's priority water development efforts and funding for the 2007-2009 biennium. It includes one course of action for water development in North Dakota that is subject to change during the 60th Legislative Assembly and the biennium.

### Water Development Priority Descriptions

North Dakota's prioritized water development funding needs are grouped into several main categories in Table 4. Each of those projects and categories is explained hereafter.

Table 4:  
2007-2009 Biennium  
Water Development Priorities

PRIORITY PROJECTS	(MILLIONS)
Red River Valley Water Supply	\$ 12.0
Southwest Pipeline Project	10.0
Northwest Area Water Supply	5.0
MR&I	12.0
Fargo Flood Control	8.0
Devils Lake Water Supply	2.0
Irrigation	2.0
Devils Lake Outlet Operation	2.0
Weather Modification	0.6
General Water Management	10.0
<b>EXPENDITURE TOTAL</b>	<b>\$ 63.6</b>

### Red River Valley Water Supply

With most of the Red River Valley's population relying on the Red River and its tributaries as their sole source of water, the impacts of a prolonged drought would be devastating to that region. And, as the population and economy of the Red River Valley continue to grow at an astonishing rate, the need for a more reliable source of quality water has become more important than ever before.

The United States Bureau of Reclamation is completing the final stages of an Environmental Impact

Statement process that will identify alternatives to meet the Red River Valley's growing municipal, rural, and industrial water supply needs. As that study comes to a close, including the identification of a preferred alternative, North Dakota will need to support the Red River Valley Water Supply project with state funding through the Water Commission of at least \$12 million to advance this critical water development effort to the next stage of its evolution.

### Devils Lake Outlet Operation

Having completed the Devils Lake emergency outlet in the summer of 2005, it is now necessary for the state to provide funding for the operation and maintenance of the project. It is estimated that these costs will total approximately \$2 million per biennium.

The state outlet is currently sized for 100 cubic feet per second (cfs), but could be expanded to 300 cfs in the future with additional work if necessary. The outlet consists of: two pumping plants, one on the Round Lake portion of Devils Lake, and the second near Josephine, North Dakota; approximately 4 miles of pipeline; and 10 miles of open channel.

### Southwest Pipeline Project

The \$10 million budgeted for the Southwest Pipeline Project will be used, among other things, toward the Environmental Assessment and Preliminary Engineering Report for the Oliver, Mercer, North Dunn Regional Service Area, and to complete as much of the Medora-Beach Phase III project as possible. It is also possible that construction could begin on the Oliver, Mercer, North Dunn Regional Service Area Phase II.

### Northwest Area Water Supply

State funding of \$5 million for the Northwest Area Water Supply (NAWS) project will go toward design and construction of three large projects around the Minot area. These projects include an 18 million gallon per day high service pump station with 2 million gallons of storage, 4 miles of 24 to 36-inch pipe through the City of Minot, and 21 miles of 10 to 14-inch pipe between Minot and Berthold, which includes two half-million gallon storage reservoirs and two booster stations. The total project cost for these three projects will total approximately \$21.2 million, with the difference being covered by the federal government and the City of Minot.

### MR&I

Because of North Dakota's MR&I water supply program, regional and rural water systems have continued to be developed or expanded across the state. The \$12 million that is budgeted could be used toward a number of MR&I projects across North Dakota.

### Fargo Flood Control

The \$8 million budgeted for Fargo's flood control efforts would pay for a portion of the Fargo Southside Flood Control Project. This would bring the state's total contribution to \$16.6 million for flood control efforts in the Fargo area. The total project cost is estimated at \$44 million, with \$16.6 million coming from the City of Fargo, and the remaining \$10.8 million from the U.S. Army Corps of Engineers.

The Southside project will protect portions of south Fargo from

flooding from the Red, Wild Rice, and Sheyenne Rivers. A dike and diversion channel will be constructed to intercept overland floodwater south of town. The project will also include backup protection and a pump station at Rose Coulee near Highway 81.

### Devils Lake Water Supply

The \$16 million Devils Lake Water Supply Project will provide a safe and reliable water supply for the City of Devils Lake. Currently, the city is at risk of losing its water supply due to significant portions of the city's 45-year old water transmission line being submerged by Devils Lake floodwater, making it inaccessible for maintenance and repair.

Devils Lake also needs to develop this water supply project to remain in compliance with federal Safe Drinking Water Act (SDWA) requirements for arsenic. A new water supply must be in place by January 2009 to remain in compliance with SDWA requirements, meaning construction must begin in 2007 to have the project completed within the required timeframe. The \$2 million contribution from the Water Commission will supplement local, state, and federal funding sources.

### Irrigation

As ethanol plants continue to be developed across the state, the need for increased corn production, supported by irrigation development, will also grow. The \$2 million budgeted for irrigation will provide the necessary funding assistance to advance irrigation efforts in areas of need across North Dakota.

## Weather Modification

State funding in the amount of \$600,000 is budgeted for operational cloud seeding costs with counties participating in the North Dakota Cloud Modification Project. The Atmospheric Resources Board currently cost-shares approximately 35 percent of operational costs, with participating counties paying the remaining 65 percent. This funding level will allow the program to continue its current level of capability for the 2007-2009 biennium.

## General Water Management

General water management projects include rural flood control, snagging and clearing, channel improvements, recreational projects, dam repairs, planning efforts, and special studies. Funding for dam repairs is quickly becoming a priority in North Dakota and across the nation with dams that were constructed during the 1960s approaching their design life, and those that were constructed in the 1930s being well beyond their design life, and in many cases, in serious disrepair. It is estimated that dam repairs needed in North Dakota currently total about \$33 million, and 15 of the most needed repairs total about \$23.5 million. The \$10 million that is budgeted for general water management projects will be used to fund a portion of the state's general projects that are ready to proceed during the 2007-2009 biennium.



# Appendix

## NORTH DAKOTA STATE WATER COMMISSION COST-SHARE POLICIES, PROCEDURES, AND GENERAL REQUIREMENTS

It is the policy of the State Water Commission that the following categories of projects shall be eligible for cost-sharing, and that the projects are consistent with the public interest to receive cost-share funding from the agency's appropriated funds. Projects that receive Federal Emergency Management Agency funding and/or financial support from the State's Division of Emergency Management Fund are not eligible for funding through the State Water Commission. No funds shall be used in violation of the Anti-Gift Clause of the North Dakota Constitution.

### ELIGIBLE ITEMS

It is the policy of the State Water Commission that the following items shall be eligible for cost-sharing upon approval by the State Water Commission:

- I. Construction costs, which include but are not limited to, earthwork, concrete, mobilization and demobilization, dewatering, materials, seeding, rip-rap, re-routing electrical transmission lines, moving storm and sanitary sewer systems, and other underground utilities and conveyance systems, irrigation supply works, and other items and services provided by the contractor. The costs must have been incurred after the cost-share approval date.
- II. Preliminary engineering costs preceding the cost-share approval date up to a maximum of two years, and final engineering costs incurred after the cost-share approval date. All preliminary engineering and engineering feasibility studies for flood control projects are exempt from any time restrictions.

The eligibility of certain items for cost-share may be addressed on an individual basis and presented to the State Water Commission for consideration if deemed warranted by Commission personnel.

### NON-ELIGIBLE ITEMS

It is the policy of the State Water Commission that the following items shall not be eligible for cost-sharing by the State Water Commission:

- I. Acquisition of property interests in fee or easement for projects.
- II. Administrative and legal expenses incurred in connection with any project.
- III. Maintenance work, deferred maintenance, or repairs on any project, except for maintenance that may be required as a result of an unusual climatological event or dam safety repairs.
- IV. Projects that do not receive cost-share approval prior to the commencement of the project.
- V. Construction and final engineering costs incurred prior to cost-share approval.
- VI. Preliminary engineering costs incurred earlier than two years preceding the cost-share approval date. Flood control projects are exempt.
- VII. Funding contributions provided by other entities that reduce the project cost to the applicant.
- VIII. Work incurred outside the scope of the project.
- IX. Technical assistance provided as in-kind.

The eligibility of certain items for cost-share may be addressed on an individual basis and presented to the State Water Commission for consideration if deemed warranted by Commission personnel.

#### COST-SHARE APPLICATION AND APPROVAL PROCEDURES

It is the policy of the State Water Commission to provide cost-share funding for water development projects. The State Engineer has the authority to cost-share up to \$20,000 without State Water Commission action. Projects estimated in excess of \$20,000 must be presented to the State Water Commission for approval.

The following are general cost-share application procedures and requirements for State Water Commission and State Engineer approval:

- I. Application Required. The State Water Commission will not consider any request for cost-sharing for water-related projects unless an application is first made to the State Engineer. The applicant must be a federal or state entity, a political subdivision, or a commission legislatively granted North Dakota recognition.
- II. Permits. The applicant for cost-sharing must also address the appropriate federal, state, and local permits required. No contract will be initiated until all required permits have been issued.
- III. Contents of Application. An application for cost-sharing must be in writing, but is not required to be in a prescribed format. A "North Dakota State Water Commission Project Information and Cost-Share Request Form" is available from the Commission upon request. The application must include the following:
  - A. Description and location of the proposed project
  - B. Purpose, goal, objective/narrative of the proposed project
  - C. Delineation of costs
  - D. Preliminary designs, if applicable
  - E. Scope of work for an engineering feasibility study
  - F. Additional information as deemed appropriate by the State Engineer
- IV. Review. Upon receiving an application for cost-sharing, the State Engineer shall review the application and accompanying information. If the State Engineer is satisfied that the proposal meets all the requirements, the State Engineer shall present the application to the State Water Commission for approval (for projects where the state cost-share amount is greater than \$20,000), or the State Engineer may make a determination for approval (state cost-share amount is \$20,000 or less). The State Engineer's review of the application will include the following items, and any other considerations that the State Engineer deems necessary and appropriate.
  - A. If the application for cost-sharing is for project construction, a field inspection will be made, if deemed necessary by the State Engineer. Previous field inspections made by the State Engineer as part of a permit application may satisfy this requirement.
  - B. Engineering plans and specifications will be reviewed.
  - C. If the request is for a study, the State Engineer will review the application to ensure that the study qualifies as an eligible study as defined by the State Water Commission.
  - D. The amount of eligible cost-share will be determined by the project type or the amount requested by the applicant.
- V. Notice and Appearance of the Applicant. For projects with an excess state cost-share amount of \$20,000, the State Engineer shall place the application for cost-sharing on the tentative agenda of the State Water Commission meeting at which the application will be presented. The State Engineer shall give notice to such applicant when the project will be presented to the State Water Commission.
- VI. State Engineer's Recommendation. The State Engineer will make a recommendation to the State Water Commission on an application in excess of \$20,000 for state cost-sharing at the meeting of the commission when such application for cost-sharing is presented for approval. No funds will be disbursed until the State Water Commission and applicant(s) have entered into a contract for state cost-share participation.
- VII. Litigation. If a project for which an application for cost-sharing has been submitted is the subject of litigation,

tion, the application may be deferred until the litigation is resolved. If a project for which the State Water Commission or State Engineer has approved a cost-sharing request becomes the subject of litigation before the funds approved by the Commission have been disbursed, the State Engineer may withhold such funds until the litigation is resolved.

VIII. Engineering Designs, Plans, and Specifications. Engineering designs, plans, and specifications for the construction of a project must be approved by the State Engineer. The applicant/project sponsor must also comply with the North Dakota Century Code in the soliciting and awarding of bids and contracts, and all federal, state, and local laws.

IX. Cost Sharing By Other Agencies. All applications for cost-sharing shall be reviewed to determine if other local or state agencies are participating in the project costs. If so, the State Water Commission will take this into account, and may reduce the percentage of commission cost-sharing accordingly.

X. Partial and Final Payments. The State Engineer may make partial payment of cost-sharing funds as deemed appropriate. Upon notice by the applicant/project sponsor that all work or construction has been completed, the State Engineer may conduct a final field inspection. If the State Engineer is satisfied that construction has been completed in accordance with the designs, plans and specifications for the project, the final payment for cost-sharing as approved by the State Water Commission shall be disbursed to the project sponsor, less any partial payment previously made. Engineering Feasibility Studies are only entitled to one payment.

XI. Maintenance and Repairs. Except as otherwise provided, the State Water Commission shall require that the applicant for cost-sharing be responsible for maintenance and repairs of the project.

#### PROJECTS ELIGIBLE FOR COST-SHARE

I. Rural Flood Control Projects. The primary purpose of rural flood control projects is to manage runoff/drainage from agricultural sources or to provide flood control in a rural setting. Typically, rural flood control projects consist of drains, channels, diversion ditches, or ring dikes. The State Water Commission has established design criteria for rural flood control projects. Projects that are managing runoff/drainage from urban sources are not eligible for State Water Commission cost-share participation.

A. Drains, Channels, and Diversion Ditches. The Commission will provide cost-sharing up to 35 percent of the eligible items for the construction of drains, channels, and diversion ditches. Improvement reconstructions are reimbursed at 35 percent, less maintenance per a sediment analysis, or at 30 percent if a sediment analysis is not provided. The cost-share of any one project is capped per biennium. County and township road crossing work that are an integral part of the drains, channels, and diversion ditches and the appropriate costs for engineering work, excluding any land rights, administration and legal costs, are eligible for cost-share. A Water Resource District applying for cost-sharing for a rural assessment-based flood control project must comply with regulatory statutes per the North Dakota Century Code. If an assessment-based rural flood control project is to be established within two or more districts, or the project is sponsored by two or more districts, and financial participation is sought from the State Water Commission, each district involved must join in the application for financial assistance.

B. Ring Dikes. A ring dike program shall be developed and sponsored by a federal, state, or political subdivision consisting of one or more occupied farmsteads and/or rural residences. Ring dikes will receive up to a 50 percent cost-share of the eligible items, limited to a maximum of \$25,000 per ring dike. All ring dikes within the program are subject to the Commission's minimum design criteria standards, eligible items, and costs.

II. Water Supply Projects. The State Water Commission will provide cost-sharing for up to 50 percent of the eligible items of any cost-sharing application approved for water supply projects. These projects are commonly associated with dams and water retention methods. If sufficient funds are not available for all competing cost-sharing applications, water supply projects for domestic, municipal, and rural uses shall receive highest priority.

III. Flood Control Projects. The State Water Commission will provide cost-sharing for up to 50 percent of the eligible items of any cost-sharing application approved for flood control projects. The nature of these projects is to protect communities from flooding and may include the repair of dams that provide a flood control

benefit. These projects are commonly associated with dams, dikes, levees, diversion channels, water retention structures/methods, dam repairs, drop structures, and miscellaneous flood control programs.

IV. Recreation Projects. The State Water Commission will provide cost-sharing for up to 33.33 percent of the eligible items of any cost-sharing application approved for the purpose of water-based recreation. Various types of projects may constitute a recreation project.

V. Snagging and Clearing. The State Water Commission will provide cost-sharing for up to 25 percent of the eligible items for snagging and clearing on natural streams. Removal of sediment, woody vegetation (snagging and clearing), or waterborne debris from artificial rural flood control projects which has been deposited over a number of years and has reduced the hydraulic capacity of a rural flood control project is not eligible for State Water Commission cost-share participation.

VI. Studies, Reports, Analyses, Surveys, Models, Assessments, and Mapping. The State Water Commission will provide cost-sharing for up to 50 percent of the eligible items of any cost-sharing application approved for studies, reports, analyses, surveys, models, assessments, and mapping projects. The percentage of funds is limited by the maximum cost-share limits of eligible project categories to which the purpose of the project corresponds. A paper and electronic copy of the study, report, analysis, survey, model, assessment or mapping project must be provided to the State Water Commission upon completion. One payment will be reimbursed to the project sponsor upon the copy receiving review and approval from State Water Commission personnel.

A. Engineering Feasibility Studies. An engineering feasibility study identifies a water-related problem and the alternatives/options to solve or alleviate the problem, an evaluation of the alternatives/options for technical, engineering, and financial feasibility, and the selection of an alternative/option.

B. Other Studies, Reports, and Analyses. The purpose of these projects is to gather data and/or accomplish a specific task such as flood insurance studies, hydraulic modeling, and flood insurance mapping projects.

VII. Irrigation. The State Water Commission will provide cost-sharing for up to 40 percent of the eligible items of any cost-sharing application approved for irrigation projects. The cost-share must be limited to supporting the irrigation development efforts of political subdivisions. The items eligible for cost-share are those associated with new central supply works, to include water storage facilities, intake structures, wells, pumps, power units, primary water conveyance facilities, electrical transmission and control facilities, and engineering.

VIII. Bank Stabilization. The State Water Commission will provide cost-sharing for up to 50 percent of the eligible items of any cost-sharing application approved for bank stabilization projects on public lands. Public lands are defined by the State Water Commission as land that all of the public has a right to the use of.

IX. Technical Assistance. The State Water Commission will provide cost-share of up to 50 percent of eligible costs based on the type of project as described above. In some cases a portion of the assistance provided may be in the form of in-kind technical assistance. The cost or value of the technical assistance will count toward the Commission's total contribution. The project sponsor, upon awarding a contract for the construction or other work to be performed for a project in which the State Water Commission is providing technical assistance, shall file a copy of the contract with the State Engineer.