North Dakota State Water Commission

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Audio Telephone Conference Call Meeting
Governor's Conference Room - Ground Floor
State Capitol
Bismarck, North Dakota

May 15, 2013
4:00 p.m., CDT

AGENDA

A. Roll Call

B. Consideration of *Agenda* - *Information pertaining to the agenda items is available on the State Water Commission's website at http://www.swc.nd.gov*

C. Southwest Pipeline Project:

1) ***Contract 8-1A - New Hradec Tank Award*** **
2) ***Contract 5-15B - 2nd Zap Potable Reservoir*** **
3) ***Contract 5-17 - Dunn Center Elevated Tank*** **
4) ***Contract 4-6 - Dunn Center Service Area Pumps*** **
5) ***Killdeer Water Service Contract*** **
6) ***Contract 2-8E - Dunn Center Service Area Main Transmission Line Phase I*** **

D. Other Business:

1) Next State Water Commission Meeting - June 19, 2013

E. Adjournment

** ***BOLD, ITALICIZED ITEMS REQUIRE SWC ACTION***

To provide telephone accessibility to the State Water Commission meeting for those people who are deaf, hard of hearing, deaf and/or blind, and speech disabled, please contact Relay North Dakota, and reference ... TTY-Relay ND ... 1-800-366-6888, or 711.

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

MINUTES

North Dakota State Water Commission
Audio Telephone Conference Call Meeting
Bismarck, North Dakota

May 15, 2013

The North Dakota State Water Commission held an audio telephone conference call meeting in the Governor's conference room at the State Capitol, Bismarck, North Dakota, on May 15, 2013. Governor Jack Dalrymple, Chairman, called the meeting to order at 4:00 p.m., and announced a quorum was present.

STATE WATER COMMISSION MEMBERS PRESENT:
Governor Jack Dalrymple, Chairman
Arne Berg, Member from Starkweather
Maurice Foley, Member from Minot
Larry Hanson, Member from Williston
Jack Olin, Member from Dickinson
Robert Thompson, Member from Page
Harley Swenson, Member from Bismarck
Douglas Vosper, Member from Neche

STATE WATER COMMISSION MEMBER ABSENT:
Doug Goehring, Commissioner, North Dakota Department of Agriculture, Bismarck

OTHERS PRESENT:
Todd Sando, State Engineer, and Chief Engineer-Secretary,
North Dakota State Water Commission, Bismarck (not present)
State Water Commission Staff
Mary Massad, Southwest Water Authority, Dickinson
Dave Koland, Garrison Diversion Conservancy District, Carrington
James Lennington, Bartlett & West/AECOM, Bismarck
Brenda Heller, North Dakota Senate, District 33, Beulah (via telephone)
Jerod Tufte, North Dakota Office of Governor Dalrymple, Bismarck
Jennifer Verleger, North Dakota Office of Attorney General, Bismarck

The attendance register is on file with the official minutes.

The meeting was recorded to assist in compilation of the minutes.

CONSIDERATION OF AGENDA The agenda for the May 15, 2013 State Water Commission audio telephone conference call meeting was presented; there were no modifications to the agenda.

It was moved by Commissioner Foley, seconded by Commissioner Swenson, and unanimously carried, that the agenda be accepted as presented.

SOUTHWEST PIPELINE PROJECT - OLIVER-MERCER-NORTH DUNN REGIONAL SERVICE AREA, NEW HRADEC TANK - AWARD OF CONTRACT 8-1A TO OLANDER CONTRACTING, FARGO, ND (SWC Project No. 1736-99) On March 21, 2013, bid proposals were opened for Southwest Pipeline Project Contract 8-1A, Oliver-Mercer-North Dunn Regional Service Area - New Hradec Tank. The contract consists generally of furnishing and installing a single 296,000 gallon, 80 feet to overflow water storage reservoir. The contract documents stipulate a substantial completion date of September 15, 2013.

The bid form was divided into four schedules: welded steel reservoir; glass-coated bolted steel reservoir; stainless steel reservoir; and a fusion powder coated bolted steel tank. Bidders had the option of submitting bids on any or all schedules.

Three bid proposals were received and opened for Contract 8-1A from Maguire Iron, Sioux Falls, SD; Engineering America, Oakdale, MN; and Olander Contracting, Fargo, ND. The apparent low bid received for the fusion powder coated bolted steel tank was $544,000 from Olander Contracting, Fargo, ND. The project engineer's estimate was $671,000.

The contract documents allow the State Water Commission to select the most advantageous bid. Based on the project engineer's review, the bid received from Olander Contracting appeared to be in accordance with the advertisement for construction and the bid documents, and is considered to be a responsive bid. It was the recommendation of the project engineer to award Contract 8-1A to Olander Contracting, Fargo, ND. The award of the contract and the notice to proceed are dependent on the satisfactory completion and submission of the contract documents by Olander Contracting, and review/approval by the Commission's legal counsel.

The contract will be funded from the 2011-2013 biennium State Water Commission allocation to the Southwest Pipeline Project (S.B. 2020).

It was the recommendation of Secretary Sando that the State Water Commission approve the award of Southwest Pipeline Project Contract 8-1A, Oliver-Mercer-North Dunn Regional Service Area, New Hradec Tank, to Olander Contracting, Fargo, ND, in the amount of $544,000.

It was moved by Commissioner Hanson and seconded by Commissioner Berg that the State Water Commission approve the award of Southwest Pipeline Project Contract 8-1A, Oliver-Mercer-North Dunn Regional Service Area, New Hradec Tank, to Olander Contracting, Fargo, ND, in the amount of $544,000. This action is contingent upon the satisfactory completion and submission of the contract documents by Olander Contracting, and review/approval by the Commission's legal counsel.

Commissioners Berg, Foley, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

SOUTHWEST PIPELINE PROJECT -
OLIVER-MERCER-NORTH DUNN
REGIONAL SERVICE AREA -
AUTHORIZE AWARD OF CONTRACTS
4-6, DUNN CENTER SERVICE AREA PUMPS;
5-15B, SECOND ZAP POTABLE RESERVOIR;
AND 5-17, DUNN CENTER ELEVATED TANK
(SWC Project No. 1736-99)

Contract 4-6, Dunn Center Service Area Pumps: Southwest Pipeline Project, Oliver-Mercer-North Dunn Regional Service Area, Contract 4-6, Dunn Center Service Area Pumps, consists of the construction of reinforced concrete pump pads, removal and replacement of existing slab-on-grade flooring, installation of mechanical, electrical and instrumentation facilities for the new Dunn Center service area pumps in the Oliver-Mercer-North Dunn water treatment plant. The contract consists of separate bid schedules for the general and electrical contracts, and a combined single bid is also provided. The work is being contracted separate from the Contract 2-8E pipeline to eliminate the overhead paid by a pipeline contractor to subcontract for this type of work and was not included in the water treatment plant contract as the size of the pumps was unknown at this time.

The contract documents allow the State Water Commission to select the most advantageous bid schedule. The project engineer's cost estimate is $750,000,

the contract will be funded with the 2013-2015 biennium State Water Commission allocation to the Southwest Pipeline Project authorized by the emergency action in H.B. 1269. Bids for this contract will be opened on May 24, 2013.

Contract 5-15B, Second Zap Potable Reservoir: Southwest Pipeline Project, Oliver-Mercer-North Dunn Regional Service Area, Contract 5-15B, Second Zap Potable Reservoir, consists of furnishing and installing a 1,650,000 gallon ground storage tank, related piping and underdrain work. The reservoir will be located at the Oliver-Mercer-North Dunn water treatment site in Mercer county. The bid form allows for three bid schedules which include welded steel, glass-coated bolted steel, or fusion powder coated bolted steel. The reservoir size is 98 feet in diameter by 28 feet to overflow.

The contract documents allow the State Water Commission to select the most advantageous bid schedule. The project engineer's cost estimate is $2,000,000, the contract will be funded with the 2013-2015 biennium State Water Commission allocation to the Southwest Pipeline Project authorized by the emergency action in H.B. 1269. Bids for this contract will be opened on May 30, 2013.

Contract 5-17, Dunn Center Elevated Tank: Southwest Pipeline Project, Oliver-Mercer-North Dunn Regional Service Area, Contract 5-17, Dunn Center Elevated Tank, consists for furnishing and installing a 1,000,000 gallon elevated composite, or spheroid style steel potable water storage tank with 130 feet to overflow, related piping, underdrain, control vault, and foundation work. The reservoir is located three miles north of the city of Dunn Center in Dunn county.

Landowner issues caused delay in the bidding of this contract, and it is anticipated to have ownership of the tank site in early June, 2013. The project engineer's estimate for this contract is $2,000,000. The contract will be partially funded with $750,000 of Fiscal Year 2013 MR&I funding approved previously by the State Water Commission and the Garrison Diversion Conservancy District, and the remainder of the contract will be funded with the 2011-2013 State Water Commission allocation to the Southwest Pipeline Project. Bids for this contract will be opened on May 30, 2013, and the substantial completion date is August 15, 2014.

It was the recommendation of Secretary Sando that the State Water Commission authorize the secretary to the State Water Commission to award the following Southwest Pipeline Project contracts in the Oliver-Mercer-North Dunn Regional Service Area: Contract 4-6, Dunn Center Service Area Pumps; Contract 5-15B, Second Zap Potable Reservoir; and Contract 5-17, Dunn Center Elevated Tank, to the lowest responsive bidders, contingent upon the recommendations of the project engineer and the secretary to the State Water Commission, and review/approval by the Commission's legal counsel.

It was moved by Commissioner Foley and seconded by Commissioner Thompson that the State Water Commission authorize the secretary to the State Water Commission to award the following Southwest Pipeline Project contracts in the Oliver-Mercer-North Dunn Regional Service Area: Contract 4-6, Dunn Center Service Area Pumps; Contract 5-15B, Second Zap Potable Reservoir; and Contract 5-17, Dunn Center Elevated Tank, to the lowest responsive bidders, contingent upon the recommendations of the project engineer and the secretary to the State Water Commission, and review/approval by the Commission's legal counsel.

Commissioners Berg, Foley, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

SOUTHWEST PIPELINE PROJECT - APPROVAL OF WATER SERVICE CONTRACT 1736-39, CITY OF KILLDEER (SWC Project No. 1736-99)

The City of Killdeer has requested a water service contract from the State Water Commission and the Southwest Water Authority for the delivery of potable treated water from the Southwest Pipeline Project that meets water quality standards of the North Dakota Department of Health.

The contract specifies a maximum flow allocation rate of 450 gallons per minute total for all connections and a minimum annual water purchase of 100,000 gallons per year during the entire term of the contract. All water supplied to the City of Killdeer will be for municipal or public use only; all water supplied outside of the normal course of commerce is to be addressed under a separate contract.

On February 27, 2013, the State Water Commission passed a motion authorizing the secretary to the Commission to execute the Memorandum of Agreement with the City of Killdeer. The intent of the agreement is for the city to provide a commitment of intent to purchase water from the project in accordance with the terms of this agreement and subsequent agreements, and for the city to be assured that delivery of additional water to the city will be included in the further development of the project.

It was the recommendation of Secretary Sando that the State Water Commission authorize the secretary to the State Water Commission to finalize and execute Southwest Pipeline Project Water Service Contract 1736-39 with the City of Killdeer.

It was moved by Commissioner Swenson and seconded by Commissioner Vosper that the State Water Commission authorize the secretary to the State Water Commission to finalize and execute Southwest Pipeline Project Water Service Contract 1736-39 with the City of Killdeer. SEE APPENDIX "A"

Commissioners Berg, Foley, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

SOUTHWEST PIPELINE PROJECT - OLIVER-MERCER-NORTH DUNN REGIONAL SERVICE AREA - AUTHORIZE AWARD OF CONTRACT 2-8E, DUNN CENTER SERVICE AREA MAIN TRANSMISSION LINE (SWC Project No. 1736-99)

Southwest Pipeline Project, Oliver-Mercer-North Dunn Regional Service Area, Contract 2-8E, Dunn Center Service Area Main Transmission Line, Phase I, consists of furnishing and installing approximately 220 feet of 18" AWWA C-905 PVC gasketed joint pipe, 19 miles of 16" AWWA C-905 gasketed joint pipe, 1.8 miles of 6" AWWA C-900 PVC gasketed joint pipe, 4.5 miles of 6" ASTM D-2241 PVC gasketed joint pipe, one above grade prefabricated VFD booster station with concrete reservoir, one prefabricated steel PRV/control vault, road crossings, connections to existing pipelines and related appurtenances. This contract begins at the Oliver-Mercer-North Dunn water treatment plant and proceeds west until it meets Highway 8 at the combination booster station concrete reservoir and connecting to the existing 2-7C main transmission line. This line will enable changing service to the communities of Golden Valley, Dodge, Halliday, and Dunn Center from the Dickinson water treatment plant to the Oliver-Mercer-North Dunn water treatment plant.

The project engineer's cost estimate for Contract 2-8E is $5,434,000. The contract will be funded from the 2013-2015 biennium State Water Commission allocation to the Southwest Pipeline Project authorized by the emergency action in H.B. 1269. The bids for this contract were opened on May 15, 2013; five bids were received and opened, and are presently being reviewed by the project engineer, secretary to the Commission, and the Commission's legal counsel. The contract documents allow the State Water Commission to select the most advantageous bid schedule. The substantial completion date on this contract is July 1, 2014.

It was the recommendation of Secretary Sando that the State Water Commission authorize the secretary to the State Water Commission to award Southwest Pipeline Project Contract 2-8E, Oliver-Mercer-North Dunn Regional Service Area, Dunn Center Service Area Main Transmission Line, to the

lowest responsive bidder, contingent upon the recommendation of the project engineer and the secretary to the State Water Commission, and review/approval by the Commission's legal counsel.

It was moved by Commissioner Berg and seconded by Commissioner Swenson that the State Water Commission authorize the secretary to the State Water Commission to award Southwest Pipeline Project Contract 2-8E, Oliver-Mercer-North Dunn Regional Service Area, Dunn Center Service Area Main Transmission Line, to the lowest responsive bidder, contingent upon the recommendation of the project engineer and the secretary to the State Water Commission, and review/approval by the Commission's legal counsel.

Commissioners Berg, Foley, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

NEXT STATE WATER COMMISSION MEETING

The next meeting of the State Water Commission is scheduled for June 19, 2013 convening at 1:30 p.m. in the Commission's lower level conference room, Bismarck.

2013 WATER DEVELOPMENT RELATED LEGISLATION

The 2013 Legislature passed several bills that will require new State Water Commission cost share policies, modifications to existing cost share policies, and the development of a project prioritization process for budgeting purposes. There were also several sections of bills that relate to the funding of various projects, as well as the intent for specific amounts.

Governor Dalrymple reported that the Commission members would be provided information relating to the 2013 legislation for review and discussion to address potential policy changes required of the agency, and the project-specific funding expectations of the 2013 Legislative Assembly.

DEVILS LAKE REPORT (SWC Project No. 416)

At the request of the Commission members, Bruce Engelhardt, Director, State Water Commission's Water Development Division, reported on the Devils Lake hydrologic and outlet projects. The National

Weather Service's 50 percent forecast for the elevation of Devils Lake is 1453.3. Monitoring of the Sheyenne River flows continue, which are currently reported to be slightly under 2000 cubic feet per second. Pumping startup from the east and west Devils Lake outlets are dependent on Mother Nature and the Sheyenne River flows.

There being no additional business to come before the State Water Commission, Governor Dalrymple adjourned the audio telephone conference call meeting at 4:25 p.m.

Jack Dalrymple, Governor
Chairman, State Water Commission

Todd Sando, P.E.
North Dakota State Engineer,
and Chief Engineer-Secretary
to the State Water Commission

APPENDIX "A"
MAY 15, 2013

SOUTHWEST PIPELINE PROJECT
WATER SERVICE CONTRACT

Contract No.: 1736-39
Customer Entity: **City of Killdeer**

I. PARTIES

This contract is between the Southwest Water Authority (the "Authority"), the North Dakota State Water Commission (the "Commission"), and the City of Killdeer (the "Customer").

II. INTRODUCTION

1. The Commission is developing a water pipeline, water supply, and water distribution project known as the Southwest Pipeline Project (the "Project").

2. The Authority, created under North Dakota Century Code § 61-24.5, provides operation, maintenance, and management of the Project.

3. In 1995, the Commission entered into an agreement with the Authority to transfer to the Authority the completed portions of the Project for operation, maintenance, and management (the "1995 Agreement").

4. Under North Dakota Century Code § 61-24.5-09, the Authority may enter into water service contracts to deliver and distribute water and to collect charges for such delivery.

5. The Customer desires to enter into a water service contract, pursuant to the laws of the State of North Dakota, for a water supply from the Project for use by the Customer. The Customer will make payment to the Authority as set forth in this contract.

III. DEFINITIONS

The following definitions apply to this contract:

1. "Actual proportionate share" means the amount of water delivered to the Customer by the Authority during the Year divided by that Year's total annual water sales to all Customers.

2. "Additional water" means water purchased by the Customer at a flow rate greater than the Maximum flow rate specified in this contract.

3. "Base consumer price index" means the Consumer price index, as defined herein, as of January 1, 1995, which is 448.4 (1967 = 100).

4. "Capital costs" means all the costs incurred by the Commission related to construction of the Project, including the costs of surveys; engineering studies; exploratory work; designs; preparations of construction plans and specifications; acquisitions of lands, easements, and rights-of-way; relocation work; and related essential legal, administrative, and financial work. "Capital costs" shall not include the Customer distribution system costs.

5. "Constant flow basis" means the uniform delivery of water throughout a twenty-four (24) hour period by using a flow restrictor device. Storage must be provided by the Customer.

6. "Consumer price index" ("CPI") means the consumer price index for all urban consumers, which is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. The CPI is based on the prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living.

7. "Customers" means those persons, municipalities, rural water cooperatives, corporations, and other entities that have entered into and executed water service contracts with the Authority for the purchase of water from the Project.

8. "Customer distribution system" means all infrastructure from the Point of delivery that extends onto the Customer's property, including any storage, clearwell, pump, service line, distribution line, appurtances, and all related items intended for the distribution of water for Domestic, business, industrial, and Municipal or public use.

9. "Customer distribution system costs" means all costs for and related to the Customer distribution system.

10. "Demand flow service" means the Authority will provide storage and service on a Demand basis.

11. "Domestic use" means the use of water by an individual, family unit, or household for personal needs and for drinking, washing, sanitary, and culinary uses.

12. "Estimated water rate for operation, maintenance, and replacement" means the estimated rate per each one thousand (1,000) gallons of water for Operation, maintenance, and replacement costs, as defined herein. This rate is determined by dividing total costs the Authority estimates it will incur during a Year for OM&R by the total number of one thousand (1,000) gallon units of water that the Authority estimates it will sell to its Customers during the same Year.

13. "Maximum flow rate" means the maximum number of gallons of water that the Authority may deliver to the Customer during any one minute time period.

14. "Minimum annual water purchase" means the minimum gallons of water that the Customer must purchase and pay for during a Year.

15. "Municipal or public use" means the use of water by the state through its political subdivisions, institutions, facilities, and properties and the inhabitants thereof, or by unincorporated communities, subdivision developments, rural water systems, and other entities, whether supplied by the government or by a privately owned public utility or other agency or entity, for primarily Domestic use.

16. "Operation, maintenance, and replacement costs" ("OM&R" costs) means the cost for operation and maintenance, for establishing and maintaining operating reserves of the Project, and for the accumulation and maintenance of a reserve fund for replacement purposes.

17. "Point of delivery" means the location where the Project delivers water to the Customer, from which point the Customer is responsible for conveyance of the water for its intended use.

18. "Potable water" means water fit for human consumption.

19. "Unallocated capacity" means the capacity of the Project that is not allocated and contractually committed to Customers by virtue of raw or potable water service contracts.

20. "Water rate for capital costs" means the rate per each one thousand (1,000) gallons of water to be paid by the Customers for Capital costs of the Project.

21. "Year" means the period from January 1 through December 31, both dates inclusive.

IV. TERM OF CONTRACT

1. This contract shall remain in effect for forty (40) years after the date of the first water delivery to the Customer.

2. Under terms and conditions mutually agreeable to the parties to this contract, renewals of this contract may be made for successive periods not to exceed forty (40) years from the date of renewal.

V. WATER SERVICE: DELIVERY OF WATER

The Authority will deliver water to the Customer in accordance with the following terms and provisions:

1. All water supplied to the Customer shall be Potable treated water that meets water quality standards of the North Dakota Department of Health.

2. All water supplied to the Customer will be for Municipal or public use only; all water supplied outside the normal course of commerce is to be addressed under a separate contract.

3. The Customer hereby agrees to a Minimum annual water purchase of 100,000 gallons per Year during the entire term of this contract.

4. The Maximum flow rate is 450 gallons per minute total for all connections to the Customer.

5. The Authority will deliver to the Customer any water that the Customer desires to purchase, at a flow rate not to exceed the Maximum flow rate. The Authority is not obligated to supply water at a greater flow rate than the Maximum flow rate. If there is Unallocated capacity in the Project to the Customer's Point of delivery, the Authority may allow delivery of Additional water. If the Customer desires to secure a contractual right to a greater Maximum flow rate, this contract must be amended in writing to provide for such a greater maximum flow rate. At such time, the Authority may require an increase in the Minimum annual water purchase. Unless otherwise specified in the amendment, the term of any amendment is valid through the date specified in Section IV.

6. The flow rate set forth is provided to meet the Customer's needs on a Constant flow basis. Should the Customer request or require Demand flow service, the Customer may request such service from the Authority. As consideration for receiving this type of service, the Customer agrees to pay, as the Water rate for capital costs, an amount equal to two (2) times the Water rate for capital costs paid for Constant flow service. If the Customer desires to secure a contractual right to Demand flow service, this contract must be amended to provide for Demand flow service.

7. The Authority will supply water to the Customer at the Point of delivery at a pressure range of 20 psi to 35 psi. If the Customer requests that the Authority supply pressure outside the range of 20 psi to 35 psi and the Authority determines that it can provide the requested pressure, the Customer shall pay the Authority the additional cost incurred by the Authority in providing the requested pressure.

8. The Customer is responsible for and shall pay all Customer distribution system costs.

9. No liability shall accrue against the Authority, the Commission, or any of their officers, agents, or employees and the Customer agrees it shall be fully responsible and shall not be entitled to any remedy arising from any water shortages or other interruptions in water deliveries resulting from accident to or failure of the Project. The Customer's duties under this contract shall not be reduced or altered by reason of such shortages or interruptions.

10. The Authority has the right during times of water shortage, from any cause, to interrupt water service to the Customer. Preference will be given to Municipal or public, Domestic, and rural water needs during times of water shortage.

11. The Authority may temporarily discontinue or reduce the amount of water supplied to the Customer for the purpose of maintaining, repairing, replacing, investigating, or inspecting any of the facilities and works necessary for supplying water. To the extent possible, the

Authority will give reasonable advance notice of any temporary discontinuance or reduction of service. No advance notice is required in case of an emergency. In no event shall any liability accrue against the Authority, the Commission, or any of their officers, agents, or employees for any damage or inconvenience arising from such temporary discontinuance or reduction of service.

12. The Commission will pay for and install, at the Point of delivery, a meter and any other equipment necessary to measure the quantity of water supplied to the Customer ("metering equipment"). The Commission will provide an underground prefabricated steel meter vault ("vault") for purposes of controlling flow and measuring the quantity of water supplied to the Customer. The vault shall include an access hatch and steel vent pipes that terminate three to five feet above ground. The Customer shall dedicate an area for the installation, operation, maintenance, and repairs of the vault and shall provide vehicular access to the vault. Upon installation, the Authority shall operate and maintain the metering equipment. If the Customer believes the measurement of water delivered to be in error, it shall present a written claim to the Authority, either in person or by mail, electronic mail or facsimile. A claim presented after a payment has become delinquent does not prevent the Authority from discontinuing service to the Customer. The Customer shall continue to make payments for water service after a claim has been presented; however, the payment will be under protest and will not prejudice the Customer's claim. After the Customer presents its claim and advances the cost of recalibration, the Authority will recalibrate the meter. If the meter is found to over-register by more than two percent (2%) of the correct volume, the Authority will refund the Customer's advance for the cost of recalibration and the readings for that meter shall be corrected for the twelve (12) months preceding the recalibration by the percentage of inaccuracy determined by the recalibration. The amount of any overpayment as a result of over-registration shall be applied first to any delinquent payments for water service, and at the option of the Customer, the Authority shall refund or credit the Customer upon future payments for water service. If any meter fails to register for any period, the amount of water delivered during such period shall be deemed to be the amount of water delivered in the corresponding period immediately prior to the failure, unless the Authority and the Customer agree upon a different amount. The Customer and the Authority shall have access to the meter at all reasonable times for the purpose of verifying its readings.

13. The Customer shall be responsible for the control and use of all water in the Customer distribution system and shall pay all costs related to service, maintenance, and repair of the Customer distribution system. The Customer is responsible for the control, distribution, and use of water delivered under this contract and the OM&R of the Customer distribution system.

14. The Point of delivery under this contract is located in Rockhaven Addition, Lot 1, Block 2, Section 22, Township 145 North, Range 95 West. Any connection other than above mentioned connection must be approved in writing by the Authority and the Commission. All costs related to any other connection, including all appurtenant piping, valves, and controls, shall be paid by the Customer.

VI. WATER SERVICE: WATER RATES AND PAYMENT FOR WATER

The Customer shall pay for water and water service under the following terms:

1. Ninety (90) days prior to completion of the Project to the Point of delivery, the Commission shall, via certified mail, notify the Customer of the date when water will be first available to the Customer. The Customer will make payments for water and water service, in accordance with the terms of this contract, beginning at the expiration of the ninety (90) day notice or at such time when water is available to the Customer, whichever is later.

2. The Customer's monthly water service payment is the sum of the following:

    a. The Customer's proportionate share of the OM&R costs, as determined by the Authority; plus

    b. The Customer's payment for capital costs, as determined by the Authority.

3. The Customer agrees to use water from no source other than the Project in the Customer distribution system during the term of this contract except if water from other sources is needed for emergencies, such as significant fire events or interrupted or reduced service from the Project.

4. The Customer's proportionate share of the Project OM&R costs (for calculating the Customer's monthly payment) will be determined as follows:

    a. Prior to February 1 of each Year, the Authority shall adopt a budget for OM&R for the Project for the immediate ensuing Year. The Authority may include in such budget an amount to be accumulated and maintained in a reserve fund for the purpose of replacing Project works and for extraordinary maintenance of Project works. The amount of the reserve fund shall be contingent upon approval by the Commission. The Authority shall deposit and maintain the reserve fund in a separate account in accordance with the laws of the state of North Dakota.

    b. The Authority will estimate the total annual water sales for the immediate ensuing Year and calculate the Estimated water rate for OM&R for the Project by dividing the amount of the estimated budget for OM&R for the immediate ensuing Year by the estimated total annual water sales for such ensuing Year.

    c. The monthly payment to be made by the Customer to the Authority for OM&R shall be determined by multiplying the amount of water actually delivered to the Customer for each month by the Estimated water rate for OM&R.

    d. At the end of each Year, the Authority shall prepare a statement of the Year's actual OM&R costs.

e. The Authority will then determine the adjustment to be applied to the Customer's OM&R payment for the previous Year. The adjustment will be calculated by dividing the amount of water delivered to the Customer by the Authority during the previous Year by that Year's total annual water sales to determine the Customer's proportionate share of the OM&R costs. This fraction will then be multiplied by the actual total cost for OM&R for the previous Year, which shall be the amount of the Customer's proportionate share of OM&R costs for the previous Year. The Authority shall then subtract this amount of the Customer's proportionate share of OM&R costs for the previous Year from the total amount actually paid by the Customer for OM&R during the previous Year, which is the adjustment to be applied to the Customer's water service payments for the next Year. If the Customer's proportionate share of OM&R costs for the previous Year is more than the total amount actually paid by the Customer during the previous Year for OM&R, the difference shall be owed by the Customer to the Authority. Any such amount due will be added to the Customer's monthly payments for water for the next four (4) months of the immediate ensuing Year in equal monthly installments. If the Customer's proportionate share of OM&R costs for the previous Year is less than the total amount actually paid by the Customer during the previous Year but the Customer has delinquent payments for water service, the remaining sum, if any, shall be used to satisfy the delinquencies. But if there are no delinquencies, the sum will be credited against the Customer's monthly payments for water service for the next four (4) months of the immediate ensuing Year in equal monthly credits.

5. The Customer's share of the Project's Capital costs (for calculating the Customer's monthly payment) will be determined as follows.

a. The base rate for Capital costs for Constant flow shall be seventy-two cents ($0.72) per each one thousand (1,000) gallons of water.

b. The Commission shall have the authority to adjust the base Water rate for capital costs annually in accordance with the increase or decrease in the CPI. The formula for determining the adjustment to the Water rate for capital costs for each Year is as follows: The CPI for September 1 of each Year shall be divided by the Base CPI. The result of this calculation shall be reduced by one (1) and then multiplied by the base Water rate for capital costs. The product of this formula is the adjustment to the Water rate for capital costs and shall be used to add to the base Water rate for capital costs for the next Year. Notwithstanding the foregoing basis for adjusting the Water rate for capital costs, the Commission shall have the authority to decrease the adjustment to the Water rate for capital costs, as it deems appropriate and necessary, after considering data on changes to the median incomes of Project water Customers, substantial increases in OM&R costs, or other factors.

c. The amount of the Customer's monthly payment to the Authority for Capital costs shall be calculated by multiplying the Water rate for capital costs by the amount of water actually delivered to the Customer each month.

6. The Authority shall read the metering equipment at the Point of delivery, and not later than the first (1st) day of each month, shall send to the Customer, at the address shown on

the signature page of this contract, an itemized statement of the payment due from the Customer for water service for the preceding month.

7. The Customer shall pay the Authority for water service under this contract, OM&R, and Capital costs by sending payment to the Authority, at the address shown on the signature page, not later than the fifteenth (15th) day of each month. Payments sent after the fifteenth (15th) day of each month shall result in the Customer being in default. If the Customer is in default, the Authority, at its sole discretion, may suspend delivery of water through the Project during the period of default. During any period of default, the Customer remains obligated to make all payments required under this contract. Any action of the Authority shall not limit or waive any remedy provided by this contract or by law for the recovery of money due or that may become due under this contract.

8. Interest of one percent (1%) per month will be imposed upon all payment amounts that are in default.

9. The Customer's failure or refusal to accept delivery of water from the Authority does not relieve the Customer from its obligation to make payments in accordance with this contract.

VII. GENERAL PROVISIONS

1. The Authority, contingent upon the approval of the Commission, may adopt such rules and regulations as it deems appropriate to carry out and to govern the administration of this contract. Such rules and regulations shall not be inconsistent with this contract. The Customer shall comply with such rules and regulations.

2. All notices or other communications required under this contract must be given either in person or by mail at the address shown on the signature page of this contract, or by electronic mail or facsimile. Notice provided under this provision does not meet the notice requirements for monetary claims against the Commission found at N.D.C.C § 32-12.2-04.

3. The Customer shall promptly notify the Authority and the Commission of all potential claims that arise or result from this contact. The Customer shall also take all reasonable steps to preserve all physical evidence and information that may be relevant to the circumstances surrounding a potential claim, while maintaining public safety, and grants the Commission the opportunity to review and inspect the evidence, including the scene of an accident.

4. The use of any remedy specified herein to enforce this contract is not exclusive and does not prohibit, or limit the application of any other remedy available by law.

5. In the event a lawsuit is initiated by the Commission to obtain performance due under this contract and Commission is the prevailing party, the Customer shall pay the Commission's reasonable attorney fees and costs in connection with the lawsuit.

6. Any waiver by any party of its rights in connection with this contract does not waive any other default or matter.

7. If any term of this contract is declared by a court having jurisdiction to be illegal or unenforceable, the validity of the remaining terms is unaffected, and if possible, the rights and obligations of the parties are to be construed and enforced as if the contract did not contain that term.

8. The Customer may not assign or otherwise transfer or delegate any right or duty without the express written consent of both the Commission and the Authority.

9. The Customer understands and agrees that the Authority and the Commission will give preference to Potable water for Municipal or public, Domestic, and rural water needs before executing water service contracts or allowing Additional water purchases.

10. This contract is governed by and construed in accordance with the laws of the state of North Dakota. Any action to enforce this contract must be brought in the District Court of Burleigh County, North Dakota, and the Customer consents to jurisdiction of state courts.

11. The Customer understands that the Authority and the Commission must disclose to the public upon request any records it receives from the Customer. The Customer further understands that any records that are obtained or generated by the Customer under this contract, except for records that are exempt under North Dakota Century Code chapter 44-04, are open to the public upon request under the North Dakota open records law. The Customer agrees to contact the Commission immediately upon receiving a request for information under the open records law and to comply with the Commission's instructions on how to respond to the request.

VIII. TERMINATION

The Authority and the Commission may terminate this contract if the Customer fails to use delivered water in a manner consistent with the terms of this contract. Upon such termination, the Authority and the Commission are relieved of all obligations under this contract and the Customer must immediately disconnect the Customer distribution system from the Point of delivery.

IX. MERGER

This contract constitutes the entire contract between the parties. There are no understandings, agreements, or representations, oral or written, not specified within this contract. This contract may not be modified, supplemented, or amended, in any manner, except by written agreement signed by each party to this contract.

STATE WATER COMMISSION
900 East Boulevard Avenue
Bismarck, ND 58505
By: Todd Sando

Todd Sando, Chief Engineer and Secretary

Date 5/28/13

SOUTHWEST WATER AUTHORITY
4665 2nd Street SW
Dickinson, ND 58601-7231
By: Larry Bares

Larry Bares, Chairman

Date April 1, 2013

CITY OF KILLDEER
PO Box 270
Killdeer, ND 58640-0270

By: Dan J. Dolichek

Title: Commission President

Date March 11-2013

CITY OF KILLDEER

By: Ann Marquardt

City Auditor

Date 3-11-13

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TDD 701-328-2750 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

Agenda #1+2

MEMORANDUM

TO: Governor Jack Dalrymple
North Dakota Water Commission Members

FROM: Todd Sando P.E.
Chief Engineer-Secretary

SUBJECT: Financial Updates

DATE: June 10, 2013

1. Agency Program Budget Expenditures

Attached is an expenditure spreadsheet for the biennium through April 30, 2013. With only two special line items, Administrative and Support Services and Water and Atmospheric Resources Expenditures our legislatively approved budget does not contain specific amounts for Salaries, Operations, and Grants and Contracts. In order to manage the Division's budgets we have allocated dollar amounts to each of these categories, however, division managers have the ability to shift dollars from one category to another (see page 2.)

The Contract Fund spreadsheet summarizes information on the committed and uncommitted funds from the Resources Trust Fund and the Water Development Trust Fund (see page 3.) A detailed breakdown of the individual projects follows on pages 4 through 9.The current Contract Fund spreadsheet shows approved projects totaling $425,424,695 leaving a balance of $9,921,887 available to commit to projects in the 2011-2013 biennium.

2. 2011 – 2013 Resources Trust Fund and Water Development Trust Fund Revenues

Oil extraction tax deposits into the Resources Trust Fund total $347,704,385 through May 2013 and are currently $165,780,282 or 91.1 percent above budgeted revenues. The overage is partially offset by $50 million which was appropriated to the Commission in the special session.

Deposits into the Water Development Trust Fund total $18,102,172 through May 2013 and are currently $2,521,862 or 12.2 percent behind budgeted revenues. We do not anticipate receiving any additional revenue this biennium.

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

STATE WATER COMMISSION
ALLOCATED PROGRAM EXPENDITURES
FOR THE PERIOD ENDED APRIL 30, 2013
BIENNIUM COMPLETE: 92%

PROGRAM	SALARIES/ BENEFITS	OPERATING EXPENSES	GRANTS & CONTRACTS	7-Jun-13 PROGRAM TOTALS
ADMINISTRATION				
Allocated	1,926,299	1,303,575		3,229,874
Expended	1,791,594	943,779		2,735,373
Percent	93%	72%		85%
			Funding Source:	
			General Fund:	2,603,205
			Federal Fund:	132,169
			Special Fund:	0
PLANNING AND EDUCATION				
Allocated	1,285,138	212,198	99,000	1,596,336
Expended	953,522	125,106	80,961	1,159,589
Percent	74%	59%	82%	73%
			Funding Source:	
			General Fund:	930,039
			Federal Fund:	134,538
			Special Fund:	95,012
WATER APPROPRIATION				
Allocated	3,949,169	446,511	1,130,000	5,525,680
Expended	3,494,742	439,684	789,787	4,724,213
Percent	88%	98%	70%	85%
			Funding Source:	
			General Fund:	4,018,269
			Federal Fund:	4,188
			Special Fund:	701,756
WATER DEVELOPMENT				
Allocated	5,634,922	9,772,937	265,000	15,672,859
Expended	4,700,863	6,919,901	632,418	12,253,182
Percent	83%	71%	239%	78%
			Funding Source:	
			General Fund:	4,288,152
			Federal Fund:	1,692,831
			Special Fund:	6,272,199
STATEWIDE WATER PROJECTS				
Allocated			407,231,750	407,231,750
Expended			215,197,975	215,197,975
Percent			53%	53%
			Funding Source:	
			General Fund:	0
			Federal Fund:	260,152
			Special Fund:	214,937,823
ATMOSPHERIC RESOURCE				
Allocated	901,205	712,307	4,694,692	6,308,204
Expended	777,030	298,381	1,306,061	2,381,473
Percent	86%	42%	28%	38%
			Funding Source:	
			General Fund:	922,610
			Federal Fund:	0
			Special Fund:	1,458,862
SOUTHWEST PIPELINE				
Allocated	437,264	6,201,500	38,744,857	45,383,621
Expended	470,746	3,130,321	28,179,721	31,780,787
Percent	108%	50%	73%	70%
			Funding Source:	
			General Fund:	0
			Federal Fund:	17,368,688
			Special Fund:	14,412,099
NORTHWEST AREA WATER SUPPLY				
Allocated	604,626	5,235,500	49,976,971	55,817,097
Expended	447,169	4,116,376	17,928,926	22,492,470
Percent	74%	79%	36%	40%
			Funding Source:	
			General Fund:	0
			Federal Fund:	2,208,640
			Special Fund:	20,283,831
PROGRAM TOTALS				
Allocated	14,738,623	23,884,528	502,142,270	540,765,421
Expended	12,635,666	15,973,548	264,115,849	292,725,062
Percent	86%	67%	53%	54%

FUNDING SOURCE:	ALLOCATION	EXPENDITURES	REVENUE	
GENERAL FUND	14,995,199	12,762,275	GENERAL FUND:	1,455,631
FEDERAL FUND	53,984,383	21,801,205	FEDERAL FUND:	23,245,393
SPECIAL FUND	471,785,838	258,161,582	SPECIAL FUND:	278,809,187
TOTAL	540,765,420	292,725,062	TOTAL:	303,510,211

STATE WATER COMMISSION
PROJECTS/GRANTS/CONTRACT FUND
2011-2013 BIENNIUM

Apr-13

	BUDGET	SWC/SE APPROVED	OBLIGATIONS EXPENDITURES	REMAINING UNOBLIGATED	REMAINING UNPAID
CITY FLOOD CONTROL					
FARGO/RIDGEWOOD	50,941	50,941	0	0	50,941
FARGO	66,473,088	66,473,088	27,203,218	0	39,269,870
GRAFTON	7,175,000	7,175,000	0	0	7,175,000
MINOT	4,521,750	4,521,750	4,264,516	0	257,234
WAHPETON	1,013,000	1,013,000	0	0	1,013,000
FLOODWAY PROPERTY ACQUISITIONS					
MINOT	17,750,000	17,750,000	8,473,929	0	9,276,071
BURLINGTON	1,071,345	1,071,345	1,071,345	0	0
WARD COUNTY	18,457,710	18,457,710	8,759,541	0	9,698,169
VALLEY CITY	3,000,000	3,000,000	1,978,062	0	1,021,938
BURLEIGH COUNTY	1,425,000	1,425,000	0	0	1,425,000
SAWYER	184,260	184,260	0	0	184,260
LISBON	888,750	888,750	0	0	888,750
UNOBLIGATED SB 2371	2,307,535			2,307,535	0
				0	
FLOOD CONTROL					
BURLEIGH COUNTY	1,282,400	1,282,400	0	0	1,282,400
RICE LAKE RECREATION DISTRICT	2,842,200	2,842,200	0	0	2,842,200
RENWICK DAM	1,246,571	1,246,571	154,973	0	1,091,598
WATER SUPPLY					
REGIONAL & LOCAL WATER SYSTEMS	35,867,911	35,867,910	15,047,801	0	20,820,110
VALLEY CITY WATER TREATMENT PLANT	15,386,800	15,386,800	14,788,582	0	598,218
FARGO REVERSE OSMOSIS PILOT STUDY	15,000,000	15,000,000	562,268	0	14,437,732
RED RIVER WATER SUPPLY	62,224	62,224	0	0	62,224
WESTERN AREA WATER SUPPLY	25,000,000	25,000,000	25,000,000	0	0
SOUTHWEST PIPELINE PROJECT	45,019,199	45,019,199	14,412,099	0	30,607,100
NORTHWEST AREA WATER SUPPLY	19,432,008	19,432,008	11,976,196	0	7,455,812
IRRIGATION DEVELOPMENT	2,828,239	1,097,422	992,222	1,730,817	105,200
GENERAL WATER MANAGEMENT					
OBLIGATED	29,539,160	29,539,160	10,079,253	0	19,459,907
UNOBLIGATED	2,304,200			2,304,200	0
DEVILS LAKE					
BASIN DEVELOPMENT	92,340	92,340	26,984	0	65,356
DIKE	15,534,603	15,534,603	15,534,603	0	0
OUTLET	2,420,212	2,420,212	1,547,809	0	872,403
OUTLET OPERATIONS	11,424,811	11,424,811	6,123,332	0	5,301,479
DL TOLNA COULEE DIVIDE	4,366,720	4,366,720	4,261,738	0	104,982
DL EAST END OUTLET	66,639,106	63,059,773	58,982,785	3,579,333	4,076,988
DL GRAVITY OUTFLOW CHANNEL	13,720,185	13,720,185	33,346		13,686,839
DL JOHNSON FARMS STORAGE	125,000	125,000	0	0	125,000
WEATHER MODIFICATIONS	894,314	894,314	651,376	0	242,938
TOTALS	435,346,582	425,424,695	231,925,978	9,921,887	193,498,718

STATE WATER COMMISSION
PROJECTS/GRANTS/CONTRACT FUND
2011-2013 Biennium

PROGRAM OBLIGATION

Approved By	SWC No	Dept	Sponsor	Project	Initial Approved Date	Total Approved	Total Payments	*Apr-13* Balance
				City Flood Control:				
SWC	1927	5000	City of Fargo	Fargo/Ridgewood Flood Control Project	6/22/2005	50,941	0	50,941
SB 2020	1928	5000	City of Fargo	Fargo Flood Control Project	6/23/2009	66,473,088	27,203,218	39,269,870
SWC	1771	5000	City of Grafton	Grafton Flood Control Project	3/11/2010	7,175,000	0	7,175,000
SB 2371	1974-01	5000	Souris River Joint WRE	Mouse River Enhanced Flood Control Project Phase I	9/21/2011	2,500,000	2,499,988	12
SB 2371	1974-01	5000	Souris River Joint WRE	Mouse River Enhanced Flood Control Project Phase II	6/13/2012	1,828,000	1,627,792	200,208
SB 2371	1974-06	5000	Souris River Joint WRE	Mouse River Enhanced Flood - pd to SRJWRB	12/9/2011	50,000	33,743	16,257
SB 2371	1974-07	5000	Souris River Joint WRE	Mouse River - EFP - PER Assistance SA-3	6/13/2012	98,750	97,807	943
SB 2371	1974-08	5000	Souris River Joint WRE	Mouse River Reconnaissance Study to Meet Fed Guic	2/15/2013	45,000	5,187	39,813
SWC	518	5000	City of Wahpeton	Wahpeton Flood Control	7/1/2011	1,013,000	0	1,013,000
				Subtotal City Flood Control		***79,233,779***	***31,467,734***	***47,766,045***
				Floodway Property Acquisitions:				
SB 2371	1993-05	5000	City of Minot	Minot Phase 1 - Floodway Acquisitions	1/27/2012	17,750,000	8,473,929	9,276,071
SB 2371	1987-05	5000	City of Burlington	Burlington Phase 1 - Floodway Acquisitions	1/27/2012	1,071,345	1,071,345	0
SB 2371	1523-05	5000	Ward County	Ward County Phase 1, 2 & 3 - Floodway Acquisitions	1/27/2012	18,285,205	8,759,541	9,525,664
SB 2371	1523-02	5000	Ward County	Chaparelle Highwater Berm Project	2/27/2013	172,505	0	172,505
SB 2371	1504-05	5000	ValleyCity	Valley City Phase 1 - Floodway Acquisitions	12/9/2011	3,000,000	1,978,062	1,021,938
SB 2371	1992-05	5000	Burleigh Co. WRD	Burleigh Co. Phase 1 - Floodway Acquisitions	3/7/2012	1,425,000	0	1,425,000
SB 2371	2000-05	5000	City of Sawyer	Sawyer Phase 1 - Floodway Acquisitions	6/13/2012	184,260	0	184,260
	1991-05	5000	City of Lisbon	Lisbon - Floodway Acquisition	3/7/2012	888,750	0	888,750
				Subtotal Floodway Property Acquisitions		***42,777,065***	***20,282,877***	***22,494,188***
				Flood Control:				
SB 2371	1992-01	5000	Burleigh Co. WRD	Burleigh County's Tavis Road Storm Water Pump Stat	6/13/2012	1,282,400	0	1,282,400
	1997	5000	Rice Lake Recreation D	Rice Lake Flood Control	6/13/2012	2,842,200	0	2,842,200
SWC	849	5000	Pembina Co. WRD	Renwick Dam Rehabilitation	5/17/2010	1,246,571	154,973	1,091,598
				Subtotal Flood Control		***5,371,171***	***154,973***	***5,216,198***
SWC				***Water Supply Advances:***				
	2373-09	5000	Garrison Diversion	South Central RWD (Phase II)	6/23/2008	160,069	160,069	0
	2373-31	5000	Garrison Diversion	North Central Rural Water Consortium (Anamoose/Ber	6/23/2008	3,295,000	3,295,000	0
	2373-24	5000	Garrison Diversion	Traill Regional Rural Water (Phase III)	8/18/2009	2,355,670	1,355,670	1,000,000
				Water Supply Grants:				
	2373-17	5000	City of Parshall	City of Parshall	6/23/2008	490,452	0	490,452
	2373-18	5000	R & T Water Supply	Ray & Tioga Water Supply Association	12/17/2008	1,868,153	1,868,153	0
	2373-25	5000	Garrison Diversion	McKenzie Phase II	6/23/2009	868,327	868,327	0
	2373-28	5000	Garrison Diversion	McKenzie Phase IV	3/11/2010	2,352,244	2,352,244	0
	2373-29	5000	City of Wildrose	City of Wilrose - Crosby Water Supply	7/28/2010	97,218	0	97,218
	2373-32	5000	North Central Rural Wa	NCRW (Berthold-Carpio)	6/21/2011	3,150,000	204,469	2,945,531
	2373-33	5000	Stutsman Rural WRD	Stutsman Rural Water System	6/21/2011	6,800,000	3,994,152	2,805,848
	2373-35	5000	Grand Forks - Traill WF	Grand Forks - Traill County WRD	6/13/2012	3,700,000	648,511	3,051,489
	2373-36	5000	Stutsman Rural WRD	Stutsman Rural Water System Phase II, III	2/27/2013	10,000,000	0	10,000,000
	2373-37	5000	North Central Rural Wa	NCRW (Plaza)	2/27/2013	250,000	0	250,000
	1782	5000	McLean-Sheridan WRD	Blue & Brush Lakes Expansion Project	2/27/2013	100,000	0	100,000
				Subtotal Water Supply		***35,487,133***	***14,746,595***	***20,740,539***
				HB No. 1305 Permanent Oil Trust Fund				
	2373-21	5000	BDW Water Systems	Burke, Divide, Williams Water District	6/23/2009	189,415	109,844	79,571
	2373-22	5000	R & T Water Supply	Ray & Tioga Water Supply Association	6/23/2009	191,362	191,362	0
				Subtotal Permanent Oil Trust Fund		***380,777***	***301,206***	***79,571***
	2373-26	5000	Valley City	Valley City Water Treatment Plant	8/18/2009	15,386,800	14,788,582	598,218
	1984	5000	City of Fargo	Fargo Water Treatment Plant Reverse Osmosis Pilot S	6/13/2012	15,000,000	562,268	14,437,732
	1912	5000	Garrison Diversion	Red River Valley Water Supply Project	3/17/2008	62,224	0	62,224
HB 1206	1973	5000	Bank of ND	Western Area Water Supply	7/1/2011	25,000,000	25,000,000	0
	1736-05	8000	Mutiple	Southwest Pipeline Project	7/1/2011	45,019,199	14,412,099	30,607,100
	2374	9000	Mutiple	Northwest Area Water Supply	7/1/2011	19,432,008	11,976,196	7,455,812
				Subtotal Water Supply		***119,900,231***	***66,739,146***	***53,161,085***
				Irrigation Development:				
SWC	1389	5000	Bank of ND	BND AgPace Program	10/23/2001	98,907	36,289	62,618
SWC	AOC/IRA	5000	ND Irrigation Associatic	ND Irrigation Association	8/16/2011	100,000	75,000	25,000
SWC	1968	5000	Garrison Diversion	2009-11 McClusky Canal Mile Marker 7.5 Irrigation Prc	6/1/2010	898,515	880,933	17,582
				Subtotal Irrigation Development		***1,097,422***	***992,222***	***105,200***
				General Water Management				
				Hydrologic Investigations:		***900,000***		
SWC	1400/12	3000	Houston Engineering	Houston Engineering Water Permit Application Review	10/10/2010	8,500	8,500	0
SWC	1400/13	3000	Houston Engineering	Houston Engineering Water Permit Application Review	11/7/2011	17,000	15,025	1,975
SWC	1400	3000	Gordon Sturgeon	Consultant Services	3/23/2013	9,600	0	9,600
	859	3000	Lori Bjorgen	Lori Bjorgen - Alternat Well Monitor	8/28/2012	84	0	84
	862/859	3000	Arletta Herman	Arletta Herman- Well Monitor	8/28/2012	3,556	3,556	0
	967	3000	Holly Messmer - McDar	Holly Messmer - McDaniel	4/19/2012	0	0	0
	1690	3000	Holly Messmer - McDar	Holly Messmer - McDaniel	4/19/2012	4,368	4,368	0
	1703	3000	Thor Brown	Thor Brown- Well Monitor	3/27/2012	5,379	5,379	0
	1707	3000	Thor Brown	Thor Brown- Well Monitor	4/26/2011	2,954	2,954	0
	1761	3000	Gloria Roth	Gloria Roth - Well Monitor	4/19/2013	1,152	1,151	0
	1761	3000	Fran Dobits	Fran Dobits - Well Monitor	6/1/2011	1,104	1,104	0
	1395A	3000	U. S. Geological Surve	US Geological Survey, US Dept. Of Interior Investigati	10/18/2011	432,303	432,303	0
	1395A	3000	U. S. Geological Surve	US Geological Survey, US Dept. Of Interior Investigati	9/4/2012	334,166	222,778	111,389
	1395D	3000	U. S. Geological Surve	Eaton Irrigation Project on the Souris River	7/13/2012	15,300	0	15,300
	1395	3000	U. S. Geological Surve	US Geological Survey, US Dept. Of Interior Upgrade c	4/14/2011	2,670	2,670	0
				Hydrologic Investigations Obligations Subtotal		***838,135***	***699,787***	***138,348***
				Remaining Hydrologic Investigations Authority		***61,865***		
				Hydrologic Investigations Authority Less Payments				

STATE WATER COMMISSION
PROJECTS/GRANTS/CONTRACT FUND
2011-2013 Biennium

PROGRAM OBLIGATION

Approved By	SWC No	Dept	Sponsor	Project	Initial Approved Date	Total Approved	Total Payments	*Apr-13* Balance
				General Projects Obligated		***25,331,807***	***6,072,113***	***19,259,693***
				General Projects Completed		***3,307,353***	***3,307,353***	***0***
				Subtotal General Water Management		***29,539,160***	***10,079,253***	***19,459,907***
				Devils Lake Basin Development:				
SWC	416-01	5000	DLJWRB	Devils Lake Basin Joint Water Resource Manager	6/15/2011	60,000	0	60,000
SWC	416-02	5000	City of Devils Lake	City of Devils Lake Levee System Extension & Raise	7/1/2011	15,534,603	15,534,603	0
SWC	416-05	2000	Joe Belford	Devils Lake Outlet Awareness Manager	6/16/2011	32,340	26,984	5,356
SWC	416-07	5000	Multiple	Devils Lake Outlet	7/1/2011	2,420,212	1,547,809	872,403
SWC	416-10	4700	Operations	Devils Lake Outlet Operations	7/1/2011	11,424,811	6,123,332	5,301,479
SWC	416-13	5000	Multiple	DL Tolna Coulee Divide	7/1/2011	4,366,720	4,261,738	104,982
SWC	416-15	5000	Multiple	DL East End Outlet	7/1/2011	63,059,773	58,982,785	4,076,988
SWC	416-17	5000	Multiple	DL Emergency Gravity Outflow Channel	9/21/2011	13,720,185	33,346	13,686,839
SWC	416-18	5000	ND Game & Fish	DL Johnson Farms Water Storage Site	6/10/2011	125,000	0	125,000
				Devils Lake Subtotal		***110,743,644***	***86,510,596***	***24,233,048***
SWC		7600		Weather Modification	7/1/2011	894,314	651,376	242,938
				TOTAL		***425,424,695***	***231,925,978***	***193,498,718***

STATE WATER COMMISSION
PROJECTS/GRANTS/CONTRACT FUND
2011-2013 Biennium
Resources Trust Fund

GENERAL PROJECT OBLIGATIONS

Approved By	SWC No	Dept	Approved Biennum	Sponsor	Project	Initial Approved Date	Total Approved	Total Payments	Apr-13 Balance
HB 1020	1932	5000	2005-07	Nelson Co. WRD	Michigan Spillway Rural Flood Assessment Drain	8/30/2005	500,000	0	500,000
HB 2305	1963	5000	2009-11	Emmons County WRD	Beaver Bay Embankment Feasibilitly Study	8/10/2009	258,406	126,020	132,386
SB 2020	1131	5000	2009-11	Nelson Co. WRD	Flood Related Water Projects	6/1/2011	250,000	194,545	55,455
SB 2020	1986	5000	2011-13	USDA-APHIS ND Wildlife Ser	USDA-APHIS North Dakota Wildlife Services - animal	6/1/2011	250,000	183,324	66,676
SE	867-01	5000	2011-13	NDSU	Dr. Xinhua Jia of the Dept of Agriculture Biosystems E	5/2/2013	2,600	0	2,600
SE	1461	5000	2011-13	Pembina Co. WRD	O'Hara Bridge Bank Stabilization	4/26/2013	24,633	0	24,633
SE	1814	5000	2011-13	Richland Co. WRD	Wild Rice River Snagging & Clearing	2/13/2013	47,500	0	47,500
SE	1991	5000	2011-13	City of Lisbon	Sheyenne River Snagging & Clearing Project	2/12/2013	5,000	0	5,000
SE	1992	5000	2011-13	Burleigh Co. WRD	Burleigh Co Flood Control Alternatives Assessment	1/30/2013	25,175	0	25,175
SE	1290	5000	2011-13	McLean Co WRD	City of Underwood Flood Mitigation Study	12/20/2012	27,250	0	27,250
SE	1667	5000	2011-13	Traill Co. WRD	Goose River Snagging & Clearing	11/2/2012	46,750	0	46,750
SE	1934	5000	2011-13	Traill Co. WRD	Elm River Snaggin & Clearing Project	11/2/2012	44,000	0	44,000
SE	2001	5000	2011-13	Traill Co. WRD	Elm River Diversion Project	10/31/2012	17,300	0	17,300
SE	1993	5000	2011-13	Houston Engineering	Minot 100-yr Floodplain Map and Profiles	10/9/2012	10,000	0	10,000
SE	AOC/RRBC	5000	2011-13	Red River Basin Commission	Stream Gaging & Precipitation Network Study in the R	9/14/2012	20,000	0	20,000
SE	1681	5000	2011-13	U.S. Geological Survey	Repair & stabilization of the Missouri River bank adjac	9/6/2012	28,000	0	28,000
SE	1175-1933	5000	2011-13	Ward Co. WRD	DFIRM Project - Mouse River Hydrology	8/10/2012	42,034	0	42,034
SE	2003	5000	2011-13	Southeast Cass WRD	Re-Certification of the West Fargo Diversion Levee Sy	7/26/2012	45,879	0	45,879
SE	1303	5000	2011-13	Sargent Co WRD	Shortfoot Creek Preliminary Soils Analysis & Hydraulic	6/29/2012	47,500	0	47,500
SE	2002	5000	2011-13	Grand Forks Co. WRD	Trutle River Dam #4 2012 EAP	6/29/2012	10,000	0	10,000
SE	2003	5000	2011-13	Southeast Cass WRD	Re-Certification of the Horace to West Fargo Diversio	6/29/2012	42,835	0	42,835
SE	2005	5000	2011-13	Grand Forks Co. WRD	Turtle River Dam #8 2012 EAP	6/29/2012	10,000	0	10,000
SE	2008	5000	2011-13	City of Mapleton	Mapleton Flood Control Levee Project	6/29/2012	24,410	0	24,410
SE	1998	5000	2011-13	Grand Forks Co. WRD	Upper Turtle River Dam #1 2012 EAP	6/28/2012	10,000	0	10,000
SE	1577	5000	2011-13	Burleigh Co. WRD	Fox Island 2012 Flood Hazard Mitigation Evaluation St	5/22/2012	23,900	0	23,900
SE	1814	5000	2011-13	Richland Co. WRD	Sheyenne River Snagging & Clearing Project	5/4/2012	47,500	0	47,500
SE	1296	5000	2011-13	Pembina Co. WRD	Pembina Co. WRD/ Bourbanis Dam 2012 EAP	2/6/2012	10,000	0	10,000
SE	1296	5000	2011-13	Pembina Co. WRD	Pembina Co. WRD/ Goschke Dam 2012 EAP	2/6/2012	10,000	0	10,000
SE	1296	5000	2011-13	Pembina Co. WRD	Pembina Co WRD/ Weiler Dam 2012 EAP	2/6/2012	10,000	0	10,000
SE	1296	5000	2011-13	Pembina Co. WRD	PembinaCo. WRD/Willow Creek Dam 2012 EAP	1/27/2012	10,000	0	10,000
SE	1312	5000	2011-13	Walsh Co. WRD	Walsh Co. WRD/ Skyrud Dam 2011 EAP	12/15/2011	10,000	0	10,000
SE	1312	5000	2011-13	Walsh Co. WRD	Walsh Co. WRD/ Union Dam 2011 EAP	12/15/2011	10,000	0	10,000
SE	391	5000	2011-13	Sargent Co WRD	Sargent Co WRD, Silver Lake Dam Emergency Repai	10/12/2011	2,800	0	2,800
SE	1303	5000	2011-13	Sargent Co WRD	Shortfoot Creek Watershed Feasibility Study	9/15/2011	8,390	890	7,500
SE	1301	5000	2011-13	City of Wahpeton	City of Wahpeton Water Reuse Feasibility Study/Richl	9/8/2011	2,500	0	2,500
SE	PS/WRD/MR	5000	2011-13	Missouri River Joint Board	Missouri River Joint Water Board, (MRJWB) Start up	8/2/2011	20,000	4,437	15,563
SE	1965	5000	2011-13	Dept. of Emergency Services	ND Silver Jackets Team Charter & Action Plan	7/1/2011	8,744	8,744	0
SE	1607	5000	2011-13	Ward Co. WRD	Flood Inundation Mapping of Areas Along Souris & De	6/15/2011	13,011	0	13,011
SE	PS/WRD/USF	5000	2011-13	Upper Sheyenne River Joint V	Upper Sheyenne River WRB Administration (USRJWF	6/15/2011	6,000	0	6,000
SE	1301	5000	2009-11	City of Lidgerwood	City of Lidgerwood Engineering & Feasibility Study for	2/4/2011	15,850	0	15,850
SE	1967	5000	2009-11	Grand Forks Co. WRD	Grand Forks County Legal Drain No. 55 2010 Contruc	11/30/2010	9,652	0	9,652
SE	1431	5000	2009-11	NDDOT	NDDOT Aerial Photography - MUTIPLE	11/19/2010	39,279	39,279	0
SE	1291	5000	2009-11	Mercer Co. WRD	Mercer County WRD Knife River Snagging & Clearing	11/1/2010	20,000	0	20,000
SE	AOC/RRC	5000	2009-11	Red River Basin Commission	Red River Basin "A River Runs North"	6/30/2010	5,000	0	5,000
SE	269	5000	2009-11	Grand Forks Co. WRD	Fordville Dam Emergency Action Plan/GF CO.	3/3/2010	9,600	0	9,600
SE	PBS	5000	2009-11	Lake Agassiz RC & D	PBS Documentary on Soil Salinity/Lake Agassiz RC &	1/29/2010	1,000	0	1,000
SWC	346	5000	2011-13	Williams County WRD	Epping Dam Evaluation Project	2/27/2013	66,200	0	66,200
SWC	240	5000	2011-13	Eddy County WRD	Warwick Dam Repair Project	12/7/2012	110,150	0	110,150
SWC	568	5000	2011-13	Southeast Cass WRD	Sheyenne River Snagging & Clearing Project	12/7/2012	288,750	0	288,750
SWC	1303	5000	2011-13	Sargent Co WRD	Frenier Dam Improvement Project	12/7/2012	158,373	0	158,373
SWC	1523	5000	2011-13	Ward Co. WRD	Souris River Minot to Burlington Snagging & Clearing	12/7/2012	109,000	0	109,000
SWC	1705	5000	2011-13	Red River Joint Water Resour	Red River Basin Distributed Plan Study	12/7/2012	560,000	0	560,000
SWC	1842	5000	2011-13	Southeast Cass WRD	Wild Rice River Snagging & Clearing	12/7/2012	110,000	0	110,000
SWC	2019	5000	2011-13	Valley City	Sheyenee River Snagging & Clearing Project	12/7/2012	75,000	0	75,000
SWC	2020	5000	2011-13	Minot Park District	Souris Valley Golf Course Bank Stabilization	12/7/2012	335,937	0	335,937
SWC	847	5000	2009-11	Maple River WRD	Swan-Buffalo Detention Dam No. 12 Flood Control Da	11/1/2012	114,783	0	114,783
SWC	1069	5000	2011-13	North Cass - Rush River JWR	Drain #13 Channel Improvements	9/27/2012	217,000	0	217,000
SWC	1401	5000	2009-11	Pembina Co. WRD	International Boundary Roadway Dike Pembina	9/27/2012	427,431	76,505	350,926
SWC	228	5000	2011-13	U.S. Geological Survey	Additional USGS gage Missouri River- ANNUAL	9/17/2012	8,500	0	8,500
SWC	1992	5000	2011-13	Burleigh Co. WRD	Bismarck Flood Control Channel Project	9/17/2012	187,500	0	187,500
SWC	1996	5000	2011-13	Traill Co. WRD	Drain #62 - Wold Drain Project	9/17/2012	112,400	0	112,400
SWC	2003-02	5000	2011-13	Southeast Cass WRD	Re-Certification of the West Fargo Diversion Levee Sy	9/17/2012	91,400	0	91,400
SWC	2009-02	5000	2011-13	Southeast Cass WRD	Recertification of the Horace to West Fargo Diversion	9/17/2012	72,600	0	72,600
SWC	2012	5000	2011-13	Southeast Cass WRD	Lower Sheyenne River Watershed Retention Plan	9/17/2012	80,000	0	80,000
SWC	2013	5000	2011-13	Richland-Cass Joint WRD	Wild Rice River Watershed Retention Plan	9/17/2012	90,000	0	90,000
SWC	2014	5000	2011-13	Traill Co. WRD	Elm River Watershed Retention Plan	9/17/2012	75,000	0	75,000
SWC	2021	5000	2011-13	KPMG LLP	Performance Audit - Appropriations Division	9/17/2012	149,700	130,991	18,709
SWC	227	5000	2011-13	Eaton Flood Irrigation District	District's Mouse River Riverbank Stabilization Project	6/13/2012	120,615	0	120,615
SWC	829	5000	2011-13	Rush River WRD	Rush River Watershed Retention Plan	6/13/2012	67,500	0	67,500
SWC	1063	5000	2011-13	Rush River WRD	Amenia Township Improvement District Drain No. 74 I	6/13/2012	459,350	0	459,350
SWC	1344	5000	2009-11	Southeast Cass WRD	Horace Diversion Channel Site A (Section 7 - Phase V	6/13/2012	1,812,822	0	1,812,822
SWC	1344	5000	2009-11	Southeast Cass WRD	Sheyenne Diversion Exterior Pump Station	6/13/2012	84,090	80,339	3,751
SWC	1344	5000	2011-13	Southeast Cass WRD	Sheyenne Diversion Phase VI - Weir Improvements	6/13/2012	225,050	0	225,050
SWC	1523	5000	2011-13	Ward Co. WRD	Countryside Villas/Whispering Meadows Drainage Imp	6/13/2012	157,211	0	157,211
SWC	1806-02	5000	2011-13	City of Argusville	Re-Certification of the City of Argusville Flood Control	6/13/2012	216,200	0	216,200
SWC	2007	5000	2011-13	Maple River WRD	Pontiac Township Improvement District No. 73 Project	6/13/2012	500,000	0	500,000
SWC	2010	5000	2011-13	Barnes Co WRD	Meadow Lake Outlet	6/13/2012	500,000	0	500,000
SWC	1878-02	5000	2011-13	Maple River WRD	Upper Maple River Dam Environmental Assessment -	6/13/2012	112,500	0	112,500
SWC	1138	5000	2011-13	Pembina Co. WRD	Drain No. 8 Reconstruction Project	3/7/2012	123,725	0	123,725
SWC	1227	5000	2011-13	Traill Co. WRD	Mergenthal Drain No. 5 Reconstruction	3/7/2012	84,670	0	84,670
SWC	1396	5000	2011-13	U.S. Geological Survey	(USGS) Missouri River Geomorphic Assessment	3/7/2012	140,000	30,000	110,000
SWC	1444	5000	2011-13	City of Pembina	US Army Corps of Eng Section 408 Review City Flood	3/7/2012	108,000	108,000	0
SWC	1504	5000	2011-13	Valley City	Valley City Flood Risk Management Feasibilitly Study -	3/7/2012	115,244	0	115,244

STATE WATER COMMISSION
PROJECTS/GRANTS/CONTRACT FUND
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GENERAL PROJECT OBLIGATIONS

Approved By	SWC No	Dept	Approved Biennum	Sponsor	Project	Initial Approved Date	Total Approved	Total Payments	*Apr-13* Balance
SWC	1989	5000	2011-13	Barnes Co WRD	Hobart Lake Outlet Project	3/7/2012	266,100	0	266,100
SWC	1990	5000	2011-13	Mercer Co. WRD	Lake Shore Estates High Flow Diverstion Project	3/7/2012	43,821	0	43,821
SWC	PS/WRD/JAM	5000	2011-13	James River Joint WRD	James River Engineering Feasibility Study Phase 1	3/7/2012	160,482	44,060	116,422
SWC	1918	5000	2001-13	Maple River WRD	Normanna Township Improvement District No. 71	12/9/2011	287,900	0	287,900
SWC	1983	5000	2001-13	City of Harwood	City of Harwood Engineering Feasibility Study	12/9/2011	62,500	0	62,500
SWC	275	5000	2011-13	City of Fort Ransom	City of Fort Ransom Engineering Feasibilitly Study	10/19/2011	40,000	0	40,000
SWC	829	5000	2011-13	Rush River WRD	Rush River WRD Berlin's Township Improvement Dist	10/19/2011	500,000	336,305	163,695
SWC	1224	5000	2011-13	Traill Co. WRD	Preston Floodway Reconstruction Project	10/19/2011	208,570	0	208,570
SWC	1978	5000	2011-13	Richland & Sargent Joint WRI	Richland & Sargent WRD RS Legal Drain No. 1 Exten	10/19/2011	245,250	0	245,250
SWC	CON/WILL-C/	5000	2011-13	Garrison Diversion	Will/Carlson Project	10/17/2011	70,000	37,329	32,671
SWC	829	5000	2011-13	Rush River WRD	Rush River Dam Preliminary Soils & Hydraulic Study	9/21/2011	57,500	0	57,500
SWC	980	5000	2011-13	Maple River WRD	Maple River Watershed Food Water Retention Study/	9/21/2011	82,500	0	82,500
SWC	1101	5000	2011-13	Dickey Co. WRD	Yorktown-Maple Drainage Improvement Dist No. 3	9/21/2011	354,500	0	354,500
SWC	1101	5000	2011-13	Dickey-Sargent Co WRD	Riverdale Township Improvement District #2 - Dickey	9/21/2011	500,000	0	500,000
SWC	1219	5000	2011-13	Sargent Co WRD	District Drain No. 4 Reconstruction Project	9/21/2011	125,500	0	125,500
SWC	1219	5000	2011-13	Sargent Co WRD	City of Forman Floodwater Outlet	9/21/2011	348,070	316,598	31,472
SWC	1252	5000	2011-13	Walsh Co. WRD	Walsh Co. Reconstruction Drain No. 97	9/21/2011	50,551	25,618	24,933
SWC	1705	5000	2011-13	Red River Joint Water Resour	Red River Joint WRD Watershed Feasibility Study - Pl	9/21/2011	60,000	0	60,000
SWC	1859	5000	2011-13	ND Dept of Health	ND Dept of Health Non-Point Source EPA Pollution Pr	9/21/2011	200,000	179,028	20,972
SWC	1975	5000	2011-13	Walsh Co. WRD	Walsh Co. Drain No. 31 Reconstruction Project	9/21/2011	111,116	111,116	0
SWC	1977	5000	2011-13	Dickey-Sargent Co WRD	Jackson Township Improvement Dist. #1	9/21/2011	500,000	0	500,000
SWC	AOC/RRBC	5000	2011-13	Red River Basin Commission	Red River Basin Commission Contractor	8/2/2011	200,000	150,000	50,000
SWC	PS/WRD/MR	5000	2011-13	Missouri River Joint Board	Missouri River Joint Water Board (MRRIC) T. FLECK	8/2/2011	40,000	28,000	12,000
SWC	1878-02	5000	2011-13	Maple River WRD	Upper Maple River Dam Project Development & Prelir	7/19/2011	187,710	0	187,710
SWC	1392	5000	2011-13	U.S. Geological Survey	U. S. Geological Hydrographic Survey of the Missouri	6/15/2011	55,000	53,000	2,000
SWC	1344	5000	2011-13	Southeast Cass WRD	Southeast Cass Sheyenne River Diversion Low-Flow (	6/14/2011	2,802,000	2,085,391	716,609
SWC	1705	5000	2011-13	Red River Joint Water Resour	Red River Basin Flood Control Coordinator Position	6/10/2011	36,000	0	36,000
SWC	AOC/WEF	5000	2011-13	ND Water Education Foundati	North Dakota Water Magazine	6/10/2011	36,000	27,000	9,000
SWC	347	5000	2009-11	City of Velva	City of Velva's Flood Control Levee System Certificatic	3/28/2011	102,000	0	102,000
SWC	1161	5000	2009-11	Pembina Co. WRD	Drain 55 Improvement Reconstruction	3/28/2011	88,868	75,022	13,846
SWC	1245	5000	2009-11	Traill Co. WRD	Traill Co. Drain No. 28 Extenstion & Improvement Proj	3/28/2011	336,007	0	336,007
SWC	1969	5000	2009-11	Walsh Co. WRD	Walsh Co. Construction of Legal Assessment Drain #	3/28/2011	304,141	0	304,141
SWC	1970	5000	2009-11	Walsh Co. WRD	Walsh Co. Construction of Legal Assessment Drain #	3/28/2011	144,807	105,692	39,115
SWC	568	5000	2009-11	Southeast Cass WRD	Sheyenne River Snagging & Clearing Project	12/10/2010	362,250	184,467	177,783
SWC	1842	5000	2009-11	Southeast Cass WRD	Wild Rice River Snagging & Clearing	12/10/2010	100,625	71,680	28,945
SWC	1878-02	5000	2009-11	Maple-Steele Joint WRD	Maple-Steele Upper Maple River Dam PE & PD	12/10/2010	187,710	184,534	3,176
SWC	281	5000	2009-11	Three Affiliated Tribes	Three Affiliated Tribes/Fort Berthold Irrigation Study	10/26/2010	37,500	0	37,500
SWC	646	5000	2009-11	City of Fargo	Christine Dam Recreation Retrofit Project	10/26/2010	184,950	0	184,950
SWC	646	5000	2009-11	City of Fargo	Hickson Dam Recreation Retrofit Project	10/26/2010	44,280	0	44,280
SWC	1667	5000	2009-11	Traill Co. WRD	Goose River Snagging & Clearing	9/1/2010	12,890	0	12,890
SWC	1882-07	5000	2009-11	NDSU	NDSU Development of SEBAL	9/1/2010	15,244	0	15,244
SWC	1966	5000	2009-11	City of Oxbow	City of Oxbow Emergency Flood Fighting Barrier Syste	6/1/2010	188,400	0	188,400
SWC	1244	5000	2009-11	Traill Co. WRD	Traill Co. Drain No. 27 (Moen) Reconstruction & Exten	3/11/2010	678,485	341,994	336,491
SWC	1577	5000	2009-11	Mercer Co. WRD & City of Ha	Hazen Flood Control Levee (1517) & FEMA Accreditat	3/11/2010	449,500	264,516	184,984
SWC	322	5000	2009-11	ND Water Education Foundati	ND Water: A Century of Challenge	2/22/2010	36,800	0	36,800
SWC	1792	5000	2009-11	Southeast Cass WRD	SE Cass Wild Rice River Dam Study Phase II	12/11/2009	130,000	0	130,000
SWC	1069	5000	2009-11	North Cass Co. WRD	Cass County Drain No. 13 Improvement Reconstructic	8/18/2009	122,224	0	122,224
SWC	1088	5000	2009-11	Maple River WRD	Cass County Drain No. 37 Improvement Recon	8/18/2009	92,668	0	92,668
SWC	1232	5000	2009-11	Traill Co. WRD	Traill Co. Drain No. 13 Channel Extension Project	8/18/2009	23,575	0	23,575
SWC	1785	5000	2009-11	Maple River WRD	Maple River Dam EAP	8/18/2009	25,000	0	25,000
SWC	1960	5000	2009-11	Ward Co. WRD	Puppy Dog Coulee Flood Control Diversion Ditch Cons	8/18/2009	796,976	0	796,976
SWC	1882-01	5000	2009-11	Devils Lake Basin Joint WRB	(ESAP) Extended Storeage Acreage Program	8/18/2009	63,554	0	63,554
SWC	1638	5000	2009-11	Mutiple	Red River Basin Non-NRCS Rural/Farmstead Ring Di	6/23/2009	624,262	397,898	226,364
SWC	1921	5000	2007-09	Morton Co. WRD	Square Butte Dam No. 6/(Harmon Lake) Recreation F	3/23/2009	852,251	9,100	843,151
SWC	642-05	5000	2007-09	Mutiple	Sweetbriair Creek Dam Project	3/6/2009	148,956	60,691	88,265
SWC	620	5000	2007-09	Lower Heart WRD	Mandan Flood Control Protective Works (Levee)	9/29/2008	125,396	0	125,396
SWC	928/988/1508	5000	2007-09	Southeast Cass WRD	Southeast Cass WRD Bois, Wild Rice, & Antelope	6/23/2008	60,000	0	60,000
SWC	1932	5000	2005-07	Nelson Co. WRD	Michigan Spillway Rural Flood Assessment	8/30/2005	1,012,219	0	1,012,219
					TOTAL		25,331,807	6,072,113	19,259,694

STATE WATER COMMISSION
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COMPLETED GENERAL PROJECTS

Approvec By	SWC No	Dept	Approved Biennum	Sponsor	Project	Initial Approved Date	Total Approved	Total Payments	*Apr-13* Balance
SWC	228	5000	2011-13	Invitation for Bid	South Bismarck Flood Risk Reduction - Heart River	9/17/2012	225,000	225,000	0
SWC	228	5000	2011-13	City of Bismarck	Bismarck City's Storm Water Outfall Construction Proje	6/13/2012	187,500	101,325	86,175
SE	266	5000	2011-13	Nelson Co. WRD	Tolna Dam 2011 EAP, Nelson County WRD	8/23/2011	9,600	8,540	1,060
HB 1020	322	5000	2009-11	Red River Basin Commis	Long-Term Red River Flood Control Solutions Study (A	6/23/2009	7,720	7,720	0
SWC	327	5000	2009-11	Mountrail Co. WRD	White Earth Dam EAP	8/18/2009	25,000	25,000	0
SE	501	5000	2009-11	Dickey Co WRD	Pheasant Lake Dam Emergency Action Plan	4/20/2011	9,600	8,615	985
SE	568	5000	2007-09	Barnes Co. WRD	Barnes Co/Sheyenne River Snagging & Clearing Proje	4/11/2008	5,000	0	5,000
SWC	568	5000	2011-13	Southeast Cass WRD	Sheyenne River Snagging & Clearing Reaches 1-3	9/21/2011	262,770	262,770	0
SE	571	5000	2009-11	Oak Creek WRD	Oak Creek Snagging & Clearing Project	1/28/2011	5,000	5,000	0
SE	642	5000	2009-11	Morton Co. WRD	Sweetbriar Dam Emergency Action Plan	5/17/2010	15,200	0	15,200
SE	839	5000	2009-11	Traill Co. WRD	Elm River Detention Dam No. 3 EAP	12/6/2010	12,160	7,162	4,998
SE	839	5000	2009-11	Traill Co. & Steele Co. W	Elm River Detention Dam No. 1 EAP	1/10/2011	12,160	8,440	3,720
SWC	846	5000	2009-11	Morton Co. WRD	Morton Co.Square Butte Dam No. 5 EAP	12/10/2010	24,000	20,930	3,070
SE	847	5000	2009-11	Maple River WRD	Absaraka Dam Safety Analysis	8/31/2009	5,719	5,179	540
SE	929	5000	2009-11	Walsh Co. WRD	Walsch Co. -Chyle Dam EAP	5/6/2011	10,000	7,546	2,454
SE	929	5000	2009-11	Walsh Co. WRD	Walsch Co. -Soukop Dam EAP	3/2/2011	10,000	7,760	2,240
SE	985	5000	2009-11	Grand Forks Co. WRD	Kolding Dam Emergency Action Plan	5/29/2009	9,600	5,960	3,640
SE	985	5000	2011-13	Grand Forks Co. WRD	Turtle River Snagging & Clearing Project	10/9/2012	13,000	10,500	2,500
SWC	1068	5000	2009-11	Rush River WRD	Cass County Drain No. 12 Improvement Reconstructio	8/18/2009	741,600	0	741,600
SWC	1070	5000	2011-13	Maple River WRD	Cass County Drain No. 14 Improvement Recon	9/21/2011	415,610	(8,009)	423,619
SWC	1093	5000	2007-09	Southeast Cass WRD	Cass Co. Drain No. 45 Extension Project	3/17/2008	124,757	28,511	96,246
SE	1131	5000	2009-11	Traill Co. WRD	Elm River Detention Dam No. 2 Emergency Action Plai	12/6/2010	12,160	8,310	3,850
SWC	1164	5000	2009-11	Pembina Co. WRD	Pembina County Drain No. 64 Outlet Area Improvemer	12/10/2010	41,480	36,592	4,888
SWC	1180	5000	2009-11	Richland Co. WRD	Richland Co. Drain No. 7 Improvement Reconstruction	3/11/2010	71,933	11,389	60,544
SWC	1247	5000	2011-13	Traill Co. WRD	Brokke Drain No. 30, Ervin Township	9/21/2011	31,455	31,455	0
SWC	1267	5000	2011-13	U.S. Army Corps of Eng.	Bottineau County LiDAR Collect/ Mike Hall	10/19/2011	97,000	97,000	0
SE	1289	5000	2009-11	McKenzie Co Weed Cont	McKenzie Co. Weed Control on Sovereign Lands	3/4/2011	11,705	11,705	0
SE	1296	5000	2011-13	Pembina Co. WRD	Pembina Co WRD/ Herzog Dam 2012 EAP	2/6/2012	10,000	8,209	1,791
SWC	1296	5000	2011-13	Pembina Co. WRD	Cook Bridge Riverbank Stabilization	10/21/2011	36,649	22,090	14,559
SWC	1299	5000	2009-11	City of Fort Ransom	City of Fort Ransom Riverbank Stabilization	9/1/2010	60,803	47,205	13,598
SWC	1300	5000	2011-13	US Army Corp of Engine	Renville Co. LiDar Collect for the Mouse River	9/17/2012	100,000	100,000	0
SE	1312	5000	2011-13	Walsh Co. WRD	Walsh Co. WRD/Bylin Dam 2011 EAP	12/15/2011	14,800	14,718	82
SE	1312	5000	2011-13	Walsh Co. WRD	Walsh Co. WRD/ Melstad Dam 2011 EAP	12/15/2011	9,088	9,088	0
SE	1312	5000	2011-13	Walsh Co. WRD	Walsh Co. WRD / Matejcek Dam 2011 EAP	12/14/2011	5,360	5,360	0
SE	1313	5000	2011-13	Ward Co. WRD	Ward Co. 2011 LIDAR Review & Data Creation Produc	10/11/2011	16,311	16,311	0
SWC	1313	5000	2009-11	Ward Co. WRD	City of Minot/Ward Co. Aerial Photo & LiDAR	3/11/2010	186,780	143,407	43,373
SWC	1331	5000	2009-11	Richland Co. WRD	Richland Co. Drain No. 14 Improvement Reconstructic	3/11/2010	116,988	16,549	100,439
SWC	1378	5000	2009-11	Barnes Co. WRD	Clausen Springs Dam Emergency Spillway Repair	10/26/2010	790,975	770,746	20,229
SE	1378	5000	2011-13	Barnes Co. WRD	Clausen Springs Dam Emergency Action Plan /Barnes	8/23/2011	20,000	0	20,000
SE	1396	5000	2009-11	Dale Frink	Dale Frink Consultant Services Agreement	10/26/2010	18,600	0	18,600
SE	1403	5000	2011-13	ND Water Resource Res	ND Water Resources Research Institute - Fellowship P	2/1/2012	13,850	13,850	0
SE	1403	5000	2011-13	NDSU	ND-WRRI Fellowship Program	12/14/2012	13,850	13,850	0
SWC	1413	5000	2009-11	Traill Co. WRD	Traill Co/Buffalo Coulee Snagging & Clearing	9/1/2010	26,000	19,659	6,341
SWC	1413	5000	2011-13	Traill Co. WRD	Traill Co/Buffalo Coulee Snagging & Clearing	9/21/2011	25,000	14,960	10,040
SE	1433	5000	2009-11	Walsh Co. WRD	Whitman Dam Emergency Action Plan	4/14/2011	10,000	8,348	1,652
SWC	1438	5000	2009-11	Cavalier Co. WRD	Mulberry Creek Drain Partial Improv Phase III	3/28/2011	226,118	209,875	16,243
SWC	1444	5000	2011-13	City of Pembina	City of Pembina's Flood Control FEMA Levee Certificat	3/20/2012	21,344	21,344	0
SE	1577	5000	2009-11	Burleigh Co. WRD	Burleigh Co - Fox Island 2010 Flood Hazard Mitigation	8/9/2010	11,175	0	11,175
SWC	1603	5000	2011-13	Cass Co. WRD	Rush River Drain No. 69, Armenia Township, Cass Co.	9/21/2011	313,500	0	313,500
SE	1625	5000	2009-11	ND Game & Fish	Sovereign Lands Rules - ND Game & Fish	2/23/2010	6,788	0	6,788
SWC	1667	5000	2011-13	Traill Co. WRD	Traill Co./Goose River Snagging & Clearing	9/21/2011	48,000	48,000	0
SWC	1671	5000	2011-13	Ransom Co. WRD	Dead Cold Creek Dam 2011 Emergency Action Plan	6/14/2011	22,800	22,800	0
SE	1689	5000	2011-13	Bottineau Co. WRD	Brander Drain #7 Improvement Project	4/19/2012	48,720	47,984	736
SE	1732	5000	2011-13	City of Beulah	Beulah Dam Emergency Action Plan	7/26/2012	20,440	0	20,440
SE	1814	5000	2011-13	Richland Co. WRD	Sheyenne River Snagging & Clearing Project/Logjam b	4/19/2012	15,000	13,860	1,140
SE	1842	5000	2009-11	Southeast Cass WRD	SCWRD Wild Rice River Snagging & Clearing	5/28/2009	4,331	0	4,331
SWC	1842	5000	2009-11	Richland Co. WRD	Richland Co. Wild Rice River Snagging & Clearing Proj	3/28/2011	47,500	47,466	34
SE	1842	5000	2009-11	Richland Co. WRD	Richland Co. - Ph 2- Wild Rice River Snagging & Clear	2/1/2011	15,000	11,603	3,397
SWC	1842	5000	2011-13	Southeast Cass WRD	SCWRD Wild Rice River Snagging & Clearing	9/21/2011	99,000	96,312	2,688
SWC	1932	5000	2009-11	Nelson Co. WRD	Peterson Slough into Dry Run Emergency	5/28/2010	32,150	32,150	0
SWC	1941	5000	2011-13	Walsh Co. WRD	Walsh County Drain No. 4a Cost Overrun	12/9/2011	9,759	9,759	0
SWC	1942	5000	2009-11	Walsh Co. WRD	Walsh County Assessment Drain 10, 10-1, 10-2	9/21/2009	37,267	13,544	23,723
SWC	1953	5000	2009-11	Walsh Co. WRD	Walsh County Drain No. 73 Construction Project	8/18/2009	109,919	109,919	0
SWC	1964	5000	2009-11	UND	Hydraulic Effects of Rock Wedges Study- UND	11/12/2009	11,651	11,457	194
SWC	1971	5000	2009-11	U.S. Geological Survey	DES Purchase of Mobile Stream Gages	3/28/2011	16,457	16,457	0
SE	1971	5000	2011-13	U.S. Geological Survey	DES Purchase of Mobile Stream Gages (2 temporary s	7/19/2011	8,000	8,000	0
SWC	1979	5000	2011-13	Southeast Cass WRD	Wild Rice River Riverbank Stabilization Project	6/13/2012	191,200	168,935	22,265
SE	1988	5000	2011-13	Barnes Co WRD	Sheyenne Riverbank Encroachment Study Project	3/16/2012	22,875	18,405	4,470
SE	1312/1933	5000	2001-13	Ulteig Engineers	Walsch Co. WRD/Digital Flood Insurance Rate Map Pr	2/16/2012	8,356	8,356	0
SE	1312/929	5000	2011-13	Fischer Land Surveying	Fischer Land Surveying & Engineering/Harriston Town	12/12/2011	6,000	6,000	0
SWC	1806-01	5000	2011-13	City of Argusville	City of Argusville Flood Control Levee Project	9/21/2011	25,432	25,375	57
SE	867-01	5000	2011-13	NDSU	NDSU Soil & Water Sampling for Assessment of Effect	5/12/2012	7,225	7,225	0
SE	AOC/ARB/ND	5000	2009-11	NDSU	NDSU Dept of Soil Science - NDAWN Center	3/8/2010	3,000	3,000	0
SE	AOC/ARB/ND	5000	2011-13	NDSU	NDSU Dept of Soil Science - NDAWN Center	2/27/2012	3,200	3,200	0
SE	ARB/NDSU	5000	2011-13	NDSU	(NDAWN) ND Agricultural Weather Network	1/24/2013	3,200	3,200	0
SE	AOC/BSC	5000	2011-13	Bismarck State College	Bismarck State College - ND Water Quality Monitoring	2/7/2012	2,000	2,000	0
SWC	AOC/RRBC	5000	2009-11	Red River Basin Commis	Red River Basin Commission Contractor	7/1/2009	100,000	100,000	0
SE	AOC/WEF/TO	5000	2011-13	ND Water Education Fou	2012 Summer Water Tours Sponsorship	10/21/2012	2,500	2,500	0
SE	AOC/WEF/TO	5000	2011-13	ND Water Education Fou	2013 Summer Water Tours Sponsorship	3/14/2013	2,500	2,500	0

STATE WATER COMMISSION
PROJECTS/GRANTS/CONTRACT FUND
2011-2013 Biennium
Resources Trust Fund

COMPLETED GENERAL PROJECTS

Approved By	SWC No	Dept	Approved Biennum	Sponsor	Project	Initial Approved Date	Total Approved	Total Payments	*Apr-13* Balance
SWC	PS/IRR/NES	5000	2009-11	NDSU	NDSU Williston Research Extension Center - purchase	3/28/2011	60,050	60,050	0
SWC	PS/WRD/MRJ	5000	2011-13	Missouri River Joint WRE	Missouri River Joint Water Board (MRRIC) T. FLECK	6/30/2009	6,470	6,470	0
SWC	PS/WRD/MRJ	5000	2007-09	Missouri River Joint WRE	Missouri River Joint Water Board, (MRJWB) Start up	12/5/2008	14,829	10,857	3,972
					TOTAL		5,455,537	3,307,353	2,148,184

North Dakota State Water Commission

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Agenda A-3)

MEMORANDUM

TO: Governor Jack Dalrymple
North Dakota Water Commission Members

FROM: Todd Sando P.E.
Chief Engineer-Secretary

SUBJECT: 2011-2013 Biennium Projects/Grants/Contract Fund Obligation Carryovers to the 2013-2015 Biennium

DATE: June 10, 2013

During the 2011-2013 biennium, the programs and projects administered by the Commission's Water Resource Program Administrator have been thoroughly scrutinized for those with remaining obligated funds that are completed or not undertaken. Those projects have been identified and the obligated funds returned to the appropriate account and the program/project removed or transferred to a non-active/completed listing.

Commonly water projects require a couple or more years to complete due to regulatory issues, funding needs, contracting, bidding and construction delays, project inspections, weather, auditing requirements, etc. As projects are completed they are moved from the active listing to the non-active/completed listing and remaining approved funds de-obligated and returned to the appropriate account.

At this time, all of the programs and projects listed on the "2011-2013 Biennium Projects/Grant/Contract Fund" with obligated funds are to be pursued in the foreseeable future, with the exception of the following projects: City of Fargo Ridgewood Flood Control; City of Parshall Water Supply; Valley City Water Treatment Plant; Mercer County Water Resource District Knife River Snagging and Clearing; Traill County Water Resource District Goose River Snagging and Clearing; Southeast Cass Water Resource District Sheyenne River Snagging and Clearing; and Southeast Cass Water Resource District Wild Rice River Snagging and Clearing.

I recommend that all of the 2011-2013 program and general project unexpended obligation amounts (which includes all previous biennium carryovers) and the program/project itself be carried over to the 2013-2015 biennium, except for the identified projects. This approval is subject to the availability of funds.

SWC Meeting – June 19, 2013

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

North Dakota State Water Commission

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Agenda E

MEMORANDUM

TO: Governor Jack Dalrymple
State Water Commission Members

FROM: Todd Sando, P.E., Chief Engineer-Secretary

DATE: June 3, 2013

SUBJECT: State Water Commission and Office of the State Engineer 2013 Legislation Summary

Over the course of the 2013 Legislative Assembly, bills were passed that impact the Office of the State Engineer regulatory requirements, and others that will require new State Water Commission cost-share policies, modifications to existing cost-share policies, and development of a project prioritization process for budgeting purposes. There were also several sections of bills relating to how various projects will be funded, intent for specific funding amounts, and some additional "house-cleaning" within existing Code.

The attached provides an overview of 2013 legislation that impacts many of the aforementioned issues.

TS:pf:jv:rp/322
Attachment

2013 Legislative Summary
State Water Commission and Office of the State Engineer

BILLS SUBMITTED BY SWC OR STATE ENGINEER

House Bill 1060 (Devils Lake outlets management advisory committee):

- Combines the two Devils Lake outlet advisory committees into a single advisory committee.
- Provides the Governor or Governor's designee as chairman of the committee and when meetings shall be held.
- Sets out the duties of the committee.
- Repeals N.D.C.C. § 61-36-03 regarding committee member compensation and expenses.

House Bill 1061 (water rights and penalty):

- Increases the penalty from $5,000 to $25,000 per day for any person who violates any provision of N.D.C.C. title 61 (except agricultural appropriation violations remain at $5,000 per day).
- Changes the filing date for returning annual water use information from February 1 to March 31.
- Requires the State Engineer to inform the Tax Commissioner of any industrial use water permit violations.
- Passed with an emergency clause.

House Bill 1062 (appeals of noncomplying dam, etc.):

- Amends the appeal process so that all appeals from local boards regarding unauthorized dikes, dams, or other devices are taken to the State Engineer.
- Makes the appeal process consistent no matter when the works were constructed.
- Amends "registered" mail to "certified" mail.

House Bill 1063 (water conservation):

- Amends the term "unnavigable" to "nonnavigable" for consistency.
- Repeals N.D.C.C. §§ 61-15-01, 61-15-02, and 61-15-08, which contains redundant or unenforceable language regarding "navigable waters."

House Bill 1067 (SWC a state agency.):

- Makes the SWC a state agency instead of a public corporation.

Senate Bill 2052 (regulatory permit applications):

- Amends N.D.C.C. § 61-16.1-38 to provide that if a water resource board fails to respond within 45 days to permit applications for water storage, obstruction, or diversion, it shall be determined the board has no changes, conditions, or modifications.

Senate Bill 2053 (NAWS):

- Gives the SWC authority to sell, transfer, or exchange up to five acres of excess property back to the current owner of the surrounding property from which the property was obtained.

BILLS RELATED TO FUNDING AND POLICY

House Bill 1020 (SWC appropriations):

- Includes $500 million for flood control, water supply, irrigation, and other general water management projects throughout the state.
- Includes $15 million for the Community Water Facility Revolving Loan Fund, and provides for a $40 million loan from the Bank of North Dakota to the Western Area Water Supply.
- The SWC operations are changed from General Fund dollars to Resources Trust Fund revenues.
- Includes $60 million to pay off or defease all of the agency's eight outstanding bond issues related to major water projects, such as Grand Forks, Wahpeton, and Devils Lake flood control, Southwest Pipeline, and several other rural and regional water supply projects. Bond payoffs are allowed only if revenues from the Resources Trust Fund exceed $287 million in the biennium.
- Provides support for the state's contribution to the Fargo-Moorhead flood control project at one-half of the local cost-share of the federally authorized project, not to exceed $450 million. Requires that state funds are only available for levee and dike protection efforts until the flood control project receives federal authorization, a project partnership agreement is executed, a federal appropriation is provided for project construction, and the project budget is approved by the SWC. Prior to SWC expending cost-share, there are specific requirements for a cost-share agreement that must be entered into between the SWC and the local sponsor and an advance funding agreement between the Corps and local sponsor.
- Provides $11 million for the Red River Valley Water Supply project.
- Requires SWC deviations from priorities submitted to the legislature be reported to the budget section every six months.
- Requires the Fargo-Moorhead Area Diversion Authority to report to the Budget Section.
- Provides three new FTEs. Two are related to monitoring water use and water permit processing associated with dramatically increasing water needs in the oil-producing region of the state. The third is needed to operate the newly constructed East Devils Lake outlet project.
- Requires the Water-related Topics Overview Committee (Water Topics Committee) to work collaboratively with the SWC to develop policies to further define the state role in major flood control projects.
- Provides the Water Topics Committee to prepare a schedule of priorities for water projects. The SWC and SE will assist the committee in developing the schedule.
- Provides for the Water Topics Committee to study policies regarding the development and financing of municipal projects, including water treatment plants; pipelines, including pipeline expansions, public and industrial use of water, cost analysis of future project development, and ongoing maintenance costs of current and future projects; and technology, including the use of technology for permitting and electronic metering.
- Provides for the Water Topics Committee to review Red River Valley Water Supply project routes and alternatives during the 2013-2014 interim.

House Bill 1206 (SWC membership):

- Future water development planning efforts shall be conducted in consideration of watershed boundaries.
- Meetings will be held within major drainage basins to improve water project sponsor participation in the planning process.
- For projects in excess of $500,000, the SWC has been asked to develop policies for benefit-cost analysis.
- In the interim - an analysis of existing water project prioritization processes will be conducted by legislative management.

House Bill 1269 (appropriation):

- Provides $31.35 million in emergency funding for Southwest Pipeline ($21M), and three rural water supply systems, including Stutsman Rural, North Central Rural, and McLean-Sheridan Rural ($10.35M).

House Bill 1440 (water districts and water commission policies on funds):

- Before providing a grant or loan to a district or city for a water service project in any area within the extraterritorial zoning jurisdiction of any affected city, the SWC shall require that district and city to have a water service agreement.
- The absence of a water service agreement may not affect the funding by the SWC of other projects for a district or city that are not related to potable water service and are not located within the extraterritorial zoning jurisdiction.
- If a water service agreement between the district and the city is not executed within 60 days after the city notifies the district that a city water service area plan has been developed, the matter must be submitted to a committee for mediation.

Senate Bill 2048 (financial assistance policy):

- The SWC shall adopt rules for governing the review and recommendation of proposed water projects for which financial assistance by legislative appropriation from the Resources Trust Fund is being sought under this section. The rules must consider project revenues, local cost sharing, and ability to pay. The rules may provide for repayment of a portion of funds allocated from the Resources Trust Fund.

Senate Bill 2233 (general policy, WAWS):

- Establishes an Infrastructure Revolving Loan Fund from the Resources Trust Fund in 2015. (Ten percent of oil extraction moneys deposited in the Resources Trust Fund.)
- The bill restructures the Western Area Water Supply System oversight and funding. Industrial Commission receives reporting of WAWS industrial sales, and revenues are applied in a set order of payment of $150,000 for Industrial Commission staff to implement the Act, operation costs for the depots, payments on member entity debt and 2010 baseline industrial sales, payments on state-guaranteed loans, additional payment on state-guaranteed loans, and payment to resources trust fund. Industrial Commission approves industrial sale rates. SWC role changes, still review overall plan for projects including those funded by Bank of North Dakota, however project funding through SWC, as of August 1, will follow normal cost share process and State Engineer is no longer on the Authority board.

- Provides for the SWC and Southwest Water Authority to begin a review and report to the legislative assembly on the steps necessary for the transfer of ownership and responsibility of the SWPP from the SWC to the Authority.
- Provides intent for the SWC and GDCD to begin discussions with US Bureau of Reclamation concerning Garrison Diversion Unit facilities.
- Provides Independent Water Providers and WAWS report to the Water Topics Committee and collaborate with the SWC to monitor water usage, rates, and market share. The Water Topics Committee will report to legislative management with recommendations to assure the state's ability to maintain repayment schedule.

House Bill 1015 (OMB appropriations):

- Amends Section 5 of House Bill 1020 regarding the $40 million loan to Western Area Water Supply authority. Merges the loan with the previous loans as agreed to by Bank of North Dakota and Industrial Commission.

House Bill 1009 (Game and Fish appropriations):

- Provides that $250,000 appropriated to the SWC shall be transferred to the Ag Commission for a wildlife services program.

OTHER WATER-RELATED LEGISLATION

Senate Bill 2199 (drainage):

- Addresses frivolous complaints for water projects.
- Raises the assessment levy amounts for maintenance of water projects.
- Provides a water resource board may assess the costs of removing an obstruction to a drain or noncomplying dike or dam against the property of the responsible landowner.

House Bill 1338 (Corps managed property):

- Provides for a study of options by the Board of University and School Lands to address the concerns of landowners adjacent to land under control of the Corps surrounding Lake Sakakawea and Lake Oahe.

House Bill 1399 (waterfowl easements):

- Provides that a waterfowl production area easement exceeding 50 years or which purports to be perpetual may be extended by negotiation between the owner of the easement and the owner of the serviant tenement.

House Concurrent Resolution 3010:

- Lake Sakakawea and Lake Oahe access.

House Concurrent Resolution 3017:

- Fish Wildlife Service and Natural Resources Conservation Service water management laws and regulations.

House Concurrent Resolution 3021:

- Study the feasibility of providing assistance to obtain rural water.

North Dakota State Water Commission

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Agenda F

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, PE, Chief Engineer/Secretary
SUBJECT: Rural Flood Control Project Biennium Cost-Share Limitation of $500,000
2013-2015 Biennium Appropriated Funds
DATE: June 10, 2013

On August 13, 1998, the State Water Commission approved several cost-share policy changes including a limitation on the amount of funding that can be provided in a single biennium for a rural flood control project to no more than five percent (5%) of new funding available for general projects. In the 2011-2013 biennium, it was decided to set the limitation at $500,000. This seems to have worked well and should be continued.

Although the amount available per project will be limited to $500,000 from the 2013-2015 appropriated funds, the total amount approved per project consists of all biennium cost-share approvals. Thus, the total amount of funding approved for a rural flood control project is not limited, only the amount that can be approved per biennium is capped.

I recommend that the State Water Commission approve this cost-share policy of limiting funding for rural flood control projects from the 2013-2015 biennium appropriated funds to $500,000 per rural flood control project. This approval is subject to the entire contents of the recommendation contained herein and the availability of funds.

TS:MMB/1973

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

North Dakota State Water Commission

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Agenda #1

TO: Governor Jack Dalrymple
Members of the State Water Commission

FROM: Todd Sando, P.E., Chief Engineer-Secretary

SUBJECT: *North Dakota Water* Magazine

DATE: June 10, 2013

The *North Dakota Water* magazine is published 10 times each year by the North Dakota Water Education Foundation to communicate to people about water.

The purpose of the North Dakota Water Education Foundation is to develop and implement water information and water education programs in North Dakota, and to increase awareness, understanding and knowledge among students, teachers, water users, decision-makers, and the general public about water resource issues in North Dakota. The Foundation's four programs, North Dakota WaterCourse, North Dakota Wetlands Institute, Water Education for Teachers (WET), and the *North Dakota Water* magazine assist to achieve that mission.

Since 1994, the State Water Commission has contributed $18,000 each year of the biennium to support the magazine and its own pages, the monthly "Oxbow" and the "Water Primer" sections. The North Dakota Water Education Foundation has submitted a request (attached hereto) for the State Water Commission's consideration for an allocation up to $36,000 to continue its participation in the *North Dakota Water* magazine for the 2013-2015 biennium.

I recommend that the State Water Commission approve an allocation up to $36,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium, to the North Dakota Water Education Foundation to support the North Dakota Water magazine from July 1, 2013 through June 30, 2015.

TS:sl/AOC/WEF
Attachment

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

NORTH DAKOTA
WATER
EDUCATION FOUNDATION

PO Box 2254, Bismarck, ND 58502
701-223-8332 • Fax: 701-223-4645
Email: ndwater@btinet.net

May 29, 2013

Mr. Todd Sando, State Engineer
North Dakota State Water Commission
900 East Boulevard Ave.
Bismarck, ND 58505

Dear Mr. Sando:

We are requesting $36,000 from the North Dakota State Water Commission to continue its participation in the *North Dakota Water* magazine for the 2013-2015 biennium.

Since 1994, the State Water Commission has contributed $18,000 each year to support the magazine and its own pages, the monthly "Oxbow" and "Water Primer" sections.

The purpose of the North Dakota Water Education Foundation is to develop and implement water information and water education programs in North Dakota, and to increase awareness, understanding, and knowledge among students, teachers, water users, decision-makers, and the general public about water resource issues in North Dakota. The Foundation's four programs, North Dakota WaterCourse, North Dakota Wetlands Institute, Water Education for Teachers, and the *North Dakota Water* magazine are helping us achieve that mission.

The magazine's purpose is to communicate to people about water. State Water Commission funding has been used to publish its "Oxbow" and "Water Primer" sections in the magazine and to mail the magazine to addresses provided by the Commission.

The State Water Commission's support is critical. We hope you plan to continue to be a part of this exciting and successful project. Thank you.

Sincerely,

Michael Dwyer

Michael Dwyer
Executive Director

North Dakota State Water Commission

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Agenda #2)

MEMORANDUM

TO: Governor Jack Dalrymple
North Dakota State Water Commission Members

FROM: Todd Sando, P.E., Chief Engineer and Secretary

SUBJECT: Consideration of Request from the North Dakota Irrigation Association for Funding Support

DATE: June 10, 2013

The North Dakota Irrigation Association (NDIA) has requested funding support from the North Dakota State Water Commission in the amount of $100,000 for the 2013-2015 biennium to continue its mission to strengthen and expand irrigation for economic growth in North Dakota. Irrigation continues to be an opportunity for economic growth in the agricultural sector of our economy.

Summaries are included of the major activities for 2011 and 2012. The NDIA had ongoing activities related to funding and finance, communications and coordination, irrigation research, marketing, irrigation development, and hydropower.

The attached 2013 work plan - priority items outlines the major elements to strengthen and expand irrigation. Staff resources provide ongoing efforts in the areas of management, communication, field representation, engineering, and technical oversight. Examples of those efforts include: NDIA is represented on the Soil Health Advisory Group and the Energy Beet Advisory Council; the North Dakota State University Soil Health and Land Management Initiative and the development of the use of energy beets as a feedstock for making biofuels are important to the future growth of irrigation in the state; and, efforts are ongoing to work with water and irrigation-related organizations such as the NRCS, NDSU, irrigation districts, and those involved in economic development.

It is recommended that the State Water Commission allocate $100,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium to the North Dakota Irrigation Association to continue to strengthen and expand irrigation for economic growth in North Dakota.

TS:JP:sl

Attachments

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

North Dakota Irrigation Association

P.O. Box 2254
Bismarck, ND 58502
701-223-4615, 701-223-4645 (fax)
e-mail: ndirrigation@btinet.net

Dedicated to strenghtening and expanding irrigation to build and diversify our economy.

May 31, 2013

Mr. Todd Sando, State Engineer
North Dakota State Water Commission
900 E Boulevard Ave
Bismarck, ND 58505

Mr. Jon Patch, Director Water Appropriation Division
North Dakota State Water Commission
900 E Boulevard Ave
Bismarck, ND 58505

Gentlemen:

This is a request for continued support of the North Dakota Irrigation Association (NDIA) by the State Water Commission for the 2013-2015 Biennium to strengthen and expand irrigation in North Dakota. Irrigation continues to be an opportunity for economic growth in the agricultural sector of our economy.

Included are the Summaries of Major Activities for 2011 and 2012. The NDIA had ongoing activities related to funding and finance, communications and coordination, irrigation research, marketing, irrigation development, and hydropower.

Also included is the 2013 Work Plan – Priority Items. It outlines the major elements of our efforts to strengthen and expand irrigation. We believe we have excellent staff resources in the area of management, communication, field representation, engineering and technical oversight. As an example, NDIA is represented on the Soil Health Advisory Group and the Energy Beet Advisory Council. The ND State University Soil Health and Land Management Initiative and the development of the use of energy beets as a feedstock for making biofuels are important to the future growth of irrigation in the state. We also continue to work with water and irrigation related organizations such the NRCS, NDSU, irrigation districts, and those involved in economic development.

Continued support of the State Water Commission is critical for these efforts. Therefore, it is requested that the State Water Commission continue to support the Irrigation Association by providing $100,000 over the 2013-2015 Biennium for the NDIA to continue our mission to strengthen and expand irrigation for economic growth in North Dakota.

The Garrison Diversion Conservancy District provides equal support to the NDIA to continue the efforts described above, and your continued support will help in further developing a strong irrigation component of our agricultural economy. We thank you for your commitment to strengthen and expand irrigation for economic growth in North Dakota.

Sincerely,

Robert D. Vivatson

Robert Vivatson
Chairman

Summary of Major North Dakota Irrigation Association Activities for 2011

Marketing

- Supported the Green Vision Group as needed in implementing research activities to determine the feasibility of utilizing energy beets as a feed stock for biofuels. Field trials this year at five sites over a large area showed excellent yields.

Funding and Financing

- Under an Agreement with Natural Resources Conservation Service, worked closely in implementing the Agricultural Water Enhancement Program for water and energy conservation, irrigation from retention ponds, and other natural resource improvements. This was a three-year agreement on which funding ended on September 30, 2011. More than $2 million was expended on cost-sharing programs with producers for these activities.

Projects

- Attended and participated in meetings regarding operations and studies of the Missouri River (MRAPS, MRRIC, MRERP). Wrote and submitted a statement to the Corps of Engineers supporting irrigation development for the MRAPS.
- Worked with Reclamation, Garrison Diversion Conservancy District, State Water Commission, Tuttle Lake Irrigation District, and area producers to assist in the development of irrigation in the Turtle Lake area using water from the McClusky Canal.
- Worked with the Devils Lake and the Upper Sheyenne Basin Joint Water Resource boards in identifying areas for constructing water retention ponds for irrigation water supplies and other related irrigation and water activities.
- Provided information to assist individual producers in delivering off-stream and on-stream development for irrigation in northeastern North Dakota.
- Worked with Dickey-Sargent Irrigation District as needed regarding the Oakes Test Area water supply, infrastructure, and transfer of facilities.

Research

- Supported research by the Green Vision Group to assess feasibility of using energy (sugar) beets for the production of biofuels.
- Attended field days at the Carrington Research Extension Center, Oakes Field Trials, and the Nesson Irrigation Research site.

Energy

- Continued efforts to obtain and implement project pumping power for authorized projects under the Dakota Water Resources Act.
- Met with the Great Plains Regional Director and other Reclamation and Upper Missouri Water Association personnel to discuss options of obtaining project pumping power.

Communication and Coordination

- Assisted in planning, and participated in presentations for irrigation workshops and tours. Irrigation workshops will be held in Bismarck and Williston in December 2011.
- Participated in monthly telephone conference calls with personnel involved in irrigation in the state including representatives from NDIA, NDSU Extension, State Water Commission and Reclamation.
- Prepared articles for the "Irrigation Frontier" section of the *North Dakota Water* magazine.
- Provided information to irrigators, potential irrigators, and others on request and as needed to address issues related to irrigation.
- Prepared a newsletter in 2011 and sent to NDIA membership and others.
- Attended and presented NDIA activities reports to GDCD's Agricultural and Natural Resources Committee and provided other information to the committee as needed.
- Continue efforts to expand the membership of the NDIA.
- Updated/modified the NDIA website as needed.
- Supported the appropriation bills for the State Water Commission and the NDSU Extension Soil Health Initiative in the 2011 Legislature.

Summary of Major North Dakota Irrigation Association Activities for 2012

Marketing

1. Supported the Green Vision Group as needed in implementing research activities to determine the feasibility of utilizing energy beets as a feed stock for biofuels. Field trials were conducted this year at about 15 sites throughout the state (dryland and irrigated plots). Most of these sites showed excellent results.

Funding and Financing

1. The three-year agreement between the Natural Resources Conservation Service and NDIA ended on September 30, 2011; however, we continued to work with NRCS in implementing the Agricultural Water Enhancement Program for water and energy conservation, pond irrigation, and other natural resource improvements. There were AWEP programs implemented during 2012 with funding of about $150,000.

2. A total of about $2.25 million was expended on cost sharing AWEP programs with producers during the past four years. Future AWEP or similar activities will depend on new farm programs.

3. Continued to monitor the AgPACE Program for irrigation.

Projects

1. Attended and participated in meetings regarding operations and studies of the Missouri River, particularly as they related to Corps of Engineers' proposals to require surplus water fees to obtain water from Lake Sakakawea and Lake Oahe. The NDIA, as did most other water organizations in North Dakota, adamantly opposed this proposal. NDIA personnel are closely following this activity.

2. Worked with the Bureau of Reclamation, Garrison Diversion Conservancy District, State Water Commission, Turtle Lake Irrigation District, and area producers to assist in the development of irrigation in the Turtle Lake area using water from the McClusky Canal. Supported the Mile Marker 7.5 Project, which provided irrigation utilizing McClusky Canal water.

3. Worked with the Devils Lake and the Upper Sheyenne Basin Joint Water Resource boards to identify areas for constructing water retention ponds for irrigation water supplies and other related irrigation and water activities.

4. Provided information to assist individual producers in delivering off-stream and on-stream development for irrigation in northeastern North Dakota.

5. Provided support regarding the Oakes Test Area's water supply, infrastructure, and transfer of facilities.

6. Provided support to irrigators to provide access to water for irrigation from Lake Oahe.

7. Continued to support the location of a potato processing plant in northwest North Dakota.

Research

1. Supported research by the Green Vision Group to assess the feasibility of using energy (sugar) beets for the production of biofuels.

2. Attended field days at the Carrington Research Extension Center, Oakes Field Trials, and the Nesson Irrigation Research Site and provided support to these facilities.

Energy

1. Continued efforts to obtain and implement project pumping power for authorized projects under the Dakota Water Resources Act.

2. Met with Reclamation's Great Plains Regional Director and other Reclamation and Upper Missouri Water Association personnel to discuss options of obtaining project pumping power.

Communication and Coordination

1. Assisted in planning and participated in presentations for irrigation workshops and tours. Irrigation workshops will be held in Bismarck and Williston in December 2012. A tour was held in northeastern North Dakota in July 2012.

2. Participated in monthly telephone conference calls with personnel involved in irrigation in the state, including representatives from NDIA, NDSU Extension, State Water Commission and Reclamation.

3. Prepared articles for the Irrigation Frontier section of the *North Dakota Water* magazine.

4. Provided information to irrigators, potential irrigators, and others on request and as needed to address issues related to irrigation.

5. Prepared a newsletter in 2012 and sent to NDIA membership and others.

6. Attended meetings and presented NDIA activity reports to GDCD's Agricultural and Natural Resources Committee and provided other information to the committee as needed.

7. Continued efforts to expand the membership of the NDIA.

8. Updated/modified the NDIA website. A complete revision of the website is currently underway.

9. Supported the development of the NDSU Soil Health and Land Management Initiative by serving on a personnel search.

10. Completed "A Look into the Future," an extensive document on the potential for future irrigation development in North Dakota. This document will be a supplement to the Comprehensive Strategic Plan for Irrigation in North Dakota.

11. Made application to the North Dakota Ag Coalition for membership.

North Dakota Irrigation Association 2013 Work Plan—Priority Items

Marketing

1. Continue to work with the Green Vision Group in developing energy beets as a biofuel. A member of the NDIA staff is on the Energy Beet Project Advisory Council.
   Timeline: Ongoing as needed

2. Assist individuals and groups in developing irrigation in North Dakota.
   Timeline: Ongoing as needed

3. Continue to communicate with groups, agencies, individuals, and companies to discuss and identify mutual areas of work and provide information.
   Timeline: Ongoing as needed

4. Continue to support the group working to establish a potato plant in northwestern North Dakota.
   Timeline: Ongoing as needed

5. Develop new and maintain up-to-date educational and related information.
   Timeline: Ongoing as needed

Funding and Finance

1. Continue to work closely with NRCS on the Agricultural Water Enhancement Program to develop and implement cost sharing water and energy conservation programs and activities, innovative irrigation water supplies, natural resource improvement, and other irrigation conservation measures.
   Timeline: Ongoing as needed

2. Monitor the AgPace program funding level with the Bank of North Dakota and submit a request to the State Water Commission for additional funds when required
   Timeline: Ongoing as needed

Projects

1. Support and work with entities involved in the development of irrigation using water from the McClusky Canal under the authority of the DWRA.
   Timeline: Ongoing, as needed

2. Support and work with entities in managing existing irrigation and developing new irrigated acreage utilizing water from the Missouri River.
   Timeline: Ongoing as needed

3. Continue to work with irrigators and potential irrigators in developing water supplies utilizing off-stream storage and other innovative means, particularly in northeastern North Dakota.
   Timeline: Ongoing as needed

4. Work with the Upper Sheyenne River Joint Water Resource Board to develop water storage opportunities to relieve flooding and provide water supplies for irrigation.
   Timeline: As needed

5. Work with the Dickey-Sargent Irrigation District and others regarding the Oakes Test Area water supply, infrastructure needs, and transfer of facilities.
   Timeline: Ongoing as needed

6. Monitor legislative issues on the national and state level which may affect irrigation.
   Timeline: Ongoing as needed

7. Attend, participate, and provide appropriate input at meetings related to Missouri River management and development to address issues affecting irrigation in North Dakota.
   Timeline: Ongoing as needed

8. Monitor and keep abreast of subsurface drainage activities in the state as related to irrigated agriculture.
   Timeline: Ongoing as needed

Research

1. Work with irrigators, irrigation advisors, equipment dealers, research managers, and others to identify needed irrigation research, potential benefits, funding sources, and personnel requirement.
   Timeline: Ongoing as needed

2. Support NDSU Extension and Agricultural Experiment Station in implementing the Soil Health and Land Management Initiative authorized by the 2011 Legislature.
   Timeline: Ongoing as needed

Energy

1. Work with Reclamation, Upper Missouri Water Association, irrigation districts, and others to implement the project pumping provisions of the DWRA.
   Timeline: Ongoing as needed

2. Develop and distribute cost data on alternative power sources for irrigation.
   Timeline: Ongoing as needed

Communication and Coordination

1. Continue the effort to increase NDIA membership through direct communication with potential members and describe accomplishments, ongoing work, and resulting benefits to irrigation.
   Timeline: Ongoing

2. Continue to improve the NDIA website as additional opportunities are identified.
   Timeline: Ongoing

3. Provide irrigation-related information to producers and irrigation entities as needed or requested through workshops, newsletters, Irrigation Frontier in the *North Dakota*

Water magazine, and individual communication to strengthen existing irrigation and foster new development.

Timeline: Ongoing

4. Attend quarterly and other meetings of the GDCD Agriculture and Natural Resources Committee and board meetings and perform follow-up work as appropriate.

   Timeline: As scheduled

5. Work with NDSU Extension, GDCD, State Water Commission, and other partners in implementing the Comprehensive Strategic Plan for Irrigation in North Dakota and update as appropriate. Develop a general plan for future irrigation development in North Dakota.

   Timeline: Ongoing

6. Continue to participate in workshops, tours, and meetings relevant to irrigation and other water resource-related activities in the state.

   Timeline: Ongoing

7. Participate in monthly telephone conference calls with NDSU Extension, State Water Commission, Reclamation, and NDIA to discuss irrigation issues of mutual and current interest and benefit.

   Time: Ongoing

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
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Agenda 4 3)

MEMORANDUM

TO: Governor Jack Dalrymple
State Water Commission Members

FROM: Todd Sando, P.E., Chief Engineer-Secretary

DATE: June 3, 2013

SUBJECT: Red River Basin Commission (RRBC) funding for the 2013-2015 biennium.

The RRBC has requested continued funding assistance in the amount of $200,000 for the 2013-2015 biennium. This will provide base funding support from the State Water Commission with payments provided on a semi-annual basis – contingent upon their progress. The funding will support activities outlined in the attached RRBC May 16, 2013, letter.

The RRBC's 41-member board of directors represents a broad cross section of local and state/provincial governments and other interests. The SWC has helped fund the RRBC and its predecessor, the Red River Basin Board for a number of years. Minnesota, Manitoba, and local governments in the three major jurisdictions have done likewise.

I recommend the Commission approve funding for the RRBC's proposal in an amount not to exceed $200,000 from the funds appropriated to the State Water Commission for the 2013-2015 biennium. Funding of this project shall be contingent upon the availability of funds.

TS:PMF:dp/AOC/RRBC

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

Red River Basin Commission

Manitoba • Minnesota • North Dakota • South Dakota

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2013-2015
BOARD OF DIRECTORS

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Muriel Smith
Steven Topping
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Sen. Johnson-Sharon Stroschein
Sen. Klobuchar - Andy Martin
Sen. Luick
Rep. Peterson – Wally Sparby
Sen. Thune – Judy Vrchota
MP James Bezan
MP Vic Toews

May 16, 2013

RRBC, Lance Yohe
119 S. 5th Street
Moorhead, MN 56560

Todd Sando, State Engineer
ND State Water Commission
900 E. Blvd
Bismarck, ND 58505

Dear Mr. Sando,

The vision, work and activities of the Red River Basin Commission (RRBC) are producing results in helping create a basin vision for the future. The Red River Basin (RRB) Natural Resource Framework Plan (NRFP) 13 Goals are cornerstone of this vision.

RRBC is uniquely positioned to promote and is working on key basin wide activities related to: water supply, flooding, mainstem modeling and flow reduction goals, water quality, conservation-land use issues, public support and jurisdictional dialogue.

We are requesting the 2013/2015 (the biennium) base funding support from the State Water Commission (SWC) and that the payments be made on a semi-annual basis as follows: (December 31, 2013; June 30, 2014; December 31, 2014; and June 30, 2015). We are also requesting that the base funding be related to the following areas of RRBC Natural Resource Framework (NRFP) activities.

- NRFP Goal #1: Working across political boundaries.
    - Pembina River Basin Advisory Board (PRBAB): Regular meetings this biennium with a special focus on the jurisdictional dialogue on the Pembina Road/Dyke (if Manitoba agrees to proceed as North Dakota has done).
    - South Valley Initiative (SVI): Regular meetings this biennium with a focus on retention/detention sites linked to upstream storage that target reduced flood flows of 20%.
    - RRBC will continue connecting the basin NRFP with the SWC biennium plan implementation and the joint Water Resource District (WRD) efforts and the Red River Retention Authority (RRRA). This effort will include working with key staff at the SWC and at the WRD level.
    - RRBC will continue to work with and support the Devils Lake Executive Committee (DLEC) and Devils Lake Working Group (DLWG).

- NRFP Goal # 2: Integration. This goal is related to the NRFP. This effort will be guided by the basin outreach strategy that continues to present the NRFP to the public and leadership on all levels. Buy in to the NRFP through the "Resolution of Support" continues through the outreach effort.
    - Working Groups (WG's) in NRFP Goal areas as staff time permits to assist in updating the NRFP Objectives and Action Agenda, identification of basin activities that are addressing basin goals, identification of areas that need assistance, and the identification of the role RRBC can best provide or what other entity is best positioned to assist.
    - Plan Implementation Committee (PIC) connecting the WG Chairs for each NRFP Goal WG's to integrate efforts.
    - RRBC will continue to refine the NRFP tracking, review and reporting process that will assist in the identification of gaps, celebration of successes (that will be part of Annual Summit Conferences in the future), and the NRFP update process.
- NRFP Goal # 3: Data and Technology.
    - Continue to develop and assist with technology and models.
- NRFP Goal # 4: Education and Communication.
    - Water Minutes and Ripple Effects
    - Annual Summit Conferences.
- NRFP Goal # 5: Forecasting.
    - Report on needs, gaps, and a path forward for gaging and precipitation data collection.
- NRFP Goal # 6: Flood Damage Reduction.
    - This goal is related to the Long Term Flood Solutions project and the recommendations in that report. Continued work on and pursue funding for the recommendations related to the non-structural section on floodplain management.
    - There will be follow up work on modeling for the Pembina and Roseau Rivers. This will generate better flow data at the international boundary and then modeling flow reduction scenarios for tributaries to generate basin wide discussion to move toward tributary flow reduction goals.
    - Halstad Upstream Modeling effort will continue until completed, identifying retention/detention sites upstream of Halstad that if built would produce 20% flow reductions on the mainstem.
- NRFP Goal # 8: Drainage
    - The Drainage WG will continue to work on strategies that connect efforts and increase understanding of sub-surface and surface drainage.
- NRFP Goal # 9: Water Quality
    - Continue to work with IRRB, the states and the province to identify basin water quality commonalities and goals.
- NRFP Goal # 10: Water Supply
    - RRBC will continue and expand the basin water supply effort by actions related to the Drought Scoping Document recommendations.
- NRPF Goal # 12-13: Fish, Wildlife, Outdoor Recreation

- RRBC will link to Minnesota counties Aquatic Invasive Species efforts for expansion to a basin wide approach to help limit AIS into the Red River system.

RRBC is requesting the $200,000 ND State 2013/2015 base funding for RRBC through the biennium. The RRBC activities mentioned above have been discussed with Pat Fridgen. The work plan summary for the activities that relate to the ND base funding is as follows:

- Goal # 1: Ongoing meetings 1-4 times year for PRBAB and SVI for the biennium. Regular reporting and linkages to WRD and Joint Boards at their scheduled meetings. If Road/Dyke discussions move forward, meetings as needed will be scheduled. July 2013-June 2015.
- Goal # 2: PIC meetings as needed. 1-2 year for the biennium. July 2013-June 2015.
- Goal # 3: Finish the mainstem modeling for retention/detention sites upstream of Halstad for FM Diversion Authority with North Dakota SWC input and guidance. Finish by December 2013.
- Goal # 4: Complete the next two annual summit conferences: 31st in January 2014 and 32nd in January 2015. "Success Stories" and NRFP reports as needed for the annual summit conferences: January 2014 and 2015.
- Goal # 5: Complete Forecasting Report on gaging and precipitation needs for the January 2014 conference.
- Goal # 6: Update the LTFS as needed. Complete the HUR Modeling project and 20% flow reduction storage sites upstream of Halstad. December 2013.
- Goal # 8: Utilize the Drainage WG to coordinate efforts and understanding on sub-surface and surface drainage during the next biennium. July 2013-June 2015.
- Goal # 9: Regular meeting on the issues between the jurisdictions connected through IRRB to address the work plan that is being followed. And seek funds for basin wide water quality modeling that will determine nutrient load allocations. July 2013-June 2015.
- Goal # 10: Seek state and provincial agreement on water supply MOU. By July 2015.
- Goals # 12 & 13: Becker County AIS plan, if funded. June 2014.
- Work on NRFP Goals # 1, 2, 3, 4, 5, 6, 8, 9, 10, 12, & 13 as funding and staff allow. July 2013-June 2015.

I am available for a future SWC meeting to answer questions regarding this request. Thank you for continued support and interest in the RRBC and Red River activities.

Sincerely,

Lance Yohe

Lance Yohe

Executive Director, RRBC

Cell: 701-371-8246
Email: lance@redriverbasincommission.org

North Dakota State Water Commission

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Agenda #4

MEMORANDUM

TO: Governor Jack Dalrymple
State Water Commission Members

FROM: Todd Sando, Chief Engineer-Secretary

SUBJECT: Renewal of Contract for Upper Sheyenne River Joint Water Resource Board

DATE: June 7, 2013

In recent years, the Upper Sheyenne River Joint Water Resource Board (Board), which has the mandate "T*o bring the watershed above Baldhill Dam (Lake Ashtabula) into a partnership in order to review issues and create solutions through local, county, state, and federal cooperation.*" has become increasingly active, growing to include the counties of Barnes, Benson, Eddy, Griggs, Nelson, Pierce, Sheridan, Steele, and Stutsman.

Since 2005, the Board has been directly involved in dam restoration projects, water quality analysis of the river, and irrigation.

The Water Commission has a long history of supporting and encouraging the management of water along watershed lines, through groups such as the Red River, Missouri River, and Devils Lake joint water boards.

The Board has requested that the Commission approve a two-year contract for an amount not to exceed $12,000 for the2013-205 biennium for administrative expenses. This contract would require matching funds from the Board, and quarterly expense reports, as approved by the Commission.

If approved, the $12,000 will be used to:

- Fund basic administrative expenses, travel, and transportation to meetings;
- Support the services of the part-time chairman and secretary of the Board;
- Continue the Board's efforts to l encourage the water management along watershed lines;
- Continue efforts to coordinate the restoration and enhancement of existing dams and promote the construction of viable and beneficial water retention; and
- Work to facilitate data collection and improve water quality in the basin.

If approved, the Board will provide quarterly written reports to the commission, and provide an annual review of board activities at the December Water Commission meeting.

I recommend the State Water Commission approve cost-share for 50 percent of the Upper Sheyenne River Joint Water Resource Board's eligible administrative costs, not to exceed $12,000 during the 2013-2015 biennium.

TS:LK:MN/dp:322

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

North Dakota State Water Commission

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Agenda #5

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, PE, Chief Engineer/Secretary
SUBJECT: NDSWC Cost-Share Participation Request Burleigh County Water Resource District's Burnt Creek Flood Damage Restoration Project
DATE: June 10, 2013

In their submitted correspondence dated May 15, 2013, the Burleigh County Water Resource District (District) requested cost share assistance for the Burnt Creek Flood Damage Restoration Project.

During the 2011 flood event, the Burnt Creek Floodway sustained damages requiring repairs to ensure the project's continued functionality. Houston Engineering has developed a preliminary plan set for the repairs in three locations.

Site 1 is an area of erosion damage requiring reshaping and bank stabilization to restore the flood control levee on the old backwater channel north of Ponderosa and protect public lands owned by the Bismarck Parks and Recreation District. Site 2 consists of a washed out culvert and crossing that keeps the 100-year flood event from entering the north side of the island. Site 3 is general reshaping of the southern floodway levee impacted by settlement and rutting due to traffic during high water conditions.

The District was able to secure funding assistance from NRCS for development of the preliminary design, but funding for construction is unavailable due to federal budget cuts. The Burnt Creek Floodway provides an important flood control benefit to the rural and residential areas downstream as well as Hogue Island.

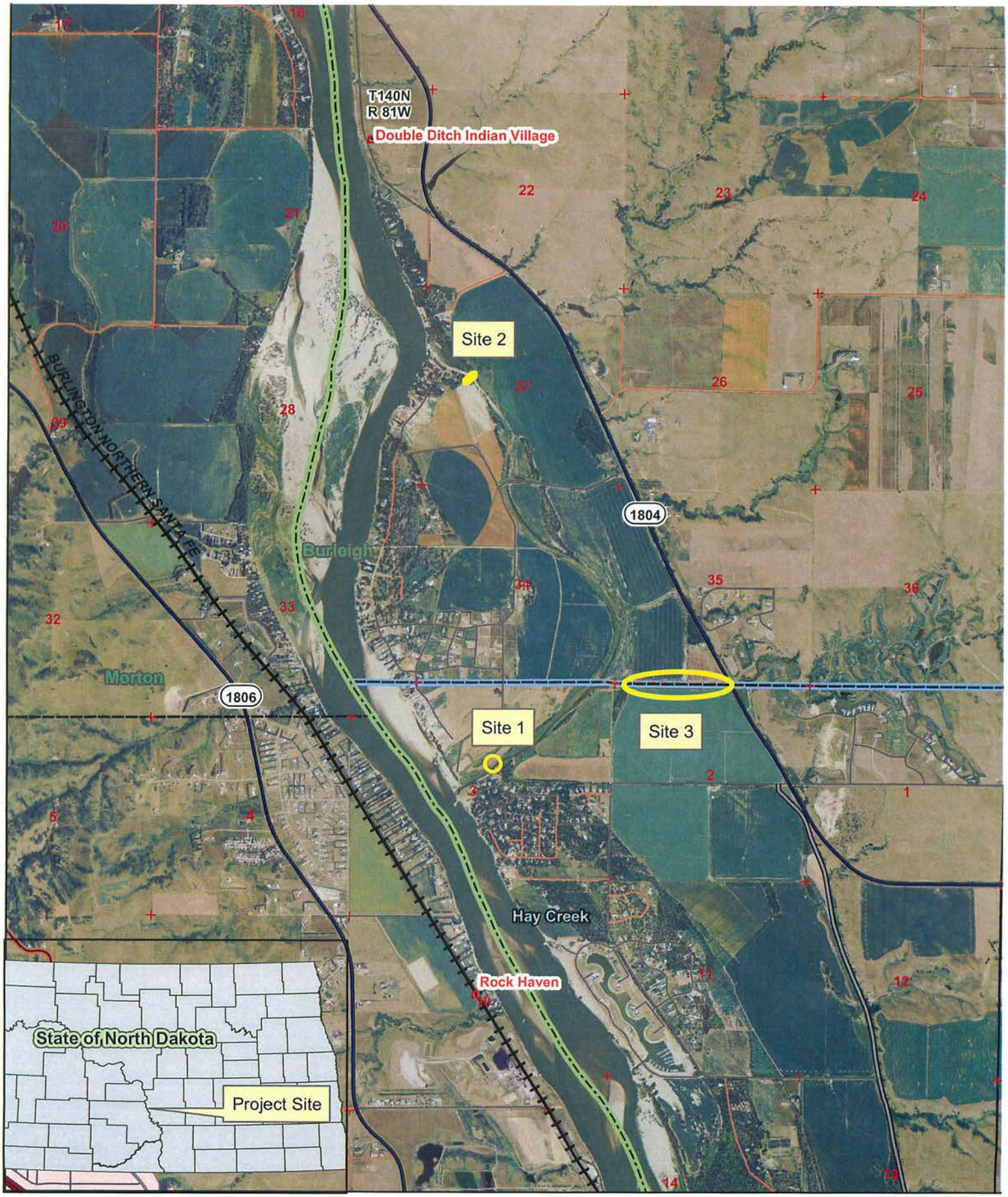
The estimated total cost of this project is $146,340, of which all is admissible for state cost-share assistance as a flood control project at 60%, for an amount not to exceed $87,805 in state funds.

I recommend the State Water Commission approve this request by the Burleigh County Water Resource District for state cost participation in the District's Burnt Creek Flood Damage Restoration Project, at an amount not to exceed $87,805 from the 2011-2013 appropriated funds. This approval is subject to the entire contents of the recommendation contained herein and the availability of funds.

TS:MMB/1992

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY



Burleigh County Water Resource District
Bank Stabilization and Dike Repair

BURLEIGH COUNTY Water Resource DISTRICT

Burleigh County Water Resource District

City/County Office Building - 221 North 5th Street
Bismarck, North Dakota 58501-4028

May 15, 2013

Todd Sando, PE
North Dakota State Engineer
ND State Water Commission
900 East Boulevard
Bismarck, ND 58505

RE: Burnt Creek Floodway Flood Damage Restoration - Cost Share Request

Dear Mr. Sando:

During the 2011 flood event, the Burnt Creek Floodway sustained damages requiring repairs to ensure the project's continued functionality. Houston Engineering has developed a preliminary plan set for the repairs that area required in three locations: An area of erosion damage requiring reshaping and bank stabilization to restore the flood control levee on the old backwater channel north of Ponderosa and protect public lands owned by the Bismarck Parks and Recreation District (Site 1), a washed out culvert and crossing that keeps the 100 year event from entering the north side of the island (Site 2), and general reshaping of the southern floodway levee impacted by settlement and rutting due to traffic during high water conditions (Site 3). Enclosed is a copy of the plan set for your information and review.

Houston Engineering has prepared an Opinion of Probable Cost for these repairs totaling $146,340, a copy of which is enclosed. The Burleigh County Water Resource District was able to secure funding assistance from the NRCS for development of the preliminary design, but funding for construction is currently unavailable due to federal budget cuts. Subsequently, we are exploring other funding options to complete these important repairs. The Burnt Creek Floodway provides an important flood control benefit to the rural/rural residential area downstream as well as on Houge Island. In our opinion the damages incurred during the extraordinary flood event of 2011 are above and beyond normal routine maintenance and will hopefully be viewed as eligible for cost share assistance from the ND State Water Commission.

Thank you for considering this request. If you have any questions regarding the project, please contact Michael Gunsch, Houston Engineering, at (701) 323-0200.

Sincerely,

Terry Fleck, Chairman
Burleigh County Water Resource District

Enclosure

c: Michael Gunsch, HEI

MAY 10 2013

Current Board Members:

Terry Fleck, Vice Chair, Bismarck 223-9768 Cary Backstrand, Vice Chairman, Bismarck 471-9134 Ken Royse, Treasurer, Bismarck 258-1110

Kathleen Jones, Manager, Bismarck 258-1477 Gordon Weixel, Manager, Bismarck 258-5390

Opinion of Probable Cost - by Restoration Site
Burnt Creek Flood Control
2011 Flood Damage Restoration Project
Burleigh County Water Resources District

Project Total: $ 146,340.50

Engineer: **Houston Engineering, Inc.**
3712 Lockport Street
Bismarck, ND 58503

No.	Item	Unit	Quantity	Unit Price	Total
1	Contract Bond	LSUM	1	$ 5,000.00	$ 5,000.00
2	Mobilization	LSUM	1	$ 10,000.00	$ 10,000.00
	Site #1 - Task 8 Bank Erosion				
3	Borrow Excavation	CY	0	$ 6.00	$ -
4	Waste Excavation	CY	90	$ 6.00	$ 540.00
5	Riprap	TON	785	$ 45.00	$ 35,325.00
6	Topsoiling	CY	426	$ 6.00	$ 2,556.00
7	Seeding Class III	ACRE	0.52	$ 2,000.00	$ 1,040.00
8	Geotextile Fabric	SY	693	$ 3.50	$ 2,425.50
9	Wood Excelsior Fiber Mat	SY	2368	$ 5.00	$ 11,840.00
10	Remove and Salvage Culvert - All Types & Sizes	LF	0	$ 25.00	$ -
11	Pipe Conduit 24 Inch	LF	0	$ 120.00	$ -
12	Canal Gate 24 Inch	EA	0	$ 2,000.00	$ -
				Subtotal:	**$ 53,726.50**
	Site #2 - Task 1 Oxbow Channel				
3	Borrow Excavation	CY	175	$ 6.00	$ 1,050.00
4	Waste Excavation	CY	0	$ 6.00	$ -
5	Riprap	TON	0	$ 45.00	$ -
6	Topsoiling	CY	70	$ 6.00	$ 420.00
7	Seeding Class III	ACRE	0.09	$ 2,000.00	$ 180.00
8	Geotextile Fabric	SY	0	$ 3.50	$ -
9	Wood Excelsior Fiber Mat	SY	0	$ 5.00	$ -
10	Remove and Salvage Culvert - All Types & Sizes	LF	40	$ 25.00	$ 1,000.00
11	Pipe Conduit 24 Inch	LF	40	$ 120.00	$ 4,800.00
12	Canal Gate 24 Inch	EA	1	$ 2,000.00	$ 2,000.00
				Subtotal:	**$ 9,450.00**
	Site #3 - Task 4 Dike Restoration				
3	Borrow Excavation	CY	4068	$ 6.00	$ 24,408.00
4	Waste Excavation	CY	0	$ 6.00	$ -
5	Riprap	TON	0	$ 45.00	$ -
6	Topsoiling	CY	1686	$ 6.00	$ 10,116.00
7	Seeding Class III	ACRE	2.09	$ 2,000.00	$ 4,180.00
8	Geotextile Fabric	SY	0	$ 3.50	$ -
9	Wood Excelsior Fiber Mat	SY	5892	$ 5.00	$ 29,460.00
10	Remove and Salvage Culvert - All Types & Sizes	LF	0	$ 25.00	$ -
11	Pipe Conduit 24 Inch	LF	0	$ 120.00	$ -
12	Canal Gate 24 Inch	EA	0	$ 2,000.00	$ -
				Subtotal:	**$ 68,164.00**
TOTAL PROJECT COSTS - Items 1 through 12					**$ 146,340.50**

North Dakota State Water Commission

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Agenda #6

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission

FROM: Todd Sando, PE, Chief Engineer/Secretary

SUBJECT: NDSWC Cost-Share Participation Request Walsh County Water Resource District's Forest River Flood Control Feasibility Study

DATE: June 10, 2013

In their submitted correspondence dated May 20, 2013, the Walsh County Water Resource District (District) requested cost share assistance for the Forest River Flood Control Feasibility Study (Study).

Flooding along the Forest River between the communities of Forest River, ND and Minto, ND is a recurring problem within Walsh County. This reach of the Forest River travels along a perched channel causing high flows to break out to the east and south in numerous locations resulting in flooding of adjacent lands. Currently, the Red River Joint Water Resource District is completing a Comprehensive Detention Plan (Plan) for the North Dakota portion of the Red River Basin. The proposed Study will utilize results from the Plan to determine the effects of incorporating floodwater detention along with construction of a floodwater by-pass channel to better control breakouts.

The Study will utilize the Plan to aid in the selection of potential floodwater detention locations. These locations will detain floodwater contributing to downstream flooding along the Forest River as well as the Red River main stem. The Study will also analyze construction of a by-pass channel to divert excess floodwater temporarily out of the Forest River channel and into Ardoch Coulee, which is upstream from the major break out areas. The diverted floodwaters would then converge back with the Forest River channel downstream of Minto and Lake Ardoch. Utilizing floodwater detention as a primary component of the project will also aid in mitigating the potential for increased flows along the Ardoch Coulee as a result of the by-pass channel component.

Project components will be analyzed using the HEC-HMS hydrologic model developed by the US Army Corps of Engineers and modified for the Plan. The Forest River and Ardoch Coulee will be analyzed in further detail with the aid of the Flood Plain Management Study on the Forest River, completed by the NRCS. This effort developed a hydraulic model of the Forest River from the USGS gage near Fordville to the confluence with the Red River of the North. This model is to be utilized to develop a HEC-RAS hydraulic model of the Forest River and Ardoch Coulee from State Highway No. 18 to Lake Ardoch. Development of the HEC-RAS hydraulic model will allow for a more detailed analysis of the existing concerns within the project area and the associated potential benefit realized by the proposed project.

The estimated total cost of this Study is $159,912, of which all is admissible for state cost-share assistance at 50%, for an amount not to exceed $79,956 in state funds.

I recommend the State Water Commission approve this request by the Walsh County Water Resource District for state cost participation in the District's Forest River Flood Control Feasibility Study, at an amount not to exceed $79,956 from the 2011-2013 appropriated funds. This approval is subject to the entire contents of the recommendation contained herein and the availability of funds.

TS:MMB/1312

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

WALSH COUNTY
WATER RESOURCE DISTRICT

600 Cooper Avenue
Grafton, ND 58237

Phone: (701) 352-0081
Email: wcwrb@nd.gov

May 20, 2013

Jeffery Mattern
ND State Water Commission
900 E Boulevard Ave. Dept. 770
Bismarck, ND 58505-0850

Subject: Forest River Flood Control Feasibility Study
Proposal for ND State Water Commission Cost Share

Dear Mr. Mattern,

The Walsh County Water Resource District (WCWRD) is proposing to investigate potential solutions to alleviate flooding currently experienced along the Forest River between Forest River, ND and Lake Ardoch National Wildlife Refuge. The investigation will analyze a comprehensive approach to reducing flood damages within the project area. This comprehensive approach will include flood water detention along with a by-pass channel for Forest River, ND and Minto, ND as potential project components. Off-channel detention options will also be investigated along with the by-pass channel.

The WCWRD proposes to incorporate results from the Forest River Comprehensive Detention Plan that is currently underway on behalf of the ND Red River Joint Water Resource District (NDRRJWRD) and the NDSWC into the investigation. Results from the Comprehensive Detention Plan will be further be analyzed to maximize benefits for the project area, as well as to detain flood waters currently contributing to downstream flooding along the Forest River and Red River main stem.

The Forest River Flood Control Feasibility Study will analyze benefit for the above described project components and determine the associated costs to implement the project. The proposed Feasibility Study is anticipated to cost approximately **$160,000** to complete. Attached is a completed copy of the *ND State Water Commission Project Information and Cost-Share Request Form* for your consideration, as well as a detailed Scope of Work and budget. The proposed Feasibility Study has also been presented to the NDRRJWRD Executive Committee. This committee has recommended funding through the NDRRJWRD funding to the amount not to exceed $52,000, or 65% of non-eligible State or Federal costs.

If you have any questions, please do not hesitate to contact our office at (701) 352-0081.

Sincerely,

Walsh County Water Resource District

Board Members
Larry Tanke, Chairman *Robert Shirek, Vice Chairman* *Daniel Dub, Mgr*

MAY 23 2013

ND STATE WATER COMMISSION
Project Information and Cost-Share Request Form

This form is to be filled out by the project or program sponsor, with SWC staff assistance as needed. Upon receipt of a request form, the information will be reviewed and added to the state's project/program database. This form will serve as the first step in obtaining cost-share assistance. Once a project has been fully developed, detailed cost and engineering information should then be submitted with a request for the project to be considered for SWC cost-share. For assistance, contact the SWC Water Development Division at (701) 328-4952.

Please answer the questions as completely as possible. Supporting documents such as maps and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

1. Project, program, or study name: Forest River Flood Control Feasibility Study

2. Sponsor(s): Walsh County Water Resource District

3. Location (county, city, township, etc.): Forest River Twp & Ardoch Twp, Walsh County

4. Description of request: ☑ **New** ☐ **Update (previously submitted)**

5. Specific needs addressed by the project, program, or study:

a. If study, what type:

☐ **Water Supply** ☑ **Hydrologic** ☑ **Floodplain Mgmt** ☑ **Feasibility**
☐ **Other**

b. If project/program:

☐ **Flood Control**	☐ **Snagging & Clearing**	☐ **Water Quality**
☐ **Recreation**	☐ **Bank Stabilization**	☐ **Rural Flood Control**
☐ **Channel Imp.**	☐ **Irrigation**	☐ **Other**
☐ **Multi-Purpose**	☐ **Water Supply**	

6. Jurisdictions/Stakeholders involved: Walsh County Water Resource District

7. Description of problem or need and how project addresses that problem or need:

The Forest River between Forest River, ND and Minto, ND travels along a perched channel causing high flows to break out to the east and south in numerous locations resulting in flooding of adjacent lands. The proposed Feasibility Study would analyze options for relieving flood damages along this reach. See the attached Scope of Work for additional information on the proposed Feasibility Study.

8. Has a feasibility study been completed?: ☐ **Yes** ☑ **No** ☐ **Ongoing** ☐ **Not Applicable**

9. Has engineering design been completed?: ☐ **Yes** ☐ **No** ☐ **Ongoing** ☑ **Not Applicable**

10. Have land or easements been acquired?: ☐ **Yes** ☐ **No** ☐ **Ongoing** ☑ **Not Applicable**

11. Have you applied for any state permits?: ☐ Yes ☐ No ☑ Not Applicable
a. If yes, please explain:

12. Have you been approved for any state permits?: ☐ Yes ☐ No ☑ Not Applicable
a. If yes, please explain:

13. Have you applied for any local permits?: ☐ Yes ☐ No ☑ Not Applicable
a. If yes, please explain:

14. Have you been approved for any local permits?: ☐ Yes ☐ No ☑ Not Applicable
a. If yes, please explain:

15. Briefly explain the level of review the project or program has undergone:
None at this time. This will be the initial Feasibility Study for the project.

16. Do you expect any obstacles to implementation (i.e., problems with land acquisition, permits, funding, local opposition, environmental concerns, etc.)?
Unknown at this time.

17. Estimated project or program total implementation costs: $ 160,000

Source	*Cash*	*In-kind*
Federal	**$**	**$**
State	$ 80,000	**$**
Local	$ 80,000	**$**
Total	$ 160,000	$ 0

18. Funding timeline (carefully consider when SWC cost-share will be needed):

Source	2011-2013 7/1/11-6/30/13	2013-2015 7/1/13-6/30/15	2015-2017 7/1/15-6/30/17	2017-2019 7/1/17-6/30/19	Beyond 6/30/19
Federal	$	$	$	$	$
State	$ 80,000	$	$	$	$
Local	$ 80,000	$	$	$	$
Total	$ 160,000	$ 0	$ 0	$ 0	$ 0

19. Please explain implementation timelines, considering all phases and their current status: The proposed Feasibility Study is to be completed within one year of secured funding. Local share funding is dependent on ND Red River Joint Water Resource District cost share program. Future implementation of feasibility study outcomes will depend on local acceptance and implementation costs.

20. Have assessment districts been formed?: ☐ Yes ☐ No ☐ Ongoing ☑ Not Applicable

Submitted by: Walsh County Water Resource District
Date: 5/3/2013
Address and telephone: 600 Cooper Ave, Grafton, ND 58237-1509, (701)352-0081

Mail to: ND State Water Commission, ATTN: Jeffrey Mattern, 900 E Boulevard Ave. Dept. 770, Bismarck, ND 58505-0850

Forest River Flood Control Feasibility Study
Walsh County Water Resource District
Scope of Work Narrative
May 6, 2013

Prepared by Houston Engineering, Inc.
On behalf of Walsh County Water Resource District

Introduction

Flooding along the Forest River between the communities of Forest River, ND and Minto, ND is a recurring problem within Walsh County. This reach of the Forest River travels along a perched channel causing high flows to break out to the east and south in numerous locations resulting in flooding of adjacent lands. Currently, the Red River Joint Water Resource District and the North Dakota State Water Commission are completing a Comprehensive Detention Planning Effort for the ND portion of the Red River Basin. The proposed **Forest River Flood Control Feasibility Study** will utilize results from the Comprehensive Detention Planning Effort to determine the effects of incorporating flood water detention along with construction of a flood water by-pass channel to better control breakouts.

The proposed Forest River Flood Control Feasibility Study will utilize the *Forest River Comprehensive Detention Plan* to aid in the selection of potential flood water detention locations. These locations will detain flood water contributing to downstream flooding along the Forest River as well as the Red River main stem. The proposed Feasibility Study will also analyze construction of a by-pass channel to divert excess flood water temporarily out of the Forest River channel and into Ardoch Coulee upstream from the major break out areas. The diverted flood waters would then converge back with the Forest River channel downstream of Minto, ND at Lake Ardoch. Utilizing flood water detention as a primary component of the project will also aid in mitigating the potential for increased flows along Ardoch Coulee as a result of the by-pass channel component.

Project components will be analyzed using the HEC-HMS hydrologic model developed by the US Army Corps of Engineers (USACE) and modified for the *Forest River Comprehensive Detention Plan*. The Forest River and Ardoch Coulee will be analyzed in further detail with the aid of the Flood Plain Management Study on the Forest River, completed by the NRCS. This effort developed a hydraulic model of the Forest River from the USGS gage near Fordville, ND to near the confluence with the Red River of the North. This model is proposed to be utilized to develop a HEC-RAS hydraulic model of the Forest River and Ardoch Coulee from State Highway No. 18 to Lake Ardoch. Development of the HEC-RAS hydraulic model will allow for more a more detailed analysis of the existing flooding concerns within the project area and the associated potential benefit realized by the proposed project.

A detailed narrative of required tasks to complete the proposed Forest River Flood Control Feasibility Study are presented as follows. Additionally, an itemized cost estimate to complete the proposed project is attached to this document.

1. **Field Survey**

Field data is proposed to be collected to aid in analysis of the Forest River Flood Control Feasibility Study. Field reconnaissance will be conducted to verify structures along the Forest River and Ardoch Coulee prior to the field survey. Survey information would be gathered along Ardoch Coulee to determine sizes and elevations of culverts and bridges between 30th Avenue NE and Lake Ardoch National Wildlife Refuge. Channel cross section information is also proposed to be gathered upstream and downstream of all structures along Ardoch Coulee. Bridge/Culvert information would also be gathered along the Forest River at locations where structures have been replaced since development of the Forest River Floodplain Management Study (October 1996) based on what is learned as part of the field reconnaissance and available plans for the new structures. Field survey data will be supplemented with the available LiDAR data developed by the International Water Institute.

2. **Hydrologic Analysis**

The recently developed USACE HEC-HMS hydrologic model will be utilized to evaluate potential detention alternatives for the Forest River Flood Control Feasibility Study. Flood water detention sites selected during the Comprehensive Detention Planning Effort will be utilized to guide final site selection for flood water detention locations. Detention incorporated into the Forest River Flood Control Project is anticipated to aid in reducing flooding along the Forest River east of the community of Forest River, ND, as well as the Red River main stem. Selected sites from the Forest River Comprehensive Detention Plan will be optimized to maximize flood damage reduction benefit. This optimization will include:

- Further refinement of embankment alignment
- Determine anticipated dam classification
- Spillway and top of dam elevation requirements
- Capacity sizing of Principal Spillway and Emergency Spillway

The second purpose of the proposed flood water detention facility is to mitigate potential impacts along Ardoch Coulee as a result of construction of a by-pass channel for the Forest River. Because of the size of the contributing area to the Forest River at the community of Forest River, ND (383 square miles), a by-pass channel is proposed to remove flood water from the Forest River and re-direct it into Ardoch Coulee. The HEC-HMS model would also be utilized to determine capacity requirements of the proposed by-pass channel.

In addition to the HEC-HMS modeling effort, a statistical analysis on the USGS gages along the Forest River is proposed to establish discharge frequency data for the project area. This

discharge frequency data will be used in conjunction with the HEC-HMS model to determine a relationship with HEC-HMS synthetic modeling scenarios.

3. Hydraulic Analysis

The hydraulic model developed for the Forest River Floodplain Management Study will be utilized, along with data collected during the field survey and LiDAR topography data, to develop an updated HEC-RAS hydraulic model of the area. The model will be developed to run in a steady state environment and will also involve a simplified unsteady version for routing flood hydrographs through the study area. The HEC-RAS model will be developed from State Highway No. 18 to Lake Ardoch. The hydraulic model will also be expanded to include Ardoch Coulee between 30th Avenue NE and Lake Ardoch. The model will be calibrated to historic flood events documented at the USGS gages near Fordville, ND and Minto, ND. Project alternative analysis will utilize HEC-HMS synthetic modeling hydrographs as inflows for the HEC-RAS model.

Once the HEC-RAS model is calibrated to USGS gage data and existing conditions synthetic modeling scenarios are developed, the model will be used to aid in project alternative analysis. The model will have a capability to establish potential benefit as well as potential adverse impacts as a result of project components.

4. Preliminary Cost Estimation

Project alternative analysis will include evaluating project costs. A conceptual design of preferred alternatives would be completed to determine preliminary cost estimates to construct and implement each of the project components. LiDAR data would be used to develop preliminary cost estimate information. Preliminary design would include the following tasks:

- Off-site geotechnical review to establish preliminary embankment and channel cross sections
- Construction quantities
- Easement requirements
- Conceptual plan sheets illustrating required elevations, embankment and channel alignments, and pool inundation areas

5. Feasibility Study Summary Report

Results of the Forest River Flood Control Feasibility Study will be summarized in the Forest River Flood Control Feasibility Study Summary Report. The following topics will be covered in detail in the Report:

- Scope of Work
- Summary of Existing Conditions
- Problem and Need Statement
- Hydrologic and Hydraulic Methodology and Results
- Alternative Analysis

- Recommendations

Existing studies that will be utilized include:

- *Forest River Diversion Study*. USDA Soil Conservation Service, Bismarck, ND. May 1988
- *Flood Plain Management Study.* US Department of Agriculture & Natural Resources Conservation Service, Bismarck, ND. October 1996

North Dakota State Water Commission

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Agenda #7

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, PE, Chief Engineer/Secretary
SUBJECT: NDSWC Cost-Share Participation Request Cavalier County Water Resource District's Mulberry Creek Phase IV Reconstruction Project
DATE: June 10, 2013

In their submitted correspondence dated March 6, 2013, the Cavalier County Water Resource District (District) requested cost share assistance for their Mulberry Creek Phase IV Reconstruction Project.

Mulberry Creek is an existing assessment drain formed by the District in the late 1970's and constructed in 1980. The District has completed Phase I, II and III to date. Phase IV is the last phase of the reconstruction project.

The Mulberry Creek Reconstruction Project involves following the original alignment of Mulberry Creek. All wetlands along the project route were converted at the time of the original assessment drain. The channel has been redesigned to move the design event downstream in the channel instead of overland, which impacts agricultural lands. The reconstruction project also places a 3:1 side slope along the channel.

Phases I – III have been successful and have shown great benefit to the producers along the channel.

All section line crossings will be brought up to the current state standard of a 10-year design. The initial project left some of the section line crossings in place and they were not capable of passing the 10-year design standard.

Phase IV is approximately 10.2 miles in length and is located in the NE ¼ of Section 16, Township 161 North, Range 60 West. The channel will allow water to be moved away from the local airport, which is in jeopardy of losing the air ambulance service due to water issues in the parking ramp.

Phase IV will replace an existing concrete spillway at the outlet of the Langdon City Reservoir. This structure is needed to manage the flows through the city of Langdon, while maintaining a specified water surface elevation in the pool. Water is used from the pool to treat and make potable.

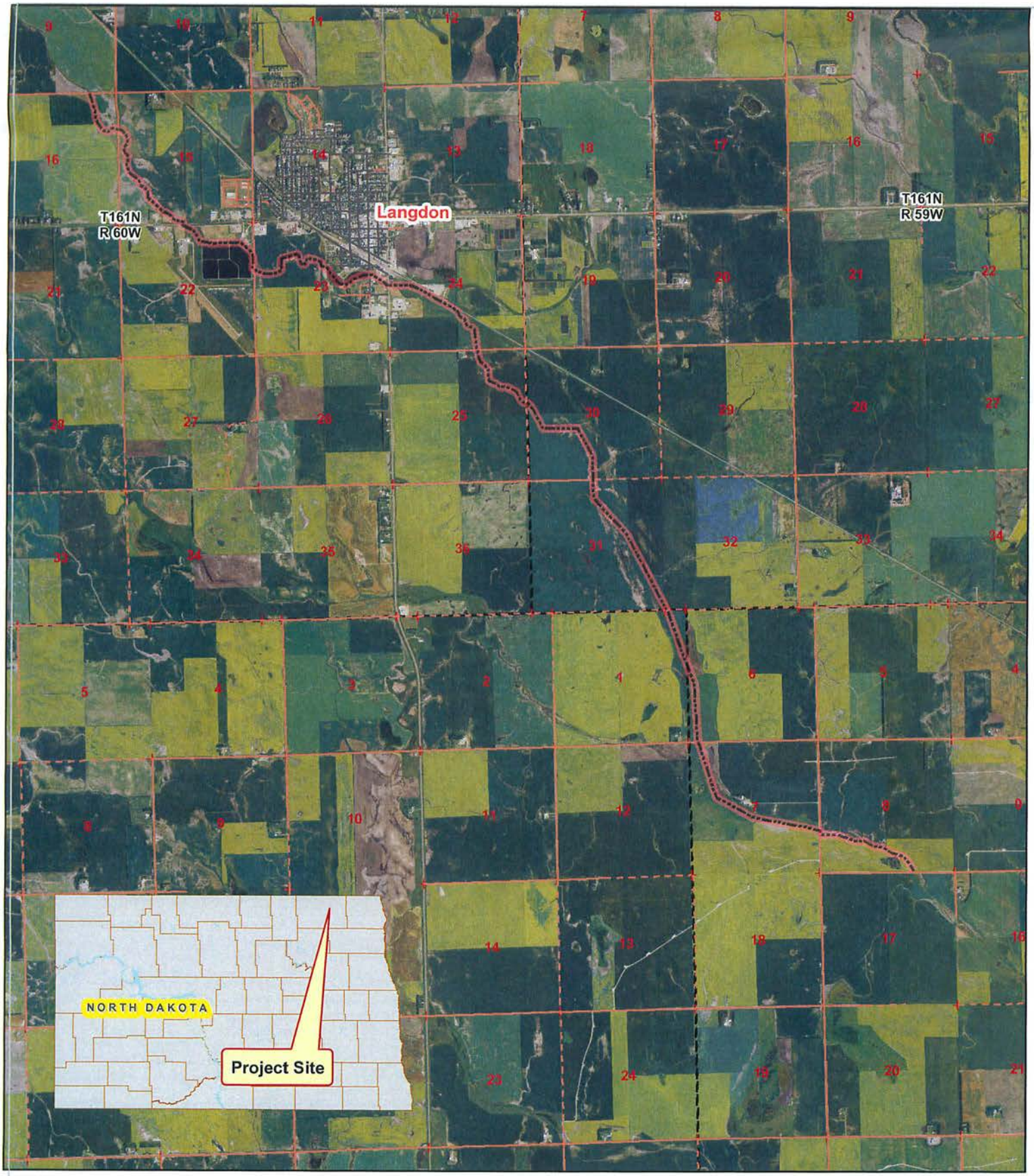
The estimated total cost of this project is $803,567, of which $720,020 is considered eligible for cost-share participation, at 45%, for an amount not to exceed $324,010 in state funds.

I recommend that the State Water Commission conditionally approve this request by the Cavalier County Water Resource District for state cost participation in the District's Mulberry Creek Phase IV Reconstruction Project, at an amount not to exceed $324,010 from the funds appropriated to the State Water Commission in the 2011-2013 biennium. This approval is subject to the entire contents of the recommendation contained herein, an approved drain permit, receipt of the final engineering plans, and the availability of funds.

TS:MMB/1438

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY



Cavalier County Water Resource District
Mullbery Creek Phase IV

Cavalier County Water Resource Board
901 Third Street, Suite 8
Langdon, ND 58249 Tel. (701-256-2220)

March 6, 2013

John Paczkowski
ND State Water Commission
900 E. Boulevard Avenue, Dept. 770
Bismarck, ND 58505-0850

Dear John Packowski,

Enclosed you will find the preliminary plans for Mulberry Creek Phase IV Project from Fischer Land Surveying, which we just presently received. I do hope everything is in order.

Cavalier County Water Resource District is making written request for State Water Commission cost-share funding on Mulberry Creek Phase IV Drain.

Would you please let us know the funding committee date when Chairman Bill Hardy needs to come to Bismarck.

If there is anything else you need, please let us know as soon as possible. You may call the Water board office at 701-256-2220. Thank you.

Sincerely,

JoAnn A. Mueller

JoAnn A. Mueller, Secretary/Treasurer
Cavalier County Water Resource Board

MAR 11 2013

Mulberry Creek Phase IV

Mulberry Creek is an existing assessment drain formed by the Cavalier County Water Resource Board in the late 1970's and constructed around 1980.

The Water Resource Board has completed Phase I, II and III to date. Phase IV is the last phase of the reconstruction project.

The Mulberry Creek Reconstruction Project involved following the original alignment of Mulberry Creek. All wetlands along the project route were converted at the time of the original assessment drain. The channel has been redesigned to move a specified flow downstream in the channel instead of overland, which impacts agricultural lands. The reconstruction project also places a 3:1 sideslope along the channel. Over the years erosion has caused the sideslopes to become rather steep.

Phases I, II and III have been very successful and have shown great benefit to those producers along the channel.

All section line crossings will be brought up to the current state standard of a 10-year design. The initial project left some of the section line crossings in place and they were not capable of passing the 10-yr design standard established by the NDAC.

The Phase IV project is approximately 10.2 miles in length. The channel will be regarded to allow water to be moved away from the local airport, which is in jeopardy of losing the air ambulance service due to water issues in the parking ramp.

The Phase IV project will replace an existing concrete spillway at the outlet of the Langdon City Reservoir. This structure is needed to manage the flows through the City of Langdon, while maintaining a specified water surface elevation in the pool. Water is used from the pool to treat and make potable.

The project is expected to go through final design if approved for funding by the NDSWC with bids to follow. Construction is anticipated in 2013 and 2014.

North Dakota State Water Commission

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Agenda #8)

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, PE, Chief Engineer/Secretary
SUBJECT: NDSWC Cost-Share Participation Request Pembina County Water Resource District's Drain #4 Reconstruction Project
DATE: June 10, 2013

In their submitted correspondence dated February 15, 2013, the Pembina County Water Resource District (District) requested cost share assistance for their Drain #4 Reconstruction Project.

Pembina County Drain #4 was originally designed and constructed in the early 1900's. Since then, some modifications have taken place. However, the current drain is not meeting the needs of the farmers within the assessment area. A petition was filed with the District requesting increased capacity as well as increased slope to improve the drainage in the area.

Drain #4 reconstruction will begin at a point near the western edge of the NW ¼ of Section 6, Township 162 North, Range 53 West and will end at a point near the center of the SW ¼ of Section 28, Township 163 N, Range 53 West. When completed the drain will have a total length of 33,155 feet and 4:1 side slopes. An assessment vote has passed and a drain permit has been issued.

The estimated total cost of this project is $549,506, of which $492,506 is admissible for state cost-share assistance at 45%, for an amount not to exceed $221,628 in state funds.

I recommend the State Water Commission approve this request by the Pembina County Water Resource District for state cost participation in the District's Drain #4 Reconstruction Project, at an amount not to exceed $221,628 from the 2011-2013 appropriated funds. This approval is subject to the entire contents of the recommendation contained herein and the availability of funds.

TS:MMB/1135

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

Pembina County Water Resource District
Drain #4 reconstruction

PEMBINA COUNTY
WATER RESOURCE DISTRICT

308 Courthouse Drive #5
Cavalier, North Dakota 58220
Phone: 701-265-4511
Fax: 701-265-4165

February 15, 2013

Todd Sando, State Engineer
State Water Commission
900 East Boulevard
Bismarck, ND 58505

Re: Request for cost-share assistance

Dear Mr. Sando:

Pembina County Drain #4 was originally designed and constructed in the early 1900s. Since then some modifications have taken place; however, the current drain is not meeting the needs of the farmers within the assessment area. A petition was filed with the Pembina County Water Resource District office requested increased capacity as well as increased grade to improve drainage in the area. A vote on the project will be completed in the very near future with a favorable outcome expected as a large number of signatures representing significant acres appeared on the petition.

The Pembina County Water Resource District Board of Managers is hereby requesting cost-share assistance for the above described project. I am enclosing a copy of the Engineer's Estimate and a copy of the plans showing the line and design of the proposed drain.

If you have any questions, please feel free to contact our office.

Sincerely,

Pembina County Water Resource District
LuAnn Kemp
LuAnn Kemp, Secretary

FEB 1 2013

Board Members

Ronald Falk, Charles Thacker, Joshua Heuchert, Edward Stremick, & Gerald Juhl

ND STATE WATER COMMISSION
Project Information and Cost-Share Request Form

This form is to be filled out by the project or program sponsor, with SWC staff assistance as needed. Upon receipt of a request form, the information will be reviewed and added to the state's project/program database. This form will serve as the first step in obtaining cost-share assistance. Once a project has been fully developed, detailed cost and engineering information should then be submitted with a request for the project to be considered for SWC cost-share. For assistance, contact the SWC Water Development Division at (701) 328-4952.

Please answer the questions as completely as possible. Supporting documents such as maps and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

1. Project, program, or study name: Pembina County Drain #4 Reconstruction

2. Sponsor(s): Pembina County

3. Location (county, city, township, etc.): Pembina County

4. Description of request: ☑ **New** ☐ **Update (previously submitted)**

5. Specific needs addressed by the project, program, or study:

a. If study, what type:

☐ **Water Supply** ☐ **Hydrologic** ☐ **Floodplain Mgmt** ☐ **Feasibility**
☐ **Other**

b. If project/program:

☐ **Flood Control**	☐ **Snagging & Clearing**	☐ **Water Quality**
☐ **Recreation**	☐ **Bank Stabilization**	☑ **Rural Flood Control**
☐ **Channel Imp.**	☐ **Irrigation**	☐ **Other**
☐ **Multi-Purpose**	☐ **Water Supply**	

6. Jurisdictions/Stakeholders involved: Pembina County

7. Description of problem or need and how project addresses that problem or need:
Farmers in the area have experience flooding and break outs from the current assessment drain. Several structures in the area also need to be increased to be adequate for the increased flows from additional drainage. Increased capacity and slope are needed to adequately meet the needs of the farmers along Drain #4.

8. Has a feasibility study been completed?: ☑ **Yes** ☐ **No** ☐ **Ongoing** ☐ **Not Applicable**

9. Has engineering design been completed?: ☑ **Yes** ☐ **No** ☐ **Ongoing** ☐ **Not Applicable**

10. Have land or easements been acquired?: ☑ **Yes** ☐ **No** ☐ **Ongoing** ☐ **Not Applicable**

11. Have you applied for any state permits?: ☑ **Yes** ☐ **No** ☐ **Not Applicable**
a. If yes, please explain: State Water Permit/Corp permit

12. Have you been approved for any state permits?: ☐ **Yes** ☑ **No** ☐ **Not Applicable**
a. If yes, please explain:

13. Have you applied for any local permits?: ☑ **Yes** ☐ **No** ☐ **Not Applicable**
a. If yes, please explain: Flood Plain

14. Have you been approved for any local permits?: ☐ **Yes** ☑ **No** ☐ **Not Applicable**
a. If yes, please explain:

15. Briefly explain the level of review the project or program has undergone:
Project is being being voted on my landowners with ballots opened Spring 2013

16. Do you expect any obstacles to implementation (i.e., problems with land acquisition, permits, funding, local opposition, environmental concerns, etc.)?

17. Estimated project or program total implementation costs: $

Source	*Cash*	*In-kind*
Federal	**$**	**$**
State	$221,628	**$**
Local	$327,878	**$**
Total	$549,506	$0

18. Funding timeline (carefully consider when SWC cost-share will be needed):

Source	**2011-2013 7/1/11-6/30/13**	**2013-2015 7/1/13-6/30/15**	**2015-2017 7/1/15-6/30/17**	**2017-2019 7/1/17-6/30/19**	**Beyond 6/30/19**
Federal	$	$	$	$	$
State	$221,628	$	$	$	$
Local	$327,878	$	$	$	$
Total	$549,506	$0	$0	$0	$0

19. Please explain implementation timelines, considering all phases and their current status: It is expected that with a favorable vote in Spring 2013 - the bid process will begin in early summer 2013 with construction in Summer 2013

20. Have assessment districts been formed?: ☑ **Yes** ☐ **No** ☐ **Ongoing** ☐ **Not Applicable**

Submitted by: Pembina County Water Resource District
Date: 2/15/2013
Address and telephone: 308 Courthouse Drive #4 Cavalier, ND 58220 701-265-4511

Mail to: ND State Water Commission, ATTN: Jeffrey Mattern, 900 E Boulevard Ave. Dept. 770, Bismarck, ND 58505-0850

DRAIN NO. 4

PRELIMINARY OPINION OF COST

Pembina County, North Dakota

ITEM #	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	CONTRACT BOND	1	L SUM	$ 2,000.00	$ 2,000.00
2	COMMON EXCAVATION	85,528	CY	$ 2.65	$ 226,648.99
3	LEVELING	131.5	STA	$ 200.00	$ 26,300.00
4	AGGREGATE BASE COURSE CL 8	93	CY	$ 25.00	$ 2,325.00
5	MOBILIZATION	1	L SUM	$ 10,000.00	$ 10,000.00
6	TRAFFIC CONTROL	1	L SUM	$ 1,500.00	$ 1,500.00
7	RIPRAP-LOOSE ROCK	597	CY	$ 80.00	$ 47,760.00
8	FIBER ROLLS 12IN	400	LF	$ 6.00	$ 2,400.00
9	SEEDING	35	ACRE	$ 290.00	$ 10,150.00
10	MULCHING	35	ACRE	$ 190.00	$ 6,650.00
11	GEOTEXTILE FABRIC TYPE RR	4,604	SY	$ 3.00	$ 13,812.00
12	BRIDGE REMOVAL	1	L SUM	$ 10,000.00	$ 10,000.00
13	PIPE CONDUIT 24IN	500	LF	$ 20.00	$ 10,000.00
14	LOW WATER CROSSING	1	L SUM	$ 20,000.00	$ 20,000.00
15	SIGNS FOR LOW WATER CROSSING	1	L SUM	$ 2,500.00	$ 2,500.00
Alternate A - 16	TOPSOIL REMOVE & REPLACE	195	STA	$ 240.00	$ 46,800.00
				Estimated Total Construction Cost =	**$ 438,845.99**
				Construction Contingency (10%)=	**$ 43,884.60**
				Estimated Engineering, Surveying, & Legal Fees =	**$ 55,000.00**
				Material Cost for Culverts =	**$ 11,775.00**
				Total Project Cost =	**$ 549,505.59**

TOTAL PROJECT COST ELIGIBLE FOR 45% SWC FUNDS = $ 492,505.59

(SWC Eligible Funds = Total Project Cost minus Engineering, Survey, Legal, ROW, Utilities & Contract Bond)

SWC Funding @ 45% = $ 221,627.51

Local Share = $ 327,878.07

Based on DA of 12,573 Acres

Total Project Cost without SWC Funds ($549,505.59 / 12,573) = $43.71/ACRE

Total Project Cost with 45% SWC Funds ($327,878.07 / 12,573) = $26.08/ACRE

2/4/2013

North Dakota State Water Commission

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Agenda #9

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, PE, Chief Engineer/Secretary
SUBJECT: NDSWC Cost-Share Participation Request Pembina County Water Resource District's Drain #73 Project
DATE: June 10, 2013

In their submitted correspondence dated February 15, 2013, the Pembina County Water Resource District (District) requested cost share assistance for their Drain #73 Project.

Landowners west of Interstate 29 in Joliette Township have had substantial crop damage and flooding throughout the years. In 2006, a petition was received from the landowners to the District requesting that a drain be constructed to provide an adequate outlet for the area of concern. The District hired Kadrmas, Lee and Jackson to assist with the project design. Although it took several years, the design work is now completed and construction on legal Drain #73 and a lateral labeled as Drain #73-1 is expected to begin during the 2013 construction season.

Drain #73 will begin in the SW¼ of Section 23, Township 162 North, Range 51 West and go north approximately 29,278 feet to the NW ¼ of Section 11, Township 162 North, Range 51 West. The lateral, Drain #73-1, begins in the SW ¼ of Section 16, Township 162 North, Range 51 West where it goes to the east for 2 miles to its confluence with Drain #73 in the SW ¼ of Section 14. The drain will have 3:1 side slopes. An assessment vote has been passed and a drain permit has been approved on the project.

The estimated total cost of this project is $1,078,400, of which $778,666 is admissible for state cost-share assistance at 45%, for an amount not to exceed $350,400 in state funds.

I recommend the State Water Commission approve this request by the Pembina County Water Resource District for state cost participation in the District's Drain #73 Project, at an amount not to exceed $350,400 from the 2011-2013 appropriated funds. This approval is subject to the entire contents of the recommendation contained herein and the availability of funds.

TS:MMB/2022

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

Pembina County Water Resource District
Drain #73 with Lateral Drain #73-1

PEMBINA COUNTY
WATER RESOURCE DISTRICT

308 Courthouse Drive #5
Cavalier, North Dakota 58220
Phone: 701-265-4511
Fax: 701-265-4165

February 15, 2013

Todd Sando, State Engineer
State Water Commission
900 East Boulevard
Bismarck, ND 58505

Re: Request for cost-share assistance

Dear Mr. Sando:

Landowners in an area west of Interstate 29 in Joliette township have suffered tremendous crop loss and flooding in a number of the past years. In 2006, a Petition was received asking that Drain #73 be constructed to provide an adequate outlet to the interstate and drainage channels to funnel the water to and away from the interstate crossing. The board designated Jon Markusen and Jeff Daley with Kadrmas, Lee and Jackson to help in the planning process. Although the design took a long time to finalize, the final design has been completed and ballots are in the hands of the affected landowners. Assuming a favorable vote, construction is expected to begin during the 2013 construction season. Within the design, additional culvert capacity will be required through the interstate and a wetland at the bottom of the outlet will be modified to meet ND Game and Fish's requirements to allow the drain to discharge into their easement.

The Pembina County Water Resource District Board of Managers is hereby requesting cost-share assistance for the above described project. I am enclosing a copy of the Engineer's Estimate and a copy of the plans showing the line and design of the proposed drain.

If you have any questions, please feel free to contact our office.

Sincerely,

Pembina County Water Resource District

LuAnn Kemp

LuAnn Kemp, Secretary

FEB 1 2013

Board Members

Ronald Falk, Charles Thacker, Joshua Heuchert, Edward Stremick, & Gerald Juhl

ND STATE WATER COMMISSION
Project Information and Cost-Share Request Form

This form is to be filled out by the project or program sponsor, with SWC staff assistance as needed. Upon receipt of a request form, the information will be reviewed and added to the state's project/program database. This form will serve as the first step in obtaining cost-share assistance. Once a project has been fully developed, detailed cost and engineering information should then be submitted with a request for the project to be considered for SWC cost-share. For assistance, contact the SWC Water Development Division at (701) 328-4952.

Please answer the questions as completely as possible. Supporting documents such as maps and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

1. Project, program, or study name: Pembina County Drain #73

2. Sponsor(s): Pembina County

3. Location (county, city, township, etc.): Pembina County

4. Description of request: ☐ New ☑ Update (previously submitted)

5. Specific needs addressed by the project, program, or study:

a. If study, what type:

☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt ☐ Feasibility
☐ Other

b. If project/program:

☐ Flood Control	☐ Snagging & Clearing	☐ Water Quality
☐ Recreation	☐ Bank Stabilization	☑ Rural Flood Control
☐ Channel Imp.	☐ Irrigation	☐ Other
☐ Multi-Purpose	☐ Water Supply	

6. Jurisdictions/Stakeholders involved: Pembina County, ND DOT, ND Game and Fish

7. Description of problem or need and how project addresses that problem or need:

Farmers in the area have experience flooding and poor production for some time. The Interstate limits their options for drainage as well. Working with ND DOT, adequate culverts through I-29 at a strategic location will benefit greatly -- additional drainage channels to funnel water to and away from the crossing to the Red River will facilitate drainage and improve ag production. ND Game and Fish has agreed to outlet into easement with planned wetland improvements

8. Has a feasibility study been completed?: ☑ Yes ☐ No ☐ Ongoing ☐ Not Applicable

9. Has engineering design been completed?: ☑ Yes ☐ No ☐ Ongoing ☐ Not Applicable

10. Have land or easements been acquired?: ☐ Yes ☐ No ☑ Ongoing ☐ Not Applicable

11. Have you applied for any state permits?: ☑ Yes ☐ No ☐ Not Applicable
a. If yes, please explain: State Water Permit/Corp permit

12. Have you been approved for any state permits?: ☐ Yes ☐ No ☐ Not Applicable
a. If yes, please explain:

13. Have you applied for any local permits?: ☑ Yes ☐ No ☐ Not Applicable
a. If yes, please explain: Flood Plain

14. Have you been approved for any local permits?: ☐ Yes ☑ No ☐ Not Applicable
a. If yes, please explain:

15. Briefly explain the level of review the project or program has undergone:
Project is being being voted on my landowners with ballots opened mid March 2013

16. Do you expect any obstacles to implementation (i.e., problems with land acquisition, permits, funding, local opposition, environmental concerns, etc.)?

17. Estimated project or program total implementation costs: $

Source	*Cash*	*In-kind*
Federal	$	$
State	$350,400	$127,956
Local	$600,045	$
Total	$950,445	$127,956

18. Funding timeline (carefully consider when SWC cost-share will be needed):

Source	2011-2013 7/1/11-6/30/13	2013-2015 7/1/13-6/30/15	2015-2017 7/1/15-6/30/17	2017-2019 7/1/17-6/30/19	Beyond 6/30/19
Federal	$	$	$	$	$
State	$350,400	$	$	$	$
Local	$600,045	$	$	$	$
Total	$950,445	$0	$0	$0	$0

19. Please explain implementation timelines, considering all phases and their current status: It is expected that with a favorable vote in March 2013 - the bid process will begin in April 2013 with construction in Summer 2013

20. Have assessment districts been formed?: ☑ Yes ☐ No ☐ Ongoing ☐ Not Applicable

Submitted by: Pembina County Water Resource District
Date: 2/15/2013
Address and telephone: 308 Courthouse Drive #4 Cavalier, ND 58220 701-265-4511

Mail to: ND State Water Commission, ATTN: Jeffrey Mattern, 900 E Boulevard Ave. Dept. 770, Bismarck, ND 58505-0850

PROPOSED DRAIN NO. 73
PRELIMINARY OPINION OF COST
Pembina County, North Dakota

ITEM	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	CONTRACT BOND	1.0	L SUM	$ 4,000.00	$ 4,000.00
2	COMMON EXCAVATION	134,213	CY	$ 2.95	$ 395,928.35
3	REMOVAL OF TREES	1.0	L SUM	$ 2,500.00	$ 2,500.00
4	TOPSOIL REMOVE & REPLACE	120	STA	$ 300.00	$ 36,000.00
5	LEVELING	263	STA	$ 125.00	$ 32,875.00
6	AGGREGATE BASE COURSE CL 5	277	CY	$ 28.00	$ 7,756.00
7	MOBILIZATION	1.0	L SUM	$ 10,000.00	$ 10,000.00
8	TRAFFIC CONTROL	1.0	L SUM	$ 6,000.00	$ 6,000.00
9	RIPRAP LOOSE ROCK	446	CY	$ 75.00	$ 33,450.00
10	FIBER ROLLS 12IN	200	LF	$ 4.00	$ 800.00
11	SEEDING - TYPE B - CLASS II	40	ACRE	$ 285.00	$ 11,400.00
12	MULCHING	40	ACRE	$ 200.00	$ 8,000.00
13	COCONUT MAT	162	SY	$ 5.50	$ 891.00
14	GEOTEXTILE FABRIC - TYPE RR	972	SY	$ 3.00	$ 2,916.00
15	PIPE CONDUIT 48IN JACKED OR BORED	152	LF	$ 650.00	$ 98,800.00
16	END SECTION - 48IN REINF CONC	2	EA	$ 1,875.00	$ 3,750.00
17	PIPE CONC REINF 48IN CL II	52	LF	$ 220.00	$ 11,440.00
18	PIPE CORR STEEL .064IN 24IN	72	LF	$ 25.00	$ 1,800.00
19	PIPE CORR STEEL .079IN 30IN	50	LF	$ 25.00	$ 1,250.00
20	PIPE CORR STEEL .109IN ARCH 64INX43IN	632	LF	$ 40.00	$ 25,280.00
21	PIPE CORR STEEL .109IN ARCH 71INX47IN	280	LF	$ 45.00	$ 12,600.00
22	PIPE CORR STEEL .109IN ARCH 77INX52IN	444	LF	$ 50.00	$ 22,200.00
23	FLAP GATE 24IN	1	EA	$ 100.00	$ 100.00
24	INSTALL FLARED END SECTION - 24IN	1	EA	$ 220.00	$ 220.00
25	OBJECT MARKER - CULVERTS	2	EA	$ 105.00	$ 210.00
26	REMOVE FENCE	300	LF	$ 3.15	$ 945.00
27	FENCE CABLE 2 STRAND - WOOD POST	350	LF	$ 14.10	$ 4,935.00
28	FENCE TERMINAL - WOOD POSTS	3	EA	$ 400.00	$ 1,200.00
29	RESET MAILBOX	1	EA	$ 400.00	$ 400.00

Estimated Total Construction Cost =	**$ 737,646.35**
Construction Contingency (10%)=	**$ 73,764.64**
Estimated Engineering, Surveying, Legal Fees & Right-of-Way =	**$ 160,000.00**
Material Cost for Culverts =	**$ 96,990.00**
*** Estimated Utility Relocation Costs =**	**$ 10,000.00**
Total Project Cost =	**$ 1,078,400.99**

TOTAL PROJECT COST ELIGIBLE FOR 45% SWC FUNDS = $ 778,666.39

(SWC Elegible Funds = Total Project Cost minus Engineering, Survey, Legal, ROW, Utilities, I-29 & Contract Bond)

SWC Funding @ 45% =	**$ 350,399.87**
I-29 Crossing - (100% NDDOT Funds) =	**$ 127,956.40**
Local Share =	**$ 600,044.71**

Approximately 25 acres of permanent ROW is required (assume purchase price of $2,000/acre)
Approximately 60.0 acres of easement is required (assume purchase price of $100/acre)
* Nodak Elec. (2) / Polar (1) (unsure of line location old Qwest line) / Rural Water (1)

Based on DA of 6,892 Acres

Total Project Cost without SWC or DOT Funds ($1,078,400 / 6892) = $156.47/ACRE
Total Project Cost without SWC Funds with DOT Funds ($950,443 / 6892) = $137.91/ACRE
Total Project Cost with 45% SWC Funds & DOT Funds($600,045 / 6892) = $87.06/ACRE

2/1/2013

North Dakota State Water Commission

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Agenda 4/10)

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, PE, Chief Engineer/Secretary
SUBJECT: NDSWC Cost-Share Participation Request – City of Pembina US Army Corps of Engineers Section 408 Review for City's Flood Control Levee Certification – Cost Overrun
DATE: June 10, 2013

On March 7, 2012, the City of Pembina (City) received approval for state cost-share participation for their US Army Corps of Engineers Section 408 Review on the City's Flood Control Levee Certification Project in the amount of $108,000. The City began work on the certification project after receiving a Provisionally Accredited Levee (PAL) letter from FEMA in 2009.

In May 2011, the City submitted a proposal to the US Army Corps of Engineers (Corps) to raise the floodwall and levee as part of the certification process. Because the City's flood protection system was built by the Corps, any modification to it requires Corps approval. The Corps review comments were received on September 23, 2011 and a technical meeting was held to discuss their comments on October 12, 2011.

Based upon the proposed levee and floodwall raises, the Corps has indicated that the proposed changes to the flood protection system will definitely be considered Major Modification, which required a Corps Section 408 review to be completed. This process involved a detailed technical submittal by the City, technical reviews by the Corps and also required an agreement between the City and the Corps in order for the Major Modification process to proceed. The Major Modification process also required the City to provide funding to the Corps for the review.

The costs projected to bring the project through a successful Major Modification process to the initiation of construction have increased dramatically to $352,000, of which $302,000 is admissible for state cost-share assistance at 60%, for an amount not to exceed $181,200 in state funds. With the previously approved $108,000, an additional $73,200 is requested. Ineligible costs of $50,000 are for engineering costs not required for the Section 408 review.

I recommend the State Water Commission approve this cost overrun request by the City of Pembina for state cost participation in the City's US Army Corps of Engineers Section 408 Review, at an amount not to exceed $73,500 from the 2011-2013 appropriated funds. This approval is subject to the entire contents of the recommendation contained herein and the availability of funds.

TS:MMB/1444

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

North Dakota State Water Commission

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Agenda #11

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission

FROM: Todd Sando, PE, Chief Engineer/Secretary

SUBJECT: NDSWC Cost-Share Participation Request Richland County Water Resource District's Drain #65 Extension Project

DATE: June 10, 2013

In their submitted correspondence dated May 16, 2013, the Richland County Water Resource District (District) requested cost share assistance for their Drain #65 Extension Project.

The project consists of the extension of .63 miles of the township roadway ditch that will become part of the Drain #65 channel. Drain #65 presently ends on the bridge on the east end of the reconstruction on the south side of Section 26. The District also owns the German Madsen Dam, which is located in the SE ¼ of Section 27.

Presently the existing outlet of the German Madsen Dam is a channel from the outlet of the drain to a township road ditch which runs along the north side of Section 34 and 35 to the bridge between Section 36 and 26 where the drain starts on the south side of Section 26.

The existing township roadway along the north side of the drain is gravel road. The drain centerline will be shifted to the south and the old drain channel filled to create the road slope. The existing bridge will remain.

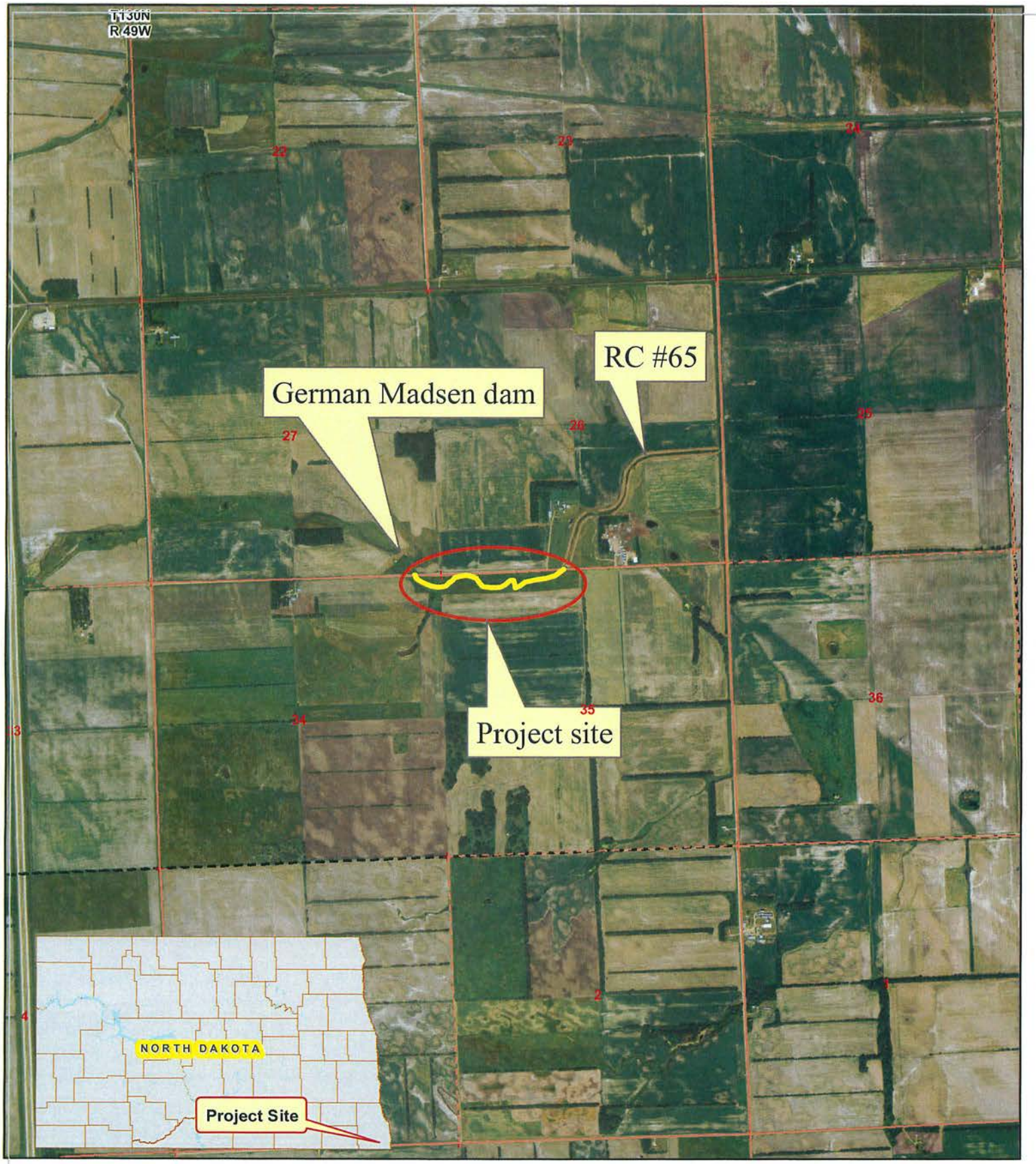
The project will construct the channel bottom to a consistent 20-foot parabolic bottom and flatten the side slopes to 4:1. Rock drop structures will be installed to help take out some of the elevation change along the channel. Rock erosion checks will also be installed to help control erosion. Erosion control fabric will also be installed to help control the erosion off the soils in the area on the channel bottom and side slopes. Side inlet culverts will be installed along the length of the channel.

The project will improve the stability of the channel. The existing channel is a road ditch that was constructed with 2:1 side slopes, which have experienced failures and slides over the last several years.

The estimated total cost of this project is $341,276, of which $273,776 is considered eligible for cost-share participation as a flood control project at 45%, for an amount not to exceed $123,200 in state funds.

I recommend that the State Water Commission conditionally approve this request by the Richland County Water Resource District for state cost participation in the District's Drain #65 Extension Project, at an amount not to exceed $123,200 from the funds appropriated to the State Water Commission in the 2011-2013 biennium. This approval is subject to the entire contents of the recommendation contained herein, an approved drain permit, receipt of the final engineering plans, and the availability of funds.

TS:MMB/1207



N

Richland County Water Resource District
Drain #65 Extension

INTERSTATE ENGINEERING

May 16, 2013

Mr. John Paczkowski
ND State Water Commission
900 E Boulevard Avenue Dept. 770
Bismarck, ND 58501

RE: Drain No. 65 Reconstruction
Richland County, ND
W11-03-039.40

Dear Mr. Paczkowski:

On behalf of the Richland County Water Resource District (RCWRD) enclosed please find a cost share request form and an application to drain for the referenced project. Please proceed with processing this request and application and let us know if you need additional information.

As indicated in the attached documents the project is still in the development stages. Plans and specifications will be available soon and will be sent under separate cover when they are complete. The State's cost share will be integral to completing this project as proposed and as such the RCWRD requests that the cost-share be considered at the next SWC's meeting.

If you have any questions, please do not hesitate to contact me at any time. We look forward to hearing from you soon.

Sincerely,
Interstate Engineering, Inc.

Damon DeVillers

Damon DeVillers, P.E.

DD/dd
Attachments
C: RCWRD

MAY 20 2013

ND STATE WATER COMMISSION
Project Information and Cost-Share Request Form

This form is to be filled out by the project or program sponsor, with SWC staff assistance as needed. Upon receipt of a request form, the information will be reviewed and added to the state's project/program database. This form will serve as the first step in obtaining cost-share assistance. Once a project has been fully developed, detailed cost and engineering information should then be submitted with a request for the project to be considered for SWC cost-share. For assistance, contact the SWC Water Development Division at (701) 328-4952.

Please answer the questions as completely as possible. Supporting documents such as maps and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

1. **Project, program, or study name:** Drain No. 65 Extension and Reconstruction

2. **Sponsor(s):** Richland County Water Resource District

3. **Location (county, city, township, etc.):** Richland County, T130N, R49W

4. **Description of request:** ☑ **New** ☐ **Update (previously submitted)**

5. **Specific needs addressed by the project, program, or study:**
   a. **If study, what type:**
   ☐ **Water Supply** ☐ **Hydrologic** ☐ **Floodplain Mgmt** ☐ **Feasibility**
   ☐ **Other**

   b. **If project/program:**
   ☐ **Flood Control** ☐ **Snagging & Clearing** ☐ **Water Quality**
   ☐ **Recreation** ☐ **Bank Stabilization** ☐ **Rural Flood Control**
   ☑ **Channel Imp.** ☐ **Irrigation** ☐ **Other**
   ☐ **Multi-Purpose** ☐ **Water Supply**

6. **Jurisdictions/Stakeholders involved:** Richland County Water Resource District

7. **Description of problem or need and how project addresses that problem or need:**
   Slope sloughing, erosion, sedimentation and resulting maintenance expense. The construction will flatten the side slopes to a 4:1 and the bottom will be a consistent 20 foot wide parabolic channel. Rock erosion checks, rock drops, rock plunge pools and erosion control blankets will be installed to help prevent degradation of the channel bottom to help control velocities and field inlet culverts will be installed to help control runoff into the drain.

8. **Has a feasibility study been completed?:** ☐ **Yes** ☐ **No** ☐ **Ongoing** ☑ **Not Applicable**

9. **Has engineering design been completed?:** ☑ **Yes** ☐ **No** ☐ **Ongoing** ☐ **Not Applicable**

10. **Have land or easements been acquired?:** ☐ **Yes** ☐ **No** ☑ **Ongoing** ☐ **Not Applicable**

11. Have you applied for any state permits?: ☑ Yes ☐ No ☐ Not Applicable
a. If yes, please explain: Corps of Engineers 404 Pemit

12. Have you been approved for any state permits?: ☐ Yes ☑ No ☐ Not Applicable
a. If yes, please explain:

13. Have you applied for any local permits?: ☐ Yes ☑ No ☐ Not Applicable
a. If yes, please explain:

14. Have you been approved for any local permits?: ☐ Yes ☑ No ☐ Not Applicable
a. If yes, please explain:

15. Briefly explain the level of review the project or program has undergone:
Solicitation letters to utilities and agencies and Land Owner meetings

16. Do you expect any obstacles to implementation (i.e., problems with land acquisition, permits, funding, local opposition, environmental concerns, etc.)?
No

17. Estimated project or program total implementation costs: $

Source	*Cash*	*In-kind*
Federal	$0	$
State	$123,199	$
Local	$218,077	$
Total	$341,276	$0

18. Funding timeline (carefully consider when SWC cost-share will be needed):

Source	2011-2013 7/1/11-6/30/13	2013-2015 7/1/13-6/30/15	2015-2017 7/1/15-6/30/17	2017-2019 7/1/17-6/30/19	Beyond 6/30/19
Federal	$0	$	$	$	$
State	$123,199	$	$	$	$
Local	$218,077	$	$	$	$
Total	$341,276	$0	$0	$0	$0

19. Please explain implementation timelines, considering all phases and their current status: Project design completed in May 2013. Permits applied for in April/May 2013. Project to be bid in May 2013. Construction completed by October 2013

20. Have assessment districts been formed?: ☑ Yes ☐ No ☐ Ongoing ☐ Not Applicable

Submitted by: Richland County Water Resource District--Don Moffet Chairman
Date: May 10, 2103
Address and telephone: 418 2nd Avenue North, Wahpeton, ND 58075 701-642-7773

Mail to: ND State Water Commission, ATTN: Jeffrey Mattern, 900 E Boulevard Ave. Dept. 770, Bismarck, ND 58505-0850

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TTY 800-366-6888 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

Agenda H

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, PE, Chief Engineer/Secretary
SUBJECT: NDSWC Cost-Share Participation Request Sheyenne River Valley Flood Control Project
DATE: June 10, 2013

The cities of Valley City, Lisbon and Fort Ransom have been devastated by the multiple years of flooding and the actions that were needed to save their communities. Record flooding brought new heights in the elevation of the dikes and the expenses needed for recovery.

Each of the three cities are requesting to build a permanent flood control project. It is their intent to begin engineering and legal work for Phase 1 of their projects. The State Water Commission cost share policy does not allow eligibility for reimbursement of engineering or legal services. However, due to the multiple years of back to back flooding these communities have received from the Sheyenne River, limited ability to pay due to costs the cities have incurred on flood recovery efforts, and the effects of Devils Lake flood waters, we recommend an exception be made to provide cost share assistance for engineering design for these communities and to also allow a higher State Water Commission cost share percentage.

The recommended cost share percentage for design engineering for Valley City (85%), Lisbon and Fort Ransom (90%) is based on an estimate of the cities ability to pay, the cost incurred over the last several years fighting flooding and the increased risk incurred as you move downstream from the flood protection provided from Lake Ashtabula. Valley City estimated their engineering design costs at $412,500. Fort Ransom has estimated their engineering design costs at $250,000. The city of Lisbon's submission of $2,595,000 are for engineering costs anticipated through the completion of construction and were calculated at approximately 30% of construction costs. Given the intent of this current action is to assist the communities with the preliminary engineering costs associated with development of a flood control project, it was decided to estimate their design engineering cost at $778,500, based on 10% of the construction cost.

After the designs have been completed, we expect that there will be requests for cost share assistance for construction of these projects. The issues, which resulted in the recommendation for cost sharing engineering at a high percentage, will remain. If adequate flood control is going to be constructed for these communities, the State Water Commission will need to provide a higher percentage of cost share than the current policy allows.

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

The following table shows state cost share for engineering services by city.

City	Recommended Cost Share Percentage	State Cost Share
Valley City	85%	$350,625
Lisbon	90%	$700,650
Fort Ransom	90%	$225,000
Totals		**$1,276,275**

I recommend that the State Water Commission approve this request for state cost participation in the Sheyenne River Valley Flood Control Project, at an amount not to exceed $1,276,275 (Valley City - $350,625) (Lisbon - $700,650) (Fort Ransom - $225,000) from the funds appropriated to the State Water Commission in the 2011-2013 biennium by SB 2371. This approval is subject to the entire contents of the recommendation contained herein and the availability of funds.

TS:MMB/1344

Agenda #1)

Valley City

SHEYENNE RIVER VALLEY

PERMANENT FLOOD PROTECTION

2013-2015 STATE WATER COMMISSION FUNDING REQUEST

Robert J. Werkhoven, Valley City Commission, President
Matt Pedersen, Valley City Commission, Vice President
Madeline Luke, Valley City Commissioner
Duane (Dewey) Magnuson, Valley City Commissioner
Mary Lee Nielson, Valley City Commissioner
David Schelkoph, Valley City Administrator
Avis Richter, Valley City Auditor

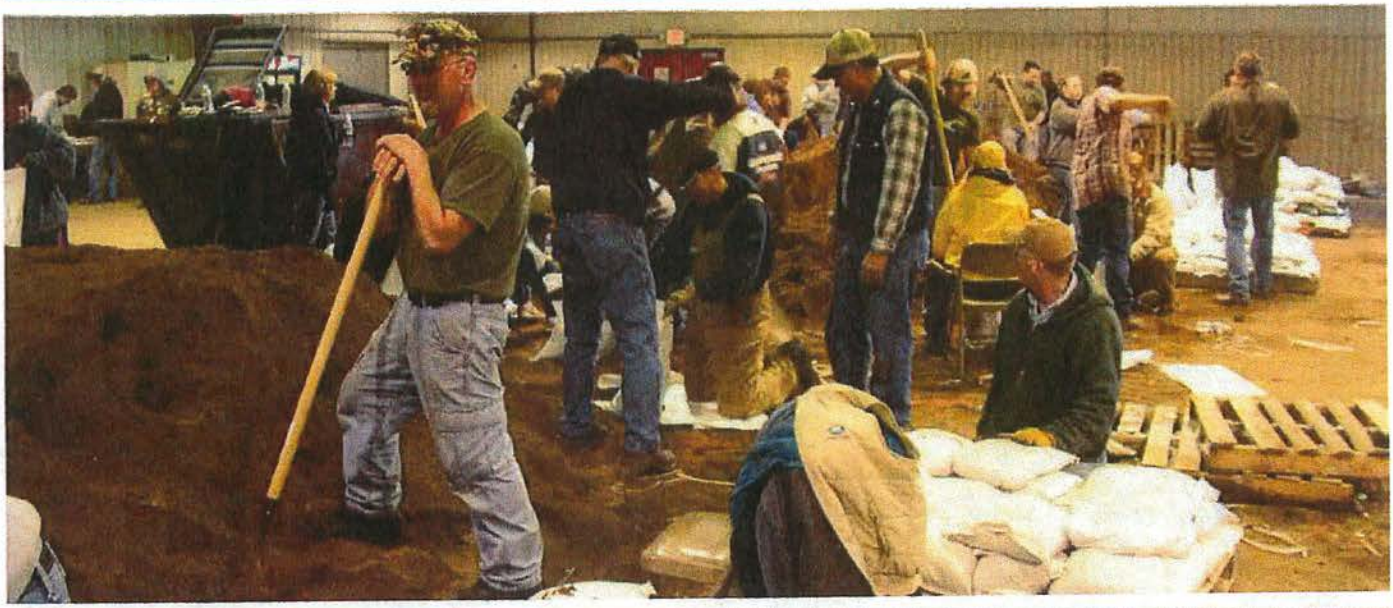
Although Valley City won flood fights in 2009 and 2011 and didn't get wet

– we were devastated by the actions needed to save our community. The record floods literally brought us to new heights – in the elevation of our dikes and the expenses for recovery. Expenses continue as we are still working on roads ruined by the loaded trucks traveling through our City. The Federal Emergency Management Agency (FEMA) and the North Dakota Legislature made a difference in 2009 and 2011 assisting with all but three percent of the qualified expenses, but the problem was that qualified expenses didn't fix all that was broken. In Valley City, FEMA approved only 75 percent of the damages the City claimed on the impacted streets in 2009 and approximately 50 percent in 2011.

Permanent flood protection discussions began in earnest in Valley City. KLJ was brought in to help determine what could be done. Phase 1 projects were presented to the State Water Commission. With the special dispensation given by the Legislature for flood inundated communities our work began.

As the Sheyenne River winds through our community, areas on both sides of the river need protection. In Valley City, dike work covered nearly seven miles. During the last flood, a combination of sandbag, clay dikes, hesco barriers and aqua dams were placed.

During the floods, our concern as city officials was the safety of volunteers and National Guard personnel sandbagging close to a fast moving river. A portion of our request includes funding for more property buyouts. Valley City is working with the State Water Commission and finishing Phase 1 which was primarily buyouts. Phase 2 also includes buyouts to clean out the river areas that were inaccessible to heavy equipment. Valley City's goal is keeping the public safe – no sandbagging on a riverbank.

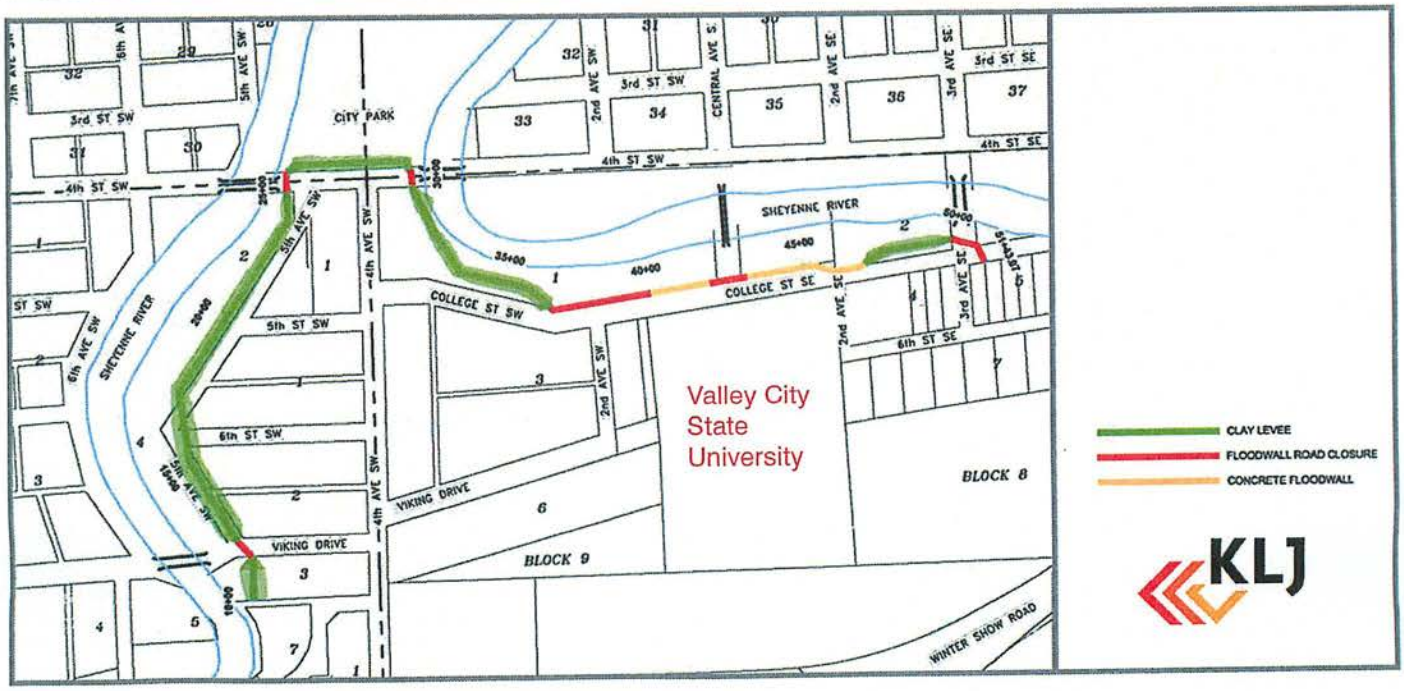


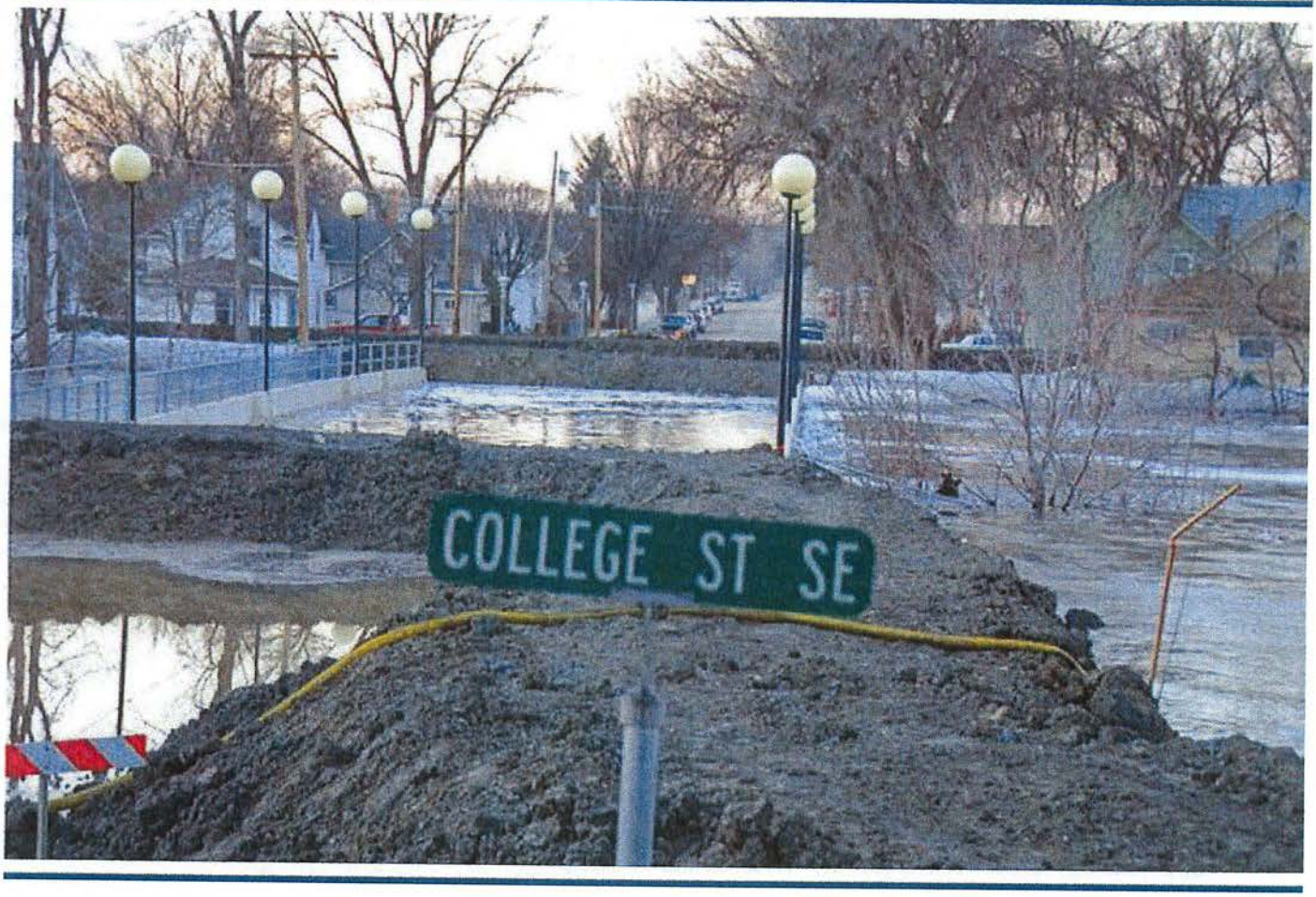
The Sheyenne Valley Flood Control Committee is ready to move on to Phase 2 flood protection. Our request for the 2013-2015 biennium is $11.65 million.

Phase 2 concentrates on the Valley City State University (VCSU) area. The majority of buyouts took place in this area as the homes and apartment buildings were built close to the river and required thousands of sandbags for protection.

Below details Valley City's plans.

- Continue property acquisition
- Build flood walls and permanent clay levees along College Street and 5th Avenue SW to protect VCSU and surrounding neighborhoods
- Storm sewer modifications
- Address erosion concerns along College Street and other priority areas





Ability to Pay

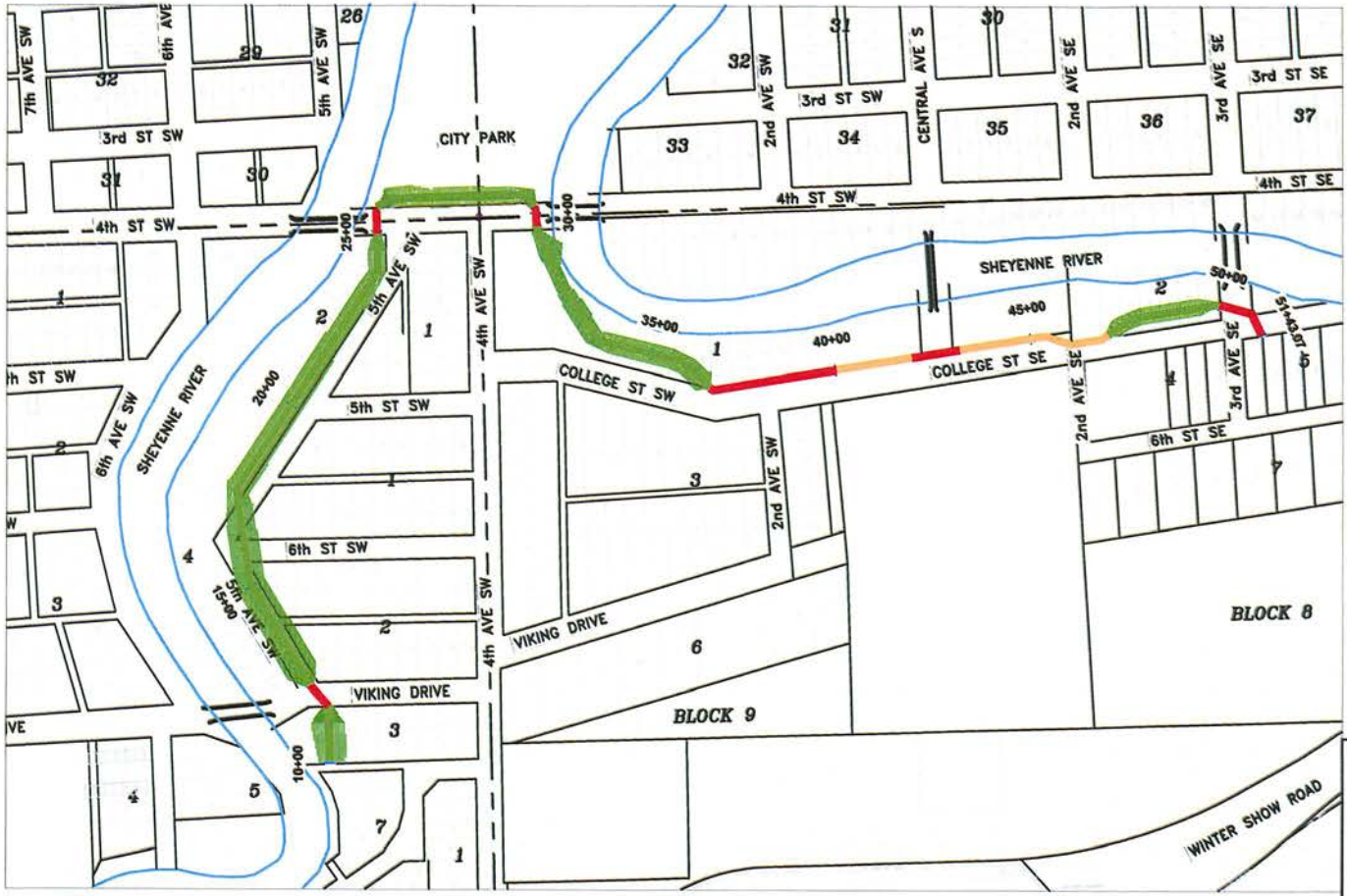
- 2009 and 2011 Flood Related Street Repairs
  $1.5 Million Local Share

- Phase I Buy-out Program
  $1.0 Million Local Share

- 2014-2019 Watermain Replacement Projects
  $8.75 Million Project Cost
  Approximately $6.0 Million Infrastructure Renewal and Replacement Fund

- Missouri River Energy Services Recommendation
  $3.5 Million Reserves in Enterprise Funds
  Projected balance year-end 2013 - $2.0 to $2.5 million

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHEYENNE RIVER FLOOD PROTECTION UNIVERSITY DISTRICT	4	1



CLAY LEVEE

FLOODWALL ROAD CLOSURE

CONCRETE FLOODWALL

PRELIMINARY

SHEYENNE RIVER FLOOD PROTECTION
UNIVERSITY DISTRICT
CITY OF VALLEY CITY, NORTH DAKOTA

KLJ

SCOPE OF WORK

© KLJ 2012

Nov 13, 2012 - 5:02pm - J:\municipal\8412101\CADD\8412101-FLOODWALL EXHIBIT 2.dwg

PRELIMINARY & DESIGN ENGINEERING

SHEYENNE RIVER FLOOD PROTECTION

UNIVERSITY DISTRICT

Valley City, North Dakota

Task	Task Cost	
Project Management & Coordination		
Project Management & Subconsultant Coordination	$	15,000.00
Preliminary Engineering Report		
Field Survey	$	60,000.00
Design Alternatives (Up to 3 alignments)	$	17,500.00
Storm Sewer Analysis	$	10,000.00
Utility Relocations (Water, Sanitary Sewer, etc.)	$	5,000.00
Geotechnical Exploration & Recommendations	$	37,500.00
Hydraulic Modeling	$	20,000.00
Preliminary Opinion of Cost	$	3,000.00
Draft Preliminary Engineering Report	$	10,000.00
Final Preliminary Engineering Report	$	5,000.00
Environmental		
Environmental Analysis & Permitting	$	10,000.00
Agency Coordination	$	7,500.00
Public Involvement		
City Commission Meetings	$	1,000.00
Public Input Meeting	$	5,000.00
Plans & Specifications		
Preliminary Plans & Specifications	$	152,500.00
Final Plans & Specifications	$	50,000.00
Final Opinion of Cost	$	2,000.00
Bid Opening	$	1,500.00
Total Estimated Engineering Costs	**$**	**412,500.00**

6/6/13

Agenda #2)

The City of Lisbon

423 MAIN STREET • PO BOX 1079
LISBON, NORTH DAKOTA 58054

May 30, 2013

Todd Sando, P.E.
State Engineer
North Dakota State Water Commission
900 East Boulevard Avenue, Dept. 770
Bismarck, North Dakota 58105-0850

Copy via email: Original US Mail

Subject: City of Lisbon Request for Preliminary and Design Engineering
Sheyenne River Flood Protection

The City of Lisbon would like to request State Water Commission funding for preliminary and design engineering and legal work associated with the city's flood protection project for the Sheyenne River Flood Protection program administered by the SWC. It is our intent to begin engineering & legal work for phase 1 of our flood protection project, as shown on the attached exhibit. We have broken down phase 1 into five separate levee areas to focus our efforts on.

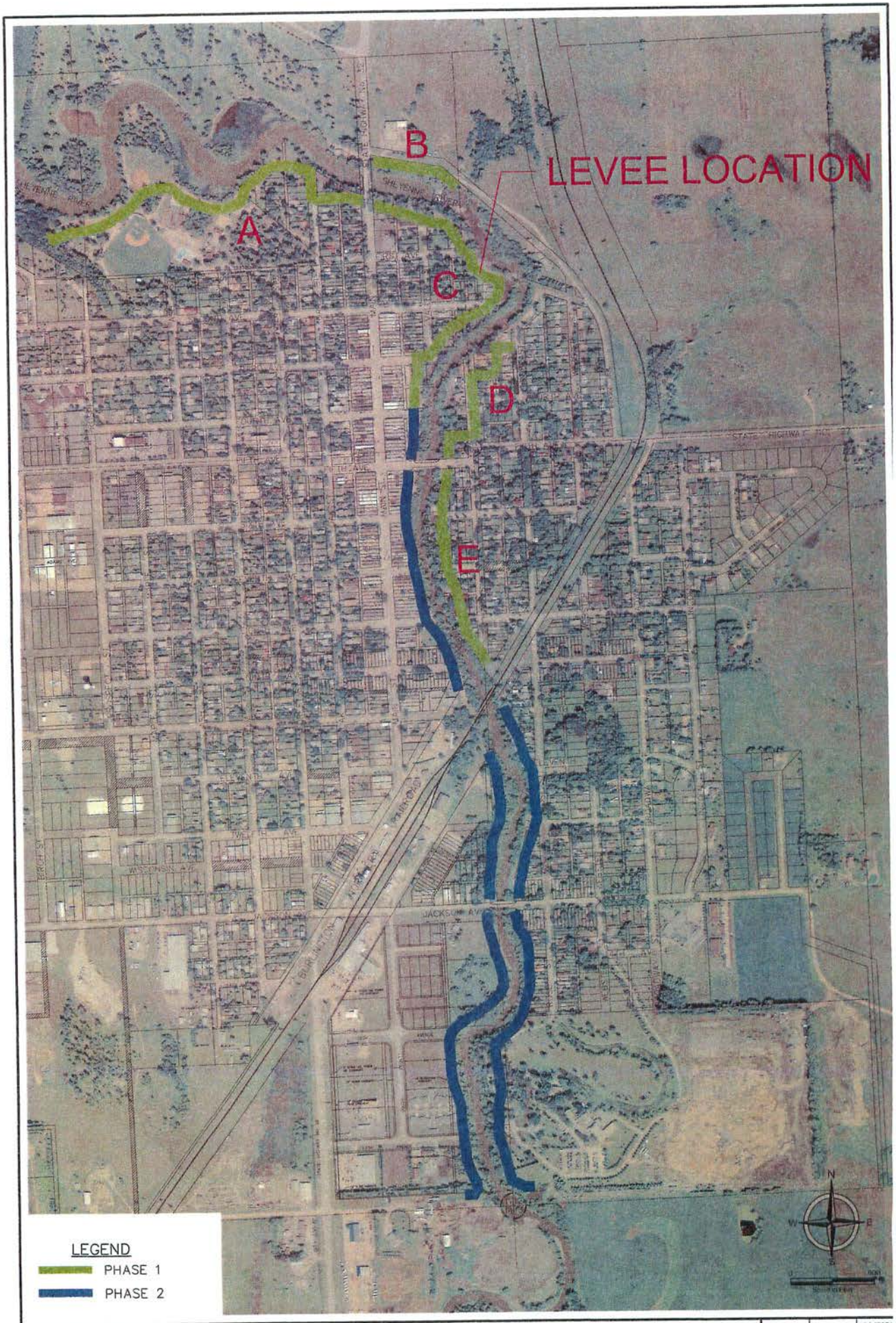
Our City Engineer has provided preliminary opinion of cost for each of the five levee areas, see attached exhibits. We are aware that the funding available may be less that the opinion of cost and we may need to place some of the levee work into phase 2 of our project. However, we would like to get started with the engineering and legal work for these areas and would like to request funds for $2,595,000 in order to begin the work.

Thank you for all your help with our project and funding requests. If additional information is needed please feel free to contact me at (701) 680-0384.

Sincerely,

L. Ross Cole
Mayor, City of Lisbon

RECEIVED
JUN - 3 2013
STATE WATER COMMISSION



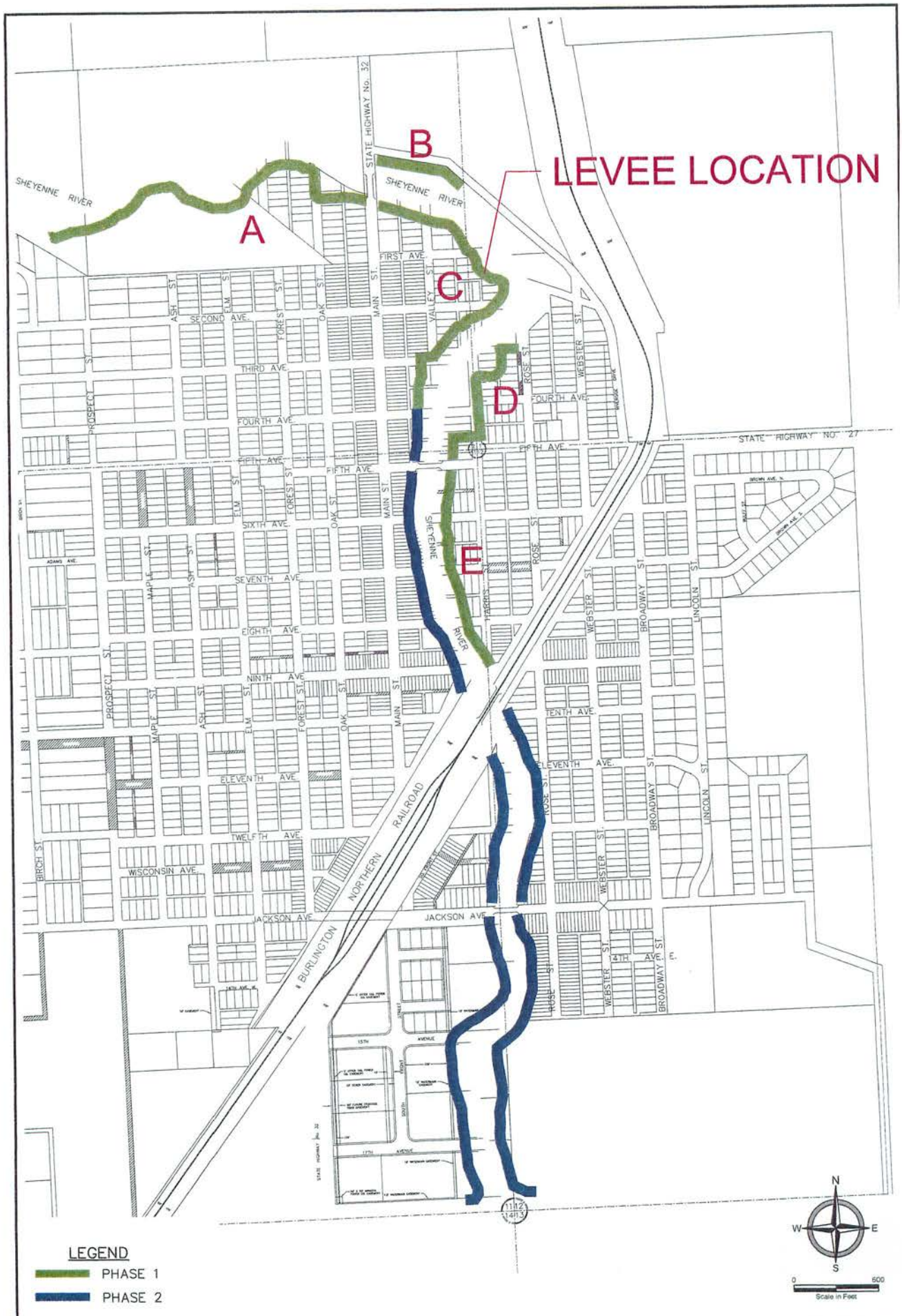
moore engineering, inc.
Consulting Engineering · Land Surveying
Shaping the Region for 50 Years.

925 10th Avenue East
West Fargo, ND 58078
Phone: (701) 282-4692

1808 East Fir Avenue
Fergus Falls, MN 56537
Phone: (218) 998-4041

PHASE MAP
SHEYENNE RIVER FLOOD PROTECTION
LISBON, NORTH DAKOTA

DATE	REVISED	PROJECT #
5/23/13		17147
CH'D BY	DRAWN BY	SHEET
TJK	KAG	1 OF



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PHASE MAP
SHEYENNE RIVER FLOOD PROTECTION
LISBON, NORTH DAKOTA

DATE	REVISED	PROJECT I
5/23/13		17147
CH'D BY	DRAWN BY	SHEET
TJK	KAG	1 OF

Lisbon - Sheyenne River Flood Protection
Phase 1 SWC Questions
5/24/13

Area A

- Construction of Earthen Levee, Flood Walls and Retaining Walls
- Relocate Baseball Field Bathroom Facility
- Relocate Skate Park
- Relocate Existing Campground Facility
- Reconstruction Water and Sanitary Sewer on Oak St.
- Storm Water Lift Station on Oak St.
- Levee will have to go around FEMA Lots
- Possible Property Acquisition if alignment changes to south to cut across park (go around FEMA Lots)
- Reconstruction Water and Sanitary Sewer on Main St./Highway 32
- Road Closure Structure on Main St./Highway 32
- Relocate existing Power/Utilities
- Street Removal/Reconstruction
- Construction Contracts
- Surveying Contract Fees
- Engineering Contract Fees (Structural, Geotechnical, Civil)

Area B

- Construction of Earthen Levee, Flood Walls and Retaining Walls
- Watts Property Acquisition
- Relocate existing Power/Utilities
- Street Removal/Reconstruction
- Construction Contracts
- Surveying Contract Fees
- Engineering Contract Fees (Structural, Geotechnical, Civil)

Area C

- Construction of Earthen Levee, Flood Walls and Retaining Walls
- Watts, Kielb, Wallner, Saxerud Property Acquisition
- Reconstruction Water and Sanitary Sewer on Valley St., 1st Ave., 2nd Ave, 3rd Ave
- Reconstruction Water Lift Station on 2nd Ave or reroute storm to 3rd Ave.
- Storm Water Lift Station on 3rd Ave.
- Flood Wall from 3rd Ave. to 5th Ave. to minimize disturbance to Main St. Parking
- Levee will have to go around FEMA Lots

- Relocate existing Power/Utilities
- Street Removal/Reconstruction
- Construction Contracts
- Surveying Contract Fees
- Engineering Contract Fees (Structural, Geotechnical, Civil)

Area D

- Construction of Earthen Levee, Flood Walls and Retaining Walls
- Reconstruction/Reroute Water and Sanitary on Rose St./Harris St./4th Ave./5th Ave
- Street and Highway Removal/Reconstruction
- Levee will have to go around FEMA Lots
- Flood Wall around FEMA Lots to minimize disturbance to existing homes
- Road Closure Structure on 5th Ave./Highway 27
- Storm Water Lift Station on 5th Ave./Highway 27
- Relocate existing Power/Utilities
- Street Removal/Reconstruction
- Construction Contracts
- Surveying Contract Fees
- Engineering Contract Fees (Structural, Geotechnical, Civil)

Area E

- Construction of Earthen Levee, Flood Walls and Retaining Walls
- Reroute 6th Ave Storm Sewer to south to connect to 7th Ave Storm Sewer
- Storm Water Lift Station on 7th Ave.
- Nelson, Black, Sjolin, Dick, Holmstrom Property Acquisition
- Levee will have to go around FEMA Lots
- Relocate Sanitary Manhole on 8th Ave
- Street Removal/Relocate
- Railroad Permit
- Relocate existing Power/Utilities
- Street Removal/Reconstruction
- Construction Contracts
- Surveying Contract Fees
- Engineering Contract Fees (Structural, Geotechnical, Civil)

Project #: 17147
Date Created: 05.30.13

Sheyenne River Flood Protection
LEVEE "A"
Lisbon, North Dakota

Engineer's Preliminary Opinion of Cost

	ITEM	*UNIT*	*QUANTITY*	*UNIT PRICE*	*TOTAL*
1.	Clearing & Grubbing	L.Sum	1	$25,000.00	$25,000.00
2.	Topsoil - Stripping & Spreading	S.Y.	20,000	$2.00	$40,000.00
3.	Asphalt - Remove	S.Y.	1,100	$6.00	$6,600.00
4.	Curb & Gutter - Remove	L.F.	500	$5.00	$2,500.00
5.	Subgrade Preparation	S.Y.	20,000	$2.50	$50,000.00
6.	Imported Fill	C.Y.	27,000	$6.00	$162,000.00
7.	Embankment	C.Y.	27,000	$2.00	$54,000.00
8.	Concrete Floodwall	L.F.	100	$2,000.00	$200,000.00
9.	Road Closure Structure	L.F.	125	$5,000.00	$625,000.00
10.	Storm Sewer Inlet - Remove	Each	2	$750.00	$1,500.00
11.	Storm Sewer Manhole - Remove	Each	1	$1,000.00	$1,000.00
12.	Storm Sewer Removal	L.F.	150	$15.00	$2,250.00
13.	Storm Sewer - 24" RCP	L.F.	100	$45.00	$4,500.00
14.	Storm Sewer Inlet	Each	2	$1,000.00	$2,000.00
15.	Storm Manhole	Each	1	$3,000.00	$3,000.00
16.	Storm Sewer Lift Station	L. Sum	1	$200,000.00	$200,000.00
17.	Gate Valve - Remove	Each	1	$750.00	$750.00
18.	Hydrant - Remove	Each	1	$1,000.00	$1,000.00
19.	Water Main Removal	L.F.	250	$15.00	$3,750.00
20.	Water Main - 6" PVC C900	L.F.	50	$25.00	$1,250.00
21.	Gate Valve & Box - 6"	Each	1	$1,500.00	$1,500.00
22.	Hydrant - 6"	Each	1	$3,000.00	$3,000.00
23.	Sanitary Sewer - Remove	L.F.	100	$15.00	$1,500.00
24.	Sanitary Sewer Manhole - Remove	Each	1	$1,000.00	$1,000.00
25.	Sanitary Sewer Service Connection	Each	2	$1,000.00	$2,000.00
26.	Sanitary Sewer Manhole	Each	1	$3,000.00	$3,000.00
27.	Sanitary Sewer Service - 6" PVC	L.F.	150	$20.00	$3,000.00
28.	Geotextile Fabric	S.Y.	3,000	$2.50	$7,500.00
29.	Gravel - NDDOT Class 5 - 6"	S.Y.	3,000	$5.00	$15,000.00
30.	Asphalt Base Course - 3"	S.Y.	3,000	$15.00	$45,000.00
31.	Asphalt Wearing Course - 2"	S.Y.	3,000	$10.00	$30,000.00
32.	Relocate Baseball Bathroom Facility	L. Sum	1	$40,000.00	$40,000.00
33.	Relocate Skate Park	L. Sum	1	$25,000.00	$25,000.00
34.	Relocate Existing Campground	L.Sum	1	$100,000.00	$100,000.00
35.	Traffic Control	L. Sum	1	$5,000.00	$5,000.00
36.	Relocate Existing Power/Utilities	L. Sum	1	$25,000.00	$25,000.00
37.	Stormwater Management	L. Sum	1	$5,000.00	$5,000.00
38.	Seeding - Hydromulch	Acre	5	$3,000.00	$15,000.00

Total Construction	$1,713,600.00	
Contingencies	$371,400.00	
Engineering	$515,000.00	19.8% (23.1)
Total Cost	$2,600,000.00	

Project #: 17147
Date Created: 05.30.13

Sheyenne River Flood Protection
LEVEE "B"
Lisbon, North Dakota

Engineer's Preliminary Opinion of Cost

	ITEM	*UNIT*	*QUANTITY*	*UNIT PRICE*	*TOTAL*
1.	Clearing & Grubbing	L.Sum	1	$5,000.00	$5,000.00
2.	Topsoil - Stripping & Spreading	S.Y.	5,000	$2.00	$10,000.00
3.	Asphalt - Remove	S.Y.	1,200	$6.00	$7,200.00
4.	Subgrade Preparation	S.Y.	6,200	$2.50	$15,500.00
5.	Imported Fill	C.Y.	10,500	$6.00	$63,000.00
6.	Embankment	C.Y.	10,500	$2.00	$21,000.00
7.	Geotextile Fabric	S.Y.	1,200	$2.50	$3,000.00
8.	Gravel - NDDOT Class 5 - 6"	S.Y.	1,200	$5.00	$6,000.00
9.	Asphalt Base Course - 3"	S.Y.	1,200	$15.00	$18,000.00
10.	Asphalt Wearing Course - 2"	S.Y.	1,200	$10.00	$12,000.00
11.	Traffic Control	L. Sum	1	$5,000.00	$5,000.00
12.	Relocate Existing Power/Utilities	L. Sum	1	$10,000.00	$10,000.00
13.	Stormwater Management	L. Sum	1	$2,500.00	$2,500.00
14.	Seeding - Hydromulch	Acre	1	$3,000.00	$3,000.00
15.	Property Acquistion	L. Sum	1	$15,000.00	$15,000.00
				Total Construction	$196,200.00
				Contingencies	$43,800.00
				Engineering	$60,000.00
				Total Cost	$300,000.00

20 (23.4)

Project #: 17147
Date Created: 05.30.13

Sheyenne River Flood Protection
LEVEE "C"
Lisbon, North Dakota

Engineer's Preliminary Opinion of Cost

	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL
1.	Clearing & Grubbing	L.Sum	1	$15,000.00	$15,000.00
2.	Topsoil - Stripping & Spreading	S.Y.	15,000	$2.00	$30,000.00
3.	Asphalt - Remove	S.Y.	4,500	$6.00	$27,000.00
4.	Curb & Gutter - Remove	L.F.	1,150	$5.00	$5,750.00
5.	Subgrade Preparation	S.Y.	15,000	$2.50	$37,500.00
6.	Imported Fill	C.Y.	20,000	$6.00	$120,000.00
7.	Embankment	C.Y.	20,000	$2.00	$40,000.00
8.	Concrete Floodwall	L.F.	750	$2,000.00	$1,500,000.00
9.	Road Closure Structure	L.F.	100	$5,000.00	$500,000.00
10.	Storm Sewer Inlet - Remove	Each	5	$750.00	$3,750.00
11.	Storm Sewer Manhole - Remove	Each	2	$1,000.00	$2,000.00
12.	Storm Sewer Removal	L.F.	300	$15.00	$4,500.00
13.	Storm Sewer - 24" RCP	L.F.	250	$45.00	$11,250.00
14.	Storm Sewer Inlet	Each	5	$1,000.00	$5,000.00
15.	Storm Manhole	Each	2	$3,000.00	$6,000.00
16.	Storm Sewer Lift Station (2nd Ave.)	L. Sum	1	$200,000.00	$200,000.00
17.	Storm Sewer Lift Station (3rd Ave.)	L. Sum	1	$250,000.00	$250,000.00
18.	Gate Valve - Remove	Each	5	$750.00	$3,750.00
19.	Hydrant - Remove	Each	4	$1,000.00	$4,000.00
20.	Water Main Removal	L.F.	800	$15.00	$12,000.00
21.	Water Main - 6" PVC C900	L.F.	600	$25.00	$15,000.00
22.	Water Main - 8" PVC C900	L.F.	175	$28.00	$4,900.00
23.	Gate Valve & Box - 6"	Each	4	$1,500.00	$6,000.00
24.	Gate Valve & Box - 8"	Each	1	$1,750.00	$1,750.00
25.	Hydrant - 6"	Each	4	$3,000.00	$12,000.00
26.	Sanitary Sewer - Remove	L.F.	500	$15.00	$7,500.00
27.	Sanitary Sewer Manhole - Remove	Each	4	$1,000.00	$4,000.00
28.	Sanitary Sewer Manhole	Each	6	$3,000.00	$18,000.00
29.	Sanitary Sewer Service Connection	Each	4	$1,000.00	$4,000.00
30.	Sanitary Sewer Service - 6" PVC	L.F.	200	$20.00	$4,000.00
31.	Geotextile Fabric	S.Y.	1,200	$2.50	$3,000.00
32.	Gravel - NDDOT Class 5 - 6"	S.Y.	1,200	$5.00	$6,000.00
33.	Asphalt Base Course - 3"	S.Y.	1,200	$15.00	$18,000.00
34.	Asphalt Wearing Course - 2"	S.Y.	1,200	$10.00	$12,000.00
35.	Traffic Control	L. Sum	1	$5,000.00	$5,000.00
36.	Relocate Existing Power/Utilities	L. Sum	1	$25,000.00	$25,000.00
37.	Stormwater Management	L. Sum	1	$5,000.00	$5,000.00
38.	Seeding - Hydromulch	Acre	3	$3,000.00	$9,000.00
39.	Property Acquistion	L. Sum	1	$300,000.00	$300,000.00

Total Construction	$3,237,650.00
Contingencies	$682,350.00
Engineering	$980,000.00
Total Cost	$4,900,000.00

20
(23.2)

Project #: 17147
Date Created: 05.30.13

Sheyenne River Flood Protection
LEVEE "D"
Lisbon, North Dakota

Engineer's Preliminary Opinion of Cost

	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL
1.	Clearing & Grubbing	L.Sum	1	$10,000.00	$10,000.00
2.	Topsoil - Stripping & Spreading	S.Y.	3,500	$2.00	$7,000.00
3.	Asphalt - Remove	S.Y.	6,000	$6.00	$36,000.00
4.	Curb & Gutter - Remove	L.F.	1,600	$5.00	$8,000.00
5.	Subgrade Preparation	S.Y.	9,500	$2.50	$23,750.00
6.	Imported Fill	C.Y.	11,000	$6.00	$66,000.00
7.	Embankment	C.Y.	11,000	$2.00	$22,000.00
8.	Concrete Floodwall	L.F.	725	$2,000.00	$1,450,000.00
9.	Road Closure Structure	L.F.	100	$5,000.00	$500,000.00
10.	Storm Sewer Inlet - Remove	Each	2	$750.00	$1,500.00
11.	Storm Sewer Manhole - Remove	Each	1	$1,000.00	$1,000.00
12.	Storm Sewer Removal	L.F.	250	$15.00	$3,750.00
13.	Storm Sewer - 24" RCP	L.F.	80	$45.00	$3,600.00
14.	Storm Sewer Inlet	Each	2	$1,000.00	$2,000.00
15.	Storm Manhole	Each	2	$3,000.00	$6,000.00
16.	Gate Valve - Remove	Each	6	$750.00	$4,500.00
17.	Hydrant - Remove	Each	2	$1,000.00	$2,000.00
18.	Water Main Removal	L.F.	700	$15.00	$10,500.00
19.	Water Main - 6" PVC C900	L.F.	50	$25.00	$1,250.00
20.	Gate Valve & Box - 6"	Each	2	$1,500.00	$3,000.00
21.	Water Main - 8" PVC C900	L.F.	500	$28.00	$14,000.00
22.	Gate Valve & Box - 8"	Each	3	$1,750.00	$5,250.00
23.	Hydrant - 6"	Each	2	$3,000.00	$6,000.00
24.	Sanitary Sewer - Remove	L.F.	1,000	$15.00	$15,000.00
25.	Sanitary Sewer Manhole - Remove	Each	4	$1,000.00	$4,000.00
26.	Sanitary Sewer Service Connection	Each	4	$1,000.00	$4,000.00
27.	Sanitary Sewer - 8" PVC	L.F.	400	$30.00	$12,000.00
28.	Sanitary Sewer Manhole	Each	4	$3,000.00	$12,000.00
29.	Sanitary Sewer Service - 6" PVC	L.F.	200	$20.00	$4,000.00
30.	Geotextile Fabric	S.Y.	2,000	$2.50	$5,000.00
31.	Gravel - NDDOT Class 5 - 6"	S.Y.	2,000	$5.00	$10,000.00
32.	Asphalt Base Course - 3"	S.Y.	2,000	$15.00	$30,000.00
33.	Asphalt Wearing Course - 2"	S.Y.	2,000	$10.00	$20,000.00
34.	Traffic Control	L. Sum	1	$5,000.00	$5,000.00
35.	Relocate Existing Power/Utilities	L. Sum	1	$20,000.00	$20,000.00
36.	Stormwater Management	L. Sum	1	$5,000.00	$5,000.00
37.	Seeding - Hydromulch	Acre	1	$3,000.00	$3,000.00

Total Construction	$2,336,100.00
Contingencies	$453,900.00
Engineering & Legal	$710,000.00
Total Cost	$3,500,000.00

2013
(23.3)

Project #: 17147
Date Created: 05.30.13

Sheyenne River Flood Protection
LEVEE "E"
Lisbon, North Dakota

Engineer's Preliminary Opinion of Cost

	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL
1.	Clearing & Grubbing	L.Sum	1	$25,000.00	$25,000.00
2.	Topsoil - Stripping & Spreading	S.Y.	9,000	$2.00	$18,000.00
3.	Asphalt - Remove	S.Y.	2,500	$6.00	$15,000.00
4.	Curb & Gutter - Remove	L.F.	700	$5.00	$3,500.00
5.	Subgrade Preparation	S.Y.	11,500	$2.50	$28,750.00
6.	Imported Fill	C.Y.	20,000	$6.00	$120,000.00
7.	Embankment	C.Y.	20,000	$2.00	$40,000.00
8.	Storm Sewer Inlet - Remove	Each	4	$750.00	$3,000.00
9.	Storm Sewer Manhole - Remove	Each	1	$1,000.00	$1,000.00
10.	Storm Sewer Removal	L.F.	600	$15.00	$9,000.00
11.	Storm Sewer - 24" RCP	L.F.	800	$45.00	$36,000.00
12.	Storm Sewer Inlet	Each	6	$1,000.00	$6,000.00
13.	Storm Manhole	Each	3	$3,000.00	$9,000.00
14.	Storm Sewer Lift Station (6th Ave.)	L. Sum	1	$200,000.00	$200,000.00
15.	Gate Valve - Remove	Each	1	$750.00	$750.00
16.	Hydrant - Remove	Each	1	$1,000.00	$1,000.00
17.	Water Main Removal	L.F.	40	$15.00	$600.00
18.	Water Main - 6" PVC C900	L.F.	40	$25.00	$1,000.00
19.	Gate Valve & Box - 6"	Each	1	$1,500.00	$1,500.00
20.	Hydrant - 6"	Each	1	$3,000.00	$3,000.00
21.	Sanitary Sewer - Remove	L.F.	25	$15.00	$375.00
22.	Sanitary Sewer Manhole - Remove	Each	1	$1,000.00	$1,000.00
23.	Sanitary Sewer - 8" PVC SDR 35	Each	25	$1,000.00	$25,000.00
24.	Geotextile Fabric	S.Y.	750	$2.50	$1,875.00
25.	Gravel - NDDOT Class 5 - 6"	S.Y.	750	$5.00	$3,750.00
26.	Asphalt Base Course - 3"	S.Y.	750	$15.00	$11,250.00
27.	Asphalt Wearing Course - 2"	S.Y.	750	$10.00	$7,500.00
28.	Traffic Control	L. Sum	1	$5,000.00	$5,000.00
29.	Relocate Existing Power/Utilities	L. Sum	1	$25,000.00	$25,000.00
30.	Stormwater Management	L. Sum	1	$5,000.00	$5,000.00
31.	Seeding - Hydromulch	Acre	3	$3,000.00	$9,000.00
32.	Property Acquistion	L. Sum	1	$325,000.00	$325,000.00

Total Construction	$941,850.00
Contingencies	$228,150.00
Engineering & Legal	$330,000.00
Total Cost	$1,500,000.00

22
(25.9)

Project #: 17147
Date Created: 05.30.13

Sheyenne River Flood Protection
Lisbon, North Dakota
Cost Breakdown

	Total Construction	Contingencies	Engineering & Legal	Total Cost
LEVEE "A"	$1,713,600	$371,400	$515,000	$2,600,000
LEVEE "B"	$196,200	$43,800	$60,000	$300,000
LEVEE "C"	$3,237,650	$682,350	$980,000	$4,900,000
LEVEE "D"	$2,336,100	$453,900	$710,000	$3,500,000
LEVEE "E"	$941,850	$228,150	$330,000	$1,500,000
Total	**$8,425,400**	**$1,779,600**	**$2,595,000**	**$12,800,000**

20.3
(23.5)

Agenda #3

City of Fort Ransom

P.O. Box 17
210 West Main Street
Fort Ransom, ND 58033
(701) 973-2290 • FAX (701) 973-2236

May 31, 2013

Todd Sando, P.E.
State Engineer
North Dakota State Water Commission
900 East Boulevard Avenue, Dept. 770
Bismarck, North Dakota 58505-0850

Copy via email: Original US Mail

Subject: City of Fort Ransom – Request for Funds
Sheyenne River Flood Protection

The City of Fort Ransom would like to request State Water Commission funding for preliminary engineering work associated with the City's flood protection project for the Sheyenne River Flood Protection program administered by the SWC.

Our City Engineer has provided a preliminary engineering feasibility report for our flood control improvements study. The report has identified different alternatives for permanent flood protection from the Sheyenne River. We would now like to get started with the preliminary engineering to further analyze the preferred alternative against other alternatives. The City of Fort Ransom would like to request funds in the amount of $250,000 in order to begin the preliminary engineering work.

Thank you for all your help with our project and funding requests. If additional information is needed please feel free to contact me at (701) 680-9856.

Sincerely,

James Thernes

James Thernes – Mayor
City of Fort Ransom

JUN - 3 2013

moore engineering, inc.
Shaping the Region for 50 Years.

Consulting Engineering • Land Surveying
925 10th Avenue East, West Fargo, ND 58078
T: 701.282.4692 **F:** 701.282.4530

Date: 5/31/13	Job No. 16242
Attention: Todd Sando, P.E.	
From: Brad Muscha	
RE: Fort Ransom - Request for Funds	
Permanent Flood Protection Project	

TO: Todd Sando, P.E.
State Engineer
ND State Water Commission
900 E Boulevard Ave, Dept 770
Bismarck, ND 58505-0850

WE ARE SENDING YOU:

NO.	DESCRIPTION
1	Signed copy of Funding Request letter

THESE ARE TRANSMITTED as checked below:

- ☐ For approval
- ☒ For your use
- ☐ As requested
- ☐ For review and comment
- ☐ Approved as submitted
- ☐ Approved as noted
- ☐ Returned for corrections

REMARKS:

Todd,

Attached is a signed copy of the City of Fort Ransom's preliminary engineering funding request letter for their permanent flood protection project.

Please feel free to call me with any questions.

Thank you,

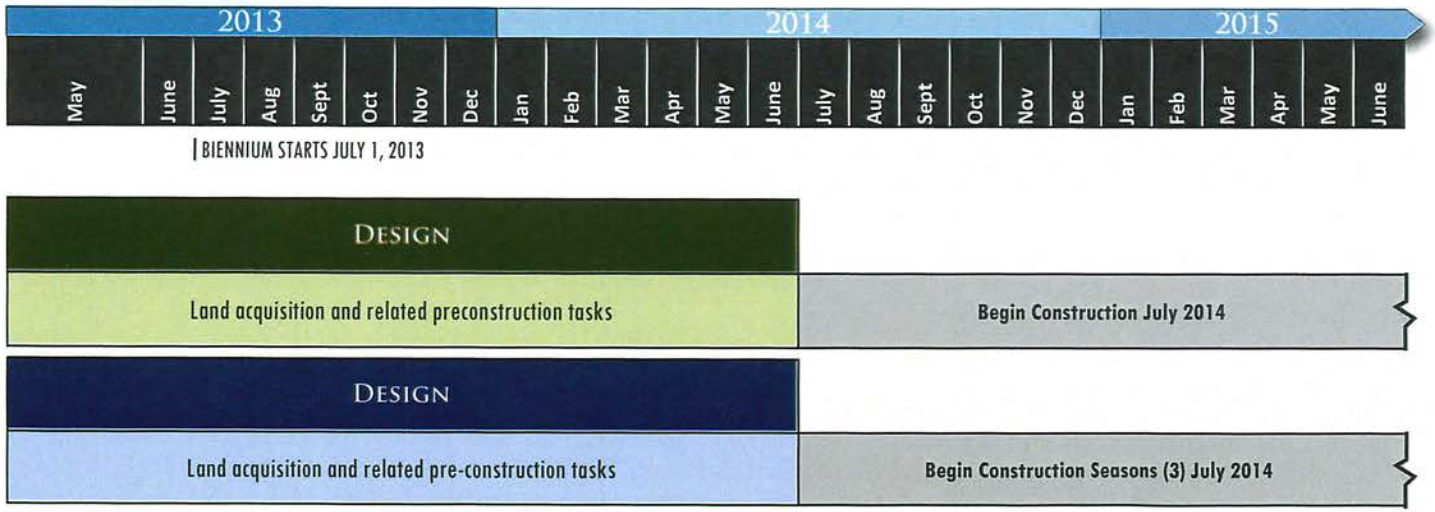
COPY TO File

SIGNED: Bradley M. Muscha, P.E.

DRAFT

FLOOD DIVERSION AUTHORITY

Diversion Authority 2013-2015 Biennium
Work Plan



Agenda #

WHAT IS THE FM DIVERSION?

The current federally selected plan calls for a 35-mile long, 1,600 foot-wide diversion channel that would provide in excess of 100-year protection for the Fargo-Moorhead metro area.

- This plan was chosen after years of diligent study, public input, and joint cooperation between the U.S. Army Corps of Engineers; City of Fargo; the City of Moorhead; Cass County, North Dakota; Clay County, Minnesota; the Joint Cass Water Resource District; the Buffalo-Red River Watershed District; the North Dakota State Water Commission; and other state and federal agencies.
- **The FM Diversion would reduce a 100-year flood event from 42.4 feet to 35 feet at the Fargo gage.** For reference, the 2009 flood of record peaked at 40.8 feet.
- Though not designed to prevent a 500-year flood event, the FM Diversion would give the area a fighting chance by **reducing the river level in Fargo from 46.7 feet to 40 feet during a 500-year event.**
- The plan includes 200,000 acre-feet of immediate upstream retention. The staging area would be used for flood events exceeding a 10-year event, or a 35-foot event in Fargo.
- Basin-wide retention is an important long-term water management strategy; however, it will not provide the necessary level of flood protection for the Fargo-Moorhead metro area.

WHY IS THE PROJECT NEEDED?

- **The Red River has exceeded flood stage in 49 of the past 110 years**, including every year from 1993 through 2011 and again in 2013.
- **A 500-year event would flood nearly all of Fargo along with large portions of Moorhead, West Fargo, and eastern Cass County**. For reference, the 2009 flood was considered a 50-year event when the gage peaked at 40.8 feet in Fargo.
- The FM Diversion would protect the local economy, which generates $4.35 Billion in annual non-farming wages and over $2.77 Billion in annual taxable sales along with $14 Billion in property value.
- The FM Diversion would also protect a population of about 200,000 people.
- An extreme flood event, like those experienced in the recent past in Bismarck, Grand Forks, and Minot, could lead to **more than $10 Billion in direct damages** to the Fargo-Moorhead area.

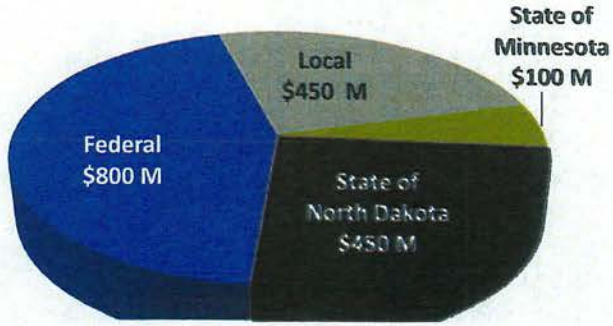
THE FM DIVERSION WOULD PROTECT 1 IN 5 OF ALL NORTH DAKOTANS.

HOW IS IT PAID FOR?

The total cost of the project is roughly $1.8 Billion.

- $800 Million (45 percent) is the federal share.
- The remainder, approximately $1 Billion (55 percent), is the non-federal share.
  - Minnesota is estimated to cover 10 percent of the non-federal share ($100 Million).
  - North Dakota is estimated to cover 90 percent of the non-federal share ($900 Million).
- The state of North Dakota and locals (Cass County and Fargo) will split the non-Federal, non-Minnesota share ($450 Million each).

- **North Dakota has committed $175 Million, with another $275 Million in legislative intent over the next four biennium.**
- The citizens of Fargo and Cass County have both passed sales tax increases that have been dedicated to help fund the local share. These sales taxes are each expected to raise in excess of $250 Million over the life of the tax.
- There are components of the diversion project that will provide immediate benefit and can be constructed as funding is appropriated.



MITIGATING THE IMPACTS

The Diversion Authority is committed to a mitigation process that is fair and respectful of those who are impacted by the Project. Mitigation policies continue to be developed, but great progress has been made already .

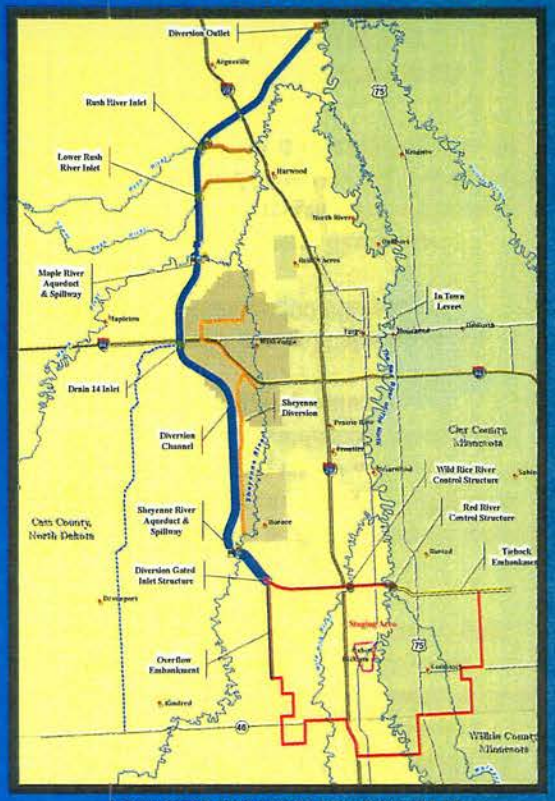
- A **ring levee around the Oxbow-Hickson-Bakke** area has been recommended to the Corps **providing protection well in excess of a 500-year flood for those communities.**

- **Impacts from the staging area have been contained within a 10-12 mile area.** Previous plans had downstream impacts into Canada. The number of impacted properties has been reduced from approximately 3,400 to approximately 60 residential structures (with the proposed Oxbow-Hickson-Bakke ring levee).

- In town levees and inlet gates are designed to **allow flood flows through town up to a 35-foot level in Fargo, which:**
  - Minimizes the impact to upstream communities and Richland and Wilkin Counties.
  - Reduces frequency of use of the Diversion to once every ten years.
  - Eliminates the need for fish passages on the Red and Wild Rice Rivers.
  - Minimizes the probability of summer operation.

- An Agriculture Committee has been formed to identify and mitigate the impacts to farmland and farmsteads.

FM DIVERSION ALIGNMENT

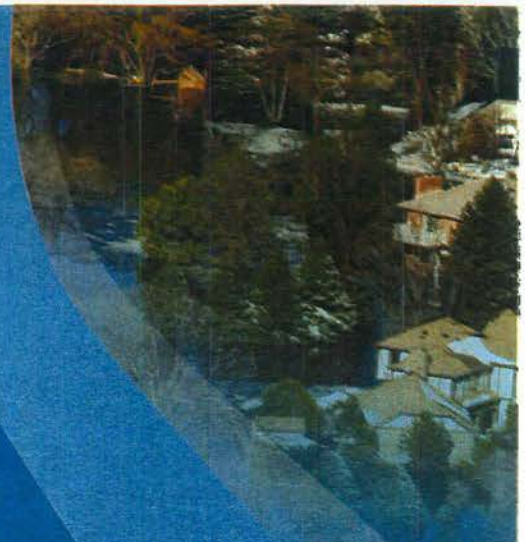


A FULL SIZED MAP CAN BE FOUND ONLINE AT

FMDIVERSION.COM

For additional questions, you can email comments@fmdiversion.com or contact one of the Flood Diversion Board of Authority members below.

Darrell Vanyo	Cass County Commissioner
Dennis Walaker	Mayor, City of Fargo
Tim Mahoney	Fargo City Commissioner
Brad Wimmer	Fargo City Commissioner
Nancy Otto	Moorhead City Councilwoman
Ken Pawluk	Cass County Commissioner
Kevin Campbell	Clay County Commissioner
Mike Thorstad	West Fargo City Commissioner
Rodger Olson	Joint Water Resource District Manager



FM Area Diversion

FLOOD PROTECTION FOR 1 IN 5 NORTH DAKOTANS

FLOOD DIVERSION AUTHORITY

About the Authority

The communities of Fargo, ND and Moorhead, MN, along with Cass County, ND, Clay County, MN, the Cass County Joint Water Resources District, and the Buffalo-Red River Watershed District, have signed a joint powers agreement that forms a Flood Diversion Board of Authority. Its purpose is to build and operate a flood diversion channel along the Red River to reduce the flood risk of the stakeholder communities and counties.

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TTY 800-366-6888 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

Agenda #1

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, P.E., Chief Engineer-Secretary
SUBJECT: NAWS – Project Update
DATE: June 7, 2013

Supplemental EIS

Reclamation continues to work on the Supplemental Environmental Impact Statement. Comments have been provided to Reclamation by the cooperating agencies on Chapter 1 (introduction), Chapter 3 (Affected Environment), Transbasin Effects Analysis Technical Report, and Appraisal Level Design Report. Reclamation anticipates providing responses to comments and a revised Appraisal Level Design Report along with a draft Chapter 2 (Alternatives) in June. Evaluations are underway to assess the potential impacts of the proposed alternatives on the issues and resources described in the Affected Environment, the methods of which and results will be discussed in Chapter 4 (Environmental Impacts). We anticipate another cooperating agency team meeting upon release of the draft Chapter 4 for discussion of the contents as Reclamation is seeking input on them.

A draft SEIS is not expected until fall. Previous estimates were for the draft SEIS this summer, but additional time is needed in order to ensure a scientifically sound and procedurally accurate NEPA document.

Manitoba & Missouri Lawsuit

The Federal Court issued an order on March 5, 2010, requiring Reclamation to take a hard look at (1) the cumulative impacts of water withdrawal on the water levels of Lake Sakakawea and the Missouri River, and (2) the consequences of biota transfer into the Hudson Bay Basin, including Canada. The most recent order dated October 25, 2010, allows construction on the improvements in the Minot Water Treatment Plant to proceed. However, it does not allow design work to continue on the intake. The court ordered a conference call on November 15, 2012. The court expressed concerns about construction taking place under the previously approved and unopposed injunction modifications possibly affecting the outcome of the SEIS. A briefing explaining the additional construction on the northern tier, justifying the need and explaining the independence from supply or biota treatment alternatives was filed December 6, 2012. Missouri and Manitoba filed responses January 6, 2013 and our response was filed January 22, 2013. The Court issued an opinion on March 1, 2013 modifying the injunction to not permit 'new pipeline construction or new pipeline construction contracts.' We are working on a filing to request permission to construct the turnouts for the North Prairie Rural Water Carpio-Berthold project,

as well as replacing the 'temporary' turnout serving Des Lacs through North Prairie as well as design work for updating the softening facilities at the Minot Water Treatment Plant.

Current Construction

Contract 2-2D:
This contract includes 62 miles of pipeline for the Mohall/Sherwood/All Seasons pipeline. The contract was awarded to American Infrastructure, Colorado. The Contract Surety, EMC took over the contract and hired S.J. Louis Construction to complete the remaining work. This project was substantially complete October 27, 2011, which was 350 days after the substantial completion date. The punch list items are complete but less than half of the affected landowner release forms have been obtained. A final change order including 316 days of liquidated damages has been sent to the surety but has not been returned. The surety did submit a partial pay estimate requesting all outstanding payment less liquidated damages, which we executed less $124,000 retainage to cover remaining items.

Contract 2-3A:
This contract includes 13 miles of ductile iron pipeline between the north side of Minot and the Minot Air Force Base and 2000 feet of PVC pipe connecting to Minot's North Hill Reservoir. Work began in early September 2011. All pipeline has been installed, pressure tested, disinfected, flushed and is in service. The City of Minot's North Hill reservoir began receiving water in July, and the Minot Air Force Base and Contract 2-3B users began receiving water in November. Only a few punchlist items remain but the project area needs to dry out before they can be addressed.

Contract 2-3B:
This contract covers 17 miles of pipeline north of the Minot Air Force Base along Highway 83 to provide service to Upper Souris Water District at their treatment plant and at Glenburn and North Prairie Rural Water near the Minot Air Force Base. This pipeline was put in service in November and is substantially complete. A few punchlist items remain but the project area needs to dry out before they can be addressed.

Contract 7-1A:
The Federal Court on October 25, 2010, approved construction in the Minot Water Treatment Plant with the piping and filters. The SCADA telemetry system for the Northern Tier has been incorporated into this contract, as well as the design and programming for the SCADA for the entire project. The contract was awarded to PKG Contractors, and Main Electric. The contract is substantially complete with only punch list items remaining.

Remaining Northern Tier Contracts:
We have initiated design work on the remaining pipeline, pumping station, and reservoir contracts for the rest of the distribution system. We will be able to design all remaining facilities using the 2011-2013 biennium funding. This will allow our focus to shift to the water supply facilities once the environmental review and related litigation is completed without causing undue delay for construction of either the supply facilities or the distribution facilities.

Design and Construction Update

Table 1 - NAWS Contracts under Construction				
Contract	Contract Award	Contractor	Contract Amount	Remaining Obligations
2-2D Mohall	7/24/09	American Infrastructure, CO **In Default – Being taken on by the Bonding Co - EMC**	$5,196,586.13	$407,919.91
2-3A Minot AFB	1/4/11	S.J. Louis Construction	$6,291,181.65	$156,693.68
2-3B Upper Souris/Glenburn	1/4/11	S.J. Louis Construction	$3,869,311.61	$111,854.79
7-1A Minot WTP Filter Rehab and SCADA	11/30/11	PKG Contracting, Inc. Main Electric, Inc.	$8,240,082.85	$685,506.85
Total Remaining Construction Contract Obligations				**$1,361,975.23**

TSS:TJF:pdh/237-4

North Dakota State Water Commission

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Agenda #2

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, P.E., Chief Engineer-Secretary
SUBJECT: NAWS – Contract 4-2A-1 modifications
DATE: June 7, 2013

Proposals are being solicited for installation of a 40-hp 'Jockey Pump' and associated switchgear and controls at the Northwest Area Water Supply (NAWS) High Service Pump Station (HSPS). Proposals will be opened June 12, 2013. Due to the partially constructed nature of the NAWS system, portions of the project served directly by the HSPS do not contain any storage resulting in them only being served on demand by a combination of the four 350-hp pumps in the HSPS. Serving the Minot Air Force Base, Minot's South Hill, or Minot's North Hill does not present any problems, as they take large flows of water. However, North Prairie Rural Water turnouts, Glenburn, and Upper Souris Water Users District System II (all added under Contracts 2-3A and 2-3B) can take water at much lower flow rates, resulting in a 350-hp pump, which have a nominal flow rate of 2850 gpm, cycling on and off in conjunction with the surge tank to produce 85 to 230 gallons per minute flows. This is very hard on the motors and drives on the pumps and requires operating the pumps at very low efficiency. The jockey pump is being installed to alleviate unnecessary wear and tear on the larger pumps and improve the efficiency of the system when delivering lower flow rates. The contract is being procured through a request for proposals instead of the usual bidding procedure as the project is expected to be less than $100,000.

A recommendation and summary of proposals will be provided at the time of the State Water Commission Meeting on June 19, 2013.

TSS:TJF:pdh/237-4

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TTY 800-366-6888 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

Agenda #1

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd S. Sando, P.E., Chief Engineer - Secretary
SUBJECT: SWPP Project Update
DATE: June 4, 2013

Oliver, Mercer, North Dunn (OMND) Regional Service Area

Zap Service Area (SA) Rural Distribution System 7-9C & 7-9D:
Construction is ongoing and more customers are being turned over to the Southwest Water Authority (SWA). Liquidated damages are being withheld from Northern Improvement Construction Company, the contractor on Contract 7-9C. The substantial completion date on Contract 7-9C was October 1, 2012.

Center SA Rural Distribution System 7-9E & 7-9F:
Easement acquisition has begun on Contract 7-9F, which is the east Center SA rural distribution system. We plan to advertise this contract for bid this summer. Contract 7-9E, which is the west Center SA rural distribution system, has an average cost per customer exceeding the current feasibility criteria. The SWA is trying to get more sign ups in that area. We will work on determining the actual signup percentage in that area to determine whether allowing a higher cost per equivalent service unit is justifiable.

Contract 2-8E/2-8F Dunn Center SA Main Transmission Line (MTL):
Contract 2-8E is the MTL from the OMND WTP to a combination reservoir and booster station north of Halliday (Dunn Center booster station). Bids for this contract were opened on May 15, 2013. The lowest bid was from Carstensen Contracting Inc., from Pipestone, Minnesota for $5,104,505.50. The engineer's estimate was $5,246,149. The State Water Commission (SWC) authorized the Chief Engineer/Secretary to award this contract to the lowest responsible bidder. The notice of award was sent to the contractor and we are waiting to receive the contract documents from the contractor.

Contract 2-8F is the MTL west of Halliday to west of Killdeer. Water from the OMND WTP will be pumped to the Dunn Center booster station. From the Dunn Center booster station water will be again pumped to the elevated Dunn center tank. We anticipate getting the submittal set of plans from the engineer soon and advertising this contract within a month.

Contract 4-6 Dunn Center SA Pumps inside OMND WTP:
Bids for this contract were opened on May 24, 2013. The lowest bid was from Northern Plains Contracting, Inc., Wolverton, Minnesota for a base bid of $328,532.81. The engineer's estimate was $354,500. The SWC authorized the Chief Engineer/Secretary to award this contract to the

lowest responsible bidder. The notice of award was sent to the contractor and we are waiting to receive contract documents from the contractor.

Contract 5-17 Dunn Center Elevated Tank:
Bids for this tank were opened on May 30, 2013. The lowest bid was for a composite tank from Caldwell Tanks, Louisville, KY for $2,438,000. The engineer's estimate was $2,040,000. The SWC authorized the Chief Engineer/Secretary to award this contract to the lowest responsible bidder. The bids under both schedules are substantially higher than the engineer's estimate. Bidders have expressed concern over meeting the substantial completion date of August 15, 2014 and that may be reflected in the bid price. The contract documents call for liquidated damages of $750 per day after the substantial completion date. After receiving concurrence from Garrison Diversion Conservancy District and Bureau of Reclamation, contract documents will be executed.

Dunn Center and Halliday SA rural distribution system:
A few landowners in the Dunn Center and Halliday SA who own land along the 2-8E and 2-8F MTL have refused to sign easements for the MTL until they were given a firm date of their rural service line. A letter was sent explaining the project schedule and a meeting was held with them to further explain the project schedule. At the meeting the landowners wanted a condition added to the easement stating that the MTL has enough capacity to meet the rural needs and also if the rural distribution does not become a reality, they have the right to build their own distribution system from the MTL. The easement condition is currently being negotiated. The current schedule for bidding the Dunn Center and Halliday SA is Spring 2014. The final signup meeting in that area is scheduled on June 10th and 11th.

Other Contracts

Contract 7-1C/7-8H Hydraulic Improvements in the Davis Buttes, New Hradec and South Fryburg SA:
Construction is progressing. About 7 miles of pipe remain to be installed.

Contract 8-1A New Hradec Tank:
Contract documents have been executed with Olander Contracting Inc., Fargo, North Dakota.

Contract 4-5 Finished Water Pumping Station (FWPS):
Geotechnical testing at the finished water pumping station is complete. A memorandum of understanding that addresses the cost sharing of the joint FWPS is currently under review. The City of Dickinson owns the approximate 4-acre lot east of the existing WTP. The new 6 MGD WTP will be located at that site and the land cost of the lot will be used towards City's cost share towards the FWPS. The City has appraised the land at $750,000. We have contacted R.M.Hoefs & Associates from Fargo to do an appraisal.

Contract 1-2A Supplemental Raw Water Intake:
The supplemental intake for the SWPP is currently designed for 7000 gpm. Contract 1-2A will include the design and construction of the caisson, intake pipe and diver services for the intake

screen and assisting in the Horizontal Directional Drilling (HDD) or micro tunneled intake construction. The pump station building, pumps, piping, appurtenances and surge control air chamber will be bid separately as Contract 1-2B. The design and construction of the caisson and intake pipe construction were combined into one contract, as the construction schedule of the intake pipe is dependent on the completion of the caisson. The estimated project cost for Contract 1-2A is $10-$14 million dollars.

The supplemental intake will be located on the US Army Corps of Engineer's property (USACE). An easement and permit application was filed with USACE in October, 2012. We have still not received the easement and permit. We expect the permit and easement to contain provisions for protection of threatened and endangered species and that in turn may result in a restricted construction season from September through April, especially for activity on or near the shoreline including diver operations on the water. In order for us to initiate construction this year, getting the permit and easement before the end of June is very critical. The Bureau of Reclamation's Dakotas Area Office has been in contact with the USACE's District and Division offices to expedite the easement process.

Because of the schedule and specialized construction the caisson, HDD and micro-tunneling, and diver services contractors and sub-contractors will be prequalified and only those who are prequalified will be allowed to bid or be a sub-contractor on the contract. The request for prequalification is currently being advertised. The deadline for submitting the proposals for prequalification is June 14, 2013. We expect the review of the qualifications to be completed by the end of June. The invitation to bid to the prequalified bidders will be out in early July with the awarding of the Contract expected in late July.

TSS:SSP:pdh/1736-99

North Dakota State Water Commission

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Agenda K(2)

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd S. Sando, P.E., Chief Engineer - Secretary
SUBJECT: SWPP Contract 5-15B 2nd Zap Potable Reservoir
DATE: June 6, 2013

Southwest Pipeline Project (SWPP) Contract 5-15B consists of furnishing and installing a 1,650,000 gallon ground storage tank, related piping and underdrain work. The reservoir will be located at the Oliver Mercer North Dunn (OMND) Water Treatment site in Mercer County. The reservoir size is 98' diameter by 28' to overflow.

Bids for this contract were opened on May 30, 2013. The State Water Commission at the May 15th conference call meeting authorized the Chief Engineer/Secretary to award this contract to the lowest responsible bidder. The bid form was divided into three bid schedules. Bid schedule 1 for a welded steel reservoir, Bid schedule 2 for a glass coated bolted steel reservoir and Bid schedule 3 for a fusion powder coated bolted steel reservoir. Bid schedule 2 and Bid schedule 3 included an alternative for concrete floor in lieu of the specified welded steel floor.

A letter with bid results tabulation along with the review of bids and recommendation to award from Bartlett & West/AECOM is attached.

The low bid was for the fusion powder-coated bolted steel tank with the concrete floor alternate. It is $50,000 less than the low bid for the glass-coated bolted style tank with a concrete floor. Both of these tanks were bid by Engineering America, Oakdale, Minnesota. The cost per gallon for the glass-lined and the fusion powder coated tank is $.858 and $0.828 respectively. In comparison, the 1st Zap potable reservoir located at the same site, which was bid in May 2010, had a low bid for a welded steel tank with the cost of $0.810 per gallon. For the same tank, Engineering America's bid for glass-lined bolted tank was $0.896 per gallon. It appears that we benefited from a competitive bidding climate and possibly due to allowing fusion powder coated tank option.

The SWPP has five bolted tanks. Four of the five are glass-lined bolted steel built by Engineering America. The fifth tank is a bolted stainless steel tank. Fusion powder coated steel tanks are relatively new technology with 5-7 years of testing, whereas glass lined bolted tanks have been in place in the Northern Plains including North Dakota for 30 or more years. SWPP has awarded the fusion powder coated steel tank for the New Hradec Tank. The New Hradec tank is a fairly small tank with a capacity of 296,000 gallons. The reservoir size is 25' in diameter and 80' to overflow. For the New Hradec Tank, the cost per gallon for the fusion

powder coated tank and the glass-lined bolted tank were $1.83 and $2.29 respectively. The glass lined bolted tank was 25% higher than the fusion powder coated tank. New Hradec tank is a low volume tank. Maintenance on the tank if needed, will be less costly when compared with a high volume tank. Because of the high cost difference between the two tanks and the low risk involved in maintaining a low volume tank it was decided to pursue the fusion powder-coated tank option.

The 2nd Zap reservoir is a high volume tank, and is the 2nd clear well for the OMND WTP. Any maintenance issue on the tank will be costly to rectify and will affect the production capacity of the OMND WTP. Because of the experience that we have with glass-lined bolted tanks, it is our preference to select the glass lined bolted steel tank instead of the fusion powder coated tank as the additional cost for the glass-lined tank is $50,000 which is 3.5% higher than the low bid for fusion powder coated tank.

This contract will be funded from the 2013-2015 biennium State Water Commission allocation to the SWPP authorized by the emergency action in HB 1269.

I recommend the State Water Commission award Contract 5-15B to Engineering America, Oakdale, Minnesota based on their bid for glass-coated bolted steel reservoir with concrete floor alternate in the amount of $1,415,900 contingent upon legal review of the Contract Documents.

TSS:SSP:pdh/1736-99
Attachment

BARTLETT & WEST | AECOM

June 5, 2013

North Dakota State Water Commission
Attn: Ms. Sindhuja S.Pillai-Grinolds, P.E., Project Manager
900 E. Boulevard Ave.
Bismarck, ND 58505-0850

SUBJECT: SWPP OMND Regional Service Area – 2nd Zap Potable Reservoir; Review of Bids Received for Contract 5-15B W.O. 3033.979

Dear Sindhu:

On Thursday, May 30, 2013, bids were opened for the Southwest Pipeline Project (SWPP) Contract 5-15B The scope of work generally consists of furnishing and installing a single 1,650,000 gallon welded steel, glass-coated bolted steel, or fusion powder coated bolted steel water storage reservoir, complete with inlet/outlet piping, underdrain system, drain and overflow discharge piping, foundation, sitework, and other appurtenant items. The reservoir size is 98' diameter by 28' to overflow. The reservoir is located in Mercer County, eight miles north of the City of Zap, North Dakota. The contract documents stipulate a substantial completion date of August 15, 2014.

The bid form was divided into three schedules, Bid Schedule 1 for a welded steel reservoir, Bid Schedule 2 for a glass coated bolted steel reservoir, and Bid Schedule 3 for a fusion powder coated bolted steel reservoir. Bid Schedule 2 and Bid Schedule 3 included an alternative for concrete floor in lieu of the specified welded steel floor. Bidders had the option of submitting bids on any or all schedules.

Four bid packages were received for Contract 5-15B containing three (3) bids for the welded steel reservoir under Bid Schedule 1, one (1) bid for the glass-coated bolted steel reservoir under Bid Schedule 2, and two (2) bids for the fusion powder-coated bolted steel reservoir under Bid Schedule 3. All bids appeared in order and all were opened. A tabulation of the bid results and bidders on this contract is attached. No bid anomalies were noted. A copy of the bid tab has been provided to all bidders and other interested parties.

A summary of the bids received on Contract 5-15B is shown in the following tables:

Bid Schedule No. 1 - Welded Steel Reservoir			
Bidder	**Bid Amount**	**Amount Higher Than Low Bid**	**Comparison to Engineers Estimate**
Caldwell Tank - Louisville, KY Louisville, KY	$1,625,700.00	-	- $249,300.00 -13.3%
Maguire Iron Sioux Falls, SD	$1,696,900.00	+ $71,200.00 4.4%	- $178,100.00 -9.5%
Northern Plains Contracting Wolverton, MN	$1,984,000.00	+ $358,300.00 22.0%	+ $109,000.00 5.8%
Engineer's Estimate	$1,875,000.00	+ $249,300.00 15.3%	-

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Bid Schedule No. 2 - Glass-Coated Bolted Steel Reservoir				
Bidder	**Base Bid**	**Base Bid with Alternate**	**Amount Higher Than Low Alt. Bid**	**Comparison to Engineers Estimate**
Engineering America Oakdale, MN	$1,620,800.00	$1,415,900.00	-	- $389,100.00 -21.6%
Engineer's Estimate	$1,805,000.00	$1,805,000.00	+ $389,100.00 27.5%	-

Bid Schedule No. 3 - Fusion Powder-Coated Bolted Steel Reservoir				
Bidder	**Base Bid**	**Base Bid with Alternate**	**Amount Higher Than Low Alt. Bid**	**Comparison to Engineers Estimate**
Engineering America Oakdale, MN	$1,570,800.00	$1,365,900.00	-	- $364,100.00 -21.0%
Northern Plains Contracting Wolverton, MN	$1,686,500.00	$1,799,000.00	+ $433,100.00 31.7%	+ $69,000.00 4.0%
Engineer's Estimate	$1,730,000.00	$1,730,000.00	+ $364,100.00 26.7%	-

We have checked several references provided by Engineering America for similarly sized bolted reservoirs with concrete floors and the owners contacted were pleased with those tanks and floors. We therefore have no reason not to consider the concrete floor alternative which resulted in the lowest overall bids and this formed the basis for the comparison of bids shown in Bid Schedule 2 and Bid Schedule 3.

The low bid for the fusion powder-coated bolted style tank by Engineering America on Bid Schedule 3 is $50,000 less than the low bid for the glass-coated bolted style tank by Engineering America on Bid Schedule 2. The cost per gallon of storage volume for these two low bids, with the concrete floor alternatives, are $0.828 and $0.858 per gallon respectively and the low bid for the welded tank under Bid Schedule 1 is $0.985 per gallon. In comparison, the 1st Zap Potable Reservoir, bid in May, 2010 had a low bid for a welded tank under Bid Schedule 1 at a cost per gallon of $0.810. In comparing the bid prices to those of recent similarly sized ground storage reservoirs it appears that we benefited from a competitive bidding climate, possibly due in part to allowing the fusion powder coated option.

The contract documents allow the Owner to select any combination of Base Bid and Alternates under which the bids are compared and the contract is awarded. We believe that either the glass-coated or fusion powder coated bid from Engineering America could be considered for award as the bids are fairly close to each other and are from the same bidder and we have no issue with recommending either of those options. We understand that the SWC may have a slight preference for the glass-coated tank under Bid Schedule 2 over the fusion powder-coated tank under Schedule 3 due in part to the positive experience with the glass coating on the SWPP and the lack of experience with fusion powder-coated tanks.

Based upon our review, the bid received from Engineering America, Inc. for Bid Schedule 2 – Glass Coated Bolted Steel Reservoir appears to be in accordance with the Advertisement for Construction Bids and the Bid Documents. It is thus considered to be a responsible and responsive bid.

Subject to approval by your legal counsel that the bid documents are in order from a legal standpoint, we recommend that the North Dakota State Water Commission award SWPP Contract 5-15B, 2nd Zap Potable Reservoir, to Engineering America, Inc. in the amount of $1,415,900.00 based on Bid Schedule 2 with the concrete floor alternate.

The contract documents require that the SWC award the contract within 61 calendar days after the bid opening as stipulated in the Invitation for Construction Bids. That date would be July 30, 2013. We understand that funding for this contract may be used to qualify for future federal cost-sharing through the state's Municipal,

Rural and Industrial Water Supply Program. Thus the award of the contract requires concurrence from the Garrison Diversion Conservancy District. A copy of this letter and the three lowest bids are being forwarded to the Garrison Diversion Conservancy District and the Bureau of Reclamation, Dakotas Area Office for their consideration.

The award of the contract and the Notice to Proceed are dependent on the satisfactory completion and submission of the contract documents by Engineering America, Inc. and your legal counsel's review.

If you have any questions or comments, please contact us.

Sincerely,

BARTLETT & WEST/AECOM

Jim Lennington, P.E.
Project Manager

Copy: SWA – Mary Massad
BW/AECOM – Bob Keller
BOR – Tom Thompson (copy of 3 low bids)
GDCD – Kip Kovar (copy of 3 low bids)
File: SWPP Contract 5-15B: 1.0 & 7.0

North Dakota State Water Commission

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Agenda K3)

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd S. Sando, P.E., Chief Engineer - Secretary
SUBJECT: SWPP Contract 3-1G – Membrane procurement for OMND WTP
DATE: June 4, 2013

The Oliver Mercer North Dunn (OMND) Water Treatment Plant's (WTP) current capacity is 3.5 Million Gallons per Day (MGD). In order to serve the completed OMND regional service area, the OMND WTP's capacity will need to be increased to 5.25 MGD. When the Phase I membranes were bid, there was a bid alternate for membrane cost for the Phase II upgrade of the WTP. However the alternate for Phase II membranes cost was not included in the award of Phase I contract. It was specified in the Phase I bid form that the cost specified for Phase II membranes would be adjusted for inflation using the US-MCI (US Material Cost Index) for the Minneapolis region. The bid price indicated in the Phase I bid form, for the Phase II upgrade of the OMND WTP is $1,731,800. The State's Office of Management and Budget has approved doing a non-competitive sole source procurement from the Phase I membrane supplier Wigen Technologies. We have contacted Wigen Technologies and they are agreeable to the cost indicated in the Phase I bidding documents. But they have asked that the inflation adjustment be taken to the date of notice to proceed with construction instead of the date of the contract. We expect awarding the installation contract of the Phase II upgrade in August and that effectively increases contract price for 2 months of inflation. Using inflation adjustment to May 2013 MCI, the Phase II membrane bid price is $2,088,031.92. Based on the average inflation from November 2009 (when Phase I membranes were bid) to May 2013, the 2 months will result in additional 1% increase in contract price.

I recommend the State Water Commission award the Contract 3-1G to Wigen Technologies contingent upon legal review of the Contract Documents by our legal counsel.

TSS:SSP:pdh/1736-99

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

North Dakota State Water Commission

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Agenda K4

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd S. Sando, P.E., Chief Engineer - Secretary
SUBJECT: SWPP Contract 3-1F – Ozone equipment procurement for OMND WTP
DATE: June 4, 2013

This contract includes design phase services, ozone generation and feed system equipment, and construction phase services for the existing OMND WTP facility. The ozone system is intended to provide an alternate mode of disinfection for virus inactivation and taste and odor removal in the existing finished water contact basin. Bids for this contract were opened on May 30, 2013. Three bids were opened. The three bids were lower than the engineer's estimate of $610,000 and were within 1% of each other. It was specified in the bid documents that the award of the contract would be based on 20-year life cycle analysis of the equipment. But unfortunately none of the bidders provided sufficient information in their bid to perform the analysis. The contract will be rebid with a bid opening date of June 28, 2013.

I recommend the State Water Commission authorize the Chief Engineer-Secretary award the Contract that is in the best interest of the SWPP contingent upon the engineering consultant's recommendation and legal review of the Contract Documents by our legal counsel.

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Agenda K5)

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd S. Sando, P.E., Chief Engineer - Secretary
SUBJECT: SWPP Contract 2-8F Dunn Center Service Area Main Transmission Line (MTL) Phase II
DATE: June 6, 2013

Southwest Pipeline Project (SWPP) Contract 2-8F consists of furnishing and installing approximately 20.2 miles of 16" – 14" AWWA C-905 PVC gasketed joint pipe; approximately 17.6 miles of 10" – 6" ASTM D 2241 PVC gasketed joint pipe; two (2) prefabricated steel VFD booster stations; one (1) prefabricated steel Master Meter Vault for the City of Killdeer; road crossings; connections to existing pipelines; and other related appurtenances. The contract includes a bid item for furnishing and installing pipeline markers at road crossings. The project is located in Dunn and McKenzie Counties in North Dakota.

We have received the submittal set of plans and specifications from the Engineer. This contract will be ready to bid after we receive approval from Garrison Diversion Conservancy District, Bureau of Reclamation, Department of Health and signed easements back from the landowners.

The estimated construction cost is $8.0 Million and the estimated project cost is $10.3 Million.

This contract will be funded from the 2013-2015 biennium State Water Commission allocation to the SWPP authorized by the emergency action in HB 1269.

I recommend the State Water Commission authorize the Chief Engineer-Secretary to award Contract 2-8F to the lowest responsible bidder contingent upon the consultant engineer's recommendation and legal review of the Contract Documents by our legal counsel.

TSS:SSP:pdh/1736-99

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

North Dakota State Water Commission

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Agenda K(6)

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd S. Sando, P.E., Chief Engineer - Secretary
SUBJECT: SWPP Contract 8-3 – Killdeer Mountain Elevated Tank
DATE: June 4, 2013

Southwest Pipeline Project (SWPP) Contract 8-3 consists of furnishing and installing a 250,000 gallon elevated composite, or spheroid style steel potable water storage tank with 170 feet to overflow, related piping, underdrain, control vault, and foundation work. The reservoir will be located in Dunn County, 9 miles west and 3 miles north of the city of Killdeer. This tank will serve the rural residents in Grassy Butte, Killdeer Mountain and Fairfield service areas.

The design capacity needed for the tank is 120,000 gallons. Since the tank is elevated, decreasing the size below 250,000 gallons does not result in any significant cost savings as it still needs site work, stem, control vault, etc.

We are in the process of purchasing the land for the tank. Design of the tank is almost complete. Bidding of the tank will take place after we have a written agreement from the landowners regarding the tank site. The estimated construction cost is $950,000 and the estimated project cost is $1.2 Million.

This contract will be funded from the 2013-2015 biennium State Water Commission allocation to the SWPP authorized by the emergency action in HB 1269.

I recommend the State Water Commission authorize the Chief Engineer-Secretary to award Contract 8-3 to the lowest responsible bidder contingent upon the consultant engineer's recommendation and legal review of the Contract Documents by our legal counsel.

TSS:SSP:pdh/1736-99

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

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Agenda K7)

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd S. Sando, P.E., Chief Engineer - Secretary
SUBJECT: SWPP Dakota Prairie Refining Contract
DATE: June 6, 2013

Southwest Pipeline Project (SWPP) water service contract 1736-32 is between the State Water Commission (SWC), Southwest Authority (SWA) and the Dakota Prairie Refining, LLC (Refinery).

The SWPP will be the sole supplier of the Refinery's potable water supply. The requested flow rate for their potable water supply is 10 gpm. The main supply for the Refinery's process water will be the treated wastewater "grey water" from the City of Dickinson. A pipeline will be installed from the Dickinson's wastewater treatment plant to the refinery for transporting the grey water. Montana Dakota Utilities, one of the developers of the Refinery, requested that the SWPP be a backup supply to their process water. The requested flow rate for their back up supply is 150 gpm. The contract specifies that the supply of process water from the SWPP will be supplied only when SWA determines that capacity is available to serve them. Water supply to the refinery is through a 6" line that will be connected to SWPP's existing 12" line. There will be a control valve at the connection point between the 6" and 12" line. A 1" bypass line whose valve will be always open will provide the water supply for potable water needs. The SWA will have control of the gate valve on the 6" line, which needs to be opened to provide the Refinery with process water. The Refinery will have onsite storage available and so the SWA has the flexibility to provide them with off-peak water if it is available.

The water rate for domestic use at the Refinery (with flow rate less than 10 gpm) will be $3.50/1000 gallons, which is the same as the water rate for other contract customers like cities and small businesses. The water rate for industrial process water usage (when flow rate exceeds 10 gpm) is double the contract rate at $7.00/1000 gallons.

I recommend the State Water Commission approve contract 1736-32.

TSS:SSP:pdh/1736-99
Attachment

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

SOUTHWEST PIPELINE PROJECT
WATER SERVICE CONTRACT

Contract No.: 1736-SWA-32
Customer Entity: **Dakota Prairie Refining, LLC**

I. PARTIES

This contract is between the Southwest Water Authority (the "Authority"), the North Dakota State Water Commission (the "Commission"), and Dakota Prairie Refining, LLC (the "Customer").

II. INTRODUCTION

1. The Commission is developing a water pipeline, water supply, and water distribution project known as the Southwest Pipeline Project (the "Project").

2. The Authority, created under North Dakota Century Code § 61-24.5, provides operation, maintenance, and management of the Project.

3. In 1995, the Commission entered into an agreement with the Authority to transfer to the Authority the completed portions of the Project for operation, maintenance, and management (the "1995 Agreement").

4. Under North Dakota Century Code § 61-24.5-09, the Authority may enter into water service contracts to deliver and distribute water and to collect charges for such delivery.

5. The Customer desires to enter into a water service contract, pursuant to the laws of the State of North Dakota, for a water supply from the Project for use by the Customer. The Customer will make payment to the Authority as set forth in this contract.

III. DEFINITIONS

The following definitions apply to this contract:

1. "Additional water" means water purchased by the Customer at a flow rate greater than the Maximum flow rate specified in this contract.

2. "Base consumer price index" means the Consumer price index as of January 1, 1995, which is 448.4 (1967 = 100).

3. "Capital costs" means all the costs incurred by the Commission related to construction of the Project, including the costs of surveys; engineering studies; exploratory work; designs; preparations of construction plans and specifications; acquisitions of lands,

easements, and rights-of-way; relocation work; and related essential legal, administrative, and financial work. "Capital costs" shall not include the Customer distribution system costs.

4. "Constant flow basis" means the uniform delivery of water throughout a twenty-four hour period by using a flow restrictor device. Storage must be provided by the Customer.

5. "Consumer price index" ("CPI") means the consumer price index for all urban consumers, which is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. The CPI is based on the prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living.

6. "Customers" means those persons, municipalities, rural water cooperatives, rural water districts, corporations, and other entities that have entered into and executed water service contracts with the Authority for the purchase of water from the Project.

7. "Customer distribution system" means all infrastructure from the Point of delivery that extends onto the Customer's property, including any storage, clearwell, pump, service line, distribution line, appurtenances, and all related items intended for the distribution of water for Domestic, business, industrial, and Municipal or public use.

8. "Customer distribution system costs" means all costs for and related to the Customer distribution system.

9. "Demand flow service" means the Authority will provide storage and service on a demand basis.

10. "Domestic use" means the use of water by an individual, family unit, or household for personal needs and for drinking, washing, sanitary, and culinary uses.

11. "Estimated water rate for operation, maintenance, and replacement" means the estimated rate per each one thousand gallons of water for Operation, maintenance, and replacement costs. This rate is determined by dividing total costs the Authority estimates it will incur during a Year for OM&R by the total number of one thousand gallon units of water that the Authority estimates it will sell to its Customers during the same Year.

12. "Maximum flow rate" means the maximum number of gallons of water that the Authority may deliver to the Customer during any one minute time period.

13. "Minimum annual water purchase" means the minimum gallons of water that the Customer must purchase and pay for during a Year.

14. "Municipal or public use" means the use of water by the state through its political subdivisions, institutions, facilities, and properties and the inhabitants thereof, or by unincorporated communities, subdivision developments, rural water systems, and other

entities, whether supplied by the government or by a privately owned public utility or other agency or entity, for primarily Domestic use.

15. "Operation, maintenance, and replacement costs" ("OM&R" costs) means the cost for operation and maintenance, for establishing and maintaining operating reserves of the Project, and for the accumulation and maintenance of a reserve fund for replacement purposes.

16. "Point of delivery" means the location where the Project delivers water to the Customer, from which point the Customer is responsible for conveyance of the water for its intended use.

17. "Potable water" means water fit for human consumption.

18. "Unallocated capacity" means the capacity of the Project that is not allocated and contractually committed to Customers by virtue of raw or Potable water service contracts.

19. "Water rate for capital costs" means the rate per each one thousand gallons of water to be paid by the Customers for Capital costs of the Project.

20. "Year" means the period from January 1 through December 31, both dates inclusive.

IV. TERM OF CONTRACT

1. This contract shall remain in effect for ten years after the date of the first water delivery to the Customer.

2. Under terms and conditions mutually agreeable to the parties to this contract, renewals of this contract may be made for successive periods not to exceed five years from the date of renewal.

V. WATER SERVICE: DELIVERY OF WATER

The Authority will deliver water to the Customer in accordance with the following terms and provisions:

1. All water supplied to the Customer shall be Potable treated water that meets water quality standards of the North Dakota Department of Health.

2. The Customer hereby agrees to a Minimum annual water purchase of 3,522,000 gallons per Year during the entire term of this contract.

3. The Maximum flow rate is 10 gallons per minute total for all connections to the Customer for Domestic use. As a Constant flow customer, the customer must provide on-site storage.

4. An additional 150 gpm will be provided, if available at the discretion of the Authority, on a backup basis for process industrial purposes. The Authority will determine if excess water is available in addition to what is necessary for municipal, domestic, and rural water needs. The Authority shall have control of the valve(s) and other appurtenances for the purpose of providing all water to the Customer. When industrial process water is needed, the Customer will notify the Authority. If approved, by the Authority, the Authority will, prior to such water service, read the meter to determine the amount used for industrial process water. At the end of such water service, the Authority will reduce the flow rate when notified by the Customer, and will read the meter again to determine usage at the separate water rate. The flow rate may be reduced sooner than requested if the water is needed for Municipal or public use. The water rate for industrial process water will be double the OM&R costs and double the Water rate for Capital costs as defined under Section VI.

5. The Authority will deliver to the Customer any water that the Customer desires to purchase, at a flow rate not to exceed the Maximum flow rate. The Authority is not obligated to supply water at a greater flow rate than the Maximum flow rate. If there is Unallocated capacity in the Project to the Customer's Point of delivery, the Authority may allow delivery of Additional water. If the Customer desires to secure a contractual right to a greater Maximum flow rate, this contract must be amended in writing. At such time, the Authority may require an increase in the Minimum annual water purchase.

6. The flow rate set forth is provided to meet the Customer's needs on a Constant flow basis. Should the Customer request or require Demand flow service, the Customer may request such service from the Authority. As consideration for receiving this type of service, the Customer agrees to pay, as the Water rate for capital costs, an amount equal to two times the Water rate for capital costs paid for constant flow service. If the Customer desires to secure a contractual right to Demand flow service, this contract must be amended to provide for Demand flow service.

7. The Authority will supply water to the Customer at the Point of delivery at a pressure range of 25 psi to 45 psi. If the Customer requests that the Authority supply pressure outside the range of 25 psi to 45 psi, and the Authority determines that it can provide the requested pressure, the Customer shall pay the Authority the additional cost incurred by the Authority in providing the requested pressure.

8. The Customer is responsible for and shall pay all Customer distribution system costs.

9. No liability shall accrue against the Authority, the Commission, or any of their officers, agents, or employees and the Customer agrees it shall be fully responsible and shall not be entitled to any remedy arising from any water shortages or other interruptions in water deliveries resulting from accident to or failure of the Project. The Customer's duties under this contract shall not be reduced or altered by reason of such shortages or interruptions, except that in the event of a water shortage or other interruption in water delivery that exceeds thirty days in any Year, the Customer's Minimum annual water

purchase requirement shall be reduced proportionately in relation to the duration of such water shortage or interruption in water delivery.

10. The Authority has the right during times of water shortage, from any cause, to interrupt water service to the Customer. Preference will be given to Municipal or public, Domestic, and rural water needs during times of water shortage.

11. The Authority may temporarily discontinue or reduce the amount of water supplied to the Customer for the purpose of maintaining, repairing, replacing, investigating, or inspecting any of the facilities and works necessary for supplying water. To the extent possible, the Authority will give reasonable advance notice of any temporary discontinuance or reduction of service. No advance notice is required in case of an emergency. In no event shall any liability accrue against the Authority, the Commission, or any of their officers, agents, or employees for any damage or inconvenience arising from such temporary discontinuance or reduction of service.

12. If the Customer believes the measurement of water delivered to be in error, it shall present a written claim to the Authority, either in person or by mail, electronic mail, or facsimile. A claim presented after a payment has become delinquent does not prevent the Authority from discontinuing service to the Customer. The Customer shall continue to make payments for water service after a claim has been presented; however, the payment will be under protest and will not prejudice the Customer's claim. After the Customer presents its claim and advances the cost of recalibration, the Authority will recalibrate the meter. If the meter is found to over-register by more than two percent of the correct volume, the Authority will refund the Customer's advance for the cost of recalibration and the readings for that meter shall be corrected for the twelve months preceding the recalibration by the percentage of inaccuracy determined by the recalibration. The amount of any overpayment as a result of over-registration shall be applied first to any delinquent payments for water service, and at the option of the Customer, the Authority shall refund or credit the Customer upon future payments for water service. If any meter fails to register for any period, the amount of water delivered during such period shall be deemed to be the amount of water delivered in the corresponding period immediately prior to the failure, unless the Authority and the Customer agree upon a different amount. The Customer and the Authority shall have access to the meter at all reasonable times for the purpose of verifying its readings.

13. The Customer shall be responsible for the control and use of all water in the Customer distribution system and shall pay all costs related to service, maintenance, and repair of the Customer distribution system. The Customer is responsible for the control, distribution, and use of water delivered under this contract, and the OM&R of the Customer distribution system. Water delivered under the terms of this contract is for the Customer's use only, and the Customer will not sell water.

14. The Point of delivery under this contract is a single connection located in Section 15, Township 139, Range 97, Stark County, North Dakota. Any other connection must be approved in writing by the Authority and the Commission. All costs related to any other

connection, including all appurtenant piping, valves, and controls, shall be paid by the Customer.

VI. WATER SERVICE: WATER RATES AND PAYMENT FOR WATER

The Customer shall pay for water and water service under the following terms:

1. The Customer will make payments for water and water service beginning upon the earlier of:

   a. The date the Customer gives the Authority fifteen days written notice that the Customer desires to commence water service pursuant to this water service contract.

   b. The commencement of commercial operations at the Customer's Bakken diesel refinery project located at the Point of delivery.

2. The Customer's monthly water service payment is the sum of the following:

   a. The Customer's proportionate share of the OM&R costs, as reasonably determined by the Authority, in accordance with Section VI (3) of this contract; plus

   b. The Customer's payment for Capital costs, as determined by the Authority according to Section VI (4) of this contract.

   Pursuant to this contract, water used at a flow rate that exceeds 10 gpm will cost two times the rates set forth in Section VI (2) a. and b.

   As of the date of this contract, the result of the foregoing formula provides that the Customer's cost of potable water would be $3.50 per 1,000 gallons and the cost of industrial process water (water used at a flow rate that exceeds 10 gpm) would be $7.00 per 1,000 gallons.

3. The Customer's proportionate share of the Project OM&R costs (for calculating the Customer's monthly payment) will be determined as follows:

   a. Prior to February 1 of each Year, the Authority shall adopt a budget for OM&R for the Project for the immediate ensuing Year. The Authority may include in such budget an amount to be accumulated and maintained in a reserve fund for the purpose of replacing Project works and for extraordinary maintenance of Project works. The amount of the reserve fund shall be contingent upon approval by the Commission. The Authority shall deposit and maintain the reserve fund in a separate account in accordance with the laws of the state of North Dakota.

   b. The Authority will estimate the total annual water sales for the immediate ensuing Year and calculate the Estimated water rate for OM&R for the Project by dividing the amount of the estimated budget for OM&R for the immediate ensuing Year by the

estimated total annual water sales for such ensuing Year.

c. The monthly payment to be made by the Customer to the Authority for OM&R shall be determined by multiplying the amount of water actually delivered to the Customer for each month by the Estimated water rate for OM&R.

d. At the end of each Year, the Authority shall prepare a statement of the Year's actual OM&R costs.

e. The Authority will then determine the adjustment to be applied to the Customer's OM&R payment for the previous Year. The adjustment will be calculated by dividing the amount of water delivered to the Customer by the Authority during the previous Year by that Year's total annual water sales to determine the Customer's proportionate share of the OM&R costs. This fraction will then be multiplied by the actual total cost for OM&R for the previous Year, which shall be the amount of the Customer's proportionate share of OM&R costs for the previous Year. The Authority shall then subtract this amount of the Customer's proportionate share of OM&R costs for the previous Year from the total amount actually paid by the Customer for OM&R during the previous Year, which is the adjustment to be applied to the Customer's water service payments for the next Year. If the Customer's proportionate share of OM&R costs for the previous Year is more than the total amount actually paid by the Customer during the previous Year for OM&R, the difference shall be owed by the Customer to the Authority. Any such amount due will be added to the Customer's monthly payments for water for the next four months of the immediate ensuing Year in equal monthly installments. If the Customer's proportionate share of OM&R costs for the previous Year is less than the total amount actually paid by the Customer during the previous Year but the Customer has delinquent payments for water service, the remaining sum, if any, shall be used to satisfy the delinquencies. But if there are no delinquencies, the sum will be credited against the Customer's monthly payments for water service for the next four months of the immediate ensuing Year in equal monthly credits.

4. The Customer's share of the Project's Capital costs (for calculating the Customer's monthly payment) will be determined as follows:

a. The base rate for Capital costs for Constant flow shall be $0.72 per each one thousand gallons of water.

b. The Commission shall have the authority to adjust the base Water rate for capital costs annually in accordance with the increase or decrease in the CPI. The formula for determining the adjustment to the Water rate for capital costs for each Year is as follows: The CPI for September 1 of each Year shall be divided by the Base CPI. The result of this calculation shall be reduced by one and then multiplied by the base Water rate for capital costs. The product of this formula is the adjustment to the Water rate for capital costs and shall be used to add to the base Water rate for capital costs for the next Year. Notwithstanding the foregoing

basis for adjusting the Water rate for capital costs, the Commission shall have the authority to decrease the adjustment to the Water rate for capital costs, as it deems appropriate and necessary, after considering data on changes to the median incomes of Project water Customers, substantial increases in OM&R costs, or other factors.

c. The amount of the Customer's monthly payment to the Authority for Capital costs shall be calculated by multiplying the Water rate for capital costs by the amount of water actually delivered to the Customer each month.

5. The Authority shall read the metering equipment at the Point of delivery, and not later than the first day of each month, shall send to the Customer, at the address shown on the signature page of this contract, an itemized statement of the payment due from the Customer for water service for the preceding month.

6. The Customer shall pay the Authority for water service under this contract, OM&R, and Capital costs by sending payment to the Authority, at the address shown on the signature page, not later than the fifteenth day of each month. Payments sent after the fifteenth day of each month shall result in the Customer being in default. If the Customer is in default, the Authority, at its sole discretion, may suspend delivery of water through the Project during the period of default. During any period of default, the Customer remains obligated to make all payments required under this contract. Any action of the Authority shall not limit or waive any remedy provided by this contract or by law for the recovery of money due or that may become due under this contract.

7. Interest of one percent per month will be imposed upon all payment amounts that are in default.

8. The Customer's failure or refusal to accept delivery of water from the Authority does not relieve the Customer from its obligation to make payments in accordance with this contract.

VII. GENERAL PROVISIONS

1. The Authority, contingent upon the approval of the Commission, may adopt such rules and regulations as it deems appropriate to carry out and govern the administration of this contract. Such rules and regulations shall not be inconsistent with this contract. The Customer shall comply with such rules and regulations.

2. All notices or other communications required under this contract must be given either in person or by mail at the address shown on the signature page of this contract, or by electronic mail or facsimile. Notice provided under this provision does not meet the notice requirements for monetary claims against the Commission found at N.D.C.C § 32-12.2-04.

3. The Customer shall promptly notify the Authority and the Commission of all potential

claims that arise or result from this contract. The Customer shall also take all reasonable steps to preserve all physical evidence and information that may be relevant to the circumstances surrounding a potential claim, while maintaining public safety, and grants the Authority and the Commission the opportunity to review and inspect the evidence, including the scene of an accident.

4. The use of any remedy specified to enforce this contract is not exclusive and does not prohibit or limit the application of any other remedy available by law.

5. In the event a lawsuit is initiated by the Commission or the Authority to obtain performance due under this contract and the Commission or the Authority is the prevailing party, the Customer shall pay the Commission's and the Authority's reasonable attorney fees and costs in connection with the lawsuit.

6. Any waiver by any party of its rights in connection with this contract does not waive any other default or matter.

7. If any term of this contract is declared by a court having jurisdiction to be illegal or unenforceable, the validity of the remaining terms is unaffected, and if possible, the rights and obligations of the parties are to be construed and enforced as if the contract did not contain that term.

8. The Customer may not assign, transfer, or delegate any right or duty without the express written consent of both the Commission and the Authority.

9. The Customer understands and agrees that the Authority and the Commission will give preference to Potable water for Municipal or public, Domestic, and rural water needs before executing water service contracts or allowing Additional water purchases.

10. This contract is governed by and construed in accordance with the laws of the state of North Dakota. Any action to enforce this contract must be brought in the District Court of Burleigh County, North Dakota, and the Customer consents to jurisdiction of state courts.

11. The Customer understands that the Authority and the Commission must disclose to the public upon request any records it receives from the Customer. The Customer further understands that any records that are obtained or generated by the Customer under this contract, except for records that are exempt under North Dakota Century Code chapter 44-04, are open to the public upon request under the North Dakota open records law. The Customer agrees to contact the Commission or the Authority immediately upon receiving a request for information under the open records law and to comply with the Commission's or the Authority's instructions on how to respond to the request.

VIII. TERMINATION

The Authority and the Commission may terminate this contract if the Customer fails to use water

delivered consistent with the terms of this contract. Upon such termination, the Authority and the Commission are relieved of all obligations under this contract, and the Customer must immediately disconnect the Customer distribution system from the Point of delivery.

IX. MERGER

This contract constitutes the entire contract between the parties. There are no understandings, agreements, or representations, oral or written, not specified within this contract. This contract

may not be modified, supplemented, or amended, in any manner, except by written agreement signed by each party to this contract.

STATE WATER COMMISSION
900 East Boulevard Avenue
Bismarck, ND 58505
By:

_____
Todd Sando, Chief Engineer and Secretary

Date _____

SOUTHWEST WATER AUTHORITY
4665 2nd Street SW
Dickinson, ND 58601-7231
By:

_____
Larry Bares, Chairman

Date _____

DAKOTA PRAIRIE REFINING, LLC
%WBI Energy
1250 West Century Avenue
PO Box 5601
Bismarck, ND 58503

By:

_____

Title: _____

Date: _____

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TTY 800-366-6888 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

Agenda #1)

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission

FROM: Todd Sando, P.E., Chief Engineer – Secretary

SUBJECT: Devils Lake Hydrologic Update
Devils Lake Outlet Update

DATE: June 6, 2013

The current (June 6) water surface elevation of Devils Lake is 1453.6 ft-msl and 1453.3 ft-msl for Stump Lake. The table below is the precipitation since January 2013 in Devils Lake. The source is from Devils Lake Reporting Station. The average precipitation is from 1990.

Month 2013	Precipitation Measured	Average Precipitation
----	(Inch)	(Inch)
January	0.29	0.50
February	0.47	0.45
March	1.15	0.85
April	1.09	1.11
May	5.62	2.62
Total	8.62	5.53

The National Weather Service Long Range Outlook for Devils Lake forecast elevations, including Stump Lake, are shown in the following table. The values of inflows at the elevations and submerged acres are also shown. The values are valid from May 23, 2013 to September 30, 2013. The inflow and submerged acres are based from the values on January 2013 at an elevation of 1451.4 ft-msl.

Long Range Outlook For The Lakes Rising

Probability	90%	50%	10%
Elevation ft-msl	1453.7	1453.8	1454.5
Inflow ac-ft	433,000	453,000	598,000
Submerged acres	25,000	26,000	35,000

Devils Lake Outlets Management Advisory Committee meeting:

On May 29, 2013 a Devils Lake Outlets Management Advisory Committee and Devils Lake Outlets Advisory Committee meeting was held in Carrington, North Dakota. The North Dakota Legislature consolidated the two committees into the Outlets Management Advisory Committee (HB 1060) effective August 1, 2013. The consensus from the meeting for the 2013 season was to not exceed maximum target discharge, including outlets, of 800 to 1000 cubic feet per second in the Upper Sheyenne River. The Governor discussed the need for aggressive pumping this season due to the large inflow predicted into Devils Lake. Biota studies were discussed and the Governor indicated that the North Dakota Game and Fish may conduct studies in the Sheyenne if possible during outlet operations.

West and East Outlets:

Routine maintenance on outlets has continued to prepare for startup. Because of large flows in the Sheyenne and the continual rain the startup date is uncertain at this time.

Tolna Coulee Control Structure:

The operating plan for the structure requires that prior to a natural overflow the stop log elevation remain between 1' and 2' below the water surface of the lake. The current elevation of the stop logs is 1452 ft-msl. The two rows of stop logs that were removed last year have been reinstalled this spring to meet this requirement.

TS:JK:EC:ph/416-10

North Dakota State Water Commission

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Agenda L2)

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission

FROM: Todd Sando, P.E., Chief Engineer – Secretary

SUBJECT: 69 KV Transmission Line Serving the Devils Lake Outlets
Lallie Substation Addition

DATE: June 5, 2013

Attached are letters from Northern Plains Electric Cooperative on November 5, 2012 and from Central Power Electric Cooperative, Inc. on May 28, 2013 requesting that the NDSWC waive the funding reimbursement for the proposed Lallie substation relocation/interconnection with the Josephine transmission line.

The request was considered and rejected by SWC staff in January 2013 by the attached letter, because as stated in Item 3.3 of the Electric Service Agreement for the Devils Lake Outlet Project between the North Dakota State Water Commission and Northern Plains Electric Cooperative:

> "Northern Plains Electric or its agent may use the transmission facilities as part of their transmission and distribution grid to serve other users. If Northern Plains Electric incorporates the transmission facilities into their system for the supply of power to users other than Water Commission, Northern Plains **will** provide a credit to Water Commission equal to the prorata share of the facilities used."

Northern Plains Electric Cooperative and Central Power Electric Cooperative, Inc. welcomed the opportunity to be put on the agenda and explain their perspective directly to the State Water Commission members.

Recommendation

I recommend the State Water Commission respectfully reject the request to waive the credit.

TS:JK:ph/416-10

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

North Dakota State Water Commission

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Mr. Gary Allen
Manager of Engineering
Northern Plains Electric Cooperative
P.O. Box 608
Cando, ND 583324-0608

January 14, 2013

RE: 69 KV Transmission Line Serving the Devils Lake Outlets
Lallie Substation Addition

Dear Mr. Allen,

We have considered your letter from November 5, 2012, asking the Commission to forego a credit to the Water Commission for use of the 69KV line serving the Josephine Pump Station to serve other Northern Plains Electric Cooperative customers.

As stated in item 3.3 of the Electric Service Agreement for the Devils Lake Outlet Project between the North Dakota State Water Commission and Northern Plains Electric Cooperative:

"Northern Plains Electric or its agent may use the transmission facilities as part of their transmission and distribution grid to serve other users. If Northern Plains Electric incorporates the transmission facilities into their system for the supply of power to users other than Water Commission, Northern Plains **will** provide a credit to Water Commission equal to the prorata share of the facilities used."

According to the information provided, it appears this would be approximately 12% of the 69 KV Transmission Line, which according to our records the State paid $2,813,726.47 to construct.

The Water Commission respectfully rejects your request to waive the credit; however, this credit could be applied directly to Devils Lake Outlet power costs if preferred by Northern Plains or its agent.

If you have any questions or comments, I can be reached at 701-328-4948.

Sincerely,

Jon Kelsch

Jon Kelsch, P.E.,
Water Development Division

416-10

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

Cando Office
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Cando, ND 58324-0608
PHONE: 701/968-3314
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NORTHERN PLAINS Electric Cooperative

Your Touchstone Energy® Cooperative

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Carrington Office
PO Box 180 • 1515 West Main
Carrington, ND 58421-0180
PHONE: 701/652-3156
FAX: 701/652-1854

November 5, 2012

Mr. Todd Sando, P.E.
North Dakota State Water Commission
900 East Boulevard Avenue
Bismarck, ND 58505-0850

RECEIVED
OCT 2 3 2012
STATE WATER COMMISSION

Re: 69 KV Transmission Line Serving the Devils Lake Outlets
Lallie Substation Addition

Dear Mr. Sando:

Since 1995, Northern Plains Electric Cooperative has experienced numerous problems as a result of rising level of Devils Lake. Rough estimates indicate that we have lost approximately 150 miles of line and 250 customers. We have replaced/relocated over 30 miles of line in order to continue serving customers that will be unaffected by the lake. In addition to line and customers, it has become necessary to relocate the Churchs Ferry Substation four miles west of its present location; this work is scheduled for 2013.

One of the more recent developments is the occurrence of hydraulic jacking at the Lallie Substation. This situation is lifting foundations on both the high voltage side and the low voltage side of the station. This condition often causes the steel to twist resulting in the failure of switches, it also stresses the risers on the underground exit circuits causing the terminators to pull apart and flash over. In both cases this situation often creates extended outages for every customer connected to the station. This station now has water on three sides which makes any attempt to repair the problem questionable and we have additional concerns regarding site stability in the future. Based on that, we have determined that the best solution is to relocate the substation.

The site we have selected for the new substation is approximately 1.25 miles north of the present location. The proposed new substation site is in the SW¼-15-152N-67W. The site is on high ground, adjacent to US Highway 281 which offers excellent all weather access to the station. This new location also places the station approximately 2,000 feet from the 69KV line serving the Josephine Pump Station (see attached quad and aerial photo for additional site data). Allowing us to connect to this 69KV line will improve reliability for all customers in the area and would also place the Lallie, Maddock, Round Lake and Josephine substations on the same WAPA source. The Lallie Substation is presently served from an Otter Tail Power Company unshielded 43.8 KV line that is 54 miles long and several sections of the line is located in water. This line has a relatively poor operating history and has frequent failures that cause extended outages.

Item 3.3 of the Electric Service Agreement between the North Dakota State Water Commission and Northern Plains Electric Cooperative states that the Cooperative may use the transmission facilities to serve other loads, it further stipulates that the two parties will enter into a negotiation to determine an amount that may be credited back to the State. For reasons that I will describe below we are asking the Commission forego the credit and allow the Cooperative to connect the Lallie Substation to the 69KV transmission line.

The Lallie Substation is a relatively small station serving approximately 528 residents of Benson County. Lallie is a winter peaking station and will typically have a peak of approximately 1.2 MW from December through March, during the summer months the peak is often only 500 KW which increases to 750 KW during harvest. When this station is at its maximum load, the Pumps at Josephine and Round Lake are off-line. The addition of the Lallie Substation to the 69KV transmission would have absolutely no negative impact on the pumps, the transmission line has amply capacity to serve these loads. Lallie also provides back-up power for ½ of the Maddock Substation (it isn't large enough to pick up the entire Maddock Station) and is the only backup source for the Fort Totten Substation. The Maddock Substation serves 790 residents of Benson County, this includes the City of Maddock. The Lallie Substation serves as an alternate source for three of the 5 feeders out of the Maddock Substation, approximately ½ of the residents connected to the station. The Lallie Substation is the only alternate source available to back up the Fort Totten Substation which serves approximately 1,550 residents of Benson, Ramsey, and the Spirit Lake Sioux Indian Reservation. All of the residents listed above would benefit by having a 69KV source for the new Lallie Substation. It would also allow the Cooperative to transfer load between the Maddock and Lallie Substations without a switching outage which would significantly improve the operating characteristics of the distribution system.

The Round Lake and Josephine pump stations would also benefit by having a 69KV source at Lallie. The stand pipe at Josephine, the maintenance building at Round Lake, the service at the Sheyenne River outlet and the station power transformers at both Round Lake and Josephine Substations are all served out of the Lallie Substation. Reliability at each of these sites will improve with a 69KV source at Lallie. The number of outages, blinks, and the duration of outages would improve substantially. By improving reliability and reducing these transmission events, the Commission should notice an improvement in their telemetry and SCADA systems.

If you have any questions or comments please give me a call at 701.968.1749 or e-mail at garya@nplains.com. I can also be reached on my cell phone at 701.303.0092.

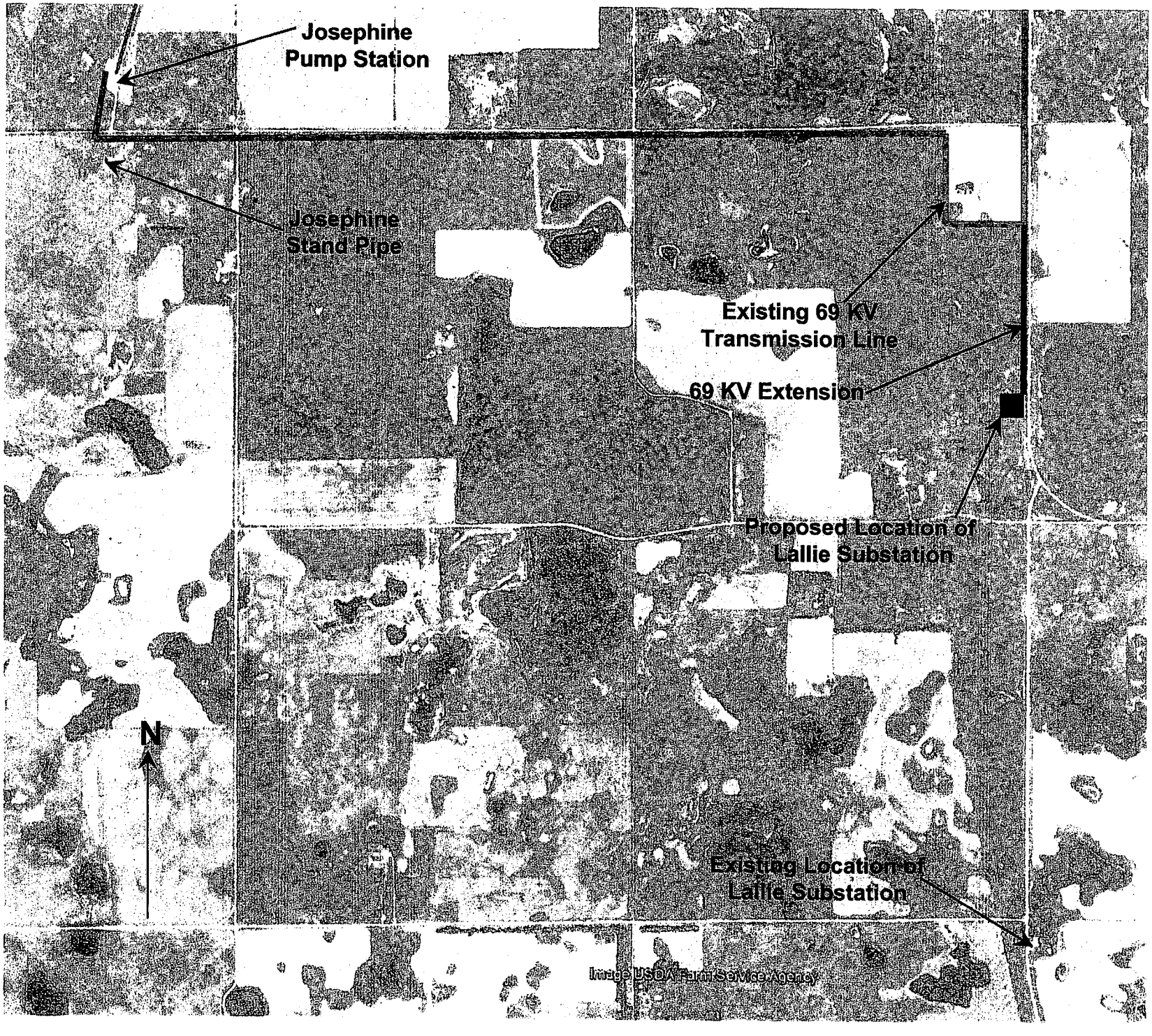
Thank you.

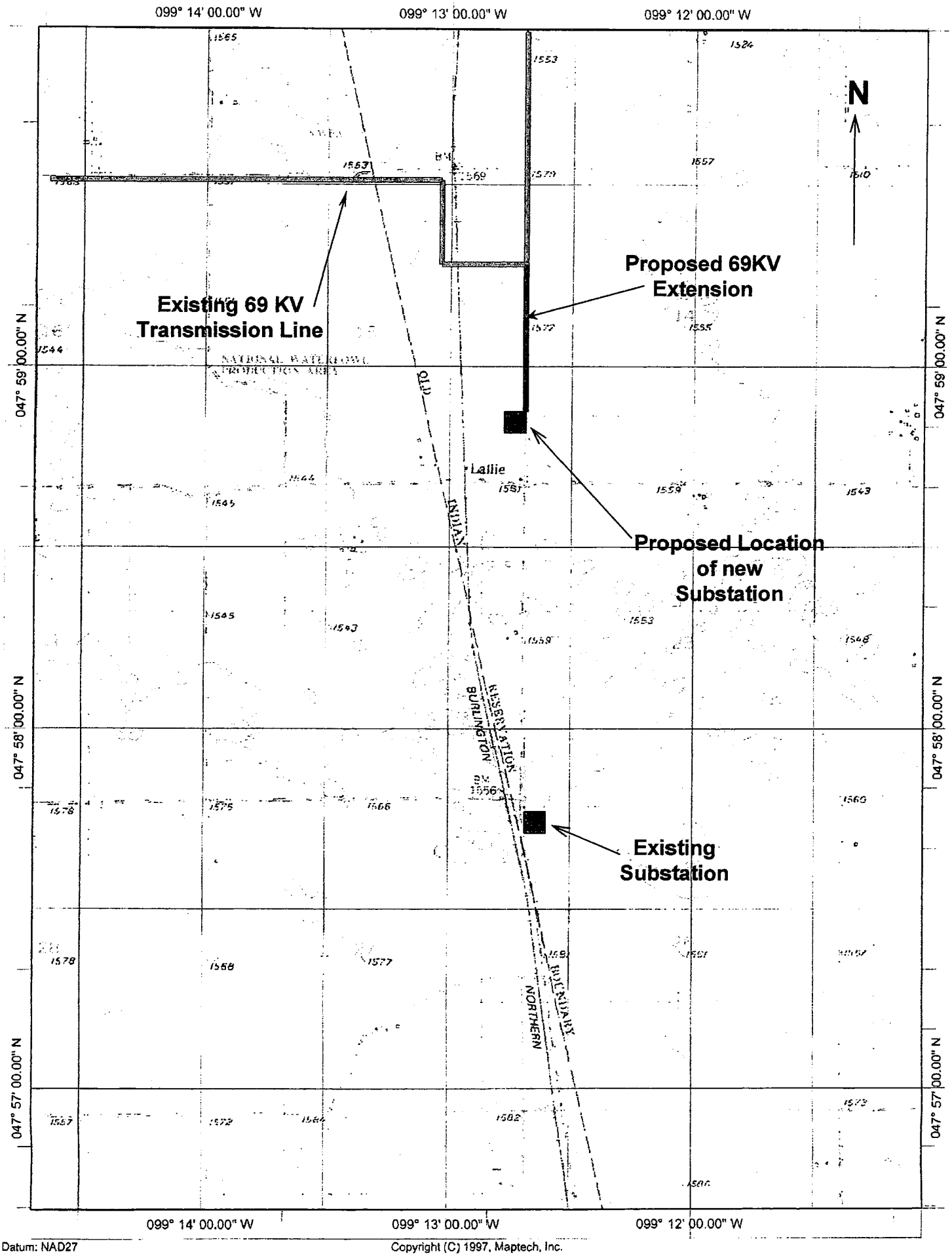
Sincerely yours,

NORTHERN PLAINS ELECTRIC COOPERATIVE

Gary Allen
Manager of Engineering

cc Bruce Engelhardt


Josephine
Pump Station
Josephine
Stand Pipe
Existing 69 KV
Transmission Line
69 KV Extension
Proposed Location of
Lallie Substation
N
Existing Location of
Lallie Substation
Image USDA Farm Service Agency



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Central Power Electric Cooperative, Inc.

525 20th Avenue Southwest • Minot, North Dakota 58701
Phone 701/852-4407 • Headquarters Fax 701/852-4401 • Operations & Engineering Fax 701/852-4402
www.centralpwr.com

May 28, 2013

North Dakota State Water Commission
900 East Boulevard Avenue
Bismarck, ND 58505
Attn: Mr. Jonathan Kelsch

MAY 30 2013

Dear North Dakota State Water Commission:

Central Power Electric Cooperative and Northern Plains Electric Cooperative request that the ND State Water Commission consider waiving reimbursement of aid-to-construction that was originally provided by the NDSWC for electrical facilities needed to serve the Devils Lake Outlet. The reimbursement in question would be the result of Central Power's construction of a proposed electrical substation to replace an existing substation that is experiencing water related issues near the Josephine pumping station. The following description is provided for your information as you review this request:

About Central Power Electric Cooperative

Central Power Electric Cooperative is a non-profit, wholesale electrical transmission cooperative organized to supply the bulk power needs of its member rural distribution cooperatives through a system of transmission and substation facilities. Central Power's six member cooperatives are as follows:

Capital Electric Cooperative, Bismarck ND
Dakota Valley Electric Cooperative, Milnor ND
McLean Electric Cooperative, Garrison ND
North Central Electric Cooperative, Bottineau ND
Northern Plains Electric Cooperative, Carrington ND
Verendrye Electric Cooperative, Velva ND

The member cooperatives of Central Power combine to serve over 58,000 North Dakota farms, homes and businesses. Central Power's service area is situated in the central third of the state, bordered by Canada on the north and the states of South Dakota and Minnesota on the southeast corner. Central Power's facilities within this service area include 124 distribution substations, 24 wholly owned transmission substations, 6 jointly owned transmission substations, and 1098 miles of transmission line. Essentially, Central Power owns the transmission lines and substations that serve our member cooperatives and our member cooperatives own the distribution lines and facilities between Central Power's substations and their end use member consumers.

Devils Lake Area Electrical System Overview

Central Power installed new equipment at the Round Lake and Josephine distribution substations and built two transmission lines with a total length of approximately 16.3 miles to accommodate the Devils Lake Outlet capacity increase in 2010. These facilities were

constructed with funding from the ND State Water Commission (NDSWC) through an aid-to-construction arrangement.

The two new transmission lines are the 13.1 mile long Maddock Junction to Round Lake transmission line and the 3.2 mile long Round Lake to Josephine transmission line which are represented as a green line with large double dots on the attached drawing. The new Maddock Junction to Round Lake line connected onto Central Power's existing Leeds to Maddock 69kV transmission line approximately 15 miles south of Leeds and 8 miles north of Maddock. The Western Area Power Administration's (WAPA) Leeds 115-69kV transmission substation is the normal source substation for the Josephine, Maddock, and Round Lake distribution substations while Central Power's Esmond 115-69kV transmission substation acts as the alternate source through our 30.5 miles of line between the Esmond 115-69kV substation and the Maddock Junction, should there be a problem at the Leeds 115-69kV substation or with the Leeds to Maddock Junction transmission line.

Central Power's Lallie Substation

Central Power's existing Lallie distribution substation was built in 1977 and hind-sight has shown that the substation site was not an ideal choice, in that it is a relatively low lying area. Lallie is near the Devils Lake basin and while Devils Lake will never flood the Lallie site due to its elevation, associated water hydraulics in combination with the originally selected substation site have created water related substation issues. The water level continues to rise around the substation and has contributed to significant jacking problems on both the high side and low side structure foundations as well as the substation fencing.

Central Power proposes to construct a new Lallie distribution substation approximately ½ mile south of the existing Josephine 69kV transmission line and to serve the new substation from the Leeds 115-69kV substation through the Maddock Junction to Round Lake to Josephine transmission line that was funded by the NDSWC through aid-to-construction.

The Devils Lake Outlet – Electric Service Agreement

Section 3 of the Electric Service Agreement – Devils Lake Outlet Project is quoted as follows:

"3 Ownership and Operation

3.1 Northern Plains Electric or its agent will own all transmission facilities constructed to the low side of the 4.16kV substations constructed at each pump station site.

3.2 Northern Plains Electric or its agent will be responsible for the operation and maintenance of all transmission facilities constructed under this agreement.

3.3 Northern Plains Electric or its agent may use the transmission facilities as part of their transmission and distribution grid to serve other users. If Northern Plains Electric incorporates the transmission facilities into their system for the supply of power to users other than Water Commission, Northern Plains Electric will provide a credit to Water Commission equal to the prorate share of the facilities used. The prorate share will be based on a negotiation between the two parties and utilize the data provided by Northern Plains Electric on proposed usage."

In summary, Central Power as Northern Plains Electric's agent, owns the facilities and is tasked both financially and physically with their maintenance as well as their replacement should they be damaged or destroyed by events such as fire, ice, wind, electrical disturbances, etc. or if they simply need to be replaced due to age and normal wear.

Northern Plains proposed connecting the replacement Lallie distribution substation to the end of the Round Lake to Josephine line to the NDSWC Staff. The NDSWC Staff determined that according to the Electric Service Agreement, Central Power/Northern Plains should reimburse the NDSWC 12% of the $2,813,726 that it cost to construct the transmission lines, or approximately $337,647.

Central Power's Existing Leeds to Maddock 69kV Transmission Line

Central Power's 23 mile long Leeds to Maddock 69kV transmission line, as described in the "Area Electrical System Overview" above, was built in 1950 and is the normal source for the Josephine, Maddock, and Round Lake substations. This transmission line was originally constructed as single pole cross-arm type construction without a static conductor making it more susceptible to lightning strokes than modern transmission line designs incorporating a static conductor at the top of the transmission line. Central Power is now considering the rebuild of the 23 mile Leeds to Maddock 69kV transmission line at an estimated cost of $2,850,000. The rebuild would consist of replacing all poles that have not been recently replaced due to structure failures or inspection rejection and the line hardware would be replaced on all structures. The line would be converted to a modern horizontal post type construction with a static conductor.

We believe that this rebuild will provide a benefit to the Devils Lake Outlet by providing a more reliable power source for the Outlet through both a reduction in lightning stroke related electrical blinks as well as a reduction in future outages as a result of hardware or structure failures on this line which is the source to the Outlet.

Central Power's Proposal/Request

Central Power respectfully requests that the NDSWC waive the $337,647 funding reimbursement for the proposed Lallie substation relocation/interconnection with the Josephine transmission line in recognition that Central Power plans to invest nearly $3M on the Leeds to Maddock 69kV transmission line rebuild which we believe will be a significant benefit to the Outlet.

Central Power also respectfully requests that the NDSWC consider the addition of a "sunset" provision within the Devils Lake Outlet Electric Service Agreement, as is typically included in this type of agreement, in recognition that Central Power will begin to incur increasing operation & maintenance costs associated with these facilities as they age and eventually need to be replaced. We request language similar to the following be inserted as a replacement for Section 3.3 of the Electric Service Agreement:

"3.3 Northern Plains Electric or its agent may use the transmission facilities as part of their transmission and distribution grid to serve other users. If Northern Plains Electric incorporates the transmission facilities into their system for the supply of power to users other than Water Commission within 10 years from the original year of construction, Northern Plains Electric will provide a credit to Water Commission equal to the prorate share of the facilities used according to the following formula.

$$\text{Credit} = \text{shared facilities} \times \frac{\text{New load}}{\text{NDSWC load} + \text{New load}} \times \frac{\text{10 years - \# of years since 2010}}{\text{10 years}}$$

Where:

- Credit is the refund provided to the NDSWC if Northern Plains Electric or its agent use the facilities constructed under this agreement to serve other users.
- Shared facilities is the original installed cost, funded by the NDSWC through aid-to-construction, of the portions of the facilities that will be utilized by both the Devils Lake Outlet and the new load.
- NDSWC load is the Devils Lake Outlet average peak kW load value over the previous three years.
- New load is the expected peak kW load value of the proposed load."

Respectfully,

Mark Sherman
Manager – Operations & Engineering
Central Power Electric Cooperative, Inc.

115 KV
69 KV
WAPA LINES, EXCEPT AS NOTED

115 KV
69 KV
CENTRAL POWER LINES, EXCEPT AS NOTED

115 KV
41.6 KV
OTP LINES, EXCEPT AS NOTED

DISTRIBUTION SUBSTATION (COLOR ABOVE DENOTES OWNERSHIP)

TRANSMISSION SUBSTATION (COLOR ABOVE DENOTES OWNERSHIP)

N

30

LEEDS
115KV

281

15.0MI

MADDOCK JCT.

13.1MI

19

ROUND LAKE

3.2MI

JOSEPHINE

PROPOSED LALLIE

EXISTING LALLIE

8.0MI

30

MADDOCK

ESMOND

6.5MI

16.0MI

ESMOND
115KV

Central Power
Electric Cooperative, Inc.

North Dakota State Water Commission

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Agenda 4.3)

MEMORANDUM

TO: Governor Jack Dalrymple
State Water Commissioners

FROM: Todd Sando, Chief Engineer-Secretary

SUBJECT: Renewal of Contract for Devils Lake Outlet Awareness Project Manager

DATE: June 7, 2013

The State Water Commission (Commission), Garrison Conservancy District (C-District), Forward Devils Lake Corporation (Forward DL), and the Devils Lake Basin Joint Water Resource Board (Joint Board), are aware that there are public entities and private individuals concerned with the management of the Sheyenne and Red Rivers as they relate to the operation of the Devils Lake Emergency Outlet Projects (Outlet Projects). These parties determined that a Devils Lake Outlet Awareness Project Manager (Manager) should be hired to function as a communicator to parties about the Outlet Projects and their flood protection benefits.

The intended goal of this position is to work with, and educate downstream interests, through an approved information program associated with the Outlet Projects. The need for a position that interacts with local entities and the public by providing accurate information related to the Outlet Projects continues to exist.

The District, Joint Board, and Forward DL will reimburse the Commission for actual Project Manager expenses, based on monthly expense reports. This agreement will provide the manager with 6 payments of $3,000 per month, up to a maximum total of $18,000 and pay the Manager's expenses, up to $6,500, through the end of 2013.

Cost-Share Partner Contributions	
Commission	$8,085
C-District	$8,085
Joint Board	$5,390
Forward DL	$2,940
Total	$24,500

I recommend that the Commission approve a six-month renewal of the project, through December 31, 2013, in the amount not to exceed $8,085 from the funds appropriated to the Commission in the 2013-2015 biennium, contingent upon the availability of funds.

TS:PF:MN:dp/416-05

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Agenda 2f)

MEMORANDUM

TO: Governor Jack Dalrymple
State Water Commission Members

FROM: Todd Sando, Chief Engineer-Secretary

SUBJECT: Renewal of Contract for Devils Lake Basin Joint Water Resource Board Manager

DATE: June 7, 2013

The State Water Commission (Commission) has a long history of promoting watershed management along watershed lines, and the Devils Lake Basin Joint Water Resource Board (Board) has shown a commitment to this concept, demonstrated through their support of the state outlets, management of the ESAP program, long-term water quality sampling and analysis in basin coulees, and their current updating of the Devils Lake Basin Water Management Plan.

The Board Manager is an essential position, helping to ensure that the goals and objectives of the Board are carried out in a timely and professional manner. Without this position, it is a near certainty that the Board would have been unable to achieve its many accomplishments. For that reason, the Commission has provided cost-share for several biennia to support this position.

By approving this renewal, the Commission agrees to continue financial support by providing 50 percent cost share for salary, benefits, travel, and office expenses for the Joint Board's full-time manager, not to exceed $60,000 for the 2013-2015 biennium. The Commission will pay the Joint Board for actual expenses, based on quarterly expense reports.

I recommend that the Commission approve a two-year renewal of the project, from July 1, 2013 through June 30, 2015 in the amount not to exceed $60,000 from the funds appropriated to the Commission in the 2013-2015 biennium, contingent upon the availability of funds.

TS:PF:MN:dp/416-01

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

North Dakota State Water Commission

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Agenda 4.5

MEMORANDUM

TO: Governor Jack Dalrymple
State Water Commission Members

FROM: Todd Sando, Chief Engineer-Secretary

SUBJECT: Renewal of Contract for Cost-Share For Devils Lake Staff Engineer Position

DATE: June 7, 2013

The State Water Commission (Commission) has a long history of promoting watershed management along watershed lines, and the Devils Lake Basin Joint Water Resource Board (Board) has shown a commitment to this concept, demonstrated through their support of the state outlets, management of the ESAP program, long-term water quality sampling and analysis of basin coulees, and their current updating of the Devils Lake Basin Water Management Plan.

For over a decade, the Commission has cost-shared with the Board to employ a Devils Lake engineer at the agency. The responsibilities of the engineer are to:

a. Work in a full-time capacity on Devils Lake water projects and to help Board meet its engineering needs.
b. Attend meetings in the basin to gain an understanding of water management needs and help develop engineering recommendations.
c. Assist the Board by reviewing engineering plans developed by various entities involved in water management projects in the basin and make recommendations to the Board.
d. Assist the Board in developing and refining plans related to the state's three-pronged approach to flood relief at Devils Lake (upper basin water management, infrastructure protection, and outlets to the Sheyenne River).

In order to meet their goal of managing water for the benefit of the basin, the Board has cost-shared at $20,000 for the biennium, with the Commission for engineering services. The Commission pays the remainder of the costs associated with the position.

By approving this renewal, the Commission agrees to maintain the staff engineer position committed full-time to Devils Lake water projects.

I recommend that the Commission approve a two-year renewal of the contract for engineering services, from July 1, 2013 through June 30, 2015, contingent upon the availability of funds.

TS:PF:MN:dp/416-01

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

North Dakota State Water Commission

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Agenda #1

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, P.E., Chief Engineer/Secretary
SUBJECT: Missouri River Update
DATE: June 7, 2013

System/Reservoir Status –
On June 3, system storage in the six mainstem reservoirs was 51.3 million acre feet (MAF), 5.5 MAF below the base of flood control. This is 5.4 MAF below the average system storage for the end of May, and 5.8 MAF less than last year. The June runoff forecast for 2013 is 21.2 MAF, 84% of normal. In comparison the May runoff forecast for 2013 was 20.0 MAF and 79% of normal. In addition, System releases have been reduced as a result of high downstream flows. Due to increased runoff into the system, and reduced amount of water being released out of the system, the system storage is currently forecast to peak at 52.4 MAF as opposed to the May forecast, in which, the system was to peak at 51.3 MAF.

On June 3, Lake Sakakawea was at an elevation of 1830.3 feet msl, 7.2 feet below the base of flood control. This is 5.4 feet lower than a year ago and 4.2 feet below its average end of May elevation. The minimum end of May elevation was 1808.8 feet msl in 2005 and the maximum end of May elevation was 1853.3 feet msl in 2011.

The elevation of Lake Oahe was 1600.6 feet msl on June 3, 6.9 feet below the base of flood control. This is 6.4 feet lower than last year and 3.9 feet lower than the average end of May elevation. The minimum end of May elevation was 1575.7 feet msl in 2005, and the maximum end of May elevation was 1617.7 feet msl in 1997.

The elevation of Ft. Peck was 2223.9 feet msl on June 3, 10.1 feet below the base of flood control. This is 12.8 feet lower than a year ago and 5.5 feet lower than the average end of May elevation. The minimum end of May elevation was 2198.8 feet msl in 2008, and the maximum end of May elevation was 2246.5 feet msl in 1979.

The Missouri River basin mountain snowpack normally peaks near April 15. On June 1, 2013 the mountain snowpack Snow Water Equivalent (SWE) in the "Total above Fort Peck" reach was 4.3", 26% of the normal April 15 peak. The mountain snowpack in this reach peaked on April 23 at 15.4", 95% of the normal April 15 peak. The mountain snowpack SWE in the "Total Fort Peck to Garrison" reach was 3.4", 24% of the normal April 15 peak. The mountain snowpack in this reach peaked on April 25 at 13.5", 95% of the normal April 15 peak.

The Corp's June 1 basic forecast for runoff into this system is 21.2 MAF. With this forecast navigation season will not be shortened and navigation releases for the second half of navigation season will be 4,200 cfs below full service. The actual length of the navigation season and

service level will be determined by the amount of water in storage on July 1. Currently navigation flows are at minimum service of 29,000 cfs. The forecasted system storage for July 1 is 52.4 MAF.

The Spring Pulse was not implemented this spring as a result of the Independent Science Advisory Panels (ISAP), a team of scientist contracted to review scientific findings associated with the Missouri River Recovery Program (MRRP), review of the spring pulse as a cue for spawning. In the ISAP report on Spring Pulse and Adaptive Management, finalized November 30, 2011, the ISAP stated "Given that the proposed spring pulse management action has not been implemented in all years, and shovelnose sturgeon and pallid sturgeon exhibited evidence of having spawned in all years studied, the ISAP concludes that the spring pulse management action, as currently designed and implemented, appears to be unnecessary to serve as a cue for spawning in pallid sturgeon." Consequently the Corps has foregone the 2013 spring pulse, taking into consideration the ISAP's recommendations. The Corps and F&WS have stated a 2014 spring pulse is still under evaluation.

Missouri River Recovery Implementation Committee (MRRIC)
During a meeting in Rapid City May 21-23, MRRIC finalized a recommendation to the U.S. Army Corps of Engineers that they employ easements as a strategy in obtaining lands in mitigation for the Bank Stabilization and Navigation Program (BSNP). Obtaining these lands through easements, as opposed to outright purchase, could enable some lands to stay in private ownership while contributing to the Missouri River Recovery effort. Corps leadership will be reviewing this recommendation and developing a response back to MRRIC.

The meeting also included discussions among the members and agencies on the proposed approach to developing a long-term adaptive management plan for the Missouri River Recovery Program (MRRP). The approach, which would guide development of the plan, was shared with the ISAP. The ISAP conducted an initial review of the approach and offered potential improvements for consideration as the approach is finalized and efforts to develop the plan get underway. The ISAP comments were considered as a positive direction forward by the many stakeholders present.

MRRIC also reached tentative consensus on a series of recommendations regarding recovery of the least tern and piping plover, including requesting agencies focus on piping plover populations, evaluate high-water reservoir habitat, and consider new population census techniques.

Surplus Water
On February 6, 2013, Colonel Cross, the Omaha District Commander, signed the first Surplus Water Agreement. Since May of 2010, the Corps has put a moratorium on access to water for water supply. This will be the first access since then. At this time the Corps is not asking for payment of storage. The Corps has put out a Notice of Intent (NOI) for rule making to determine the process for pricing storage. Once the rule making is done the parties that have entered into storage contracts will most likely be charged that rate.

On July 18, 2012 the Corps released a NOI stating their intent to develop a water supply storage reallocation study and an Environmental Impact Statement (EIS) for Missouri River municipal and industrial reallocation. Subsequently, public meetings were held in August throughout the basin. These meetings were meant to solicit comments on the release of the Environmental Assessment (EA) for surplus water storage for five of the six mainstem dams and to gather scoping comments for the reallocation study.

Water Resources Development Act of 2013 (WRDA)

The Senate passed the Water Resources Development Act on May 15. Senator John Hoeven was able to attach the States' Water Rights Act to WRDA to bar the U.S. Army Corps of Engineers from charging a storage fee for surplus water storage. The Amendment is as follows,

> Sec. 2060. Restiction on charges for certain surplus water.
>
> (a) In General. – No fee for surplus water shall be charged under a contract for surplus water if the contract is for surplus water stored on the Missouri River.
>
> (b) Offset.- Of the amounts made available under Public Law 113-6 (127 Stat. 198) for operations and maintneance under the heading "Corps of Engineers—Civls", $5,000,000 is rescinded.

This bill now moves to the House.

TS:KC:ph/1392

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Agenda M 2)

MEMORANDUM

TO: Governor Jack Dalrymple
State Water Commission Members

FROM: Todd Sando, P.E., Chief Engineer-Secretary

DATE: June 7, 2013

SUBJECT: Request for cost-share participation with the Missouri River Joint Board

The Missouri River Joint Water Board (Board) is requesting cost-share assistance from the Water Commission to help cover costs associated with maintaining the activities of the Board during the 2013-2015 biennium. In the previous biennium, the Water Commission provided cost-share of up to $20,000. The Board is requesting that same amount for the 2013-2015 biennium.

The MRJWB has had a number of successes, as outlined in their May 29, 2013 letter. In order to continue on with its successful track record, the Board is requesting $20,000 during the 2013-2015 biennium to:

- Continue retention of a secretary-treasurer;
- Continue retention of a water resource consultant;
- Fund travel and transportation to meetings;
- Assist with general office expenses;
- Continue to act as a local sponsor on various ongoing Army Corps of Engineers studies;
- Continue to provide a unified voice on river and lake issues, including the AOP, emergent sandbar habitat program, sovereign lands issues, the prison farm project, and recent developments associated with a Missouri River stakeholder group.

I recommend that the State Water Commission approve cost-share for 50 percent of the Board's eligible costs, not to exceed $20,000, during the 2013-2015 biennium.

TS:PF:SB:dp/1396

Missouri River Joint Water Board

3501 Winnipeg Drive, Bismarck ND 58503 Phone 701.202.5459

May 29, 2013

Todd Sando
State Engineer
ND State Water Commission
900 E Boulevard Ave. Dept 770
Bismarck, ND 58505-0850

JUN - 3 2013

Re: Missouri River Joint Water Board
Cost Share Agreement

Dear Todd:

This letter is a request for continued SWC cost share involvement for the Missouri River Joint Water Board (Board). In past years the SWC has assisted our Board with a biennium amount of $20,000 which is used by us to accommodate costs associated with the maintaining of the activities of our board. We thank you for those past contributions.

We believe the Joint Board has been successful. One very significant achievement has been our ability to continue to act as an effective means in providing a forum for the local member water boards to jointly exercise certain powers and provide a cooperative and coordinated effort in addressing the management, conservation, protection, development, and control of water resources in the Missouri River basin. In pursuing that effort we have been active in recent efforts to discuss and possibly formulate a Missouri River Stake Holders group which would expand this opportunity for inclusion in such discussions to other interested parties and entities along the river system and in other parts of our State.

By this letter, we are requesting continued funding support in the amount of $20,000 for the 2013-2015 biennium. State Water Commission funds will be used along with Joint Board funds to:

1. Continue retention of a secretary/treasurer
2. Continue retention of a water resource consultant
3. Fund travel and transportation to meetings
4. Assist with general office expenses
5. Continue to act as local sponsor on various ongoing COE Study(s).
6. Continue to provide a unified voice on River and Lake issues including the AOP, Emergent Habitat Program, Sovereign Lands issues, Prison Farm Project and other items

We understand the State Water Commission may be meeting in the near future. Please present our request, as possible, at that time. If you feel advisable, we will be in attendance at the meeting to address any questions which may arise.

Again, we want to thank you for your support and the support of your staff, especially Michelle Klose and Pat Fridgen for providing guidance to the Missouri River Joint Water Board.

We continue to serve as a resource to collect and disseminate information to our various members so they can all be better informed and effective water managers.

If you require any additional information, please let me know.

Sincerely,

Ken Royse, Chairman

c.c. Greg Lange, MRJWB
Wade Bachmeier, MRJWB
Ron Sando, MRJWB
Ken Royse, MRJWB

North Dakota State Water Commission

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Agenda M3

MEMORANDUM

TO: Governor Jack Dalrymple
State Water Commission Members

FROM: Todd Sando, P.E., Chief Engineer-Secretary

DATE: June 7, 2013

SUBJECT: Funding for Terry Fleck to continue his involvement with the Missouri River Recovery Implementation Committee (MRRIC) during the 2013-2015 biennium.

The Missouri River Joint Water Board (Board) has requested a continuation of an existing agreement between the Board, and the State Water Commission. The Board has requested that the Water Commission cover 50% of costs, up to $40,000, during the 2013-2015 biennium. These costs support Terry Fleck's efforts on the Missouri River Recovery Implementation Committee (MRRIC), as a representative of upper-basin recreation.

The purpose of the requested funding is to cover Fleck's expenses for travel to meetings, and to help the Board pay a portion of his salary.

The Board is also asking the Garrison Diversion Conservancy District to cover 37.5%, up to $30,000. The Board and other local sponsors will cover the remaining expenses.

A background fact sheet on MRRIC is attached, along with a letter of request from the Board.

I recommend that the State Water Commission provide 50% cost-share of up to $40,000 to the Missouri River Joint Water Board to assist with costs associated with Terry Fleck's representation of the State of North Dakota on MRRIC through June 2015.

TS:PF:SB:dp/PS/WRD/MRJ
Encl.

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

Missouri River Joint Water Board

3501 Winnipeg Drive, Bismarck ND 58503 Phone 701.202.5459

May 29, 2013

JUN - 3 2013

Mr. Todd Sando, State Engineer
North Dakota State Water Commission
900 East Boulevard Ave.
Bismarck, ND 58505

Re: Requested continuation of agreement for funding to Missouri River Joint Water Board for Terry Fleck, MRRIC Committee

Dear Mr. Sando,

This letter is a request for continued SWC cost share involvement to the Missouri River Joint Water Board (Board) for coordination and support for funding of Mr. Terry Fleck to represent the interests of North Dakota on the Missouri River Recovery Implementation Committee (MRRIC). This funding would be in support of an ongoing agreement in place between us, the State Water Commission (Commission) and the Garrison Diversion Conservancy District (District).

The current agreement, which was entered into in March of 2009, allows for a cost contribution from the Commission and District to provide financial support to Terry Fleck as he represents the upper basin stakeholder interests relative to recreation on the MRRIC. As you are aware, the MRRIC is comprised of state, federal, and stakeholder interests relative to investigating a program of ecosystem recovery within the Missouri River basin.

The agreement currently in place (for the FY 2011-2013 biennium) is structured as follows:

- 50% of the expected total cost by the SWC, estimated at $40,000 for the biennium
- 37.5% of the expected total cost by the District, estimated at $30,000 for the biennium
- 12.5% of the expected total cost by the Board, estimated at $10,000 for the biennium

This request seeks a same level of funding for the 2013 - 2015 biennium.

Please review this proposal and notify us if this is acceptable. By copy of this letter we are also requesting the District for their consideration of participation as noted.

If you would like discussion of this request at the next SWC meeting we will plan to be in attendance.

Thanking you in advance for your consideration of our request.

Sincerely,

Ken Royse
Chairman
Missouri River Joint Water Board

c.c. Greg Lange, MRJWB
Terry Fleck
Dave Koland, General Manager GDCD
Ken Royse
Wade Bachmeier

Missouri River Recovery Implementation Committee

FOR ADDITIONAL INFORMATION, CONTACT DR. MICHAEL MAC, COMMITTEE CHAIR
EMAIL INFO@MRRIC.ORG OR LEARN MORE ONLINE AT WWW.MRRIC.ORG

What/Who is MRRIC?

The Missouri River Recovery Implementation Committee (MRRIC) is a 70-member committee made up of federal, state, tribal, and stakeholder representatives from throughout the basin. MRRIC serves as a collaborative forum developing a shared vision and comprehensive plan for the restoration of the Missouri River ecosystem. The committee provides guidance and recommendations to federal, tribal, state, local and private entities in the basin on the current Missouri River Recovery Program (MRRP) for the river's threatened and endangered species and on the Missouri River Ecosystem Restoration Plan (MRERP, currently suspended) working to restore their habitats while sustaining the river's many uses. MRRIC was established by Section 5018 of the Water Resources Development Act of 2007 under the authority of the Secretary of the Army.

MRRIC stakeholders represent a wide range of interests, ensuring that the public's values are considered and incorporated into the restoration plans. Federal agencies do not participate in decisions regarding recommendations from MRRIC, but the federal agencies support and inform the MRRIC.

The Missouri River:
- Longest river in the United States
- 2,321 miles from Three Forks, Montana to the mouth near St. Louis, Missouri
- 529,000 square miles in the drainage area
- 12 million people in the basin

A Federal Working Group of agency representatives has been appointed by the federal executives of the Missouri River Basin Interagency Roundtable. These agencies advise the MRRIC as the committee considers recommendations.

The Federal Working Group includes the following agencies:
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- USDA Forest Service
- Environmental Protection Agency
- Federal Highway Administration
- Maritime Administration
- National Park Service
- National Weather Service / NOAA
- U.S. Coast Guard
- USDA Natural Resources Conservation Service
- U.S. Geological Survey
- Western Area Power Administration

Missouri River Recovery Implementation Committee

MRRIC Charter

On July 1, 2008, then Assistant Secretary of the Army for Civil Works, the Honorable John Paul Woodley, Jr., approved the Charter for the MRRIC. Approval of the MRRIC Charter was the culmination of over a year of intense work by the MRRIC Planning Group. The Planning Group was comprised of representatives of Missouri River basin Tribes, states, and a wide range of stakeholder interests that were asked by the Corps and other federal agencies to develop a Recommended Charter for the MRRIC.

Membership of the MRRIC is comprised of representatives of federal agencies, Tribes, states, and stakeholders from throughout the Missouri River basin. Each federal agency head, tribal chairman and state governor may appoint one representative to the MRRIC. Stakeholder representatives apply for membership by identifying their interest in one of the 16 interest categories. The MRRIC was established in 2008 and meets four times a year. More information, including a roster of current members, may be found at **www.MRRIC.org**.

The following states, Tribes and stakeholder interests are eligible for membership on the MRRIC:

States

- Iowa
- Kansas
- Missouri
- Montana
- Nebraska
- North Dakota
- South Dakota
- Wyoming

Tribes

- Blackfeet Tribe
- Cheyenne River Sioux Tribe
- Chippewa-Cree Indians of the Rocky Boy's Reservation
- Crow Creek Sioux Tribe
- Crow Tribe of Montana
- Eastern Shoshone Tribe of the Wind River Reservation
- Flandreau Santee Sioux Tribe
- Fort Belknap Indian Community
- Fort Peck Assiniboine and Sioux Tribes
- Iowa Tribe of Kansas and Nebraska
- Kickapoo Tribe in Kansas
- Lower Brule Sioux Tribe
- Northern Arapaho Tribe
- Northern Cheyenne Tribe
- Oglala Sioux Tribe of the Pine Ridge Reservation
- Omaha Tribe of Nebraska
- Ponca Tribe of Nebraska
- Prairie Band of Potawatomi of Kansas
- Rosebud Sioux Tribe
- Sac and Fox Nation of Missouri in Kansas
- Santee Sioux Nation
- Sisseton-Wahpeton Oyate of the Lake
- Spirit Lake Sioux Nation
- Standing Rock Sioux Tribe
- Three Affiliated Tribes of Mandan, Hidatsa and Arikara Nation
- Turtle Mountain Band of Chippewa Indians
- Winnebago Tribe of Nebraska
- Yankton Sioux Tribe

Stakeholder Interests

- Agriculture
- Conservation Districts
- Environmental/Conservation Organizations
- Fish and Wildlife
- Flood Control
- Hydropower
- Irrigation
- Local Government
- Major Tributaries
- Navigation
- Recreation
- Thermal Power
- Water Quality
- Water Supply
- Waterway Industries
- Other Interests, such as cultural and historic preservation

Interior Least Tern (Endangered)

Piping Plover (Threatened)

Pallid Sturgeon (Endangered)

Missouri River Recovery Implementation Committee

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Agenda #1

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, P.E., Chief Engineer-Secretary
SUBJECT: Western Area Water Supply – Overall Plan Approval
DATE: June 10, 2013

The Western Area Water Supply Authority (Authority) is requesting overall plan approval of projects for Western Area Water Supply Project (Project), the request is enclosed for your information. This recommendation is for overall plan approval of five additional projects, which are a priority for the Authority to move forward using funding through the Bank of North Dakota loan of $40 million. The legislature authorized a loan to complete the funding commitment of the original $150 million Project and provided an emergency clause to expedite work on the water treatment plant expansion.

Overall Plan Review

The Authority has requested approval on the projects in Table 1 below to access the funding available within the $40 million loan. The approval of the overall plan and Commission funding for the remaining projects in the request will be considered at future meetings. There are many factors including legislative changes to Commission policies and the details of how the grant and loan funding would be made available that may affect the Commission funding. A summary of the previous Commission overall plan approvals of $119 million, $110 million from 2011 biennium funding and $9 million from anticipated project revenues, is enclosed as Attachment A. Approving these additional five projects will add $44.3 million to the approved projects of $119M for a total of $163.3 million. This exceeds the $40 million from the Bank of North Dakota and the $110 million approved last biennium, and will need to be addressed in the review of any additional funding through the State Water Commission.

The requested projects in Table 1 are a portion of the Phase III projects expected to be bid over the coming months and the costs may change. The Williston water treatment plant bid opening was June 5 and with the increase in bid price, it is expected this project costs will increase by $3.4 million over the earlier estimate of $22 million. The Authority will need to reconsider the total plan to account for increase in costs.

Table 1

	Project	Description	Location	Cost (Millions)
1	Williston Water Treatment Plant Expansion Phase IV	14 to 21 MGD	Existing Williston site	$25.4
2	West Williston By-Pass Transmission Line	Eight miles of 30" and 36" pipeline	Install pipeline from WTP to existing 5 MG reservoir in north Williston	$8.0
3	Williams Rural Water - West Expansion Project, Part 2	500,000 Gallon Tank reservoir / pump station	West side of Williston to provide service for Williams	$4.5
4	East McKenzie County Water Resource District transmission improvements	25 miles of 12" pipeline	Install from Watford City NW to Keene area and provide line for rural distribution	$5.0
5	R&T Well field and Water Treatment Plant Improvements	Three new wells and rehab WTP	Existing R&T WTP site	$1.4
			Total	$44.30

The fifth project listed is to address the existing R&T Water Supply Commerce Authority (R&T) well field's ability to supply the capacity for the new two million gallons per day water treatment plant near Ray and to temporarily increase capacity through improvements to the old treatment plant until the Williston water treatment plant expansion can be completed. Typically this type of project would not be recommended for Commission funding, as the long term benefit is primary maintenance of the existing well field and the Commission does not typically fund maintenance of drinking water projects. The project is needed to provide reliable water supply to this region of the WAWS project and it is recommended that it can be included in the overall plan approval for the project.

I recommend the State Water Commission approve the five projects shown in Table 1, which are only a portion of the projects included in Phase III of the Western Area Water Supply Project.

TS:MK:ph1973

Attachment A

Western Area Water Supply Project Plan Previously Approved

The following lists of projects have overall plan approval from the State Water Commission. Projects totaled $119 million using $110 million from the 2011 legislation.

The Phase I projects (approved June 21, 2011)

- Eleven miles of 16" to 30" pipeline on the west and north side of Williston,
- 5 million gallon reservoir northwest of Williston,
- Twenty six miles of a 14" pipeline heading west and then north from Wildrose to Crosby, (The original project for a 12" line was increased to a 14" line after increase in domestic signups in this area.)
- Approximately 200 miles of 2"-6" pipeline in McKenzie County around Alexander.

The Phase II - Tier I projects (approved December 9, 2011)

- Williston water treatment plant expansion from 10 million gallons per day (MGD) to 14 MGD,
- Thirty miles of 20" to 24" pipeline heading north and east of Williston to Ray,
- Thirty-two miles of 16" to 20" pipeline from south of Williston heading south and then east to Watford City,
- Three 500,000 gallons reservoirs and two 2 million gallon reservoirs,
- Four pump stations which include a 6 MGD near 13 mile corner, a 3 MGD at the Ray water treatment plant, and two 4.5 MGD along the pipeline heading south from Williston.
- Approximately 8 industrial water depots are included in this phase and will range in size from 2 to 6 fill points, with a fill point averaging delivery of 200 gallons per minute over a 24 hour period.

The Phase II(A) - Projects (approved July 30, 2012)

- Williams Rural Water West Expansion Project ($4.7 million). Basin Electric plans to contribute $2 million toward the construction of this line,
- Increase in pipeline size from 12" to 14" for the line to Crosby,
- Extending larger sized pipe on portions of two projects to meet immediate domestic demands,
- Further evaluation of the proposed water treatment plant expansion.

Memorandum

To: Todd Sando, PE, State Engineer, North Dakota State Water Commission

From: Jaret Wirtz, Executive Director, Western Area Water Supply Authority (WAWSA)

Date: June 4, 2013

Re: WAWSA Project Approval for 2013-2015 Biennium

6-10-13

As you are aware, WAWSA has been allocated $119 million in funding from various sources from the 63rd Legislative Assembly to continue to build water supply, treatment, transmission, and distribution infrastructure to provide the water supplies for the exploding population in northwest North Dakota. HB1020 provided $40 million in loan funds from the Bank of North Dakota with an emergency clause and $79 million through the State Water Commission from the Resources Trust Fund. In addition to the Legislature providing this funding, SB2233 requires WAWSA to submit its overall project plan to the State Water Commission for approval. Please accept this Memo and attachments as WAWSA's submittal for initial approval.

WAWSA has prioritized its list of projects for the 2013-2105 biennium. The projects WAWSA is requesting approval to move forward with at this time are summarized in Table 1. Also included in Table 1 is the best cost estimate to date and an approximate schedule as to when WAWSA would begin drawing funds for design or construction.

		HB1020 Funding Draws		
	Project	Estimated Start Date	Estimated Completion Date	Estimated Project Cost (2014 Dollars)
1	Williston Regional WTP Expansion (14-21MGD)	10/2012	04/2015	$25,436,745
2	West Williston By-Pass Transmission Lines (30" & 36")	10/2012	06/2014	$8,051,000
3	WRWD - West Expansion - Part 2 (Tank-Res/Pump Station)	10/2012	07/2014	$4,482,000
4	East MCWRD Transmission Imp.	10/2012	07/2014	$5,061,000
5	R&T WSCA Well Field Expansion & WTP Improvements	05/2013	12/2013	$1,400,000
6	WRWD - East Transmission - Part 1 (Hwy 2 to 133rd Ave and South)	08/2013	12/2014	$3,811,000
7	R&T - Epping Transmission - Part 1 (Ray High PT to Epping)	04/2013	12/2014	$7,400,000
8	MCRWD - System I (Watford City & Tobacco Garden)	08/2013	12/2015	$6,950,000
9	WRWD - East Transmission - Part 2 (East Williston By-Pass)	08/2013	06/2015	$10,135,000
10	Stanley - Distribution - Part 1 (Stanley Area East Branch)	08/2013	09/2015	$6,720,000
11	WRWD - Part 1 (Blacktail Dam Area Distribution)	08/2013	12/2015	$5,974,000
12	R&T - Rural Distribution - Part 1	08/2013	12/2015	$3,900,000
13	MCRWD - Rural Distribution (System IV Part 3a)	08/2013	09/2015	$3,760,000
14	BDW - Distribution - Part 1	08/2013	12/2015	$5,540,000
15	Williston Intake Improvements Preliminary Engineering	05/2013	TBD	$880,650
NA	Phase II Carryover	NA	NA	$8,622,658
	TOTAL PHASE III - INITIAL			$108,124,053

Table 1: Summary of WAWSA Phase III Projects for Initial SWC Approval

Memorandum
Re: WAWSA Project Approval for 2013-2015 Biennium
Date: June 4, 2013

Also included as supplements to Table 1 are Attachments No. 1 and No. 2 to better define each project timeline and provide a brief description of each project. Attachment No. 1 is an expanded spreadsheet of Table 1 indicating the projected dates for the start of design, when the project will be bid, the final completion date of each project, and how the money is anticipated to be spent over the duration of the project. Attachment No. 2 provides a brief description of each project listed in Table 1 to summarize the approximate miles of pipeline that will be installed, improvements needed to existing infrastructure, and how many users will be served by each project. Additionally, included is a map attachment indicating all of the projects that are listed in Table 1.

The projects summarized in Table 1 are the current top priorities for WAWSA. Accordingly, WAWSA is requesting approval from the State Water Commission for the projects shown in Table 1. The projects highlighted in yellow are currently under design, are anticipated to be bid over the next several months, and are scheduled for construction to begin this year. The projects highlighted in orange will begin design this year with bidding and construction in 2014 with the exception of Williams Rural Water cost sharing with a developer to jump-start construction on the R&T - Epping Transmission - Part 1 project to bring on some rural users in 2013. In addition, WAWSA will begin evaluating improvements to the intake for the Williston Regional Water Treatment Plant. The North Dakota Department of Transportation will begin expanding Highway 85 between Williston and Watford City from a two to a four lane highway later this year. That project may impact the existing intake for the Williston Regional Water Treatment Plant. As a result, WAWSA will begin the planning process to relocate the intake immediately.

In addition to the Phase III projects presented in Table 1, WAWSA also has a list of secondary projects it will be seeking approval to move forward with at a future State Water Commission meeting. WAWSA has elected to delay its request for State Water Commission approval for these projects for the following reasons: 1) to ensure that bids for initial projects are in line with engineering estimates to avoid investing capital in projects that cannot be funded; 2) establish a reasonable schedule for obtaining easements and permits; 3) to maintain a funding reserve should the Williston Regional Water Treatment Intake Improvement Project need to be contracted in the 2013-2015 biennium; and 4) to maintain a funding reserve to respond to growth patterns that may vary from projections. The secondary projects anticipated to be designed and begin construction in 2014 are summarized in Table 2.

	Project	Estimated Start Date	Estimated Completion Date	Estimated Project Cost (2014 Dollars)
1	Fill Depots	09/2013	12/2015	$2,153,915
2	WRWD - Transmission Line (13 mile to 29 mile)	09/2013	12/2015	$6,489,000
3	WRWD - Grenora (29 Mile to Grenora)	09/2013	12/2015	$1,648,000
4	WRWD - North Transmission - Part 1 (58th St. to 60th St.)	09/2013	12/2015	$655,080
5	WRWD - West Transmission North - Part 3 (Pump Sta. to 60th St.)	09/2013	12/2015	$3,275,400
	TOTAL PHASE III - SECONDARY			$14,221,395

Table 2: Summary of WAWSA Phase III Projects for Future SWC Approval

Memorandum
Re: WAWSA Project Approval for 2013-2015 Biennium
Date: June 4, 2013

As discussed previously, HB1020 provides WAWSA with $119,000,000 in funding for the 2013-2015 biennium. The projects summarized in Tables 1 and 2 have a total estimated project cost of $113,722,790. In addition to the projects shown in Tables 1 and 2, WAWSA was previously authorized by the State Water Commission to contract for up to $119 million for Phase I and II projects and design engineering for several Phase III projects. The best estimate for work contracted to date is estimated at $118,622,658 or $8,622,658 in carryover to be covered by the $119 million provided by the legislature. Adding the carryover to the project totals shown in Tables 1 and 2 results in a total estimate for projects to be completed this biennium of $122,345,448.

The proposed project lists summarized in Tables 1 and 2 are the result of WAWSA planning efforts that span the last two years. The proposed projects will be able to provide direct services to the following users that have requested service:

1. 305 traditional rural water users
2. 6,800 rural residential users (rural developments)
3. 300 commercial water users
4. City of Grenora

Beyond these service connections, the proposed Williston Regional Water Treatment Plant Improvements will benefit the entire WAWSA service area, a population currently estimated at 60,000 people.

The WAWSA appreciates your consideration of our request. Please contact me should you have any questions or if you would like additional information regarding our request. WAWSA representatives would appreciate an opportunity to provide a more detailed presentation of our request at your Board meeting scheduled for June 19, 2013.

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
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Agenda #2

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, P.E., Chief Engineer-Secretary
SUBJECT: Western Area Water Supply – Industrial Sales and Lateral Approval Delegation
DATE: June 10, 2013

Several changes were made to the legislation relating to the Western Area Water Supply Project during this last session. A new requirement for industrial sales is approval by the State Water Commission of the water depots and lateral sales. The specific language follows.

Senate Bill 2233, Section 19, requires Commission approvals on industrial sales connections starting August 1, 2013.

SECTION 19. Industrial water depot and lateral sales

3. The state water commission shall approve the planning, location, and water supply contracts of any authority depots, laterals, taps, turnouts, and risers for industrial sales for oil and gas exploration and production after the effective date of this Act.

As some of these lateral connections are short term in nature, such as water supply for development of an oil well where the connection may span only three weeks, we are seeking a process that will allow review in a timely fashion for the siting of new laterals, taps, turnouts, and risers for industrial sales and water supply contracts. The recommendation is to delegate the Chief Engineer the authority to either approve or deny these connections and contracts based on a review of the contracts, assurance of continued supply for domestic use, system capacity at the location, and the cost of granting the connection not impacting the finances of the Authority, and any other factors the Chief Engineer determines relevant.

It should be noted that any approval for construction of a new depot would be brought forward to the Commission as part of an overall plan approval, and the Commission will have final review and approval on construction of new depots as part of the Project.

I recommend the State Water Commission delegate to the Chief Engineer the authority to grant or deny approvals on requests from the Western Area Water Supply Authority on the planning, location, and water supply contracts of any depot, laterals, taps, turnouts, and risers for industrial sales for oil and gas exploration and production.

TS:MK:ph1973

North Dakota State Water Commission

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Agenda O

MEMORANDUM

TO: Governor Jack Dalrymple
North Dakota Water Commission Members

FROM: Todd Sando P.E.
Chief Engineer-Secretary

SUBJECT: State Engineer Salary

DATE: June 10, 2013

To implement a recommendation from the Office of the State Auditor that we comply with NDCC 61-03-01 to ensure that the State Engineer is not setting and approving his own salary. We ask that the Commission formally address the State Engineer's salary adjustments.

Because agency salary adjustments are included in the Governor's budget and are then acted on by the Legislature, one possible option would be to authorize the State Engineer to receive annual salary increases equivalent to the percentage authorized by the legislative assembly. This action should have an effective date of July 1, 2013 in order to process the State Engineer's salary adjustment, and would remain in effect until changed by the Commission.

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

North Dakota State Water Commission

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MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd S. Sando, P.E., Chief Engineer - Secretary
SUBJECT: Mouse River Enhanced Flood Protection Status Report
DATE: June 10, 2013

The Engineering Team has completed the Hydraulics and Hydrology Report for the project. This work provides the technical basis for evaluating flood protection measures throughout the basin. It consists of two parts. The first part is a hydrology study that analyzes the basin with respect to the source and magnitude of flood waters. USGS gages were used where they exist, and inflows from intervening ungaged areas were estimated using the Corps of Engineers Hydrologic Modeling System. The second part is the hydraulics report that addresses the behavior of the water as it enters the river and moves through the basin. This effort required creating an unsteady flow model extending from Sherwood to Westhope. This means that an entire hydrograph can be routed through the whole basin. One of the first tasks was to test the proposed levee projects in the communities for effects downstream. It was found that all impacts occurred within the project area and were incorporated into the project design. Both of these efforts created tools which were vital to the subsequent work, and will also be of great value in the upcoming effort on the ISRB Plan of Study.

The Rural Alternative Report has also been completed and delivered. This report identifies a number of potential measures for dealing with flooding in the rural areas and tests them for effectiveness using the tools described above. By their nature, the alternatives cannot be as specific as the plan described for the communities. Because each flooding site is individual and isolated, the measures for that site need to be specific. Rather, this report lays out a number of approaches which may be effective depending on the particular problem. It also eliminates a number that do not appear to be effective or are too costly.

Executive summaries of these reports are attached.

Parallel to this project, the International Souris River Board Task force has submitted a Plan of Study to review the Operating Plan for the existing flood control project. It contained three options for moving ahead: A minimum level of study, which the Task Force did not recommend; a medium level, which they regarded as the minimum necessary; and a full-fledged analysis, which was recommended. This Plan of Study was approved by the ISRB as recommended and submitted to the International Joint Commission. We recently learned that the IJC has approved the Plan as recommended and submitted it to the U.S. Department of State and the Canadian Department of Foreign Affairs and International Trade. The letter from the IJC regarding this study is attached.

TSS:JTF:pdh/1974
Attachment

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

EXECUTIVE SUMMARY

Mouse River Enhanced Flood Protection Plan

Hydrologic and Hydraulic Modeling Report

Prepared for North Dakota State Water Commission

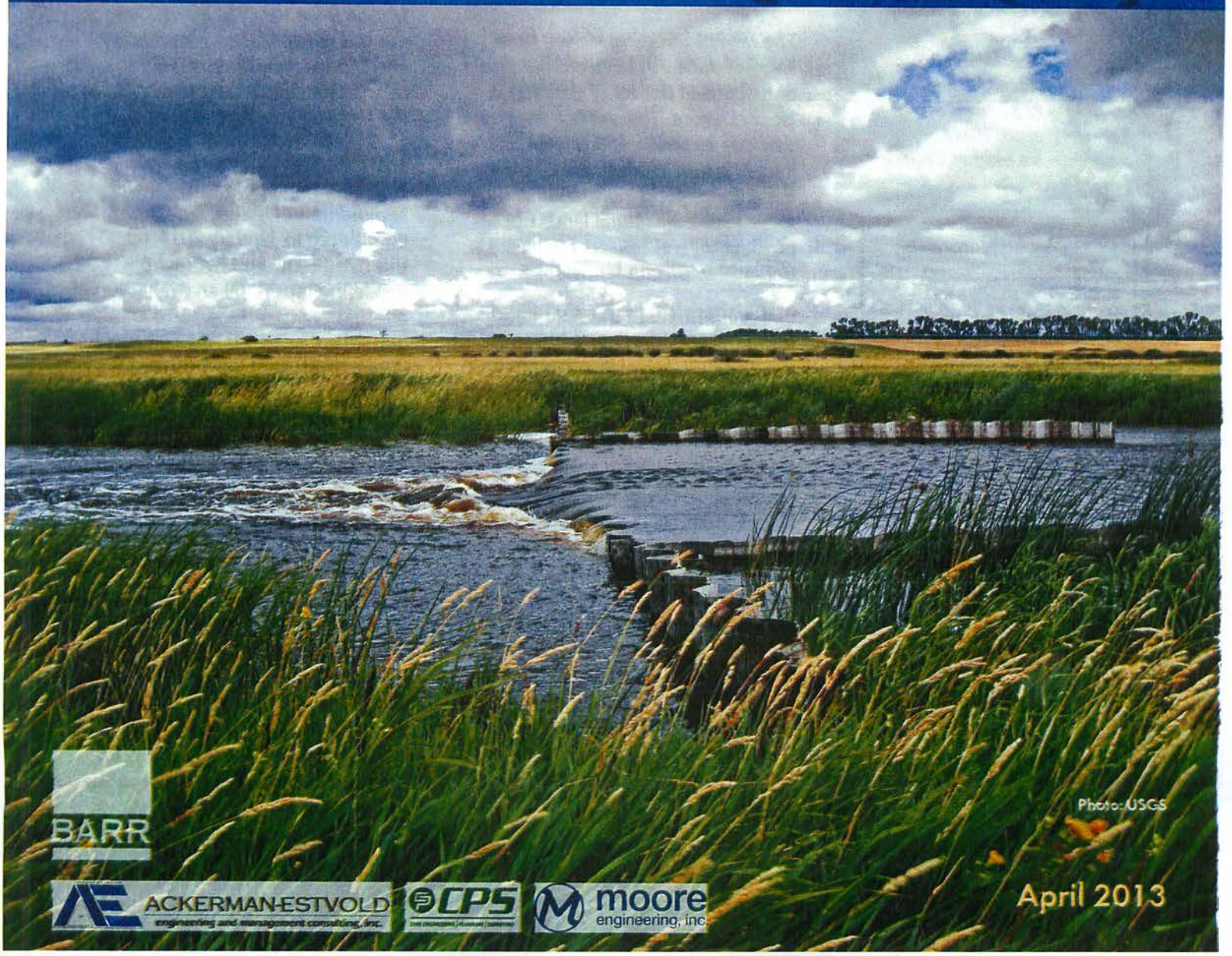

Photo: USGS

BARR

ACKERMAN-ESTVOLD engineering and management consulting, inc.

CPS

moore engineering, inc.

April 2013

This report explains why the Mouse River hydrologic and hydraulic models were developed, what the models simulate, and how a levee-floodwall project in urban areas would affect other parts of the Mouse River Valley.

The 2011 flood caused significant damage to public infrastructure, private property, and agricultural areas throughout the Mouse River Valley.

Hydrologic modeling

Hydrologic models simulate the conversion of rainfall and/or snowmelt into surface runoff. Hydrologic model results include inflow hydrographs (Figure 1) that define inflow to a stream or river at a given location. These inflow hydrographs are used as inputs to the hydraulic model.

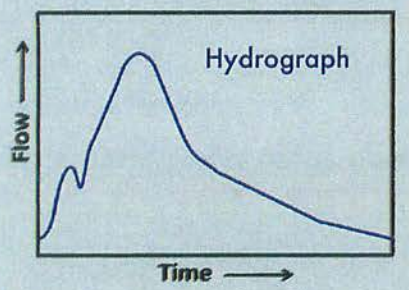

Figure 1: A hydrograph is a plot showing discharge versus time at a specific point in a river.

Hydraulic modeling

Hydraulic models simulate how the natural characteristics of a river system (e.g., topography and vegetation) and infrastructure (e.g., bridges and dams) affect the movement of water through a valley. Hydraulic model results provide water surface elevations that can be used to map inundation areas for a particular flood event.

Study background

The record-breaking Mouse River flood of June 2011 caused hundreds of millions of dollars of damage in North Dakota. There was extensive damage to public and private infrastructure in urban areas, while the summer-long inundation in rural areas took agricultural lands out of production and caused significant damage to private farmsteads.

In the aftermath of the 2011 flood, residents and local officials requested the investigation of flood mitigation solutions that will reduce the risk of flood damages. The North Dakota State Water Commission (NDSWC) retained a consulting team led by Barr Engineering Co. to develop a Mouse River Enhanced Flood Protection Plan to address flooding issues throughout the Mouse River Valley. The first study completed for the plan was the *Preliminary Engineering Report* in February 2012, which defined flood risk reduction measures for urban areas along the Mouse River between Burlington and Velva as well as for Mouse River Park.

In June 2012, the NDSWC initiated three subsequent studies as part of the Mouse River Enhanced Flood Protection Plan; these focus on the full Mouse River Valley in North Dakota. For this study, Mouse River Valley and Mouse River watershed (Figure 2) refer to the North Dakota portion of the larger Souris River Basin.

The new studies were: (1) an initial assessment of erosion and sedimentation issues, which was completed in January 2013; (2) this hydrologic and hydraulic modeling report; (3) an evaluation of alternatives to reduce flood impacts in rural areas, which was completed concurrently with this report.

Study purpose

This study documents the development of hydrologic and hydraulic models for evaluating floodplain management alternatives in the Mouse River Valley. The immediate objective for these tools was to evaluate the effects of the levee-floodwall Project defined in the *Preliminary Engineering Report* (Figure 3) on areas upstream of Burlington and downstream of Velva. The long-term objective for the modeling effort was to provide baseline models for advancing the Mouse River Enhanced Flood

Protection Plan. To achieve the study objectives the engineering team developed:

(1) A hydrologic model to simulate runoff from ungaged portions of the Mouse River watershed for use in the hydraulic model.

(2) A baseline hydraulic model simulating the movement of water through the Mouse River Valley for existing conditions.

(3) A second hydraulic model representing future conditions after construction of the levee-floodwall Project defined in the *Preliminary Engineering Report*.

Model development

The Mouse River has a large and complex watershed (Figure 2). The area draining to the North Dakota reach of the Mouse River is roughly 8,000-square miles. The Mouse River channel through North Dakota is over 300 miles long and passes through 11 dams and more than 90 bridges. Historic stream flow data from U.S. Geological Survey (USGS) gaging stations was used to quantify surface runoff during past flood events. USGS gaging station data was available for the Mouse River and its four major tributaries (Des Lacs River, Wintering River, Deep River, and Willow Creek). However, many of the smaller coulees and creeks in the watershed are ungaged.

The engineering team conducted a four-day field investigation to document floodplain characteristics and verify collected data for bridges in the study area.

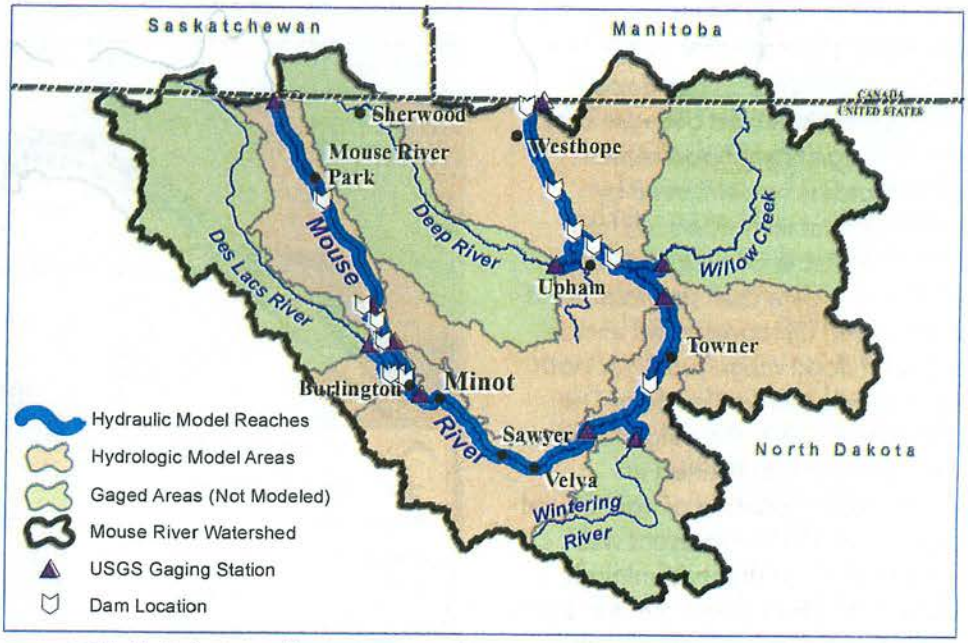

Figure 2: The hydrologic model calculated runoff from ungaged areas of the Mouse River watershed, and the hydraulic model simulated flow in the Mouse River and portions of its four major tributaries.

A hydrologic model was developed to simulate the timing and quantity of runoff from ungaged portions of the Mouse River watershed (Figure 2) for selected historic storm events. Every storm event is a unique combination of factors related to precipitation, temperature, topography, land cover, and soil properties. Simulating runoff from the Mouse River watershed was complicated by a topography characterized by prairie potholes, which reduce the effective area that contributes runoff to the river system during a given storm event. The hydrologic model calculated inflow hydrographs that were inputs for modeling floodplain hydraulics.

Previously developed hydraulic models of the Mouse River Valley were incapable of simulating the complexities of such a large natural system to the degree necessary to advance the Mouse River Enhanced Flood Protection Plan. The previous hydraulic models were steady-state simulations. More sophisticated unsteady flow modeling methods were necessary to evaluate impacts from the proposed levee-floodwall Project on other parts of the Mouse River Valley (steady-state vs. unsteady flow).

Steady-state vs. unsteady flow

Steady-state modeling creates a snapshot of flood conditions for a specific flow, irrespective of time. This modeling approach typically uses a peak flow rate to calculate the maximum water surface elevation for a flood. For example, the hydraulic model for the *Preliminary Engineering Report* was a steady-state model that simulated the design flow rate of 27,400 cfs to establish top-of-levee elevations.

Unsteady flow modeling simulates changes in flow, stage, and velocity over the duration of a flood event. The hydraulic model for this study routes flood hydrographs (Figure 1) through the Mouse River Valley (Figure 2) to represent the effects of dams, bridges, and other restrictions on flows over the course of each simulated flood event. Incorporating a time component significantly increases the complexity of the hydraulic model.

Hydraulic model simulations were developed for the 2009, 2010, and 2011 flood events. These flood events were selected because they: (1) were significant flood events that would be remembered by community stakeholders, (2) had better available climate and stream monitoring data than previous flood events, and (3) represented a wide range of flood magnitudes for both spring and summer flooding. The 2009 flood event was a significant spring flood that resulted in prolonged inundation of agricultural areas. The 2010 flood event was a summer flood that had minimal impact on urban areas, but damaged agricultural areas in McHenry and Bottineau counties. The 2011 flood event is the flood of record and the design flood for the levee-floodwall Project defined in the *Preliminary Engineering Report.*

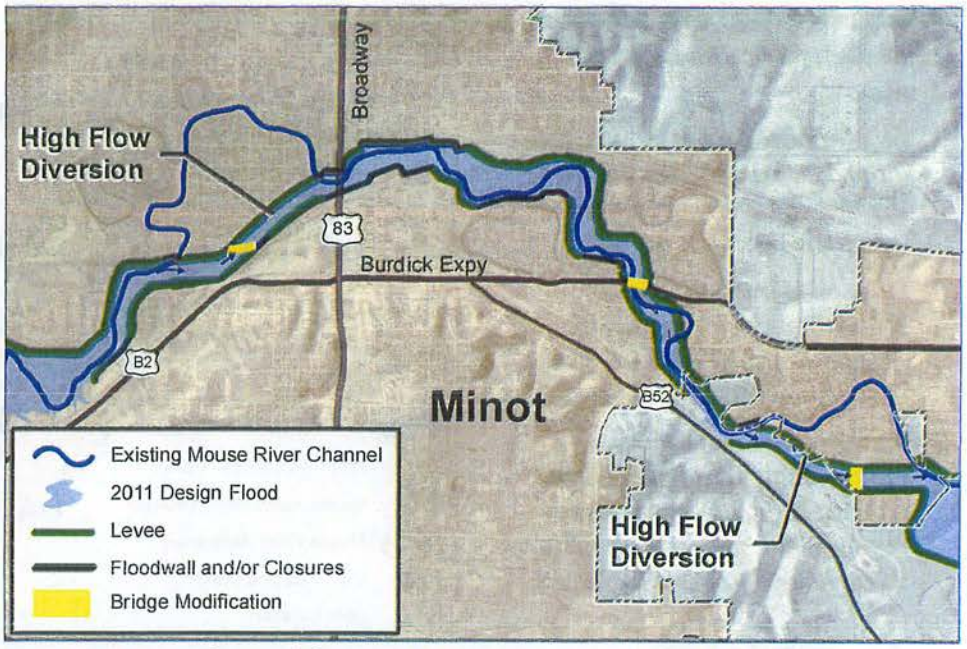

Figure 3: The Project features defined in the Preliminary Engineering Report include levees, floodwalls, channel excavations, channel realignments, bridge modifications, and two high-flow diversion channels in Minot.

Evaluating project impacts

The hydraulic models developed for this study were used to evaluate the effects of the proposed levee-floodwall Project throughout the Mouse River Valley.

With-Project modeled water surface elevations were compared to existing conditions water surface elevations for the three simulated flood events (Figure 4). The proposed Project would impact water surface elevations in the vicinity of the Project features, but would have minimal impact on flood elevations upstream of Burlington and downstream of Velva.

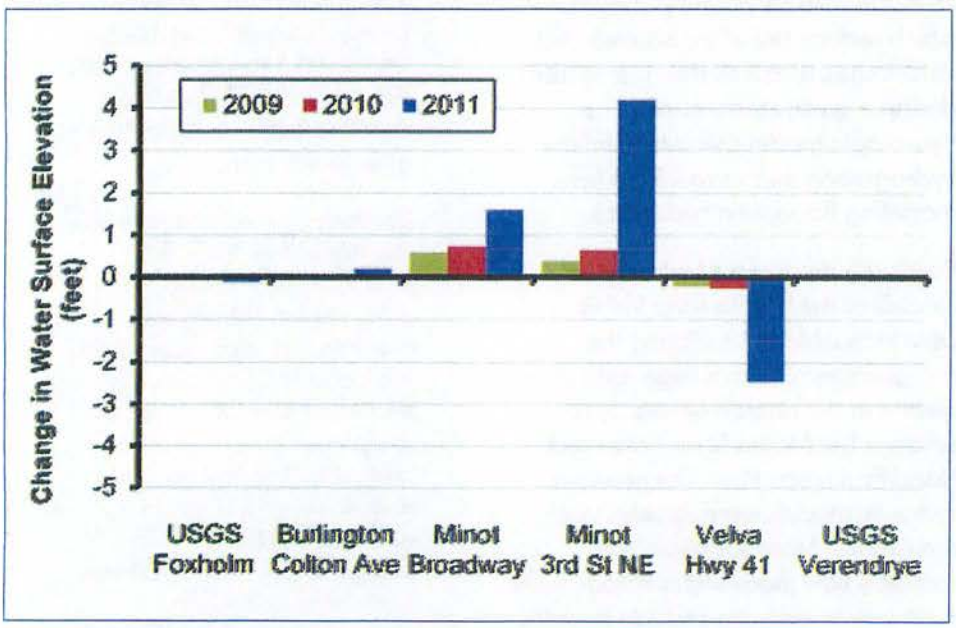

Figure 4: The Project would increase water surface elevations in the vicinity of Minot, but would have minimal impact upstream of Burlington and downstream of Velva.

Application of modeling tools

The hydrologic and hydraulic models are tools that will have broad application for the Mouse River Valley. The hydrologic model provides a framework for future hydrologic simulations for the Mouse River watershed, and the hydraulic models are being used to evaluate alternatives for reducing flood risk in rural areas of the Mouse River Valley.

The models have already been shared with the U.S. Army Corps of Engineers and National Weather Service to assist with flood forecasting during 2013 and in the future.

As the community moves forward with development and implementation of the Mouse River Enhanced Flood Protection Plan, the hydrologic and hydraulic models will be an important resource for evaluating and sizing floodplain management alternatives.

Executive summary

Background: the 2011 Mouse River flood

The erosion and sedimentation resulting from the 2011 flood of record were attributable to some of the most extreme conditions witnessed along the Mouse River in the last 150 years. The record runoff volume and high flow velocities resulted in what was likely the largest amount of sediment mobilized from the watershed and the river channel itself, leading to significant amounts of fine sediment being deposited in some areas of the floodplain.

Given the magnitude of the 2011 flood, there was remarkably little erosion in the most developed portions of the Mouse River between Burlington and Velva. The most significant erosion took place where river flow was most restricted, such as at bridge crossings (see Figure 1). Localized erosion was also observed in several sections of the river where levees had been constructed on one side of the river, which may have increased the erosive forces on the opposite bank.

Erosion in rural areas was highly localized. It occurred at bridge crossings and in locations where the flooding river is naturally constricted on one or both sides by valley walls. In addition, erosion was observed in locations where the river encountered loose sandy or silty soils with little cohesive material. In many cases, the material moved by localized erosion was deposited in backwater areas a short distance (1 to 2 miles) downstream.

Flood-related sedimentation impacts on the Souris Valley Golf Course in Minot were also notable because the golf course is one of the few areas in the city where the Mouse River is not confined by levees or steep valley walls directly on either bank. Several inches of fine sand were deposited on the golf course (Figure 2). Similar deposits of sand were observed near the Highway 2 bypass on the downstream side of Minot, where the absence of levees and steep valley walls allowed the Mouse River to flow out of its banks and onto the floodplain.

Although 32,000 acres of McHenry County farmland was affected by flooding, widespread sediment deposits were small (fractions of an inch in depth) because the river flooded at relatively shallow depths over a very large area. There was significant deposition of organic matter (algae) and flood debris on these lands. The largest sediment deposits—up to several feet in places—occurred mainly in old river channels (oxbows) and other lowlands, especially in northern McHenry County near the J. Clark Salyer National Wildlife Refuge.

The Mouse River, like any other river or stream, will have areas of observable erosion and sedimentation under natural conditions. Furthermore, changes over time in a river's course (called channel migration) are common, with erosion occurring on the outer banks of river bends and sedimentation on the inner banks as the river channel continuously reworks itself across its valley. Rivers move sediment in addition to water; this is their natural behavior. A river in a state of equilibrium does not translate into a channel of fixed dimensions or a completely static alignment. On the contrary, a river in equilibrium moves a bit in one place while not moving much in another place. Maintaining such equilibrium is the challenge for any project.

Figure 1: Significant erosion downstream of the Highway 41 bridge at Velva is illustrated by the proximity of the pine trees to the riverbank—before the 2011 flood, about 300 feet of land stood between these trees and the river

Figure 2: Sand deposition occurred on the Souris Valley Golf Course in Minot because it lies in an area where the river is relatively unconfined by levees or steep valley walls

Study purpose

In the aftermath of record flooding along North Dakota reaches of the Mouse River in June 2011, the North Dakota State Water Commission retained a consulting team led by Barr Engineering Co. to develop a plan to reduce the risk of flooding from future events of similar magnitude. The Preliminary Engineering Report (PER) for this plan, completed in February 2012, included a preliminary alignment for flood risk reduction. It also included engineering, environmental, and cost considerations for the project along the Mouse River reach between Burlington and Velva, as well as for Mouse River Park.

At the request of the Souris River Joint Board , the consulting team has turned its focus to rural areas along the entire Mouse River length within North Dakota. As part of this effort, and in order to complement the PER recommendations, the consulting team has completed the first phase of a study of erosion and sedimentation issues associated with the project. An assessment of the project's potential impacts on erosion and sedimentation may be necessary to support environmental review and permitting of the project, and is needed to determine whether the design of flood-risk-reduction features should be modified in future phases of plan development to help minimize impacts. This assessment considers not only the plan as presented in the PER, but also offers factors to consider during the development of river management alternatives in the rural areas.

Before the potential project impacts can be quantified, however, it is important to understand the processes that shape the landscape in the Mouse River watershed—including human influences and the basin's geologic history. Furthermore, this understanding provides a basis for estimating the likelihood and magnitude of any erosion and sedimentation impacts associated with the project.

The study's main findings are presented in this executive summary. Detailed information is contained in the main report and appendices. The general objectives of the study's first phase were to:

- Provide an initial characterization of the processes of erosion, transport and deposition of river sediment in the study area based on available data
- Use the initial characterization as the basis for conducting a preliminary qualitative evaluation of the project's potential to result in undesirable erosion and sedimentation
- Identify the modeling and additional data needed in the next phase of the study, during which the team will perform detailed field investigations and sediment transport modeling to not only quantify the project's potential impacts, but to propose measures for minimizing adverse impacts from implementation of the PER project

Report components

Geologic setting: The geologic history of the watershed and the basin-wide topography and land use have formed the landcape through which the Mouse River flows, and influence the long-term processes that shape the river. The report includes a literature review of the basin's geologic history and summarizes the watershed-wide conditions.

Valley and stream characteristics: By comparing characteristics of the river and its valley along the river's length, engineers and scientists can identify the broad sections of a river that behave differently from one another. The report includes analysis of the current conditions along the Mouse River and divides the river into nine distinct reaches.

Changes in river shape over time: The best way to understand a river's tendency to erode and deposit sediment is to look for changes in the river's position or cross-sectional shape over time–including changes such as channel straightening. The study includes analyses of both historic aerial photography of the Mouse River and a limited set of available historic cross-sectional surveys performed by the USGS.

Sediment characteristics: In order to quantify erosion and sedimentation, the type and quantity of sediment in the river system must be well defined because the erosion, transport, and deposition patterns vary among different types of soils. The report includes a compilation of the limited data available on river-bed sediment sizes and suspended sediment concentrations.

Lessons from the 2011 flood: The erosion and sedimentation issues caused by this massive flood highlight the areas of most concern on the Mouse River. The report includes a summary of erosion and sedimentation from 2011 based on a site visit and interviews with the U.S. Army Corps of Engineers and rural resource managers.

Geologic setting

The configuration of today's Mouse River Basin is the result of the area's glacial history. The basin's origins can be traced to a catastrophic outburst of glacial melt water in Canada about 11,000 years ago. Floodwaters from this outburst carved what are now known as the Des Lacs and Souris/Mouse River valleys (Figure 3). The melt water eventually flowed into glacial Lake Souris, which extended from Verendrye to the Canadian border, creating two distinct Mouse River reaches in North Dakota (upstream and downstream of Verendrye), each with its own behavior and structure.

Geologic events shaped not only the landscape but the paths the Mouse River now takes, affecting in particular its ability to convey water and sediment during extreme flood events. Signatures of the ancient glacial flood, such as shape and size of the Des Lacs and Souris/Mouse River valleys and the lack of a confining valley downstream of Verendrye, still influence certain aspects of water and sediment movement (Figure 4). The central issue for this study was that the highest potential for erosion will continue to exist in the river reaches upstream of Verendrye, while the downstream reaches will be more likely to experience sediment deposition in future floods.

Valley and stream characteristics and classification

Engineers and scientists use shared characteristics to group and describe river reaches as part of establishing baseline conditions for rivers and predicting their future erosion and sedimentation patterns. This practice is called stream classification. For this study, streams were classified according to features of both the valley and the river channel.

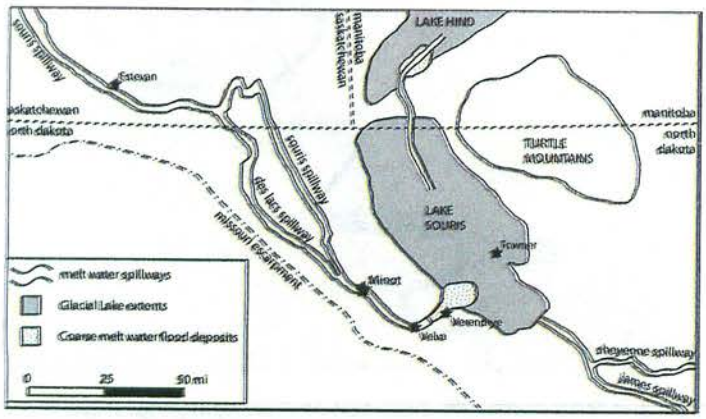

Figure 3: The Des Lacs and Souris/Mouse valleys were carved by an outburst of water from a glacial lake to the northwest, and entered Lake Souris near what is now Verendrye

The project team classified the Mouse River into nine reaches that vary in length and have been grouped according to similar valley, channel, and sediment characteristics (Figure 5). The nine reaches can be broadly considered as three groups: upstream of Burlington (reaches G, H, I); between Burlington and Verendrye (reaches D, E, F); and downstream of Verendrye (reaches A, B, C). This grouping corresponds to the major geologic shifts along the Mouse River: the confluence with the Des Lacs River at Burlington and the entrance to the bed of glacial Lake Souris at Verendrye.

The reaches of the Mouse River between Burlington and Verendrye (reaches D, E, F) received the most attention in this study because 1) they are the areas with the steepest river gradient and contain the soils most likely to be mobilized; 2) have been most affected by changes in the last several decades; and 3) will be the most directly affected by the proposed PER project. This section of the river is the most susceptible to erosion.

The reaches downstream of Verendrye (A, B, C) may also be influenced by the proposed project because they lie downstream of the project features and receive sediment carried from upstream reaches. These reaches represent the portions of the river that have 1) the lowest river gradients; 2) soils typically finer than those in upstream reaches; 3) the most open water and wetlands; and 4) the lowest channel banks. This section of the river is the most likely to experience sediment deposition.

The reaches upstream of Burlington (reaches G, H, I) will be less affected by the project partly because Lake Darling controls sediment movement through the system.

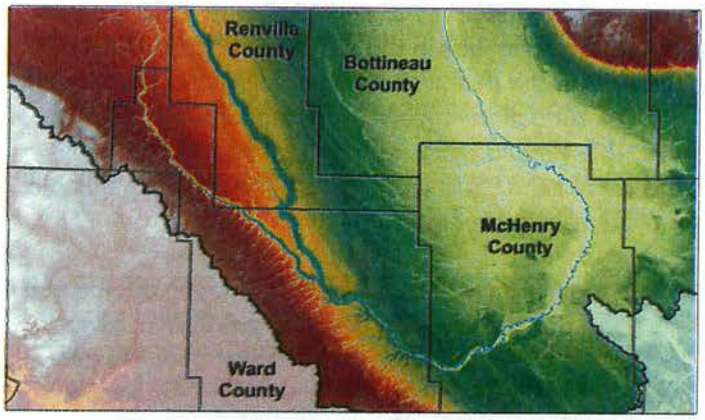

Figure 4: The glacial history of the Mouse River watershed can still be seen in the distinct valleys in Renville and Ward counties and the flat topography in McHenry and Bottineau counties (green depicts low elevations)

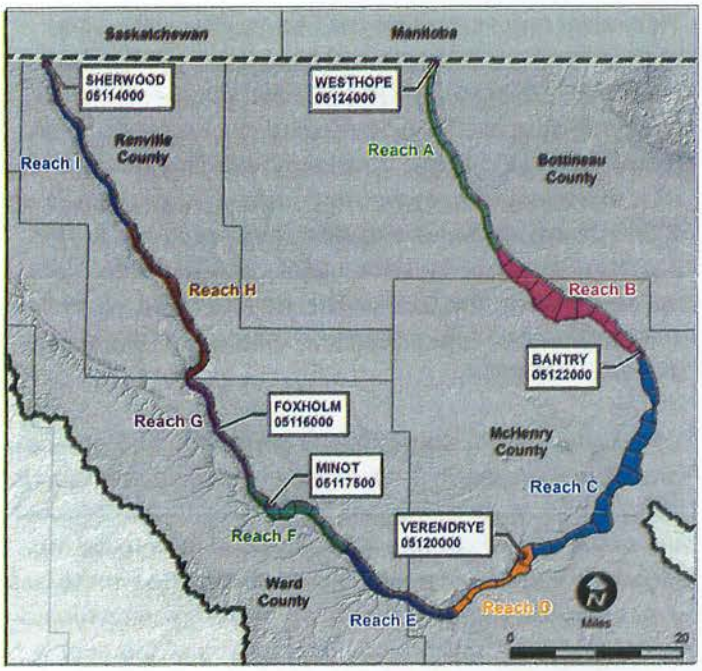

Figure 5: Stream classification yielded nine distinct reaches of the Mouse River (callouts show the locations of USGS flow-gaging stations)

Changes in river shape over time

The Mouse River valley has undergone significant man-made changes in the past 150 years, including shifts in land use, increasing population, and construction of several federal flood-risk-reduction projects. The historical changes in the valley suggest how the river may adapt to future modifications of the channel and/or floodplain.

A key source of historic information about the Mouse River is aerial photography. The consulting team compared aerial photos taken in 1946 and 1969 with 2010 images, and assessed changes in the river's centerline. The 1969 photos show the river as it existed before the addition of flood-risk-reduction measures between Burlington and Velva. The 1946 images, although taken after the construction of Lake Darling, constitute the area's earliest full set of aerial photographs.

Comparing the images revealed that in areas not located near flood-risk-reduction works, changes in river alignment and in the river length (or sinuosity) over the past several decades have been minimal. While the Mouse River actively meanders, the observed rate of channel migration—the slow but constant reshaping of a sinuous river—is not high for a river with its characteristics.

Characteristics used in stream classification

- Valley width
- Valley slope (in direction of river flow)
- Valley sediment types (percent sand–see Figure 6)
- Land use
- Channel width
- Channel cross-sectional area
- Channel slope (in direction of river flow)
- Channel length per unit valley length (sinuosity)
- Channel course as viewed from above (Figure 7)

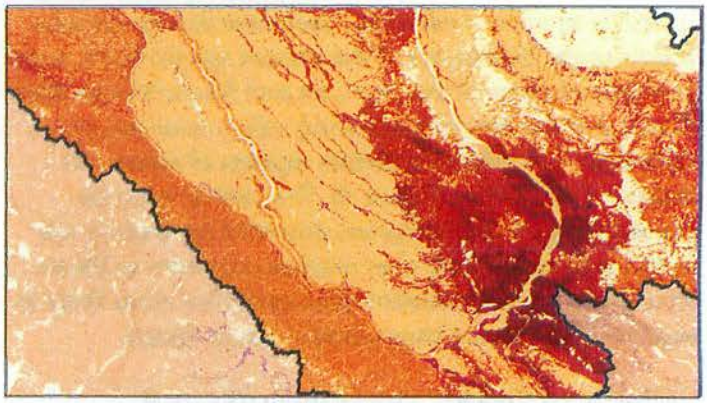

Figure 6: Watershed-wide information, including the different percentages of sand in surface soils, was used to characterize the Mouse River valley (the darkest shades indicate soils made up of at least 80% sand)

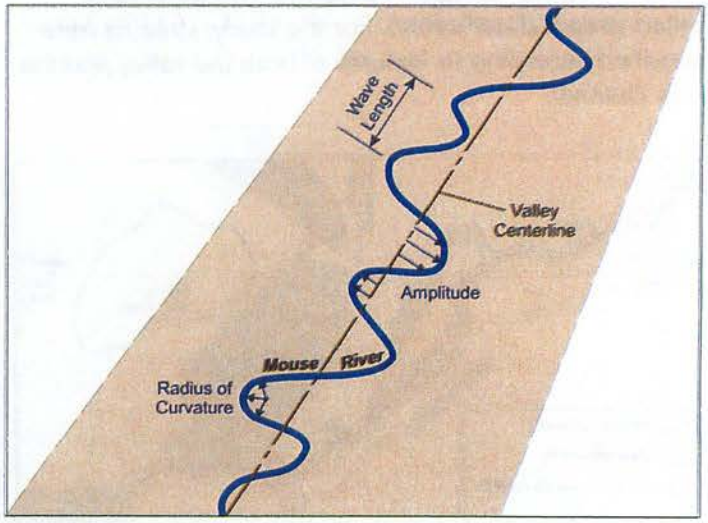

Figure 7: Stream classification included analyzing the river's pattern, which indicates how the river is responding to the forces that shape it

In contrast, pronounced changes in river length have occurred in reaches subject to the channel straightening and cutoff of bends that were part of federal projects (Figure 8). For the 10-mile-long section of river valley near Minot, these projects caused a reduction in stream length of more than 40% (9 river miles) between 1969 and 2010. The sinuosity (ratio of river length to valley length) for this section of the valley is now markedly different from that of the rest of the Mouse River valley, a condition that can cause excessive erosion and "unraveling" as the river attempts to compensate for the imposed redution in length. Although no observable major changes in other river characteristics have occurred since the federal projects were completed, there is a limit to how much straightening can be done without increasing erosion.

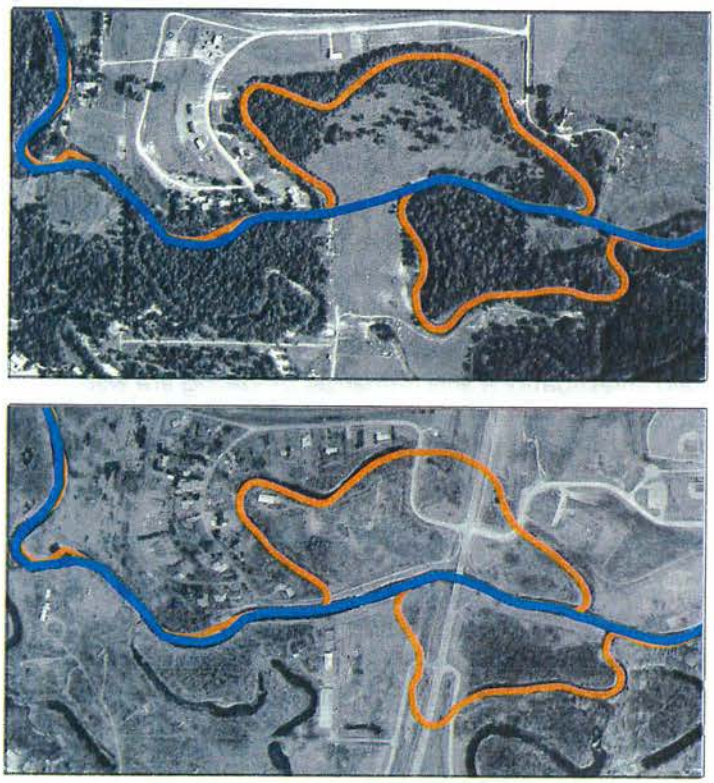

Figure 8: Aerial photos from 1969 (top) and 2010 show natural bends cut off by federal projects over the last several decades, which has reduced the river's length by 9 miles in the reach that includes Minot. The river's original course appears in orange; its current course in blue.

Sediment characteristics

Another important source of historic information is sediment transport data, including measurements of the type and quantity of sediment that is transported in the river system. Measurements of the channel bed material size are especially important, because different types of soil particles interact differently with flowing water.

The available sediment-transport data for the Mouse River was collected mostly by the U.S. Geological Survey in the 1970s. Because this data is very limited in the most sensitive Burlington-to-Verendrye reach (especially with respect to channel-bed material, and to sediment transport rates for a wide range of flows), the team could not quantify erosion or sedimentation potential. Based on the available data though, the Mouse River in the vicinity of Minot appears to have bed material of primarily fine sand and relatively low suspended sediment concentrations (Figure 9).

Preliminary evaluation of potential project impacts

Based on the initial characterization of the processes of erosion, transport, and deposition of river sediment in the study area, it is possible to offer a preliminary qualitative assessment of erosion and sedimentation impacts that may occur in the Mouse River if the proposed flood-risk-reduction project is implemented.

As discussed above, the reaches of the Mouse River between Burlington and Verendrye are naturally more susceptible to erosion. Because the project will increase flow velocities in some locations during very high flow conditions, the project's most likely local impact is an increased risk of erosion. The design considerations of the preliminary alignment already are intended to reduce the potential for erosion by including areas of overbank excavation and widening many of the bridge openings

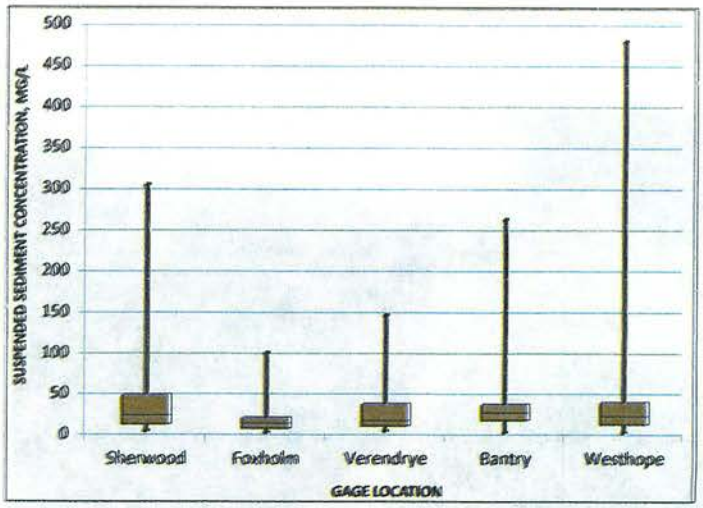

Figure 9: Suspended sediment concentrations vary along the Mouse River but are generally less than 50 milligrams per liter, indicating that typical flows in the river do not carry large amounts of sediment

(Figure 10), and by providing scour protection near diversion structures. However, current plans call for some bridge crossings to significantly constrict flood flows—a situation that may lead to erosion in extreme flood events.

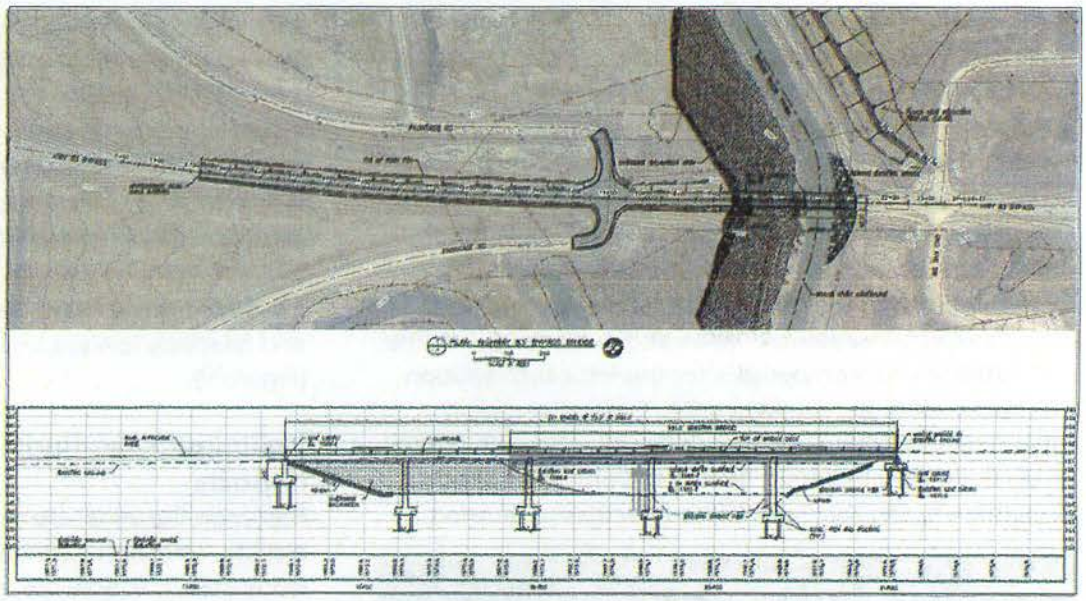

Figure 10: The PER includes designs to widen bridge crossings and reduce potential erosion—and therefore reduce downstream sedimentation

In addition, there is a risk of increased erosion (both bank erosion and channel scour) where the river channel is constricted by levees occupying a significant portion of the floodplain. This is particularly true in areas where the river is restricted to a very narrow region between a levee on one side and a valley wall on the other. At these locations, flow convergence may result in increased erosion (Figure 11).

The Souris Valley Golf Course in Minot will continue to be an area subject to sediment deposition. In the preliminary alignment created for this project, the golf course is the only area within Minot where the river has an appreciable floodplain, which reduces flow velocity even during very large floods and allows sediment deposition to occur. Similar deposition is also likely just downstream of Minot where the river will leave the protected area and return to its natural floodplain.

Figure 11: The most severe erosion in 2011 occurred where levees or steep valley slopes constricted the flow or water, such as this point on the Des Lacs River in Burlington

Judging by the characteristics of the Mouse River's valley and channel and by observations from the 2011 flood, it is unlikely that erosion and sedimentation impacts from the project will extend beyond the most sensitive reaches between Burlington and Verendrye. However, additional field investigations and numerical modeling are warranted to validate this initial conclusion, particularly as it relates to the development of river management alternatives in the rural areas.

There is not sufficient information available (especially on sediment characteristics) to numerically quantify the magnitude of the erosion and sedimentation impacts discussed above. These impacts can be quantified by modeling the most sensitive reaches of the river—modeling that accounts for driving forces (e.g., shear stress) and sediment characteristics (especially of the bed material and sediment load estimates).

One of the preliminary conclusions of this study is that despite the significant existing alteration of some Mouse River reaches (such as channel straightening and levee construction), only isolated erosion and sedimentation impacts were observed in a very extreme event (the 2011 flood of record). Additional river-alignment alterations associated with the PER project or alterations in the rural areas could translate into a different outcome.

Future tasks to improve impact assessment

The primary objective of this study was to characterize the river morphology and sediment transport processes in the study area, and to use this characterization to conduct a preliminary evaluation of the PER project's potential to result in undesirable erosion and sedimentation impacts. The evaluation has been qualitative due to the limited available historic information on sediment-related variables. The qualitative evaluation has served the purpose of identifying data gaps and additional analyses that will be required to determine the magnitude of the impacts and propose measures to lessen these impacts.

The main outstanding questions in this report that should be addressed in a next phase of erosion and sedimentation study are 1) how will the project change sediment transport upstream and downstream of project features, and 2) what will be the magnitude of the associated erosion or sedimentation responses?

A more quantitative analysis will likely be required to support the environmental review and design tasks; therefore, additional data collection, modeling, and analyses should be conducted in a future phase of study. These tasks should include:

- **Field sediment data collection.** It is recommended that data be collected on suspended sediment concentrations and gradations; bed and bank material gradations; and bed loading rates and gradations to use as input in the estimation of impacts (Figure 12).

Just as flood modeling requires an understanding of precipitation patterns and water flow behavior, answering the erosion and sedimentation questions above requires an understanding of the driving and resistant forces of sediment movement through the river system. It is important to quantify the balance between the magnitude and frequency of flows (the driving forces) versus the type of sediment in the watershed and in the channel (the resistant forces) in order to quantify sediment movement and associated erosion and sedimentation—under both existing conditions and with-project—so that impacts can be determined and engineering solutions can be proposed. **This may be necessary also to support environmental review and permitting of the project.**

- **Field channel cross-section surveys.** New data should be collected at a limited number of locations to increase understanding of the Mouse River's local geomorphology (landform-shaping processes) in areas most sensitive to project-related changes (see Figure 13).

- **Historic cross-section measurements.** Archived USGS data should be obtained to provide a better understanding of how the Mouse River has been affected by previous flood-risk-reduction efforts and how it might continue evolving after implementation of the proposed PER project or the river management alternatives in rural areas.

- **Sediment transport modeling.** Modeling is necessary to quantify the project's effects on sediment transport in the river. Depending on the degree of predicted impacts, changes to project features may be recommended.

Figure 12: Bed-material samplers are used to collect soil and sediment from river bottoms, a task recommended for a future phase of study

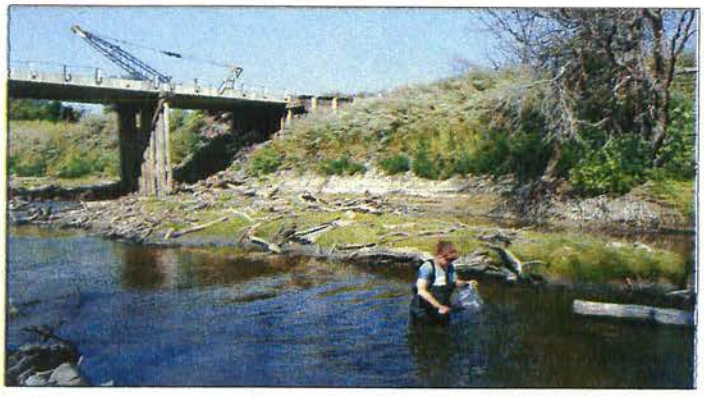

Figure 13: Field channel cross-section surveys include identifying indicators of predominant channel-shaping flows

Rural Flood Risk Alternatives Evaluation

Background and purpose

The Mouse River Valley of North Dakota has endured frequent flood damages over the last decade. Flooding has had significant impacts on the rural residents who make their livelihood along the river and within the floodplains of the Mouse River Valley. Impacts from flooding in the rural areas are varied and widespread, but have often included damage to agricultural areas resulting in reduced yields, damage to structures, adverse impacts to livestock, and loss of commerce due to inundated roads and bridges.

The Mouse River Enhanced Flood Protection Plan is designed to provide flood relief to Mouse River Valley residents. It was initiated by the North Dakota State Water Commission (NDSWC) in response to a request for assistance from the Souris River Joint Water Resources Board (SRJB) after the record-breaking Mouse River flood of June 2011. In the first phase the consulting team developed a plan to reduce flood risk in the river valley from Burlington to Velva and Mouse River Park, described in the *Preliminary Engineering Report* (PER) of February 2012.

After delivery of the PER the focus was shifted to the rural areas (Figure 1). This evaluation provides information for stakeholders to make informed decisions when considering basin-wide flood risk reduction measures within the Mouse River Valley. The Rural Flood Risk Reduction Alternatives Evaluation concentrated on obtaining answers to the following three questions:

(1) What are the effects of implementing the Project elements (as defined in the February 2012 PER) when compared to existing conditions?

(2) Are the proposed rural flood risk reduction alternatives effective in reducing flood impacts to agriculture and/or infrastructure?

(3) Are the rural alternatives implementable?

Contents

Figure 1: This Rural Alternatives report is the final report for this phase of the Mouse River Enhanced Flood Protection Plan; previous efforts focused on establishing a preliminary alignment for levees and floodwalls, an erosion and sedimentation analysis, and hydrologic and hydraulic modeling.

Study area

The study area consists of the main stem of the Mouse River within North Dakota, analyzed separately within four reaches. Only rural areas, buildings, roadways, railroads, and bridges were in this evaluation. Areas that would be protected by the PER flood risk reduction elements were excluded from the evaluations conducted for this study; the remaining rural areas from Burlington to Velva were included. The study area is shown in Figure 2.

Alternatives

Twelve alternatives were identified by stakeholders to address rural flooding concerns. These alternatives are summarized in Table 1. The with-Project conditions was compared to the existing conditions and then to each of the analyzed alternatives.

The Souris River Joint Board (SRJB) hosted a Rural Reaches Workshop in Minot, North Dakota, on February 16, 2012, to collect information from community stakeholders on the types of flooding problems experienced by rural landowners, river stages and time frames when flooding is an issue, and potential risk-mitigation alternatives.

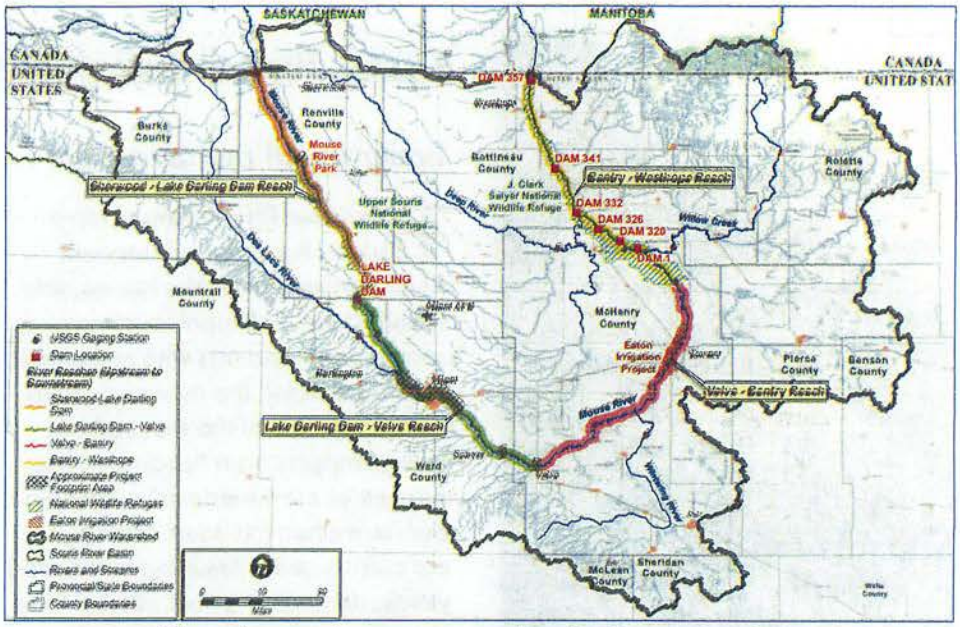

Figure 2: Map of the study area; alternatives were evaluated for four reaches of the Mouse River: (1) Sherwood to Lake Darling Dam, (2) Lake Darling Dam to Velva excluding Project footprint areas, (3) Velva to Bantry, and (4) Bantry to Westhope.

Table 1: Rural Flood Risk Reduction Alternatives	
ALTERNATIVE 1	ADVANCED DISCHARGE FROM LAKE DARLING Modify the operating plan of Lake Darling Dam to drawdown pool level to the maximum drawdown level (El. 1,591) prior to spring flood events.
ALTERNATIVE 2	INCREASED TARGET DISCHARGE AT MINOT Modify the operating plan of Lake Darling Dam to allow discharges up to 10,000 cfs at Minot.
ALTERNATIVE 3	NON-STRUCTURAL FLOOD STORAGE INCREASE IN LAKE DARLING Increase the storage capacity of Lake Darling by lowering the maximum allowed drawdown level by 7 feet (to El. 1,584).
ALTERNATIVE 4	STRUCTURAL FLOOD STORAGE INCREASE IN LAKE DARLING Increase the storage capacity of Lake Darling by raising the dam. (Increase maximum flood storage level by 10 feet to El 1,611.)
ALTERNATIVE 5	RING DIKES Provide ring dikes around homes, businesses, and farmsteads in rural areas.
ALTERNATIVE 6	BOUNDARY DIVERSION Provide a high-flow diversion from Sherwood to Westhope to divert high flows away from the Mouse River Valley in North Dakota.
ALTERNATIVE 7	CHANNELIZATION IMPROVEMENTS DOWNSTREAM OF VELVA Provide increased channel flow capacity through channelization in select areas downstream of Velva.
ALTERNATIVE 8	BRIDGE MODIFICATIONS Raise or enlarge openings of select bridges over the Mouse River to allow key transportation corridors to remain open during flood events and to provide increased conveyance capacity at bridges.
ALTERNATIVE 9	MODIFY J. CLARK SALYER REFUGE DAM OPERATIONS Modify the operations of JCSNWR dams so that all water control structures remain open during events like the 2009, 2010, and 2011 historic events.
ALTERNATIVE 10	MODIFY J. CLARK SALYER REFUGE HYDRAULIC STRUCTURES Modify the physical parameters of the five JCSNWR dams to re-create conditions that existed prior to dam reconstruction work in the early 1990s.
ALTERNATIVE 11	REMOVE TRAPPED FLOODWATER AFTER THE FLOOD RECEDES Improve drainage of low-lying overbank areas to remove trapped floodwater from the floodplain after the flood recedes.
ALTERNATIVE 12	FLOOD STORAGE ON TRIBUTARIES TO THE MOUSE RIVER Provide floodwater storage in tributary watersheds.

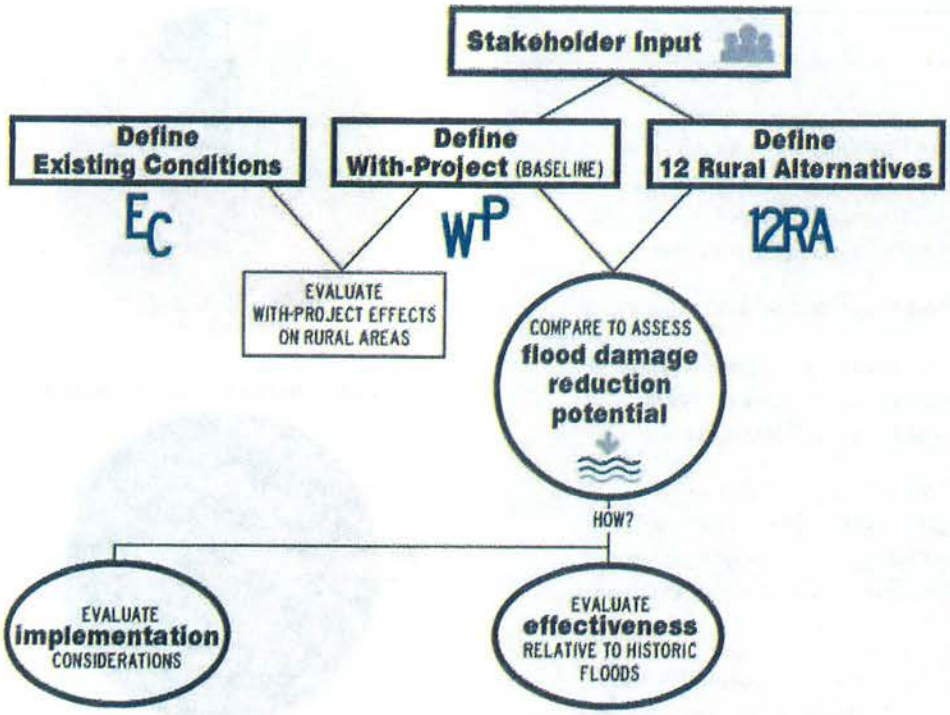

Figure 3: The evaluation process started with stakeholder input; 12 alternatives were identified and compared to assess flood risk reduction potential and implementability.

Study approach

The approach to the rural flood risk reduction alternatives evaluation was: (1) to engage stakeholders in identifying rural area flood concerns and alternatives to be studied, (2) to develop hydrologic and hydraulic models for the entire study area, and (3) to evaluate alternatives using stakeholder criteria and modeled flood scenarios.

The resulting alternatives were evaluated for their effectiveness in reducing flood impacts using qualitative analysis of historic floods as well as computer simulations of specific scenarios. This evaluation relies on the hydrologic and hydraulic models constructed of the Mouse River Valley for both the existing and with-Project conditions. Alternatives were also assessed for implementability to assess the degree of difficulty that might be expected in implementing a particular alternative under practical, technical, and regulatory constraints (Figure 3).

Effectiveness evaluation

The initial evaluation of each alternative was an assessment of the potential for the alternative to provide meaningful flood risk reduction, based on the established stakeholder criteria. USGS gage data for 14 historic floods were used to determine how likely each alternative would be to provide a flood risk reduction benefit under various flood conditions.

The effects of a flood on infrastructure are primarily related to the magnitude of the flood, with "major" flood damage resulting from flows above 5,000 cfs in most areas. Infrastructure impacts would be reduced by decreases in the peak flows or by local protection measures (ring dikes or bridge modifications). Impacts to transportation infrastructure are classified as affecting local roads, county roads, highways, or railroads.

The effects of a flood on agriculture are related to both the magnitude and timing of the flood. "Problematic" flooding occurs at flows above 3,000 cfs in most areas, but even flows above 500 cfs can cause significant impacts to agriculture if they occur during the peak growing season. Agricultural impacts would be reduced by decreases in the peak flows and the duration of high flows in the growing season. Agricultural impacts are defined based on the amount of farmland inundated and the timing/duration of the inundation.

Implementation evaluation

The implementation evaluation assessed the degree of difficulty that might be expected in implementing each alternative under practical, technical, and regulatory constraints. This qualitative analysis identified potential issues with permitting, legal issues, capital cost range, and constructability challenges (Table 2).

Table 2: Implementation Evaluation Criteria	
1	Stakeholder Acceptance*
2	Impacts to Transportation, Commerce, Emergency Response
3	Water Rights Impacts/Issues
4	Impacts to Canada
5	Agricultural Impacts
6	Flood Insurance Impacts
7	Social Impacts
8	Capital Cost Range
9	Operation/Maintenance Requirements
10	Erosion/Sedimentation Impacts
11	Environmental Impacts
12	Permit Requirements
13	Constructability

**While "stakeholder acceptance" is a critical component of implementability, it was not rated as part of this evaluation. The engineering team recognizes that it cannot assume to understand this criterion before stakeholders have had the chance to review and comment on this report.*

Historic flood evaluation

An evaluation of historic floods in the Mouse River Basin was critical to understanding flood-related problems and to defining the potential effectiveness of alternatives in reducing flood impacts for observed floods. Figure 4 summarizes the primary contributing drainage area and the type of flood (snowmelt, rainfall, or combination) for the top 28 floods at Verendrye.

Analysis of historic floods since 1937 resulted in the following conclusions:

- Snowmelt combined with coincidental or subsequent rainfall was the primary cause of the majority of the largest floods. However, over a quarter of the floods at Verendrye were the result of rainfall events.
- The drainage area upstream of Lake Darling Dam was the primary contributor to the majority of the largest floods. About 25 percent of the largest flood events were generated primarily from drainage areas downstream of the dam; therefore, Lake Darling Reservoir provides no flood risk reduction for those events.
- For flood risk reduction measures to be effective in reducing flooding and flood damages for the reaches downstream of Velva, measures that consider flood runoff from all portions of the upstream drainage areas should be considered.

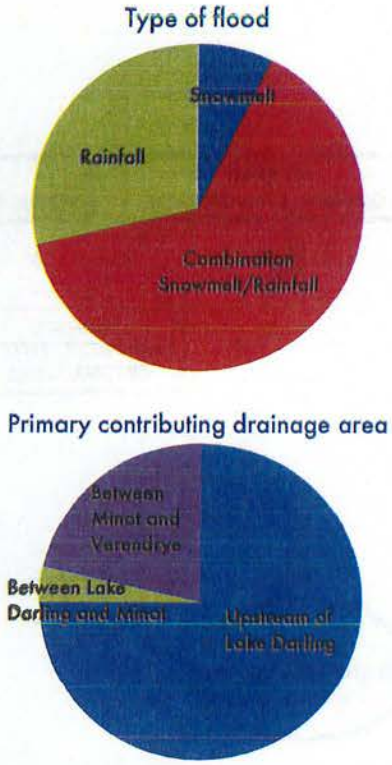

Figure 4: A summary of the primary contributing drainage area and type of flood for the top 28 floods at Verendrye

Conclusions

Effect of Burlington-to-Velva flood risk reduction measures

The hydraulic model of the Mouse River was developed to assess the changes in river hydraulics that could be expected with flood risk reduction measures in place (Figure 5). The results indicate the Project has very little impact on water surface elevations outside of the Burlington-to-Velva Project areas. With the Project elements in place, the impacts to inundated rural areas, number of inundated rural buildings, length of inundated roads, length of inundated railroads, and number of inundated bridges were relatively unchanged from existing conditions for all years (2009, 2010, and 2011) modeled.

Rural flood risk alternatives

The effectiveness and implementation assessments for the 12 alternatives are summarized in Table 3 on the following pages.

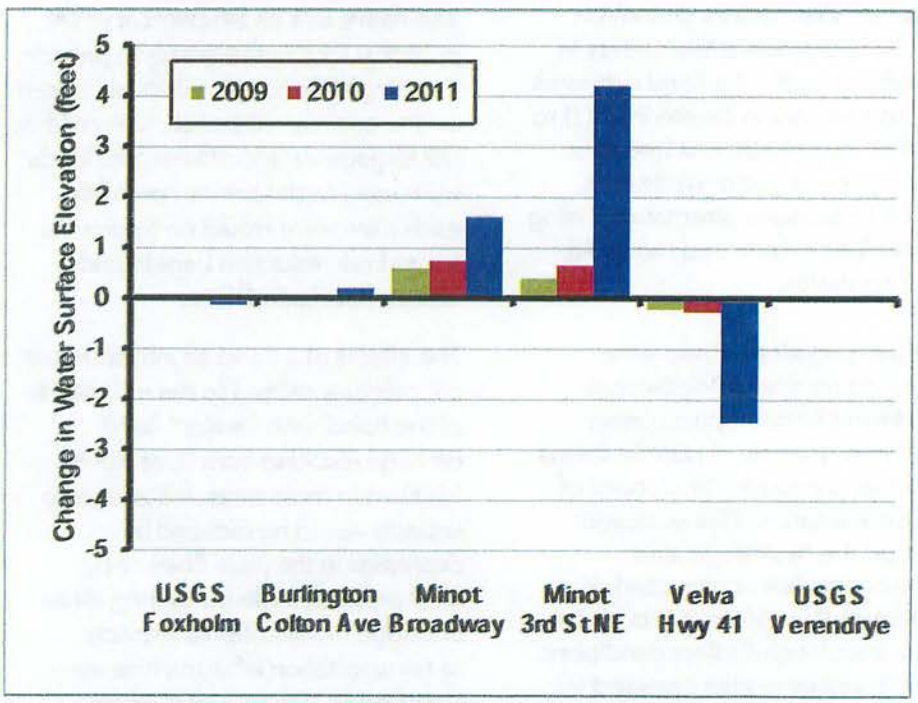

Figure 5: Hydraulic modeling of the 2009, 2010, and 2011 flood events was performed with and without the PER Project elements in place. The Project will minimally impact water surface elevations upstream of Burlington and downstream of Velva, while water surface increases in the developed areas will be contained between the proposed Project levees.

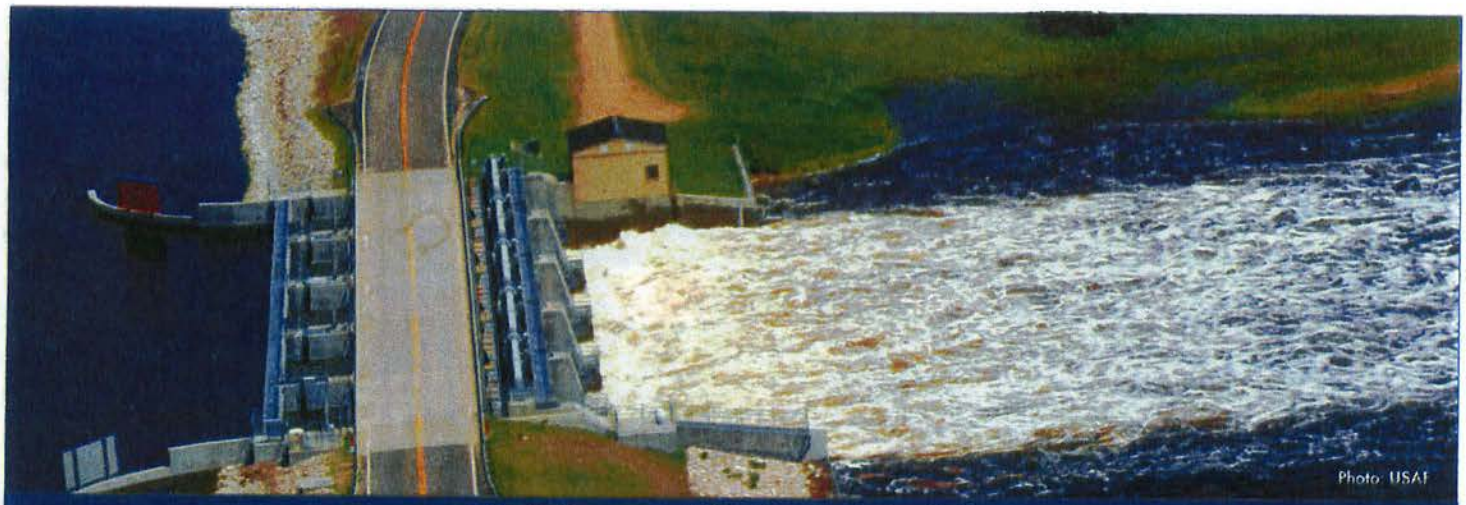

Table 3: Summary of Findings and Conclusions

	Effectiveness Assessment		Implementation Evaluation		
Alternative	Agricultural Impact Reduction	Infrastructure Impact Reduction	Overall Implementability	Greatest Challenges	Anticipated Cost Range
ALTERNATIVE 1 Advanced Discharge from Lake Darling ★	Effective at reducing duration of inundation from Velva to Bantry during 1999 and 2001 floods; also somewhat effective for the 1975 and 1979 floods	Minor reduction of impacts for other select floods	✓	Concerns about increased winter discharges; requires modification of Annex A; possible water rights and refuge compatibility issues	$ Minimal capital cost
ALTERNATIVE 2 Increased Target Discharge at Minot	Minor reduction of impacts for the 2011 flood; effective at reducing duration of inundation from Velva to Bantry for the 1975, 1976, and 1979 floods	Minor reduction of impacts for the 2011 flood; infrastructure impacts worsened for the 1975, 1976, and 1979 floods	✗	Increased inundation for some floods; more homes in 100-year floodplain; possible water rights and refuge compatibility issues	$ Minimal capital cost
ALTERNATIVE 3 Non-Structural Flood Storage Increase in Lake Darling ★	Effective at reducing duration of inundation from Velva to Bantry for the 1970, 1974, 1975, 1976, and 1979 floods	Minor reduction of impacts for other select floods	!	Concerns about increased winter discharges; requires modification of Annex A; possible water rights and refuge compatibility issues (more so than Alternative 1)	$ Minimal capital cost
ALTERNATIVE 4 Structural Flood Storage Increase in Lake Darling	Minor reduction of impacts for the 2011 flood	Minor reduction of impacts for the 2011 flood	✗	Relocations, cost, coordination with Canada, recreational concerns	$$$ ($200-700 million)
ALTERNATIVE 5 Ring Dikes ★	No agricultural impact reduction (ring dikes only protect structures)	Effective at reducing impacts to buildings for floods up to the 2011 magnitude flood, but no reduction of impacts to roadways, railroads, or bridges	✓	Individual landowners must provide cost share and conduct maintenance	$$ ($10-50 million)
ALTERNATIVE 6 Boundary Diversion	Effective at reducing impacts for the 2011 flood in all reaches	Effective at reducing impacts for the 2011 flood in all reaches	✗	Major negative impacts likely for many of the criteria, including permits, impacts to Canada, relocations, constructability	$$$$ ($2-8 billion)

★ Most attractive basin-wide alternative

Implementability

✓ Minimal challenges currently foreseen to implement the alternative

! Some challenges currently foreseen to implement the alternative

✗ Significant challenges currently foreseen to implement the alternative

Anticipated cost range

$ Minimal cost ($0 to $10 million)

$$ Moderate cost ($10 to $300 million)

$$$ High cost ($300 million to $1 billion)

$$$$ Very high cost (>$1 billion)

Table 3: Summary of Findings and Conclusions

	Effectiveness Assessment		Implementation Evaluation		
Alternative	Agricultural Impact Reduction	Infrastructure Impact Reduction	Overall Implementability	Greatest Challenges	Anticipated Cost Range
ALTERNATIVE 7: Channelization Improvements Downstream of Velva	Minor reduction of impacts	For the Velva to Bantry reach, effective at reducing impacts to buildings for the 2009 flood; minor reductions in impacts to roadways and railroads for the 2009, 2010, and 2011 floods	✗	Likely difficulty in obtaining USACE permit for channel excavation	$$ ($100-400 million)
ALTERNATIVE 8 Bridge Modifications	Minor reductions of impacts	Effective at reducing impacts to bridges, but minor or no reduction of impacts to buildings, roadways, or railroads	✓	Some environmental and erosion/sedimentation impacts	$$ ($30-100 million)
ALTERNATIVE 9 Modify JCSNWR Dam Operations	Minor reduction of impacts for the 2010 flood in the Bantry to Westhope reach	Minor reduction of impacts to roadways and railroads for the 2010 flood in the Bantry to Westhope reach	✗	Likely difficulty in obtaining USFWS and USACE permits; compatibility issues with refuge missions	$ Minimal capital cost
ALTERNATIVE 10 Modify JCSNWR Hydraulic Structures	Minor reduction of impacts for the 2009, 2010, and 2011 floods in the Bantry to Westhope reach	Minor reduction of impacts for the 2009, 2010, and 2011 floods in the Bantry to Westhope reach	✗	Likely difficulty in obtaining USFWS and USACE permits; compatibility issues with refuge missions	$$ ($30-100 million)
ALTERNATIVE 11 Remove Trapped Water after the Flood Recedes	Impact reduction is likely if (1) topography allows the trapped water to be conveyed back to the channel by gravity and (2) elevation of the river has receded below the drain outlet by approximately May 31	Minimal reduction of impacts expected; depends on final locations implemented	✓	Concerns about erosion downstream of culverts; ongoing maintenance to maintain effectiveness	$ ($3-10 million)
ALTERNATIVE 12 Flood Storage on Tributaries to the Mouse River	50% and 70% reduction scenarios are effective at reducing inundation during the 2009 and 2010 floods	50% and 70% reduction scenarios are effective at reducing inundation during the 2009 and 2010 floods	!	Site identification; possible difficulty in obtaining permits	$$ ($10-340 million)

Effectiveness criteria were developed to help determine which rural alternatives would be identified as the most effective. The objective of the effectiveness criteria was to identify alternatives that appear to provide some substantive relief (greater than 25 percent reduction in inundation area or flood duration or reduces the inundation of some infrastructure) for at least two of the historic flood events.

Based on the results of this rural flood risk reduction evaluation, the most effective basin-wide rural alternatives for reducing impacts to agriculture are Alternatives 1 (Advanced Discharge from Lake Darling) and 3 (Non-Structural Flood Storage Increase in Lake Darling). The most attractive basin-wide alternative for reducing impacts to infrastructure is Alternative 5 (Ring Dikes). Alternatives 1 and 5 have minimal implementation challenges, while Alternative 3 would be more challenging to implement. Additional considerations for these alternatives are shown in Table 4.

Many of the alternatives, including those that were not identified as "most effective," could provide some level of benefit even if the alternative was only partially implemented (i.e., implemented on key tributaries or at key locations along the Mouse River) and would need to be evaluated on a case-by-case basis. The results indicate that no single alternative is likely to provide all-encompassing flood risk reduction in rural areas. However, the most effective basin-wide approach for reducing rural flood impacts to both agricultural land and infrastructure along the Mouse River would likely consist of a combination of two or more of the alternatives.

Next steps

Flooding has had significant impacts on the rural residents who make their livelihood along the river and within the floodplains of the Mouse River Valley. Recognizing that stakeholder acceptance is the key to moving towards implementation of any rural flood risk reduction alternative, the most important next step is to gather feedback from those stakeholders and policy makers who have a vested interest in protecting agricultural land, homes, and infrastructure in the rural areas along the Mouse River.

Table 4: Additional Considerations for Most Effective Basin-Wide Alternatives

Alternative	Potential Advantages	Potential Limitations	Other Considerations	Potential Next Steps
ALTERNATIVE 1 Advanced Discharge from Lake Darling	Relatively inexpensive to implement; reduces agricultural impacts for select floods by allowing earlier access to fields adjacent to the river	Does not provide comprehensive flood risk reduction for all floods; little or no reduction of infrastructure impacts	Assumes that discharges can be predicted months ahead of time, which is not feasible	Study for the review of Annex A currently underway by the International Souris River Board which will review optimizing the operations of Lake Darling Dam
ALTERNATIVE 3 Non-Structural Flood Storage Increase in Lake Darling	Relatively inexpensive to implement; reduces agricultural impacts for select floods by allowing earlier access to fields adjacent to the river	Does not provide comprehensive flood risk reduction for all floods; little or no reduction of infrastructure impacts	Assumes that discharges can be predicted months ahead of time, which is not feasible	Study for the review of Annex A currently underway by the International Souris River Board which will review optimizing the operations of Lake Darling Dam
ALTERNATIVE 5 Ring Dikes	Effective in reducing risks of damage to buildings for floods up to June 2011 flood levels	No reduction of agricultural impacts or impacts to roads, railroads, or bridges	Fewer evacuations in major floods may result in more residents without transportation links due to inundated roads	Obtain input from landowners and compile list of potential ring dike locations; for each potential location compare cost of ring dike, structure relocation, and acquisition; conduct hydraulic modelling, especially in areas with large or many proposed ring dikes

International Joint Commission
Canada and United States

Commission mixte internationale
Canada et États-Unis

June 7, 2013

The Honorable John Kerry
Secretary of State
U.S. Department of State
2201 C St. NW
Washington, DC 20520

The Honorable John Baird
Minister of Foreign Affairs
Foreign Affairs and International Trade
Canada
125 Sussex Dr.
Ottawa, ON, Canada
K1A 0G2

Subject: **Plan of Study: For the Review of the Operating Plan Contained in Annex A of the 1989 International Agreement between the Government of Canada and the Government of the United States of America.**

Dear Secretary Kerry and Minister Baird:

The unprecedented flooding in the Souris River basin in 2011 prompted calls from both sides of the border to review the existing agreement that deals with water supply and flood control in the Souris Basin. The governments subsequently requested that the Commission develop a "Plan of Study" (POS) to identify what needs to be done to address this issue. In particular, the focus should be on evaluating the Operating Plan, but also on identifying potential additional measures to help alleviate flooding in the basin. An integral part of this analysis should be to assess the impacts of climate change in light of the increasing magnitude of floods. The International Joint Commission's International Souris River Board established the Souris River Basin Task Force on February 22, 2012 to develop a POS and provide a range of options for addressing this issue. The Board recently submitted its final report to the Commission. There was a 30 day public consultation period, and the input from stakeholders and the public is captured in the report.

The Task Force identified three funding options based on the scope and level of effort required:

1. Minimum Scope - $1.05M
2. Medium Scope - $1.33M
3. Full Scope - $2.14M

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The advantages and limitations of each option are clearly laid out in the Executive Summary of the POS (**Attachment 1**). As proposed in the POS, the work would take two years to complete and the funding should be equally shared between the two countries.
The Task Force, after extensive consultations with International Souris River Board, stakeholders and the public concluded that Option 3 should be pursued, as it provides the most comprehensive assessment. The Commission supports this recommendation and encourages the governments to provide a Reference and commit to this level of funding in a timely manner so that this important work can proceed.

This year's flooding in the basin is again severe, and significant public concern is being voiced on both sides of the border. The work that would be carried out under the POS is viewed by the public and other stakeholders, as well as the Commission and our International Souris River Board, as being important for developing a basin-wide strategy aimed at reducing the impacts of severe floods.

Sincerely,

Lana Pollack
Chair
US Section

Joseph Comuzzi
Chair
Canadian Section

Dereth Glance
Commissioner
U.S. Section

Richard Moy
Commissioner
U.S. Section

Attachment

1. Plan of Study: For the Review of the Operating Plan Contained in Annex A of the 1989 International Agreement between the Government of Canada and the Government of the United States of America.

cc.
Russell Boals, Canadian Co-Chair, International Souris River Board
Todd Sando, US Co-Chair, International Souris River Board

North Dakota State Water Commission

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Agenda Q

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, P.E., Chief Engineer/Secretary
SUBJECT: 2013 Flood Update
DATE: June 7, 2013

Snowmelt

If weather conditions had been "normal" for North Dakota this spring, then widespread, near record flooding likely would have occurred. April brought well-below normal temperatures statewide. In fact, all major weather reporting stations including Bismarck, Dickinson, Fargo, Grand Forks, Jamestown, Minot, and Williston had one of the top five coldest April on record. Fargo set a new record for latest 50-degree day in any year on April 26th and tied the latest 60-degree day record.

The snow pack leading into the late April/early May melt had emergency planners concerned for good reason. Snow Water Equivalent (SWE) values were reminiscent of spring 2011 and with the late start to the melt the potential for rapidly warming temperatures was likely. Fargo's normal high temperatures for late April are in the low 60s. If the stretch of 60-degree weather Fargo experienced at the end of April had continued through early May, a rapid melt would have occurred potentially leading to one of the five worst flood crests in Fargo's history. Instead, overnight low temperatures cooled off into the 30s and by May 1st a return to 40 and 50-degree weather was seen.

Another benefit to the temperatures this spring is their undoubted contribution to soil infiltration. The ground warmed up just enough to allow a significant amount of snowmelt to infiltrate, whereas it otherwise would have contributed to a widespread overland flooding if the frost had remained in place. In addition, the drought conditions that occurred last year left soils dry, enabling moisture to infiltrate instead of running off.

The Red River at Fargo crested at 33.31 feet on May 1st, making this the 12th highest on record. This was very significant because the forecast was for a potential crest of 38 to 42 feet.

The Mouse River saw very high snow amounts as well, which resulted in the dams above Minot being drawn down below the target elevation. As was seen across the rest of the State the soil absorbed more runoff than was predicted causing the predicted river crests to be lower than expected. The peak from snowmelt at Minot was 2,640 cfs.

In comparison to the conditions that brought flooding to the Missouri and Mouse River Basins in 2011, we were fortunate that there were not any significant spring rains to rapidly accelerate the snowmelt and bolster the amount of water passing through these systems this season. Two weeks after many rivers across the state were finally reaching their early May crests, record setting May rainfall events began across western and central North Dakota and continued

through early June. Had these seven to ten inch cumulative rains coincided with the snowmelt in late April or early May, widespread flooding would have occurred.

May Rainfall

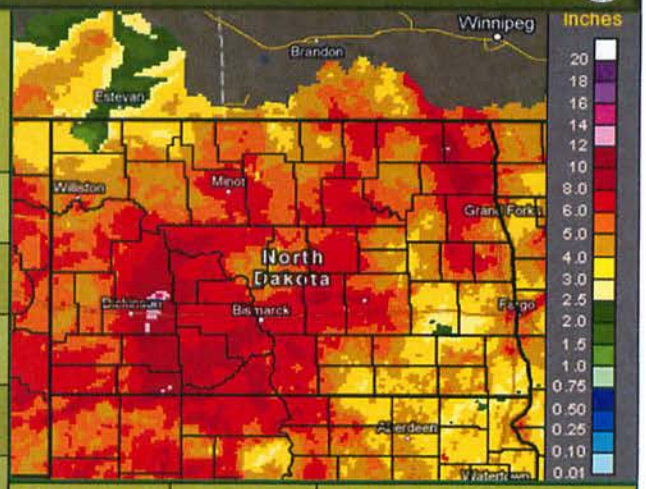
On Thursday, May 16, the National Weather Service forecasted severe thunderstorms possible late Friday, especially in southwest North Dakota. Severe thunderstorms were also forecasted again later Saturday and Sunday, especially in the south central and southeast parts of the state with total rain amounts of 1.5 to 4 inches forecasted through Tuesday. By Tuesday, May 21, rainfall totals across the entire state averaged nearly three inches, with areas in the northeastern portion of the State receiving 5.5 to 11 inches.

The rainfall that occurred the second half of May set records all over the State, including Bowman, Marshall, Taylor, Killdeer, Flasher, Dunn Center, Hettinger, Bismarck, Grassy Butte, New Salem, and Dickinson. See Figure 1.

Figure 1

May 2013 Western and Central ND Rainfall Summary

Location	2013 May Rainfall (in.)	Record
Bowman	10.61	*New Record (previously 6.73 in 1982)
Marshall	10.18	*New Record (previously 5.79 in 2011)
Taylor 7NNW	9.18	*New Record (previously 5.54 in 2011)
Killdeer	9.15	*New Record (previously 6.64 in 2011)
Flasher	8.53	*New Record (previously 6.37 in 2007)
Dunn Center 1E	8.11	*New Record (previously 7.20 in 2011)
Hettinger	8.02	*New Record (previously 4.48 in 2011)
Bismarck	7.37	*New Record (previously 7.04 in 1927)
Garrison	6.82	8.51 in 2007
Minot	6.75	7.04 in 2007
Grassy Butte	6.69	*New Record (previously 5.83 in 2010)
New Salem 5NW	6.66	*New Record (previously 6.64 in 1927)
Dickinson	6.03	*New Record (previously 5.87 in 2005)
Williston	4.99	7.38 in 1965
Jamestown	4.40	6.24 in 2004
Willow City	4.13	7.63 in 1999



NWS Bismarck, North Dakota

Dams and cities throughout the State had issues. Cavalier and Akra in Pembina County, Crystal in Walsh County, Belcourt in Rolette County were evacuated and Hebron in Morton County had a voluntary evacuation. Several Roads were inundated including I-94 near Jamestown.

Renwick Dam, located in Pembina County about 6 miles upstream of the City of Cavalier on the Tongue River, experienced a rapid rise in water level. In an effort to prevent water from flowing through the auxiliary spillway, a dike was constructed in the auxiliary spillway to near top of dam elevation. The City of Cavalier was evacuated on May 21st as a precaution. On May 22nd, the water level peaked at 987.99 feet, 4.7 feet above the crest of the auxiliary spillway. Two days later the water level receded to the auxiliary spillway crest and continued to drop. Upstream of Renwick Dam, the following five dams had flow through their auxiliary spillways: Herzog, Morrison, Goschke, Olson, and Bourbanis dams. Willow Creek Dam #1, located on a tributary of the Park River in Pembina County, also experienced flow through its auxiliary spillway. Some of these structures sustained damage to their auxiliary spillways.

The same mid-May precipitation caused the Park River at Grafton to crest a second time in the same month near the peak of record stage of 16.15 feet. On May 23rd, the Park River at Grafton peaked at a stage of 16.16 feet. This peak came after a near record stage of 16.11 feet on May 1st. Grafton had a third peak of 13.25 feet on June 2. National Weather Service has categorized 13.5 feet as Moderate Flood Stage and 14.5 feet as Major Flood Stage at Grafton.

The rain the Mouse River basin received in May refilled the dams to above target levels. The USACE raised releases from Lake Darling Dam in May to try to lower the reservoir to its target level by June 1st. Flows above 300 cfs inundate hay land in the Towner area acting as natural flood irrigation if this water stays there after June 1st producers cannot access the fields. With the continued rain flows in the Mouse River have been very high. As of June 10 the flow is 4,160 cfs.

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