MINUTES

North Dakota State Water Commission
Bismarck, North Dakota

June 19, 2019

The North Dakota State Water Commission (State Water Commission or Commission) held a meeting at the State Capitol, Brynhild Haugland Room, Bismarck, North Dakota, on June 19, 2019. Governor Burgum called the meeting to order at 1:05 p.m., and requested Garland Erbele, State Engineer, and Chief Engineer-Secretary to the State Water Commission, call the roll. Governor Burgum announced a quorum was present.

STATE WATER COMMISSION MEMBERS PRESENT:
Governor Burgum, Chairman
Doug Goehring, Commissioner, ND Department of Agriculture, Bismarck
Katie Andersen, Jamestown
Richard Johnson, Devils Lake
Leander McDonald, Bismarck (arrived 1:07 p.m.)
Mark Owan, Williston
Jason Zimmerman, Minot

STATE WATER COMMISSION MEMBERS ABSENT:
Michael Anderson, Hillsboro (joined Executive Session via phone at 5:15 p.m.)
Matthew Pedersen, Valley City

OTHERS PRESENT:
Lt. Governor Brent Sanford (arrived 3:40 p.m.)
Garland Erbele, State Engineer, and Chief Engineer-Secretary, State Water Commission
State Water Commission Staff
Jennifer Verleger, General Counsel, Attorney General's Office
Approximately 50 people interested in agenda items.

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

CONSIDERATION OF AGENDA

The agenda for the June 19, 2019, State Water Commission meeting was presented; there were no modifications.

CONSIDERATION OF DRAFT MEETING MINUTES FOR APRIL 9, 2019

The draft minutes for the April 9, 2019, State Water Commission meeting were reviewed. There were no modifications.

It was moved by Commissioner Owan, seconded by Commissioner Zimmerman, and unanimously carried, that the minutes for April 9, 2019, be approved as presented. Commissioner McDonald was absent for the vote.

CONSIDERATION OF DRAFT MEETING MINUTES FOR MAY 16, 2019, SUBCOMMITTEE MEETINGS

The draft minutes for the May 16, 2019, subcommittee meetings were reviewed. There were no modifications.

It was moved by Commissioner Owan, seconded by Commissioner Zimmerman, and unanimously carried, that the minutes for the May 16, 2019, subcommittee meetings be approved as presented. Commissioner McDonald was absent for the vote.

STATE WATER COMMISSION FINANCIAL REPORTS

The allocated program expenditures for the period ending April 30, 2019, were presented and discussed by Heide Delorme, Director of Administrative Services. The total expenditures were within the authorized budget amounts.

A bar chart summarizing project expenditures and commitments and Project Summary for the 2017-2019 Biennium, **APPENDIX A**, provided information on the committed and uncommitted funds from the Resources Trust Fund and the Water Development Trust Fund. The final summary for projects showed approved projects totaling $665,759,002 with expenditures of $301,439,442. A balance of $15,720,325 remains available to commit to projects in the 2017-2019 biennium. The Commission's budget will no longer include revenue from the Water Development Trust Fund because future funds are to be deposited in the General Fund.

The oil extraction tax deposits into the Resources Trust Fund total $317,982,407 through May 2019 and are currently $73,496,253 or 30.6 percent above budgeted revenues.

Deposits received for the Water Development Trust Fund total $33,314,811 through May 2019 and are currently $15,314,811 above the budget revenues of $18,000,000. The large increase was due to a settlement agreement between the state and the major tobacco companies over enforcement of the 1998 Tobacco Master Settlement agreement. The final State Water Commission appropriation bill is also included in **APPENDIX A.**

2017-2019 BIENNIUM CONTRACT FUND CARRYOVER

Heidi Delorme also presented that during the 2017-2019 biennium, the programs and projects administered by the Commission's Water Resource Program Administrator had been reviewed for those with remaining obligated funds that are completed or not undertaken. Those projects were 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 two or more years to complete due to regulatory issues, funding needs, contracting, bidding and construction delays, project inspections, weather, and auditing requirements. As projects were completed, they were moved from the active listing to the non-active/completed listing and the remaining approved funds were de-obligated and returned to the appropriate account.

Heidi reported that all programs and projects listed on the "2017-2019 Biennium Projects/Grant/Contract Fund" with obligated funds were to be pursued in the foreseeable future, with the exception of the International Boundary Roadway Dike project in Pembina.

Secretary Erbele recommended the State Water Commission approve the carryover of all 2017-2019 program and general project unexpended obligation amounts, including all previous biennium carryovers, to the 2019-2021 biennium, except for the identified project. This approval is subject to the availability of funds.

It was moved by Commissioner Goehring and seconded by Commissioner Johnson the State Water Commission approve the carryover of all 2017-2019 program and general project unexpended obligation amounts, including all previous biennium carryovers, to the 2019-2021 biennium, except for the identified project. This approval is subject to the availability of funds.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

NORTHWEST AREA WATER SUPPLY (NAWS)

(SWC Project No. 237-04)

Tim Freije, NAWS Project Manager, presented an update on the NAWS' project and provided contract and bid information on NAWS' contracts 2-3C, 7-1B, and7-2A. The project update memorandum and the contract memorandums are attached as **APPENDIX B.**

After Commission review and discussion, the following motions were made and approved:

CONTRACT 2-3C

It was moved by Commissioner Goehring and seconded by Commissioner Zimmerman the State Water Commission authorize the Chief Engineer/Secretary to award NAWS Contract 2-3C to the low responsive bidder pending review of the bids received and concurrence from Garrison Diversion Conservancy District.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

CONTRACT 7-1B

It was moved by Commissioner Goehring and seconded by Commissioner McDonald the State Water Commission authorize the Chief Engineer/Secretary to award NAWS Contract 7-1B Carbon Dioxide Feed System Procurement to the low responsive bidder pending review of the bids received and concurrence from Garrison Diversion Conservancy District.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

CONTRACT 7-2A

It was moved by Commissioner Goehring and seconded by Commissioner Zimmerman the State Water Commission authorize the Chief Engineer/Secretary to award NAWS Contract 7-2A UV System Procurement to the low responsive bidder pending review of the bids received and concurrence from Garrison Diversion Conservancy District.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

STATE COST-SHARE POLICY

MUNICIPAL WATER SUPPLY FUNDING

Jeffrey Mattern, Engineer Manager, provided the Commission with a spreadsheet of the State Water Commission's municipal water supply project funding list showing current funding requests based on priority rankings. There was discussion on how municipal projects could be ranked within the various priority rankings of high, moderate, and low. There were also questions regarding the number of low priority projects that could be funded based on the amount of funding made available in the State Water Commission's budget bill within the water supply purpose funding category. Secretary Erbele indicated to the Commission that State Water Commission staff would exhaust the 2017-19 dollars on projects and also have the liberty to fund low priority projects up to available funds (approximately $9 million). Staff will monitor funding of projects for the next 12 months based on cost-share policy, and then after the 12-month mark, all projects would be available for funding - not based on ranking. The Commission requested State Water Commission staff provide guidance on the ranking of projects within the priority rankings of high, moderate, and low. Staff will look at additional criteria to assist in evaluating the highest priority projects within the general priority ranking categories. Guidance will be compiled and presented at the August Commission meeting.

FUNDING GUIDELINES FOR DAM REHABILITATION PROJECTS

Jeffrey Mattern provided the Commission with general dam rehabilitation project guidelines. Under current State Water Commission cost-share policy for the Flood Protection Program, projects with federal participation may receive up to 50 percent of eligible non-federal costs. The National Resource Conservation Service would fund 70 percent of the project, bringing the total funding of federal and state dollars to 85 percent. The applicants would be responsible for 15 percent of the total cost-share.

Current dam rehabilitation cost-share requests were requested under the dam safety category for up to 75 percent state cost-share on the eligible non-federal costs. This brings the total funding received by applicants to 92.5 percent, with applicants responsible for 7.5 percent of the total cost-share.

After discussion, it was agreed that the State Water Commission would fund these particular dam rehabilitation projects at up to 50 percent of eligible non-federal costs. If the project was a safety of dams project and there was no federal participation, then a project could be funded at up to 75 percent of eligible non-federal costs.

Secretary Erbele also clarified that State Water Commission staff generally reviews the engineering work presented for projects, but does not provide technical assistance because of liability issues. State Water Commission staff rely on the work prepared by professional engineers and consultants hired by the project sponsors.

ECONOMIC ANAYSIS (EA) AND LIFE CYCLE COST ANALYSIS (LCCA) COST-SHARE POLICY LANGUAGE

Pat Fridgen, Director of Planning and Education, discussed legislation passed by the North Dakota Legislature in 2017, that created NDCC 61-03-21.4 requiring the State Engineer to: *"develop an economic analysis process for water conveyance projects and flood-related projects expected to cost more than one million dollars, and a life cycle analysis process for municipal water supply projects. When the State Water Commission is considering whether to fund a water conveyance project, flood-related project, or water supply project, the State Engineer shall review the economic analysis or life cycle analysis, and inform the State Water Commission of the findings from the analysis and review."*

Guidance documents and fillable models for EA and LCCA were completed and approved by the Commission last summer. It was the expectation of the Legislature that those analysis requirements be implemented by the agency starting with projects funded as part of the 2019-2021 biennium budget cycle.

Existing Legislation provides little direction in terms of how the results of the EA and LCCA are to be used by the Commission. At the April 9, 2019, State Water Commission meeting, Commissioners directed staff to draft language to be included in the "Project Funding Policy, Procedure, and General Requirements," that outlines EA and LCCA definitions and requirements. Language was drafted and presented to the Budget, Planning, and Finance Subcommittee for their consideration on May 16. The proposed policy with added language is attached as **APPENDIX C,** with the new language highlighted.

Secretary Erbele recommended the State Water Commission approve the policy language as written and included in **APPENDIX C.**

> **It was moved by Commissioner Andersen and seconded by Commissioner Goehring the State Water Commission approve the policy language as written and included in APPENDIX C.**
>
> **Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.**

STATE COST-SHARE REQUESTS

SOURIS RIVER JOINT BOARD (SRJB) - $82.5 MILLION (SWC Project No. 1974)

The SRJB submitted the following requests to the Commission for consideration:

1) Project Funding Consolidation

The SRJB requested the Commission consolidate the Mouse River Enhanced Flood Protection Project's (MREFPP) ongoing and future projects into three separate cost-share categories: Rural Projects, Minot Projects, and Minot Acquisitions. Currently, there are 35 individual projects and consolidation would give the sponsor the ability to allocate money between similar projects during the construction season allowing critical path items to proceed more efficiently. All projects consolidated into the new categories would retain their originally approved cost-share percentage.

2) Funding for Minot Acquisitions and Minot Projects

The SRJB requested the Commission approve 2019-2021 biennium funding for Minot Projects and Minot Acquisitions categories. Subject to the approval of the request of $46,600,000, the total State funding allocated to flood control activities within Minot is $104,313,284 for the 2017-2019 and 2019-2021 biennium. House Bill 1020, of the 65th Legislative Assembly, expressed the legislative intent that the State provide no more than $193,000,000 over the next four biennia (ending 2023-2025) for projects within Minot. This intent was reiterated in Senate Bill 2020 of the 66th Legislative Assembly. With this recommended approval, the balance of $88,686,716 would be required in the following two biennia to satisfy legislative intent.

The proposed funding requests are to:

A. Approve $8,250,000 for Minot Acquisitions: the request would provide funding for acquisitions within Minot at the current 75 percent cost-share. Minot would continue to be the project sponsor of this project; and,
B. Approve $38,350,000 for Minot Projects: the request would provide funding for construction and engineering activities within Minot at the current 75 percent cost-share.

3) Funding for Rural Projects and Cost-Share Percentage Increase

The SRJB requested the Commission approve $35,900,000 from the 2019-2021 biennium funding for the MREFPP Rural Projects cost-share category. The request included increasing the cost-share percentage to 75 percent for all activities in this

category. Currently, acquisitions are funded at 75 percent, while construction and engineering are funded at 65 percent.

4) Reallocate Funding from Minot Projects to Minot Acquisitions

The SRJB requested the Commission approve reallocating $3,700,000 from the Minot Projects cost-share category to Minot Acquisitions cost-share category.

The original State Water Commission memorandum and recommendation, cost-share request, and supporting documentation is attached as **APPENDIX D.**

After discussion, the following motion was made:

> **It was moved by Commissioner Andersen and seconded by Commissioner Owan the State Water Commission approve the SRJB requests as follows:**
>
> 1. **The consolidation of existing projects into the new categories and to retain the original approved cost-share percentage;**
> 2. **$11,950,000 at 75 percent for Minot acquisitions;**
> 3. **$34,650,000 at 65 percent for Minot projects;**
> 4. **$32,675,000 at 65 percent for rural projects; and,**
> 5. **$3,225,000 at 75 percent for rural acquisitions.**
>
> **(Items 2-5 are for an additional $82,500,000.)**
>
> **These approvals are subject to the availability of funds provided to the State Water Commission in the 2019-2021 biennium.**
>
> **Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.**

SOUTHEAST CASS WATER RESOURCE DISTRICT, CASS COUNTY DRAIN NO. 40 - $192,600
(SWC Project No. 1090)

Southeast Cass Water Resource District (District) requested cost-share assistance for the first phase of a multi-phase project to improve the downstream reach of Cass County Drain No. 40.

The existing assessment drain is experiencing channel bottom erosion and slide slope sloughing. In 2017, a channel degradation study recommended constructing multiple grade control structures to reduce channel velocity, constructing flatter channel grades,

and flattening side slopes to increase channel stability. This first phase involves replacement of an insufficient county road crossing to allow for 25-year discharge and construction of two-sheet pile grade control structures with a flatter channel bottom grade to reduce channel bottom erosion. The improvements provide additional drainage capacity. Drain permit #4987 was approved and addressed 23,400 feet of the 60,000-foot drain.

The estimated project cost is $804,655. The project is 64.3 percent rural flood control with 45 percent cost-share of eligible costs. The District is requesting $192,600 in state cost-share for the project. The District has funding available for the remaining local share and anticipates that construction will be completed the end of 2019. The cost-share request is attached as **APPENDIX E.**

Secretary Erbele recommended the State Water Commission approve the request by the District for state cost-share participation at an amount not to exceed $192,600. The approval is subject to the entire contents of the recommendation contained herein, obtaining all applicable permits, and the availability of funds provided to the State Water Commission in the 2019-2021 biennium.

It was moved by Commissioner Andersen and seconded by Commissioner Owan the State Water Commission approve 45 percent cost-share participation at an amount not to exceed $192,600. The approval is subject to the entire contents of the recommendation contained herein, obtaining all applicable permits and the availability of funds provided to the State Water Commission in the 2019-2021 biennium.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

SARGENT COUNTY WATER RESOURCE DISTRICT, SARGENT COUNTY DRAIN NO. 7 - $114,227
(SWC Project No. 1650)

Sargent County Water Resource District (District) requested a cost overrun for the Sargent County Drain No. 7 Improvements Project.

On September 18, 2017, the Office of the State Engineer sent a deferral letter to the District explaining how the legislative session made several changes to the cost-share program for water conveyance projects and limited the funding to $1,000,000 for this category in flood control which put water conveyance in competition for funding with high priority flood control projects. The letter also explained how the request would

possibly be considered later in the biennium depending on turnback and availability of funding.

On July 6, 2016, the State Water Commission approved cost-share of $202,663 for the project. The total project estimate was $601,966 of which $427,565 was considered eligible for cost-share at 45 percent ($192,404) and $29,312 was eligible for pre-construction engineering at 35 percent ($10,259). The cost overrun is due to some added construction items and actual bid prices being higher than the July 2016 estimate. These items included work due to soil conditions, added intercept pipes, and additional riprap. The final cost of the project is $961,697. The District is requesting an additional cost-share in the amount of $114,227 for a total cost-share of $316,890. The recommendation is to approve the additional cost-share of $114,227 for eligible construction costs at 45 percent cost-share, and eligible pre-construction costs at 35 percent cost-share. A cost estimate and map are attached as **APPENDIX F.**

Secretary Erbele recommend the State Water Commission approve the additional request by District for state cost-share participation in the Sargent County Drain No. 7 Channel Improvements at an amount not to exceed $114,227. The approval is subject to the entire contents of the recommendation contained herein, and the availability of funds provided to the State Water Commission in the 2017-2019 biennium.

It was moved by Commissioner Owan and seconded by Commissioner Johnson that the State Water Commission approve 45 percent cost-share participation at an amount not to exceed $114,227. The approval is subject to the entire contents of the recommendation contained herein and the availability of funds provided to the State Water Commission in the 2019-2021 biennium.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

GRAND FORKS COUNTY WATER RESOURCE DISTRICT, LARIMORE DAM - $91,800 (SWC Project No. 0688); WALSH COUNTY WATER RESOURCE DISTRICT, FORDVILLE DAM - $122,595 (SWC Project No. 0269); WALSH COUNTY WATER RESOURCE DISTRICT, BYLIN DAM - $131,370 (SWC Project No. 2103); and PEMBINA COUNTY WATER RESOURCE DISTRICT, SENATOR YOUNG DAM - $129,210 (SWC Project No. 2121)

Jeffrey Mattern presented cost-share requests on dam rehabilitation projects for Larimore Dam, Fordville Dam, Bylin Dam, and Senator Young Dam. The State Water Commission memorandums with recommendations, cost-share requests, and supporting documentation are attached as **APPENDIX G.**

After discussion, it was agreed that the following motions be approved:

It was moved by Commissioner Anderson and seconded by Commissioner Owan that the State Water Commission approve the following dam rehabilitation projects subject to the entire contents of the recommendation contained herein, obtaining all applicable permits, and the availability of funds provided to the State Water Commission in the 2017-2019 biennium as follows:

1. **Cost-share of $91,800, with pre-construction funded at 50 percent of the eligible non-federal costs, for the Grand Forks County Water Resource District Upper Turtle River Dam 9 (Larimore Dam) Rehabilitation project.**
2. **Cost-share of $122,595, with pre-construction funded at 50 percent of the eligible non-federal costs, for the Walsh County Water Resource District Middle-South Forest River Dam No. 4 (Fordville Dam) Rehabilitation Project.**
3. **Cost-share of $131,370, with pre-construction funded at 50 percent of the eligible non-federal costs, for the Walsh County Water Resource District North Branch Forest River Dam No. 1 (Bylin Dam) Rehabilitation Project.**
4. **Cost-share of $129,210, with pre-construction funded at 50 percent of eligible non- federal costs, for the Pembina County Water Resource District Tongue River Dam No. M-3 (Senator Young Dam) Rehabilitation Project.**

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

LINCOLN WATER SUPPLY MAIN - $329,100
(SWC Project No. 2050LIN)

Lincoln submitted a cost-share request for increase in construction costs for a project involving 21,916 feet of 16-inch to 6-inch water transmission line to provide a second water supply creating redundancy to maintain fire flows and for domestic water supply. Lincoln's sole water supply is an existing 12-inch water main from Bismarck and is incapable of delivering a sufficient water supply. Lincoln serves 3,700 people with 1,327 connections. The water rate is $23.50 per month minimum and $4.00 per 1,000 gallons used.

Lincoln received construction bids on April 25, 2019, which were 28 percent higher than the 2018 engineer's estimate mostly due to the final design required the addition of a booster station at a cost of $373,000. The revised total cost estimate is $2,500,499 with

$165,000 for pre-construction costs and $2,335,499 for construction costs. Cost-share of 35 percent on pre-construction costs and 60 percent on construction costs provides total funding of $1,459,100. On February 8, 2018, Lincoln received approval for state cost-share funding of $1,130,000 for 35 percent on pre-construction costs and 60 percent on construction costs. The additional cost-share is $329,100. The local share will be obtained via a loan through the Drinking Water State Revolving loan fund. The cost-share request is attached as **APPENDIX H.**

Secretary Erbele recommended the State Water Commission approve an additional $329,100, resulting in a total cost-share of $1,459,100 with pre-construction costs funded at 35 percent and construction costs funded at 60 percent, for the Lincoln Water System Improvement Project. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission in the 2017-2019 biennium.

It was moved by Commissioner Johnson and seconded by Commissioner Andersen the State Water Commission approve an additional $329,100, resulting in a total cost-share of $1,459,100 with pre-construction costs funded at 35 percent and construction costs funded at 60 percent, for the Lincoln Water System Improvement Project. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission in the 2017-2019 biennium.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

MANDAN RAW WATER INTAKE - $10,977,000
(SWC Project No. 2050MAN)

Mandan submitted a cost-share request for construction of a new raw water intake to improve the capacity for both residential services and Marathon Refinery. Mandan and Marathon have an agreement to address sharing the intake's operation. Mandan is nearing the capacity of their existing infrastructure and needs to address the low flow of the river channel migrating away from their existing intake. The new intake will be located one mile south of the existing intake and water treatment plant site.

Mandan went through a cost analysis in 2002 and ranked intake alternatives using the results to guide their decision process on viable solutions. Additional investigation determined two of the options were not viable due to not being able to provide a sufficient water supply capacity. The "Do Nothing" alternative was considered but water volume was insufficient in certain low flow river conditions. Therefore, the current State

Water Commission Life Cycle Cost Analysis only considers the single remaining option to develop a new conventional intake at a different river location.

Mandan uses a lime softening and filtration water treatment plant rated at 12 million gallons per day to serve 22,000 people. The water rate is $15.16 per month minimum and $3.87 per 1,000 gallons.

Mandan intends to bid the project in August, start construction in September, and complete construction in fall 2021. Mandan would fund the local share with a loan through the Drinking Water State Revolving Loan Fund. The estimated project cost is $20,835,000. On July 29, 2015, Mandan was approved for state cost-share of $1,650,420 with 65 percent on pre-construction costs of $2,539,107. The recommendation was to provide cost-share of 60 percent on construction costs of $18,295,000 which equates to an additional $10,977,000. The cost-share request is attached as **APPENDIX I.**

Secretary Erbele recommended the State Water Commission approve an additional $10,977,000, resulting in a total cost-share of $12,627,420, with construction costs funded at 60 percent, for the Mandan Raw Water Intake. The funding is in the form of cost-share towards eligible costs and contingent on available funding of $1,407,000 provided to the State Water Commission in the 2017-2019 biennium and $9,570,000 provided to the State Water Commission in the 2019-2021 biennium.

It was moved by Commissioner Goehring and seconded by Commissioner McDonald the State Water Commission approve an additional $10,977,000, resulting in a total cost-share of $12,627,420, with construction costs funded at 60 percent, for the Mandan Raw Water Intake. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

BISMARCK LOCKPORT WATER PUMP STATION - $2,280,000
(SWC Project No. 2050BIS)

Bismarck submitted a cost-share request for pre-construction and construction costs to construct the Lockport Pump Station to help meet water system demands in Bismarck's north service zones, where shortages have occurred in recent years due to population growth. Also, this pump station allows for much needed maintenance of the Ash Coulee reservoir, which currently cannot be taken out of service.

Bismarck's 2014 Growth Management Plan predicts that over the next 30-plus years, much of the growth will occur north of Interstate 94. Based on previous water distribution planning, much of this growth area will be served by the proposed Lockport Pump Station and future ground storage reservoir. Bismarck used these results in the decision process on finding viable solutions. Along with the new Lockport Pump Station, this site will be home to a future Zone 2 reservoir. The new pump station includes installation of a pumping facility, site grading, landscaping, installation of interconnection pipes, building construction, process equipment, control system, heating, ventilation, and air conditioning, electrical equipment, electrical service, backup power, and new instrumentation and controls. Prior to undertaking the Lockport Pump Station, Bismarck installed most of the transmission lines which will distribute water to and away from the pump station and continues to commit to expanding water capacity to the northern growth areas of Bismarck.

A "Do Nothing" alternative is insufficient to provide water for Bismarck's growth. Therefore, the current State Water Commission Life Cycle Cost Analysis only considers this single alternative to develop a new Lockport Pump Station.

Bismarck serves 73,000 people and a portion of South Central Regional Water District, a rural system outside of Bismarck's city limits. Bismarck's 3/4-inch water meter rate is $8.21 per month minimum and $1.90 per 1,000 gallons for the first 3,000 gallons with an increasing rate above that use.

Bismarck will complete plans and specifications for bidding in December 2019, bid in February 2020, start construction in April 2020, and complete final construction in June 2021. The project's estimated total cost is $3,800,000 with pre-construction costs of $595,000 and construction costs of $3,194,000. The recommendation was to provide cost-share of 60 percent, which equates to $2,280,000. The cost-share request is attached as **APPENDIX J.**

Secretary Erbele recommended the State Water Commission approve cost-share of $2,280,000 at 60 percent, for the Bismarck Lockport Pump Station. The funding is in the form of a cost-share towards eligible costs, and contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

> **It was moved by Commissioner Goehring and seconded by Commissioner Owan the State Water Commission approve cost-share of $2,280,000 at 60 percent, for the Bismarck Lockport Pump Station. The funding is in the form of a cost-share towards eligible costs, and contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.**

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

MAPLETON WATER STORAGE TANK - $840,000
(SWC Project No. 2050MAP)

Mapleton submitted a cost-share request for pre-construction and construction costs for a new 300,000-gallon ground storage tank to help meet water demands due to growth over the last decade and for future growth.

Mapleton serves 1,034 people but did a water system planning study and estimated the population would grow to 1,568 by the year 2037. A "Do Nothing" alternative is insufficient in providing water for Mapleton's future growth. The current State Water Commission Life Cycle Cost Analysis considered two alternatives, a ground storage tank and an elevated storage tank.

Mapleton receives its bulk water supply from Cass Rural Water District at $4.55 per 1,000 gallons. Mapleton's water rate is $47.94 per month and includes 3,000 gallons. The rate is $6.30 per 1,000 gallons after the first 3,000 gallons.

Mapleton will complete plans and specifications for bidding in July, bid in August, start construction in late 2019, and complete final construction in summer 2020. The project's estimated total cost is $1,400,000 with pre-construction costs of $123,900 and construction costs of $1,276,100. The recommendation was to provide cost-share of 60 percent, which equates to $840,000. The cost-share request and life cycle cost analysis results are attached as **APPENDIX K.**

Secretary Erbele recommended the State Water Commission approve cost-share of $840,000 at 60 percent, for Mapleton's storage tank. The funding is in the form of a cost-share towards eligible costs, and contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

It was moved by Commissioner McDonald and seconded by Commissioner Owan the State Water Commission approve cost-share of $840,000 at 60 percent, for Mapleton's storage tank. The funding is in the form of a cost-share towards eligible costs, and contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

WESTERN AREA WATER SUPPLY PROJECT (WAWSA), PHASE VI PRE-CONSTRUCTION - $5,476,000
(SWC Project No. 1973)

Jeffrey Mattern presented WAWSA's cost-share request on pre-construction costs for Phase VI projects. The State Water Commission's memorandum with summaries of the projects and recommendation, and the cost-share request, is attached as **APPENDIX L.**

Secretary Erbele recommended the State Water Commission approve cost-share of $5,476,000, funded at 75 percent, for the WAWSA's Phase VI Project. The approval is contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

> **It was moved by Commissioner Goehring and seconded by Commissioner McDonald the State Water Commission approve cost-share of $5,476,000, funded at 75 percent, for the WAWSA's Phase VI Project. The approval is contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.**
>
> **Commissioners Andersen, Johnson, McDonald, Zimmerman, Goehring, and Governor Burgum voted aye. Commissioner Owan abstained. There were no nay votes. Governor Burgum announced the motion carried.**

DAKOTA RURAL WATER DISTRICT, 2019 EXPANSION - $461,250
(SWC Project No. 2050DAK)

The Dakota Rural Water District (Dakota) submitted a cost-share request towards pre-construction costs to expand the water system to serve an additional 150 users with 132 miles of new 2-inch to 6-inch transmission and distribution pipelines.

Dakota serves approximately 985 rural users within portions of Barnes, Cass, Grand Forks, Griggs, Nelson, Steele, and Traill counties with bulk water service to the cities of Aneta, Binford, Finley, Hope, Sharon, Sibley, and individual services to Colgate, Jessie, Luverne, Kloten, and Pillsbury. Dakota has a monthly minimum water rate of $45 for existing users and $53 for new users as well as charges of $4.80 per 1,000 gallons used.
Dakota would design the project this summer, bid construction this fall, and complete construction fall 2021. The estimated project cost is $6,200,000 with construction cost of $5,585,000 and pre-construction cost of $615,000. The recommendation was to provide cost-share of 75 percent on pre-construction costs which equates to $461,250. The cost-share request is attached as **APPENDIX M.**

Secretary Erbele recommended the State Water Commission approve $461,250, with pre-construction costs funding at 75 percent for the Dakota Rural Water District 2019 Expansion. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

It was moved by Commissioner Goehring and seconded by Commissioner Owan the State Water Commission approve $461,250, with pre-construction costs funding at 75 percent for the Dakota Rural Water District 2019 Expansion. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

MCLEAN-SHERIDAN RURAL WATER DISTRICT, 2019 EXPANSION - $327,075 (SWC Project No. 2050MCL)

McLean-Sheridan Rural Water District (District) submitted a cost-share request for a Phase 1 expansion to the water system to serve an additional 147 users with 101 miles of 2-inch to 6-inch new transmission and distribution pipelines to address current and future demands of the rural system. The future Phase 2 project will complete the distribution system and water treatment plant expansions.

The District's service area is McLean and Sheridan counties, serving the Turtle Lake, McClusky, Coleharbor, and 600 rural users. The District's main water supply is from the Lake Nettie Aquifer with a treatment plant located three mile north of Turtle Lake. Additionally, the District receives water from Washburn under a supply agreement and supplies about 150 rural users in the Washburn area. The District's user water rate is $59 per month minimum and $6.91 per 1,000 gallons used. Rural systems across the state charge a median rate of $45 per month minimum and $6.00 per 1,000 gallons.

The District would design the project this summer, bid construction this fall, and complete construction fall 2021. The estimated project cost is $6,640,000 with construction cost of $6,203,900 and pre-construction cost of $436,100. The recommendation was to provide cost-share of 75 percent on pre-construction costs which is $327,075. The local share will be a loan through the Drinking Water State Revolving loan fund. The cost-share request is attached as **APPENDIX N.**

Secretary Erbele recommended the State Water Commission approve $327,075, with pre-construction costs funding at 75 percent for the McLean-Sheridan Rural Water

District Expansion. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

It was moved by Commissioner Owan and seconded by Commissioner Goehring the State Water Commission approve $327,075, with pre-construction costs funding at 75 percent for the McLean-Sheridan Rural Water District Expansion. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

NORTHEAST REGIONAL WATER DISTRICT, DEVILS LAKE WATER SUPPLY PHASE II - $1,328,000
(SWC Project No. 2050NOE)

Northeast Regional Water District (Northeast) requested cost-share toward the Devils Lake Water Supply Phase II project for the North Valley Service branch with 72,000 feet of 8-inch to 4-inch pipeline and expansion for six existing reservoir/pump stations. Phase I involved a pipeline to bring treated water from Devils Lake water treatment plant to provide system capacity for 276 new users in the Langdon rural water service branch and for the North Valley rural water service branch. The Devils Lake water supply provides 600 gallons per minute from Devils Lake's water supply system capacity of 2,900 gallons per minute. Devils Lake raw water comes from the Spiritwood Aquifer. Phase I cost $23.97 million and was funded with $15.54 million cost-share, a $1.59 million State Water Commission loan, a $2.98 million Drinking Water State Revolving loan, a $3.55 million USDA Rural Development loan, and $0.31 million from Langdon.

Northeast will begin design in June, start construction fall 2019, and complete the project in summer 2020. The Langdon branch existing 980 users and the 276 expansion users will have a water rate of $55 per month minimum and pay $6 per 1,000 gallons used. Rural systems across the state have a median rate of $45 per month minimum and $6 per 1,000 gallons.

Phase II estimated project cost is $1,770,667 with pre-construction costs of $163,040 and construction costs of $1,607,627. The recommendation was to provide cost-share of 75 percent which is $1,328,000. The cost-share request is attached as **APPENDIX O.**

Secretary Erbele recommended the State Water Commission approve $1,328,000, funded at 75 percent to Northeast Regional Water District Devils Lake Water Supply Project. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission in the 2019-2021biennium.

It was moved by Commissioner Goehring and seconded by Commissioner Zimmerman the State Water Commission approve $1,328,000, funded at 75 percent to Northeast Regional Water District Devils Lake Water Supply Project. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission in the 2019-2021biennium.

Commissioners Andersen, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. Commissioner Johnson abstained. There were no nay votes. Governor Burgum announced the motion carried.

STUTSMAN RURAL WATER DISTRICT, PHASE 7 - $1,812,000
(SWC Project No. 2050STU)

Stutsman Rural Water District (District) requested 65 percent cost-share for Phase 7 to install 20 miles of 8-inch transmission pipeline and make improvements to existing reservoirs to address additional water demands for rural users, agricultural, and livestock in western Stutsman and eastern Kidder counties. Phase 7 will benefit 450 existing users and 90 new users from Pettibone and Lake Williams area that are currently being added through the Phase 6 to be completed in July 2019. The District's water treatment plant has enough capacity with 2,000 gallons per minute. The system's water source is the Spiritwood Aquifer and is located 12 miles southeast of Jamestown.

The 2,400 Stutsman water users have a monthly minimum water rate ranging from $43-$48 per month for the expansions users, with all users paying $5 per 1,000 gallons used. Rural systems across the state have a median rate of $45 per month minimum and $6 per 1,000 gallons.

The District would complete design in July, open construction bids in August, start construction in September, and complete the project in summer 2020. The local share would be from the North Dakota Drinking Water State Revolving Loan Fund with a term of 30 years and an interest rate of 2 percent. Estimated total cost is $2,787,693 and the recommendation was to provide cost-share of 65 percent which is $1,812,000. The cost-share request is attached as **APPENDIX P.**

Secretary Erbele recommended the State Water Commission approve $1,812,000, funded at 65 percent, to Stutsman Rural Water District Phase 7. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

It was moved by Commissioner Owan and seconded by Commissioner Goehring the State Water Commission approve $1,812,000, funded at 65 percent, to Stutsman Rural Water District Phase 7. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

SOUTH CENTRAL REGIONAL WATER DISTRICT, NORTH BURLEIGH WATER TREATMENT PLANT IMPROVEMENTS - $920,000
(SWC Project No. 2050SOU)

South Central Regional Water District (District) requested 50 percent cost-share for the North Burleigh Water Treatment Plant to add a pretreatment process to address water quality changes from iron and manganese in the water supply which affects the membrane filtering and reduces the plant capacity for the service area. The water treatment plant is designed to produce 2.6 million gallons per day, but currently is limited to 2 million gallons per day. The raw water supply is from angled wells placed under the Missouri River adjacent to the water treatment plant which is located 8 miles northwest of Bismarck.

The District serves over 6,000 customers in Burleigh County with the North Burleigh Plant serving 4,500 rural users, including the communities of Wilton, Sterling, Menoken, McKenzie, and Driscoll. The remainder of the system receives the majority of their water from Bismarck through a 1996 water purchase agreement. The system rural water rate is $34 per month minimum and $7.50 per 1,000 gallons used. Rural systems across the state have a median rate of $45 per month minimum and $6 per 1,000 gallons.

The project design would be completed in August, construction bid in September, construction started in November, and the project completed in summer 2020. The estimated project cost is $1,840,000 with pre-construction costs of $127,000 and construction costs of $1,713,000. The recommendation was to provide cost-share of 50 percent which is $920,000. The local share would be from the North Dakota Drinking Water State Revolving Loan Fund with a term of 20 years and an interest rate of 2 percent. The cost-share request is attached as **APPENDIX Q.**

Secretary Erbele recommended the State Water Commission approve $920,000, funded at 50 percent, for the South Central Regional Water District North Burleigh Water Treatment Plant Improvements Project. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

It was moved by Commissioner Goehring and seconded by Commissioner Owan the State Water Commission approve $920,000, funded at 50 percent, for the South Central Regional Water District North Burleigh Water Treatment Plant Improvements Project. The funding is in the form of cost-share towards eligible costs and contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

OTHER STATE COST-SHARE/FUNDING REQUESTS

RED RIVER BASIN COMISSION (RRBC) BASE FUNDING, 2019-2021 BIENNIUM - $200,000

The RRBC requested continued funding assistance in the amount of $300,000 for the 2019-2021 biennium. This is an increase of $100,000 from previous biennial contributions from the State Water Commission. The RRBC has asked for matching contributions from the State of Minnesota, and the Province of Manitoba.

The project sponsor indicated that the increase in cost-share is mostly necessary to offset inflation, and overall increases to operational costs that have occurred since the mid-2000s. Since that time, the State Water Commission has been providing base funding of $200,000 per biennium.

If approved, the amount of cost-share would provide base funding support from the State Water Commission, with payments provided on a semi-annual basis. The funding would support activities outlined in the cost-share request attached as **APPENDIX R.**

The RRBC's 44-member board of directors represents a broad cross section of local and state/provincial governments and other interests. The State Water Commission 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.

Secretary Erbele recommended the State Water Commission approve funding for the RRBC's proposal in an amount not to exceed $200,000 from funds appropriated to the agency for the 2019-2021 biennium. Funding of this project is contingent upon the availability of funds and matching contributions from Minnesota and Manitoba, who also pledged $200,000.

It was moved by Commissioner Goehring and seconded by Commissioner Zimmerman the State Water Commission approve funding for the RRBC's proposal in an amount not to exceed $200,000 from funds appropriated to the agency for the 2019-2021 biennium. Funding of this project is contingent upon the availability of funds and matching contributions from Minnesota and Manitoba.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

ASSINIBOINE RIVER BASE INITIATIVE (ARBI) BASE FUNDING REQUEST, 2019-2021 BIENNIUM - $100,000

ARBI requested continued funding assistance in the amount of $100,000 for the 2019-2021 biennium. The funds would provide base funding support from the State Water Commission, with payments provided on a semi-annual basis. Cost-share support would be used to assist ARBI with implementation of their 2017 “Framework for Water Stewardship” plan attached with the cost-share request as **APPENDIX S**.

The Assiniboine River Basin encompasses portions of Manitoba, Saskatchewan, and North Dakota. ARBI's stakeholders include citizens, local governments, provincial/state governments, non-governmental organizations, and other groups willing to help shape the future direction of water and land management in the basin.

In addition to the State Water Commission, collaborating entities from North Dakota include the Department of Agriculture, Department of Environmental Quality, Ward County, and the City of Minot.

Secretary Erbele recommended the State Water Commission approve funding for ARBI's proposal in an amount not to exceed $100,000 from funds appropriated to the agency for the 2019-2021 biennium. Funding of this project is contingent upon the availability of funds, and a matching contribution from the Province of Manitoba.

It was moved by Commissioner Zimmerman and seconded by Commissioner Johnson the State Water Commission approve funding for ARBI's proposal in an amount not to exceed $100,000 from funds

appropriated to the agency for the 2019-2021 biennium. Funding of this project is contingent upon the availability of funds, and a matching contribution from the Province of Manitoba.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

USGS COOPERATIVE MONITORING PROGRAM FY 2020 - $553,575

Jon Patch, Director of Appropriations Division, presented the funding request for the USGS Cooperative Monitoring Program. The memorandum is attached as **APPENDIX T.**

Secretary Erbele recommended the State Water Commission approve the FY 2020 (July 1, 2019-June 30, 2020) joint funding arrangement with the USGS North Dakota Water Science Center not to exceed $553,575 from the funds appropriated to the State Water Commission in the 2017-2019 biennium.

It was moved by Commissioner Johnson and seconded by Commissioner McDonald the State Water Commission approve the FY 2020 (July 1, 2019-June 30, 2020) joint funding arrangement with the USGS North Dakota Water Science Center not to exceed $553,575 from the funds appropriated to the State Water Commission in the 2017-2019 biennium.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

2019 AIRBORNE ELECTROMAGNETIC (AEM) FUNDING - $425,000

Jon Patch presented information on the AEM surveying. The memorandum is attached as **APPENDIX U.**

Secretary Erbele recommended the State Water Commission approve an additional $425,000, a total of $850,000, for continued AEM work under the contract with Geotech, Inc. and AGF, Inc. from the funds appropriated to the State Water Commission in the 2017-2019 Biennium.

It was moved by Commissioner Andersen and seconded by Commissioner Goehring the State Water Commission approve an additional $425,000, a total of $850,000, for continued AEM work under the contract with Geotech, Inc. and AGF, Inc. from the funds

appropriated to the State Water Commission in the 2017-2019 biennium.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

ATMOSPHERIC RESOURCE OPERATIONS AND RESEARCH GRANTS - $875,722

Darin Langerud, Director of Atmospheric Resource Division, presented the funding request for the resource operations and research grants.

The North Dakota Cloud Modification Project (NDCMP) is a long-running cloud seeding program in western North Dakota designed to enhance growing season rainfall and reduce hail damage to crops. The State Water Commission provides cost-share assistance to counties participating in the NDCMP. Sponsor counties fund two-thirds of the cost to conduct seeding operations, while the State Water Commission provides one-third cost-share.

The State Water Commission also provides grants to the University of North Dakota (UND) and North Dakota State University (NDSU) to conduct cloud seeding research and evaluation activities. Current plans for the 2019-21 biennium include funding for numerical weather modeling activities at UND to support NDCMP forecasting operations and develop model-based evaluation capabilities.

Cost-share assistance for these and other purposes has previously been in the budget of the Atmospheric Resources Division, but was moved to the Grants-General Water bucket in budgeting for the 2019-21 biennium. The request includes the total amount of Resource Trust Funds budgeted for these purposes and approved in the General Water bucket by the legislature.

Secretary Erbele recommended the State Water Commission approve the request for NDCMP state cost-share participation and research and evaluation purposes in an amount not to exceed $875,722.

It was moved by Commissioner McDonald and seconded by Commissioner Goehring the State Water Commission approve the request for NDCMP state cost-share participation and research and evaluation purposes in an amount not to exceed $875,722 from the funds appropriated to the State Water Commission in the 2019-2021 biennium.

Commissioners Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. Commissioner Andersen voted nay. Governor Burgum announced the motion carried.

PROCUREMENT OF 30 CM QUALITY AERIAL IMAGERY FOR NORTH DAKOTA - $790,000

Aaron Carranza, Director of Regulatory Division, presented information on the State Water Commissions request to purchase 30 cm quality aerial imagery photography to further enhance the State Water Commission's ability to download imagery into databases uses in mapping and other platforms. The memorandum is attached as **APPENDIX V.**

Secretary Erbele recommended the State Water Commission approve $765,000 to procure Hexagon's 2018 30 cm aerial dataset with an additional $25,000 to license the 2019 30 cm dataset for a 3-year period for a total cost of $790,000.

It was moved by Commissioner Goehring and seconded by Commissioner Johnson the State Water Commission approve $765,000 to procure Hexagon's 2018 30 cm aerial dataset with an additional $25,000 to license the 2019 30 cm dataset for a 3-year period for a total cost of $790,000 from the funds appropriated to the State Water Commission in the 2019-2021 biennium.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

SOUTHWEST PIPELINE PROJECT (SWPP)

Sindhuja S.Pillai-Grinolds, SWPP Project Manager, presented an update on the SWPP project and SWPP's request for reimbursement from the reserve fund for replacement and extraordinary maintenance. The project update memorandum and the request for reimbursement memorandum are attached as **APPENDIX W.**

After Commission review and discussion, the following motion was made and approved:

It was moved by Commissioner Johnson and seconded by Commissioner Andersen the State Water Commission approve the reimbursement from the Reserve Fund for Replacement and Extraordinary Maintenance in the amount of $174,687.65.

Commissioners Andersen, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.

DROUGHT DISASTER LIVESTOCK WATER SUPPLY PROGRAM

Pat Fridgen provided an update on the Drought Disaster Livestock Water Supply Project Assistance Program (Program) activated in summer 2017. At that time, many counties throughout the western portion of the state were plagued with extreme drought, and ranchers found themselves in critical need of more reliable options for watering their livestock. As the summer continued, more counties were added to the program – and again others were added in 2018. Currently, 45 of 53 North Dakota Counties are included in the Program.

Since the Program was activated in 2017, 477 projects have been completed by 343 applicants. To date, the Program has provided $1,358,058.13 in cost-share to project sponsors who have completed long-term livestock water supply projects. Ten applications for new projects have been received since January 2019.

It was the original intent of the State Water Commission to recommend the 2017 Drought Disaster Livestock Water Supply Project Assistance Program be de-activated, with a July 15, 2019, cutoff date for any new applications. In recently published U.S. Drought Monitor maps, there are North Dakota counties listed as being in a worsening drought classification. Therefore, the recommendation was withdrawn.

PROJECT UPDATES

Commission staff provided brief updates on the following projects with the summary updates attached as **APPENDIX X:**

Jon Kelsch, Construction Section Chief, Devils Lake Outlet;
Laura Ackerman, Investigations Section Chief, Missouri River and Mouse River.

ROUNDTABLE UPDATES WITH COMMISSIONERS

Commissioner McDonald announced he would not be pursuing another term and resigned from the Commission due newly appointed federal positions and time constraints.

Commissioner Zimmerman reiterated his attendance at meetings with voiced opposition to the cloud seeding program in Ward County and that he indicated the matter needed to be handled through their local water resource board.

LEGAL UPDATES

Jennifer Verleger, General Counsel, Attorney General's Office, provided brief legal updates on State Water Commission and Office of the State Engineer litigation, attached as **APPENDIX Y.**

EXECUTIVE SESSION

It was the recommendation of Governor Burgum, Chairman, that the discussion relating to the Devils Lake Outlet/Mays' mediation be held in executive session, under the provisions of NDCC § 44-04-19.1(9), for the purpose of attorney consultation. The State Water Commission invited the following to participate in the executive session:

STATE WATER COMMISSION MEMBERS:
Governor Burgum, Chairman
Doug Goehring, Commissioner, ND Department of Agriculture
Katie Andersen, Jamestown
Michael Anderson, Hillsboro (joined via phone)
Richard Johnson, Devils Lake
Leander McDonald, Bismarck
Mark Owan, Williston
Jason Zimmerman, Minot

OTHERS:
Lt. Governor Sanford
Garland Erbele, State Engineer
State Water Commission Staff: Patty Hess, John Paczkowski, Jon Kelsch
Jennifer Verleger, General Counsel, Attorney General's Office
Reice Haase, Policy Advisor, Governor's Office
Leslie Bakken-Oliver, Attorney, Governor's Office

> **It was moved by Commissioner Owan and seconded by Commissioner Anderson that under the provision of NDCC § 44-04-19.1(9), the State Water Commission proceed into executive session on June 19, 2019, at 5:15 p.m., for the purpose of attorney consultation relating to the Devils Lake Outlet/Mays' mediation.**
>
> **Commissioners Andersen, Anderson, Johnson, McDonald, Owan, Zimmerman, Goehring, and Governor Burgum voted aye. There were no nay votes. Governor Burgum announced the motion carried.**

Following attorney consultation regarding the Devils Lake Outlet/Mays' mediation, Governor Burgum reconvened the open session of the State Water Commission meeting at 6:00 p.m.

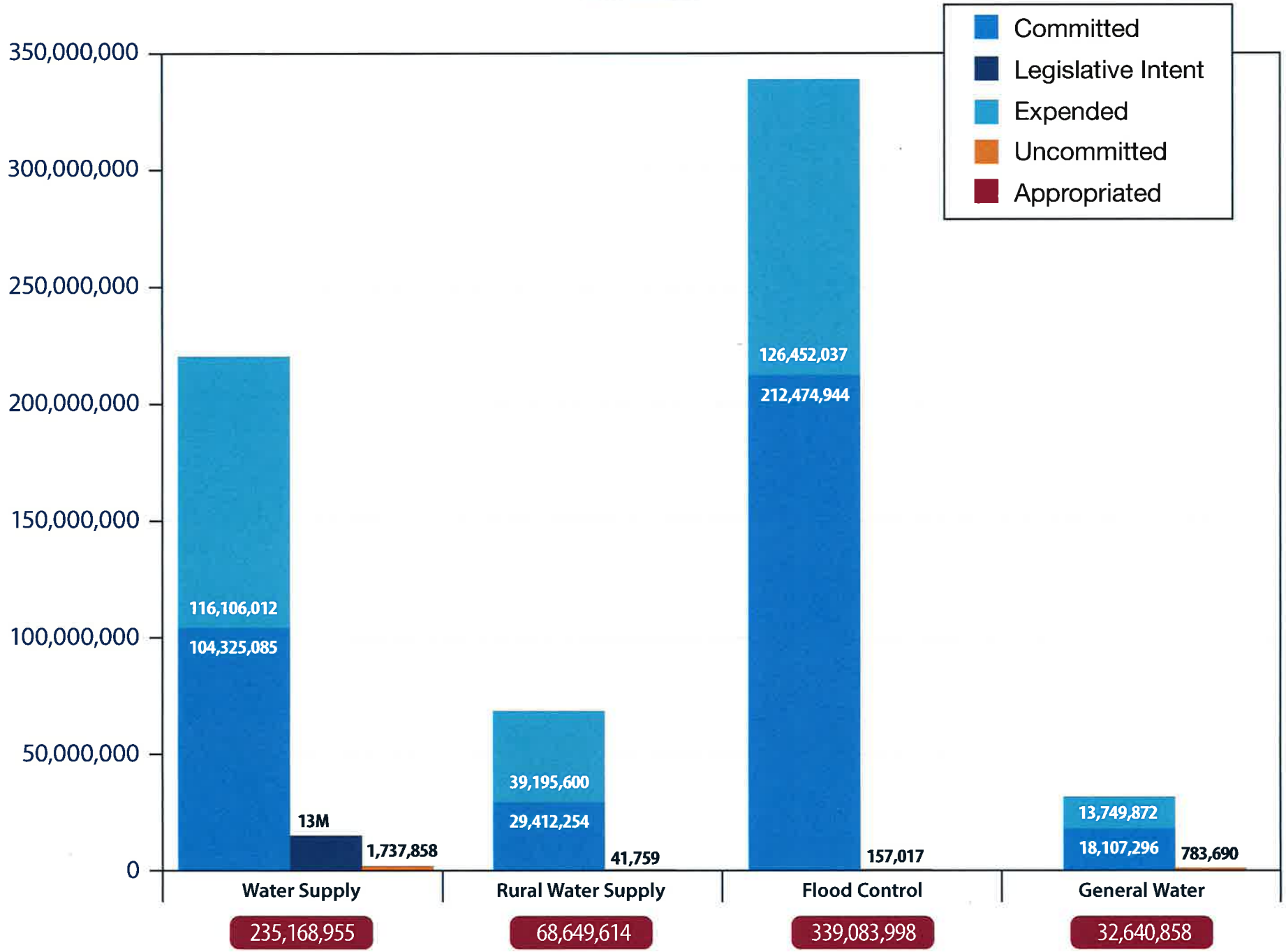
The Commission directed legal counsel to pursue the matter as discussed during executive session.

There being no further business to come before the State Water Commission, Governor Burgum adjourned the June 19, 2019, meeting at 6:05 p.m.

Doug Burgum, Governor
Chairman, State Water Commission

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

PROJECT FUNDS



APPENDIX A

STATE WATER COMMISSION
PROJECT SUMMARY
2017-2019 BIENNIUM

Apr-19

	2015-2017 CARRYOVER	2017-2019 FUNDING	2017-2019 BUDGET	SWC/SE APPROVED	REMAINING UNOBLIGATED
MUNICIPAL & REGIONAL WATER SUPPLY:					
MUNICIPAL WATER SUPPLY	54,802,659	40,225,561	95,028,220	95,028,220	0
RED RIVER VALLEY	0	30,000,000	30,000,000	17,000,000	13,000,000
OTHER REGIONAL WATER SUPPLY	60,241,296	48,161,581	108,402,877	108,402,877	0
UNOBLIGATED MUNICIPAL/REG WATER SUPPLY		1,737,858	1,737,858		1,737,858
% OBLIGATED		87.73%			
RURAL WATER SUPPLY:					
RURAL WATER SUPPLY	41,195,208	27,412,647	68,607,855	68,607,854	1
UNOBLIGATED RURAL WATER SUPPLY		41,759	41,759		41,759
% OBLIGATED		99.85%			
FLOOD CONTROL:					
FARGO	78,376,087	66,500,000	144,876,087	144,876,087	0
MOUSE RIVER	29,187,970	58,359,005	87,546,975	87,546,975	0
VALLEY CITY	13,693,459	3,180,637	16,874,096	16,874,096	0
LISBON	9,000,010	0	9,000,010	9,000,010	0
OTHER FLOOD CONTROL	36,063,386	1,614,825	37,678,211	37,678,211	0
PROPERTY ACQUISITIONS	16,849,083	7,473,013	24,322,096	24,322,096	0
WATER CONVEYANCE	19,914,006	(1,284,498)	18,629,508	18,629,508	0
UNOBLIGATED FLOOD CONTROL		157,017	157,017		157,017
% OBLIGATED		99.88%			
GENERAL WATER:					
GENERAL WATER	16,886,983	14,970,185	31,857,168	31,857,168	0
UNOBLIGATED GENERAL WATER		783,690	783,690		783,690
% OBLIGATED		95.03%			
REVOLVING LOAN FUND:					
GENERAL WATER PROJECTS	4,681,900	900,000	5,581,900	5,581,900	0
WATER SUPPLY	354,000	0	354,000	354,000	0
% OBLIGATED		100.00%			
TOTALS	381,246,045	300,233,287	681,479,327	665,759,002	15,720,325

STATE WATER COMMISSION
PROJECT SUMMARY
2017-2019 BIENNIUM

Apr-19

	SWC/SE APPROVED	EXPENDITURES	REMAINING UNPAID
MUNICIPAL & REGIONAL WATER SUPPLY:			
MUNICIPAL WATER SUPPLY	95,028,220	47,663,815	47,364,405
RED RIVER VALLEY	17,000,000	12,000,000	5,000,000
OTHER REGIONAL WATER SUPPLY	108,402,877	56,442,197	51,960,680
RURAL WATER SUPPLY:			
RURAL WATER SUPPLY	68,607,854	39,195,600	29,412,254
FLOOD CONTROL:			
FARGO	144,876,087	22,849,624	122,026,462
MOUSE RIVER	87,546,975	35,696,087	51,850,887
VALLEY CITY	16,874,096	9,756,306	7,117,790
LISBON	9,000,010	7,336,092	1,663,918
OTHER FLOOD CONTROL	37,678,211	20,034,571	17,643,640
PROPERTY ACQUISITIONS	24,322,096	22,253,039	2,069,057
WATER CONVEYANCE	18,629,508	8,526,318	10,103,190
GENERAL WATER:			
GENERAL WATER	31,857,168	13,749,872	18,107,296
REVOLVING LOAN FUND:			
GENERAL WATER PROJECTS	5,581,900	5,581,900	0
WATER SUPPLY	354,000	354,000	0
TOTALS	665,759,002	301,439,422	364,319,579
	665,759,002	301,439,422	364,319,579

STATE WATER COMMISSION
PROJECT SUMMARY
2017-2019 Biennium

WATER SUPPLY

Approved By	SWC No	Dept	Sponsor	Project	Approved Date	Total Approved	Total Payments	Apr-19 Balance
			Municipal Water Supply:					
	2050-13	5000	Mandan	New Raw Water Intake	10/7/13	1,515,672	270,291	1,245,381
	2050-15	5000	Washburn	New Raw Water Intake	10/7/13	2,281,927	233,049	2,048,878
	2050-18	5000	Grafton	Water Treatment Plant Phase 3	10/7/13	48,822	48,822	(0)
	2050-20	5000	Dickinson	Capital Infrastructure	10/6/15	1,731,926	0	1,731,926
	2050-21	5000	Watford City	Capital Infrastructure	8/1/15	536,627	13,873	522,754
	2050-26	5000	Fargo	Fargo Water System Regionalization Improvements	7/29/15	4,131,788	1,988,627	2,143,161
	2050-28	5000	Mandan	Water Systems Improvement Project	10/6/15	1,812,123	1,812,123	0
	2050-29	5000	Minot	Water Systems Improvement Project	10/6/15	3,478,647	2,879,346	599,301
	2050-30	5000	Watford City	Water Systems Improvement Project	10/6/15	5,374,639	548,390	4,826,249
	2050-31	5000	West Fargo	Water Systems Improvement Project	10/6/15	392,388	392,388	0
	2050-32	5000	Williston	Water Systems Improvement Project	10/6/15	7,857,010	0	7,857,010
	2050-36	5000	Dickinson	Water Systems Improvement Project	10/6/15	0	0	0
	2050-37	5000	Dickinson	Dickinson State Avenue South Water Main	12/11/15	963,920	0	963,920
	2050-44	5000	Beulah	Water Treatment Plant	3/9/16	1,639,813	1,639,813	0
	2050-49	5000	Grand Forks	Grand Forks Water Treatment Plant	8/23/17	50,645,520	36,050,396	14,595,124
	2050-51	5000	Mercer	Connect to McLean-Sheridan	8/23/17	0	0	0
	2050-52	5000	New Town	Water Transmission Storage	10/11/18	1,940,000	1,093,822	846,178
	2050-53	5000	West Fargo	Brooks Harbor Water Tower	8/23/17	1,950,000	0	1,950,000
	2050-54	5000	West Fargo	North Loop Connection	8/23/17	510,000	0	510,000
	2050-55	5000	West Fargo	West Loop Connection	8/23/17	1,110,000	0	1,110,000
	2050-56	5000	Williston	US Highway 2 Water Main	8/23/17	434,400	419,029	15,371
	2050-66	5000	Lincoln	Lincoln Water System Improvement Project	2/8/18	1,130,000	43,313	1,086,688
	2050-67	5000	Williston	Williston Water System Improvements	2/8/18	2,336,000	0	2,336,000
	2050-69	5000	Mandan	Sunset Reservoir Water Transmission Line	4/12/18	3,135,000	158,534	2,976,466
	2050-70	5000	Wing	Water Tower Repair	4/12/18	72,000	72,000	0
				TOTAL MUNICIPAL WATER SUPPLY		***95,028,220***	***47,663,815***	***47,364,405***
			Regional Water Supply:					
	1736-05	8000	SWPP	Southwest Pipeline Project	7/1/17	52,249,989	33,813,903	18,436,087
	2374	9000	NAWS	Northwest Area Water Supply	2/8/18	27,108,462	4,415,416	22,693,045
HB 1020	1973-02	5000	WAWSA	WAWSA	9/15/14	155,603	155,603	(0)
	1973-05	5000	WAWSA	WAWSA	10/6/15	8,888,823	5,886,855	3,001,967
	1973-06	5000	WAWSA	WAWSA	12/8/17	20,000,000	12,170,419	7,829,581
	325-105	5000	RRVWSP	RRVWSP Garrison Diversion	8/23/17	17,000,000	12,000,000	5,000,000
				TOTAL REGIONAL WATER SUPPLY		***125,402,877***	***68,442,197***	***56,960,680***
			Rural Water Supply:					
	2050-17	5000	Barnes Rural RWD	Improvements	3/11/15	1,096,634	1,096,634	0
	2050-23	5000	Greater Ramsey WRD	SW Nelson County Expansion	8/23/17	1,323,874	1,323,874	0
	2050-25	5000	All Seasons Water District	Bottineau County Extension, Phase I	7/29/15	299,358	57,503	241,855
	2050-33	5000	Stutsman RWD	Phase V Storage & Pipeline Expansion Project	10/6/15	1,172,760	1,172,760	0
	2050-34	5000	North Prairie RWD	Storage and Water Main	10/6/15	1,968,086	949,565	1,018,520
	2050-35	5000	Southeast Water Users Dist	System Wide Expansion Feasibility Study	8/23/17	13,159,145	8,825,559	4,333,586
	2050-38	5000	Dakota Rural Water District	Reservoir C Expansion	12/11/15	52,601	52,601	0
	2050-41	5000	Northeast Regional WD	City of Devils Lake Water Supply Project	12/11/15	12,789,020	12,789,020	0
	2050-42	5000	Walsh RWD	Phase 1 & 2 System Expansion	12/11/15	1,639,753	1,382,441	257,312
	2050-43	5000	All Seasons Water District	System 4 Connection to System 1	12/11/15	4,900,000	0	4,900,000
	2050-45	5000	Garrison Rural Water District	System Expansion Project	3/9/16	1,271,241	1,271,241	0
	2050-50	5000	Grand Forks Traill RWD	Eastern Expansion & TRWD Interconnect Fesibility	8/23/17	126,000	126,000	0
	2373-39	5000	North Central Rural Water Consortium	Carpio Berthold Phase 2	4/1/15	2,425,167	1,498,285	926,882
	2373-41	5000	North Central Rural Water Consortium	Granville-Deering Area	10/24/16	1,831,540	1,372,403	459,137
	2050-57	5000	North Central Regional Water District	Mountrail Expansion Phase II	8/23/17	3,086,000	47,128	3,038,873
	2050-58	5000	North Central Regional Water District	Mountrail Co. Watery Phase III	8/23/17	3,430,000	0	3,430,000
	2050-59	5000	Cass Rural Water District	Horace Storage Tank	10/11/18	1,846,000	0	1,846,000
	2050-60	5000	North Prairie Rural District	Reservoir 9 Water Supply	6/12/18	1,114,620	613,716	500,904
	2050-61	5000	North Prairie Rural District	Surrey/Silver Spring	6/12/18	107,430	85,079	22,351
	2050-62	5000	Traill Rural District	Expansion/Interconnect	8/23/17	150,880	150,880	0
	2050-63	5000	Walsh RWD	System Expansion Project	4/12/18	1,300,000	488,708	811,292
	2050-64	5000	McLean-Sheridan Water District	Turtle Lake Water Tower	8/9/18	2,378,450	1,106,234	1,272,216
	2050-65	5000	Tri-County Rural Water District	System Expansion Project	8/9/18	2,803,250	168,223	2,635,027
	2050-71	5000	East Central RWD	Grand Forks/Traill Project	12/7/18	6,091,545	3,766,882	2,324,663
	2050-72	5000	Stutsman RWD	Phase 6 Pettibone Project	4/12/18	2,100,000	850,863	1,249,137
	2050-73	5000	Northeast Regional WD	Master Plan	10/11/18	107,000	0	107,000
	2050-74	5000	Walsh RWD	Drayton Long-Term Water Supply Feasibility Study	5/8/19	37,500	0	37,500
				TOTAL RURAL WATER SUPPLY		***68,607,854***	***39,195,600***	***29,412,254***
				TOTAL		***289,038,951***	***155,301,612***	***133,737,339***

SWC Board Approved to Continue

STATE WATER COMMISSION
PROJECT SUMMARY
2017-2019 Biennium

FLOOD CONTROL

Approved By	SWC No	Dept	Sponsor	Project	Approved Date	Total Approved	Total Payments	Apr-19 Balance
			Flood Control:					
SB 2020	1928-01	5000	Fargo	Fargo Flood Control Project	4/19/16	20,001,131	20,001,131	0
SB 2020	1928-05	5000	Fargo Metro Flood Diversion	Fargo Metro Flood Diversion Authority 2015-2017	2/14/19	124,874,956	2,848,494	122,026,462
	1771-01	5000	Grafton	Grafton Flood Control Project	10/12/16	32,175,000	18,722,542	13,452,458
	1974-06	5000	Souris River Joint WRD	Development of 2011 Flood Inundation Maps	12/18/15	1,522	0	1,522
	1974-09	5000	Souris River Joint WRD	Mouse River Flood Control Design Engineering	4/12/18	276,696	276,696	(0)
	1974-11	5000	Souris River Joint WRD	Funding of 214 agreement between SRJB & USACE	12/5/14	31,500	0	31,500
	1974-12	5000	Souris River Joint WRD	Maple Diversion Design MI-4	4/12/18	1,345,000	646,000	699,000
	1974-14	5000	Souris River Joint WRD	StARR Program (Structure Acquisition, Relocation, or Ring Dike)	3/9/16	5,895,975	3,816,865	2,079,110
	1974-13	5000	Souris River Joint WRD	Tierrecita Villejo Levee Design	4/12/18	1,170,000 ✓	148,248	1,021,752
	1974-15	5000	Souris River Joint WRD	Perkett Ditch Improvements	12/2/16	404,593	274,341	130,252
	1974-16	5000	Souris River Joint WRD	Corps of Engineers Feasibility Study MREFPP	4/12/18	505,546	443,439	62,107
	1974-18	5000	Souris River Joint WRD	Rural Reaches, Preliminary Engineering	10/12/16	236,941	21,579	215,362
	1974-19	5000	Souris River Joint WRD	4th Avenue Tieback Levee & Burlington Levee - Design Engineerr	4/12/18	2,854,240	2,609,214	245,026
	1974-20	5000	Souris River Joint WRD	Utility Relocations	10/12/16	422,034	386,355	35,679
	1974-21	5000	Souris River Joint WRD	Highway 83 Bypass & Bridge Replacement	10/12/16	1,983,623	1,079,526	904,097
	1974-22	5000	Souris River Joint WRD	Broadway Pump Station Phases MI-1	3/29/17	35,271,200	8,592,876	26,678,324
	1974-23	5000	Souris River Joint WRD	Peterson Coulee Outlet	3/29/17	1,427,022 ✓	0	1,427,022
	1974-25	5000	Souris River Joint WRD	Flood Specific Emergency Action Plan for Ward Co.	7/20/17	182,000	173,493	8,507
	1974-26	5000	Souris River Joint WRD	Phases MI-2, MI-3 Construction	8/23/17	29,348,843	16,707,971	12,640,872
	1974-27	5000	Souris River Joint WRD	Corps of Engineers Section 408 Review Through Section 2145	8/23/17	74,750	74,750	0
	1974-28	5000	Souris River Joint WRD	Burlington Bridge Construction	4/12/18	2,535,000	0	2,535,000
	1974-29	5000	Souris River Joint WRD	Outlaw Creek Construction	4/12/18	1,397,500	0	1,397,500
	1974-30	5000	Souris River Joint WRD	Mouse River Park Bridge Design	4/12/18	390,000 ✓	43,800	346,200
	1974-31	5000	Souris River Joint WRD	Sawyer Bridge Design Project	4/12/18	260,000 ✓	60,780	199,220
	1974-32	5000	Souris River Joint WRD	Velva Bridge Design Project	4/12/18	260,000 ✓	56,158	203,842
	2107-02	5000	City of Minot	SWIF 2018 Outfall Pipe Project ✓	10/11/18	970,490	90,069	880,421
	2122	5000	US Army Corps of Engineers	Development of Comprehensive Plan for Souris Basin	9/5/17	302,500	193,929	108,571
	1344-04	5000	Valley City	Sheyenne River Valley Flood Control Project PHII	8/29/16	58,414	38,278	20,136
	1504-01	5000	Valley City	Permanent Flood Protection Project	5/1/15	477,445	422,018	55,427
SB 2371	1504-03	5000	Valley City	Permanent Flood Protection PH III	12/9/16	13,157,600	8,747,488	4,410,112
	1504-06	5000	Valley City	Permanent Flood Protection PH III & PH V	12/8/17	914,175	548,522	365,653
	1504-07	5000	Valley City	Permanent Flood Protection PH III Construction	10/11/18	1,786,179	0	1,786,179
	1504-08	5000	Valley City	Permanent Flood Protection Erosion Sites	4/9/19	480,283	0	480,283
	1344-02	5000	Lisbon	Sheyenne River Valley Flood Control Project	8/8/16	1,000,582	896,611	103,971
	1991-01	5000	Lisbon	Permanent Flood Protection - Levee A Project	5/29/14	0	0	0
	1991-03	5000	Lisbon	Permanent Flood Protection - Levee C Project	3/11/15	6,989	6,989	0
	1991-06	5000	Lisbon	Permanent Flood Protection - Levee E Project	3/9/16	52,000	52,000	0
	1991-08	5000	Lisbon	Permanent Flood Protection - Levee D Project	4/12/18	2,639,562	2,639,562	0
	1991-10	5000	Lisbon	Permanent Flood Protection - Levee F Project	4/12/18	4,264,000	3,740,931	523,069
	1991-13	5000	Lisbon	Permanent Flood Protection - Levee C & E Extension	2/14/19	1,036,877	0	1,036,877
	2079-01	5000	Williston	West Williston Flood Control	12/9/16	3,655,517	807,820	2,847,697
	2131	5000	Lower Heart River WRD	Flood Risk Reduction Project	6/14/18	280,000	0	280,000
	1059	5000	Bottineau Co WRD	Baumann Legal Drain	12/7/18	391,742	0	391,742
	1180	5000	Richland Co WRD	Legal Drain #7 Channel Improvements	12/7/18	274,541	0	274,541
	2008	5000	City of Mapleton	Recertification of Flood Control Levee System Project	4/12/18	314,770	314,770	0
	2111	5000	Maple River WRD	Davenport Flood Risk Reduction	7/20/17	35,000	34,999	1
	2118	5000	Cass Count Joint WRD	Sheldon Subdivision Levee	10/11/18	370,200	0	370,200
	2124	5000	City of Belfield	Heart River & Tributaries Flood Control Study	11/6/18	27,000	0	27,000
	620	5000	Lower Heart WRD	Mandan Flood Control Protective Works (Levee)	6/22/17	14,855	14,855	0
	1932	5000	Nelson Co. WRD	Michigan Spillway Rural Flood Assessment	3/9/16	67,903	67,903	0
	1705	5000	Red River Joint Water Resource District	Red River Joint WRD Watershed Feasibility Study - Phase 2	9/21/11	0	0	0
	2073	5000	Walsh Co. WRD	Oslo Area Ag Levee Feasibility Study	7/6/16	71,683	71,683	0
				Subtotal Flood Control		***295,975,378***	***95,672,681***	***200,302,697***
			Floodway Property Acquisitions:					
	1993-05	5000	Minot	Minot Phase - Floodway Acquisitions	4/12/18	14,093,720	13,360,622	733,098
SB 2371	1523-05	5000	Ward County/Minot	Ward County - Floodway Acquisitions	1/27/12	6,015,347	5,903,773	111,574
SB 2371	1504-05	5000	Valley City	Valley City - Floodway Acquisitions	12/8/17	3,406,947	2,447,107	959,840
SB 2371	2000-05	5000	Sawyer	Sawyer Phase - Floodway Acquisitions	6/13/12	135,844	0	135,844
	1991-05	5000	Lisbon	Lisbon - Floodway Acquisition	5/8/19	668,072	539,371	128,701
	1987-05	5000	Burlington	Mouse River Enhanced Flood Plan Property Acquistion	5/10/17	2,166	2,166	0
				Subtotal Floodway Property Acquisitions		***24,322,096***	***22,253,039***	***2,069,057***
				TOTAL FLOOD CONTROL		***320,297,474***	***117,925,720***	***202,371,754***
			Revolving Loan Fund:					
			(General Water)					
	2077-16	1050	Valley City	Valley City Flood Protection - Phase II Construction (LOAN)	12/9/16	3,289,400	3,289,400	0
	2077-15	1050	Valley City	Valley City Pre Design & Eng & Phase III Buyouts (LOAN)	12/9/16	1,392,500	1,392,500	0
	2077-14	1050	Lisbon	Permanent Flood Control	8/23/17	900,000	900,000	0
			(Water Supply)					
	2077-13	1050	North Central Rural Water Consortium II	Carpio Berhold Phase 2 (LOAN)	10/12/16	215,000	215,000	0
	2077-12	1050	North Central Rural Water Consortium	Granville-Surrey-Deering Water Supply Project (LOAN)	10/12/16	139,000	139,000	0
				REVOLVING LOAN TOTAL		***5,935,900***	***5,935,900***	***0***
				TOTAL		***326,233,374***	***123,861,620***	***202,371,754***

SWC Board Approved to Continue

STATE WATER COMMISSION
PROJECT SUMMARY
2017-2019 Biennium
Resources Trust Fund

WATER CONVEYANCE

Approved By	SWC No	Dept	Approved Biennum	Sponsor	Project	Approved Date	Total Approved	Total Payments	*Apr-19* Balance
				Drain & Channel Improvement Projects:					
SE	1056	2000	2015-17	Bottineau Co. WRD	Stead Legal Drain	2/16/17	14,738	11,670	3,068
SE	1059	5000	2017-19	Bottineau Co WRD	Baumann Legal Drain	3/7/18	41,427	0	41,427
SWC	1070	5000	2015-17	Maple River WRD	Drain #14 Channel Improvements	3/29/17	741,562	344,656	396,906
SWC	1071	5000	2015-17	Maple River WRD	Cass County Drain #15 Channel Improvements	3/9/16	282,561	179,516	103,045
SWC	1088	5000	2015-17	Maple River WRD	Cass Drain #37 Channel Improvements	3/9/16	215,157	77,902	137,255
SWC	1089	5000	2015-17	Maple River WRD	Cass County Drain #39 Channel Improvements	3/9/16	210,568	89,616	120,952
SE	1180	5000	2015-17	Richland Co WRD	Legal Drain No. 7 Channel Improvements	5/11/17	24,926	19,158	5,768
SE	1140	5000	2015-17	Pembina Co. WRD	Drain 11 Outlet Extension Cost Overrun Project	7/7/15	5,088	0	5,088
SWC	1222	5000	2015-17	Sargent Co WRD	Drain No 11 Channel Improvements	10/12/16	1,378,376	0	1,378,376
SWC	1311	5000	2015-17	Traill Co. WRD	Buxton Township Improvement District No. 68	3/9/16	110,418	81,285	29,133
SWC	1314	5000	2015-17	Wells Co. WRD	Hurdsfield Legal Drain	3/29/17	644,292	0	644,292
SWC	1331	5000	2015-17	Richland Co WRD	Drain #14 Reconstruction	12/9/16	252,738	179,852	72,886
SE	1413-01	5000	2017-19	Traill Co. WRD	Camrud Drainage Improvement District No. 79	4/11/19	20,250	0	20,250
SWC	1486	5000	2015-17	Griggs Co. WRD	Thompson Bridge Outlet No. 4 Project	10/6/15	621,661	0	621,661
SWC	1520	5000	2015-17	Walsh Co. WRD	Walsh County Drain 30-1	3/29/17	282,307	184,245	98,062
SWC	1520	5000	2017-19	Walsh Co. WRD	Walsh County Drain 30-2	10/11/18	328,042	20,780	307,262
SWC	1951	5000	2015-17	Maple River WRD	Lynchburg Channel Improvements	7/6/16	1,131,338	0	1,131,338
SWC	1951	5000	2015-17	Maple River WRD	Lynchburg Channel Improvements	7/6/16	23,412	20,584	2,828
SWC	1978	5000	2015-17	Richland-Sargent Joint WRD	RS Legal Drain #1 Extension & Channel Improvemen	3/29/17	378,000	301,388	76,612
SWC	1990	5000	2011-13	Mercer Co. WRD	Lake Shore Estates High Flow Diversion Project	3/7/12	43,821	0	43,821
SE	2016	5000	2015-17	Pembina Co. WRD	Establishment of Pembina County Drain No. 80	4/10/17	74,965	50,356	24,609
SWC	2049	5000	2015-17	Grand Forks Co. WRD	Grand Forks Legal Drain No. 58	3/29/17	1,481,850	0	1,481,850
SWC	2068	5000	2015-17	Traill Co. WRD	Stavanger-Belmont Drain No. 52 Channel Impr	10/12/16	414,652	294,513	120,139
SWC	2087	5000	2015-17	Walsh Co. WRD	Drain #87/McLeod Drain	3/29/17	5,273,586	2,447,424	2,826,162
SWC	2088	5000	2015-17	Pembina Co. WRD	Drain No. 79	12/9/16	875,428	791,026	84,402
SE	2101	5000	2017-19	Walsh Co. WRD	Walsh Co Drain #90	4/11/19	70,603	0	70,603
SWC	2108	5000	2015-17	Walsh Co. WRD	Walsh Co Drain #22	6/22/17	266,086	184,910	81,176
SE	2112	5000	2017-19	Pembina Co. WRD	Pembina Co Drain #81	7/30/17	56,000	0	56,000
SE	2133	5000	2017-19	Burleigh Co. WRD	Missouri River Section 32 Bank Stabilization Projects	4/11/19	22,500	0	22,500
SE	2093/1427	5000	2015-17	Bottineau Co. WRD	Moen Legal Drain	9/6/16	18,542	1,130	17,412
				Snagging & Clearing Projects:					
SE	662	5000	2015-17	Walsh Co. WRD	Park River Snagging & Clearing	2/17/17	51,435	25,827	25,608
SE	2095	5000	2015-17	Nelson Co WRD	Sheyenne River Snagging & Clearing	4/10/17	19,700	0	19,700
SE	2110	5000	2015-17	Ward Co. WRD	Meadowbrook Snagging & Clearing	6/21/17	33,000	0	33,000
					TOTAL		15,409,029	5,305,839	10,103,190
					SWC Board Approved to Continue				

STATE WATER COMMISSION
PROJECT SUMMARY
2017-2019 Biennium
Resources Trust Fund

COMPLETED WATER CONVEYANCE

Approved By	SWC No	Dept	Approved Biennum	Sponsor	Project	Approved Date	Total Approved	Total Payments	*Apr-19* Balance
SWC	568	5000	2013-15	Southeast Cass WRD	Sheyenne River Reaches Snagging & Clearing Project	12/5/14	10,312	10,312	0
SWC	568	5000	2015-17	Southeast Cass WRD	Sheyenne River Snagging & Clearing Reaches II	12/11/15	27,905	2,451	25,454
SWC	568	5000	2015-17	Southeast Cass WRD	Sheyenne River Snagging & Clearing Reaches I	12/11/15	73,902	0	73,902
SWC	568	5000	2015-17	Southeast Cass WRD	Sheyenne River Snagging & Clearing Reaches III	12/11/15	87,035	0	87,035
SE	571	5000	2013-15	Oak Creek WRD	Oak Creek Snagging & Clearing Project	3/30/15	1,107	0	1,107
SWC	710	5000	2015-17	Maple River WRD	Upper Swan Creek Channel Improvement Project	10/6/15	62,061	33,484	28,577
SWC	1056	5000	2015-17	Bottineau Co. WRD	Tacoma Bitz Legal Drain	7/6/16	210,572	49,978	160,594
SWC	1064	5000	2013-15	Rush River WRD	Cass County Drain No. 2 Channel Improvements Project	3/11/15	41,683	0	41,683
SWC	1101	5000	2015-17	Dickey Co. WRD	Yorktown-Maple Drainage Improvement Dist No. 3	11/1/17	798,562	459,210	339,352
SWC	1176	5000	2015-17	Richland Co. WRD	Legal Drain #2 Reconstruction/Extension Project	3/9/16	224,231	33,758	190,473
SWC	1179	5000	2015-17	Richalnd Co. WRD	Legal Drain #5 (Lateral 27) Reconstruction	3/9/16	180,353	10,937	169,416
SWC	1227	5000	2011-13	Traill Co. WRD	Mergenthal Drain No. 5 Reconstruction	9/15/14	12,225	0	12,225
SWC	1231	5000	2015-17	Traill Co. WRD	Carson Drain No. 10 Channel Improvements	10/12/16	141,322	110,912	30,410
SWC	1236	5000	2015-17	Traill Co. WRD	Murray Drain No. 17 Channel Improvements	10/12/16	127,759	127,759	0
SE	1328	5000	2015-17	North Cass Co. WRD	Drain No. 23 Channel Improv Preliminary Engineering	9/30/15	921	0	921
SWC	1328	5000	2015-17	North Cass Co. WRD	Drain #23 Channel Improvements	3/9/16	81,612	53,103	28,509
SE	1334	5000	2017-19	Traill Co WRD	Norway Drain No. 38	3/28/18	61,917	61,917	0
SWC	1891	5000	2015-17	Steele Co WRD	Drain No. 8 Channel Improvement	7/6/16	2,599	2,599	0
SWC	1975	5000	2015-17	Walsh Co. WRD	Drain 31-1	10/12/16	111,543	94,533	17,010
SWC	1977	5000	2011-13	Dickey-Sargent Co WRD	Jackson Township Improvement Dist. #1	5/20/15	447,653	106,287	341,366
SE	1978	5000	2015-17	Richland-Sargent Joint W	RS Legal Dam #1 - Pre-Construction Engineering	10/24/16	13,680	13,680	0
SWC	2042	5000	2015-17	Bottineau Co. WRD	Haas Coulee Legal Drain Phase II	6/22/17	86,361	86,361	0
SWC	2062	5000	2015-17	Traill Co. WRD	Traill Co. Drain #64	7/6/16	19,549	13,729	5,820
SWC	2074	5000	2015-17	City of Wahpeton	Toe Drain & Encroachment Project	7/6/16	1,125,482	1,125,482	0
SE	2078	5000	2017-19	Southeast Cass WRD	Raymond-Mapleton Township Imp Dist #76	7/20/17	3,043	3,043	0
SWC	2080	5000	2015-17	Walsh Co. WRD	Sam Berg Coulee Drain	10/12/16	182,775	86,233	96,542
SWC	2081	5000	2015-17	Walsh Co. WRD	Drain #70	10/12/16	562,429	474,608	87,821
SWC	1523	5000	2015-17	Ward Co. WRD	Robinwood Bank Stabilization Project	10/6/15	98,648	18,238	80,410
SWC	1991	5000	2013-15	City of Lisbon	Sheyenne Riverbank Stabilization Project	9/15/14	47,768	0	47,768
SE	2058	5000	2015-17	City of Grafton	Grafton Debris Removal Plan	4/10/17	8,177	8,170	7
					SNAGGING & CLEARING PROJECTS				
SWC	568	5000	2015-17	Southeast Cass WRD	Sheyenne River Snagging & Clearing Reaches I,II,III	12/9/16	150,073	150,073	0
SE	1287	5000	2013-15	McHenry Co. WRD	Souris River Snagging & Clearing Project	2/3/15	10,500	0	10,500
SE	1667	5000	2015-17	Traill Co. WRD	Goose River Snagging & Clearing	6/21/17	47,500	43,811	3,689
SE	1934	5000	2015-17	Traill Co. WRD	Elm River Snagging & Clearing	6/21/17	47,500	39,812	7,688
					TOTAL		5,108,759	3,220,479	1,888,280

STATE WATER COMMISSION
PROJECT SUMMARY
2017-2019 Biennium
Resources Trust Fund

GENERAL PROJECTS

Approved By	SWC No	Dept	Approved Biennum	Sponsor	Project	Approved Date	Total Approved	Total Payments	Apr-19 Balance
				Hydrologic Investigations:					
SE	1400	3000	2015-17	Fireside Office Solutions	Document Conversion (Water Permit Scanning)	3/28/18	21,125	19,899	1,226
SWC	2041	3000	2017-19	USGS	Stream Gage Joint Funding Agreement	12/7/18	422,870	140,957	281,913
					Subtotal Hydrologic Investigations		***443,995***	***160,856***	***283,139***
				Devils Lake Basin Development:					
SWC	416-10	4700	2015-17	Operations	Devils Lake Outlet Operations	4/9/19	12,527,973	6,431,869	6,096,104
					Subtotal Devils Lake Basin Development		***12,527,973***	***6,431,869***	***6,096,104***
				General Water Management:					
SWC	160	5000	2017-19	McLean Co WRD	Painted Woods Lake Flood Damage Reduction & Habita	8/9/18	284,768	0	284,768
SE	274	5000	2015-17	City of Neche	Neche Levee Certification Project	3/21/16	54,000	44,684	9,316
SE	364	5000	2017-19	McLean Co WRD	Yanktonai Dam Emergency Action Plan	1/30/19	11,793	0	11,793
SE	390	5000	2015-17	Logan County WRD	Beaver Lake Dam Rehabilitation Feasibility Study	6/8/16	16,076	0	16,076
SE	391	5000	2017-19	Sargent Co WRD	Silver Lake Dam Improvements	12/20/18	74,625	23,101	51,524
SWC	394	5000	2017-19	Golden Valley Co WRD	Odland Dam Rehabilitation Project	12/7/18	110,055	0	110,055
SWC	399	5000	2017-19	Barnes Co WRD	Kathryn Dam Project	8/9/18	754,875	0	754,875
SE	420	5000	2015-17	Hettinger Park Board	Mirror Lake Dam Emergency Action Plan	12/2/16	24,400	12,827	11,573
SE	460	5000	2015-17	Griggs Co. WRD	Ueland Dam Rehabilitation Feasibility Study	5/20/16	17,500	0	17,500
SE	477	5000	2015-17	Valley City	Mill Dam Rehabilitation Feasibilty Study	6/8/16	15,073	12,136	2,937
SE	512	5000	2015-17	Emmons County WRD	Nieuwsma Dam Emergency Action Plan	11/28/16	7,532	812	6,720
SE	531	5000	2017-19	Benson Co WRD	Bouret Dam Rehabilitiation	12/20/18	79,352	18,272	61,080
SWC	531	5000	2017-19	Benson Co WRD	Bouret Dam Rehabilitiation	4/9/19	591,750	0	591,750
SWC	551	5000	2015-17	McHenry Co. WRD	Buffalo Lodge Lake Outlet	6/22/17	134,915	73,375	61,540
SE	561	5000	2015-17	City of Tioga	Tioga Dam EAP	5/20/16	40,000	0	40,000
SE	667	5000	2017-19	Burke Co WRD	Northgate Dam 2 Emergency Action Plan	9/5/17	26,396	0	26,396
SWC	848	5000	2017-19	Sargent Co WRD	Brummond/Lubke Dam	10/11/18	317,111	28,814	288,298
SE	849	5000	2015-17	Pembina Co. WRD	Renwick Dam Emergency Action Plan	9/29/15	2,212	0	2,212
SE	849-01	5000	2017-19	Pembina Co. WRD	Goschke Dam Spillway Gate Retrofit	4/9/19	119,010	0	119,010
SWC	980	5000	2015-17	Cass Co. Joint WRD	Rush River Watershed Detention Study	1/7/16	127,697	24,257	103,440
SWC	980	5000	2015-17	Cass Co. Joint WRD	Upper Maple River Watershed Detention Study	1/11/16	128,039	51,540	76,499
SE	1264	5000	2013-15	Barnes Co WRD	Little Dam Repurposing Feasibility Study	6/17/15	12,385	0	12,385
SE	1270	5000	2015-17	City of Wilton	Wilton Pond Dredging Recreation Project	12/29/15	35,707	0	35,707
SE	1289	5000	2015-17	McKenzie Co. Weed Board	Control of Noxious Weeds on Sovereign Land	4/10/17	44,010	16,461	27,549
SWC	1296	5000	2015-17	Pembina Co. WRD	Tongue River NRCS Watershed Plan	3/9/16	104,703	40,369	64,334
SWC	1301	5000	2015-17	Richland Co. WRD	North Branch Antelope Creek NRCS Small Watershed	3/9/16	113,400	44,092	69,308
SE	1303	5000	2013-15	Sargent Co WRD	Gwinner Dam Improvement Feasibility Study Program	4/17/15	20,181	0	20,181
SWC	1303	5000	2015-17	Sargent Co WRD	Shortfoot Creek Watershed Planning Program	3/9/16	109,047	18,638	90,409
SWC	1389	5000	2013-15	Bank of ND	BND AgPace Program	12/13/13	170,365	120,000	50,365
SWC	1401	5000	2015-17	Pembina Co. WRD	International Boundary Roadway Dike Pembina	7/20/17	294,528	46,209	248,319
SE	1403	5000	2017-19	NDSU	ND Water Resource Institute grant student stipends	1/14/19	25,000	0	25,000
SE	1431	5000	2017-19	USGS	Rapid Deplyment Gage on the James River at Adrian	3/20/19	4,900	0	4,900
SE	1444	5000	2015-17	City of Pembina	Flood Protection System Certification	4/19/16	1,657	0	1,657
SE	1453	5000	2015-17	Hettinger County WRD	Karey Dam Rehabilitation Feasibility Study	5/23/16	6,853	0	6,853
SE	1453	5000	2017-19	Hettinger County WRD	Karey Dam Rehabilitation Design & Planning	12/14/18	67,916	19,632	48,284
SE	1453	5000	2017-19	Hettinger County WRD	Karey Dam Rehabilitation Project	4/9/19	971,325	0	971,325
SWC	1851-01	5000	2015-17	ND State Water Commission	Drought Disaster Livestock Water Supply Assistance	2/8/18	2,025,000	1,330,487	694,513
SWC	1859	5000	2017-15	ND Dept of Health	NPS Pollution	8/23/17	200,000	91,955	108,045
SWC	1878-02	5000	2017-19	Maple-Steele Joint WRD	Upper Maple River Dam Outlet Channel Improvements	4/9/19	82,320	0	82,320
SWC	1968	5000	2015-17	Garrison Diversion	MM 15 Irrigation Project	3/29/17	321,781	228,166	93,615
SWC	1968	5000	2015-17	Garrison Diversion	MM 42L Irrigation Project	8/23/17	937,207	888,547	48,660
SWC	1968	5000	2017-19	Garrison Diversion	MM 0 and MM 0.4 Irrigation Project	12/7/18	1,673,793	0	1,673,793
SWC	2050-68	5000	2017-19	Valley City	Valley City Membrane Replacement Project	2/8/18	586,350	0	586,350
SE	2055	5000	2015-17	Red River Joint Water Resource Distrist	Lower Red Basin Regional Detention Study	7/17/15	45,500	0	45,500
SWC	2059	5000	2015-17	Park River Joint WRD	North Branch Park River NRCS Watershed Study	10/6/15	81,200	0	81,200
SWC	2060	5000	2015-17	Walsh Co. WRD	Forest River Watershed Study	4/10/17	154,012	0	154,012
SWC	2060	5000	2017-19	Walsh Co. WRD	Matejcek Dam Rehabilitation	10/11/18	279,750	0	279,750
SE	2070	5000	2015-17	Garrision Diversion Conservancy Dist	Mile Marker 42 Irrigation Project	5/20/16	29,741	0	29,741
SE	2071	5000	2015-17	Foster County WRD	Alkali Lake High Water Feasibilitly Study	4/19/16	4,830	0	4,830
SE	2072	5000	2015-17	Barnes Co WRD	Ten Mile Lake Flood Risk Reduction Project	6/8/16	36,812	0	36,812
SWC	2074	5000	2015-17	City of Wahpeton	Flood Control - Levee Certification	7/6/16	247,500	0	247,500
SWC	2074	5000	2015-17	City of Wahpeton	Breakout Easements	7/6/16	265,000	0	265,000
SWC	2075	5000	2015-17	Ward Co. WRD	Second Larson Coulee Detention Pond	7/6/16	602,307	0	602,307
SWC	2083	5000	2015-17	Pembina Co. WRD	Herzog Dam Gate & Catwalk Retrofit - Construction	10/12/16	114,632	8,444	106,188
SE	2085	5000	2015-17	Adams Co WRD	Orange Dam Rehabilitation Feasibility Study	10/13/16	10,770	1,930	8,840
SE	2089	5000	2015-17	Maple River WRD	Tower Township Improvement District No. 77 Study	12/19/16	28,175	11,717	16,458
SE	2090	5000	2015-17	International Water Institute	River Watch Program	1/12/17	24,150	18,916	5,234
SE	2090-02	5000	2017-19	International Water Institute	River of Dreams Program	6/6/18	23,275	14,944	8,331
SWC	2096	5000	2015-17	Southeast Cass WRD	Sheyenne-Maple Flood Control Dist #2 Improvements	3/29/17	1,035,358	642,154	393,204
SE	2109	5000	2017-19	Logan County WRD	McKenna Lake Feasibility Study	6/21/17	2,247	0	2,247
SE	2109	5000	2017-19	Logan County WRD	McKenna Lake Hydrologic Study	9/12/18	72,167	0	72,167
SWC	2115	5000	2017-19	Applied Weather Associates, LLC	(PMP) Probable Maximum Precipitation Estimates	10/11/18	600,000	0	600,000
SWC	2120	5000	2017-19	Apex Engineering	SWPP Transfer of Ownership Study	4/9/19	176,579	0	176,579
SWC	2123	5000	2017-19	Geotech, Inc.	Airborne Electromagnetic (AEM) 2018	8/9/18	425,000	202,085	222,915
SE	1396-01	5000	2013-15	Trout, Raley, Montano, Witwer, & Freema	Missouri River Recovery Program	11/17/15	46,785	275	46,510
SWC	PS/IRR/LOW	5000	2017-19	Lower Yellowstone Irrigation District #2	Lateral W Irrigation Project	6/14/18	692,500	116,706	575,794
SE	AOC/WEF	5000	2017-19	ND Water Education Foundation	ND Water Magazine	8/2/17	26,000	19,500	6,500
SWC	AOC/RRC	5000	2017-19	Red River Basin Commission	Red River Basin Commission Contractor	6/22/17	200,000	150,000	50,000
SWC	AOC/ASS	5000	2017-19	Assiniboine River Basin Inititiative	ARBI's Outreach Efforts	6/22/17	100,000	75,000	25,000
SE	PS/WRD/UPP	5000	2017-19	Upper Sheyenne River Joint WRB	USRJWB Operational Costs	6/20/17	6,000	5,143	857
SE	PS/WRD/MRJ	5000	2017-19	Missouri River Joint WRB	MRRIC Terry Fleck	6/7/17	45,000	18,140	26,860
SE	PS/WRD/MRJ	5000	2017-19	Missouri River Joint WRB	Board Operational Costs	6/7/17	10,000	4,658	5,342
SE	PS/WRD/LOW	5000	2015-17	Lower Heart WRD	Lower Heart Flood Contral Study	5/10/17	21,140	0	21,140
					Subtotal General Projects		***16,152,037***	***4,423,984***	***11,728,052***
					TOTAL		29,124,004	11,016,709	18,107,296
					SWC Board Approved to Continue				

STATE WATER COMMISSION
PROJECT SUMMARY
2017-2019 Biennium
Resources Trust Fund

COMPLETED GENERAL PROJECTS

Approved By	SWC No	Dept	Approved Biennum	Sponsor	Project	Approved Date	Total Approved	Total Payments	Apr-19 Balance
					Hydrologic Investigations:				
SE	1396	3000	2017-19	USGS	Maintain Gaging Station East of Lisbon Sheyenne River	9/25/17	10,500	10,500	0
SE	989	3000	2017-19	ND Dept of Health	Water Sampling Testing	9/25/17	105,500	105,500	0
SWC	2041	3000	2017-19	USGS	Stream Gage Joint Funding Agreement	12/8/17	553,790	553,790	0
SWC	2041	3000	2015-17	USGS	Stream Gage Joint Funding Agreement	10/12/16	136,028	136,028	0
					Subtotal Hydrologic Investigations		***805,818***	***805,818***	***0***
SWC	322	5000	2009-11	ND Water Education Fou	ND Water: A Century of Challenge	2/22/10	36,800	35,000	1,800
SWC	346	5000	2015-17	Williams County WRD	Epping Dam Spillway Reconstruction	3/29/17	19,499	19,439	60
SWC	347	5000	2009-11	City of Velva	City of Velva's Flood Control Levee System Certification	3/28/11	32,497	32,497	0
SE	394	5000	2015-17	Golden Valley Co WRD	Odland Dam Rehabilitiation Feasibility Study	10/13/16	13,220	13,220	0
SE	399	5000	2013-15	Barnes Co WRD	Kathryn Dam Feasibility Study	9/19/14	12,742	7,061	5,681
SE	479	5000	2017-19	Morton Co Parks & Recre	Fish Creek Dam Rehabilitiation	10/4/17	62,970	62,970	0
SE	494	5000	2015-17	Nelson Co. WRD	McVille Dam Emergency Action Plan	5/3/18	10,000	10,000	0
SE	841	5000	2013-15	Maple River WRD	Garsteig Dam Repair Project	1/26/15	18,661	0	18,661
SE	848	5000	2015-17	Sargent Co WRD	Tewaukon WS-T-7 (Nelson) Dam EAP	12/18/15	12,180	1,132	11,048
SE	848	5000	2015-17	Sargent Co WRD	Tewaukon WS-T-1-A (Brummond-Lubke) Dam EAP	12/18/15	12,016	1,180	10,836
SWC	980	5000	2013-15	Cass Co. Joint WRD	Swan Creek Watershed Detention Study PHII	3/11/15	122,666	2,152	120,514
SWC	1273	5000	2015-17	City of Oakes	James River Bank Stabilization	12/11/15	262,500	76,927	185,573
SE	1296	5000	2013-15	Pembina Co. WRD	Bathgate-Hamilton & Carlisle Watershed Study	10/17/13	6,726	6,726	0
SE	1303	5000	2015-17	Sargent Co WRD	Gwinner Dam Breach Project	3/21/18	44,364	42,673	1,691
SE	1396	5000	2017-19	USGS	Water Level Monitoring of Missouri River	9/7/17	15,000	15,000	0
SE	1403	5000	2017-19	NDSU	ND Water Resource Institute grant student stipends	1/9/18	25,000	25,000	0
SE	1418	5000	2015-17	City of Bisbee	Big coulee Dam EAP	5/10/17	11,320	11,095	225
SE	1625	5000	2015-17	Carlson McCain, Inc.	Ordinary High Water Mark Delineations Left Bank of Missouri F	12/2/16	2,000	2,000	0
SWC	1638	5000	2009-11	Mutiple	Red River Basin Non-NRCS Rural/Farmstead Ring Dike Progra	6/23/09	177,864	0	177,864
SE	1808	5000	2015-17	Steele Co WRD	Beaver Creek Dam Safety Inspection	5/23/16	2,625	2,625	0
SE	1878-02	5000	2015-17	Maple-Steele Joint WRD	Upper Maple River Dam EAP	5/20/16	12,800	6,146	6,654
SWC	1968	5000	2013-15	Garrison Diversion	McClusky Canal Mile Marker 10 & 49 Irrigation Project	3/17/14	51,614	0	51,614
SE	1974	5000	2015-17	USGS	Installation of 5 Rapid Deployment Gages in the Mouse River	3/23/17	23,200	23,200	0
SE	1974	5000	2015-17	USGS	Regulated Streamflow Frequency for the Upper Souris River B	12/16/16	12,367	12,367	0
HB1009	1986	5000	2017-19	ND Dept Agriculture	Wildlife Services 17-201	8/22/17	125,000	125,000	0
SWC	2065	5000	2015-17	Cass Co. Joint WRD	Lake Bertha Flood Control Project No. 75	3/9/16	201,350	201,350	0
SWC	2066	5000	2015-17	Southeast Cass WRD	Sheyenne-Maple Flood Control Dist #1 Mitigation Improvemen	3/9/16	169,201	169,201	0
SE	2069	5000	2015-17	Center Township	Wild Rice River Bank Stabilization	4/19/16	954	954	0
SE	2076	5000	2015-17	Elm River Joint WRD	Elm River Dam #1 Modification Study	7/6/16	9,503	9,503	0
SE	2094	5000	2015-17	McLean Co WRD	Lower Buffalo Creek Flood Management Feasibility	6/7/17	7,539	7,534	5
SE	2079-01	5000	2015-17	City of Williston	West Williston Flood Control	10/24/16	39,900	39,900	0
SE	2099	5000	2017-19	City of Hunter	Hunter Dam Emergency Action Plant	2/22/18	46,108	46,108	0
SWC	2107-01	5000	2015-17	City of Minot	Levee Repair & Bank Stabilization Project	6/14/18	581,476	581,476	0
SE	2114	5000	2017-19	HDR Engineering	LCCA & EA Guidance Workshop	5/17/18	9,804	9,804	0
HB1020	2114	5000	2017-19	HDR Engineering	Economic Analysis-Flood Control & Conveyance Projects	12/28/17	74,093	74,093	0
HB1020	2119	5000	2017-19	HDR Engineering	Life Cycle Cost Analysis Guidelines & Process Development	12/28/17	59,263	59,263	0
SE	AOC/IRA	5000	2017-19	ND Irrigation Association	Water Irrigation Funding	3/29/19	100,000	100,000	0
SE	AOC/MIS	5000	2017-19	Missouri River Advisory C	MRAC Startup Funding	8/3/17	2,000	2,000	0
SE	AOC/WRD	5000	2015-17	ND Water Resource Distri	ND Water Managers Handbook	6/21/17	24,750	24,750	0
SE	AOC/WEF/TOL	5000	2017-19	ND Water Education Fou	Summer Water Tours	4/30/18	2,500	2,500	0
SE	AOC/WEF/TOL	5000	2017-19	ND Water Education Fou	Summer Water Tours	5/7/19	2,500	2,500	0
SE	NDAWN	5000	2017-19	NDSU	NDAWN CENTER	3/4/19	1,500	1,500	0
SE	NDAWN	5000	2017-19	NDSU	NDAWN CENTER	3/13/18	1,500	1,500	0
SWC	PS/WRD/ELM	5000	2013-15	Elm River Joint WRD	Dam #3 Safety Improvements Project	9/15/14	5,672	0	5,672
SE	PS/WRD/DEV	5000	2017-19	Devils Lake Basin Joint W	Board Manager	6/14/17	60,000	60,000	0
					Subtotal General Projects		***2,525,243***	***1,927,346***	***597,897***
					TOTAL		3,331,061	2,733,164	597,897

Rural Water Supply Bucket 2017-2019		
Bucket Total		**$27,000,000**
Obligated This Biennium	East Central Regional Water District - Grand Forks System	$4,150,000
	East Central Regional Water District - Traill System	$1,396,880
	East Central Regional Water District - Agassiz WUD	$232,795
	East Central Regional Water District - Larimore	$513,750
	Greater Ramsey Water District - Devils Lake Regionalization	$599,000
	Northeast Regional Water District - Master Plan	$107,000
	North Prairie Rural Water District - Mountrail County	$6,516,000
	Southeast Water User District - Expansion System Wide	$2,749,000
	Stutsman Rural Water District - Phase 6 Pettibone	$2,100,000
	Walsh Rural Water District - System Improvements	$1,300,000
	Walsh Rural Water District - Drayton Water Supply	$37,500
	North Prairie Rural Water District - Silver Spring Surrey	$107,430
	North Prairie Rural Water District - Reservoir 9	$1,114,620
	Cass Rural Water User District - Horace Tank	$1,846,000
	McLean-Sheridan Rural Water District - Turtle Lake Tower	$2,378,450
	Tri-County Rural Water District - McVille Connection	$2,803,250
Remaining Balance		**($951,675.00)**
Money Turned Back		$993,434
Remaining Balance		**$41,759**

June-2019

Water Supply Bucket 2017-2019		
Bucket Total		**$120,125,000**
Obligated This Biennium	Grand Forks - Water Treatment Plant	$30,000,000
	Lake Agassiz Water Authority - Red River Valley Water Supply	$17,000,000
	Lincoln - Water Supply Main	$1,130,000
	Mandan - Sunset Reservoir Transmission Line	$3,135,000
	Mercer - McLean Sheridan Connection	$166,950
	State Water Commission - Northwest Area Water Supply	$14,600,000
	New Town - Water Tower	$1,940,000
	State Water Commission - Southwest Pipeline Project	$13,500,000
	West Fargo - Brooks Harbor Water Tower	$1,950,000
	West Fargo - North Loop Connection	$510,000
	West Fargo - West Loop Connection	$1,110,000
	Western Area Water Supply - Phase 5	$20,000,000
	Williston - US Highway 2 Water Main	$434,400
	Williston - 9th Ave E Water Main	$246,000
	Williston - 18th St Water Main	$2,090,000
	Wing - Water Tower	$72,000
2019-2021 Intent	Lake Agassiz Water Authority - Red River Valley Water Supply	$13,000,000
Remaining Balance		**($759,350)**
Money Turned Back		$2,497,208
Remaining Balance		**$1,737,858**
June 2019 Agenda	Lincoln - Water Supply Main	$329,100
Remaining Balance		**$1,408,758**

June-2019

Flood Control Bucket 2017-2019		
Bucket Total		**$136,000,000**
Obligated This Biennium	Mouse River Flood Control	$63,907,784
	Valley City Flood Control	$2,171,925
	*Pembina Co. WRD	$56,000
	*SE Cass WRD	$3,043
	*Bottineau Co. WRD	$41,427
	*Traill Co. WRD	$61,917
	Mapleton Re-Certification	$213,670
	Lower Heart Flood Control	$280,000
	Davenport Flood Risk Reduction	$35,000
	Michigan Spillway Flood Assessment	$42,053
	Valley City Flood Control Phase III Construction	$1,786,179
	City of Minot SWIF	$387,433
	Sheldon Subdivision Levee	$370,200
	City of Belfield	$27,000
	*Walsh County Drain 30-2	$328,042
	*Richland County Drain 7	$274,541
	*Bottineau County Bauman Drain	$391,742
	Fargo Flood Control	$66,500,000
	Valley City Flood Control	$480,283
	Minot SWIF	$214,279
	City of Lisbon Floodway Property Acquisition	$64,772
	*Walsh County Drain 90	$70,603
	*Traill Co. WRD Camrud Drain	$20,250
	*Burleigh Co. WRD Missouri River Sect 32 Bank Stabilization	$22,500
Remaining Balance		**($1,750,643)**
Money Turned Back		$1,907,661
Remaining Balance		**$157,018**
June 19 Agenda	*Sargent Co. Drain 7 Additional	$114,227
Remaining Balance		**$42,791**

* Conveyance Projects

June-2019

General Water Management Bucket 2017-2019		
Bucket Total		**$15,750,000**
Obligated This Biennium	Garrison Diversion Unit, Mile 42 Irrigation	$937,207
	Drought Disaster Livestock Water Supply	$500,000
	Drought Disaster Livestock Water Supply	$775,000
	Drought Disaster Livestock Water Supply	$500,000
	Valley City Water Treatment Plant	$586,350
	USGS Cooperative Hydrologic Monitoring	$553,790
	Wildlife Services - ND Dept. of Agriculture	$125,000
	Yellowstone Irrigation District	$692,500
	NPS Pollution – Dept. of Health	$200,000
	Red River Basin Commission	$200,000
	Painted Woods Lake Flood Damage Reduction	$284,768
	Kathryn Dam	$754,875
	AEM	$425,000
	Assiniboine Outreach	$100,000
	Various State Engineer Approvals	$775,379
	Matacjek Dam	$279,750
	Brummond-Lubke Dam	$317,111
	PMP Update	$600,000
	Garrison Diversion MM 0 and 0.4 Irrigation Project	$1,673,793
	USGS Cooperative Gaging Network	$422,870
	Odland Dam Engineering	$110,055
	Karey Dam Rehabilitation Engineering	$67,916
	Silver Lake Dam Improvements	$74,625
	Bouret Dam Rehabilitation Engineering	$67,234
	Devils Lake Mitigation	$2,500,000
	Upper Maple River Dam	$82,320
	Bouret Dam	$591,750
	Karey Dam	$971,325
	Goschke Dam	$119,010
	ND Irrigation Association	$100,000
	SWPP Transfer Study	$176,579
Remaining Balance		**$185,793**
Money Turned Back		$597,897
Remaining Balance		**$783,690**
June 2019 Agenda	Larimore Dam Planning	$91,800
	Fordville Dam Planning	$122,595
	Bylin Dam Planning	$131,370
	Senator Young Dam Planning	$129,210
Remaining Balance		**$308,715**

June-2019

	Rural Water Funding 2019-2021	
Funding Total		**$37,200,000**
Obligated This Biennium		$0
		$0
	Sub-Total Balance	**$37,200,000**
Money Turned Back		$0
	Sub-Total Balance	**$37,200,000**
June 2019 Agenda	Dakota Rural Water District - 2019 Expansion	$461,250
	McLean-Sheridan Water District - Expansion Phase 1	$327,075
	Northeast Regional Water District - Devils Lake Supply Phase 2	$1,328,000
	South Central Regional Water District - North Burleigh WTP	$920,000
	Stutsman Rural Water District - Phase 7	$1,812,000
	Sub-Total Balance	**$32,351,675**
Planned This Biennium	Dakota Rural Water District - 2019 Expansion	$4,188,750
	McLean-Sheridan Water District - Expansion Phase 1	$4,652,925
	Remaining 14 Rural Projects	$23,510,000
	Funding Balance	**$0**

June-2019

	Water Supply Funding 2019-2021	
Funding Total		**$128,000,000**
Obligated This Biennium		$0
		$0
	Sub-Total Balance	**$128,000,000**
Money Turned Back		$0
	Sub-Total Balance	**$128,000,000**
June 2019 Agenda	Mandan - Raw Water Intake	$10,977,000
	Bismarck - Lockport Pump Station	$2,280,000
	Mapleton - Water Storage Tank	$840,000
	Western Area Water Supply Authority - WAWS Phase 6	$5,476,000
	Sub-Total Balance	**$108,427,000**
Planned This Biennium	Lake Agassiz Water Authority - Red River Valley Water Supply	$43,000,000
	Western Area Water Supply Authority - WAWS Phase 6	$34,524,000
	Funding Balance	**$30,903,000**

June-2019

	Flood Control Funding 2019-2021	
Funding Total		**$197,000,000**
Obligated This Biennium		$0
		$0
	Sub-Total Balance	**$197,000,000**
Money Turned Back		$0
	Sub-Total Balance	**$197,000,000**
June 2019 Agenda	Souris River Joint WRD Mouse River Enhanced Flood Protection Project	$82,500,000
	*Southeast Cass Joint WRD Cass Co Drain 40 Improvements	$192,600
	Sub-Total Balance	**$114,307,400**
Planned This Biennium	Metro Flood Diversion Authority Fargo Moorhead Metro Area Flood Risk Mgt Project	$66,500,000
	Funding Balance	**$47,807,400**

* Conveyance Projects

June-2019

	General Water Management Funding 2019-2021	
Funding Total		**$27,093,776**
Obligated This Biennium		$0
		$0
	Sub-Total Balance	**$27,093,776**
Money Turned Back		$0
	Sub-Total Balance	**$27,093,776**
June 2019 Agenda	Red River Basin Commission Initiative Base Funding 2019-2021	$300,000
	Assiniboine River Basin Initiative Base Funding 2019-2021	$100,000
	FY2020 SWC/USGS Cooperative Hydrologic Monitoring Program	$511,000
	2019 Airborne Electromagnetic (AEM) Projects	$425,000
	Atmospheric Resource Operations and Research Grants	$875,722
	Aerial Imagery Project	$765,000
	Sub-Total Balance	**$24,117,054**
Planned This Biennium		
	Funding Balance	**$24,117,054**

June-2019

SENATE BILL NO. 2020
(Appropriations Committee)

AN ACT to provide an appropriation for defraying the expenses of the state water commission; to amend and reenact subsection 3 of section 61-02-78 and section 61-02-79 of the North Dakota Century Code, relating to the infrastructure revolving loan fund and the authorization of a Bank of North Dakota line of credit; to provide for Red River valley water supply requirements; to provide an exemption; to provide for a report to the legislative management; to provide conditions on appropriations; to provide a statement of legislative intent; and to provide for a pilot project.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated from special funds derived from federal funds and other income, to the state water commission for the purpose of defraying the expenses of the state water commission, for the period beginning with the effective date of this Act, and ending June 30, 2021, as follows:

	Base Level	Adjustments or Enhancements	Appropriation
Salaries and wages	$19,659,298	$172,688	$19,831,986
Operating expenses	58,044,691	11,711,062	69,755,753
Capital assets	124,819,442	56,119,316	180,938,758
Project carryover	274,867,897	33,465,921	308,333,818
New projects	169,782,147	(169,782,147)	0
Water supply - grants	0	128,000,000	128,000,000
Rural water supply - grants	0	37,200,000	37,200,000
Fargo area flood control including the Fargo Moorhead diversion	0	66,500,000	66,500,000
Mouse River flood control	0	82,500,000	82,500,000
Flood control projects other than Fargo area flood control including the Fargo Moorhead diversion	0	48,000,000	48,000,000
General water - grants	0	27,093,776	27,093,776
Total special funds	$647,173,475	$320,980,616	$968,154,091
Full-time equivalent positions	93.00	(3.00)	90.00

SECTION 2. ONE-TIME FUNDING - REPORT TO THE SIXTY-SEVENTH LEGISLATIVE ASSEMBLY. The following amounts reflect the one-time funding items approved by the sixty-fifth legislative assembly for the 2017-19 biennium and the 2019-21 biennium one-time funding items included in the appropriation in section 1 of this Act:

One-Time Funding Description	2017-19	2019-21
Line of credit - Bank of North Dakota	$75,000,000	$75,000,000
Payoff of outstanding debt	0	25,900,000
Total special funds	$75,000,000	$100,900,000

The 2019-21 biennium one-time funding amounts are not a part of the entity's base budget for the 2019-21 biennium. The state water commission shall report to the appropriations committees of the sixty-seventh legislative assembly on the use of this one-time funding for the period beginning with the effective date of this Act, and ending June 30, 2021.

SECTION 3. EXEMPTION - GRANTS - WATER-RELATED PROJECTS - CARRYOVER AUTHORITY. Section 54-44.1-11 does not apply to funding for grants or water-related projects included in the project carryover, water supply - grants, rural water supply - grants, Fargo area flood control including the Fargo Moorhead diversion, Mouse River flood control, flood control projects other than Fargo area flood control including the Fargo Moorhead diversion, and general water - grants line items in section 1 of this Act. However, this exclusion is only in effect for two years after June 30, 2021. Any unexpended funds appropriated from the resources trust fund after that period has expired must be transferred to the resources trust fund and any unexpended funds appropriated from the water development trust fund after that period has expired must be transferred to the water development trust fund.

SECTION 4. ADDITIONAL INCOME - APPROPRIATION - BUDGET SECTION APPROVAL. In addition to the amounts appropriated in section 1 of this Act, any additional amounts in the resources trust fund and water development trust fund which become available are appropriated, subject to budget section approval, to the state water commission for the purpose of defraying the expenses of that agency, for the biennium beginning July 1, 2019, and ending June 30, 2021. Before approving any request, the budget section shall determine:

1. Approving additional appropriations will not negatively affect the sixty-seventh legislative assembly's ability to address water-related needs;

2. The proposed use of the additional income complies with legislative intent; and

3. The proposed use of the additional income will not result in future funding commitments.

SECTION 5. CONDITION ON FARGO AREA FLOOD CONTROL LINE ITEM. The $66,500,000 appropriated to the state water commission for Fargo area flood control including the Fargo Moorhead diversion in section 1 of this Act for the period beginning with the effective date of this Act, and ending June 30, 2021, may be used only for Fargo area flood control projects including the Fargo Moorhead diversion, and the appropriation of those funds is conditioned on having no other funds appropriated in section 1 being expended on Fargo area flood control including the Fargo Moorhead diversion. This condition does not prohibit the use of funds appropriated for project carryover in section 1 of this Act for Fargo area flood control projects, subject to section 7 of this Act.

SECTION 6. CONDITION ON OTHER SECTION 1 LINE ITEMS. The $593,320,273 appropriated to the state water commission for salaries and wages, operating expenses, capital assets, water supply - grants, rural water supply - grants, Mouse River flood control, flood control projects other than Fargo area flood control including the Fargo Moorhead diversion, and general water - grants in section 1 of this Act for the period beginning with the effective date of this Act, and ending June 30, 2021, may be used only for salaries and wages, operating expenses, capital assets, water supply - grants, rural water supply - grants, Mouse River flood control, flood control projects other than Fargo area flood control including the Fargo Moorhead diversion, and general water - grants, respectively, and the appropriation of those funds is conditioned on the funds not being expended on Fargo area flood control projects including the Fargo Moorhead diversion.

SECTION 7. CONDITION ON PROJECT CARRYOVER FUNDS. The $308,333,818 appropriated to the state water commission for project carryover in section 1 of this Act for the period beginning with the effective date of this Act, and ending June 30, 2021, may be used only for project carryover, and the appropriation of those funds is conditioned on having no more than the amount the state water commission approved for Fargo area flood control including the Fargo Moorhead diversion by April 1, 2019, expended from the project carryover funds on Fargo area flood control including the Fargo Moorhead diversion.

SECTION 8. CONDITION ON APPROPRIATIONS. The $66,500,000 appropriated to the state water commission for Fargo area flood control including the Fargo Moorhead diversion in section 1 of this Act and the amount the state water commission approved for Fargo area flood control including the Fargo Moorhead diversion by April 1, 2019, which amount is included in project carryover funds appropriated in section 1 of this Act, may not be used for any work under plan B for the Fargo

Moorhead diversion project; except for constructing or repairing levees and dikes and purchasing land, easements, and options or rights of first refusal to purchase land, necessary for flood control; until:

1. The federal court injunction on plan B is modified to allow construction of plan B to continue;
2. The Congress of the United States appropriates federal funds for construction of plan B;
3. The state engineer approves the mitigation plan for plan B;
4. The office of state engineer issues all necessary permits the state engineer requires for plan B; and
5. The Minnesota state legislature appropriates funds for construction of plan B.

SECTION 9. LEGISLATIVE INTENT - FARGO FLOOD CONTROL PROJECT FUNDING. It is the intent of the sixty-sixth legislative assembly that the state provide a portion of the local cost-share of Fargo flood control projects, including constructing a federally authorized Fargo flood control project, and that total Fargo flood control project funding to be provided by the state not exceed $750,000,000, which includes $120,000,000 originally designated for Fargo interior flood control. It is the intent of the sixty-sixth legislative assembly that the $379,500,000 yet to be designated by the state for the Fargo flood control project be made available in installments as follows: $66,500,000 during the 2019-21, 2021-23, 2023-25, 2025-27, and 2027-29 bienniums, and $47,000,000 during the 2029-31 biennium.

SECTION 10. FARGO FLOOD CONTROL PROJECT DOWNSTREAM IMPACT MITIGATION. The Fargo Moorhead metropolitan flood risk management project operations may not cause a downstream federal emergency management agency accredited flood protection system in North Dakota to lose its accreditation. The metropolitan flood diversion authority shall take reasonable measures to mitigate downstream impacts to accredited flood protection systems, existing as of April 1, 2019, located in North Dakota bordering the Red River resulting from the operations of the Fargo Moorhead diversion. For purposes of this section, negative downstream impacts to accredited flood protection systems are caused when the water surface profile passing through such systems is raised by more than one-tenth of one foot for the one hundred-year event or when the ability of the accredited flood protection system to protect against a two hundred-year or five hundred-year event is compromised. The metropolitan flood diversion authority shall collaborate with the state engineer and accredited flood protection systems in North Dakota to implement this requirement.

SECTION 11. LEGISLATIVE INTENT - MOUSE RIVER FLOOD CONTROL PROJECT FUNDING. Except for funding provided during bienniums prior to the 2017-19 biennium, it is the intent of the sixty-sixth legislative assembly that the state provide no more than $193,000,000 of state funding for Mouse River flood control projects within the city limits of Minot. It is the intent of the sixty-sixth legislative assembly that the $193,000,000 be made available during the 2017-19, 2019-21, 2021-23, and 2023-25 bienniums. It is the intent of the sixty-sixth legislative assembly that of the $193,000,000, the state provide $57,713,284 during the 2017-19 biennium and that the $135,286,716 yet to be designated by the state for the Mouse River flood control projects, within the city limits of Minot, be provided during the 2019-21, 2021-23, and 2023-25 bienniums.

SECTION 12. LEGISLATIVE INTENT - RED RIVER VALLEY WATER SUPPLY PROJECT - REPORT TO LEGISLATIVE MANAGEMENT - APPLICATION. It is the intent of the sixty-sixth legislative assembly that the state water commission provide, in the form of a grant, up to $13,000,000, to the Garrison Diversion Conservancy District for the Red River valley water supply project, to initiate construction of phase one prioritized project features identified in accordance with subsections 2 and 3 of section 14 of this Act, for the period beginning with the effective date of this Act, and ending June 30, 2021. The Garrison Diversion Conservancy District shall report on a regular basis to the legislative management's water topics overview committee during the 2019-20 interim regarding the progress of the Red River valley water supply project. The provisions of section 13 of this Act do not apply to the funding referenced in this section.

SECTION 13. LEGISLATIVE INTENT - RED RIVER VALLEY WATER SUPPLY PROJECT. It is the intent of the sixty-sixth legislative assembly that the state water commission provide no more than $30,000,000 to the Garrison Diversion Conservancy District for the Red River valley water supply project during the 2019-21 biennium and 2021-23 biennium and that the state funding be provided at a seventy-five percent state cost-share.

SECTION 14. RED RIVER VALLEY WATER SUPPLY PROJECT - REPORT TO LEGISLATIVE MANAGEMENT - BUDGET SECTION APPROVAL. Any funding received by the Garrison Diversion Conservancy District from the state water commission for the Red River valley water supply project during the 2017-19 biennium and the biennium beginning July 1, 2019, and ending June 30, 2021, is subject to the following requirements:

1. Any funding received for the completion of the planning and permitting process of the Red River valley water supply project must result in the following accomplishments:

   a. The completed Red River valley water supply plan document, which will be the basis and justification for project construction, must include alternative selection, water supply needs, projected project costs, easement acquisitions, environmental regulation compliance to include issuance of a final national pollutant discharge elimination system permit, and acquisition of all other state and federal permits required for the construction of any project features intended to be constructed with funding provided during the 2017-19 biennium and the 2019-21 biennium;

   b. A signed bureau of reclamation water service contract agreeing to a minimum of one hundred sixty-five cubic feet per second over a minimum of forty years or equivalent to ensure an adequate water source for the project's needs;

   c. Prioritized project features for phase one construction; and

   d. A recommendation of funding options for all phases of the Red River valley water supply project.

2. The state water commission shall review any associated appeals or litigation before releasing any funds for the project.

3. Any funding received to initiate construction of phase one prioritized project features identified in subsection 1 may be spent and construction of phase one may begin only after the budget section receives and approves certification from the state water commission and the state engineer that all items listed in subsection 1 have been accomplished.

4. Quarterly progress reports on the Red River valley water supply project from the Garrison Diversion Conservancy District to the water topics overview committee of the legislative management, during the 2019-21 interim.

SECTION 15. PILOT PROJECT - IMPLEMENTATION OF A BASINWIDE PLAN - REPORT TO THE LEGISLATIVE MANAGEMENT. Up to $1,000,000 of the $48,000,000 appropriated to the state water commission for flood control projects other than Fargo area flood control including the Fargo Moorhead diversion in section 1 of this Act for the period beginning with the effective date of this Act, and ending June 30, 2021, may be used to provide grants under the pilot project in this section.

1. If all the water resource districts and joint water resource districts in a basin develop a basinwide water plan identifying water conveyance, flood control, and other water projects to be undertaken in the basin, the districts jointly may apply to the state water commission for a grant of up to $1,000,000 for implementation of the plan. The state water commission may select a basinwide plan submitted under this subsection for funding and enter into one cooperative agreement with the water resource districts and joint water resource districts that submitted the plan.

2. The cooperative agreement must include the amount of funding the state water commission will provide, the applicable cost-share requirements, a prohibition on using funds provided under the agreement for planning or any purpose other than implementation of the basinwide plan, and the obligations of the state water commission and each water resource district and joint water resource district in the basin in implementing the basinwide plan. The agreement also must provide for monitoring and oversight of the basinwide plan's implementation.

3. The state water commission shall report to the legislative management on the results of this pilot project no later than August 1, 2020.

SECTION 16. AMENDMENT. Subsection 3 of section 61-02-78 of the North Dakota Century Code is amended and reenacted as follows:

3. The commission shall approve projects and loans from the infrastructure loan fund, and the Bank of North Dakota shall manage and administer loans from the infrastructure loan fund and individual accounts in the fund. The commission may adopt policies for the review and approval of loans under this section. Loans made under this section must be made ~~at an interest rate of one and one-half percent~~at the same interest rate as the revolving loan fund established under chapters 61-28.1 and 61-28.2.

SECTION 17. AMENDMENT. Section 61-02-79 of the North Dakota Century Code is amended and reenacted as follows:

61-02-79. Bank of North Dakota - Line of credit.

The Bank of North Dakota shall extend a line of credit not to exceed seventy-five million dollars at a rate of one and one-half percent over the three month London interbank offered rate, but may not exceed three percent to the state water commission. The state water commission shall repay the line of credit from funds available in the resources trust fund, water development trust fund, or other funds, as appropriated by the legislative assembly. The state water commission may access the line of credit, as necessary, to provide funding as authorized by the legislative assembly for water supply projects approved before June 30, ~~2019~~2021, and flood control projects that have approval for funding before June 30, ~~2019~~2021.

President of the Senate

Speaker of the House

Secretary of the Senate

Chief Clerk of the House

This certifies that the within bill originated in the Senate of the Sixty-sixth Legislative Assembly of North Dakota and is known on the records of that body as Senate Bill No. 2020.

Senate Vote:	Yeas 36	Nays 11	Absent 0
House Vote:	Yeas 61	Nays 31	Absent 2

Secretary of the Senate

Received by the Governor at 2:01 P.M. on April 22, 2019.

Approved at 3:34 P.M. on April 25th, 2019.

Governor

Filed in this office this 25th day of April, 2019,

at 3:39 o'clock P. M.

Secretary of State

APPENDIX B

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
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MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer-Secretary
SUBJECT: NAWS – Project Update
DATE: May 24, 2019

Manitoba & Missouri Lawsuit

Summary judgement was granted to the Department of the Interior and the State of North Dakota on August 10, 2017. Both plaintiffs filed appeals in October, and initial filings were due November 27, 2017. The court issued a briefing schedule January 3, 2018 with appellant's briefs due February 12, 2018, appellee's briefs due March 14, 2018, and appellant's reply briefs due March 28, 2018. A joint motion was filed and approved by the court to hold the case in abeyance for 90 days to allow settlement negotiations between appellant Manitoba and the appellees. Another joint motion was filed and approved by the Court to extend the abeyance further to allow further discussions. A joint motion by North Dakota, Department of Interior, and Province of Manitoba moving to dismiss Manitoba's appeal was filed June 22, 2018 and granted by the Circuit Court the following week. The State of Missouri continued their appeal of the Court's decision briefing only on the issue of their standing in the case. Oral arguments were held November 8, 2018 in the District of Columbia Circuit Court of Appeals. On May 3, 2019, the Circuit Court affirmed the District Court's August 2017 ruling, thus ending sixteen years and seven months of litigation on the project.

Biota Water Treatment Plant Design

A value planning workshop was held July 30, 2018 through August 2, 2018 for this project. The 30 percent design kickoff workshop was held October 3, 2018 through October 5, 2018. An internal 30 percent design review was held the week of March 18, 2019. A 60 percent design review meeting is scheduled for the first week in June. A value engineering workshop is scheduled for the week of June 24, 2019. Equipment procurement contracts will be issued for the ultraviolet (UV) disinfection equipment and the dissolved air flotation (DAF) equipment. The UV and DAF equipment will be procured ahead of time with design and delivery phases. Information obtained from the design phase will be used to complete the overall design for the facility. The project should be ready to bid early next year.

NAWS Contract 7-1B – Minot WTP Phase II Improvements

NAWS Contract 7-1B was awarded by the State Water Commission at its February 8, 2018 meeting to PKG Contracting and generally consists of construction of a new primary treatment building at the Minot water treatment facility to replace the aging softening basins, chemical storage and feed systems, laboratory, break room, and IT facilities. All contract documents have been executed, and the notice to proceed was signed March 21, 2018. A preconstruction conference was held that same day in Minot. Work on this project is currently underway. The substantial completion date for this contract is December 20, 2019.

NAWS Contract 2-2A-2 – 19th Ave Vault Relocation

NAWS Contract 2-2A-2 was awarded to PKG Contracting, Inc. in the amount of $515,695. Work performed under this contract was substantially complete in November. Final reclamation work is currently taking place.

NAWS Contract 2-4A – Renville Corner to Westhope

This contract will involve roughly 17.5 miles of pipe and related appurtenances to extend the potable distribution system from the corner of US Highway 83 and State Highway 5 to south of Westhope. Bids were opened for this contract February 28, 2019. Six bids were received, and Kemper Construction of Minot, North Dakota was the low bidder at $4,274,260.50. The contract was awarded to Kemper March 21, 2019. A preconstruction conference was held in Minot May 8, 2019 and the contract documents were executed and the Notice to Proceed as issued May 16, 2019. Work is expected to begin the week of May 20, 2019. The substantial completion date is October 31, 2019, and the final completion date is June 1, 2020.

NAWS Contract 2-3C – Lansford to Renville Corner

This contract will involve roughly 18 miles of pipe and related appurtenances to extend the potable distribution system north of Minot near Lansford to tie into the existing pipeline along highway 5 (see attached map). Bids will be opened June 18, 2010, which will be covered in a separate memo. This contract will complete the 'looped' nature of the distribution pipeline greatly expanding our hydraulic capacity and flexibility to serve our customers as well as adding redundancy to the system. Everything north of Booster Pump Station 4 is currently served out of Reservoir 3 near Kenmare and is basically at the limit of what we can hydraulically serve in the current configuration. The Contract 2-3C pipeline will enable the system to serve Mohall and All Seasons directly from the High Service Pump Station thus freeing up that capacity to serve currently unused turnouts further west.

NAWS Contract 6-1A – Intake Modifications to Snake Creek Pumping Plant

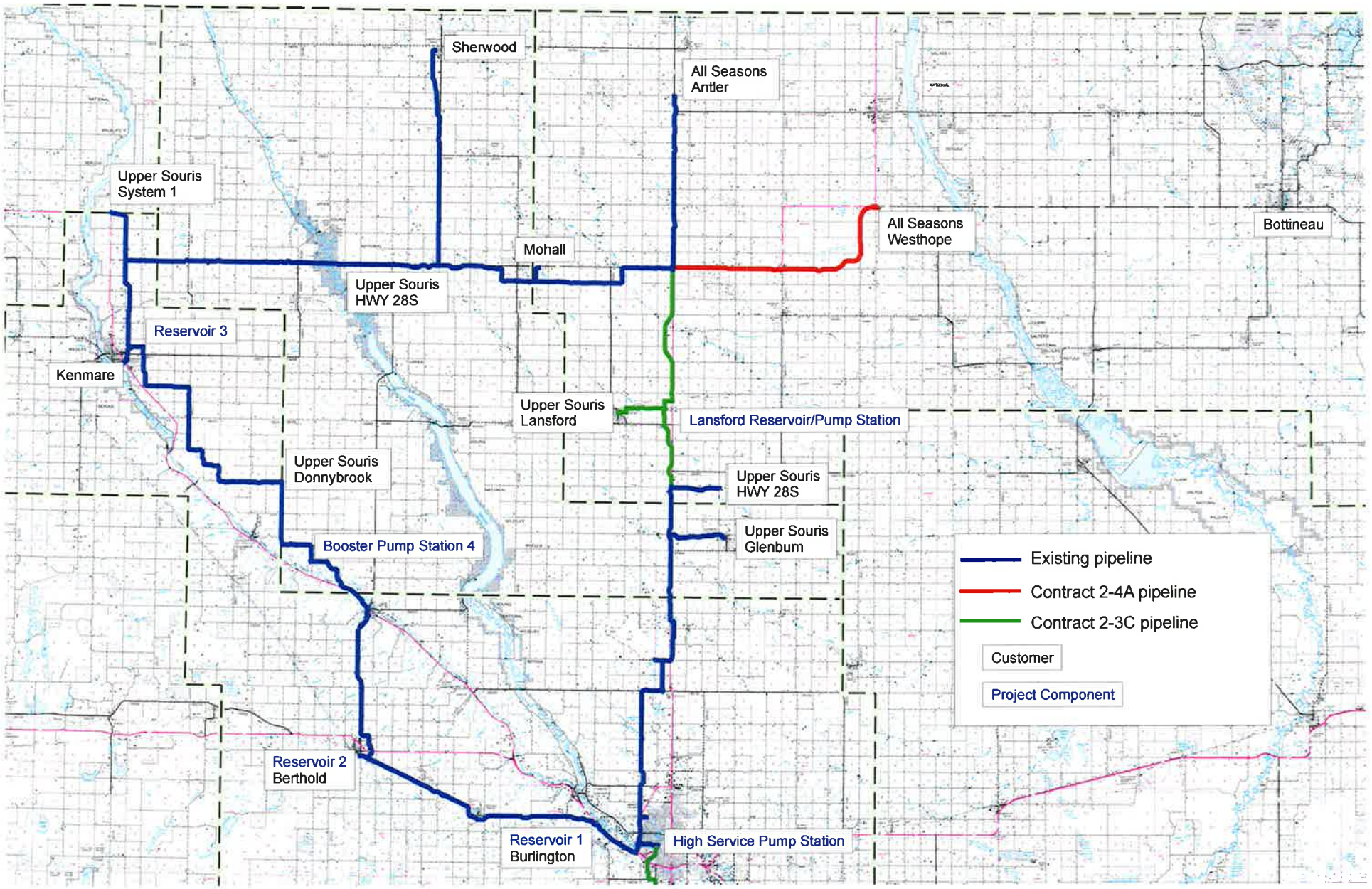
The design kickoff meeting for Contract 6-1A was held October 3-5 in Denver. A 30 percent design review is scheduled for the first week of June and a value engineering workshop will be held the week of June 24, 2019. We anticipate a procurement contract for the variable frequency drive (VFD) equipment for this project being beneficial due to the incoming voltage and power rating of the motors. This facility will have to come on line coincident with the completion and commissioning of the Biota Water Treatment Plant.

Remaining project components

Preliminary design has begun for the two remaining pipeline contracts to Bottineau. A 30 percent route alignment review was held for the Contract 2-4B April 25, 2019. Design has also been initiated for other critical project components necessary to deliver water to Bottineau and deliver water from Lake Sakakawea to Minot. Hydraulic analyses, water allocations, and water needs are all being performed to maximize benefit to our citizens as the project moves forward.

GE:TJF:pdh/237-04

Attachment


Sherwood
All Seasons
Antler
Upper Souris
System 1
All Seasons
Westhope
Bottineau
Mohall
Upper Souris
HWY 28S
Reservoir 3
Kenmare
Upper Souris
Lansford
Lansford Reservoir/Pump Station
Upper Souris
Donnybrook
Upper Souris
HWY 28S
Upper Souris
Glenburn
Booster Pump Station 4
Existing pipeline
Contract 2-4A pipeline
Contract 2-3C pipeline
Customer
Project Component
Reservoir 2
Berthold
Reservoir 1
Burlington
High Service Pump Station

North Dakota State Water Commission

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MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer-Secretary
SUBJECT: NAWS – Contract 2-3C
DATE: May 24, 2019

NAWS Contract 2-3C will consist of roughly 17.5 miles of pipeline and related appurtenances from near Lansford to Renville Corner (intersection of US highway 83 and 5 north of Minot). This is the second of four remaining potable water transmission line contracts to complete the NAWS distribution system. This pipeline will complete the 'looped' nature of the distribution pipeline (see attached map), which will allow the system to serve portions of the northern tier along Highway 5 directly from the High Service Pump Station in Minot which are currently served out of the elevated storage near Kenmare. This will free up capacity out of the elevated storage near Kenmare to serve additional users farther west which are currently not being served by the system due to supply constraints.

Bids will be opened June 18, 2019, and the opinion of probable construction costs is $5.5 million (see attached), and estimated construction management services are roughly $550,000. The substantial completion date is September 1, 2020 and the final completion date is October 1, 2020. There will be a week to ten days for review of the bids and concurrence from the Garrison Diversion Conservancy District and the Bureau of Reclamation. Upon award of the contract, it typically takes up to six weeks for all contract documents to be readied for execution, including the contractor obtaining requisite insurance and bonding documentation. All told, there is a four to eight-week delay from the time the contract is awarded until the contractor is able to begin work. I would like the Commission to authorize the Chief-Engineer/Secretary to award NAWS Contract 2-3C to the low responsive bid from a responsible bidder to enable work to begin during the 2019 construction season.

I recommend the State Water Commission authorize the Chief Engineer/Secretary to award NAWS Contract 2-3C to the low responsive bidder pending review of the bids received and concurrence from Garrison Diversion Conservancy District.

GE:TJF:pdh/237-04

Attachment

Opinion Of Probable Construction Cost - 100%
Northwest Area Water Supply Project
Water Transmission Pipeline - Glenburn to Renville Corner Segment
Contract 2-3C HEI Project No. 3553-0070

Item No.	Description	Unit	Estimated Quantity	Bid Unit Cost	Bid Price
1	Mobilization	EA	1	$ 211,000.00	$ 211,000.00
2	Lansford Flow Control Valve Structure w/Site Work and Electrical Work including Power Service w/Meter Socket and Disconnect, PLC Control Panel, SCADA Antenna w/Tipping Tower, Mechanical Piping, and Instrumentation Devices	EA	1	$ 125,000.00	$ 125,000.00
3	Electrical, Instrumentation, and Mechanical Work at the Lansford Elevated Tank for Remote Pressure Reading, including Pressure Transmitter and PLC Control Panel, and Elevated Tank-Mounted SCADA Antenna	EA	1	$ 38,500.00	$ 38,500.00
4	Imported Clay Fill for Lansford Turnout Approach, including Topsoil Stripping and Replacement	CY	260	$ 40.00	$ 10,400.00
5	Class 13 Gravel Surfacing, 6 inch compacted thickness	SY	1,500	$ 20.00	$ 30,000.00
6	Connection to Existing NAWS 2-3B Pipeline Segment	EA	1	$ 7,500.00	$ 7,500.00
7	Connection to Existing NAWS 2-2D Pipeline Segment	EA	1	$ 5,000.00	$ 5,000.00
8	Connection to Existing Lansford Water Main System	EA	1	$ 5,000.00	$ 5,000.00
9	18 inch C900 DR 18 PVC Water Main, 7.5 ft. min. bury	LF	49,190	$ 55.00	$ 2,705,450.00
10	18 inch C900 DR 18 Restrained Joint or Fusible PVC Water Main or 24 inch DR 9 IPS PE4710 Water Main installed at Excavated Intermittent Stream or Wetland Crossings, 7.5 ft. min. bury	LF	220	$ 135.00	$ 29,700.00
11	16 inch C900 DR 18 PVC Water Main, 7.5 ft. min. bury	LF	27,115	$ 47.00	$ 1,274,405.00
12	16 inch C900 DR 18 Restrained Joint or Fusible PVC Water Main or 20 inch DR 9 DIPS PE4710 Water Main installed at Excavated Intermittent Stream or Wetland Crossings, 7.5 ft. min. bury	LF	100	$ 115.00	$ 11,500.00
13	6 inch SDR 17 PVC Water Main, 7.5 ft. min bury	LF	3,690	$ 15.00	$ 55,350.00
14	6 inch SDR 21 PVC Water Main, 7.5 ft. min bury	LF	12,250	$ 14.00	$ 171,500.00
15	4 inch C900 DR 18 PVC Water Main installed at Flush Riser locations, 7.5 ft. min. bury	LF	390	$ 30.00	$ 11,700.00
16	3 inch Sch. 80 PVC at Flow Control Valve Structure Site	LF	38	$ 50.00	$ 1,900.00
17	Intermittent Stream or Wetland Crossings by Horizontal Directional Drilling w/18 inch C900 DR 18 Restrained Joint or Fusible PVC Water Main or 24 inch DR 9 IPS PE4710 Water Main, 7.5 ft. min. bury	LF	450	$ 180.00	$ 81,000.00
18	Intermittent Stream or Wetland Crossings by Horizontal Directional Drilling w/16 inch C900 DR 18 Restrained Joint or Fusible PVC Water Main or 20 inch DR 9 DIPS PE4710 Water Main, 7.5 ft. min. bury	LF	250	$ 160.00	$ 40,000.00
19	Intermittent Stream or Wetland Crossings by Horizontal Directional Drilling w/6 inch SDR 17 Restrained Joint or Fusible PVC Water Main or 8 inch DR 9 IPS PE4710 Water Main, 7.5 ft. min. bury	LF	550	$ 75.00	$ 41,250.00
20	Type I (2-Lane) Road Crossing w/16 inch C900 DR 18 Restrained Joint or Fusible PVC Water Main within 24 inch Steel Casing, or 20 inch DR 9 DIPS PE4710 Water Main installed within 30 inch Steel Casing	EA	1	$ 55,000.00	$ 55,000.00
21	Type I Combination (2-Lane) Road and Railway Crossing w/6 inch SDR 21 Restrained Joint or Fusible PVC Water Main within 12 inch Steel Casing, or 8 inch DR 11 IPS PE4710 Water Main installed within 16 inch Steel Casing	LF	590	$ 210.00	$ 123,900.00
22	Type I Railway Crossing w/18 inch C900 DR 18 Restrained Joint or Fusible PVC Water Main installed within 24 inch Steel Casing (or 24 inch DR 9 IPS PE4710 Water Main installed within 30 inch Steel Casing) installed by Jack and Bore Methods	EA	1	$ 65,000.00	$ 65,000.00
23	Type II Road Crossing w/18 inch C900 DR 18 Restrained Joint or Fusible PVC Water Main or 24 inch DR 9 IPS PE 4710 Water Main	EA	4	$ 25,000.00	$ 100,000.00
24	Type II Road Crossing w/16 inch C900 DR 18 Restrained Joint or Fusible PVC Water Main or 20 inch DR 9 DIPS PE4710 Water Main	EA	1	$ 20,000.00	$ 20,000.00
25	Type II Road Crossing w/6 inch SDR 21 Restrained Joint or Fusible PVC Water Main or 8 inch DR 11 IPS PE4710 Water Main	EA	4	$ 7,500.00	$ 30,000.00
26	Excavated and Backfilled Road Crossings	EA	7	$ 3,500.00	$ 24,500.00
27	Combination Air Valve (AV/AR) Manhole w/60 inch Barrel Sections, Complete for 16 inch and 18 inch PVC Pipe	EA	1	$ 18,000.00	$ 18,000.00
28	Air Release Valve (ARV) Manhole w/60 inch Barrel Sections, Complete for 16 inch and 18 inch PVC Pipe	EA	4	$ 15,000.00	$ 60,000.00
29	Air Release Valve (ARV) Manhole w/48 inch Barrel Sections, Complete for 6 inch PVC Pipe	EA	1	$ 12,500.00	$ 12,500.00
30	AV/AR and Turnout Manhole Concrete Risers, 30 inch diameter	LF	12	$ 150.00	$ 1,800.00
31	2 inch Flush Riser w/Tee Connection to Main and 2 inch Curb Stop and box	EA	4	$ 4,500.00	$ 18,000.00

32	18 inch Gate Valve w/Box	EA	3	$	12,000.00	$	36,000.00
33	16 inch Gate Valve w/Box	EA	3	$	10,000.00	$	30,000.00
34	6 inch Gate Valve w/Box	EA	3	$	2,000.00	$	6,000.00
35	Cut-in 16 inch Gate Valve w/Box on Existing 16 inch PVC Pipe at 2-3B Connection	EA	1	$	12,500.00	$	12,500.00
36	Cut-in 6 inch Gate Valve w/Box on Existing 6 inch PVC Pipe at 2-3B Connection	EA	1	$	3,000.00	$	3,000.00
37	Remove and Relocate Flush Riser at 2-3B Connection	LS	1	$	2,500.00	$	2,500.00
38	18 inch Class IV RCP Culvert	LF	64	$	80.00	$	5,120.00
39	18 inch Concrete Flared End Sections	EA	2	$	850.00	$	1,700.00
40	Pipeline Markers	EA	65	$	50.00	$	3,250.00
41	Hay Land Seeding (Mix 2)	LF	1,150	$	2.00	$	2,300.00
42	CRP Seeding (Mix 4)	LF	730	$	2.00	$	1,460.00
43	NDDOT Class II Seeding w/Class IV Cover Crop and Straw Mulching	AC	1.00	$	1,250.00	$	1,250.00
44	Straw Mulching for Mix 2 or Mix 4 Seeding (for Fall Seeding Only)	LF	1,880	$	1.50	$	2,820.00
45	Silt Fence	LF	100	$	3.50	$	350.00
46	Sediment Log (Straw Wattle) Slope Check	LF	100	$	3.50	$	350.00
	100% Total Opinion of Probable Construction Cost					**$**	**5,493,455.00**

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
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MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer-Secretary
SUBJECT: NAWS – Contract 7-1B Carbon Dioxide Feed System Procurement
DATE: May 24, 2019

NAWS Contract 7-1B Carbon Dioxide Feed System Procurement is for side-stream carbon dioxide feed equipment for the recarbonization system for the NAWS Contract 7-1B project. Water coming out of the softening basins in a lime softening plant will typically have a pH of 11 to 11.5, which is much too high for finished drinking water. Mixing CO_2 gas is the preferred method to reduce the pH to a desirable level of 9 to 9.5. Traditional recarb basins will have a contact basin with multiple diffusers delivering CO_2 gas. A side stream system pulls a small amount of process water from the treatment train, mixes it more efficiently with the CO_2 gas and reintroduces to the process stream. This methodology increases efficiency, reduces the footprint for the recarb process, and improves the accessibility for maintenance purposes.

Bids will be opened June 13, 2019, and the opinion of probable cost is $350,000. The criteria for award will be a life-cycle cost analysis as there is variability in the products from various suppliers for electrical power, feed rate, and dissolution efficiency. I am recommending the Commission authorize the Chief Engineer/Secretary to award this contract as the proper analyses of the bids received may not be completed by the scheduled meeting date and delaying until the next meeting would likely impact the Contract 7-1B completion.

I recommend the State Water Commission authorize the Chief Engineer/Secretary to award NAWS Contract 7-1B Carbon Dioxide Feed System Procurement to the low responsive bidder pending review of the bids received and concurrence from Garrison Diversion Conservancy District.

GE:TJF:pdh/237-04

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MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer-Secretary
SUBJECT: NAWS – Contract 7-2A UV Disinfection System Procurement
DATE: May 24, 2019

NAWS Contract 7-2A Biota Water Treatment Plant UV Disinfection System Procurement contract is a two phase contract (design and construction) for the ultra-violet radiation disinfection system for the Biota Water Treatment Plant located at Max, North Dakota. The NAWS Supplemental Environmental Impact Statement (SEIS) and Record of Decision (ROD) dictate the use of UV disinfection prior to any water crossing the continental divide.

There are two main UV options of low pressure-high intensity and medium pressure, which refers to the mercury-gas pressure in the bulbs themselves. Both are approved for disinfection of water and have their own strengths and weaknesses including but not limited to physical footprint and power consumption. We expect the low pressure to have a higher initial capital cost, and lower phase II cost and lower operating costs. Due to the variability in multiple factors, the contract will be awarded based on a life-cycle cost analysis. The information obtained in the design phase will be used to complete the design of the Biota WTP and the construction phase will be implemented in conjunction with the construction of the plant.

The opinion of cost is approximately $650,000. The contract documents and specifications are currently out for review to the Garrison Diversion Conservancy District and Bureau of Reclamation. I am recommending the Commission authorize the Chief Engineer/Secretary to award this contract as delaying until the next meeting would likely impact the Contract 7-2A design completion.

I recommend the State Water Commission authorize the Chief Engineer/Secretary to award NAWS Contract 7-2A UV System Procurement to the low responsive bidder pending review of the bids received and concurrence from Garrison Diversion Conservancy District.

GE:TJF:pdh/237-04

APPENDIX C

NORTH DAKOTA STATE WATER COMMISSION

PROJECT FUNDING POLICY, PROCEDURE, AND GENERAL REQUIREMENTS

The State Water Commission has adopted this policy to support local sponsors in development of sustainable water related projects in North Dakota. This policy reflects the State Water Commission's cost-share priorities and provides basic requirements for all projects considered for prioritization during the agency's budgeting process. Projects and studies that receive funding from the agency's appropriated funds are consistent with the public interest. The State Water Commission values and relies on local sponsors and their participation to assure on-the-ground support for projects and prudent expenditure of funding for evaluations and project construction. It is the policy of the State Water Commission that only the items described in this document will be eligible for cost-share upon approval by the State Water Commission, unless specifically authorized by State Water Commission action.

I. DEFINITIONS

A. **CAPITAL IMPROVEMENT FUND** is money set aside using a portion of user fees for future asset replacement and a cost share application shall include documentation of the following:

1. Current capital improvement fund balance
2. Existing and new assets
3. Replacement cost of assets
4. Average life of assets
5. Current and future monthly reserve per user

B. **CONSTRUCTION COSTS** include earthwork, concrete, mobilization and demobilization, dewatering, materials, seeding, rip-rap, crop damages, re-routing electrical transmission lines, moving storm and sanitary sewer system and other underground utilities and conveyance systems affected by construction, mitigation required by law related to the construction contract, water supply works, irrigation supply works, and other items and services provided by the contractor. Construction costs are only eligible for cost-share if incurred after State Water Commission approval and if the local sponsor has complied with North Dakota Century Code (N.D.C.C.) in soliciting and awarding bids and contracts, and complied with all applicable federal, state, and local laws.

C. **COST-SHARE** means funds appropriated by the legislative assembly or otherwise transferred by the Commission to a local entity under commission policy as reimbursement for a percentage of the total approved cost of a project approved by the Commission.

D. **ECONOMIC ANALYSIS** means an estimate of the economic benefits and direct costs that result from the development of a project.

E. **ENGINEERING SERVICES** include pre-construction and construction engineering. Pre-construction engineering is the engineering necessary to develop plans and specifications for permitting and construction of a project including preliminary and final design, material testing, flood insurance studies, hydraulic models, and geotechnical investigations. Construction engineering is the engineering necessary to build the project designed in the pre-construction phase including construction contract management, and construction observation. Administrative and support services not specific to the approved project are not engineering services. Engineering services are eligible costs if incurred after State Water Commission approval. If the total anticipated engineering costs are greater than the threshold stipulated in NDCC 54-44.7-04, then the local sponsor must follow the engineering selection process provided in NDCC 54-44.7 and provide a copy of the selection committee report to the Chief Engineer. The local sponsor will be considered to have complied with this requirement if they have completed a selection process for a general engineering services agreement at least once every three years and have formally assigned work to a firm or firms under an agreement. The local sponsor must inform the Chief Engineer of any change in the provider of general engineering services.

F. **EXPANSIONS** are construction related projects that increase the project area or users served. Expansions do not include maintenance, replacement, or reconstruction activities.

G. **EXTRAORDINARY MAINTENANCE COSTS** include the repair or replacement of portions of facilities or components that extends the overall life of the system or components that are above and beyond regular or normal maintenance. Extraordinary maintenance activities extend the asset's useful life beyond its originally predicted useful life.

H. **GRANT** means a one-time sum of money appropriated by the legislative assembly and transferred by the commission to a local entity for a particular purpose. A grant is not dependent on the local entity providing a particular percentage of the cost of the project.

I. **IMPROVEMENTS** are construction related projects that upgrade a facility to provide increased efficiency, capacity, or redundancy. Improvements do not include any activities that are maintenance, replacement, or reconstruction.

J. **LIFE CYCLE COST ANALYSIS** means the summation of all costs associated with the anticipated useful life of a project, including project development, land, construction, operation, maintenance, and disposal or decommissioning.

K. **LOAN** means an amount of money lent to a sponsor of a project approved by the commission to assist with funding approved project components. A loan may be stand-alone financial assistance.

L. **LOCAL SPONSOR** is the entity submitting a cost-share application and must be a political subdivision, state entity, or commission legislatively granted North Dakota recognition that applies the necessary local share of funding to match State Water Commission cost-share. They provide direction for studies and projects, public point of contact for communication on public benefits and local concerns, and acquire necessary permits and rights-of-way.

M. **REGULAR MAINTENANCE COSTS** include normal repairs and general upkeep of facilities to allow facilities to continue proper operation and function. These maintenance items occur on a regular or annual basis. Regular maintenance activities simply help ensure the asset will remain serviceable throughout its originally predicted useful life.

N. **SUSTAINABLE OPERATION, MAINTENANCE, AND REPLACEMENT PLAN** is a description of the anticipated operation, maintenance, and replacement costs with a statement that the operation, maintenance, and replacement of the project will be sustainable by the local sponsor. For water supply projects, a summary of the project sponsor's Capital Improvement Fund must also be included.

O. **WATER CONVEYANCE PROJECT** means any surface or subsurface drainage works, bank stabilization, or snagging and clearing of water bodies.

II. INELIGIBLE ITEMS excluded from cost-share include:

1 Administrative costs, including salaries for local sponsor members and employees as well as consultant services that are not project specific and other incidental costs incurred by the sponsor;

2 Property and easement acquisition costs paid to the landowner unless specifically identified as eligible within the Flood Recovery Property Acquisition Program, the Flood Protection Program, or the Water Retention Projects;

3 Work and costs incurred prior to a cost-share approval date, except for emergencies as determined by the Chief Engineer;

4 Project related operation and regular maintenance costs;

5 Funding contributions provided by federal, other state, or other North Dakota state entities that supplant costs;

6 Work incurred outside the scope of the approved study or project;

7 The removal of vegetative material and sediment for water conveyance projects.

8 Local requirements imposed beyond State and Federal requirements for the project may be ineligible.

III. COST-SHARE APPLICATION AND APPROVAL PROCEDURES

The State Water Commission will not consider any cost-share applications unless the local sponsor first makes an application to the Chief Engineer. No funds will be used in violation of Article X, § 18 of the North Dakota Constitution (Anti-Gift Clause).

A. APPLICATION REQUIRED. An application for cost-share is required in all cases and must be submitted by the local sponsor on the State Water Commission Cost-Share Application form. Applications for cost-share are accepted at any time. Applications received less than 45 days before a State Water Commission meeting will not be considered at that meeting and will be held for consideration at a future meeting unless specifically exempted by the Chief Engineer. The application form is maintained and updated by the Chief Engineer. A completed application must include the following:

1. Category of cost-share activity
2. Location of the proposed project or study area shown on a map
3. Description, purpose, goal, objective, narrative of the proposed activities
4. Delineation of costs
5. Anticipated timeline of project from preliminary study through final closeout
6. Potential federal, other state, or other North Dakota state entity participation
7. Documentation of an engineering selection process if engineering costs are anticipated to be greater than the threshold provided in NDCC 54-44.7-04
8. Engineering plans, if applicable
9. Status of required permitting
10. Potential territorial service area conflicts or service area agreements, if applicable
11. Sustainable operation, maintenance, and replacement plan for projects
12. Completed economic analysis worksheet for water conveyance and flood-related projects expected to cost more than one million dollars. (Required at the time applications include a request for construction cost-share.)
13. Completed life cycle cost analysis worksheet for municipal water supply construction projects
14. Additional information as deemed appropriate by the Chief Engineer

Applications for cost-share are separate and distinct from the State Water Commission biennial project information collection effort that is part of the budgeting process and published as the State Water Plan. All local sponsors are encouraged to submit project financial needs for the State Water Plan. Projects not submitted as part of the State Water Plan development process may be held until action can be taken on those that were included during budgeting, unless determined to be an emergency that directly impacts human health and safety or that are a direct result of a natural disaster.

B. PRE-APPLICATION. A pre-application process is allowed for cost-share of assessment projects. This process will require the local sponsor to submit a brief narrative of the project, preliminary designs, and a delineation of costs. The Chief Engineer will then review the material presented, make a determination of project eligibility, and estimate the cost-share funding the project may anticipate receiving. A project eligibility letter will then be sent to the local sponsor noting the percent of cost-share assistance that may be expected on eligible items as well as listing those items that are not considered to be eligible costs. In addition, the project eligibility

letter will state that the Chief Engineer will recommend approval when all cost-share requirements are addressed. The local sponsor may use the project eligibility letter to develop a project budget for use in the assessment voting process. Upon completion of the assessment vote and all other requirements an application for cost-share can be submitted.

C. **REVIEW.** Upon receiving an application for cost-share, the Chief Engineer will review the application and accompanying information. If the Chief Engineer is satisfied that the proposal meets all requirements, the local sponsor will be asked to present the application, and the Chief Engineer will provide a recommendation to the State Water Commission for its action. The Chief Engineer's review of the application will include the following items and any other considerations that the Chief Engineer deems necessary and appropriate.

1. Applicable engineering plans;
2. Field inspection, if deemed necessary by the Chief Engineer;
3. The percent and limit of proposed cost-share determined by category of cost-share activity and eligible expenses;
4. Assurance of sustainable operation, maintenance, and replacement of project facilities by the local sponsor;
5. Status of permitting and service area agreements;
6. Available funding in the State Water Commission budget, if in the State Water Plan, and a priority ranking when appropriate;
7. Results of economic analysis of water conveyance or flood-related projects, when applicable; and
8. Results of life cycle cost analysis for municipal water supply projects, when applicable.

For cost-share applications over $100 million, additional information requested by the State Water Commission will be used to determine cost-share.

The Chief Engineer is authorized to approve cost-share up to $75,000 and also approve cost overruns up to $75,000 without State Water Commission action. The Chief Engineer will respond to such requests within 60 days of receipt of the request. A final decision may be deferred if warranted by funding or regulatory consideration.

D. **NOTICE.** The Chief Engineer will give a 10-day notice to local sponsors when their application for cost-share is placed on the tentative agenda of the State Water Commission's next meeting.

E. **AGREEMENT AND DISTRIBUTION OF FUNDS.** No funds will be disbursed until the State Water Commission and local sponsor have entered into an agreement for cost-share participation. No agreement for construction funding will be entered into until all required State Engineer permits have been acquired.

For construction projects, the agreement will address indemnification and vicarious liability language. The local sponsor must require that the local sponsor and the state be made an additional insured on the contractor's commercial general liability policy including any excess policies, to the extent applicable. The levels and types of insurance required in any contract must be reviewed and agreed to by the Chief

Engineer. The local sponsor may not agree to any provision that indemnifies or limits the liability of a contractor.

For any property acquisition, the agreement will specify that if the property is later sold, the local sponsor is required to reimburse the Commission the percent of sale price equal to the percent of original cost-share.

The Chief Engineer may make partial payment of cost-sharing funds as deemed appropriate. Upon notice by the local sponsor that all work or construction has been completed, the Chief Engineer may conduct a final field inspection. If the Chief Engineer is satisfied that the work has been completed in accordance with the agreement, the final payment will be disbursed to the local sponsor, less any partial payment previously made.

The project sponsor must provide a progress report to the Commission at least once every four years if the term of the project exceeds four years. If a progress report is not received in a timely fashion or, if after a review of the progress report the Commission determines the project has not made sufficient progress, the Commission may terminate the agreement for project funding. The project sponsor may submit a new application to the Commission for funding for a project for which the Commission previously terminated funding.

F. **LITIGATION**. If a project submitted for cost-share is the subject of litigation, the application may be deferred until the litigation is resolved. If a project approved for cost-share becomes the subject of litigation before all funds have been disbursed, the Chief Engineer may withhold funds until the litigation is resolved. Litigation for this policy is defined as legal action that would materially affect the ability of the local sponsor to construct the project; that would delay construction such that the authorized funds could not be spent; or is between political subdivisions related to the project.

G. **ECONOMIC ANALYSIS.** Project sponsors seeking cost-share for construction of flood control or water conveyance projects with a total cost of one million dollars or more must complete the Water Commission's economic analysis worksheet. The results of the economic analysis must be provided with the sponsor's application for cost-share assistance for agency review. When the results of the economic analysis are determined by the agency to be accurate, the results will then be presented to the State Water Commission for their consideration as part of the cost-share request.

H. **LIFE CYCLE COST ANALYSIS.** Project sponsors seeking cost-share for construction of municipal water supply projects must complete the Water Commission's life cycle cost analysis worksheet. The results of the life cycle cost analysis must be provided with the sponsor's application for cost-share assistance for agency review. When the results of the life cycle cost analysis are determined by the agency to be accurate, the results will then be presented to the State Water Commission for their consideration as part of the cost-share request.

IV. COST-SHARE CATEGORIES

The State Water Commission supports the following categories of projects for cost-share. Engineering expenses related to construction are cost-shared at the same percent as the construction costs when approved by the State Water Commission.

A. **PRE-CONSTRUCTION EXPENSES.** The State Water Commission supports local sponsor development of feasibility studies, engineering designs, and mapping as part of pre-construction activities to develop support for projects within this cost-share policy. The following projects and studies are eligible.

1 Feasibility studies to identify water related problems, evaluate options to solve or alleviate the problems based on technical and financial feasibility, and provide recommendation and cost estimate, of the best option to pursue.

2 Engineering design to develop plans and specifications for permitting and construction of a project, including associated cultural resource and archeological studies.

3 Mapping and surveying to gather data for a specific task such as flood insurance studies and flood plain mapping, LiDAR acquisition, and flood imagery attainment, which are valuable to managing water resources.

Copies of the deliverables must be provided to the Chief Engineer upon completion. The Chief Engineer will determine the payment schedule and interim progress report requirements.

B. WATER SUPPLY

1 **RURAL AND MUNICIPAL WATER SUPPLY PROJECTS.** The State Water Commission supports water supply efforts. The local sponsor may apply for funding, and the application will be reviewed to determine project priority. Debt per capita, water rates and financial need may be considered by the Commission when determining an appropriate cost share percentage. The Commission reserves flexibility to adjust percentages on a case by case basis, but generally:

Up to 75% cost-share may be provided for:

- Rural Water System Expansions and Improvements
- Connection of communities to a regional system
- Improvements required to meet primary drinking water standards

Up to 60% cost-share may be provided for:

- Municipal Water Supply Expansions and Improvements
- Connection of new rural water customers located within extraterritorial areas of a municipality

Water Depots for industrial use receiving water from facilities constructed using State Water Commission funding or loans have the following additional requirements:

a) Domestic water supply has priority over industrial water supply in times of shortage. This must be explicit in the water service contracts with industrial users.

b) If industrial water service will be contracted, public notice of availability of water service contracts is required when the depot becomes operational.

c) Public access to water on a non-contracted basis must be provided at all depots.

2 **FEDERAL MUNICIPAL, RURAL, AND INDUSTRIAL WATER SUPPLY PROGRAM.** The Municipal, Rural, and Industrial Water Supply Program, which uses federal funds, is administered according to North Dakota Administrative Code Article 89-12.

3 **DROUGHT DISASTER LIVESTOCK WATER SUPPLY PROJECT ASSISTANCE PROGRAM.** This program is to provide assistance with water supply for livestock impacted during drought declarations and is administered according to North Dakota Administrative Code Article 89-11.

C. **FLOOD CONTROL.** The State Water Commission may provide cost-share for eligible items of flood control projects protecting communities from flooding and may include the repair of dams that provide a flood control benefit.

1 **FLOOD RECOVERY PROPERTY ACQUISITION PROGRAM.** This program is used to assist local sponsors with flood recovery expenses that provide long term flood damage reduction benefits through purchase and removal of structures in areas where flood damage has occurred. All contracted costs directly associated with the acquisition will be considered eligible for cost-share. Contracted costs may include: appraisals, legal fees (title and abstract search or update, etc.), property survey, closing costs, hazardous materials abatement needs (asbestos, lead paint, etc.), and site restoration.

The State Water Commission may provide cost-share of the eligible costs of approved flood recovery expenses that provide long term flood reduction benefits based on the following criteria and priority order:

a) Local Sponsor has flood damage and property may be needed for construction of temporary or long-term flood control projects, may be cost-shared up to 75 percent.
b) Local Sponsor has flood damage and property would increase conveyance or provide other flood control benefits, may be cost-shared up to 60 percent.

Prior to applying for assistance, the local sponsor must adopt and provide to the Chief Engineer an acquisition plan (similar to plans required by Hazard Mitigation Grant Program (HMGP)) that includes the description and map of properties to be acquired, the estimated cost of property acquisition including contract costs, removal of structures, the benefit of acquiring the properties, and information regarding the ineligibility for HMGP funding. Property eligible for HMGP funding is not eligible for this program. The acquisition plan must also include a description of how the local sponsor will insure there is not a duplication of benefits.

Over the long-term development of a flood control project following a voluntary acquisition program, the local sponsor's governing body must officially adopt a flood risk reduction plan or proposal including the flow to be mitigated. The flow used to develop the flood risk reduction plan must be included in zoning discussions to limit new development on other flood-prone property. An excerpt of the meeting minutes documenting the local sponsor's official action must be provided to the Chief Engineer.

Local sponsor must fund the local share for acquisitions; this requirement will not be waived. Federal funds are considered "local" for this program if they are entirely under the authority and control of the local sponsor.

The local sponsor must include a perpetual restrictive covenant similar to the restrictions required by the federal HMGP funding with the additional exceptions being that the property may be utilized for flood control structures and related infrastructure, paved surfaces, and bridges. These covenants must be recorded either in the deed or in a restrictive covenant that would apply to multiple deeds.

The local sponsor must provide justification, acceptable to the Chief Engineer, describing the property's ineligibility to receive federal HMGP funding. This is not meant to require submission and rejection by the federal government, but rather an explanation of why the property would not be eligible for federal funding. Example explanations include: permanent flood control structures may be built on the property; project will not achieve required benefit-cost analysis to support HMGP eligibility; or lack of available HMGP funding. If inability to receive federal funding is not shown to the satisfaction of the Chief Engineer, following consultation with the North Dakota Department of Emergency Services, the cost-share application will be returned to the local sponsor for submittal for federal funding prior to use of these funds.

2 **FLOOD PROTECTION PROGRAM.** This program supports local sponsor efforts to prevent future property damage due to flood events. The State Water Commission may provide cost-share up to 60 percent of eligible costs. For projects with federal participation, the cost-share may be up to 50 percent of eligible non-federal costs. The State Water Commission may consider a greater level of cost participation for projects involving a total cost greater than $100 million and having a basin wide or regional benefit.

Local share must be provided on a timely basis. The State Water Commission may lend a portion of the local share based on demonstrated financial need.

Property acquisition costs limited to the purchase price of the property that is not eligible for HMGP funding and within the footprint of a project may be eligible under this program. The local sponsor must include a perpetual restrictive covenant on any properties purchased under this program similar to the restrictions required by the federal HMGP funding with the additional exceptions being that the property may be utilized for flood control structures and related infrastructure, paved surfaces, and bridges. These covenants must be recorded either in the deed or in a restrictive covenant that would apply to multiple deeds.

Costs for property acquired, by easement or fee title, to preserve the existing conveyance of a breakout corridor recognized as essential to FEMA system accreditation may be eligible under this program.

The cost-share application must include the return interval or design flow for which the structure will provide protection. The Commission will calculate the amount of its financial assistance, based on the needs for protection against:

1. One-hundred year flood event as determined by a federal agency;

2. The national economic development alternative; or

3. The local sponsor's preferred alternative if the Commission first determines the historical flood prevention costs and flood damages and the risk of future flood prevention costs and flood damages, warrant protection to the level of the local sponsor's preferred alternative.

Storm water management is not an eligible cost-share category. In order to differentiate between a flood control project and storm water management, the Commission may reduce the cost-share provided by the percentage of the contributing watershed that is located within the community's corporate limits as calculated on an acreage basis

3 **FEMA LEVEE SYSTEM ACCREDITATION PROGRAM.** The State Water Commission may provide cost-share up to 60 percent for eligible services for FEMA 44 CFR 65.10 flood control or reduction levee system certification analysis. The analysis is required for FEMA to accredit the levee system for flood insurance mapping purposes. Typical eligible costs include site visits and field surveys to include travel expenses, hydraulic evaluations, closure evaluations, geotechnical evaluations, embankment protection, soils investigations, interior drainage evaluations, internal drainage hydrology and hydraulic reports, system modifications, break-out flows and all other engineering services required by FEMA. The analysis will result in a comprehensive report to be submitted to FEMA and the Chief Engineer.

Administrative costs to gather existing information or to recreate required documents, maintenance and operations plans and updates, and emergency warning systems implementation are not eligible.

4 **DAM SAFETY AND EMERGENCY ACTION PLANS.** The State Water Commission supports dam safety including repairs and removals, as well as emergency action plans. The State Water Commission may provide cost-share for up to 75 percent of the eligible items for dam safety repair projects and dam breach or removal projects. Dam safety repair projects that are funded with federal or other agency funds may be cost-shared up to 75 percent of the eligible non-federal costs. The intent of these projects is to return the dam to a state of being safe from the condition of failure, damage, error, accidents, harm or other events that are considered a threat to public safety. The State Water Commission may lend a portion of the local share based on demonstrated financial need.

The State Water Commission may provide cost-share up to 80 percent, for emergency action plans (EAPs) of each dam classified as high or medium/significant hazard. The cost of a dam break model is only eligible for reimbursement for dams classified as a high hazard.

5 **WATER RETENTION PROJECTS.** The goal of water retention projects is to reduce flood damages by storing floodwater upstream of areas prone to flood damage. The State Water Commission may provide cost-share up to 60 percent of eligible costs for water retention projects including purchase price of the property. For projects with federal participation, the cost-share may be up to 50 percent. Water retention structures constructed with State Water Commission cost-share must meet state dam safety requirements, including the potential of cascade failure. A hydrologic analysis including an operation plan and a quantification of the flood reduction benefits for 25, 50, and 100-year events must be submitted with the cost-share application.

6 **INDIVIDUAL RURAL AND FARMSTEAD RING DIKE PROGRAM.** This program is intended to protect individual rural homes and farmsteads through ring dike programs established by water resource districts. All ring dikes within the program are subject to the Commission's Individual Rural and Farmstead Ring Dike Criteria provided in Attachment A. Protection of a city, community or development area does not fall under this program but may be eligible for the flood control program. The State Water Commission may provide up to 60 percent cost-share of eligible items for ring dikes up to a limit of $55,000 per ring dike.

Landowners enrolled in the Natural Resource Conservation Service's (NRCS) Environmental Quality Incentive Program (EQIP) who intend to construct rural or farmstead ring dikes that meet the State Water Commission's elevation design criteria are eligible for a cost-share reimbursement of 20 percent of the NRCS construction payment, limited to a combined NRCS and State Water Commission contribution of 80 percent of project costs.

D. WATER CONVEYANCE.

1 **RURAL FLOOD CONTROL.** These projects are intended to improve the drainage and management of runoff from agricultural sources. The State Water Commission may provide cost-share up to 45 percent of the eligible items for the construction of drains, channels, or diversion ditches. Construction costs for public road crossings that are integral to the project are eligible for cost-share as defined in N.D.C.C. § 61-21-31 and 61-21-32. If an assessment-based rural flood control project involves multiple districts, each district involved must join in the cost-share application.

Cost-share applications for rural assessment drains will only be processed after the assessment vote has passed, the final design is complete, and a drain permit has been obtained. If the local sponsor wishes to submit a cost-share application prior to completion of the aforementioned steps, a pre-application process will be followed.

A sediment analysis must be provided with any application for cost-share assistance for reconstruction of an existing drain. The analysis must be completed by a qualified professional engineer and must clearly indicate the percentage volume of sediment removal involved in the project. The cost of that removal must be deducted from the total for which cost-share assistance is being requested.

2 **BANK STABILIZATION.** The State Water Commission may provide cost-share up to 50 percent of eligible items for bank stabilization projects on public lands or those lands under easement by federal, state, or political subdivisions. Bank stabilization projects are intended to stabilize the banks of lakes or watercourses, as defined in N.D.C.C § 61-01-06, with the purpose of protecting public facilities. Drop structures and outlets are not considered for funding as bank stabilization projects, but may be eligible under other cost-share program categories. Bank stabilization projects typically consist of a rock or vegetative design and are

intended to prevent damage to public facilities including utilities, roads, or buildings adjacent to a lake or watercourse

3 **SNAGGING AND CLEARING.** These projects are ineligible for State Water Commission funding.

E. RECREATION. The State Water Commission may provide cost-share up to 40 percent for projects intended to provide water-based recreation. Typical projects provide or complement water-based recreation associated with dams.

F. IRRIGATION. The State Water Commission may provide cost-share for up to 50 percent of the eligible items for irrigation projects. The items eligible for cost-share are those associated with the off-farm portion of new central supply works, including water storage facilities, intake structures, wells, pumps, power units, primary water conveyance facilities, and electrical transmission and control facilities. The Commission will only enter into cost share agreements with political subdivisions, including irrigation districts, and not with individual producers.

ATTACHMENT A
INDIVIDUAL RURAL AND FARMSTEAD RING DIKE CRITERIA

MINIMUM DESIGN CRITERIA

- HEIGHT: The dike must be built to an elevation 2 ft above either the 100-year flood or the documented high water mark of a flood event of greater magnitude, whichever is greater.
- TOP WIDTH:
  - If dike height is 5 ft or less: 4 ft top width
  - If dike height is between 5 ft and 14 ft: 6 ft top width
  - If dike height is greater than 14 ft: 8 ft top width
- SIDE SLOPES: 3 horizontal to 1 vertical
- STRIP TOPSOIL AND VEGETATION: 1 ft
- ADEQUATE EMBANKMENT COMPACTION: Fill in 6-8 inch layers, compact with passes of equipment
- SPREAD TOPSOIL AND SEED ON RING DIKE

LANDOWNER RESPONSIBILITY

Landowners are responsible to address internal drainage on ring dikes. If culverts and flap gates are installed, these costs are eligible for cost-share. The landowner has the option of completing the work or hiring a contractor to complete the work.

If contractor does the work, payment is for actual costs with documented receipts.
If landowner does the work, payment is based on the following unit prices:

- STRIPPING, SPREADING TOPSOIL, AND EMBANKMENT FILL: Chief Engineer will determine rate schedule based on current local rates
- SEEDING: Cost of seed times 200%
- CULVERTS: Cost of culverts times 150%
- FLAP GATES: Cost of flap gates times 150%

OTHER FACTS AND CRITERIA

- The topsoil and embankment quantities will be estimated based on dike dimensions. Construction costs in excess of the 3:1 side slope standard will be the responsibility of the landowner. Invoices will be used for the cost of seed, culverts, and flap gates.
- Height can be determined by existing FIRM data or known elevations available at county floodplain management offices. Engineers or surveyors may also assist in establishing height elevations.
- The projects will not require extensive engineering design or extensive cross sections.
- A dike permit is required if the interior volume of the dike consists of 50 acre-feet, or more.

APPENDIX D

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
(701) 328-2750 • TTY 1-800-366-6888 • FAX (701) 328-3696 • http://swc.nd.gov

MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer/Secretary
SUBJECT: State Cost-Share – Flood Control – Souris River Joint Board
Mouse River Enhanced Flood Protection Project
DATE: May 30, 2019

The Souris River Joint Board (SRJB) submitted a cost share request to the North Dakota State Water Commission (Commission) for the Mouse River Enhanced Flood Protection Project (MREFPP) to consolidate various projects within MREFPP, approve funding for these newly consolidated projects, increase the cost-share percentage for one of the newly consolidated projects, and reallocate money from construction projects to Minot acquisitions. Each of these individual requests are summarized in the sections below:

Project Funding Consolidation:

The SRJB requests that the Commission consolidate ongoing MREFPP and future projects into three separate cost-share categories: MREFPP Rural Projects, MREFPP Minot Projects, and MREFPP Minot Acquisitions. Currently the MREFPP consists of 35 individual projects and consolidation into the proposed three categories would give the sponsor the ability to allocate money between like projects during the construction season allowing critical path items to proceed more efficiently. All projects consolidated into the three new categories would retain their originally approved cost share percentage. A brief description of each of the three categories is provided below:

1. ***Rural Projects:*** All projects related to acquisition, construction, and engineering outside the city limits of Minot.

2. ***Minot Projects:*** All projects related to construction and engineering within the city limits of Minot.

3. ***Minot Acquisitions:*** All acquisitions within the city limits of Minot.

Funding for Minot Projects and Minot Acquisitions:

The SRJB requests that the Commission approve 2019-2021 biennium funding for Minot Projects and Minot Acquisitions categories. Subject to the approval of this request, the total State funding allocated to flood control activities within Minot will be $104,313,284 for the 2017-2019 and 2019-2021 biennium. House Bill 1020, of the sixty fifth legislative assembly, expressed the legislative intent that the state provides no more than $193,000,000 over the next four biennia (ending 2023-2025) for projects within Minot. This intent was reiterated in Senate

Bill 2020 of the sixty-sixth legislative assembly. With this recommended approval, the balance of $88,686,716 would be required in the following two biennia to satisfy legislative intent.

1. ***Approve $8,250,000 for Minot Acquisitions:*** This request would provide funding for acquisitions within Minot at the current 75 percent cost share. Minot would continue to be the project sponsor of this project.

2. ***Approve $38,350,000 for Minot Projects:*** This request would provide funding for construction and engineering activities within Minot at their current cost-share percentages. All future construction and engineering projects would be funded at a cost share percentage of 65 percent. Activities prioritized for inclusion in this authorization total $59 million and include; partial design of the Maple Diversion ($6 million), design of the Eastwood Park Floodwall ($6 million), partial construction of the Northeast Tieback Levee ($40 million), and partial construction of the Maple Diversion ($7 million). If progress stalls on these projects listed above, remaining funding would be directed to other MREFPP Minot Projects.

Funding for Rural Projects and Cost-Share Percentage Increase:

The SRJB requests that the Commission approve $35,900,000 from the 2019-2021 biennium funding for the MREFPP Rural Projects cost share category. The request also includes increasing the cost-share percentage to ***75 percent*** for all future activities in this category. Currently, acquisitions are funded at 75 percent, while construction and engineering are funded at 65 percent. The request to increase the cost-share to 75 percent is based on the limited ability of the SRJB and the communities outside of the Minot area to generate adequate local funding. The sponsor suggests that 75 percent cost share would place the rural elements of the project on a similar financial footing as Valley City, Lisbon, and Grafton flood control projects. All existing projects within this category would retain their original cost-share percentage, while future projects with this approval would be funded at a cost share percentage of 75 percent. Activities prioritized for inclusion in this authorization total $47.9 million and include property acquisitions outside the City of Minot ($4.3 million), construction of the Burlington Levee ($30 million), and partial construction of the Tierrecita Vallejo Levee ($13.6 million). If progress on any of the listed activities stalls, funding would be directed towards additional construction of the Tierrecita Vallejo Levee, reconstruction of rural bridges, rural conveyance improvements, or additional acquisitions outside of the city limits of Minot.

Reallocate Funding from Minot Projects to Minot Acquisitions:

The SRJB requests the Commission approve reallocating $3,700,000 from the Minot Projects cost-share category to Minot Acquisitions cost-share category. This funding would be reallocated from construction contingencies being carried out on Phases MI-1, MI-2, and MI-3. This allows progress of Minot acquisitions to proceed in a much needed timely manner.

I recommend the State Water Commission approve the request by the Souris River Joint Board to:

- **Consolidate existing MREFPP projects into three cost-share categories: MREFPP Rural Projects, MREFPP Minot Acquisitions, and MREFPP Minot Projects. All existing MREFPP projects consolidated into these three cost-share categories will retain their original cost share percentage.**

- **Approve $8,250,000 for MREFPP Minot Acquisitions.**

- **Approve $38,350,000 for MREFPP Minot Projects.**

- **Approve $35,900,000 for MREFPP Rural Projects.**

- **Approve shifting $3,700,000 from existing MREFPP Minot Projects to MREFPP Minot Acquisitions.**

The Souris River Joint Board also made a request that the MREFPP Rural Projects be increased from the current cost-share from 65 to 75 percentage. The cost-share policy for flood control projects is 60 percent. Previously the Commission had increased the cost-share for MREFPP to 65 percent. The current request to increase the rural projects to 75 percent, is an exception to the current policy and that decision is for the Commission.

These approvals are subject to the entire contents of the recommendation contained herein and the availability of funds provided to the State Water Commission in the 2019-2021 biennium.

GE:ck/1974

Souris River Joint Board
PO Box 1516
Minot, ND 58702-1516

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SRJB
SOURIS RIVER JOINT BOARD

April 30, 2019

North Dakota State Water Commission
Garland Erbele, PE – State Engineer
900 East Boulevard Avenue
Bismarck, North Dakota 58505-0850

Sent via email

Re: **Request for Project Consolidation & 19-21 Biennium Funding Authorization**
Mouse River Enhanced Flood Protection Project

Dear Mr. Erbele:

Historically, authorizations for various Mouse River Enhanced Flood Protection Project (MREFPP) activities have been made by the State Water Commission on an individual task basis. While this system was effective during the initial implementation of the project, the activity momentum has built to a point where the project stakeholders would benefit greatly from a consolidation of the various authorities so that the Souris River Joint Board (SRJB) and various stakeholders have increased agility to put the State's financial resources to work as quickly as possible.

Currently, there are approximately 25 separate authorities related to Mouse River activities being executed by the SRJB, the City of Minot, Ward County, the City of Burlington and the City of Sawyer. When an activity corresponding to one of these authorities becomes delayed due to circumstances beyond the sponsors' control (i.e. an acquisition holdout, additional permitting conditions, etc.), the funding appropriated by the Legislature and authorized by the State Water Commission becomes static until the circumstance is resolved or the State Water Commission authorizes the sponsors to utilize the funding on different project-related tasks.

This project execution strategy limits the ability of the sponsors to implement the project in the most expeditious manner possible. Because of relatively short construction seasons and regulatory restrictions regarding when certain elements of work can be performed, the timeframe associated with applying for consideration to the State Water Commission at its next available meeting, along with the timeframe associated with crafting any subsequent agreements, can delay project elements up to a year.

The Souris River Joint Board proposes that the State Water Commission consolidate the existing authorities and authorize additional funding resulting from the 66th Legislative Assembly to the following projects:

1. MREFPP Outside Minot
2. MREFPP Minot Construction & Engineering
3. MREFPP Minot Acquisitions

The purpose of the separate projects as outlined above is two-fold. The Legislature has established intent to fund up to $193 million for improvements within the city limits of Minot from the 17-19 biennium through the 23-25 biennium. Additionally, the project sponsor for acquisitions within the city limits of Minot is the City of Minot, rather than the SRJB. The SRJB is the project sponsor for all MREFPP activities outside of Minot (including acquisitions) as well as the MREFPP construction and engineering efforts inside the city limits of Minot.

The following is a status update of various SWC Projects that can be consolidated under a new project entitled **MREFPP Outside Minot**:

1974-06 – MREFPP Development of 2011 Flood Inundation Maps: This project was created to establish authority for mapping rural portions of the Mouse River basin adjacent to and through the J. Clark Salyer National Wildlife Refuge. This work is complete.

1974-14 – StARR Program: This project is related to the SRJB's rural Structure Acquisition Relocation or Ring Dike (StARR) program. This project focuses on rural residents of the Mouse River basin who are not intended to benefit from the construction of a public levee system. The program is approximately 75% complete and is expected to be substantially complete by the end of 2019.

1974-18 – Rural Preconstruction: This authority was established to advance the design engineering of various rural phases of the project. The primary focus has been on conveyance improvements at problematic locations within the lower portions of the basin. Current work includes performing analysis of smaller scale, localized alternatives in the vicinity of the south end of the J. Clark Salyer National Wildlife Refuge. This work is approximately 20% complete.

1974-23 – Phase MI-2C Peterson Coulee Outlet Construction: This project includes the construction of a new storm sewer outlet from the Peterson Coulee regional stormwater detention facility located immediately west of Minot. Through constructing this outlet, the required size of a stormwater pump station associated with the Tierrecita Vallejo levee project is minimized. This project is fully designed and ready for bidding, pending two remaining easements for construction of the project.

1974 – Burlington Bridge Reconstruction: The replacement of the Colton Avenue Bridge in Burlington is identified as Phase BU-1A. This conveyance improvement will remove a significant bottleneck within the Mouse River system and will alleviate upstream impacts associated with construction of new levee systems upstream of Minot. This project authority was established through the reprogramming of funds following the bid openings of Phases MI-1, MI-2 and MI-3. The construction contract for this project has been awarded and construction will begin in May 2019.

1974 – Outlaw Creek Construction: This project includes the construction of a conveyance improvement project in northern McHenry County, near the south end of the J. Clark Salyer National Wildlife Refuge. This project authority was established through the reprogramming of funds following the bid openings of Phases MI-1, MI-2 and MI-3. The construction of this project has been temporarily suspended by the SRJB while landowner concerns are addressed through additional dialogue and design efforts.

1974-13 – Tierrecita Vallejo Levee Design: Tierrecita Vallejo is a Ward County subdivision located immediately upstream of Minot near the US Highway 83 Bypass. The design of this levee system has begun and is approximately 60% complete. Design work will be complete by the end of 2019, and the construction of this project is expected to begin in the spring of 2020.

1974-30 – Mouse River Park Bridge Design: The existing bridge at Mouse River Park is a conveyance restriction, and the roadway frequently overtops, creating a safety issue for residents of Mouse River Park and emergency responders. The project design is approximately 15% complete.

1974-31 – Sawyer Bridge Design: The existing bridge at Sawyer is a conveyance restriction. Replacing this bridge with a new bridge with enhanced conveyance capacity will be an interim improvement that will reduce flood risk to the citizens of Sawyer, North Dakota. Design is approximately 25% complete.

1974-32 – Velva Bridge Design: The existing bridge at Velva is a conveyance restriction. Replacing this bridge with a new bridge with enhanced conveyance capacity will be an interim improvement that will reduce flood risk to the citizens of Velva, North Dakota. Design is approximately 25% complete.

1974-25 – Flood Specific Emergency Action Plans: The Souris River Joint Board led an effort to develop flood-specific emergency action plans for Ward, McHenry, Bottineau and Renville counties. The development of a flood-specific EAP was mandated by the US Army Corps of Engineers for Ward County as a condition of its Section 408 permit issued for construction of improvements in Minot. The work to develop these EAPs is substantially complete.

1523-05 – Ward County Acquisitions: Following the 2011 flood, Ward County established an acquisition program that focused on acquiring properties located beneath future planned flood risk management systems. Ward County's work on this program has been substantially completed. The SRJB has assumed the role as the lead agency for acquisitions outside of the City of Minot.

2000-05 Sawyer Acquisitions: The City of Sawyer originally intended to acquire several properties within city limits that are located within the footprint of the Mouse River Enhanced Flood Protection Project. The City of Sawyer's activities in this regard have been completed, and the Souris River Joint Board will assume the role as the lead agency for acquisitions.

1987-05 – Burlington Acquisitions: The City of Burlington acquired several structures immediately following the 2011 flood. The City's acquisition program has since been closed out, with the Souris River Joint Board assuming the role as the lead entity responsible for MREFPP-related acquisitions.

The following is a status update of various SWC Projects that can be consolidated under a new project entitled **MREFPP Minot Construction & Engineering**:

1974-02 – Design Engineering for MREFPP: This project established the authority to secure consulting engineers for the design of Phase MI-1: 4th Avenue Floodwall, Phase MI-2: Napa Valley Levee, and Phase MI-3: Forest Road Levee. Additionally, this project included the development of the Environmental Impact Statement for the MREFPP from Burlington through Minot and the development of a System-Wide Improvement Framework, which was mandated by the US Army Corps of Engineers as a condition of their Section 408 permitting process. This work is complete.

1974-15 – Perkett Ditch Improvements: This construction project included establishing a large detention volume for interior drainage runoff in northwest Minot. This project was established following a value engineering study that identified the construction of detention storage would save nearly $10 million on the construction of a required stormwater pump station. This project is substantially complete.

1974-20 – Relocation of Franchise Utilities: This authority was established to have the ability to relocate several franchise utilities within the footprint of the project in Phases MI-1, MI-2 and MI-3 within Minot, prior to the major construction contracts being awarded. This project is substantially complete.

1974-22 – Broadway Pump Station / Phase MI-1 Construction: The original authorization for this project was made by the State Water Commission during the 15-17 biennium. This established the authority necessary to build the pump station. During the 17-19 biennium, the authority was expanded to include the construction of the balance of Phase MI-1. The two authorities were combined by the Souris River Joint Board into one construction contract to capitalize upon economies of scale. This project is currently under construction, is approximately 25% complete, and is expected to be substantially complete by 2021.

1974-26 – Phase MI-2/3 Construction: This phase of the project is located in west Minot and spans from the US Highway 83 Bypass to the Canadian Pacific Railroad crossing of the Mouse River. The project is currently under construction, is approximately 60% complete, and is expected to be substantially complete by early 2020.

1974-12 – Maple Diversion Design: This phase of the project (Phase MI-4) is the portion of the MREFPP that has a federal interest. The design is being advanced as work that is creditable towards a future nonfederal share of a federal project. The USACE Chief's Report for the Maple Diversion was recently signed by the Chief of Engineers of the USACE. The design is currently 25% complete. If additional funding authority is established from funding made available in the 19-21 biennium, the design of the project will likely be completed by the end of 2020.

1974-21 – Highway 83 Bridge Replacements: This authority was established to allow flood control improvements to be made in conjunction with work that the NDDOT was performing on the US Highway 83 Bypass as well as US Highway 83 (Broadway) in Minot. The work included constructing the flood control line of protection through the NDDOT project and increasing the span length of the Highway 83 Bypass bridge to eliminate the restrictions imposed by the former structure. The work is substantially complete, but the NDDOT has yet to issue a final reimbursement invoice to the SRJB and City of Minot for payment.

1974-19 – Design of Burlington and 4th Avenue Tieback Levees: This authority was established to fund the design of both the Burlington phase of the MREFPP as well as the design of Phase MI-5, also known as the Northeast Tieback levee in Minot. The Burlington design work is substantially complete, but the 4th Avenue Tieback levee is being modified to accommodate concerns raised by Burlington Northern Santa Fe Railroad. Because this authority crosses into both Minot and non-Minot jurisdictions, the proposal is to consolidate this project into a Minot authority and to absorb any of the required effort for the Burlington project into an authority established for work outside of Minot.

1974-16 – Corps of Engineers Feasibility Study: In April 2016, the Souris River Joint Board entered into an agreement with the US Army Corps of Engineers to study the feasibility of a flood risk management project within the Mouse River basin. The initial phases of the study evaluated alternatives throughout the basin for reducing flood risk. As the study progressed, rural alternatives were screened from further analysis and the focus became the development of a portion of the project within the city limits of Minot. This portion of the project is known as Phase MI-4: Maple Diversion. The USACE Chief of Engineers, Lieutenant General Todd Semonite, signed the Chief's Report for the project on April 16, 2019. The report has since been forwarded to Congress for consideration, with the intent of getting the project authorized at the next available opportunity. The work on the feasibility study is substantially complete.

1974-27 – USACE Section 408 Permit Review: The Souris River Joint Board was required to sign a Section 214 Agreement with the USACE to ensure timely reviews of various permitting products. Most of the review costs were associated with Phases MI-1, MI-2, and MI-3. The contract with the USACE requires that funding from the local sponsor be deposited with the USACE ahead of the actual expenditures being incurred. The work associated with the USACE design reviews of Phases MI-1, MI-2 and MI-3 is complete.

The 66th Legislative Assembly passed Senate Bill 2020, which included two provisions specifically related to the Mouse River Enhanced Flood Protection Project. Section 1 of the bill appropriated $82,500,000 for Mouse River flood control. Section 11 indicated legislative intent to provide up to $135,286,716 for flood control projects within the city limits of Minot through the 19-21, 21-23 and 23-25 bienniums and that $57,713,284 was provided for flood control projects within the city limits of Minot during the 17-19 biennium.

The Souris River Joint Board provided a proposed work plan to the appropriations committees working the bill during the legislative session. Through the legislative process, the final appropriations budget was established for Mouse River flood control at $82,500,000 in State funds. The budget provided to the House appropriations committee included the following activities:

MREFPP Outside Minot:	$35,900,000
MREFPP Minot Construction & Engineering:	$38,350,000
MREFPP Minot Acquisitions:	$8,250,000
TOTAL (State Funds)	$82,500,000

The Souris River Joint Board respectfully requests that the State Water Commission:

1. Consolidate open Mouse River acquisition, construction and engineering projects outside the city limits of Minot into one project entitled 'MREFPP Outside Minot'.
2. Consolidate open Mouse River construction and engineering projects within the city limits of Minot into one project entitled 'MREFPP Minot Construction and Engineering'.
3. Approve **$8,250,000** from the 19-21 biennium appropriation for MREFPP Minot Acquisitions at the current **75% cost share**. The City of Minot would continue to be the sponsor of this project. This funding would be used to continue acquisitions within the city limits of Minot. The acquisition list is currently on file with the State Water Commission.
4. Approve **$38,350,000** from the 19-21 biennium appropriation for MREFPP Minot Construction & Engineering activities at the current **65% cost share**. The Souris River Joint Board would continue to be the sponsor of this project. Activities prioritized for inclusion in this authorization are:
    a. Partial Design of Phase MI-4 (Maple Diversion) $6.0 million total
    b. Design of Phase MI-6 (Eastwood Park Floodwall) $6.0 million total
    c. Partial Construction of Phase MI-5 (Northeast Tieback) $40 million total
    d. Partial Construction of Phase MI-4 (Maple Diversion) $7.0 million total
    e. Should progress on any of the above activities stall, remaining funding would be directed towards additional construction of Phase MI-4 (Maple Diversion), additional construction of Phase MI-5 (Northeast Tieback), or design of Phase MI-7 (Valker Road South Levee).
5. Subject to the approval of (3) and (4) above, confirm that the total State funding allocated to flood control activities within the City of Minot is $104,313,284 from the 17-19 biennium and 19-21 biennium.
6. Approve **$35,900,000** from the 19-21 biennium appropriation for MREFPP activities outside of the City of Minot. The Souris River Joint Board requests that all new activities be at a **75% cost share**. Currently, acquisitions are funded at a 75% cost share, while construction and

engineering activities are funded at a 65% cost share. A 75% cost share is requested based on the ability of the Souris River Joint Board and the communities outside of the Minot area (Burlington, Sawyer, Velva, rural subdivisions, farmers, ranchers, etc.) having a limited ability to generate adequate local shares. A 75% cost share would place the rural elements of the project on similar financial footing as the Valley City, Lisbon, and Grafton flood control projects. The Souris River Joint Board would continue to be the sponsor of this project. Activities prioritized for inclusion of this authorization are:

a. Property acquisitions outside of Minot $4.3 million total
b. Construction of Phase BU-1 (Burlington Levee) $30 million total
c. Partial Construction of Phase WC-1 (Tierrecita Vallejo Levee) $13.6 million total
d. Should progress on any of the above activities stall, remaining funding would be directed towards additional construction of Phase WC-1 (Tierrecita Vallejo Levee); reconstruction of bridges in Mouse River Park (Renville County), Sawyer or Velva; rural conveyance improvements; or additional acquisitions outside the city limits of Minot.

7. Approve shifting **$3,700,000** from the MREFPP Minot Construction & Engineering authority to the Minot Acquisitions authority. The funding would be shifted from construction contingencies being carried on Phases MI-1, MI-2 and MI-3. This is being requested in an attempt to keep progress moving as quickly as possible on Minot acquisitions.

We sincerely appreciate your consideration of our request.

Sincerely,

SOURIS RIVER JOINT BOARD

Ryan Ackerman, PE
Administrator

Cc: David Ashley, SRJB
Dan Jonasson, SRJB
Shaun Sipma, City of Minot
Tom Barry, City of Minot
David Lakefield, City of Minot
John Zakian, City of Minot
Chris Owen, City of Minot
Shelly Weppler, Ward County
Dana Larsen, Ward County
Jeanine Kabanuk, City of Burlington
Diane Fugere, City of Burlington
Susan Schmidt, City of Sawyer

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Mouse River Enhanced Flood Protection Project (MREFPP)

Sponsor(s)
Souris River Joint Board; City of Minot

County	City	Township/Range/Section
Renville, Ward, McHenry, Bottineau	Minot, Burlington, Sawyer, Velva	N/A

Description Of Request ☑ New ☑ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Reduced flood risk within the Mouse River basin in North Dakota

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☑ Flood Control ☐ Multi-Purpose ☐ Bank Stabilization ☐ Dam Safety/EAP
☐ Recreation ☐ Water Supply ☐ Snagging & Clearing ☐ Property Acquisition
☐ Irrigation ☐ Water Retention ☐ Rural Flood Control ☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☐ No

Jurisdictions/Stakeholders Involved
SRJB, Ward County, Renville County, McHenry County, Bottineau County, Minot, Burlington, Sawyer, Velva, USACE, FEMA

Description Of Problem Or Need And How Project Addresses That Problem Or Need

The Mouse River Plan is a comprehensive flood risk management program intended to reduce flood risk throughout the entire reach of the Mouse River in North Dakota. This application covers work associated with the appropriation of $82.5 million approved by the 66th Legislative Assembly. Needs addressed in this request will include acquisitions, construction and engineering within and outside the city limits of Minot.

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits? ☑ Yes ☐ No ☐ Not Applicable

If Yes, Please Explain
Construction and sovereign land permits have been applied for for various phases of the project.

Have You Been Approved For Any State Permits? ☑ Yes ☐ No ☐ Not Applicable

If Yes, Please Explain
Permits have been issued for various phases of the project. Others are expected to be forthcoming.

Have You Applied For Any Local Permits? ☑ Yes ☐ No ☐ Not Applicable

If Yes, Please Explain
Local floodplain development and building permits have been applied for and received for various phases.

Have You Been Approved For Any Local Permits? ☑ Yes ☐ No ☐ Not Applicable

If Yes, Please Explain
Permits have been issued for various phases of the project. Others are expected to be forthcoming.

Briefly Explain The Level Of Review The Project Or Program Has Undergone
Extensive review by the SRJB, City of Minot, the USACE, and an independent external peer review contractor - HDR Engineering.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? Nothing insurmountable.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$	$	$ 82,500,000.00	$
Other State	$	$	$	$
Local	$	$	$ 35,366,667.00	$
Total	$ 0.00	$ 0.00	$ 117,866,667.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
N/A

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
Please refer to the explanation of timelines included within the letter.

Have Assessment Districts Been Formed? ☐ Yes ☐ No ☐ Ongoing ☑ Not Applicable

Submitted By			Date
Souris River Joint Board			30 April 2019
Address	**City**	**State**	**ZIP Code**
1907 17th Street SE	Minot	ND	58701

Telephone Number	Engineer Telephone Number
(701) 626-1566	(701) 857-9113
Sponsor Email Address	**Engineer Email Address**
dwashley56@gmail.com	ryan.ackerman@ackerman-estvold.com

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature	Date
Ryan Ackerman, Administrator	30 April 2019

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

APPENDIX E

CASS COUNTY GOVERNMENT

RECEIVED
MAR 2 1 2019
STATE WATER COMMISSION

March 15, 2019

Southeast Cass Water Resource District

Dan Jacobson
Chairman
West Fargo, North Dakota

Lance Yohe
Manager
Fargo, North Dakota

Ken Pawluk
Manager
Fargo, North Dakota

Carol Harbeke Lewis
Secretary-Treasurer

1201 Main Avenue West
West Fargo, ND 58078-1301

701-298-2381
FAX 701-298-2397
wrd@casscountynd.gov
www.casscountynd.gov

Beth Nangare
Cost Share Program Administrator
North Dakota State Water Commission
900 East Boulevard Avenue, Dept. 770
Bismarck, ND 58505-0850

Dear Beth:

RE: Cass County Drain No. 40 Improvement Project No. 2019-01
Cost-Share Request

Cass County Drain No. 40 Improvement Project No. 2019-01 is the first phase of a multi-phase project to improve the downstream reach of the existing legal drain located within Reed and Harwood Townships of Cass County, North Dakota. More specifically, this phase of the project is located in Sections 35 and 36 of Harwood Township. This facility is owned and operated by the Southeast Cass Water Resource District (the "District").

Drain No. 40 has experienced significant channel bottom erosion and sloughing on the side slopes. In 2017, a channel degradation study was performed for the existing drain and the study recommended constructing multiple improvements to the drain's infrastructure to increase the channel's stability and decrease the chance of future erosion. The improvements recommended by the study include constructing flatter channel grades, multiple grade control structures to reduce the velocity in the channel, and implementing a new cross section that includes flatter side slopes. The proposed improvements also increase the drainage capacity of the drain and address other deficiencies. Therefore, the District has decided to begin improving Drain No. 40.

The current project will be the first step to solving the channel's erosion issues by addressing the most pressing needs at the downstream end of the drain. Future phases of the project will be pursued when funding becomes available. This initial phase of the project includes the construction of two sheet pile grade control structures, which will allow for a flatter channel grade and help reduce erosion on the channel bottom. Channel improvements will be made in between the two structures to improve the stability of the channel and to provide additional capacity in the drain. The project will also include the replacement

of a road crossing that is currently insufficient. These improvements will reduce damages to adjacent agricultural lands and roads. This phase of the project will also include right of way acquisitions and adjustments that will accommodate current and future improvements to the drain.

With this letter and submission of supporting data, the District respectfully requests 45% cost-share from the State Water Commission on the eligible items under the Rural Flood Control section of the Cost-Share Policy for a total of $192,533.32. The District has funding available for the remaining local share and anticipates that construction will be completed by the end of 2019 if funding assistance is provided.

Enclosed is a set of preliminary construction plans, an *Engineer's Opinion of Probable Cost* and the *Cost-Share Request* form. If you have any questions, please feel free to contact us or our project engineer, Mike Opat, Moore Engineering, Inc., at 701-282-4692. Thank you.

Sincerely,

SOUTHEAST CASS WATER RESOURCE DISTRICT

Carol Harbeke Lewis
Secretary-Treasurer

Enclosures

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Cass County Drain No. 40 Improvement Project No. 2019-01

Sponsor(s)
Southeast Cass Water Resource District

County	City	Township/Range/Section
Cass	Harwood	T-141-N / R-49-W / S-35 & S-36

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☐ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☑ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
Southeast Cass Water Resource District, Cass County Highway Department, Local Landowners

Description Of Problem Or Need And How Project Addresses That Problem Or Need

Cass County Drain No. 40 is an existing legal drain east of Harwood that outlets into the Red River. The existing drain is experiencing significant erosion on the channel bottom and therefore a channel degradation study was performed in 2017. To reduce the erosion occurring in channel the study recommended constructing multiple grade control structures to achieve a flatter channel grade. A new cross section for the channel was also recommended which includes flattening the side slopes. The proposed project will be the first step to solving the channel's erosion issues by addressing the most pressing needs at the downstream end of the drain. The improvements will also provide additional drainage capacity. This initial phase of the project includes the construction of two sheet pile grade control structures which will allow for a flatter channel grade and help reduce erosion on the channel bottom. Channel improvements will be made in between the two structures to improve the stability of the channel. The downstream crossing of the drain will be replaced to address insufficiencies with the current crossing. These improvements will reduce damages to adjacent agricultural lands and roads.

Has Feasibility Study Been Completed?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone

The proposed improvement project has been discussed at Water Resource District meetings and with landowners.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? The WRD is unaware of any obstacles at this time.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$ 192,533.00	$ 192,533.00	$	$
Other State	$	$	$	$
Local	$ 612,122.00	$ 612,122.00	$	$
Total	$ 804,655.00	$ 804,655.00	$ 0.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied

None

Please Explain Implementation Timelines, Considering All Phases And Their Current Status

Preliminary Design - Spring 2019
Final Design & Construction - Summer/Fall 2019

Have Assessment Districts Been Formed? ☑ Yes ☐ No ☐ Ongoing ☐ Not Applicable

Submitted By: Southeast Cass Water Resource District			Date:
Address: 1201 Main Ave W	City: West Fargo	State: ND	ZIP Code: 58078
Telephone Number: (701) 298-2381		Engineer Telephone Number: (701) 282-4692	
Sponsor Email Address: LewisC@casscountynd.gov		Engineer Email Address: MOpat@mooreengineeringinc.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature: [signature] Date: 3-15-19

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

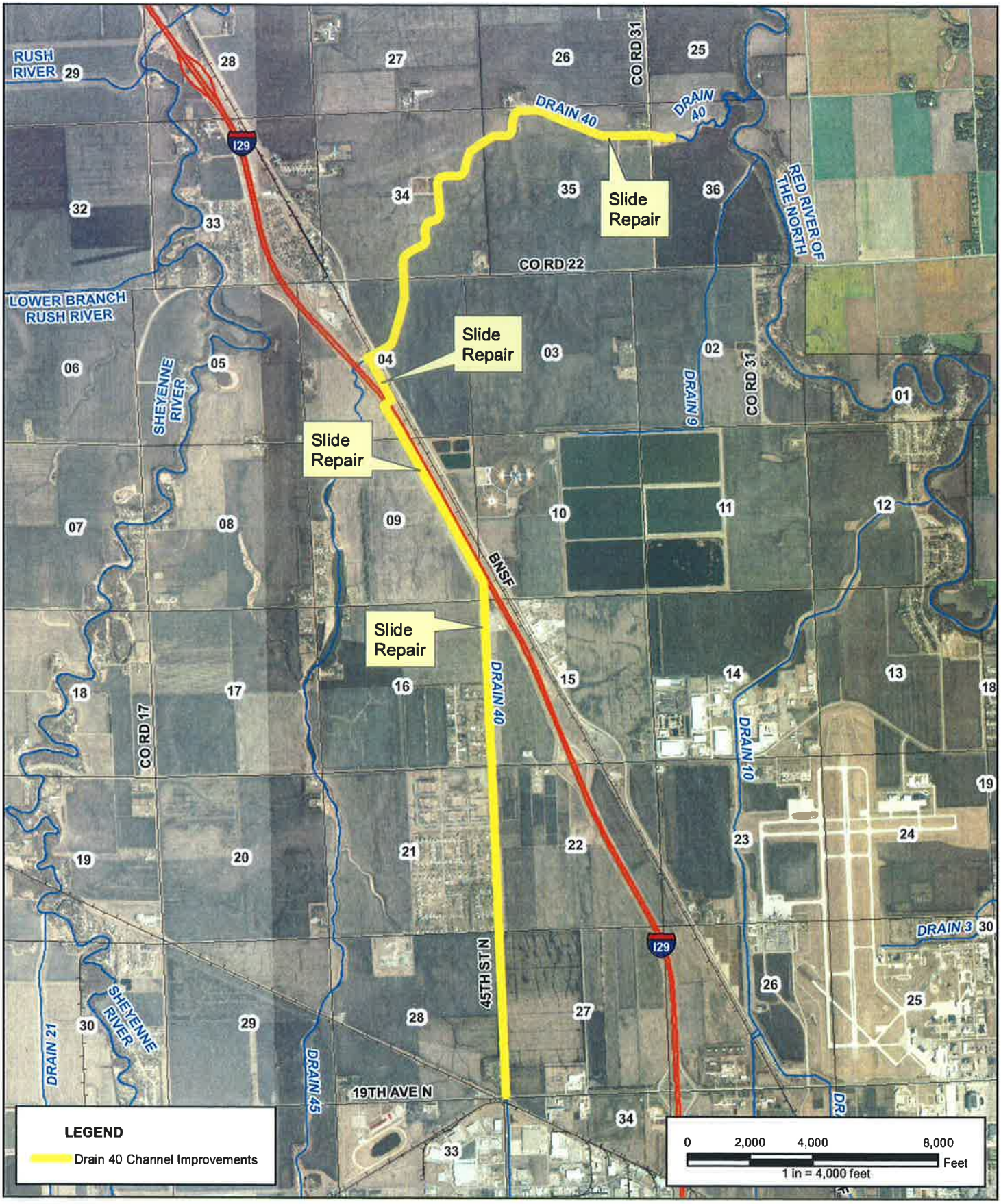
moore engineering, inc.

Project # 18933A
Date Revised: March 1, 2019

2019 Cass County Drain No. 40 Improvement Project No. 2019-01
SE Cass Water Resource District
Cass County, North Dakota

Engineer's Opinion of Probable Cost

						FUNDING SOURCES		
	ITEM	*UNIT*	*QUANTITY*	*UNIT PRICE*	*TOTAL*	*NDSWC*	*County*	*LOCAL*
	Section Line Crossings							
1.	Culvert - Remove (All Types & Sizes)	LF	124	$25.00	$3,100.00	$897.47	$881.01	$1,321.52
2.	RCB - 9' x 7'	LF	232	$1,100.00	$255,200.00	$73,881.92	$72,527.23	$108,790.85
3.	End Section - 9' x 7' RCB (Std.)	EA	4	$13,000.00	$52,000.00	$15,054.31	$14,778.28	$22,167.41
4.	3/4" Crushed Stone	CY	200	$40.00	$8,000.00	$2,316.05	$2,273.58	$3,410.37
5.	Riprap - Class IV	CY	320	$70.00	$22,400.00	$6,484.93	$6,366.03	$9,549.04
6.	Riprap Filter Blanket	SY	480	$3.00	$1,440.00	$416.89	$409.24	$613.87
7.	Gravel - NDDOT Class 13	CY	60	$30.00	$1,800.00	$521.11	$511.56	$767.33
8.	Geotextile Fabric	SY	350	$3.00	$1,050.00	$303.98	$298.41	$447.61
	Sta 53+00 Grade Control Structure							
9.	Sheetpile - PZC 13	SF	450	$50.00	$22,500.00	$6,513.88	$0.00	$15,986.12
10.	Riprap - Class III	CY	55	$70.00	$3,850.00	$1,114.60	$0.00	$2,735.40
11.	Riprap - Class IV	CY	100	$70.00	$7,000.00	$2,026.54	$0.00	$4,973.46
12.	Riprap Filter Blanket	SY	180	$3.00	$540.00	$156.33	$0.00	$383.67
	Sta 58+77 Grade Control Structure							
13.	Sheetpile - PZC 13	SF	410	$50.00	$20,500.00	$5,934.87	$0.00	$14,565.13
14.	Riprap - Class III	CY	50	$70.00	$3,500.00	$1,013.27	$0.00	$2,486.73
15.	Riprap - Class IV	CY	90	$70.00	$6,300.00	$1,823.89	$0.00	$4,476.11
16.	Riprap Filter Blanket	SY	170	$3.00	$510.00	$147.65	$0.00	$362.35
	Remaining Construction							
17.	Mobilization	LS	1	$50,000.00	$50,000.00	$14,475.30	$0.00	$35,524.70
18.	Excavation	CY	6,700	$2.00	$13,400.00	$3,879.38	$0.00	$9,520.62
19.	Channel Fill	CY	2,400	$3.00	$7,200.00	$2,084.44	$0.00	$5,115.56
20.	Spoil Bank Leveling	LS	1	$5,000.00	$5,000.00	$1,447.53	$0.00	$3,552.47
21.	Seeding	AC	7.0	$1,100.00	$7,700.00	$2,229.20	$0.00	$5,470.80
22.	Rock Check - Temporary	EA	1	$2,000.00	$2,000.00	$579.01	$0.00	$1,420.99
23.	Clearing & Grubbing	LS	1	$3,000.00	$3,000.00	$868.52	$0.00	$2,131.48
24.	Storm Water Management	LS	1	$5,000.00	$5,000.00	$1,447.53	$0.00	$3,552.47
25.	Material Testing	Invoice	Invoice	Allowance	$7,500.00	$2,171.29	$213.15	$5,115.56
26.	Traffic Control	LS	1	$8,000.00	$8,000.00	$2,316.05	$0.00	$5,683.95
				Construction Subtotal	$518,490.00	$150,105.94	$98,258.49	$270,125.58
				Engineering - Preliminary	$15,250.00	$4,414.97	$2,890.01	$7,945.02
				Engineering - Design	$46,750.00	$13,534.40	$8,859.54	$24,356.05
				Engineering - Construction	$46,750.00	$13,534.40	$8,859.54	$24,356.05
				Geotechnical Engineering	$30,000.00	$8,685.18	$5,685.27	$15,629.55
				Project Contingencies (15%)	$78,010.00	$2,325.12	$14,783.59	$60,901.29
				Legal	$5,000.00	$0.00	$0.00	$5,000.00
				Owner Administration Expenses	$500.00	$0.00	$0.00	$500.00
				Right-of-Way Acquisition	$12,405.00	$0.00	$0.00	$12,405.00
				Right-of-Way Negotiations	$7,000.00	$0.00	$0.00	$7,000.00
				Land Surveying	$42,500.00	$0.00	$0.00	$42,500.00
				Utility Relocations	$1,000.00	$0.00	$0.00	$1,000.00
				Utility Relocation Coordination	$1,000.00	$0.00	$0.00	$1,000.00
				Bond Issuance / Financing	$0.00	$0.00	$0.00	$0.00
				TOTAL PROJECT COST	**$804,655.00**	**$192,600.00**	**$139,336.44**	**$472,718.56**



CASS COUNTY DRAIN 40 CHANNEL IMPROVEMENTS
SOUTHEAST CASS WRD
CASS COUNTY, NORTH DAKOTA

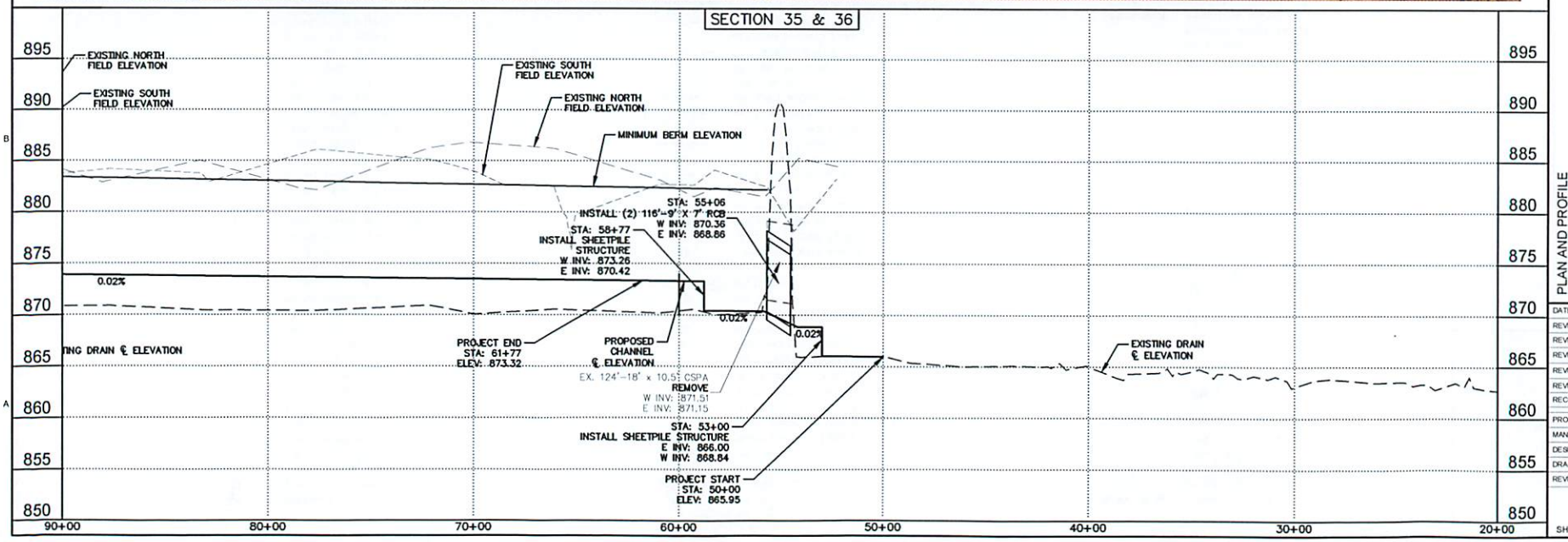
Created By: TJS Date Created: 05/30/2017 Date Saved: 05/30/17 Date Plotted: 5/20/14 Date Exported: 05/30/17
Plotted By: tanner.schmidt Parcel Date: N/A Aerial Image: 2016 County NAIP SIDS Elevation Data: NA
Horizontal Datum: NAD 1983 StatePlane North Dakota South FIPS 3302 Feet Vertical Datum: NAVD1988
T:\Projects\18900\18933\18933_Drain_40_chanimp.mxd

N W E S

moore engineering, inc.

PRELIMINARY

SECTION 35 & 36



moore engineering, inc.

PLAN AND PROFILE
CASS COUNTY DRAIN NO. 40 IMPROVEMENT PROJECT NO. 2019-01
SOUTHEAST CASS WATER RESOURCE DISTRICT
CASS COUNTY, NORTH DAKOTA
SECTION 35 & 36

DATE:	02.28.19
REVISED:	—
REVISED:	—
REVISED:	—
REVISED:	—
REVISED:	—
RECORD:	—
PROJECT No.	18933A
MANAGER:	MMO
DESIGNER:	NHT
DRAFTER:	RJK
REVIEWER:	KRL

C-201

SHEET 4 OF 12

Sargent County Drain No. 7 Channel Improvements
Sargent County Water Resource District
Sargent County, North Dakota

May 30, 2019

Cost Comparison from Estimate to Final Cost Summary

APPENDIX F

	ITEM	UNIT	QUANTITY	UNIT PRICE	2016 Estimate	NDSWC	Final	NDSWC	SWC Add'l
	Section Line Crossings								
1.	Controlled Density Fill	C.Y.	0	$116.35		$0.00	$0.00	$0.00	$0.00
2.	Sizes)	L.F.	250	$23.19	$2,500.00	$1,125.00	$5,797.50	$2,608.88	$1,483.88
3	CSPA - 73" X 55"	L.F.	408	$86.34	$30,100.00	$13,545.00	$35,226.72	$15,852.02	$2,307.02
4.	CSPA - 81" X 59"	L.F.	192	$93.81	$49,200.00	$22,140.00	$18,011.52	$8,105.18	($14,034.82)
5.	Geotextile Fabric	S.Y.	717	$2.98		$0.00	$2,136.66	$961.50	$961.50
6.	Gravel - NDDOT Class 13	C.Y.	122	$56.69	$6,250.00	$2,812.50	$6,916.18	$3,112.28	$299.78
7.	Riprap - Class IV	C.Y.	656	$56.95	$15,750.00	$7,087.50	$37,359.20	$16,811.64	$9,724.14
8.	Riprap Filter Blanket	S.Y.	984	$2.98	$1,012.50	$455.63	$2,932.32	$1,319.54	$863.92
9.	Traffic Control	L.S.	1	$2,305.59		$0.00	$2,305.59	$1,037.52	$1,037.52
									$0.00
	Change Order No. 1								$0.00
	Select Backfill	C.Y.	1,004	$35.00	$17,240.00	$7,758.00	$35,140.00	$15,813.00	$8,055.00
	CDF	C.Y.	30	$236.00		$0.00	$7,080.00	$3,186.00	$3,186.00
						$54,923.63	$152,905.69	$68,807.56	$13,883.94
	All Other Construction								
10.	Mobilization	L.S.	1	$26,615.11	$25,000.00	$11,250.00	$26,615.11	$11,976.80	$726.80
11.	Clearing & Grubbing	L.S.	1	$8,961.36		$0.00	$8,961.36	$4,032.61	$4,032.61
12.	Excavation - Channel	C.Y.	128,000	$1.00	$111,187.50	$50,034.38	$128,000.00	$57,600.00	$7,565.63
13.	Spoil Bank Leveling	Mile	3.7	$4,657.39	$10,000.00	$4,500.00	$17,232.34	$7,754.55	$3,254.55
14.	Topsoil - Stripping & Spreading	Acre	57	$1,077.33		$0.00	$61,407.81	$27,633.51	$27,633.51
15.	Sizes)	L.F.	145	$11.72	$760.00	$342.00	$1,699.40	$764.73	$422.73
16.	CSP - 18"	L.F.	704	$21.57	$2,500.00	$1,125.00	$15,185.28	$6,833.38	$5,708.38
17.	CSP - 24"	L.F.	132	$25.28		$0.00	$3,336.96	$1,501.63	$1,501.63
18.	CSP - 30"	L.F.	130	$39.93		$0.00	$5,190.90	$2,335.91	$2,335.91
19.	CSP - 36"	L.F.	0	$44.51		$0.00	$0.00	$0.00	$0.00
20.	Flared End Section - 18"	Each	14	$129.06	$350.00	$157.50	$1,806.84	$813.08	$655.58
21.	Flared End Section - 24"	Each	2	$154.00		$0.00	$308.00	$138.60	$138.60
22.	Flared End Section - 30"	Each	2	$415.94		$0.00	$831.88	$374.35	$374.35
23.	Flared End Section - 36"	Each	0	$488.42		$0.00	$0.00	$0.00	$0.00
24.	Flap Gate - 18" Steel	Each	14	$384.33	$600.00	$270.00	$5,380.62	$2,421.28	$2,151.28
25.	Flap Gate - 24" Steel	Each	2	$441.13		$0.00	$882.26	$397.02	$397.02
26.	Flap Gate - 30" Steel	Each	3	$646.97		$0.00	$1,940.91	$873.41	$873.41
27.	Flap Gate - 36" Steel	Each	0	$824.19		$0.00	$0.00	$0.00	$0.00
28.	Riprap - Class III	C.Y.	1,089	$56.82	$2,800.00	$1,260.00	$61,876.98	$27,844.64	$26,584.64
29.	Riprap Filter Blanket	S.Y.	2,177	$2.98	$240.00	$108.00	$6,487.46	$2,919.36	$2,811.36
30.	Seeding - Type III	Acre	38.9	$1,109.61	$31,195.00	$14,037.75	$43,163.83	$19,423.72	$5,385.97
31.	Rock Check - Temporary	Each	3	$1,581.98	$4,000.00	$1,800.00	$4,745.94	$2,135.67	$335.67
32.	Storm Water Management	L.S.	1	$7,674.67	$5,000.00	$2,250.00	$7,674.67	$3,453.60	$1,203.60
33.	Material Testing	Invoice	Allowance	$16,108.63	$10,000.00	$4,500.00	$16,108.63	$7,248.88	$2,748.88
34.	Dewatering	L.S.	1	$1,422.75		$0.00	$1,422.75	$640.24	$640.24
	Change Order No. 3								
	Remove Observation Well	L.S.	1	$1,570.00		$0.00	$1,570.00	$706.50	$706.50
	Change Order No. 4								
	Install seeding at Engst property	L.S.	1	$5,869.50		$0.00	$5,869.50	$2,641.28	$2,641.28
	Change Order No. 5								
	124+20 crossing	L.S.	1	$1,302.00		$0.00	$1,302.00	$585.90	$585.90
					$325,685.00	$91,634.63	$429,001.43	$193,050.64	$101,416.02
				Total Construction	$325,685.00	$146,558.25	$581,907.12	$261,858.20	$115,299.95
				Preliminary Engineering	$17,755.00	$6,214.25			
				Engineering - Design	$29,311.65	$10,259.08	$52,371.64	$18,330.07	$8,071.00
				Engineering - Construction	$29,311.65	$13,190.24	$52,371.64	$23,567.24	$10,377.00
				Legal Fees	$7,500.00	$0.00	$7,500.00	$0.00	$0.00
				Right-of-Way - Land Acquisition	$75,020.66	$0.00	$127,896.00	$0.00	$0.00
				Engineering - Right-of-Way	$10,000.00	$0.00	$17,186.05	$0.00	$0.00
				Easements & Monuments	$15,000.00	$0.00	$28,291.30	$0.00	$0.00
				Utilities - Construction	$35,000.00	$15,750.00	$25,000.00	$11,250.00	($4,500.00)
				Engineering - Utilities	$5,000.00	$2,250.00	$4,188.00	$1,884.60	($365.40)
				Contingencies	$65,137.00	$14,655.83			($14,655.83)
				Fiscal	$2,500.00				$0.00
				Admin Fees	$2,500.00				$0.00
				Contractor Delay		$0.00	$64,984.87	$0.00	$0.00
				TOTAL PROJECT COST	**$619,720.96**	**$208,877.65**	**$961,696.62**	**$316,890.12**	**$114,226.72**
				Previously SWC Funded	$17,755.00	$6,214.25			
				Approved	$601,965.96	$202,663.40			

moore engineering, inc.


32
33
34
140TH AVE SE
141ST AVE SE
Sydna
78TH ST SE
6
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4
140TH AVE SE
79TH ST SE
79TH ST
Milnor
9TH AVE
MAIN ST
7TH AVE
9TH AVE
3RD ST
6TH AVE
5TH AVE
7
8
9
139TH AVE SE
79 1/2 ST SE
139 1/2 AVE SE
80TH ST SE
17
16
Legend
Drain Improvement Area
Sargent County Drain No. 7 Channel Imp.
Near Milnor
Sargent County, North Dakota
N
W
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750
1,500
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1 in = 1,000 feet
moore
engineering, inc.

APPENDIX G

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
(701) 328-2750 • TTY 1-800-366-6888 • FAX (701) 328-3696 • http://swc.nd.gov

MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer/Secretary
SUBJECT: State Cost-Share – Grand Forks County Water Resource District
Upper Turtle River Dam 9 (Larimore Dam) Rehabilitation
DATE: May 30, 2019

In their correspondence dated April 3, 2019, the Grand Forks County Water Resource District (District) requested cost share assistance for the pre-construction costs on the Upper Turtle River Dam 9 (Larimore Dam) Watershed Rehabilitation Plan to provide the platform for final design and construction permitting. Larimore Dam is one of eight dams planned, designed, and constructed within the Upper Turtle River watershed in Grand Forks County. The earthen embankment is approximately 1,040 feet long, 66 feet high, has a 20-foot wide crest, and an area of 650 acres at maximum pool elevation. The dam is located 3 miles northeast of the City of Larimore.

The Watershed Work Plan was finalized in 1969 with Larimore Dam identified as a medium hazard dam with the primary purposes of flood control and recreation. Since construction, there has been development within the breach zone downstream of the dam to include US Highway 2, Turtle River State Park, and Larimore Golf Course, as well as rural homes and farmsteads. The 2015 dam assessment now classifies the dam as high hazard and the original design does not meet current dam safety criteria for a high hazard dam. Design criteria for this assessment is based on Technical Release Number 60 (TR-60), issued by the Conservation Engineering Division of the NRCS. Proposed rehabilitation alternatives cost from $5.6 million to modify the principal spillway and auxiliary spillways to $10.4 million to modify principal spillway and replace the vegetated auxiliary spillway.

The next step in bringing Larimore Dam up to current dam safety standards is conducted through the USDA-NRCS's Watershed Rehabilitation Program to provide an alternatives analysis and identify the National Economic Development (NED) plan. It also includes documenting environmental effects of rehabilitation work on the dam and provides the platform for final design and construction permitting. The Watershed Plan is scheduled to start in the fourth quarter of FY2019 and be completed in second quarter of FY2021.

The agreement with NRCS is pending and federal funding is expected in June 2019. The total Plan cost is $612,000 with USDA-NRCS to provide federal funding of $428,400. Grand Forks is requesting $137,700 (75 percent non-federal costs) with the balance of $45,900 being covered by the Red River Joint Board at $29,835 (65 percent of the local match) and Grand Forks contributing $16,065 (35 percent of the local match).

Though the request is for cost share participation at 75% of the non-federal costs, staff is recommending 50% participation per the Flood Protection Program portion of the SWC cost share policy. This equates to a federal/state participation of 85% ($520,200) and a 15% local requirement ($91,800).

I recommend the State Water Commission approve cost-share of $91,800, with pre-construction funded at 50 percent of the eligible non-federal costs, for the Grand Forks County Water Resource District Upper Turtle River Dam 9 (Larimore Dam) Rehabilitation project. This approval is subject to the entire contents of the recommendation contained herein, obtaining all applicable permits, and the availability of funds provided to the State Water Commission in the 2017-2019 biennium.

GE:bn/0688

GRAND FORKS COUNTY
HEART OF THE RED RIVER VALLEY
Water Resource District

Date: April 3, 2019

Garland Erbele, PE
State Engineer,
North Dakota State Water Commission,
900 E. Boulevard Ave,
Bismarck, ND 58505

Subject: Upper Turtle River Dam 9 (Larimore Dam) Rehabilitation Project, Grand Forks County, ND

Dear Mr. Erbele,

The Grand Forks County Water Resource Board is embarking on an alternatives analysis and planning effort for the rehabilitation of Larimore Dam. A risk based dam assessment process conducted through the USDA-NRCS in 2015 identified several features of the dam that do not meet current dam safety criteria of the USDA-NRCS and the State of North Dakota.

Larimore Dam is one of eight (8) dams planned, designed, and constructed within the Upper Turtle River Watershed in Grand Forks County. The Watershed Work Plan was finalized in 1969 with Larimore Dam identified as a medium (significant) hazard, multi-purpose structure, with the primary purposes being flood control and recreation. The dam has served in those capacities very well since its completion in 1979, and it is recognized as a regional resource for recreation and has prevented significant flood control benefits to the local economy.

It is now classified as a high hazard dam and thus the original design does not meet current dam safety criteria for a high hazard dam. In order to assure Larimore Dam continues to provide valuable benefits to the region for the foreseeable future, assistance from the NRCS is essential to bring it up to today's standards.

The next step in bringing Larimore Dam up to current dam safety standards is conducted through the USDA-NRCS's Watershed Rehabilitation Program. It entails a watershed rehabilitation plan to provide alternatives analysis and identify the National Economic Development (NED) plan. It also includes documenting environmental effects of rehabilitation work on the dam and provides the platform for final design and construction permitting. It is anticipated federal funding through the USDA-NRCS will be allocated in June of 2019.

GRAND FORKS COUNTY
HEART OF THE RED RIVER VALLEY
Water Resource District

With this letter and submission of supporting data, the Grand Forks County WRD respectfully requests cost-share from the North Dakota State Water Commission at 75% of the eligible non-federal costs in the amount of $137,700 under the Commission's current cost-share policy.

Enclosed are the cost-share request form, project map, and itemized fee estimate. If you have any questions, please free to contact me at 701-740-5609.

Thank you,

Rich Axvig, Chairman
GFC Water Resource District

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

RECEIVED
APR 22 2019
STATE WATER COMMISSION

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Upper Turtle River Dam 9 (Larimore Dam) Rehabilitation Plan

Sponsor(s)
Grand Forks County WRD

County	City	Township/Range/Section
Grand Forks	Larimore	Sect 32, T152N, R54W

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Develop plan to bring dam up to current NRCS and state dam safety criteria

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☑ Feasibility ☐ Other

If Project/Program

☑ Flood Control	☑ Multi-Purpose	☐ Bank Stabilization	☑ Dam Safety/EAP
☑ Recreation	☐ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
Grand Forks County WRD. Areas adjacent to Larimore Dam and downstream areas protected by the dam.

Description Of Problem Or Need And How Project Addresses That Problem Or Need

A risk based dam assessment process conducted through the USDA-NRCS in 2015 identified several features of the dam that do not meet current dam safety criteria of the USDA-NRCS and the State of North Dakota. The next step in bringing Larimore Dam up to current dam safety standards is conducted through the USDA-NRCS's Watershed Rehabilitation Program. It entails a watershed rehabilitation plan to provide alternatives analysis and identify the National Economic Development (NED) plan. It also includes documenting environmental effects of rehabilitation work on the dam and provides the platform for final design and construction permitting.

Has Feasibility Study Been Completed?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone

Dam assessment on Larimore Dam conducted in 2014-15 identified deficiencies in hydrologic and hydraulic capacities to meet current NRCS and state dam safety criteria.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? No

Funding Timeline (carefully consider when SWC cost-share will be needed) Start in mid 2019 and finish by mid 2021

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$ 428,400.00	$	$ 428,400.00	$
State Water Commission	$ 137,700.00	$	$ 137,700.00	$
Other State	$ 0.00	$	$ 0.00	$
Local	$ 45,900.00	$	$ 45,900.00	$
Total	$ 612,000.00	$ 0.00	$ 612,000.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied

None

Please Explain Implementation Timelines, Considering All Phases And Their Current Status

Implementation will begin in mid 2019 and be complete by mid 2021. Agreement with NRCS is pending and federal funding is expected in June, 2019.

Have Assessment Districts Been Formed? ☐ Yes ☐ No ☐ Ongoing ☑ Not Applicable

Submitted By Rich Axvig, Chairman, Grand Forks County WRD			Date April 3, 2019
Address 151 South 4th Street, Suite 348	City Grand Forks	State North Dakota	ZIP Code 58201
Telephone Number 701-740-5609		Engineer Telephone Number 701-772-7058	
Sponsor Email Address richardaxvig@gmail.com; kari.lavecchia@gfcounty.org		Engineer Email Address jpribula@wiktel.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature	Date

MAIL TO:

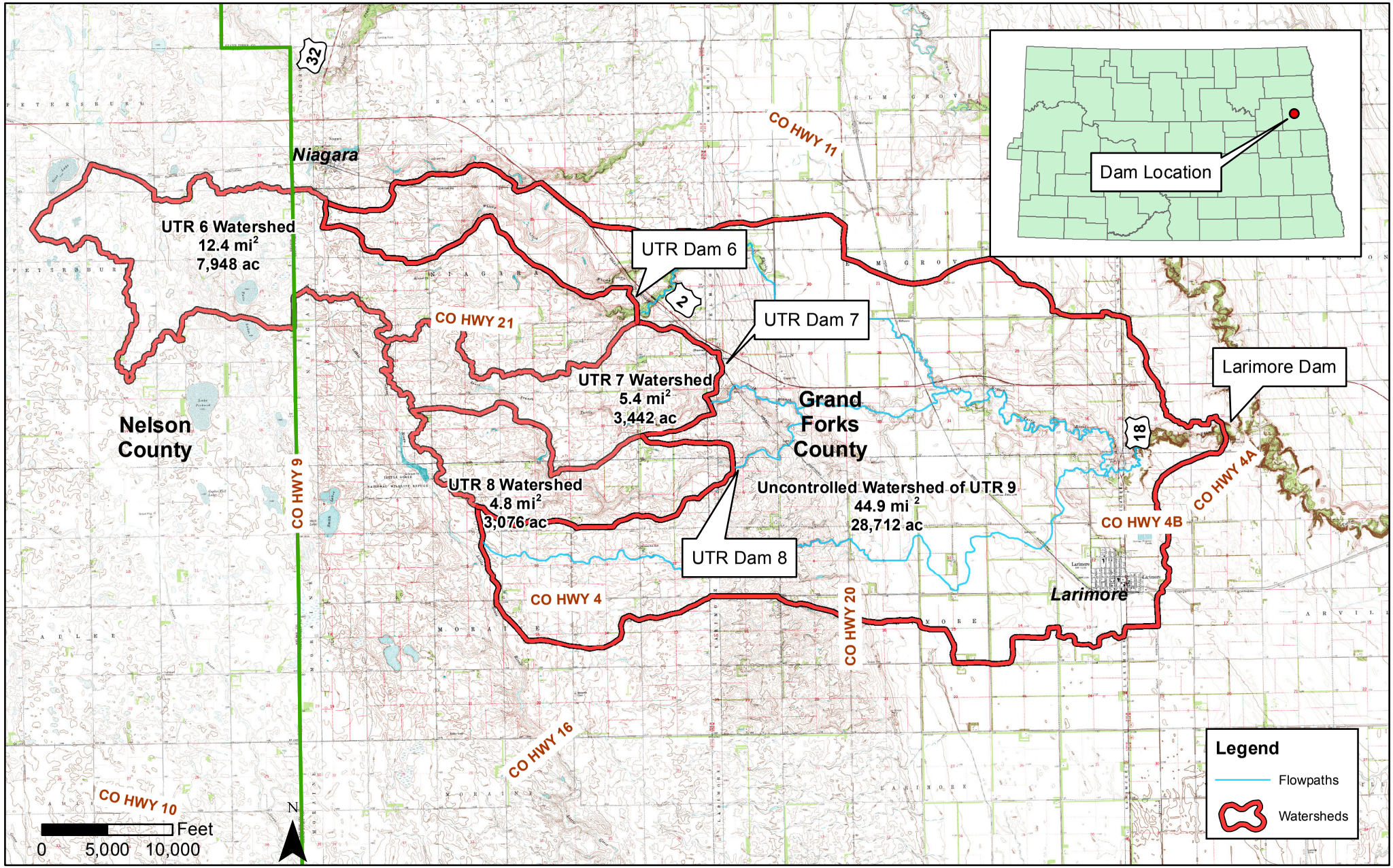
ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

Grand Forks Water Resource District
WATERSHED REHABILITATION - - Upper Turtle River Dam 9 (Larimore Dam)
FEE ESTIMATE - SUPPLEMENTAL WATERSHED PLAN-ENVIRONMENTAL ASSESSMENT - MAR 2019

Task Series	Total Labor Hours	Total Labor Cost	Total Expenses	Total - Other Consultants	Estimated Fee	Schedule FY2019 Q1	Q2	Q3	Q4	FY2020 Q1	Q2	Q3	Q4	FY2021 Q1	Q2	Q3	Q4
TASK SERIES 100 – PROJECT MANAGEMENT (NO AGENCY COORDINATION)	400	$ 54,400	$ 1,600	$ 20,000	$ 76,000				X								
TASK SERIES 200 – DATA COLLECTION	330	$ 74,000	$ 3,800	$ 25,000	$ 102,800				X	X	X						
TASK SERIES 300 – PURPOSE AND NEED FOR ACTION	730	$ 102,300	$ 1,400	$ 70,000	$ 173,700					X							
TASK SERIES 400 – AFFECTED ENVIRONMENT	100	$ 12,400	$ 100	$ -	$ 12,500						X	X					
TASK SERIES 500 – ALTERNATIVES	430	$ 65,200	$ 100	$ -	$ 65,300						X	X					
TASK SERIES 600 – ENVIRONMENTAL CONSEQUENCES	170	$ 22,700	$ 100	$ -	$ 22,800						X	X	X				
TASK SERIES 700 – CONSULTATION AND PUBLIC PARTICIPATION	410	$ 53,400	$ 2,700	$ 9,000	$ 65,100						X	X	X				
TASK SERIES 800 – PROVISIONS OF THE PREFERRED ALTERNATIVE	130	$ 17,300	$ 100	$ -	$ 17,400							X	X	X			
TASK SERIES 900 – PLAN AND EA PREPARATION	620	$ 75,600	$ 800	$ -	$ 76,400								X	X	X		
Totals	3,320	$ 477,300	$ 10,700	$ 124,000	$ 612,000												

Rounded: $ 612,000

Estimated Breakdown	
Federal (70%)	$428,400
State (75% of remaining 30% (22.5%))	$137,700
RR Joint Board (65% of remaining 7.5%)	$29,835
Grand Forks WRD (35% of remaining 7.5%)	$16,065



HDR KLEINFELDER Bright People. Right Solutions.

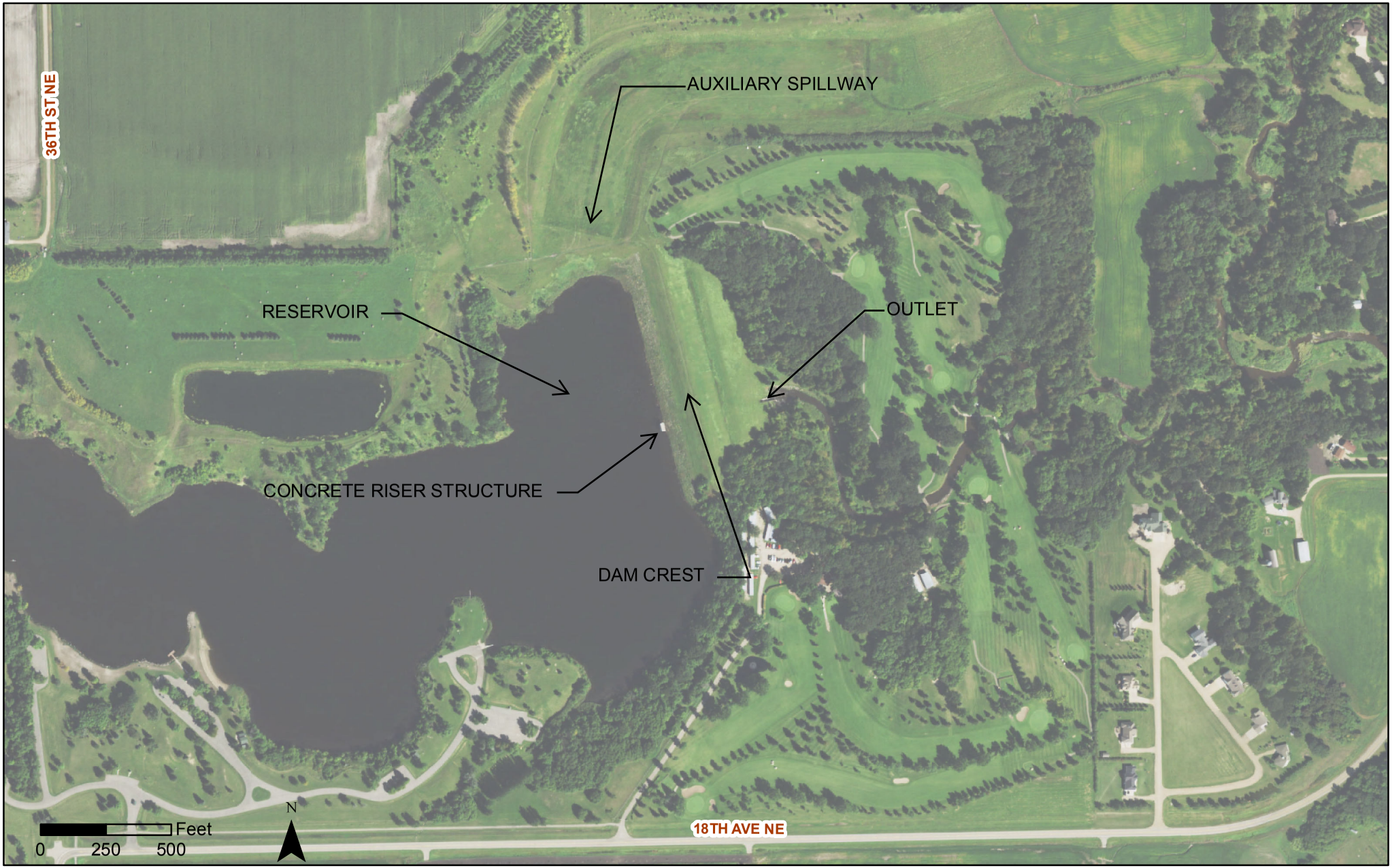
USDA United States Department of Agriculture
Natural Resources Conservation Service

Notes:
1) USGS Quadrangle Map

NRCS
Upper Turtle River
Dam No. 9
(Larimore)
Dam Location

DATE
May 2015

FIGURE
Figure 1



HDR KLEINFELDER Bright People. Right Solutions.

USDA United States Department of Agriculture
Natural Resources Conservation Service

Notes:
1) 2014 Aerial photo from NRCS Geospatial Data Gateway

NRCS Upper Turtle River Dam No. 9 (Larimore) Aerial Photo

DATE
May 2015

FIGURE
Figure 2

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
(701) 328-2750 • TTY 1-800-366-6888 • FAX (701) 328-3696 • http://swc.nd.gov

MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer/Secretary
SUBJECT: State Cost-Share – General - Walsh County Water Resource District
Middle-South Forest River Dam No. 4 (Fordville Dam) Rehabilitation
DATE: May 30, 2019

In their correspondence dated April 23, 2019, the Walsh County Water Resource District (District) requested cost share assistance for the pre-construction costs on the Middle-South Forest River Dam No. 4 (Fordville Dam) Watershed Rehabilitation Plan to provide the platform for final design and construction permitting. Fordville Dam is in the Middle-South Branch Forest River watershed in Grand Forks County. The earthen embankment is approximately 1,875 feet long, 54 feet high, has an 18-foot wide crest and an area of 526 acres at maximum pool elevation. The dam is located 2 miles east and 2 miles south of the city of Fordville.

The Dam was constructed in 1978 and identified as a medium hazard dam with the primary purposes of flood control and recreation. Recent review of the structure indicated deficiencies related to hydrologic capacity, structural issues with the principal spillway, and potential geotechnical concerns with the earthen embankment. The 2015 dam assessment now classifies the dam as high hazard and the original design does not meet current dam safety criteria for a high hazard dam. Design criteria for this assessment is based on Technical Release Number 60 (TR-60), issued by the Conservation Engineering Division of the NRCS. Rehabilitation alternatives cost from $2.6 million to remove the embankment and install a steel sheet pile weir to trap sediment to $11.2 million to replace auxiliary spillway and raise top of dam.

The District wants to begin the USDA-NRCS's Watershed Rehabilitation Plan. It entails a watershed rehabilitation plan to provide an alternatives analysis and identify the National Economic Development (NED) plan. It also includes documenting environmental effects of rehabilitation work on the dam and provides the platform for final design and construction permitting. The Watershed Plan is scheduled to start in the fourth quarter of FY2019 and be completed in third quarter of FY2022.

The total cost of the project is $817,300, of which NRCS is providing federal funding of $572,110. Walsh is requesting $183,893 (75 percent non-federal costs) with the balance of $61,297 being covered by the Red River Joint Board with $39,844 (65 percent of the local match) and Walsh contributing $21,454 (35 percent of the local match).

Though the request is for cost share participation at 75% of the non-federal costs, staff is recommending 50% participation per the Flood Protection Program portion of the SWC cost share policy. This equates to a federal/state participation of 85% ($694,705) and a 15% local requirement ($122,595).

I recommend the State Water Commission approve cost-share of $122,595, with pre-construction funded at 50 percent of the eligible non-federal costs, for the Walsh County Water Resource District Middle-South Forest River Dam No. 4 (Fordville Dam) Rehabilitation Project. This approval is subject to the entire contents of the recommendation contained herein, obtaining all applicable permits and the availability of funds provided to the State Water Commission in the 2017-2019 biennium.

GE:bn/0269

WALSH COUNTY
WATER RESOURCE DISTRICT

600 Cooper Avenue
Grafton, ND 58237

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

April 23, 2019

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

Subject: Middle-South Forest River Dam No. 4 (Fordville Dam) Rehabilitation Proposal for ND State Water Commission Cost Share

Dear Commission Members;

The Walsh County Water Resource District (WCWRD) is requesting cost share from the ND State Water Commission for the rehabilitation of Middle-South Branch Forest River Dam No. 4, also known as Fordville Dam. Fordville Dam is in Grand Forks County, and designated as a high hazard dam. Recent review of the structure indicated Dam Safety deficiencies related to hydrologic capacity, structural issues with the principal spillway, and potential geotechnical concerns with the earthen embankment. These issues were preliminarily reviewed and documented in a Dam Assessment Report completed by NRCS in 2015. The Dam Assessment Report is attached to this cost share application.

NRCS is providing 70% federal participation ($572,110) from the national Watershed Rehabilitation Program to begin detailed planning and design of rehabilitation of Fordville Dam. The funds requested in this application to the ND State Water Commission are to complete an NRCS agency required Watershed Rehabilitation Plan. This Planning Effort includes an in-depth review of issues with the current dam, and development of alternatives to ensure Fordville Dam meets current Dam Safety requirements.

Total costs in this application are $817,300, of which NRCS is providing $572,110 (70%). The remaining non-federal portion of the project is $245,190. We are requesting 75% through the ND State Water Commission, or **$183,893**. The remaining would be paid locally. An itemized cost estimate is attached to this application.

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

Sincerely,

Daryl Campbell, Chairman
Walsh County Water Resource District

COST-SHARE REQUEST FORM

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (8/2018)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Middle-South Branch Forest River Dam No. 4 (Fordville Dam) Rehabilitation

Sponsor(s)
Walsh County Water Resource District

County	City	Township/Range/Section
Walsh	Rural	Section 7 (T154N, R55W)

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Rehabilitation measures needed to address Dam Safety concerns with Fordville Dam

If Study, What Type ☐ Water Supply ☑ Hydrologic ☐ Floodplain Mgmt. ☑ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☑ Dam Safety/EAP
☐ Recreation	☐ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
Walsh County Water Resource District, Grand Forks County Water Resource District, Local/State/Federal Agencies, and Public

Description Of Problem Or Need And How Project Addresses That Problem Or Need

Fordville Dam is a high hazard structure that currently does not meet current Dam Safety Standards. A Dam Assessment Report was completed by the NRCS in November 2015 that provided a preliminary review of the structure to establish potential issues with the dam. This Assessment Report recommended the dam be rehabilitated to NRCS and ND State Water Commission Dam Design standards (attached to this application).

Funds requested in this application will complete a Watershed Rehabilitation Plan, as required through Public Law 83-566. This planning effort will investigate geologic, structural, and hydrologic concerns with the Dam, and develop alternatives to address the concerns. Environmental and societal concerns will be evaluated to develop a cost effective, permit-able alternative to be carried forward.

The existing dam provides peak flow reduction to a flood prone area downstream, including public infrastructure, cropland, rural residents, and the communities of Forest River, ND and Minto, ND

Has Feasibility Study Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☑ Yes	☐ No	☐ Not Applicable
If Yes, Please Explain: Middle-South Forest River Dam No. 4 was originally constructed under permit 03716. Additional permitting would be required.			
Have You Been Approved For Any State Permits?	☑ Yes	☐ No	☐ Not Applicable
If Yes, Please Explain: Middle-South Forest River Dam No. 4 was originally constructed under permit 03716. Additional permitting would be required.			
Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone
The proposed study will conduct reviews associated with environmental, cultural, societal, and general public.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? N/A - The Watershed Rehabilitation Plan will identify issues, and develop alternatives to reduce concerns.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$ 572,110.00	$	$ 572,110.00	$
State Water Commission	$ 183,893.00	$	$ 183,893.00	$
Other State	$	$	$	$
Local	$ 61,297.00	$	$ 61,297.00	$
Total	$ 817,300.00	$ 0.00	$ 817,300.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
None.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
Complete Watershed Rehabilitation Plan (end of Biennium)

Have Assessment Districts Been Formed? ☐ Yes ☑ No ☐ Ongoing ☐ Not Applicable

Submitted By: Walsh County Water Resource District			Date: April 23, 2019
Address: 600 Cooper Avenue	City: Grafton	State: ND	ZIP Code: 58237
Telephone Number: (701) 352-0081		Engineer Telephone Number: (701) 499-2054	
Sponsor Email: wcwrb@nd.gov		Engineer Email: zherrmann@houstoneng.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature: [signature] Date: 4/23/19

MAIL TO:

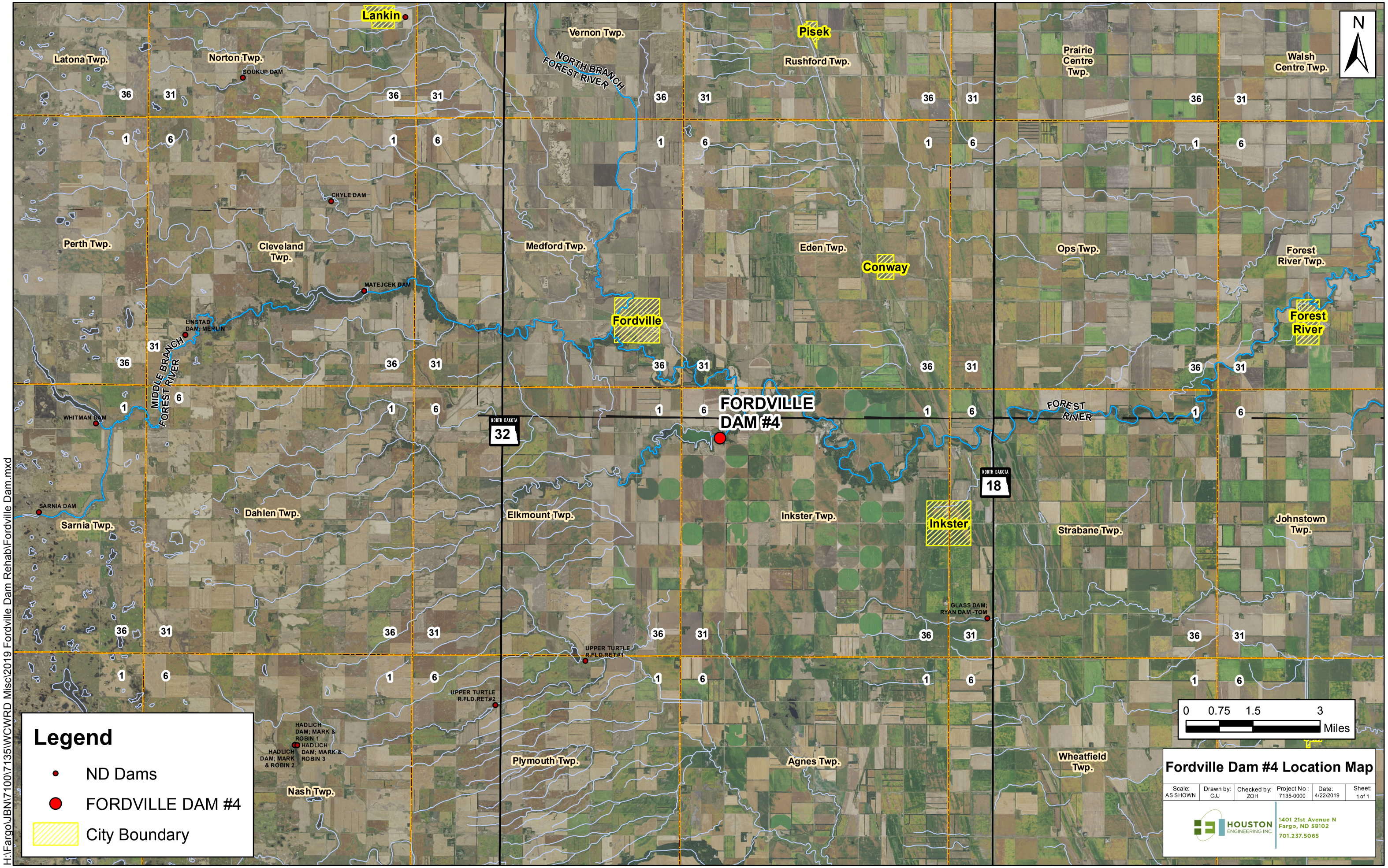
ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

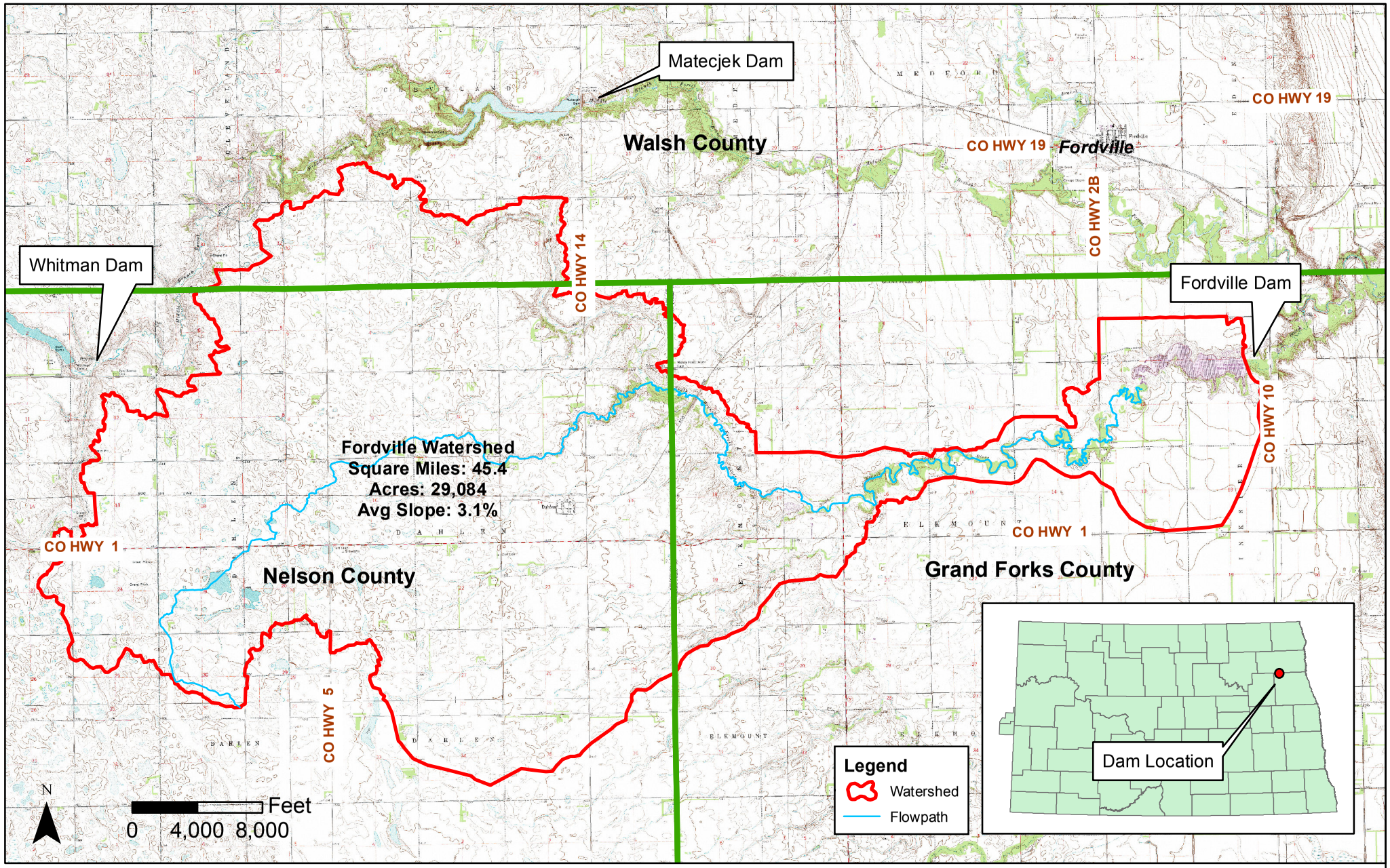
MIDDLE-SOUTH BRANCH FOREST RIVER DAM NO. 4 (FORDVILLE DAM)
WATERSHED REHABILITATION PLAN
WALSH COUNTY WATER RESOURCE DISTRICT
BUDGET SCHEDULE

Houston Engineering Inc.

Major Task Item	Task Description	Estimated Start Date	Estimated Completion Date	Total Costs (Rounded)	FY 2019				FY 2020				FY 2021				FY 2022			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Purpose and Need for Action; Public Participation	Jul 2019	May 2020	$ 31,700.00				X	X	X	X									
	Feasibility Report and Plan of Work																			
	Develop Public Participation Plan																			
	Assemble Project Team																			
	Obtain Public, Landowner, and Agency Input																			
	Adopt Initial Purpose and Need																			
	NRCS Review Point 1																			
2	Data Collection; Resource Inventory	May 2020	Jan 2021	$ 338,700.00							X	X	X	X						
	Engineering Field Surveys																			
	Geologic Investigation																			
	Watershed Hydrology Studies																			
	Hydraulics and Stability Analysis																			
	Environmental Evaluations																			
	Archeological and Historic Resources																			
	Economic and Social Effects																			
	Relay Techincal Info. & Revise P/N as necessary																			
	NRCS Review Point 2																			
3	Preliminary Development of Alternatives; Establish Alternatives for Detailed Review	Jan 2021	May 2021	$ 158,100.00										X	X					
	Identify & Evaluate Structural Rehab Alternatives																			
	Obtain input from Project Team																			
	Identify & Evaluate Decommission Alternative (assumed No-Action)																			
	Identify & Evaluate Non-Structural Alternative																			
	NRCS Review Point 3																			
4	Detailed Alternative Review; Environmental Consequences; Preferred Alternative	Jun 2021	Jan 2022	$ 244,300.00											X	X	X	X		
	Finalize Design and Complete Supporting Documentation																			
	Develop Land Rights Maps for Alternatives																			
	Evaluate Environmental Effects																			
	Draft "Environmental Consequences" Section of the Plan-EA																			
	Economic Analysis For Each Alternative																			
	Field Assessments																			
	Develop Mitigation Strategy																			
	Dam Breach Review																			
	Identify the NED Alternative																			
	Identify the Locally Preferred Alternative																			
	Draft "Preferred Alternative" Section including Economic/Structural Tables																			
	NRCS Review Point 4																			
5	Prepare Draft Watershed Plan-EA	Feb 2022	Mar 2022	$ 32,200.00														X		
6	Finalize Watershed Plan-EA	Apr 2022	May 2022	$ 12,300.00															X	

Total	**$ 817,300.00**
FEDERAL (NRCS)	*$ 572,110.00*
ND STATE WATER COMMISSION	*$ 183,892.50*
RED RIVER JOINT WATER RESOURCE DISTRICT	*$ 39,843.38*
LOCAL	*$ 21,454.13*


Lankin
Latona Twp.
Norton Twp.
SOUKUP DAM
Vernon Twp.
NORTH BRANCH FOREST RIVER
Pisek
Rushford Twp.
Prairie Centre Twp.
Walsh Centre Twp.
CHYLE DAM
Perth Twp.
Cleveland Twp.
Medford Twp.
Eden Twp.
Conway
Ops Twp.
Forest River Twp.
MATEJCEK DAM
LINSTAD DAM; MERLIN
Fordville
Forest River
MIDDLE BRANCH FOREST RIVER
WHITMAN DAM
FORDVILLE DAM #4
NORTH DAKOTA 32
FOREST RIVER
NORTH DAKOTA 18
SARNIA DAM
Sarnia Twp.
Dahlen Twp.
Elkmount Twp.
Inkster Twp.
Inkster
Strabane Twp.
Johnstown Twp.
GLASS DAM; RYAN DAM -TOM
UPPER TURTLE R.FLD.RET.#1
UPPER TURTLE R.FLD.RET.#2
HADLICH DAM; MARK & ROBIN 1
HADLICH DAM; MARK & ROBIN 3
HADLICH DAM; MARK & ROBIN 2
Plymouth Twp.
Agnes Twp.
Wheatfield Twp.
Nash Twp.
N
0 0.75 1.5 3
Miles
Legend
ND Dams
FORDVILLE DAM #4
City Boundary
Fordville Dam #4 Location Map
Scale: AS SHOWN
Drawn by: CJJ
Checked by: ZOH
Project No : 7135-0000
Date: 4/22/2019
Sheet: 1 of 1
HOUSTON ENGINEERING INC.
1401 21st Avenue N
Fargo, ND 58102
701.237.5065
H:\Fargo\JBN\7100\7135\WCWRD Misc\2019 Fordville Dam Rehab\Fordville Dam.mxd



HDR KLEINFELDER

USDA United States Department of Agriculture
Natural Resources Conservation Service

Notes:
1) USGS Quadrangle Map

NRCS
Middle South Branch Forest River Dam No. 4 (Fordville) Dam Location

DATE
May 2015

FIGURE
Figure 1

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
(701) 328-2750 • TTY 1-800-366-6888 • FAX (701) 328-3696 • http://swc.nd.gov

MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer/Secretary
SUBJECT: State Cost-Share - General – Walsh County Water Resource District
North Branch Forest River Dam No. 1 (Bylin Dam) Rehabilitation
DATE: May 30, 2019

In their correspondence dated April 23, 2019, the Walsh County Water Resource District (District) requested cost share assistance for the pre-construction costs on the North Branch Forest River Dam No. 1 (Bylin Dam) Watershed Rehabilitation Plan to provide the platform for final design and construction permitting. This information is to assist the NRCS and local sponsor(s) in determining future actions concerning potential rehabilitation of the dam that would extend the service life of the dam and meet current dam safety criteria.

Bylin Dam is in the North Branch Forest River watershed in Walsh County 7 miles southeast of the city of Adams. The earthen embankment is approximately 760 feet long, 62 feet high, has a 26-foot wide crest and an area of 236 acres at auxiliary spillway pool elevation.

The Dam was constructed in 1964 and is identified as a high hazard with the primary purposes of flood control and recreation. Recent review of the structure indicated Dam Safety deficiencies related to hydrologic capacity, structural issues with the principal spillway, and potential geotechnical concerns with the earthen embankment. These issues were preliminarily reviewed and documented in a 2010 NRCS Dam Assessment Report. Design criteria for this assessment is based on Technical Release Number 60 (TR-60), issued by the Conservation Engineering Division of the NRCS. Proposed rehabilitation alternatives cost from $1.1 million for excavating a notch in the existing dam embankment to $13.2 million to raise and widen the auxiliary spillway and raise top of dam. If the project is eligible for rehabilitation assistance, the NRCS may provide funding for 65 percent of the total rehabilitation project costs

The District wants to begin the USDA-NRCS's Watershed Rehabilitation Plan. It entails a watershed rehabilitation plan to provide an alternatives analysis and identify the National Economic Development (NED) plan. It also includes documenting environmental effects of rehabilitation work on the dam and provides the platform for final design and construction permitting. The Watershed Plan is scheduled to start in the fourth quarter of FY2019 and be completed in third quarter of FY2022.

The total cost of the project is $875,800, of which NRCS is providing $613,060 from the National Watershed Rehabilitation Program. Walsh is requesting $197,055 (75 percent non-federal costs) with the balance of $65,685 being covered by the Red River Joint Board with $42,695 (65 percent of the local match) and Walsh contributing $22,990 (35 percent of the local match).

Though the request is for cost share participation at 75% of the non-federal costs, staff is recommending 50% participation per the Flood Protection Program portion of the SWC cost share policy. This equates to a federal/state participation of 85% ($744,430) and a 15% local requirement ($131,370).

I recommend the State Water Commission approve cost-share of $131,370, with pre-construction funded at 50 percent of the eligible non-federal costs, for the Walsh County Water Resource District North Branch Forest River Dam No. 1 (Bylin Dam) Rehabilitation Project. This approval is subject to the entire contents of the recommendation contained herein, obtaining all applicable permits and the availability of funds provided to the State Water Commission in the 2017-2019 biennium.

GE:bn/2103

WALSH COUNTY
WATER RESOURCE DISTRICT

600 Cooper Avenue
Grafton, ND 58237

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

April 23, 2019

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

Subject: North Branch Forest River Dam No. 1 (Bylin Dam) Rehabilitation
Proposal for ND State Water Commission Cost Share

Dear Commission Members;

The Walsh County Water Resource District (WCWRD) is requesting cost share from the ND State Water Commission for the rehabilitation of North Branch Forest River Dam No. 1, also known as Bylin Dam. Bylin Dam is in Walsh County, and designated as a high hazard dam. Recent review of the structure indicated Dam Safety deficiencies related to hydrologic capacity, structural issues with the principal spillway, and potential geotechnical concerns with the earthen embankment. These issues were preliminarily reviewed and documented in a Dam Assessment Report completed by NRCS in 2010. The Dam Assessment Report is attached to this cost share application.

NRCS is providing 70% federal participation ($613,060) from the national Watershed Rehabilitation Program to begin detailed planning and design of rehabilitation of Bylin Dam. The funds requested in this application to the ND State Water Commission are to complete an NRCS agency required Watershed Rehabilitation Plan. This Planning Effort includes an in-depth review of issues with the current dam, and development of alternatives to ensure Bylin Dam meets current Dam Safety requirements.

Total costs in this application are $875,800, of which NRCS is providing $613,060 (70%). The remaining non-federal portion of the project is $262,740. We are requesting 75% through the ND State Water Commission, or **$197,055**. The remaining would be paid locally. An itemized cost estimate is attached to this application.

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

Sincerely,

Daryl Campbell, Chairman
Walsh County Water Resource District

COST-SHARE REQUEST FORM

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (8/2018)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
North Branch Forest River Dam No. 1 (Bylin Dam) Rehabilitation

Sponsor(s)
Walsh County Water Resource District

County	City	Township/Range/Section
Walsh	Rural	Section 5 and 6 (T156N, R57W)

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Rehabilitation measures needed to address Dam Safety concerns with Bylin Dam

If Study, What Type ☐ Water Supply ☑ Hydrologic ☐ Floodplain Mgmt. ☑ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☑ Dam Safety/EAP
☐ Recreation	☐ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
Walsh County Water Resource District, Local/State/Federal Agencies, and Public

Description Of Problem Or Need And How Project Addresses That Problem Or Need

Bylin Dam is a high hazard structure that currently does not meet current Dam Safety Standards. A Dam Assessment Report was completed by the NRCS in November 2010 that provided a preliminary review of the structure to establish potential issues with the dam. This Assessment Report recommended the dam be rehabilitated to NRCS and ND State Water Commission Dam Design standards (attached to this application).

Funds requested in this application will complete a Watershed Rehabilitation Plan, as required through Public Law 83-566. This planning effort will investigate geologic, structural, and hydrologic concerns with the Dam, and develop alternatives to address the concerns. Environmental and societal concerns will be evaluated to develop a cost effective, permit-able alternative to be carried forward.

The existing dam provides peak flow reduction to a flood prone area downstream, including public infrastructure, cropland, rural residents, and the communities of Forest River, ND and Minto, ND

Has Feasibility Study Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits? ☑ Yes ☐ No ☐ Not Applicable

If Yes, Please Explain
North Branch Forest River Dam No. 1 was originally constructed under permit 01045. Additional permitting would be required.

Have You Been Approved For Any State Permits? ☑ Yes ☐ No ☐ Not Applicable

If Yes, Please Explain
North Branch Forest River Dam No. 1 was originally constructed under permit 01045. Additional permitting would be required.

Have You Applied For Any Local Permits? ☐ Yes ☑ No ☐ Not Applicable

If Yes, Please Explain

Have You Been Approved For Any Local Permits? ☐ Yes ☑ No ☐ Not Applicable

If Yes, Please Explain

Briefly Explain The Level Of Review The Project Or Program Has Undergone
The proposed study will conduct reviews associated with environmental, cultural, societal, and general public.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? N/A - The Watershed Rehabilitation Plan will identify issues, and develop alternatives to reduce concerns.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$ 613,060.00	$	$ 613,060.00	$
State Water Commission	$ 197,055.00	$	$ 197,055.00	$
Other State	$	$	$	$
Local	$ 65,685.00	$	$ 65,685.00	$
Total	$ 875,800.00	$ 0.00	$ 875,800.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
None.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
Complete Watershed Rehabilitation Plan (end of Biennium)

Have Assessment Districts Been Formed? ☐ Yes ☑ No ☐ Ongoing ☐ Not Applicable

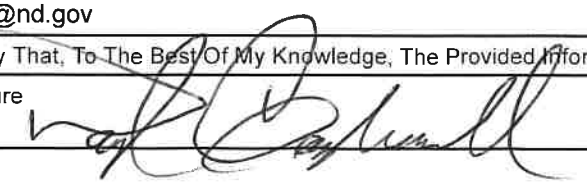
Submitted By	Date
Walsh County Water Resource District	April 23, 2019

Address	City	State	ZIP Code
600 Cooper Avenue	Grafton	ND	58237

Telephone Number	Engineer Telephone Number
(701) 352-0081	(701) 499-2054

Sponsor Email	Engineer Email
wcwrb@nd.gov	zherrmann@houstoneng.com

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature  Date Apr 123/19

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

NORTH BRANCH FOREST RIVER DAM NO. 1 (BYLIN DAM)
WATERSHED REHABILITATION PLAN
WALSH COUNTY WATER RESOURCE DISTRICT
BUDGET SCHEDULE

Houston Engineering Inc.

Major Task Item	Task Description	Estimated Start Date	Estimated Completion Date	Total Costs	FY 2019				FY 2020				FY 2021				FY 2022			
					Q1	*Q2*	*Q3*	*Q4*	*Q1*	*Q2*	*Q3*	*Q4*	*Q1*	*Q2*	*Q3*	*Q4*	*Q1*	*Q2*	*Q3*	*Q4*
1	Purpose and Need for Action; Public Participation	Jul 2019	May 2020	$ 31,700.00				X	X	X	X									
	Feasibility Report and Plan of Work																			
	Develop Public Participation Plan																			
	Assemble Project Team																			
	Obtain Public, Landowner, and Agency Input																			
	Adopt Initial Purpose and Need																			
	NRCS Review Point 1																			
2	Data Collection; Resource Inventory	May 2020	Jan 2021	$ 397,200.00							X	X	X	X						
	Engineering Field Surveys																			
	Geologic Investigation																			
	Watershed Hydrology Studies																			
	Hydraulics and Stability Analysis																			
	Environmental Evaluations																			
	Archeological and Historic Resources																			
	Economic and Social Effects																			
	Relay Techincal Info. & Revise P/N as necessary																			
	NRCS Review Point 2																			
3	Preliminary Development of Alternatives; Establish Alternatives for Detailed Review	Jan 2021	May 2021	$ 158,100.00										X	X					
	Identify & Evaluate Structural Rehab Alternatives																			
	Obtain input from Project Team																			
	Identify & Evaluate Decommission Alternative (assumed No-Action)																			
	Identify & Evaluate Non-Structural Alternative																			
	NRCS Review Point 3																			
4	Detailed Alternative Review; Environmental Consequences; Preferred Alternative	Jun 2021	Jan 2022	$ 244,300.00											X	X	X	X		
	Finalize Design and Complete Supporting Documentation																			
	Develop Land Rights Maps for Alternatives																			
	Evaluate Environmental Effects																			
	Draft "Environmental Consequences" Section of the Plan-EA																			
	Economic Analysis For Each Alternative																			
	Field Assessments																			
	Develop Mitigation Strategy																			
	Dam Breach Review																			
	Identify the NED Alternative																			
	Identify the Locally Preferred Alternative																			
	Draft "Preferred Alternative" Section including Economic/Structural Tables																			
	NRCS Review Point 4																			
5	Prepare Draft Watershed Plan-EA	Feb 2022	Mar 2022	$ 32,200.00														X		
6	Finalize Watershed Plan-EA	Apr 2022	May 2022	$ 12,300.00															X	
	Total			**$ 875,800.00**																
	FEDERAL (NRCS)			*$ 613,060.00*																
	ND STATE WATER COMMISSION			*$ 197,055.00*																
	RED RIVER JOINT WATER RESOURCE DISTRICT			*$ 42,695.25*																
	LOCAL			*$ 22,989.75*																

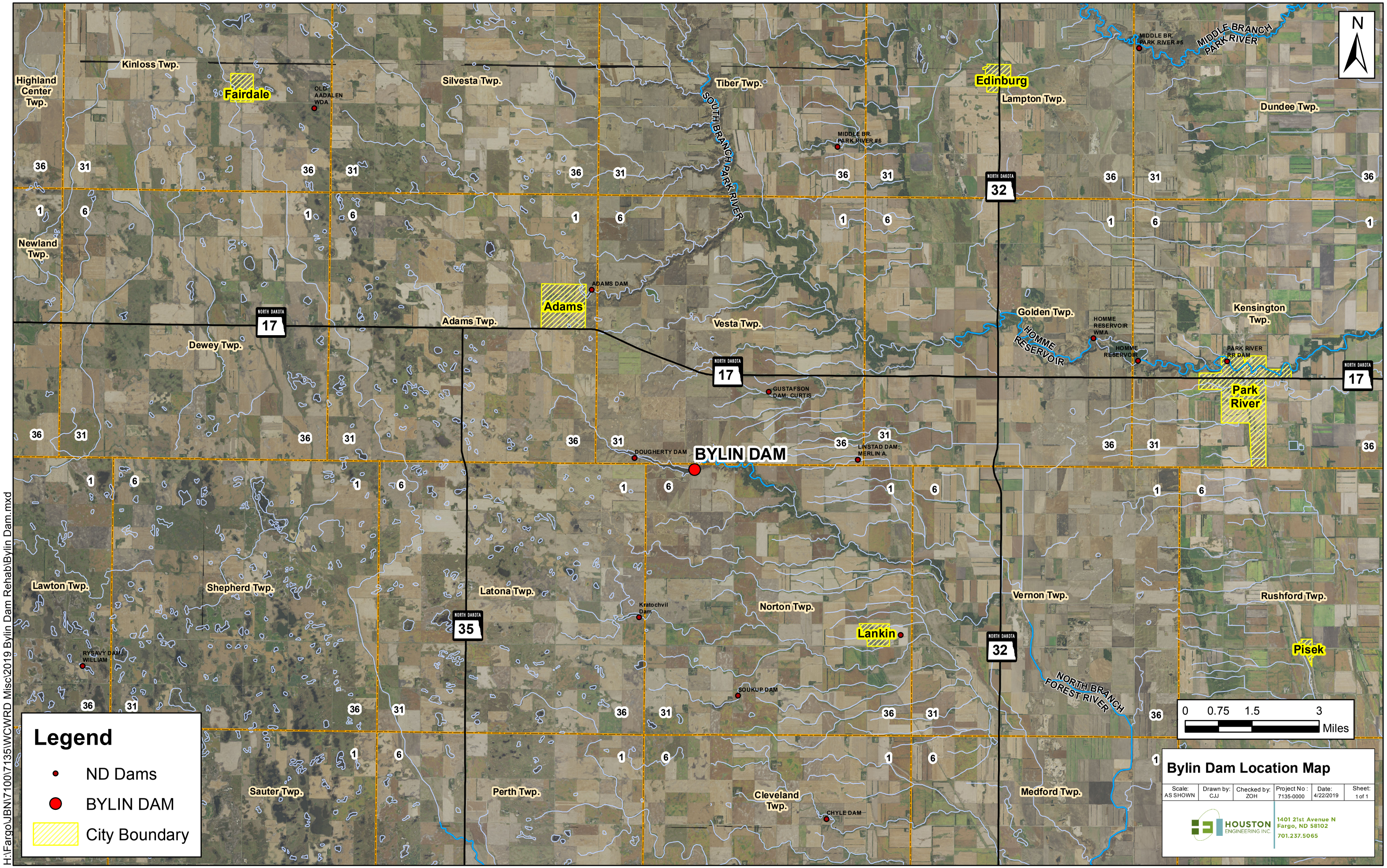

N
Kinloss Twp.
Highland Center Twp.
Fairdale
OLD AADALEN WDA
Silvesta Twp.
Tiber Twp.
SOUTH BRANCH PARK RIVER
MIDDLE BR. PARK RIVER #6
Edinburg
Lampton Twp.
MIDDLE BR. PARK RIVER #5
MIDDLE BRANCH PARK RIVER
Dundee Twp.
NORTH DAKOTA 32
Newland Twp.
ADAMS DAM
Adams
Adams Twp.
Vesta Twp.
Golden Twp.
HOMME RESERVOIR WMA
HOMME RESERVOIR
HOMME RESERVOIR
Kensington Twp.
PARK RIVER RR DAM
Park River
NORTH DAKOTA 17
Dewey Twp.
NORTH DAKOTA 17
GUSTAFSON DAM; CURTIS
DOUGHERTY DAM
BYLIN DAM
LINSTAD DAM; MERLIN A.
Lawton Twp.
Shepherd Twp.
Latona Twp.
Kratochvil Dam
NORTH DAKOTA 35
Norton Twp.
Lankin
Vernon Twp.
NORTH DAKOTA 32
Rushford Twp.
Pisek
RYSAVY DAM; WILLIAM
SOUKUP DAM
NORTH BRANCH FOREST RIVER
Sauter Twp.
Perth Twp.
Cleveland Twp.
CHYLE DAM
Medford Twp.
0 0.75 1.5 3
Miles
Legend
ND Dams
BYLIN DAM
City Boundary
Bylin Dam Location Map
Scale: AS SHOWN
Drawn by: CJJ
Checked by: ZOH
Project No : 7135-0000
Date: 4/22/2019
Sheet: 1 of 1
HOUSTON ENGINEERING INC.
1401 21st Avenue N
Fargo, ND 58102
701.237.5065
H:\Fargo\JBN\7100\7135\WCWRD Misc\2019 Bylin Dam Rehab\Bylin Dam.mxd

Figure 2. Aerial Photo of North Branch Forest River Dam #1

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
(701) 328-2750 • TTY 1-800-366-6888 • FAX (701) 328-3696 • http://swc.nd.gov

MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer/Secretary
SUBJECT: State Cost-Share – Pembina County Water Resource District
Tongue River Dam No. M-3 (Senator Young Dam) Rehabilitation
DATE: May 22, 2019

In their correspondence dated April 23, 2019, the Pembina County Water Resource District (District) requested cost share assistance for pre-construction costs on the Tongue River Dam No. M-3 (Senator Young Dam) Watershed Rehabilitation Plan to provide the platform for final design and construction permitting. This information is to assist the NRCS and local sponsor(s) in determining future actions concerning potential rehabilitation of the dam that would extend the service life of the dam and meet current dam safety criteria. The dam is located in Cavalier County 16 miles east of the city of Langdon. The earthen embankment is approximately 900 feet long, 92 feet high, has a 30-foot wide crest, and an area of 147 acres at auxiliary spillway pool elevation.

Senator Young Dam was constructed in 1961 by NRCS to provide flood damage reduction in the Tongue River Watershed and was one of a series of dams constructed by NRCS within the Tongue Watershed and designated as a high hazard dam. The Dam was constructed with a 50-year design life, which was exceeded in 2011. Recent review of the structure indicated deficiencies related to hydrologic capacity, structural issues with the principal spillway, and potential geotechnical concerns with the earthen embankment. These issues were preliminarily reviewed and documented in a 2010 NRCS Dam Assessment Report. Design criteria for this assessment is based on Technical Release Number 60 (TR-60), issued by the Conservation Engineering Division of the NRCS. Proposed rehabilitation alternatives cost from $2.3 million to excavate a notch in the existing dam embankment to $14.1 million to raise and widen the auxiliary spillway and raise top of dam. If the project is eligible for rehabilitation assistance, the NRCS may provide funding for 65 percent of the total rehabilitation project costs

The next step in bringing dam up to current dam safety standards is conducted through the USDA-NRCS's Watershed Rehabilitation Program to provide an alternatives analysis and identify the National Economic Development (NED) plan. It also includes documenting environmental effects of rehabilitation work on the dam and provides the platform for final design and construction permitting. The Watershed Plan is scheduled to start in the fourth quarter of FY2019 and be completed in third quarter of FY2022.

The total Plan cost is $861,400 with USDA-NRCS to provide federal funding of $602,980. Pembina is requesting $193,815 (75 percent non-federal costs) with the balance of $64,605 being covered by the Red River Joint Board with $41,993 (65 percent of the local match) and Pembina contributing $22,612 (35 percent of the local match).

Though the request is for cost share participation at 75% of the non-federal costs, staff is recommending 50% participation per the Flood Protection Program portion of the SWC cost share policy. This equates to a federal/state participation of 85% ($732,190) and a 15% local requirement ($129,210).

I recommend the State Water Commission approve cost-share of $129,210, with pre-construction funded at 50 percent of eligible non-federal costs, for the Pembina County Water Resource District Tongue River Dam No. M-3 (Senator Young Dam) Rehabilitation Project. This approval is subject to the entire contents of the recommendation contained herein, obtaining all applicable permits and the availability of funds provided to the State Water Commission in the 2017-2019 biennium.

GE:bn/2121

PEMBINA COUNTY
WATER RESOURCE DISTRICT

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

RECEIVED
APR 29 2019
STATE WATER COMMISSION

April 23, 2019

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

Subject: Tongue River Dam No. M-3 (Senator Young Dam) Rehabilitation Proposal for ND State Water Commission Cost Share

Dear Commission Members;

The Pembina County Water Resource District (PCWRD) is requesting cost share from the ND State Water Commission for the rehabilitation of Tongue Rive Dam No. M-3, also known as Senator Young Dam. Senator Young Dam is in Cavalier County and designated as a high hazard dam. Recent review of the structure indicated Dam Safety deficiencies related to hydrologic capacity, structural issues with the principal spillway, and potential geotechnical concerns with the earthen embankment. These issues were preliminarily reviewed and documented in a Dam Assessment Report completed by NRCS in 2010. The Dam Assessment Report is attached to this cost share application.

The PCWRD worked with the NRCS to secure $602,980 (70%) from the national Watershed Rehabilitation Program to begin detailed planning and design of rehabilitation of Senator Young Dam. The funds requested in this application to the ND State Water Commission are to complete an NRCS agency required Watershed Rehabilitation Plan. This Planning Effort includes an in-depth review of issues with the current dam, and development of alternatives to ensure Senator Young Dam meets current Dam Safety requirements.

Total costs in this application are $861,400, of which NRCS is providing $602,980. The remaining non-federal portion of the project is $258,420. We are requesting 75% through the ND State Water Commission, or **$193,815**. This leave a remaining local share (non-state/non-federal) of $64,605. An itemized cost estimate are both attached to this application. You will also note that we have met with Cavalier Water Resource District regarding the project and received confirmation of their support.

If you have any questions or comments, please contact us at llkemp@nd.gov or by phone at (701) 265-4511.

Sincerely,

Pembina County Water Resource District

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

April 25, 2019

The Cavalier County Water Resource Board is in support of the initial planning application for the Senator Young Dam project in contingent of the support from the Cavalier County Commissioners.

Sincerely,

Larry Gellner

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

RECEIVED
APR 29 2019
STATE WATER COMMISSION

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Tongue River Dam No. M-3 (Senator Young Dam) Rehabilitation

Sponsor(s)
Pembina County Water Resource District

County	City	Township/Range/Section
Cavalier County	Rural	Section 21, T161N, R57W

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Dam Safety and Flood Control

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☑ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☑ Dam Safety/EAP
☐ Recreation	☐ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
Pembina Co WRD, permitting authorities, local landowners

Description Of Problem Or Need And How Project Addresses That Problem Or Need

Senator Young Dam was constructed in 1961 by NRCS to provide flood damage reduction in the Tongue River Watershed. The Dam was one of a series of dams constructed by NRCS within the Tongue River Watershed. Senator Young Dam was constructed with a 50-year design life, which was exceeded in 2011. In November 2010, NRCS completed a Dam Assessment Report to preliminarily evaluate dam safety concerns. This review indicated that the Dam does not meet current hydrologic Dam Safety criteria for both the NRCS and NDSWC. Other deficiencies noted was a principal spillway that doesn't conform with current design standards, erosion near structural elements, visual observation of a potential seepage area at the downstream toe of the embankment, and open concrete joints.

At risk downstream of Senator Young Dam includes approximately 22 potentially inhabitable structures, roads, private land, the community of Cavalier, ND, and Renwick Dam (another High Hazard Dam) in the event of a dam failure. The heightened risk of the Dam was evident during a 2013 spring rainfall event, when the Dam nearly overflowed the earthen emergency spillway.

Has Feasibility Study Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable

If Yes, Please Explain
Permits will be applied for in later phases.

Have You Been Approved For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable

If Yes, Please Explain
Permits will be applied for in later phases.

Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable

If Yes, Please Explain
Permits will be applied for in later phases.

Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable

If Yes, Please Explain
Permits will be applied for in later phases.

Briefly Explain The Level Of Review The Project Or Program Has Undergone
The NRCS completed a Dam Assessment Report in 2010 (attached).

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? The Feasibility Study will determine permitting, public, and funding hurdles.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$ 602,980.00	$	$ 602,980.00	$
State Water Commission	$ 193,815.00	$	$ 193,815.00	$
Other State	$	$	$	$
Local	$ 64,605.00	$	$ 64,605.00	$
Total	$ 861,400.00	$ 0.00	$ 861,400.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
Not Applicable

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
Completion of Watershed Rehabilitation Plan (Feasibility Study) - May 2022
Construction - Federal Funding Dependent (est. 2023 begin)

Have Assessment Districts Been Formed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable

Submitted By Pembina County Water Resource District			Date 3/26/2019
Address 308 Court House Dr #5	City Cavalier	State North Dakota	ZIP Code 58220
Telephone Number 701.265.4511	Engineer Telephone Number 701.499.2054		
Sponsor Email Address llkemp@nd.gov	Engineer Email Address zherrmann@houstoneng.com		

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature	Date 4/26/19

MAIL TO:
ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

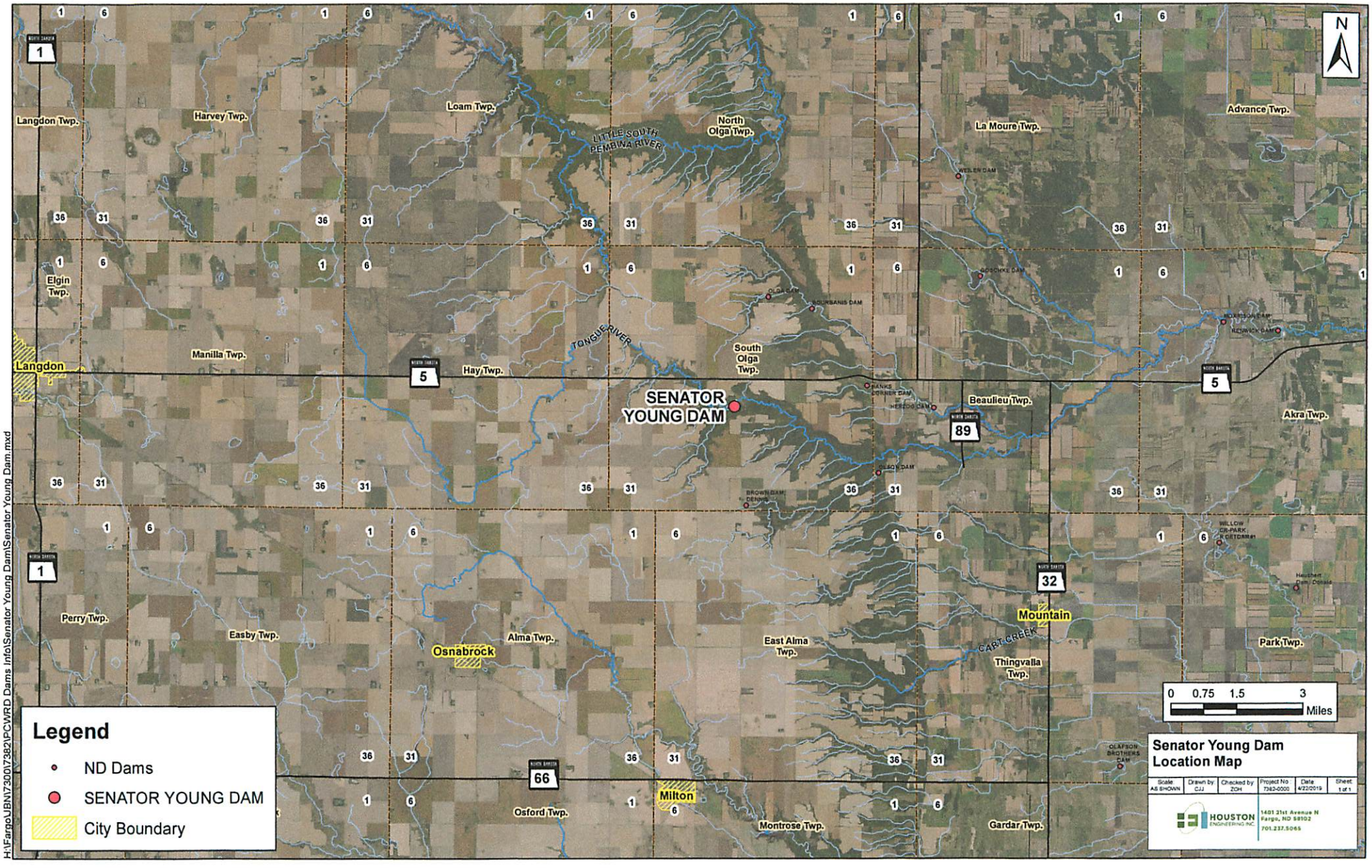
TONGUE RIVER DAM NO. M-3 (SENATOR YOUNG DAM)
WATERSHED REHABILITATION PLAN
PEMBINA COUNTY WATER RESOURCE DISTRICT
BUDGET SCHEDULE

Houston Engineering Inc.

Major Task Item	Task Description	Estimated Start Date	Estimated Completion Date	Total Costs (Rounded)	FY 2019				FY 2020				FY 2021				FY 2022			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Purpose and Need for Action; Public Participation	Jul 2019	May 2020	$ 31,700.00				X	X	X	X									
	Feasibility Report and Plan of Work																			
	Develop Public Participation Plan																			
	Assemble Project Team																			
	Obtain Public, Landowner, and Agency Input																			
	Adopt Initial Purpose and Need																			
	NRCS Review Point 1																			
2	Data Collection; Resource Inventory	May 2020	Jan 2021	$ 382,800.00							X	X	X	X						
	Engineering Field Surveys																			
	Geologic Investigation																			
	Watershed Hydrology Studies																			
	Hydraulics and Stability Analysis																			
	Environmental Evaluations																			
	Archeological and Historic Resources																			
	Economic and Social Effects																			
	Relay Techincal Info. & Revise P/N as necessary																			
	NRCS Review Point 2																			
3	Preliminary Development of Alternatives; Establish Alternatives for Detailed Review	Jan 2021	May 2021	$ 158,100.00										X	X					
	Identify & Evaluate Structural Rehab Alternatives																			
	Obtain input from Project Team																			
	Identify & Evaluate Decommission Alternative (assumed No-Action)																			
	Identify & Evaluate Non-Structural Alternative																			
	NRCS Review Point 3																			
4	Detailed Alternative Review; Environmental Consequences; Preferred Alternative	Jun 2021	Jan 2022	$ 244,300.00											X	X	X	X		
	Finalize Design and Complete Supporting Documentation																			
	Develop Land Rights Maps for Alternatives																			
	Evaluate Environmental Effects																			
	Draft "Environmental Consequences" Section of the Plan-EA																			
	Economic Analysis For Each Alternative																			
	Field Assessments																			
	Develop Mitigation Strategy																			
	Dam Breach Review																			
	Identify the NED Alternative																			
	Identify the Locally Preferred Alternative																			
	Draft "Preferred Alternative" Section including Economic/Structural Tables																			
	NRCS Review Point 4																			
5	Prepare Draft Watershed Plan-EA	Feb 2022	Mar 2022	$ 32,200.00														X		
6	Finalize Watershed Plan-EA	Apr 2022	May 2022	$ 12,300.00															X	

Total	**$ 861,400.00**
FEDERAL	*$ 602,980.00*
ND STATE WATER COMMISSION	*$ 193,815.00*
RED RIVER JOINT WATER RESOURCE DISTRICT	*$ 41,993.25*
LOCAL	*$ 22,611.75*

Figure 2. Aerial Photo of Tongue River Dam M-3



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APPENDIX H

COST-SHARE REQUEST FORM

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (3/2017)

SWC Date Received : 4/30/19

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 30 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Water Transmission Line 19-01

Sponsor(s)
City of Lincoln

County	City	Township/Range/Section
Burleigh	Lincoln	

Description Of Request ☐ New ☑ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Supply the City of Lincoln with redundant water supply and sufficient fire flow capability.

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Jurisdictions/Stakeholders Involved
City of Lincoln, Burleigh County and City of Bismarck.

Description Of Problem Or Need And How Project Addresses That Problem Or Need
An existing 12" water supply from the City of Bismarck is currently the sole supply to the community and is incapable of delivering a sufficient water supply during the summer months. This project would provide a second water supply via a different connection point to the City of Bismarck, thereby creating redundancy to maintain fire flows and domestic water supply. The existing storage capacity of the City of Lincoln has less than 24 hours of available storage at peak flow rates and the existing feed is not capable of filling the storage tanks during summer months. The City was required to implement water restrictions in 2015, 2016, and 2017 for approximately 7 weeks during the summer. The proposed project will loop the supply allowing existing storage to maintain levels. During 2018, water modeling will take place in conjunction with design to determine if sufficient storage capacity exists with the second service line.

Has Feasibility Study Been Completed?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable
Has Engineering Design Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☑ Yes	☐ No	☑ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☑ Yes	☐ No	☐ Not Applicable

If Yes, Please Explain
Application for Department of Army permit

Have You Been Approved For Any State Permits?	☑ Yes	☐ No	☐ Not Applicable

If Yes, Please Explain
USCOE has approved Nationwide Permit No. 12, Action ID: NWO-2019-00481-BIS

Have You Applied For Any Local Permits?	☑ Yes	☐ No	☐ Not Applicable

If Yes, Please Explain
BNSF Utility Crossing Permit

Have You Been Approved For Any Local Permits?	☑ Yes	☐ No	☐ Not Applicable

If Yes, Please Explain
BNSF has approved Utility Crossing Permit

Briefly Explain The Level Of Review The Project Or Program Has Undergone
Solicitation letters were sent to Federal, State and local authorities, Department of Health Division of Environmental Quality has reviewed plans and specifications, City of Bismarck has reviewed plans and Specifications due to connection to Bismarcks water system.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? No.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2015-2017 7/1/15-6/30/17	2017-2019 7/1/17-6/30/19	Beyond 7/1/19
Federal	$	$	$	$
State Water Commission	$ 1,458,550	$	$ 400,000	$ 1,058,550
Other State	$ 1,045,950	$	$ 200,000	$ 845,950
Local	$ 56,800	$	$ 56,800	$ 0
Total	$ 2,561,300	$	$ 656,800	$ 1,904,500

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
Drinking Water State Revolving Fund (Application for increase in funding of SRF has been submitted also)

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
Engineering design, permitting, easement acquisition and bidding will be completed in the 2017-2019 biennium and the project construction will be in 2019 construction season with substantial completion date of November 1st, 2019 and final completion of June 15, 2020.

Have Assessment Districts Been Formed?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable

Submitted By Kenneth Nysether, P.E. - Short Elliot Hendrickson, Inc.			Date 04-30-2019
Address 4719 Shelburne St., Suite 6	City Bismarck	State North Dakota	ZIP Code 58503
Telephone Number 701-354-7121	Sponsor Email CityofLincoln@midconetwork.com	Engineer Email knysether@sehinc.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature	Date 04-30-2019

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

ENGINEER ESTIMATE AND BID COST COMPARISON

PROJECT NO.: **144551**
NAME: **City of Lincoln 12" Water Supply Main**
OWNER: **City of Lincoln**
DATE: **5/22/19**

Changed Items
Changed Quantity

ITE	QUANTITY	UNIT	DESCRIPTION	PRELIMINARY ESTIMATE UNIT COST	PRELIMINARY ESTIMATE TOTAL	BID UNIT COST	BID TOTAL	
			BASE CONSTRUCTION					
GENERAL								
1	1.00	LS	MOBILIZATION	135,000	135,000	15,000	15,000	
2	1.00	LS	BOND	68,000	68,000	50,000	50,000	
			Subtotal		203,000		65,000	
SITE ITEMS								
3	8,000.00	CY	TOPSOIL	4	32,000	0	0	
4	1.00	LS	EROSION CONTROL	8,000	8,000	0	0	
5	20.00	ACRE	SEEDING	700	14,000	325	4,225	13 AC
6	0.33	ACRE	SEEDING - CLASS VI	0	0	1,000	330	
6	1.00	LS	TRAFFIC CONTROL	0	0	500	500	
7	1560.00	CY	COMMON EXCAVATION	0	0	5.00	7,800	
8	7255.00	TON	BEDDING MATERIAL	0	0	0.01	73	
9	201.00	TON	AGGREGATE CL 13	0	0	29	5,829	
10	119.00	TON	ASPHALT PATCHING	0	0	300	35,700	
11	5.00	SY	CONCRETE PATCHING	0	0	680	3,400	
12	70.00	CY	ROCK EXCAVATION	0	0	75	5,250	
13	50.00	TON	DRIVEWAY GRAVEL	45	2,250	0	0	
WATER ITEMS								
14	1.00	LS	CONNECT TO EXISTING WATERMAIN	2,000	2,000	0	0	
15	12.00	LF	6" PVC WATER MAIN	0	0	80	960	
16	192.00	LF	8" PVC WATER MAIN	0	0	72	13,824	
17	21422.00	LF	12" PVC WATER MAIN	40	856,880	45	637,695	14171 LF
18	4891.00	LF	16" PVC WATER MAIN	0	0	63	308,133	
19	3.00	EA	6" GATE VALVE AND BOX	0	0	1,500	4,500	
20	7.00	EA	8" GATE VALVE AND BOX	0	0	2,000	14,000	
21	6.00	EA	12" GATE VALVE AND BOX	2,300	13,800	3,500	45,500	13 EA
22	3.00	EA	16" GATE VALVE AND BOX	0	0	8,300	24,900	
23	200.00	LF	24" JACKED CASING PIPE	0	0	625	125,000	
24	307.00	LF	8" DIRECTIONAL BORE	0	0	125	38,375	
25	2654.00	LF	12" DIRECTIONAL BORE	50	132,700	110	177,980	1618 LF
26	725.00	LF	16" DIRECTIONAL BORE	0	0	135	97,875	
27	1921.00	LF	12" DIRECTIONAL BORE - APPROACH	50	96,050	0	0	
28	210.00	LF	12" ENCASED BORE	100	21,000	0	0	
29	3.00	EA	6" FIRE HYDRANT	0	0	9,400	28,200	
30	5.00	EA	8" FIRE HYDRANT	0	0	6,600	33,000	
31	30.00	LF	REMOVE AND RELAY PIPE	0	0	285	8,550	
32	5.00	EA	COMBINATION AIR VALVE ASSEMBLIES	800	4,000	2,500	7,500	3 EA
33	5.00	EA	AIR RELEASE MANHOLE	5,500	27,500	6,200	18,600	3 EA
34	1.00	EA	12" WATER METER PIT	25,000	25,000	97,000	97,000	
35	1.00	LS	PREFAB BOOSTER STATION	0	0	365,000	365,000	
36	1.00	LS	BOOSTER STATION WORK	0	0	8,000	8,000	
37	5.00	EA	BLOWOFF ASSEMBLIES	3,000	15,000	0	0	
38	4760.44	CY	GRANULAR BEDDING	20	95,209	0	0	
			Subtotal		1,548,389		2,182,699	
			Contingencies (10%)		$153,839		($82)	
			Preliminary Construction Cost		$1,702,228		$2,182,617	
			Construction Engineering		$93,678		$152,800	
			Preliminary Total Construction Cost		$1,795,906		$2,335,417	
			Pre Construction Engineering Design		$149,884		$165,000	
			Preliminary Total Cost		$1,945,790		$2,500,417	
			Cost-Share Pre-Construction	35%	$52,459		$57,750	
			Cost-Share Construction	60%	$1,077,540		$1,401,250.20	
			Cost-Share Total		$1,130,000		$1,459,000	
						Additional Cost-Share	**$329,000**	

SEH

TABULATION OF BIDS

Water Transmission Line 19-01
Lincoln, ND
SEH No.: LINND 147220
Bid Date: 2:00 p.m., Thursday, April 25, 2019

Shaded area denotes corrected figure

Item No.	Item	Unit	Est. Quantity	Engineer's Estimate		Wagner Construction, Inc 3151 Highway 53 International Falls, MN 56649		Weisz & Sons Inc PO Box 1756 Bismarck, ND 58502		BEK Consulting 913 38th Ave E, PO Box 1010 Dickinson, ND 58602	
				$1,933,473.00		$2,182,698.56		$2,292,586.50		$2,644,225.30	
				Unit Price	**Total Price**	**Unit Price**	**Total Price**	**Unit Price**	**Total Price**	**Unit Price**	**Total Price**
1	PERFORMANCE BOND	L SUM	1	$40,000.00	$40,000.00	$15,000.00	$15,000.00	$19,200.00	$19,200.00	$26,000.00	$26,000.00
2	RAILROAD LIABILITY INSURANCE	L SUM	1	1,266.00	1,266.00	$0.01	$0.01	2,500.00	2,500.00	7,500.00	7,500.00
3	TEMPORARY TRAFFIC CONTROL	L SUM	1	2,000.00	2,000.00	$500.00	$500.00	2,000.00	2,000.00	2,000.00	2,000.00
4	MOBILIZATION	L SUM	1	145,000.00	145,000.00	$50,000.00	$50,000.00	28,500.00	28,500.00	138,000.00	138,000.00
5	COMMON EXCAVATION	CY	1560	6.00	9,360.00	$5.00	$7,800.00	2.00	3,120.00	9.00	14,040.00
6	BEDDING MATERIAL	TON	7255	18.00	130,590.00	$0.01	$72.55	15.00	108,825.00	1.00	7,255.00
7	SEEDING - CLASS I	ACRE	13.00	900.00	11,700.00	$325.00	$4,225.00	420.00	5,460.00	1,125.00	14,625.00
8	SEEDING - CLASS VI	ACRE	0.33	700.00	231.00	$1,000.00	$330.00	1,300.00	429.00	4,810.00	1,587.30
9	AGGREGATE SURFACE COURSE CL 13	TON	201	45.00	9,045.00	$29.00	$5,829.00	47.00	9,447.00	27.00	5,427.00
10	ASPHALT PATCHING	TON	119	92.00	10,948.00	$300.00	$35,700.00	204.00	24,276.00	235.00	27,965.00
11	CONCRETE PATCHING	SY	5	25.00	125.00	$680.00	$3,400.00	150.00	750.00	600.00	3,000.00
12	ROCK EXCAVATION	CY	70	20.00	1,400.00	$75.00	$5,250.00	0.00	0.00	25.00	1,750.00
13	JACKED 24" CASING PIPE	LF	200	150.00	30,000.00	$625.00	$125,000.00	1,025.00	205,000.00	660.00	132,000.00
14	HORIZONTAL DIRECTIONAL DRILLLING (HDD) WATERMAIN (10" HDPE or 8" FUSIBLE PVC)	LF	307	65.00	19,955.00	$125.00	$38,375.00	88.00	27,016.00	99.00	30,393.00
15	HORIZONTAL DIRECTIONAL DRILLLING (HDD) WATERMAIN (14" HDPE or 12" FUSIBLE PVC)	LF	1618	70.00	113,260.00	$110.00	$177,980.00	109.00	176,362.00	105.00	169,890.00
16	HORIZONTAL DIRECTIONAL DRILLLING (HDD) WATERMAIN (18" HDPE or 16" FUSIBLE PVC)	LF	725	132.00	95,700.00	$135.00	$97,875.00	196.00	142,100.00	150.00	108,750.00
17	6" PVC WATERMAIN	LF	12	32.00	384.00	$80.00	$960.00	25.00	300.00	56.00	672.00
18	8" PVC WATERMAIN	LF	192	38.00	7,296.00	$72.00	$13,824.00	33.00	6,336.00	59.00	11,328.00
19	12" PVC WATERMAIN	LF	14171	40.00	566,840.00	$45.00	$637,695.00	44.50	630,609.50	63.00	892,773.00
20	16" PVC WATERMAIN	LF	4891	53.00	259,223.00	$63.00	$308,133.00	66.00	322,806.00	90.00	440,190.00
21	6" GATE VALVE AND BOX	LF	3	1,500.00	4,500.00	$1,500.00	$4,500.00	1,800.00	5,400.00	1,550.00	4,650.00
22	8" GATE VALVE AND BOX	LF	7	2,000.00	14,000.00	$2,000.00	$14,000.00	2,300.00	16,100.00	2,050.00	14,350.00
23	12" GATE VALVE AND BOX	LF	13	3,200.00	41,600.00	$3,500.00	$45,500.00	3,700.00	48,100.00	3,350.00	43,550.00
24	16" GATE VALVE AND BOX	LF	3	7,000.00	21,000.00	$8,300.00	$24,900.00	7,825.00	23,475.00	7,875.00	23,625.00
25	6" FIRE HYDRANT	LF	3	4,800.00	14,400.00	$9,400.00	$28,200.00	4,900.00	14,700.00	5,650.00	16,950.00
26	8" FIRE HYDRANT	LF	5	5,300.00	26,500.00	$6,600.00	$33,000.00	5,200.00	26,000.00	5,825.00	29,125.00
27	REMOVE AND RELAY PIPE - ALL TYPES AND SIZE	LF	30	175.00	5,250.00	$285.00	$8,550.00	100.00	3,000.00	80.00	2,400.00
28	COMBINATION AIR VALVE (CAV) ASSEMBLIES	EA	3	800.00	2,400.00	$2,500.00	$7,500.00	1,100.00	3,300.00	2,240.00	6,720.00
29	AIR RELEASE MANHOLE	EA	3	5,500.00	16,500.00	$6,200.00	$18,600.00	6,500.00	19,500.00	5,860.00	17,580.00
30	WATER METER PIT	L SUM	1	43,000.00	43,000.00	$97,000.00	$97,000.00	77,000.00	77,000.00	81,600.00	81,600.00
31	PREFAB BOOSTER STATION	L SUM	1	250,000.00	250,000.00	$365,000.00	$365,000.00	337,475.00	337,475.00	349,000.00	349,000.00
32	BOOSTER STATION SITE WORK	L SUM	1	40,000.00	40,000.00	$8,000.00	$8,000.00	3,500.00	3,500.00	19,530.00	19,530.00
TOTAL BID PRICE					**$1,933,473.00**		**$2,182,698.56**		**$2,292,586.50**		**$2,644,225.30**
ALTERNATE NO. 1							$39,000.00		-$22,475.00		$36,114.00
							DPI		USEMCO-Dakota Pump & Control		DPI

APPENDIX I

COST-SHARE REQUEST
NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

SWC Date Received : 1/25/19

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Mandan Raw Water Intake

Sponsor(s)
City of Mandan

County	City	Township/Range/Section
Morton	Mandan	

Description Of Request ☐ New ☑ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
See Exhibit 1

If Study, What Type ☑ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☒ Yes ☐ No

Jurisdictions/Stakeholders Involved
City of Mandan and Marathon Petroleum

Description Of Problem Or Need And How Project Addresses That Problem Or Need
See Exhibit 1

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☑ Yes	☐ No	☐ Not Applicable

If Yes, Please Explain
Sovereign Lands, Change in Point of Diversion - Ongoing. Plan to submit in spring 2019.

Have You Been Approved For Any State Permits?	☑ Yes	☐ No	☐ Not Applicable

If Yes, Please Explain
Pending review.

Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable

If Yes, Please Explain
None anticipated at this time.

Have You Been Approved For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable

If Yes, Please Explain

Briefly Explain The Level Of Review The Project Or Program Has Undergone
Multi-year planning effort to identify best location and challenges for new intake. The project has been reviewed by the City of Mandan. Significant environmental reviews have been completed and permitting is currently ongoing with SWC, USACE, etc.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? The primary obstacle to implementation at this time is the availability of construction cost-share funds.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$ 12,628,000.00	$ 1,650,000.00 Previously Awarded to City in 2013	$ 10,977,000.00	$
Other State	$	$	$	$
Local	$ 8,207,000.00	$ 889,000.00	$ 7,318,000.00	$
Total	$ 20,835,000.00	$ 2,539,000.00	$ 18,295,000.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
2017-2019 funding was previously awarded to the City of Mandan for this project. Plan to utilize NDSRF program for local share.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
Preliminary Engineering - Fall 2018; Final Design and Bidding - February 2019 to August 2019; Construction Start - September 2019; Project Completion - Fall 2021; Post-Construction/Warranty - Fall 2022.

Have Assessment Districts Been Formed?	☐ Yes	☑ No	☐ Ongoing	☑ Not Applicable

Submitted By Jim Neubauer, City Administrator			Date
Address 205 2nd Ave NW, Mandan, ND 58554	City Mandan	State ND	ZIP Code 58554
Telephone Number 701-667-3215		Engineer Telephone Number 701-221-0530	
Sponsor Email Address jneubauer@cityofmandan.com		Engineer Email Address ken.weber@ae2s.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

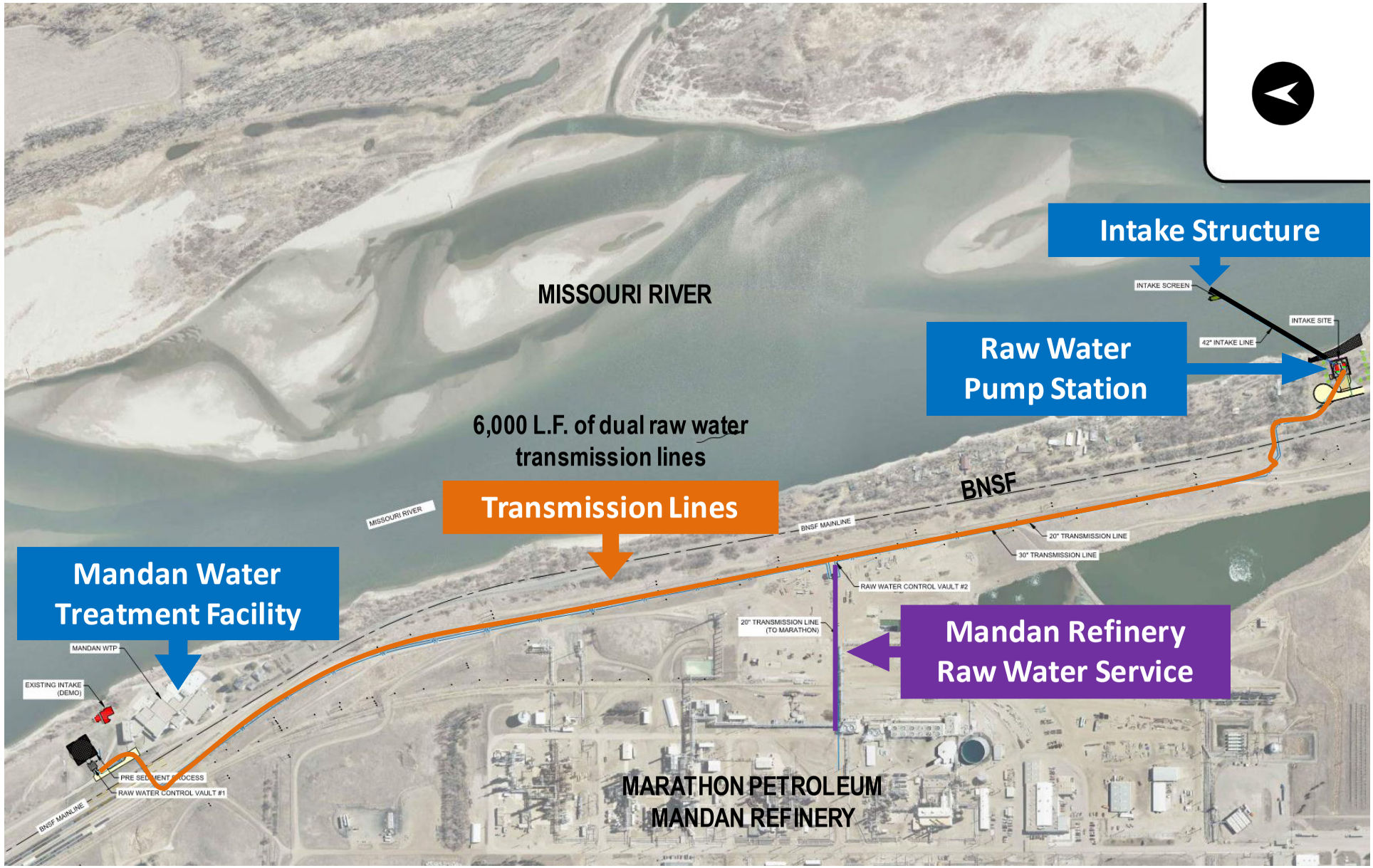
Signature Jim Neubauer	Date 01-25-2019

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

Mandan Raw Water Intake	Revision:	11/9/2018
AE2S Project #P00510-2010-001		
30% Design Opinion of Probable Total Construction Cost		
Assumes SRF Loans for City Portion and Costs Reflect AIS Requirements		
Opinion of Probable Construction Cost		
Subtotal 00/01 0000 Contracting and General Requirements		$927,000
Subtotal 02 0000 Existing Conditions		$125,000
Subtotal 03 0000 Concrete		$2,248,000
Subtotal 04 0000 Masonry		$0
Subtotal 05 0000 Metals		$150,000
Subtotal 06 0000 Woods, Plastics and Composites		$2,000
Subtotal 07 0000 Thermal and Moisture Protection		$145,000
Subtotal 08 0000 Doors and Windows		$97,000
Subtotal 09 0000 Finishes		$180,000
Subtotal 10 0000 Specialties		$8,000
Subtotal 12 0000 Furnishings		$0
Subtotal 13 0000 Special Construction		$382,000
Subtotal 21 0000 Fire Protection		$0
Subtotal 22 0000 Plumbing		$188,000
Subtotal 23 0000 Mechanical HVAC		$153,000
Subtotal 26 0000 Electrical		$1,907,000
Subtotal 31 0000 Earthwork		$689,000
Subtotal 32 0000 Exterior Improvements		$805,000
Subtotal 33 0000 Utilities		$4,577,000
Subtotal 40 0000 Process Integration		$2,551,000
Subtotal 41 0000 Material Processing and Handling Equipment		$72,000
Subtotal 43 0000 Process Gas and Liquid Handling, Purification, and Storage Equipment		$546,000
Subtotal 46 0000 Water and Wastewater Equipment		$878,000
Construction Subtotal		$16,630,000
Contingencies	10%	$1,663,000
Estimated Total Construction Costs		*$18,293,000*
Report and Preliminary Design Phase Services		*$682,000*
Final Design Phase Services		*$710,000*
Bidding Phase Services		*$54,000*
Construction Phase Services		*$1,003,000*
Warranty and Project Commissioning		*$93,000*
Estimated Total Project Costs		*$20,835,000*
Estimated Total Project Costs without AIS		*$19,965,000*

MANDAN RAW WATER INTAKE IMPROVEMENTS



SWC Cost-Share Application Map

Life Cycle Cost Analysis Review

Project Title: Mandan RWI **Date:** April 30, 2019

Explanation of Alternatives:

The sponsors have provided updated costs for the currently viable alternative so that an LCCA under current economic conditions could be completed. This project went through an LCCA based on costs in 2002. The sponsors at that time ranked alternatives using their LCCA results to guide their decision processes. Since that time, of the alternatives presented, additional investigation into the more economical options determined two were not considered viable due to insufficient water supply volume. The "Do Nothing" alternative was considered for a time but is no longer a viable alternative because it is not a reliable volume in certain low flow conditions. Therefore the current LCCA only considers the single remaining option to develop a new conventional intake at a different location.

Inputs:

	Conventional Intake	Alternative 2	Alternative 3	Alternative 4
GAL(1,000s)/Day	24,000	n/a	n/a	n/a
Users Served	7,367			
Construction Cost	$20,835,000			
Annual O & M	$55,000			

Details:

No unusual items or useful life entries were identified.

Model Function:

The economic model appears to have functioned properly. The results are deemed to be reliable and repeatable with the inputs provided by the project sponsor.

LCCA Model Results:

Scenario Analysis - Present Value Life Cycle Cost Summary

Present Value	Conventional Intake	Alternative 2	Alternative 3	Alternative 4
Capital Costs	$20,544,000	$0	$0	$0
O&M	$1,382,000	$0	$0	$0
Repair, Rehab, Replacement Costs	$6,622,000	$0	$0	$0
Salvage Value	$1,125,000	$0	$0	$0
Total PVC	**$27,423,000**	**$0**	**$0**	**$0**
PV Cost Per Capita	$3,722	$0	$0	$0

Explanation of Results:

The present value (PV) cost of this project over its entire useful life, in todays dollars (2019), is $27,423,000. This value includes the construction, maintenance, and operations of the project over the projected 50 year life of the intake. It does not include decommissioning costs. The PV cost per capita is $3,722.

	Year		Annual Population Growth Rate	Average Annual Population Increase/Decrease
	2010	2017		
Population & Trends	18,947	22,228	2.3%	656

Other Comments:

Date: 4/29/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: City of Mandan
Project: Raw Water Intake

Users Served by Project 7,367

Maximum Users at Full Capacity with Preferred Alternative

1- Inputs

This is the primary data entry worksheet where users provide brief descriptions of the alternative being considered (up to 4) as well as information on annual O&M and length of construction.

Orange cells are for entering project specific data
Yellow cells reference data from other worksheets

Input	Units	Input Value	Definition of Term	Reference
Base Year for LCCA Model Period of Analysis	Year	2020	Beginning of analysis period	
Analysis Duration	Years	50		
End Year for LCCA Model Period of Analysis	Year	2070	Ending year of analysis period	Assumes 50 years of operations
Discount Factor	%	2.875%	Discount factor used for present value calculations	Discounting is the process of determining the present value of a payment or a stream of payments that is to be received in the future. Given the time value of money, a dollar is worth more today than it would be worth tomorrow. - Source EGM 18-01- https://planning.erdc.dren.mil/toolbox/library/EGMs/EGM18-01.pdf
Total Volume of Water Provided by the Project	TGAL/Day	24,000.00	Thousands of Gallons Per Day	

Name of Alternative	Alternative 1 - Conventional Intake			
Description of Alternative	A conventional intake similar to the existing intake would be constructed at a more suitable location (where siltation has not historically been observed or is anticipated in the future). Dual transmission lines would be constructed connecting the new intake with both the Mandan WTP and Refinery.			
Capital Investment		**Units**	**Alternative 1**	**Notes**
Construction	Total Construction	$	$20,835,000	
	Years of Construction	Years	2	
Annual O&M	Annual O&M	$	$55,000	

Name of Alternative	Alternative 2			
Description of Alternative	Description of Alternative 2			
Capital Investment		**Units**	**Alternative 2**	**Notes**
Construction	Total Construction	$	$0	
	Years of Construction	Years		
Annual O&M	Annual O&M	$	$0	

Name of Alternative	Alternative 3			
Description of Alternative	Description of Alternative 3			
Capital Investment		**Units**	**Alternative 3**	**Notes**
Construction	Total Construction	$	$0	
	Years of Construction	Years		
Annual O&M	Annual O&M	$	$0	

Name of Alternative	Alternative 4			
Description of Alternative	Description of Alternative 4			
Capital Investment		**Units**	**Alternative 4**	**Notes**
Construction	Total Construction	$	$0	
	Years of Construction	Years		
Annual O&M	Annual O&M	$		

Date: 4/29/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: City of Mandan
Project: aw Water Intake

2 - Detailed Costs

This is the secondary data entry worksheet where users enter itemized costs by specific major categories. The worksheet will assign a standard useful life based on the category selected. Users may override this function and provide a useful life if professional judgement warrants doing so.

Orange cells are for entering project specific data
Yellow cells reference data from other worksheets

Alternative 1 - Conventional Intake

Total Cost $20,835,000

Description	Quantity	Units	Unit Cost	Cost	Cost Category	Useful Life	Notes
General Requirements, Existing	1	l.s.	$1,052,000	$1,052,000	Mobilization	N/A	
Structural and Architectural (Div 03, 04, 05, 06, 07, 08, 09, 10, 12)	1	l.s.	$2,830,000	$2,830,000	Building	30	
Special Construction (Div 13)	1	l.s.	$382,000	$382,000	Building	30	
Plumbing and Mechanical (Div 22, 23)	1	l.s.	$341,000	$341,000	Building	30	
Electrical (Div 26)	1	l.s.	$1,907,000	$1,907,000	Electrical Equipment	20	
Earth Work, Exterior Impr, Utilities (Div 31, 32, 33)	1	l.s.	$6,071,000	$6,071,000	Mainlines	50	
Process Integration, Equipment (Div 40, 41, 43, 46)	1	l.s.	$4,047,000	$4,047,000	Water Treatment	20	
Engineering, Legal, Admin, Contingency	1	l.s.	$4,205,000	$4,205,000	Contingency	N/A	
		-		$0	Category	Useful Life	
		-		$0	Category	Useful Life	
		-		$0	Category	Useful Life	
		-		$0	Category	Useful Life	
		-		$0	Category	Useful Life	
		-		$0	Category	Useful Life	

Date: 4/29/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: City of Mandan
Project: Raw Water Intake

3 - Results Summary

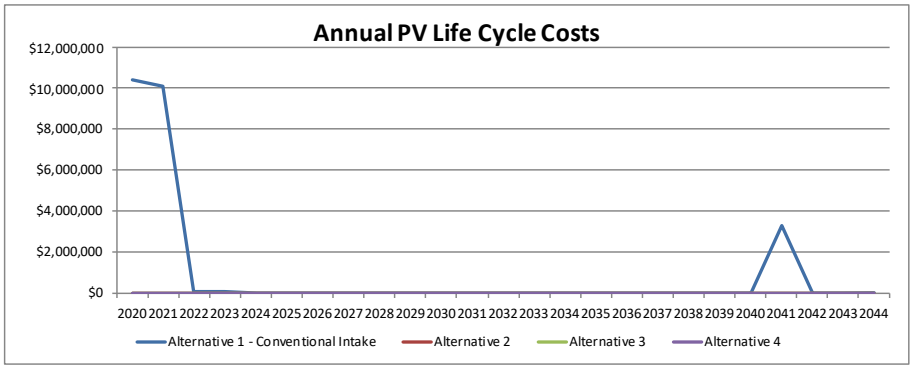
Life Cycle Cost Analysis

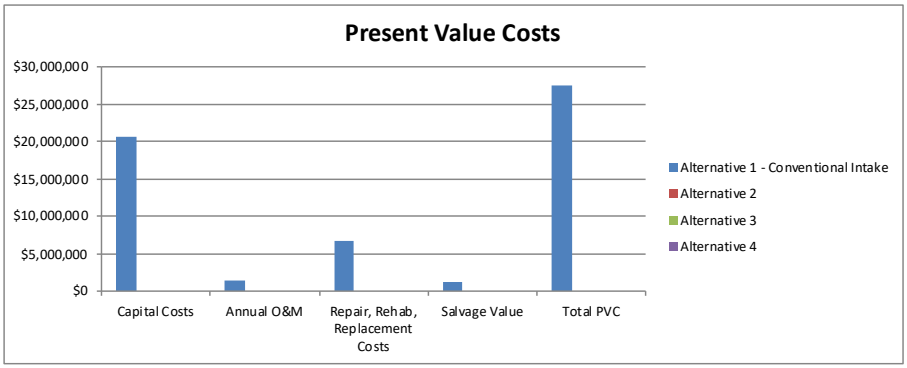
This worksheet serves as the summary for all outputs created in the model. For the given inputs, the Results Summary provides an overview of capital costs; annual O&M; repair, rehab, replacement costs; and salvage value. Under the Results Summary, the user will find a breakdown of the cost for each category and alternative.

Scenario Analysis - Present Value Life Cycle Cost Summary

Cost Summary

Present Value	Alternative 1 - Conventional Intake	Alternative 2	Alternative 3	Alternative 4
Capital Costs	$20,544,000	$0	$0	$0
Annual O&M	$1,382,000	$0	$0	$0
Repair, Rehab, Replacement Costs	$6,622,000	$0	$0	$0
Salvage Value	$1,125,000	$0	$0	$0
Total PVC	**$27,423,000**	**$0**	**$0**	**$0**





APPENDIX J

COST-SHARE REQUEST
NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

SWC Date Received : 5/2/19

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* -- available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Lockport Pump Station

Sponsor(s)
City of Bismarck

County	City	Township/Range/Section
Burleigh	Bismarck	

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
See attached supplemental information.

If Study, What Type ☑ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☒ Yes ☐ No

Jurisdictions/Stakeholders Involved
City of Bismarck, South Central Rural Water

Description Of Problem Or Need And How Project Addresses That Problem Or Need
See attached supplemental information.

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone

The project has been reviewed and approved through the City CIP budget process, and is a result of almost two decades of planning efforts. The project is further explained in the supplemental packet.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? None

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$ 2,280,000.00	$ 228,000.00	$ 1,824,000.00	$ 228,000.00
Other State	$	$	$	$
Local	$ 1,520,000.00	$ 152,000.00	$ 1,216,000.00	$ 152,000.00
Total	$ 3,800,000.00	$ 380,000.00	$ 3,040,000.00	$ 380,000.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied

N/A

Please Explain Implementation Timelines, Considering All Phases And Their Current Status

Please see the proposed project schedule in attached supplemental information packet.

Have Assessment Districts Been Formed? ☐ Yes ☐ No ☐ Ongoing ☑ Not Applicable

Submitted By: Michelle Klose, PE Director of Utility Operations			Date: April 30, 2019
Address: 601 S 26th St	City: Bismarck	State: ND	ZIP Code: 58504
Telephone Number: 701-355-1700		Engineer Telephone Number: 701-221-0530	
Sponsor Email Address: mklose@bismarcknd.gov		Engineer Email Address: Jasper.Klein@ae2s.com	

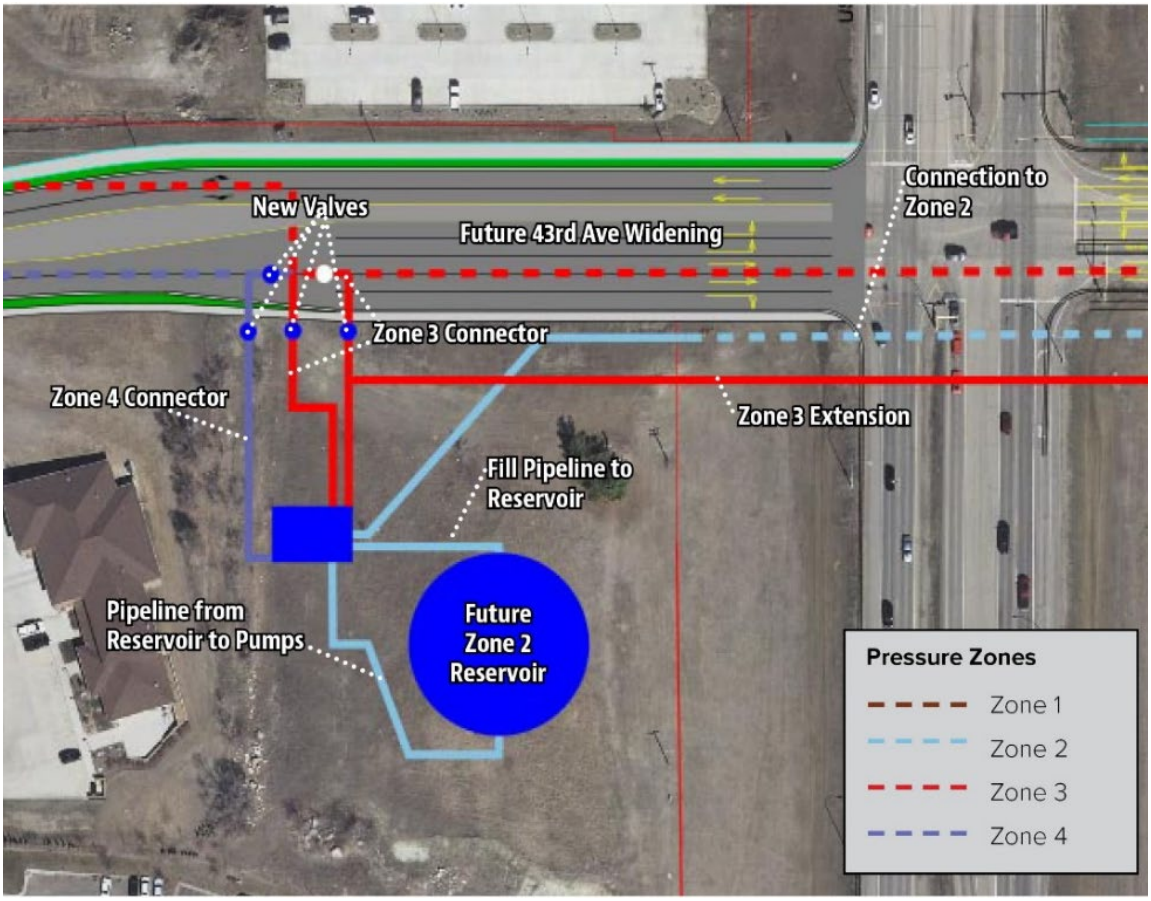
I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature: Michelle Klose	Date: April 30, 2019

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

City of Bismarck
Project Background Information
Lockport Pump Station
April 2019



Conceptual Lockport Pump Station Site Layout

Exhibit A - Project Map

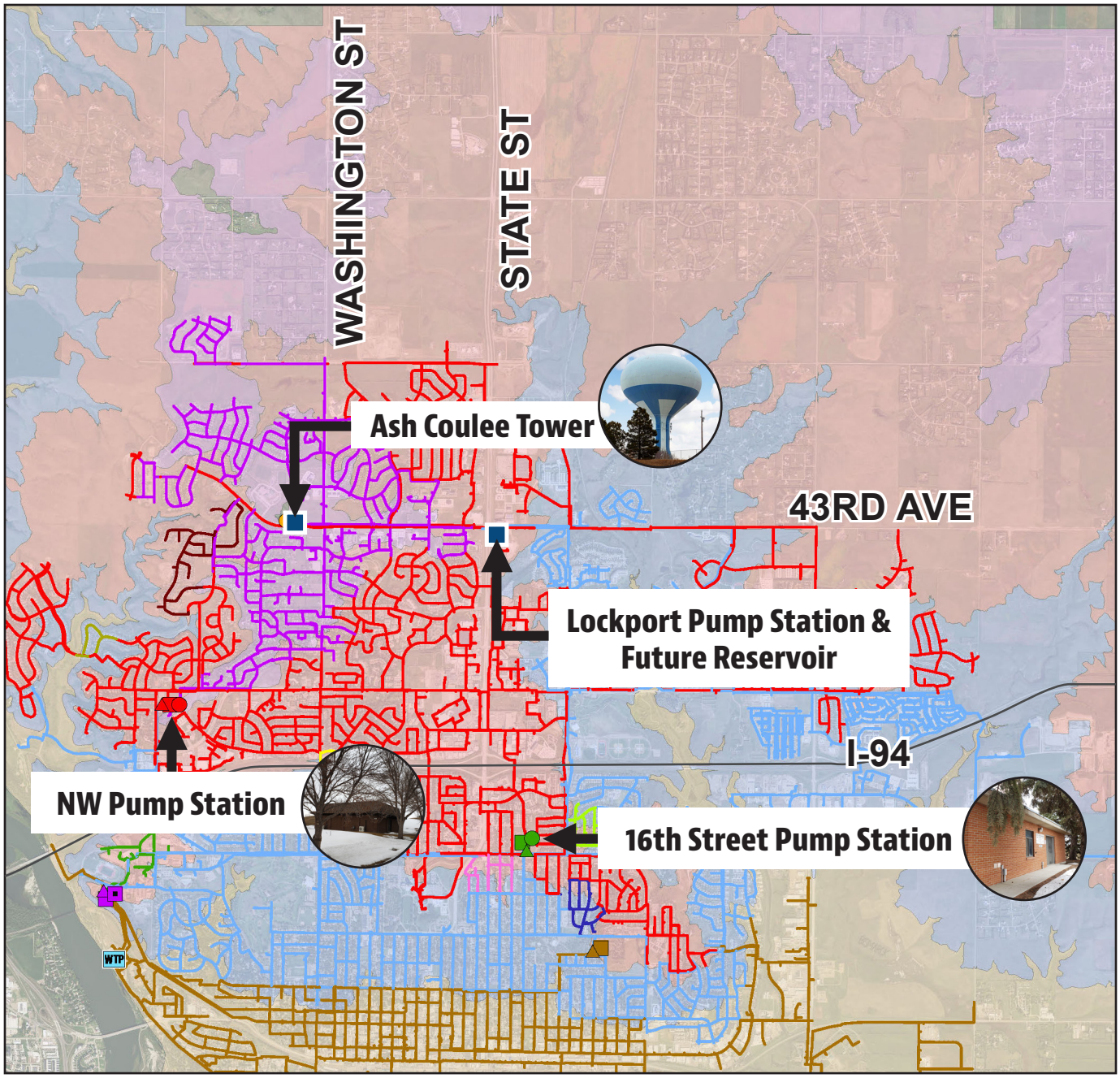
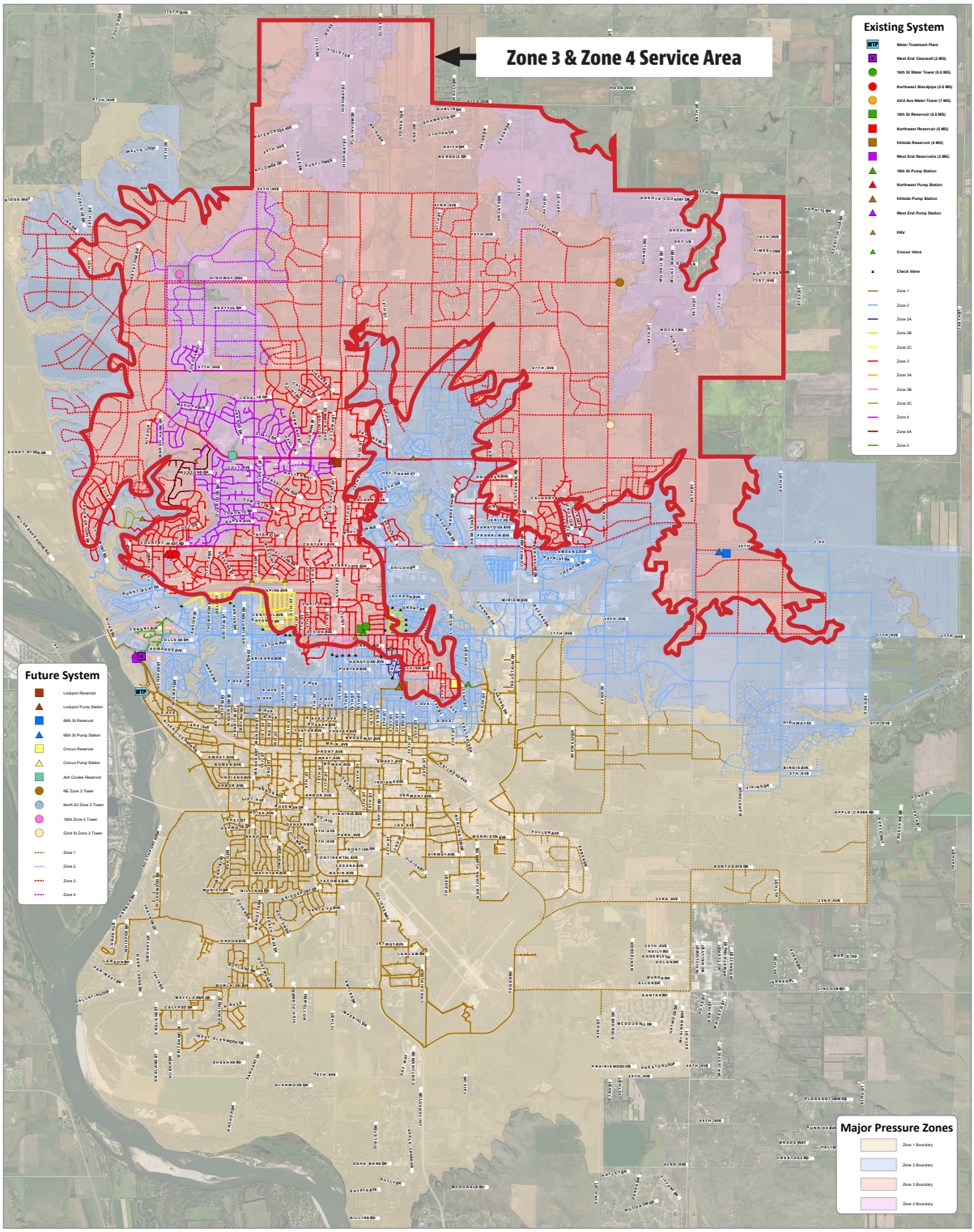


Exhibit B - Service Area Map
(Zone 3 & Zone 4)



CITY OF BISMARCK
WATER DISTRIBUTION SYSTEM

N
0 1,700 3,400
Feet
1 inch = 1,700 feet

Date: 3/26/2019

Life Cycle Cost Analysis Review

Project Title: Bismarck Lockport Booster Pump Station **Date:** May 2, 2019

Explanation of Alternatives:

No Alternatives were provided for analysis. The LCCA was performed generating a present value for the single project proposed by the sponsors.

Inputs:

	Lockport Booster Pump	Alternative 2	Alternative 3	Alternative 4
GAL(1,000s)/Day	4,000	n/a	n/a	n/a
Users Served	24,250			
Construction Cost	$3,790,000			
Annual O & M	$87,000			

Details:

No unusual items or useful life entries were identified. Contingency budget is $416,500 and exceeds 10% of the construction budget.

Model Function:

The economic model appears to have functioned properly. The results are deemed to be reliable and repeatable with the inputs provided by the project sponsor.

LCCA Model Results:

Scenario Analysis - Present Value Life Cycle Cost Summary

Present Value	Lockport Booster Pump	Alternative 2	Alternative 3	Alternative 4
Capital Costs	$3,790,000	$0	$0	$0
O&M	$2,270,000	$0	$0	$0
Repair, Rehab, Replacement Costs	$1,318,000	$0	$0	$0
Salvage Value	$226,000	$0	$0	$0
Total PVC	**$7,152,000**	**$0**	**$0**	**$0**
PV Cost Per Capita	$295	$0	$0	$0

Explanation of Results:

The present value (PV) construction cost is equal to the input value of $3,790,000. This is because the discounting factor is not applied since the estimated construction completion is within one year. The long-term PV commitment to O&M is $2,270,000 and repair and replacement is $1,318,000 over the 50 year life of the project. The PV cost per capita is $295.

	Year		Annual Population Growth Rate	Average Annual Population Increase/Decrease
	2010	2017		
Population & Trends	61,526	72,865	2.4%	1,620

Other Comments:

Date: 4/30/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: City of Bismarck
Project: Lockport Pump Station

Users Served by Project: 24,250

Maximum Users at Full Capacity with Preferred Alternative: 67,950

1- Inputs

This is the primary data entry worksheet where users provide brief descriptions of the alternative being considered (up to 4) as well as information on annual O&M and length of construction.

Orange cells are for entering project specific data
Yellow cells reference data from other worksheets

Input	Units	Input Value	Definition of Term	Reference
Base Year for LCCA Model Period of Analysis	Year	2020	Beginning of analysis period	
Analysis Duration	Years	50		
End Year for LCCA Model Period of Analysis	Year	2070	Ending year of analysis period	Assumes 50 years of operations
Discount Factor	%	2.875%	Discount factor used for present value calculations	Discounting is the process of determining the present value of a payment or a stream of payments that is to be received in the future. Given the time value of money, a dollar is worth more today than it would be worth tomorrow. - Source EGM 18-01- https://planning.erdc.dren.mil/toolbox/library/EGMs/EGM18-01.pdf
Total Volume of Water Provided by the Project	TGAL/Day	4,000	Thousands of Gallons Per Day	

Name of Alternative	Lockport Booster Pump Station			
Description of Alternative	This project provide additional pumping capacity to Zone 4 which serves NW Bismarck and South Central Regional Water District. The existing pumping capacity to the Ash Coulee Tower which serves Zone 4 has reached its limitations and a second feed to the zone is needed to meet current and future demands and fire protection.			
Capital Investment		**Units**	**Alternative 1**	**Notes**
Construction	Total Construction	$	$3,790,000	
	Years of Construction	Years	1	
Annual O&M	Annual O&M	$	$87,000	$62,000 in electrical on average, $25,000 annually in other maintenance (1% of construction)

Name of Alternative	Alternative 2			
Description of Alternative	Description of Alternative 2			
Capital Investment		**Units**	**Alternative 2**	**Notes**
Construction	Total Construction	$	$0	
	Years of Construction	Years		
Annual O&M	Annual O&M	$	$0	

Name of Alternative	Alternative 3			
Description of Alternative	Description of Alternative 3			
Capital Investment		**Units**	**Alternative 3**	**Notes**
Construction	Total Construction	$	$0	
	Years of Construction	Years		
Annual O&M	Annual O&M	$	$0	

Name of Alternative	Alternative 4			
Description of Alternative	Description of Alternative 4			
Capital Investment		**Units**	**Alternative 4**	**Notes**
Construction	Total Construction	$	$0	
	Years of Construction	Years		
Annual O&M	Annual O&M	$		

Date: 4/30/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: City of Bismarck
Project: rt Pump Station

2 - Detailed Costs

This is the secondary data entry worksheet where users enter itemized costs by specific major categories. The worksheet will assign a standard useful life based on the category selected. Users may override this function and provide a useful life if professional judgement warrants doing so.

Orange cells are for entering project specific data
Yellow cells reference data from other worksheets

Lockport Booster Pump Station

Total Cost $3,790,000

Description	Quantity	Units	Unit Cost	Cost	Cost Category	Useful Life	Notes
Design, Bid & Construction Services	1	LS		$595,000	Engineering & Construction	N/A	
Site Piping	1	LS		$624,000	Distribution Lines	40	
Building Foundation	1	LS		$170,000	Cast-In-Place Concrete	75	
Roof, Coatings, etc.	1	LS		$113,000	Building Short Term	20	
Steel, Metals, Roof Support, etc.	1	LS		$247,200	Building Long Term	75	
Flow Meters	1	LS		$42,500	Meters	20	
Interior Process Piping	1	LS		$358,000	Piping	35	
Interior and Buried Valves	1	LS		$156,000	Valves	35	
Pumps	1	LS		$119,000	Pump Equipment	15	
VFDs and Control Panels	1	LS		$367,300	Motor Controls / VFD	15	
Remaining Electrical, Driveway	1	LS		$363,300	Building Mid Term	40	
Mechanical Equipment	1	LS		$27,500	Building Mid Term	40	
Construction Mob, OH&P	1	LS		$190,700	Mobilization	N/A	
Construction Contingency	1	LS		$416,500	Contingency	N/A	

Date: 4/30/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: City of Bismarck
Project: Lockport Pump Station

3 - Results Summary

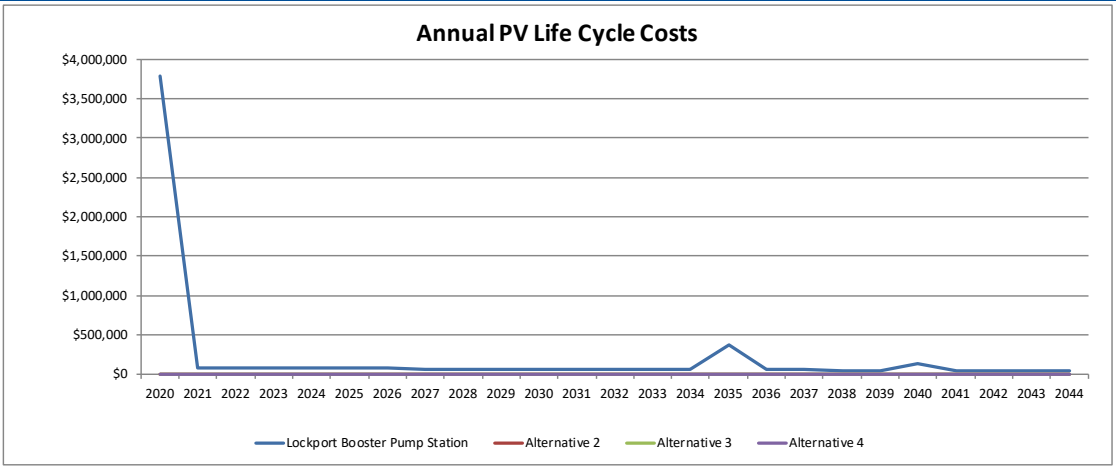
Life Cycle Cost Analysis

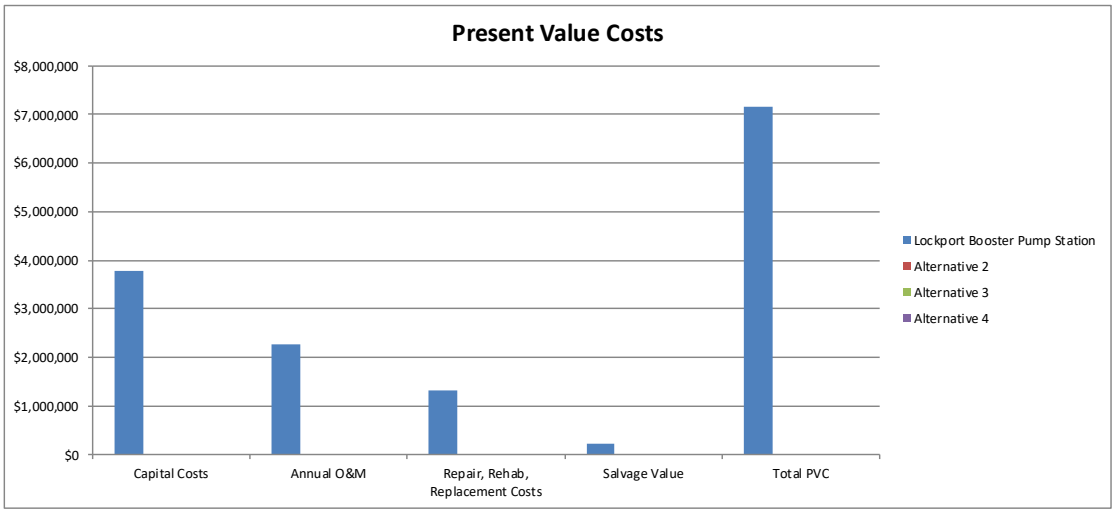
This worksheet serves as the summary for all outputs created in the model. For the given inputs, the Results Summary provides an overview of capital costs; annual O&M; repair, rehab, replacement costs; and salvage value. Under the Results Summary, the user will find a breakdown of the cost for each category and alternative.

Scenario Analysis - Present Value Life Cycle Cost Summary

Cost Summary

Present Value	Lockport Booster Pump Station	Alternative 2	Alternative 3	Alternative 4
Capital Costs	$3,790,000	$0	$0	$0
Annual O&M	$2,270,000	$0	$0	$0
Repair, Rehab, Replacement Costs	$1,318,000	$0	$0	$0
Salvage Value	$226,000	$0	$0	$0
Total PVC	**$7,152,000**	**$0**	**$0**	**$0**





APPENDIX K

City of Mapleton

P O Box 9 - 651 2nd Street, Mapleton, ND 58059
701-282-6992 phone 701-282-0080 fax
city.mapletonnd@midconetwork.com
www.mapletonnd.com

SWC Date Received : 5/8/19

May 8, 2019

Jeffrey Mattern, P.E.
Attn: Cost-Share Program
North Dakota State Water Commission
900 East Boulevard Avenue
Bismarck, North Dakota 58105-0850

Copy via email: Original US Mail

Subject: Request for Water Storage Tank
Mapleton 300,000 gallon ground storage tank

Dear Jeffrey,

Our city has been growing significantly over the last decade, which has caused the storage in our water system to be at capacity. In addition to inadequate water storage, our existing water tower has reached the end of its useful life. Several options were analyzed and it was determined replacing this tank with a ground storage tank was in our best interest.

The City of Mapleton is requesting cost-share through the State Water Commission for a new 300,000 gallon water storage tank through your Water Supply category. Our City Engineer has provided an opinion of cost totaling $1,400,000 for the ground storage tank. We are respectfully requesting funding on this project for all eligible costs to be up to 60% ($840,000) cost share from the State Water Commission. The remaining 40% ($560,000) will be a local share paid by the City of Mapleton. It is anticipated construction would begin in late 2019 if we can secure cost-share this summer. We are actively working on design, so that the project will be ready to bid once cost-share is approved.

If you have any questions regarding the enclosed application, please contact Brandon Oye, our City Engineer, at (701) 282-4692. Your time and efforts with this program are greatly appreciated!

Sincerely,

Barry Lund
Mayor

Enclosures

SWC Date Received : 05/08/19

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
300,000 Gallon Ground Storage Tank

Sponsor(s)
City of Mapleton

County	City	Township/Range/Section
Cass	Mapleton	T139N R50W S6

Description Of Request ☐ New ☑ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
The project addresses lack of storage in the city's water system.

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☐ No

Jurisdictions/Stakeholders Involved
City of Mapleton (Owner), Cass Rural Water Users District (supply source)

Description Of Problem Or Need And How Project Addresses That Problem Or Need

The City of Mapleton has been growing at a substantial rate since about 2006. The existing storage is sized for approximately the current population. As the growth continues, the storage will be inadequate for the city.

Furthermore, the City of Mapleton has a tank that has reached the end of its useful life. It needs to be rehabilitated in the near term or corrosion will lead to higher cost repairs. Several options were analyzed and it was determined replacing this tank with a prestressed concrete ground storage tank was in the best interests of the city and would be the best value. The existing pump station will pump out of this storage tank into the system. New pumps will be installed to add pumping capacity to the system.

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone

A water system study and a facility plan have been been completed documenting the need for the additional storage and analyzing alternatives for replacing the tank. The environmental report has been completed including responses from environmental agencies. The design of the ground storage reservoir is nearly complete.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? Funding will be needed to complete the project. No other obstacles are apparent at this time.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$	$	$ 840,000.00	$
Other State	$	$	$	$
Local	$	$	$ 560,000.00	$
Total	$ 0.00	$ 0.00	$ 1,400,000.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied

Drinking Water State Revolving Fund Loan through NDDEQ will be applied for local share during design phase.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status

The Study phase was completed in 2018. Design phase will be completed by July 2019, with Construction phase starting in late 2019 and finishing in 2020.

Have Assessment Districts Been Formed? ☐ Yes ☐ No ☐ Ongoing ☑ Not Applicable

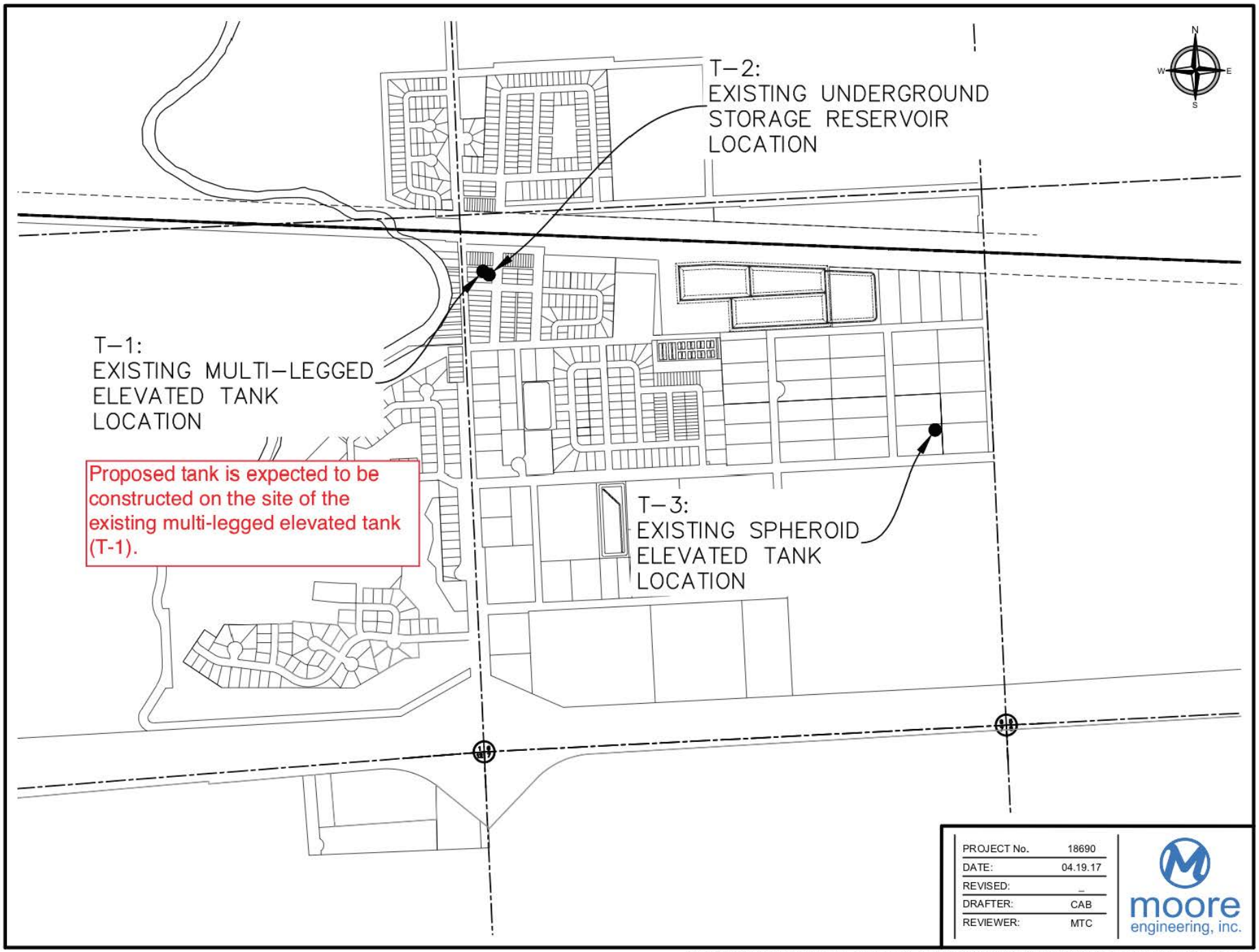
Submitted By: Barry Lund			Date: 5/8/2019
Address: PO Box 9	City: Mapleton	State: ND	ZIP Code: 58059
Telephone Number: 701-282-6992		Engineer Telephone Number: 701-282-4692	
Sponsor Email Address: city.mapletonnd@midconetwork.com		Engineer Email Address: boye@mooreengineeringinc.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature: Barry Lund	Date: 5/8/2019

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850



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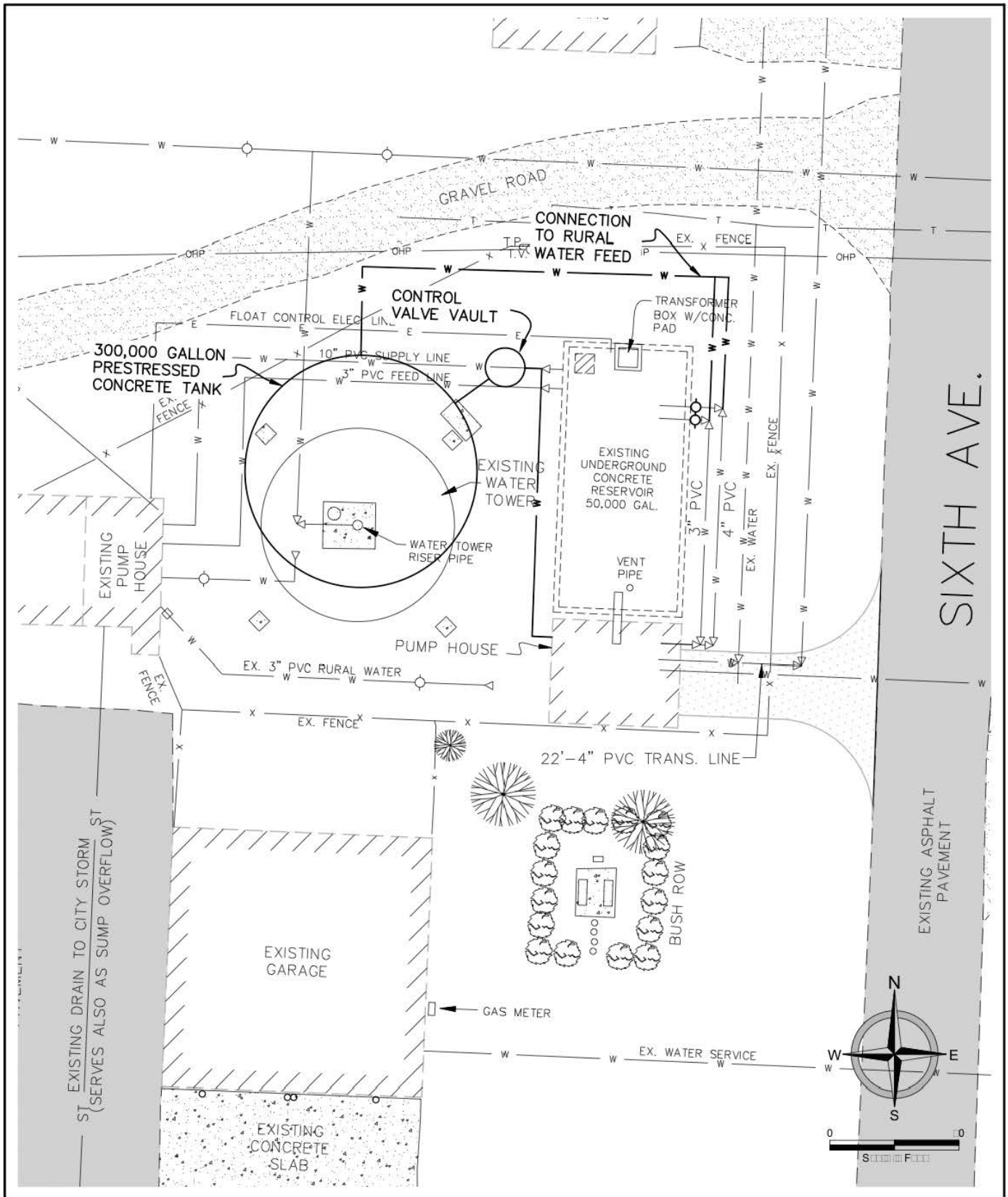

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PROJECT No.	18690
DATE:	□□6.17
REVISED:	_
DRAFTER:	MTC
REVIEWER:	DS

moore engineering, inc.

FILE LOCATION: Q:\Projects\18000\18600\18690\100-Studies and Reports Phase\02-Figures Tables and Exhibits (Rp)\Conceptual Ground Storage Site Plan.dwg

Life Cycle Cost Analysis Review

Project Title: City of Mapleton 300,000 Gallon Storage Reservoir **Date:** May 13, 2019

Explanation of Alternatives:

Alternative 1 is a ground storage tank constructed using concrete. Alternative 2 is rebuilding a tower structure and spheriod tank which would be constructed using steel.

Inputs:

	Concrete Ground Storage	Steel Water Tower	Alternative 3	Alternative 4
GAL(1,000s)/Day	80	80	n/a	n/a
Population Served	1,034	1,034		
Construction Cost	$1,400,000	$1,700,000		
Annual O & M	$4,000	$16,000		

Details:

No unusual items or useful life entries were identified.

Model Function:

The economic model appears to have functioned properly. The results are deemed to be reliable and repeatable with the inputs provided by the project sponsor.

LCCA Model Results:

Scenario Analysis - Present Value Life Cycle Cost Summary

Present Value	Concrete Ground Storage	Steel Water Tower	Alternative 3	Alternative 4
Capital Costs	$1,400,000	$1,700,000	$0	$0
O&M	$103,000	$416,000	$0	$0
Repair, Rehab, Replacement Costs	$245,000	$10,000	$0	$0
Salvage Value	$24,000	$3,000	$0	$0
Total PVC	**$1,724,000**	**$2,123,000**	**$0**	**$0**
PV Cost Per Capita	$1,667	$2,053	$0	$0

Explanation of Results:

The present value (PV) cost of the sponsor's preferred altenative (concrete ground storage) over its entire useful life, in todays dollars (2019), is $1,724,000. This alternative saves the community $399,000 over the 50 year analysis life. This value includes the construction, maintenance, and operations of the project over the projected 50 year life of the storage tank. It does include salvage values but does not include decommissioning costs. The PV cost per capita is $1,667 for the concrete alternative.

	Year		Annual Population Growth Rate	Average Annual Population Increase/Decrease
	2010	2017		
Population & Trends	766	1,034	5.0%	38

Other Comments:

Date: 5/13/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: City of Mapleton
Project: 300,000 Gallon Storage Reservoir

Users Served by Project: 452

Maximum Users at Full Capacity with Preferred Alternative: 452

1- Inputs

This is the primary data entry worksheet where users provide brief descriptions of the alternative being considered (up to 4) as well as information on annual O&M and length of construction.

Orange cells are for entering project specific data
Yellow cells reference data from other worksheets

Input	Units	Input Value	Definition of Term	Reference
Base Year for LCCA Model Period of Analysis	Year	2019	Beginning of analysis period	
Analysis Duration	Years	50		
End Year for LCCA Model Period of Analysis	Year	2069	Ending year of analysis period	Assumes 50 years of operations
Discount Factor	%	2.875%	Discount factor used for present value calculations	Discounting is the process of determining the present value of a payment or a stream of payments that is to be received in the future. Given the time value of money, a dollar is worth more today than it would be worth tomorrow. - Source EGM 18-01- https://planning.erdc.dren.mil/toolbox/library/EGMs/EGM18-01.pdf
Total Volume of Water Provided by the Project	TGAL/Day	79.83	Thousands of Gallons Per Day	

Name of Alternative	Concrete Ground Storage Reservoir			
Description of Alternative	This alternative would replace the existing water tower with a new ground storage reservoir			
Capital Investment		**Units**	**Alternative 1**	**Notes**
Construction	Total Construction	$	$1,400,000	
	Years of Construction	Years	1	
Annual O&M	Annual O&M	$	$4,000	$7,500 cleaning every 15 years, $3,500 per year electrical costs (pumps/mixer)

Name of Alternative	Water Tower Replacement			
Description of Alternative	This alternative would replace the existing water tower with a new water tower			
Capital Investment		**Units**	**Alternative 2**	**Notes**
Construction	Total Construction	$	$1,700,000	
	Years of Construction	Years	1	
Annual O&M	Annual O&M	$	$16,000	Rehab $250,000 every 20 years, $3,500 per year electrical costs (pumps/mixer)

Name of Alternative	Alternative 3			
Description of Alternative	Description of Alternative 3			
Capital Investment		**Units**	**Alternative 3**	**Notes**
Construction	Total Construction	$	$0	
	Years of Construction	Years		
Annual O&M	Annual O&M	$		

Name of Alternative	Alternative 4			
Description of Alternative	Description of Alternative 4			
Capital Investment		**Units**	**Alternative 4**	**Notes**
Construction	Total Construction	$	$0	
	Years of Construction	Years		
Annual O&M	Annual O&M	$		

Date: 5/13/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: City of Mapleton
Project: orage Reservoir

2 - Detailed Costs

This is the secondary data entry worksheet where users enter itemized costs by specific major categories. The worksheet will assign a standard useful life based on the category selected. Users may override this function and provide a useful life if professional judgement warrants doing so.

Orange cells are for entering project specific data
Yellow cells reference data from other worksheets

Concrete Ground Storage Reservoir

Total Cost $1,400,000

Description	Quantity	Units	Unit Cost	Cost	Cost Category	Useful Life	Notes
Ground Storage Reservoir	1	LS	$615,600	$615,600	Reservoir and Storage - Concrete	50	
Electrical Gen Set	1	LS	$112,000	$112,000	Backup Gensets	20	
Demo Tower and Old Pump House	1	LS	$62,500	$62,500	Demo / Abandonment	N/A	
Pumps	2	EA	$25,000	$50,000	Pump Equipment	10	
Watermain Improvements	1	LS	$85,000	$85,000	Distribution Lines	35	
Site Work	1	LS	$28,000	$28,000	Seeding, Restoration, Fence	35	Seeding, resotratio n, fence
Study and Report	1	LS	$23,800	$23,800	Engineering - Planning	N/A	
Preliminary, Bidding, Final Design	1	LS	$100,100	$100,100	Engineering - Design	N/A	
Inspection, Admin, Staking	1	LS	$104,000	$104,000	Engineering - Construction	N/A	
Post Construction	1	LS	$14,300	$14,300	Engineering - Post Construction	N/A	
Legal, Admin, Bond	1	LS	$44,800	$44,800	Other	N/A	
Contingency	1	LS	$159,900	$159,900	Other	N/A	16%
				$0	Category	Useful Life	
				$0	Category	Useful Life	

Water Tower Replacement

Total Cost $1,700,000

Description	Quantity	Units	Unit Cost	Cost	Cost Category	Useful Life	Notes
Spheroid Tank	1	LS	$1,062,000	$1,062,000	Water Tower	50	An
Demo tower and piping	1	LS	$48,500	$48,500	Demo / Abandonment	N/A	
Watermain Improvements	1	LS	$35,000	$35,000	Mainlines	50	
Site Work	1	LS	$28,000	$28,000	Seeding, Restoration, Fence	35	Seeding,
Study and Report	1	LS	$29,300	$29,300	Engineering - Planning	N/A	
Preliminary, Final Design, Bidding	1	LS	$123,200	$123,200	Engineering - Design	N/A	
Inspection, Admin, Staking	1	LS	$128,000	$128,000	Engineering - Construction	N/A	
Post Construction	1	LS	$17,600	$17,600	Engineering - Post Construction	N/A	
Legal, Admin, Bond	1	LS	$55,200	$55,200	Other	N/A	
Contingency	1	LS	$173,200	$173,200	Contingency	N/A	15%
				$0	Category	Useful Life	
				$0	Category	Useful Life	
				$0	Category	Useful Life	
				$0	Category	Useful Life	

Alternative 3

Total Cost $0

Description	Quantity	Units	Unit Cost	Cost	Cost Category	Useful Life	Notes
				$0	Category	Useful Life	
				$0	Category	Useful Life	
				$0	Category	Useful Life	
				$0	Category	Useful Life	
				$0	Category	Useful Life	
				$0	Category	Useful Life	
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				$0	Category	Useful Life	
				$0	Category	Useful Life	
				$0	Category	Useful Life	
				$0	Category	Useful Life	

Alternative 4

Total Cost $0

Description	Quantity	Units	Unit Cost	Cost	Cost Category	Useful Life	Notes
				$0	Category	Useful Life	
		-		$0	Category	Useful Life	
		-		$0	Category	Useful Life	
				$0	Category	Useful Life	
				$0	Category	Useful Life	
				$0	Category	Useful Life	
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				$0	Category	Useful Life	
				$0	Category	Useful Life	
				$0	Category	Useful Life	
				$0	Category	Useful Life	

Date: 5/13/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: City of Mapleton
Project: 300,000 Gallon Storage Reservoir

3 - Results Summary

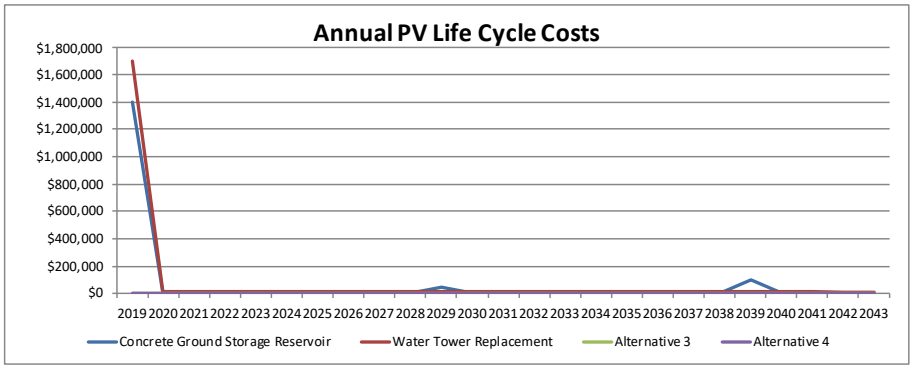
Life Cycle Cost Analysis

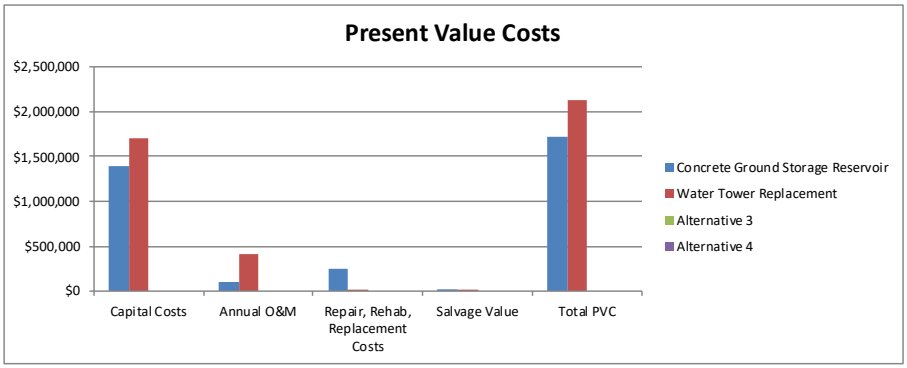
This worksheet serves as the summary for all outputs created in the model. For the given inputs, the Results Summary provides an overview of capital costs; annual O&M; repair, rehab, replacement costs; and salvage value. Under the Results Summary, the user will find a breakdown of the cost for each category and alternative.

Scenario Analysis - Present Value Life Cycle Cost Summary

Cost Summary

Present Value	Concrete Ground Storage Reservoir	Water Tower Replacement	Alternative 3	Alternative 4
Capital Costs	$1,400,000	$1,700,000	$0	$0
Annual O&M	$103,000	$416,000	$0	$0
Repair, Rehab, Replacement Costs	$245,000	$10,000	$0	$0
Salvage Value	$24,000	$3,000	$0	$0
Total PVC	**$1,724,000**	**$2,123,000**	**$0**	**$0**





APPENDIX L

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 · BISMARCK, NORTH DAKOTA 58505-0850
(701) 328-2750 · TTY 1-800-366-6888 or 711 · FAX (701) 328-3696 · http://swc.nd.gov

MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer–Secretary
SUBJECT: State Cost-Share – Water Supply Regional –
Western Area Water Supply Project - Phase VI Preconstruction
DATE: May 30, 2019

The Western Area Water Supply Authority (WAWSA) is requesting cost-share on pre-construction cost for Phase VI projects. The projects are listed in the attached request letter which includes a table titled "Summary of WAWSA Phase VI Projects for SWC Approval". The projects add transmission and distribution pipeline within the region including rural water systems. The local rural water systems will cover the local share of the project costs.

R&TWSCA East White Earth Rural Distribution Alternates – The project is a continuation of the WAWSA R&T White Earth Distribution Project to serve areas where water resources are limited and generally poor quality. This is a rural water service expansion in central Mountrail County east of the White Earth River Valley. This project will continue service to approximately 85 new rural users through 67 miles of pipeline. Estimated total cost is $6,000,000. WAWSA is requesting 75 percent cost-share of $297,000 for pre-construction costs.

R&TWSCA West White Earth Rural Distribution Alternates – The project is a continuation of the WAWSA R&T White Earth Distribution Project to serve areas where water resources are limited and generally poor quality. This is a rural water service expansion in western Mountrail County and eastern Williams County west of the White Earth River Valley. This project will expand services to approximately 40 new rural users through 32 miles of pipeline. Estimated total cost is $3,000,000. WAWSA is requesting 75 percent cost-share of $150,000 for pre-construction costs.

R&TWSCA Service to Powers Lake – This project will add approximately 15 new rural users and provide water demands to the City of Powers Lake (pop. 400) through 33 miles of pipeline. Estimated total cost is $5,000,000. WAWSA is requesting 75 percent cost-share of $241,000 for pre-construction costs.

R&TWSCA Service to Stanley Phase II – The transmission main project is to expand capacity to the city of Stanley (pop. 2,645) and for the rural area. This project will add approximately 17 miles of a 20-inch transmission line between the R&TWSCA Tioga High Point and Ross High Point reservoirs to complete a phased transmission expansion to Stanley. Estimated total cost is $12,000,000. WAWSA is requesting 75 percent cost-share of $570,000 for pre-construction costs.

Stanley Rural Distribution Part 2 – This is rural water service for south-central Mountrail County where water resources are limited and of poor quality. This project will bring service to approximately 80 new rural users through 49 miles of pipeline. Estimated total cost is $5,000,000. WAWSA is requesting 75 percent cost-share of $264,000 for pre-construction costs.

MCWRD System I Expansion Part 2 – The project is construction of a system for providing water for farmers, ranchers and commercial and industrial developments in central McKenzie County south of Watford City, where there is limited and poor quality water. This project will bring service to approximately 110 new rural users through 60 miles of pipeline. Estimated total cost is $7,000,000. WAWSA is requesting 75 percent cost-share of $345,000 for pre-construction costs.

NWRWD North 200k Rural Distribution – The project is an expansion to serve areas where water resources are limited and generally poor quality. This is water service for rural customers in central Williams County northwest of Williston. This project will bring service to approximately 50 new rural users through 38 miles of pipeline. Estimated total cost is $3,500,000. WAWSA is requesting 75 percent cost-share of $172,500 for pre-construction costs.

NWRWD 29 Mile Rural Distribution – The project is water service for rural customers in northwest Williams County and south-central Divide County where water resources are limited and generally poor quality. This project will bring service to approximately 155 users through 80 miles of pipeline. Estimated total cost is $8,500,000. WAWSA is requesting cost-share of $436,500 for pre-construction costs.

Williston Water Treatment Plant Expansion – The project is a continuation of the Williston water treatment plant expansions that addresses continued growth and water demands. This project is the design to increase plant capacity from 21 to 35 millions gallons per day and to increase raw water intake capacity from 21 to 50 millions gallons per day. Estimated cost is $5,000,000. WAWSA is requesting 75 percent cost-share of $3,000,000 for pre-construction costs.

I recommend the State Water Commission approve cost-share of $5,476,000, funded at 75 percent, for the Western Area Water Supply Phase VI Project. The approval is contingent on available funding provided to the State Water Commission in the 2019-2021 biennium.

GE:JM:/1973
Attachment

WESTERN AREA
WATER SUPPLY AUTHORITY

Mr. Garland Erbele, PE
State Engineer
North Dakota State Water Commission
900 E Boulevard Ave
Bismarck ND 58505-0850

Updated May 30, 2019

Re: WAWSA Cost Share Request for 2019-2021 Biennium

Dear Mr. Erbele:

As you are aware, the Western Area Water Supply Authority (WAWSA) has requested $40 million in State project cost share funds as part of a $55 million capital improvements plan for the 2019-2021 biennium. It is our understanding that the North Dakota Legislature included and approved that funding in SB2020.

To that end, WAWSA is seeking funding authorization for our priority projects summarized in Table 1 below at the SWC's next regularly scheduled meeting (more detailed information regarding the funding request for each project is included on enclosed Attachment No. 1). WAWSA is respectfully requesting those projects be approved as eligible cost share projects using 2019-2021 biennium funding. In addition, WAWSA is also requesting approval of initial project funding allocations of $5,476,000 so we can move forward with environmental clearance, easement acquisition, and final design of these projects and be able to begin construction of the pipeline projects in late 2019 and early 2020. The funding request for the Williston Water Treatment Plant Expansion only includes design phase costs for the 2019-2021 biennium. We will seek funding approval for the remaining project funds at a future State Water Commission Meeting.

Proposed System Improvements/Expansion	Estimated Project Cost	Initial State Funding Request
R&TWSCA – East White Earth Rural Distribution Alternates	$6,000,000	**$297,000**
R&TWSCA – West White Earth Rural Distribution Alternates	$3,000,000	**$150,000**
R&TWSCA – Service to Powers Lake	$5,000,000	**$241,000**
R&TWSCA – Service to Stanley – Phase II	$12,000,000	**$570,000**
R&TWSCA – Stanley Rural Distribution – Part 2	$5,000,000	**$264,000**
MCWRD – System I Expansion – Part 2	$7,000,000	**$345,000**
NWRWD – North 200K Rural Distribution	$3,500,000	**$172,500**
NWRWD – 29 Mile Rural Distribution	$8,500,000	**$436,500**
Williston Water Treatment Plant Expansion*	$5,000,000	**$3,000,000**
Totals	**$55,000,000**	**$5,476,000**

Table 1: Summary of WAWSA Phase VI Projects for SWC Approval

WESTERN AREA
WATER SUPPLY AUTHORITY

We greatly appreciate your assistance in continuing to expand water service in northwest North Dakota. If you have any questions or need additional information on any of the projects, please do not hesitate to contact me at 701-774-6605.

Regards,

Curtis D. Wilson

Curtis Wilson, Executive Director
Western Area Water Supply Authority

cc: Paczkowski, John, PE, Assistant State Engineer
Jeffrey Mattern, MR&I Program Coordinator

SWC Date Received : 04/30/19

Revised RECEIVED

MAY 13 2019

STATE WATER COMMISSION

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Western Area Water Supply Project - Phase VI Improvements/Expansion

Sponsor(s)
Western Area Water Supply Authority

County	City	Township/Range/Section
Williams	Williston	Varies

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Expansion of Transmission, Rural Distribution, and Water Supply and Treatment Systems

If Study, What Type ☑ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☐ No

Jurisdictions/Stakeholders Involved
City of Williston, Northwest Rural Water District, McKenzie County Water Resource District, R&T Water District, BDW Rural

Description Of Problem Or Need And How Project Addresses That Problem Or Need
Continued expansion of the WAWSA transmission, rural distribution, and water supply and treatment systems to expand rural water service to regions in Williams, McKenzie, Mountrail, Burke, and Divide Counties served by Northwest Rural Water District (NRWD), McKenzie County

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)?

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$	$	$ 40,000,000	$
Other State	$	$	$	$
Local	$	$	$ 15,000,000	$
Total	$ 0.00	$ 0.00	$ 55,000,000	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
SWC Resources Trust Fund Grant and NDDH SRF Loan

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
Design phase would begin in mid 2019 and continue into 2020. Some portions could be let for construction in 2019 with a majority being let in 2020. Construction would likely continue through the end of 2021.

Have Assessment Districts Been Formed? ☐ Yes ☑ No ☐ Ongoing ☐ Not Applicable

Submitted By Curtis D. Wilson			Date 5/10/19
Address PO Box 2343	City Williston	State ND	ZIP Code 58802
Telephone Number 701-774-6605		Engineer Telephone Number 701-221-0530	
Sponsor Email Address curtis.wilson@wawsp.com		Engineer Email Address cory.chorne@ae2s.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature Curtis D. Wilson	Date 10 May 2019

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

WAWSA - R&TWD 5/15/2019

Cost Estimate - East White Earth Alternates

		Engineer's Estimate			
	ITEM DESCRIPTION	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL PRICE**
A.	Bonding and Insurance	1	l.s.	$130,000.00	$130,000.00
B.	Mobilization	1	l.s.	$215,000.00	$215,000.00
C.	Pipe				
	1. 2.0-inch PVC Class 200	222,000	l.f.	$5.00	$1,110,000.00
	2. 3.0-inch PVC Class 200	60,000	l.f.	$6.25	$375,000.00
	3. 4.0-inch PVC Class 200	48,000	l.f.	$7.75	$372,000.00
	4. 6.0-inch PVC Class 200	26,000	l.f.	$10.25	$266,500.00
D.	1.0-inch Curb Stop Valve	85	ea.	$600.00	$51,000.00
E.	Frost Proof Residential Meter Setter Units	85	ea.	$3,500.00	$297,500.00
F.	Misc. Water Main Appurtenances (@75% of Water Main)	1	l.s.	$1,590,000.00	$1,590,000.00
G.	TOTAL ESTIMATED CONSTRUCTION COSTS				$4,407,000.00
H.	ADMINISTRATIVE/LEGAL				$83,000.00
I.	CULTRUAL RESOURCES SURVEY				$46,000.00
J.	LAND/CROP REIMBURSEMENT				$44,000.00
K.	ENGINEERING DESIGN & BIDDING				$350,000.00
L.	ENGINEERING (CONSTRUCTION PERIOD)				$570,000.00
M.	ENGINEERING (POST CONSTRUCTION & RECORD DRAWINGS)				$60,000.00
N.	CONTINGENCIES				$440,000.00
O.	**TOTAL ESTIMATED PROJECT COST**				**$6,000,000.00**

WAWSA - R&TWD 5/15/2019

Cost Estimate - West White Earth Rural Distribution

		Engineer's Estimate			
	ITEM DESCRIPTION	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL PRICE**
A.	Bonding and Insurance	1	l.s.	$70,000.00	$70,000.00
B.	Mobilization	1	l.s.	$110,000.00	$110,000.00
C.	Pipe				
	1. 2.0-inch PVC Class 200	74,000	l.f.	$5.00	$370,000.00
	2. 3.0-inch PVC Class 200	44,000	l.f.	$6.25	$275,000.00
	3. 4.0-inch PVC Class 200	52,000	l.f.	$7.75	$403,000.00
D.	1.0-inch Curb Stop Valve	40	ea.	$600.00	$24,000.00
E.	Frost Proof Residential Meter Setter Units	40	ea.	$3,500.00	$140,000.00
F.	Misc. Water Main Appurtenances (@75% of Water Main)	1	l.s.	$790,000.00	$790,000.00
G.	TOTAL ESTIMATED CONSTRUCTION COSTS				$2,182,000.00
H.	ADMINISTRATIVE/LEGAL				$43,000.00
I.	CULTRUAL RESOURCES SURVEY				$25,000.00
J.	LAND/CROP REIMBURSEMENT				$25,000.00
K.	ENGINEERING DESIGN & BIDDING				$175,000.00
L.	ENGINEERING (CONSTRUCTION PERIOD)				$285,000.00
M.	ENGINEERING (POST CONSTRUCTION & RECORD DRAWINGS)				$45,000.00
N.	CONTINGENCIES				$220,000.00
O.	**TOTAL ESTIMATED PROJECT COST**				**$3,000,000.00**

WAWSA - R&TWD 5/15/2019

Cost Estimate - Service to Powers Lake

		Engineer's Estimate			
	ITEM DESCRIPTION	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL PRICE**
A.	Bonding and Insurance	1	l.s.	$110,000.00	$110,000.00
B.	Mobilization	1	l.s.	$185,000.00	$185,000.00
C.	Pipe				
	1. 2.0-inch PVC Class 200	28,000	l.f.	$5.00	$140,000.00
	2. 3.0-inch PVC Class 200	16,000	l.f.	$6.25	$100,000.00
	3. 8.0-inch PVC Class 200	128,000	l.f.	$14.00	$1,792,000.00
D.	1.0-inch Curb Stop Valve	15	ea.	$600.00	$9,000.00
E.	Frost Proof Residential Meter Setter Units	15	ea.	$3,500.00	$52,500.00
F.	Misc. Water Main Appurtenances (@65% of Water Main)	1	l.s.	$1,275,000.00	$1,275,000.00
G.	TOTAL ESTIMATED CONSTRUCTION COSTS				$3,663,500.00
H.	ADMINISTRATIVE/LEGAL				$70,000.00
I.	CULTRUAL RESOURCES SURVEY				$26,500.00
J.	LAND/CROP REIMBURSEMENT				$30,000.00
K.	ENGINEERING DESIGN & BIDDING				$295,000.00
L.	ENGINEERING (CONSTRUCTION PERIOD)				$480,000.00
M.	ENGINEERING (POST CONSTRUCTION & RECORD DRAWINGS)				$70,000.00
N.	CONTINGENCIES				$365,000.00
O.	**TOTAL ESTIMATED PROJECT COST**				**$5,000,000.00**

WAWSA - R&TWD 5/15/2019

Cost Estimate - Service to Stanley Transmission - Phase II

		Engineer's Estimate			
	ITEM DESCRIPTION	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL PRICE**
A.	Bonding and Insurance	1	l.s.	$275,000.00	$275,000.00
B.	Mobilization	1	l.s.	$460,000.00	$460,000.00
C.	Pipe				
	1. 20.0-inch C900 Class 200	90,000	l.f.	$62.00	$5,580,000.00
F.	Misc. Water Main Appurtenances (@50% of Water Main)	1	l.s.	$2,800,000.00	$2,800,000.00
G.	TOTAL ESTIMATED CONSTRUCTION COSTS				$9,115,000.00
H.	ADMINISTRATIVE/LEGAL				$200,000.00
I.	CULTRUAL RESOURCES SURVEY				$30,000.00
J.	LAND/CROP REIMBURSEMENT				$30,000.00
K.	ENGINEERING DESIGN & BIDDING				$730,000.00
L.	ENGINEERING (CONSTRUCTION PERIOD)				$910,000.00
M.	ENGINEERING (POST CONSTRUCTION & RECORD DRAWINGS)				$75,000.00
N.	CONTINGENCIES				$910,000.00
O.	**TOTAL ESTIMATED PROJECT COST**				**$12,000,000.00**

WAWSA - R&TWD 5/15/2019

Cost Estimate - Stanley Part 2 Rural Distribution

		Engineer's Estimate			
	ITEM DESCRIPTION	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL PRICE**
A.	Bonding and Insurance	1	l.s.	$105,000.00	$105,000.00
B.	Mobilization	1	l.s.	$175,000.00	$175,000.00
C.	Pipe				
	1. 2.0-inch PVC Class 200	114,000	l.f.	$5.00	$570,000.00
	2. 3.0-inch PVC Class 200	64,000	l.f.	$6.25	$400,000.00
	3. 4.0-inch PVC Class 200	52,000	l.f.	$7.75	$403,000.00
	4. 6.0-inch PVC Class 200	28,000	l.f.	$10.25	$287,000.00
D.	1.0-inch Curb Stop Valve	80	ea.	$600.00	$48,000.00
E.	Frost Proof Residential Meter Setter Units	80	ea.	$3,500.00	$280,000.00
F.	Misc. Water Main Appurtenances (@75% of Water Main)	1	l.s.	$1,280,000.00	$1,280,000.00
G.	TOTAL ESTIMATED CONSTRUCTION COSTS				$3,548,000.00
H.	ADMINISTRATIVE/LEGAL				$75,000.00
I.	CULTRUAL RESOURCES SURVEY				$42,000.00
J.	LAND/CROP REIMBURSEMENT				$40,000.00
K.	ENGINEERING DESIGN & BIDDING				$310,000.00
L.	ENGINEERING (CONSTRUCTION PERIOD)				$580,000.00
M.	ENGINEERING (POST CONSTRUCTION & RECORD DRAWINGS)				$55,000.00
N.	CONTINGENCIES				$350,000.00
O.	**TOTAL ESTIMATED PROJECT COST**				**$5,000,000.00**

WAWSA - MCWRD 5/15/2019

Cost Estimate - System I Part II: Spring Creek

		Engineer's Estimate			
	ITEM DESCRIPTION	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL PRICE**
A.	Bonding and Insurance	1	l.s.	$150,000.00	$150,000.00
B.	Mobilization	1	l.s.	$250,000.00	$250,000.00
C.	Pipe				
	1. 2.0-inch PVC Class 200	115,000	l.f.	$5.00	$575,000.00
	2. 2.0-inch PVC Class 250	30,000	l.f.	$6.00	$180,000.00
	3. 3.0-inch PVC Class 200	24,000	l.f.	$6.25	$150,000.00
	4. 3.0-inch PVC Class 250	2,000	l.f.	$6.50	$13,000.00
	5. 4.0-inch PVC Class 200	112,000	l.f.	$7.75	$868,000.00
	6. 4.0-inch PVC Class 250	8,000	l.f.	$8.75	$70,000.00
	7. 6.0-inch PVC Class 200	24,000	l.f.	$10.25	$246,000.00
	8. 8.0-inch PVC Class 200	3,000	l.f.	$14.00	$42,000.00
D.	6-inch Prefabricated PRV Vault	1	l.s.	$100,000	$100,000.00
E.	1.0-inch Curb Stop Valve	110	ea.	$600.00	$66,000.00
F.	Frost Proof Residential Meter Setter Units	110	ea.	$3,500.00	$385,000.00
G.	Misc. Water Main Appurtenances (@85% of Water Main)	1	l.s.	$2,000,000.00	$2,000,000.00
H.	TOTAL ESTIMATED CONSTRUCTION COSTS				$5,095,000.00
I.	ADMINISTRATIVE/LEGAL				$125,000.00
J.	CULTRUAL RESOURCES SURVEY				$50,000.00
K.	LAND/CROP REIMBURSEMENT				$65,000.00
L.	ENGINEERING DESIGN & BIDDING				$410,000.00
M.	ENGINEERING (CONSTRUCTION PERIOD)				$695,000.00
N.	ENGINEERING (POST CONSTRUCTION & RECORD DRAWINGS)				$75,000.00
O.	CONTINGENCIES				$485,000.00
P.	**TOTAL ESTIMATED PROJECT COST**				**$7,000,000.00**

WAWSA - NWRWD 5/15/2019

Cost Estimate - North 200K Rural Distribution

		Engineer's Estimate			
	ITEM DESCRIPTION	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL PRICE**
A.	Bonding and Insurance	1	l.s.	$75,000.00	$75,000.00
B.	Mobilization	1	l.s.	$125,000.00	$125,000.00
C.	Pipe				
	1. 2.0-inch PVC Class 200	84,000	l.f.	$5.00	$420,000.00
	2. 3.0-inch PVC Class 200	48,000	l.f.	$6.25	$300,000.00
	3. 4.0-inch PVC Class 200	66,000	l.f.	$7.75	$511,500.00
D.	1.0-inch Curb Stop Valve	50	ea.	$600.00	$30,000.00
E.	Frost Proof Residential Meter Setter Units	50	ea.	$3,500.00	$175,000.00
F.	Misc. Water Main Appurtenances (@75% of Water Main)	1	l.s.	$925,000.00	$925,000.00
G.	TOTAL ESTIMATED CONSTRUCTION COSTS				$2,561,500.00
H.	ADMINISTRATIVE/LEGAL				$50,000.00
I.	CULTRUAL RESOURCES SURVEY				$25,000.00
J.	LAND/CROP REIMBURSEMENT				$26,500.00
K.	ENGINEERING DESIGN & BIDDING				$205,000.00
L.	ENGINEERING (CONSTRUCTION PERIOD)				$332,000.00
M.	ENGINEERING (POST CONSTRUCTION & RECORD DRAWINGS)				$50,000.00
N.	CONTINGENCIES				$250,000.00
O.	**TOTAL ESTIMATED PROJECT COST**				**$3,500,000.00**

WAWSA - NWRWD 5/15/2019

Cost Estimate - 29 Mile Service Area

		Engineer's Estimate			
	ITEM DESCRIPTION	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL PRICE**
A.	Bonding and Insurance	1	l.s.	$185,000.00	$185,000.00
B.	Mobilization	1	l.s.	$305,000.00	$305,000.00
C.	Pipe				
	1. 2.0-inch PVC Class 200	172,000	l.f.	$5.00	$860,000.00
	2. 2.0-inch PVC Class 250	66,000	l.f.	$6.00	$396,000.00
	3. 3.0-inch PVC Class 200	54,000	l.f.	$6.25	$337,500.00
	4. 4.0-inch PVC Class 200	48,000	l.f.	$7.75	$372,000.00
	5. 4.0-inch PVC Class 250	8,000	l.f.	$8.75	$70,000.00
	6. 6.0-inch PVC Class 250	38,000	l.f.	$11.00	$418,000.00
	7. 8.0-inch PVC Class 200	5,000	l.f.	$14.00	$70,000.00
	8. 8.0-inch PVC Class 250	30,000	l.f.	$14.00	$420,000.00
D.	New Underground Booster Station	1	l.s.	$250,000	$250,000.00
E.	1.0-inch Curb Stop Valve	155	ea.	$600.00	$93,000.00
F.	Frost Proof Residential Meter Setter Units	155	ea.	$3,500.00	$542,500.00
G.	Misc. Water Main Appurtenances (@60% of Water Main)	1	l.s.	$1,850,000.00	$1,850,000.00
H.	TOTAL ESTIMATED CONSTRUCTION COSTS				$6,169,000.00
I.	ADMINISTRATIVE/LEGAL				$129,000.00
J.	CULTRUAL RESOURCES SURVEY				$87,000.00
K.	LAND/CROP REIMBURSEMENT				$95,000.00
L.	ENGINEERING DESIGN & BIDDING				$495,000.00
M.	ENGINEERING (CONSTRUCTION PERIOD)				$810,000.00
N.	ENGINEERING (POST CONSTRUCTION & RECORD DRAWINGS)				$95,000.00
O.	CONTINGENCIES				$620,000.00
P.	**TOTAL ESTIMATED PROJECT COST**				**$8,500,000.00**

WAWSA - Williston Water Treatment Plant 5/15/2019

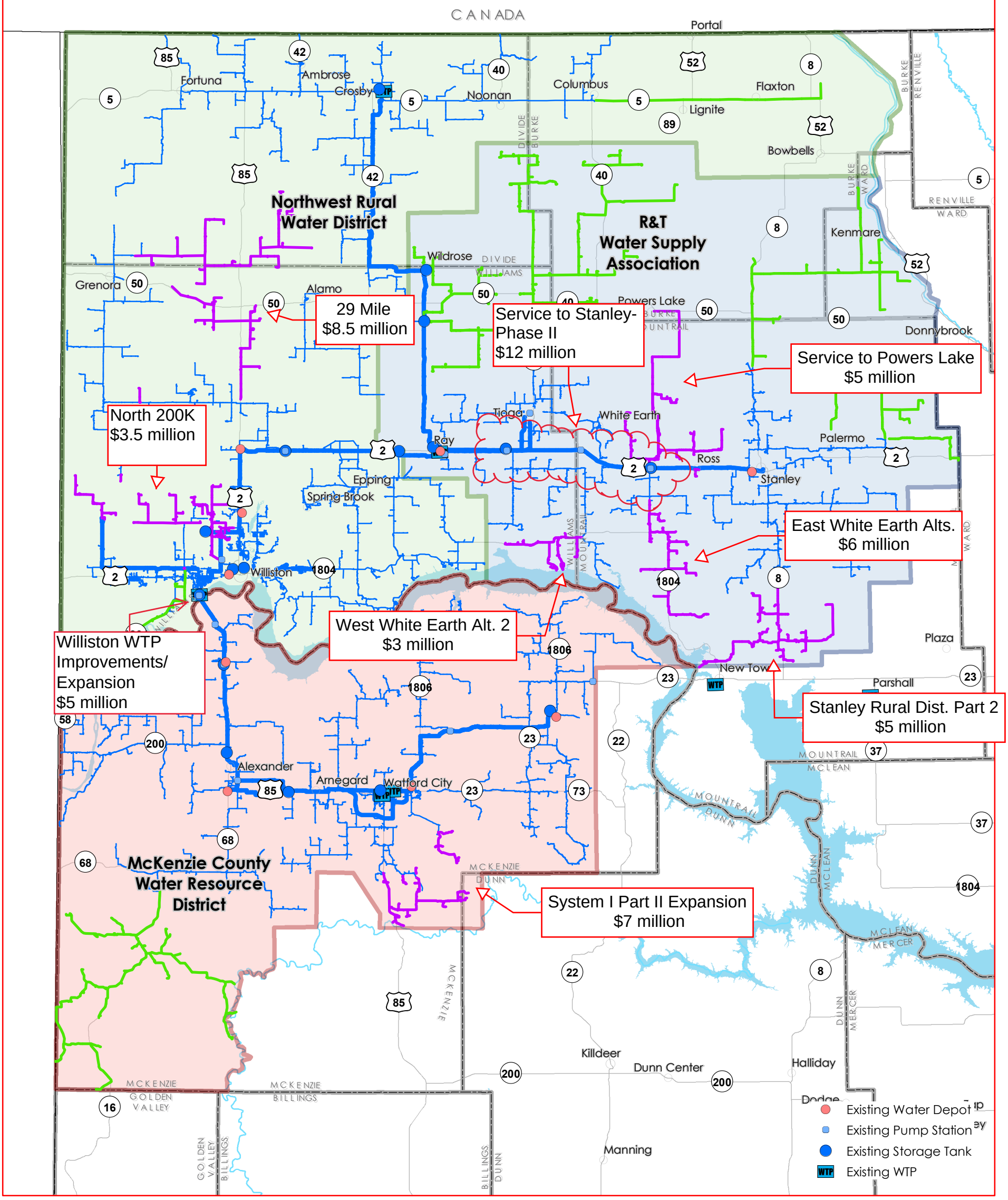
Cost Estimate - 35 MGD Expansion and Process Improvements

		Engineer's Estimate			
	ITEM DESCRIPTION	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL PRICE**
A.	Intake Expansion Concept Design and Permitting	1	l.s.	$250,000.00	$250,000.00
B.	Intake Crib, Pipeline, and Wetwell Expansion Design	1	l.s.	$1,400,000.00	$1,400,000.00
C.	Intake Pump Station Expansion Design	1	l.s.	$750,000.00	$750,000.00
D.	Water Treatment Expansion (21 to 35 MGD) Design	1	l.f.	$1,600,000.00	$1,600,000.00
E.	Water Treatment Plant SCADA Improvements/Expansion	1	l.s.	$250,000.00	$250,000.00
F.	System Wide Telemetry Imrprovements	1	l.s.	$750,000.00	$750,000.00
G.	**TOTAL ESTIMATED PROJECT COST**				**$5,000,000.00**

WESTERN AREA WATER SUPPLY PROJECT

RURAL WATER DISTRICT MAP

WESTERN AREA WATER SUPPLY AUTHORITY

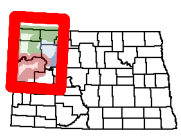


WAWSA Existing Transmission Main
Existing Funded Infrastructure including 2017-2019
Future Funded Infrastructure 2021-2023 & Beyond
2019 - 2021 Biennium Funding*

*Includes R&T Service to Stanley - 20" Transmission Main from Tioga Reservoir to Stanley Reservoir

Service Entity Boundary

McKenzie County Water Resource District
R&T Water Supply Association
Northwest Rural Water District



Date: 11/26/2018

Coordinate System:
NAD 1983 StatePlane North Dakota North FIPS 3301 Feet

0 5.5 11 Miles

AE2S

SWC Date Received : 5/2/19
Updated : 05/29/19

APPENDIX M

Dakota Rural Water District

204 4TH STREET WEST
PO BOX 476
FINLEY, NORTH DAKOTA 58230-0476

Phone
1-701-524-2393
1-800-656-2393
TTY-1-800-366-6888
Fax 1-701-524-2394

April 30, 2019

Garland Erbele, P.E.
North Dakota State Water Commission
900 E Boulevard Ave
Bismarck ND 58505-0850

Re: DRWD: User Expansion Project
Dakota Rural Water District

Dear Mr. Erbele:

Recently, Dakota Rural Water District (DRWD) sent letters to all landowners within their territory to gauge interest on how many landowners would like to become members of DRWD. Over 200 landowners replied stating interest in the project. The board that an elected to follow-up with the 200 potential interested customers, asking for a deposit to get their name on the map.

The project includes the addition of 125- 150 new users to the existing DRWD system, through the addition of distribution and transmission pipelines and miscellaneous appurtenances. Depending on the location and usage of the new customers, the DRWD WTP's might need to be expanded to serve the new users. The addition of 150 new users would increase rural customers by over 15%.

The total project cost is estimated at $6,200,000.

With ND SWC approval, DRWD would begin design and easement acquisition in June of 2019, with the hope of being able to award construction contracts for work to take place in the fall of 2019 or spring of 2020, with a construction completion fall of 2021. Currently, DRWD is requesting grant share on the preliminary construction dollars of the proposed project. DRWD is currently requesting $461,250 in matching grant share, which is 75% of the $615,000 total non-construction costs of the above referenced project.

DRWD looks forward to working with the State Water Commission in completing this very important project.

Sincerely,

Stu Gullicks
DRWD Manager

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
DRWD: User Expansion Project

Sponsor(s)
Dakota Rural Water District

County	City	Township/Range/Section
Steele	Finley	

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Addition of 125-150 new users to Dakota Rural Water District

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
Dakota Rural Water District

Description Of Problem Or Need And How Project Addresses That Problem Or Need

DRWD has interest from over 200 potential users to hook-up to the existing DRWD system. The new users are spread throughout the district. DRWD sent letters to all 200 interested users asking for deposits to gauge actual participation within the project. It is anticipated that with the addition of 125-150 new users, existing WTP's may need to be expanded to serve all existing and new users The increase of 150 users would increased DRWD's rural population served by nearly 15%. The addition of water service would provide those in need with a long-term, safe, and affordable drinking water.

Has Feasibility Study Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone
All landowners in DRWD territory received a letter explaining the project. All landowners that had interest in the project, received a second letter asking for a deposit to secure becoming a member. The board of directors have been heavily involved in the project.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? None at this time.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$	$	$ 4,650,000.00	$
Other State	$	$	$	$
Local	$	$	$ 1,550,000.00	$
Total	$ 0.00	$ 0.00	$ 6,200,000.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
DRWD is on the IUP list for ND DWSRF for the local share.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
Design and easement acquistion summer/fall of 2019. Construction fall of 2019/summer of 2020. Completion fall of 2021.

Have Assessment Districts Been Formed?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable

Submitted By Stu Gullicks			Date 04/30/19
Address 204 4th St. West	City Finley	State ND	ZIP Code 58230
Telephone Number 701-524-2393	Engineer Telephone Number 701-746-8087		
Sponsor Email Address Stugulldrw@mlgc.com	Engineer Email Address Geoffrey.Slick@ae2s.com		

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature Stu Gullicks	Date 04/30/19

MAIL TO:

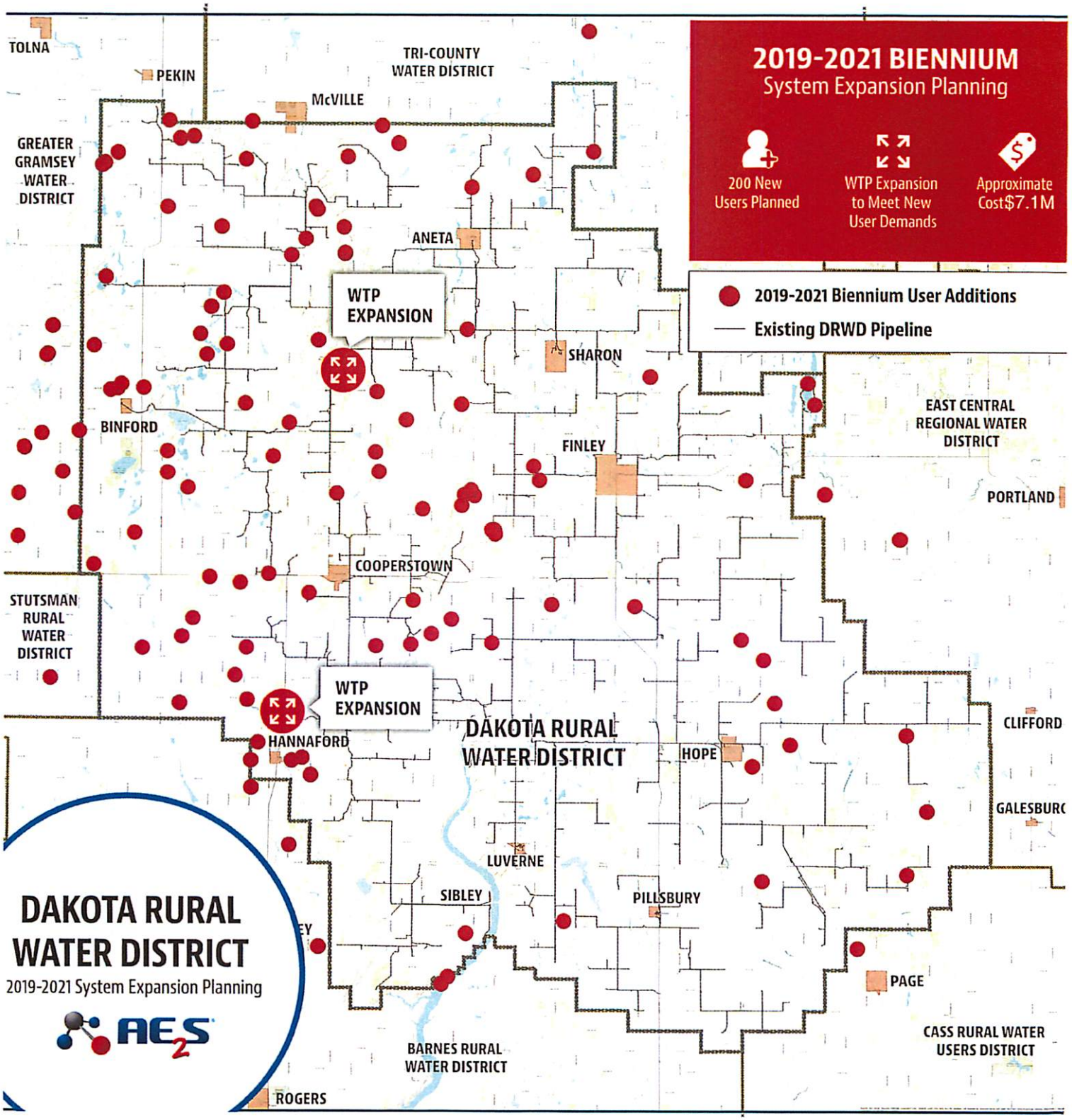
ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

SWC Date Received : 5/2/19
Updateded : 05/29/19

DRWD: User Expansion

Preliminary Cost Estimate
Last Updated: April 2019

ITEM	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST
A.	Mobilization	1	l.s.	$125,000.00	$125,000.00
B.	Water Main				
	1. 2-Inch PVC - CL200	470,000	l.f.	$4.00	$1,880,000.00
	2. 3-Inch PVC - CL160	52,800	l.f.	$4.50	$237,600.00
	3. 4-Inch PVC - CL160	42,240	l.f.	$5.00	$211,200.00
	4. 6-inch PVC - CL 160	40,000	l.f.	$7.00	$280,000.00
C.	Gate Valves				
	1 2-inch	40	ea.	$1,000.00	$40,000.00
	2 3-inch	5	ea.	$1,500.00	$7,500.00
	3. 4-inch	7	ea.	$2,000.00	$14,000.00
	4. 6-inch	6	ea.	$2,500.00	$15,000.00
D.	Non-Cased Bores				
	1. 2-inch	125	ea.	$1,500.00	$187,500.00
	2. 3-inch	20	ea.	$2,000.00	$40,000.00
	3. 4-inch	25	ea.	$2,500.00	$62,500.00
	4. 6-inch	20	ea.	$3,000.00	$60,000.00
E.	Directional Bores				
	1. 2-inch POLY - SDR11	10000	l.f.	$13.00	$130,000.00
	2. 3-inch POLY - SDR11	5000	l.f.	$17.00	$85,000.00
	3. 4-inch POLY - SDR11	7500	l.f.	$21.00	$157,500.00
	4. 6-inch POLY - SDR11	5800	l.f.	$35.00	$203,000.00
F.	New Connection to Existing System				
	1. New 2" to Ex. "	35	ea.	$2,600.00	$91,000.00
	2. New 3" to Ex."	5	ea.	$3,500.00	$17,500.00
	3. New 4" to Ex."	7	ea.	$4,500.00	$31,500.00
	4. New 6" to Existing Customers	2	ea.	$2,000.00	$4,000.00
G.	1-inch Flush/Air Blow Off	50	ea.	$1,000.00	$50,000.00
H.	Signs	58	ea.	$60.00	$3,480.00
I.	Seeding	50	acre	$600.00	$30,000.00
J.	Gravel	922	ton	$10.00	$9,220.00
K.	Facility Expansion	1	ea.	$100,000.00	$100,000.00
L.	Curb Stop	150	ea.	$1,000.00	$150,000.00
M.	Meter	150	ea.	$750.00	$112,500.00
N.	CONTINGENCIES			$300,000.00	$300,000.00
	TOTAL CONSTRUCTION				**$4,635,000.00**
	LAND				
	Easement Acquistion (Preconstruction)				$150,000.00
	Archeological Review (Preconstruction)				$50,000.00
	Crop Reimbursement (Construction)				$350,000.00
	ENGINEERING				
	Preliminary Engineering				$15,000.00
	Preliminary Engineering Report (Preconstruction)				$50,000.00
	Design and Bidding (Preconstruction)				$350,000.00
	Construction and Post Construction (Construction)				$600,000.00
	TOTAL PROJECT COSTS:				**$6,200,000.00**



SWC Date Received : 5/2/19
Updated : 05/29/19

COST-SHARE REQUEST
NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

APPENDIX N

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
2019 McLean Sheridan Rural Water District Improvements/Expansion - Phase I

Sponsor(s)
McLean Sheridan Rural Water District

County	City	Township/Range/Section
McLean	Turtle Lake	Varies

Description Of Request ☐ New ☑ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Expansion of Rural Water Service and Water Treatment Plant Expansion

If Study, What Type ☑ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☐ No

Jurisdictions/Stakeholders Involved
McLean Sheridan Rural Water District, Turtle Lake, Mercer, McClusky, Coleharbor

Description Of Problem Or Need And How Project Addresses That Problem Or Need

The MSRWD has received numerous requests for rural water service throughout its service territory. In addition, there are several areas within the existing system that experience low flow and pressure during peak water demand periods. Finally, the MSRWD water plant near Turtle Lake is limited in treatment capacity and has no redundancy of critical treatment processes. To address all of these issues, the MSRWD is planning to undertake an expansion project to bring rural service to an estimated additional 147 rural users throughout its service territory. To ensure that adequate flow and pressure are available to new and existing users, existing pipelines will be paralleled to increase transmission capacity. Additionally, the water treatment plant will also be expanded by adding a second treatment train. The second treatment train will ensure the necessary capacity is available to provide service to the new users and also provide redundancy at the water treatment plant. Project will be completed in 2 phases, Phase I (2019-2021 biennium) will focus on distribution system improvements (rural distribution expansion and pump system/storage improvements. Phase 2 (2021-2023 biennium) will complete the distribution system and water treatment plant expansions.

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone

Project has been reviewed by SWC and SWC staff for State Cost Share as well as NDDH staff for qualification of SRF loan.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? No

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$	$	$ 4,980,000.00	$ 7,162,000.00
Other State	$	$	$	$
Local	$	$	$ 1,660,000.00	$ 2,388,000.00
Total	$ 0.00	$ 0.00	$ 6,640,000.00	$ 9,550,000.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied

NDDH SRF Loan

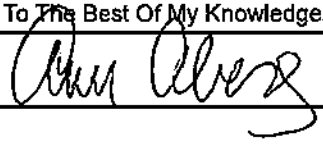
Please Explain Implementation Timelines, Considering All Phases And Their Current Status

Begin environmental clearance and final design phase in mid 2019, advertise for construction bids in late 3rd quarter or early 4th quarter in 2019, begin construction in late 2019/early 2020 with completion in late 2021.

Have Assessment Districts Been Formed? ☐ Yes ☑ No ☐ Ongoing ☐ Not Applicable

Submitted By Ann Oberg			Date 5/1/2019
Address 987 17th Avenue NW	City Turtle Lake	State ND	ZIP Code 58575-9649
Telephone Number 701-448-2686	Engineer Telephone Number 701-221-0530		
Sponsor Email Address msrwater@westriv.com	Engineer Email Address cory.chorne@ae2s.com		

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

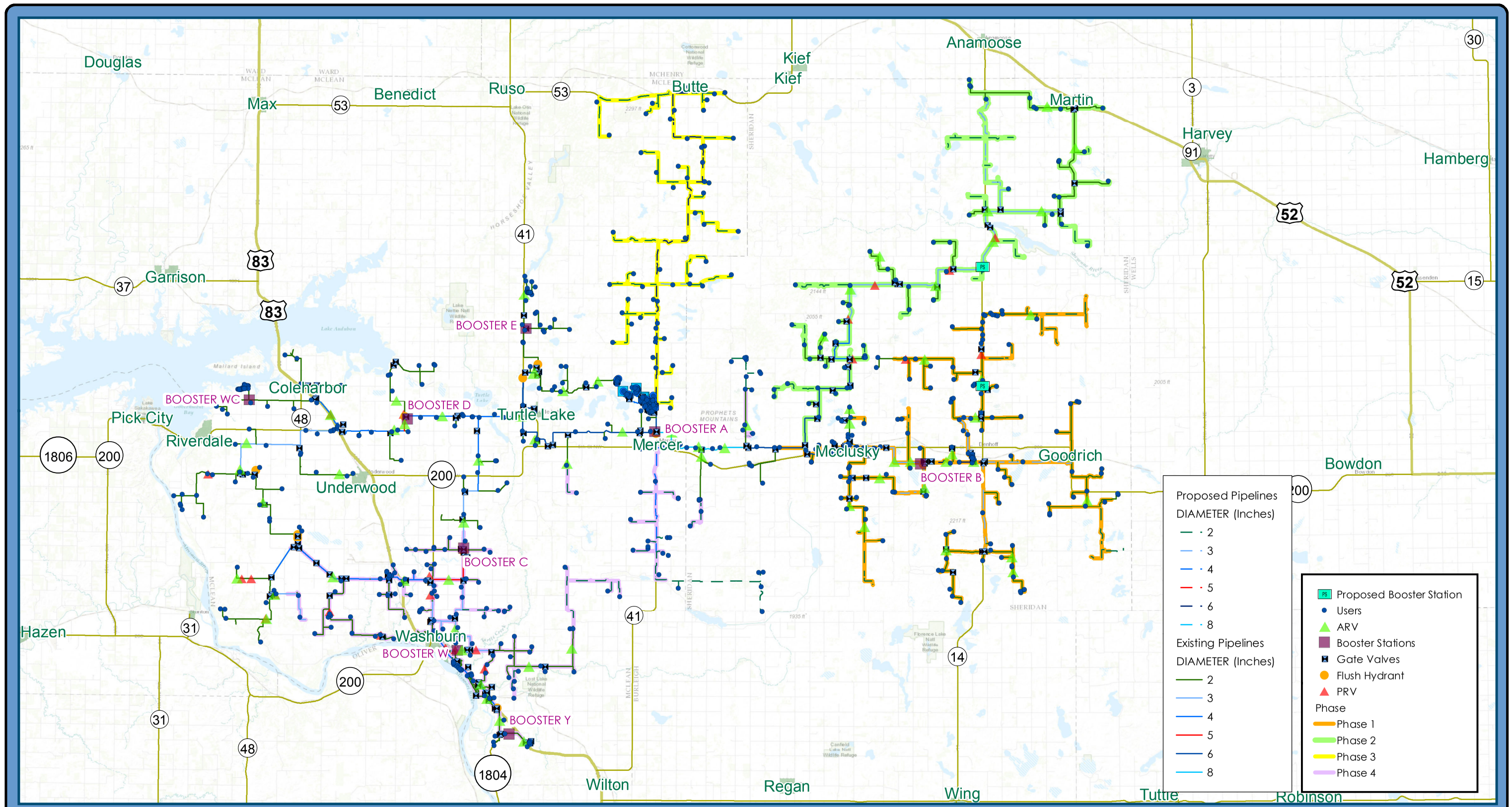
Signature 	Date 5/28/19

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

McLEAN SHERIDAN RURAL WATER DISTRICT May 29, 2019
2019 SYSTEM WIDE IMPROVEMENTS/EXPANSION - PHASE I
PRELIMINARY OPINION OF TOTAL PROBABLE PROJECT COST

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	INSTALLED COST
A.	**General Conditions**				
1.0	**General Conditions**				
a.	Insurance, Bonds, Mobilization, Travel, Subsistence, Etc.	1	l.s.	$4,486,730	$358,938
	Subtotal General Conditions				$358,938
B.	**Water Distribution System**				
1.0	**Water Distribution/Transmission System - System Wide Expansion/Improvements**				
a.	Water Main				
	1. 2.0" PVC - Class 200	378,500	l.f.	$3.90	$1,476,150
	2. 2.0" PVC - Class 250	28,500	l.f.	$4.05	$115,425
	3. 3.0" PVC - Class 200	69,600	l.f.	$4.25	$295,800
	4. 4.0" PVC - Class 200	22,400	l.f.	$5.20	$116,480
	5. 6.0" PVC - Class 200	30,000	l.f.	$8.00	$240,000
	6. 6.0" PVC - Class 250	4,900	l.f.	$8.75	$42,875
b.	Misc. Water Main Appurtenances (@35% of Water Main)	1	l.s.	$2,286,730	$800,000
2.0	**Subtotal Water Distribution/Transmission System - System Wide Expan**				$3,086,730
C.	**Facility Improvements/Expansion**				
1.0	**Facility Improvements/Expansion**				
a.	Booster A Expansion/Improvements	1	l.s.	$1,400,000	$1,400,000
2.0	**Subtotal Facility Improvements/Expansion**				$1,400,000
D.	**Total Probable Project Costs**				
1.0	**Total Probable Construction Costs**				$4,845,668
2.0	**Other Costs**				
a.	Legal & Administrative (3.0%) (Crop Damage, Loan Application, Easement Form Preparation, Easement Acquis				$145,400
b.	Preliminary Engineering (2.0%)				$96,900
c.	Engineering Design (7.0%)				$339,200
d.	Construction Phase Services (15%)				$726,900
e.	Contingencies (10%)				$485,932
3.0	**ESTIMATED TOTAL PROBABLE PROJECT COSTS**				**$6,640,000**



Any reliance upon this map is at user's own risk. AE2S does not warrant the map or its features are either spatially or temporally accurate or fit for a particular use.

N

50 25 0 50 Miles

McLean Sheridan Water District

Advanced Engineering and Environmental Services, Inc.

Date: 10/10/2017 | This map is not in a coordinate system.

P:\McLeanSheridanRuralWaterDistrict\MSWDUpdate.mxd | Edited by: hrecords

SWC Date Received : 04/29/19

APPENDIX O

NRWD
Northeast Regional Water District

April 29, 2019

Garland Erbele, P.E.
North Dakota State Water Commission
900 E Boulevard Ave
Bismarck ND 58505-0850

Re: NRWD: City of Devils Lake Water Supply Project Phase II
Northeast Regional Water District

Dear Mr. Erbele:

Recently, Northeast Regional Water District (NRWD) completed the first phase of the City of Devils Lake Water Supply Project. The project included the necessary transmission pipelines and reservoir/pump stations required to deliver water from the City of Devils Lake to the City of Cando, the City of Langdon, and existing/future rural users of Northeast Regional Water District.

The second phase of the NRWD: City of Devils Lake Water Supply Project, includes 13-miles of 4-8-inch pipelines and Expansion of four existing NRWD facilities in order to provide water from the western side of the system to the eastern side of the system. The current infrastructure currently pumps water from an elevation of 940 feet to 1,440 feet over a 7-mile stretch from east to west.

The project will reverse this portion of the system, allowing for a back-up and redundant supply to the bring water from the City of Devils Lake supply to the eastern side of the system. The total project cost is estimated at $1,999,898.10.

With ND SWC approval, NRWD would complete design this summer, being able to award construction contracts for work to take place in the fall of 2019 and spring of 2020. Currently, NRWD is requesting grant share on the preliminary construction dollars of the proposed project. NRWD is currently requesting $153,750 in matching grant share, which is 75% of the $205,000 total non-construction costs of the above referenced project.

NRWD looks forward to working with the State Water Commission in completing this very important project.

Sincerely,

Gordon Johnson
NRWD Manager

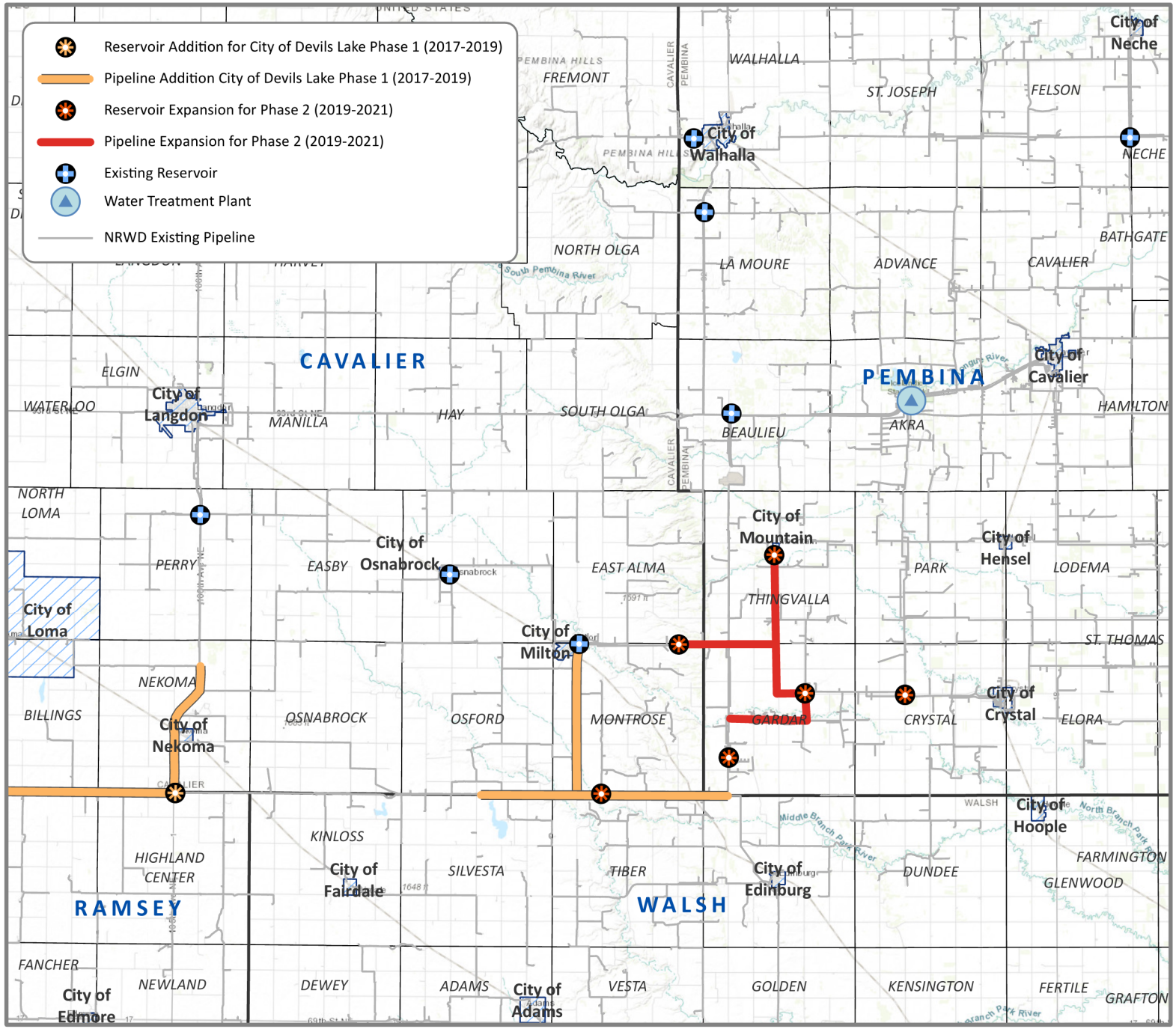
cc: Geoffrey Slick, AE2S
Jeffrey Mattern

13532 Hwy 5 West • Cavalier, ND 58220 • Phone: (701) 265-8503 • FAX (701) 265-4280

NRWD: City of Devils Lake Water Supply - Phase 2

Preliminary Cost Estimate
Last Updated: May 2019

ITEM	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST
A.	Mobilization	1	l.s.	$46,098	$46,098
B.	Water Main				
	1 4-Inch PVC - CL160	5,000	l.f.	$6	$30,000
	2 4-Inch PVC - CL160	32,000	l.f.	$6	$192,000
	3 6-Inch PVC - CL160	10,500	l.f.	$9	$94,500
	4. 8-inch PVC - CL 160	21,000		$13	$273,000
C.	Gate Valves				
	1 4-inch	4	ea.	$2,000	$8,000
	2 6-inch	2	ea.	$2,500	$5,000
	3 8-inch	4	ea.	$3,000	$12,000
D.	Non-Cased Bores				
	1 4-inch	14	ea.	$2,500	$35,000
	2 6-inch	2	ea.	$3,000	$6,000
	3. 8-inch	8	ea.	$3,500	$28,000
E.	Directional Bores				
	1 4-inch POLY - SDR11	1000	l.f.	$40	$40,000
	2 6-inch POLY - SDR11	200	l.f.	$45	$9,000
	3. 8-inch POLY - SDR11	2300	l.f.	$50	$115,000
F.	New Connection to Existing System				
	1 New 4" to Ex. "	2	ea.	$2,600	$5,200
	2 New 6" to Ex."	2	ea.	$3,500	$7,000
	3 New 8" to Ex."	2	ea.	$4,500	$9,000
	4 New " to Existing Customers	30	ea.	$2,000	$60,000
G.	1-inch Flush/Air Blow Off	6	ea.	$1,000	$6,000
H.	Signs	10	ea.	$60	$600
I.	Seeding	20	acre	$600	$12,000
J.	Gravel	300	ton	$10	$3,000
K.	Bedding	12000	l.f.	$7	$84,000
L.	Facility Expansion	1	l.s.	$200,000	$200,000
M.	CONTINGENCIES				$92,269
	SUBTOTAL CONSTRUCTION				**$1,372,667**
	TOTAL CONSTRUCTION				**$1,372,667**
	ADMINISTRATIVE COSTS				
	Crop Reimbursement (Construction)				$40,000
	ENGINEERING				
	Preliminary Engineering (Preconstruction)				$10,000
	Design (Preconstruction)				$138,000
	Bidding (Preconstruction)				$15,000
	Construction (Construction)				$165,000
	Post Construction Engineering (Construction)				$30,000
	TOTAL PROJECT COSTS:				**$1,770,667**

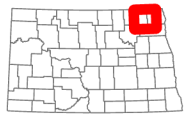


N

0 15,000 30,000

Feet

1 inch equals 30,000 feet



Locator Map Not to Scale

NORTHEAST REGIONAL WATER DISTRICT

2019-2021 BIENNIUM PLANNING

Date: 5/9/2019

Edited by: dlee | C:\Data\Projects\WAFS\N\Northeast RWD\11799-2015-008\Project Data\100 Geomatic Services\GIS\NWRD User Expansion 2.aprx

COST-SHARE REQUEST
NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

APPENDIX P

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
SRWD Phase 7 Water Supply Project

Sponsor(s)
Stutsman Rural Water District

County	City	Township/Range/Section
Stutsman	Jamestown	

Description Of Request ☐ New ☑ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Increase capacity to north and western portions of SRWD system to improve pressure and quantity of water

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
Stutsman Rural Water District

Description Of Problem Or Need And How Project Addresses That Problem Or Need

The proposed project will supply additional water to the north and western portions of Stutsman Rural Water's distribution system including the new users that are being added in Kidder County through the SRWD Phase 6 Project which is currently under construction. In recent years SRWD has experienced a significant increase in water use in the northern and western portions of its distribution system which has caused low pressures and water shortages for customers in these areas. An increase in residential and agricultural water demands, as well as an increase in pasture taps for cattle due to the near drought conditions has necessitated the installation of additional water supply lines by SRWD to assure meeting the water supply needs of the region.
The pipeline project will deliver additional water to SRWD's existing pump stations and storage facilities already in service as well as connecting new users or pasture taps in the project area.

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable

Updated :

SWC Date Received :

Have You Applied For Any State Permits?	☑ Yes	☐ No	☐ Not Applicable

If Yes, Please Explain
We have prepared and submitted a facility report to the NDDOH.

Have You Been Approved For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable

If Yes, Please Explain

Have You Applied For Any Local Permits?	☑ Yes	☐ No	☐ Not Applicable

If Yes, Please Explain
We have begin the process of applying for railroad and other required crossing permits.

Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable

If Yes, Please Explain

Briefly Explain The Level Of Review The Project Or Program Has Undergone
Conceptual PER was completed in 2010 and subsequent PERS provide expansion project by phase.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? No

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$ 1,812,000.00	$	$ 1,812,000.00	$
Other State	$	$	$	$
Local	$ 975,693.00	$	$ 975,693.00	$
Total	$ 2,787,693.00	$ 0.00	$ 2,787,693.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
Local, The North Dakota State Revolving Fund North Dakota Department of Health. A complete facility plan report was submitted for ND Department of Health review. Environmental Assessment was completed and NDDOH is working on FONSI.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
Preliminary Design; Complete. Final Design; Plans and Specs submitted to NDSWC, Construction; If funding is approved Construction will begin late summer of 2019 and will be completed in early summer of 2020

Have Assessment Districts Been Formed?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable

Submitted By Geneva Kaiser			Date 5/2/19
Address 1812 Hwy. 281 North	City Jamestown	State ND	ZIP Code 58401
Telephone Number 701-252-7727	Engineer Telephone Number 701-258-1110		
Sponsor Email Address genevasrwdistrcit@daktel.com	Engineer Email Address bryan.ziegler@bartwest.com		

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature Geneva Kaiser	Date 5/9/19

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

Stutsman Rural Water District
Phase 7 Water Supply Project

Reservoir No. 11 to Reservoir No. 5 Water Supply Line Improvements

Rural Water Distribution System			
Description	**Quantity (ft.)**	**Unit Price / Ft.**	**Extension**
8"' Class 160 PVC	53,500 '	$ 14.25	$762,000
Subtotal Pipe			$762,000
Appurtenances at 30%			$229,000
Reservoir No. 11 Improvements	1	$ 50,000.00	$50,000
SCADA	1	$ 30,000.00	$30,000
Subtotal Construction Cost			**$1,071,000**

Reservoir No. 11 Water Supply Line Improvements

Rural Water Distribution System			
Description	**Quantity (ft.)**	**Unit Price / Ft.**	**Extension**
8"' Class 160 PVC	18,000 '	$ 15.75	$284,000
Subtotal Pipe			$284,000
Appurtenances at 40%			$114,000
8" Railroad Crossing	1	$ 45,000.00	$45,000
8" River Crossing	1	$ 35,000.00	$35,000
Subtotal Construction Cost			**$478,000**

Reservoir No. 5 to Reservoir No. 12 Water Supply Line Improvements

Rural Water Distribution System			
Description	**Quantity (ft.)**	**Unit Price / Ft.**	**Extension**
8"' Class 160 PVC	35,300 '	$ 14.25	$503,000
Subtotal Pipe			$503,000
Appurtenances at 30%			$151,000
Reservoir No. 5 Improvements	1	$ 40,000.00	$40,000
SCADA	1	$ 65,000.00	$65,000
Subtotal Construction Cost			**$759,000**
Total Construction Cost			**$2,308,000**
Other Project Costs			$479,693
Total Project Cost			**$2,787,693**

SWC Date Received : 05/08/19

SRWD PHASE 7 EXPANSION PROJECT

LEGEND

- EXISTING PIPELINE
- 1½" PIPELINE
- 2" PIPELINE
- 3" PIPELINE
- 4" PIPELINE
- 5" PIPELINE
- 6" PIPELINE
- 8" PIPELINE
- 10" PIPELINE
- 12" PIPELINE
- 14" PIPELINE
- 16" PIPELINE
- RAMSEY RWS PIPELINE
- B# BOOSTER STATION
- R# RESERVOIR
- R# RESERVOIR IMPROVEMENTS

NORTH
NOT TO SCALE

STUTSMAN COUNTY
GRIGGS COUNTY
BARNES COUNTY

T 144 N
T 143 N
T 142 N
T 141 N
T 140 N
T 139 N

R 67 W
R 66 W
R 65 W
R 64 W
R 63 W
R 62 W
R 61 W

HWY 281/52
HWY 9
HWY 20

Kensal
Edmunds
Courtney
Pingree
Woodworth
Buchanan
Spiritwood Lake
Spiritwood
Jamestown
Windsor
Cleveland
Eldridge

RESERVOIR 5 TO RESERVOIR 12
RESERVOIR 5 IMPROVEMENTS
RESERVOIR 5
RESERVOIR 4
RESERVOIR 11 TO RESERVOIR 5U
RESERVOIR 11 IMPROVEMENTS
RESERVOIR 11
RESERVOIR 2
RESERVOIR 11 AREA IMPROVEMENT
SRWD Elevated Water Tower
BOOSTER 3
BOOSTER 9
RESERVOIR 8
RESERVOIR 7
RESERVOIR 6
WATER TREATMENT PLANT

Stutsman Rural Water District
Overall Record Drawings

LOCATION MAP AND SHEET INDEX

DESIGNED BY:	BJZ
DRAWN BY:	JAH
APPROVED BY:	BJZ
DESIGN PROJ:	13704.000
CONST PROJ:	13704.000
SCALE:	AS NOTED
DATE:	4/17
SHEET NUMBER	G04
OF	186

Drawing name: F:\Proj\13000\13704\13704.000\outsc\Overall Record Drawings\Overall Record Drawings_exhibit.dwg Layout name: 04 loc (R5 R11) Plotted by: DJH01125 Plotted on: May 03, 2019 - 3:51pm

SWC Date Received : 5/6/19

Updated : 05/24/19

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

APPENDIX Q

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
North Burleigh Water Treatment Plant Pretreatment Improvements

Sponsor(s)
South Central Regional Water District

County	City	Township/Range/Section
Burleigh	Bismarck	T140N/R81W/S27

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Facility is maximizing water production but demand continues to increase. Project will increase production capacity of facility.

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
South Central Regional Water District

Description Of Problem Or Need And How Project Addresses That Problem Or Need

The North Burleigh WTP is currently maximizing its water production capacity. However, the continued expansion of the SCWD distribution system requires additional capacity to serve existing and new users to the system.
Due to the elevated iron and manganese in the source water, the microfiltration (MF) and ultrafiltration (UF) membranes require frequent cleaning. The required backwashing frequency and cleaning frequency of the MF and UF membranes results in reduced capacity from the facility and impacts the life of the membranes. The project would incorporate a pretreatment process downstream of the oxidation basin and upstream of the MF and UF membranes. The process would incorporate rapid mix, flocculation, and sedimentation for the removal of the precipitated iron and manganese prior to the membranes. The reduction in the solids being filtered by the MF and UF membranes will allow staff to increase times between backwashes, reduce the cleaning frequency, and increase the filtration rate of the mebranes resulting in an increase in the overall capacity of the facility.

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone

Alternatives have been reviewed and presented to the SCWD for consideration. SCWD Board of Directors has selected a preferred alternative.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? No

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$	$ 920,000.00	$	$
Other State	$	$	$	$
Local	$	$ 920,000.00	$	$
Total	$ 0.00	$ 1,840,000.00	$ 0.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied

Project is on the 2019 Intended Use Plan and the 2019 Priority List for the North Dakota Drinking Water State Revolving Fund but an application has not yet been submitted.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status

Upon confirmation of funding, final design would commence in accordance with the performed study. Project would be bid and awarded with construction commencing in Spring of 2020.

Have Assessment Districts Been Formed? ☐ Yes ☑ No ☐ Ongoing ☐ Not Applicable

Submitted By Larry Kassian			Date 5/24/2019
Address PO Box 4182	City Bismarck	State ND	ZIP Code 58502
Telephone Number 701-258-8710		Engineer Telephone Number 701-221-8346	
Sponsor Email Address larrykscwd@bektel.com		Engineer Email Address philip.markwed@bartwest.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature	Date 5/24/2019

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

South Central Regional Water District
North Burleigh Water Treatment Plant - Plate Settler Addition
Probable Project Cost - 5/24/19

DESCRIPTION	UNITS	QUANTITY	COST/UNIT	COST
MOBILIZATION & DIVISION 1 ITEMS	LS	1	$70,000	$70,000
SITE WORK	LS	1	$140,000	$140,000
CONCRETE	LS	1	$555,000	$555,000
EQUIPMENT - PLATE SETTLER & COAGULANT FEED	LS	1	$430,000	$430,000
VALVES & PIPING	LS	1	$62,000	$57,000
BUILDING	LS	1	$225,000	$225,000
MECHANICAL	LS	1	$28,000	$28,000
ELECTRICAL	LS	1	$60,000	$60,000
INSTRUMENTATION	LS	1	$21,000	$21,000
SUBTOTAL				$1,586,000
TOTAL PROBABLE CONSTRUCTION COST				**$1,586,000**
Engineering - Design		8%		$127,000
Engineering - CA/CO		8%		$127,000
TOTAL PROBABLE PROJECT COST				$1,840,000

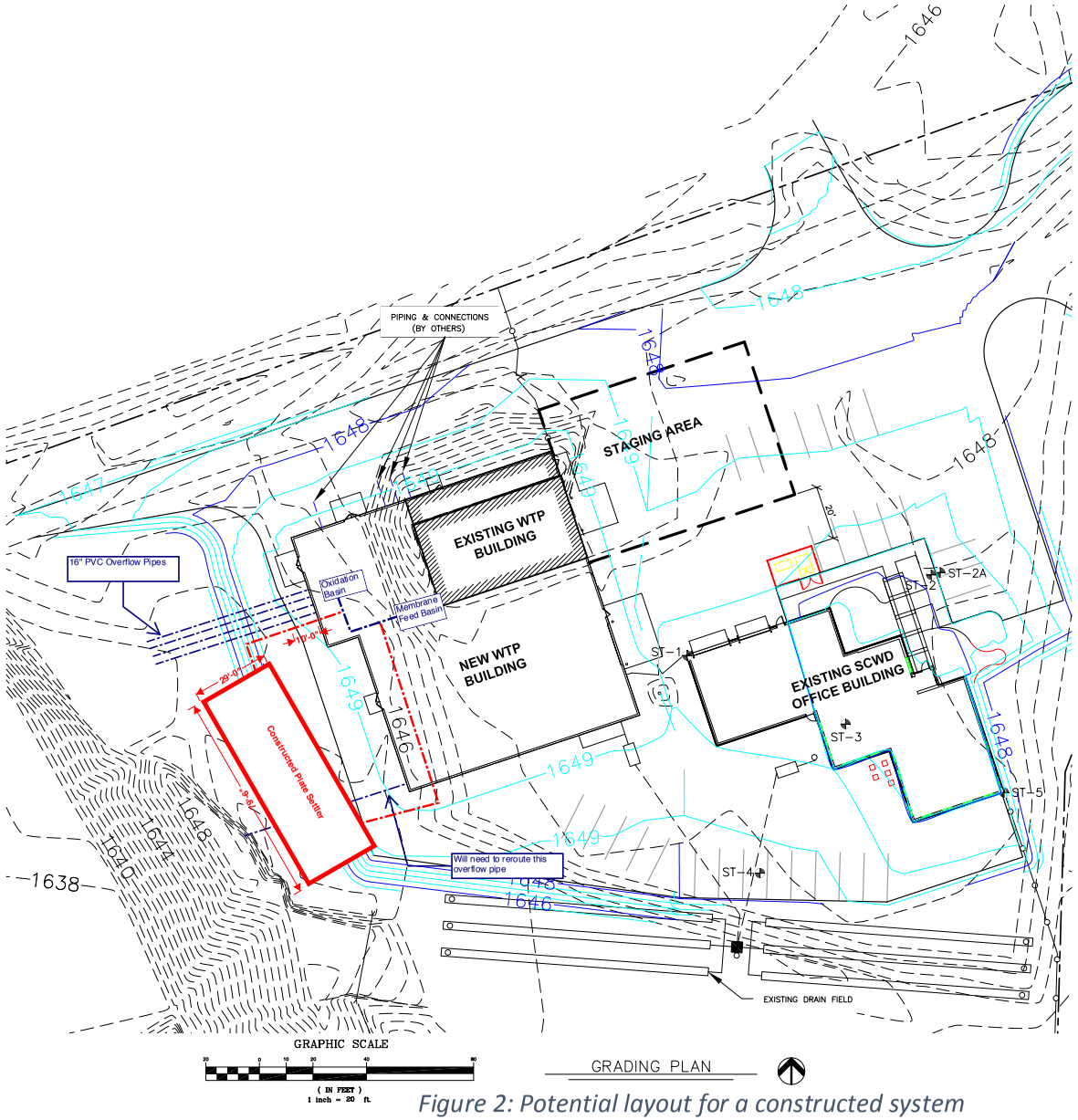


Figure 2: Potential layout for a constructed system

NOTE:

STAGING AREA AS SHOWN IS DESIGNATED FOR THE CONTRACTORS USE FOR TEMPORARY STORAGE OF MATERIALS AND EQUIPMENT

VERTICAL DATUM NOTES

1. SITE ELEVATIONS AS SHOWN ARE REFERENCED TO NGVD 29
2. FLOOR ELEVATION OF EXISTING WATER TREATMENT BUILDING = 1649.28

NOTE: PLANS FOR EXISTING WTP BUILDING AVAILABLE FROM ENGINEER

EXISTING CONTOURS

FINISH CONTOURS

BARTLETT & WEST ENGINEERS

Water Treatment Plant
Building & Equipment
Installation
Contract 2007-1

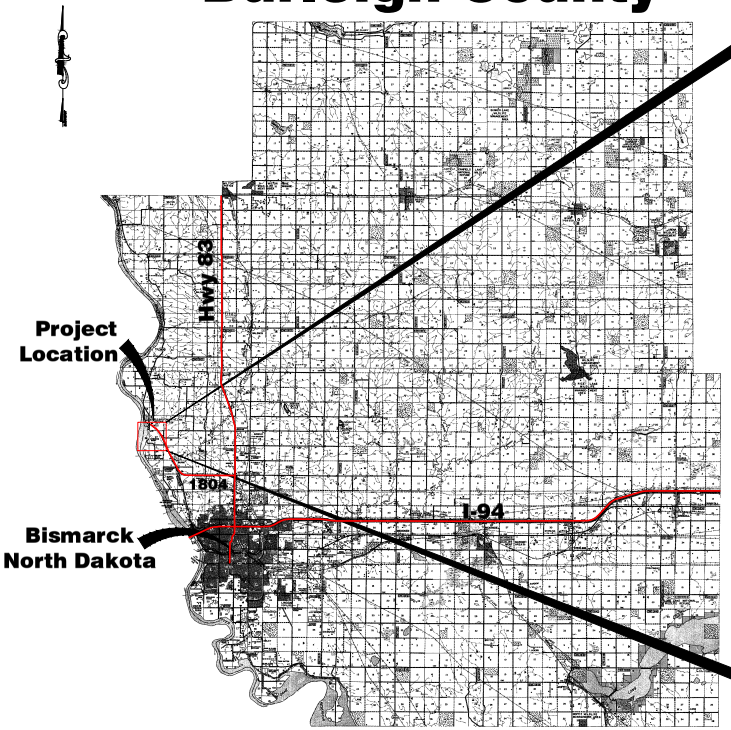
South Central Regional Water District

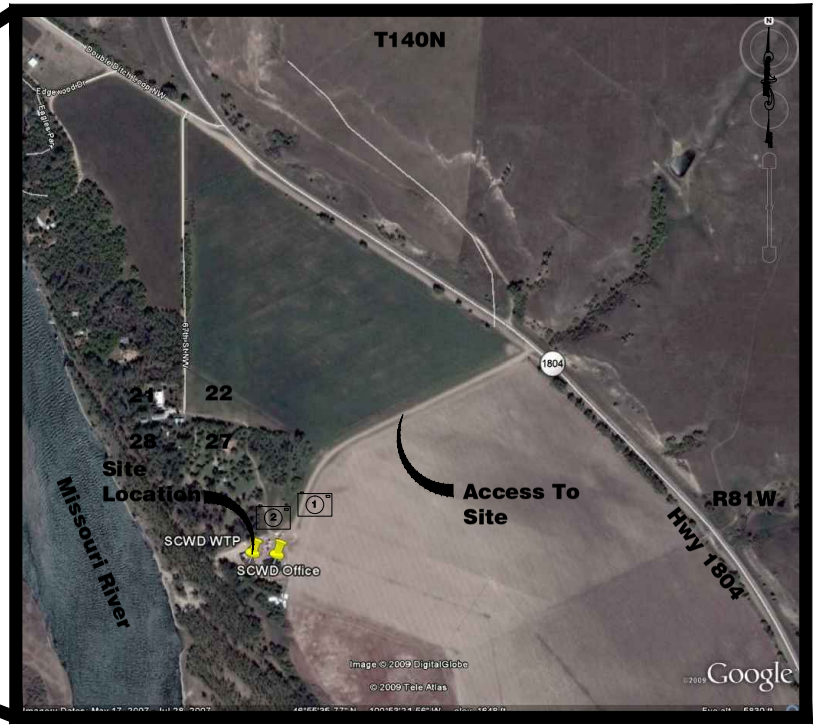
GRADING PLAN

DESIGNED BY: JCL
DRAWN BY: DLZ
APPROVED BY: JAH
DESIGN PROJ: 3053.026
CONST PROJ: ---
SCALE: AS NOTED
DATE: 3/07
DRAWING NO: C2
SHEET NO: 10of 110

Last edit on: Nov 09, 2006 by: DDMOOA39 Drawing name: G:\3000\3053.000 SCWD\autocad\3053.026 WTP\2007-1 Super Structure Piping Set\SCWD WTP Super Structure Piping Set.dwg Layout name: 10 C2 GRADING PLAN Plotted by: dtz009174 Plotted on: Jun 25, 2007 - 2:39pm

Burleigh County

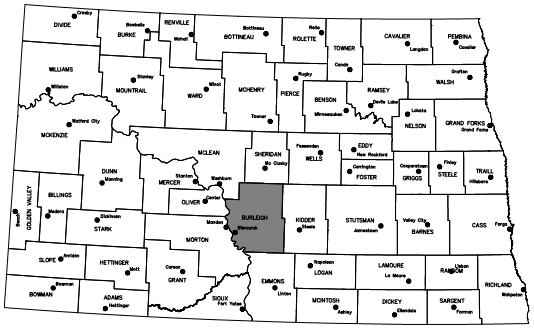




LOCATION MAP
NOT TO SCALE

AERIAL IMAGE JULY 2007

North Dakota



OVERALL VIEW OF NEW ROAD, OFFICE & WTP
9/17/08

EAST VIEW OF NEW WTP
9/17/08

LOCATION MAP

NORTH BURLEIGH WATER TREATMENT PLANT EXPANSION PHASE 2
SOUTH CENTRAL REGIONAL WATER DISTRICT
BURLEIGH COUNTY NORTH DAKOTA

THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY JOSEPH A. HONNER, REG. NO. 5509 ON DATE OCTOBER 1, 2010. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

DESIGNED BY: JAH
DRAWN BY: DLZ
APPROVED BY: JAH

BARTLETT & WEST

#	DATE	DESCRIPTION	BY

Last edit on: 00/00/00 Drawing name: C:\Users\dlz0097A\appdata\Local\Temp\AcPublish_3240\G100 Series_Cover Index.dwg Layout name: G101 Plotted by: DLZ00974 Plotted on: Oct 01, 2010 - 3:06pm

APPENDIX R

COST-SHARE REQUEST
NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Red River Basin Commission Base Funding and update to Long Term Flood Solutions

Sponsor(s)
Red River Basin Commission

County	City	Township/Range/Section

Description Of Request ☐ New ☑ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Updated modeling of Red River for 200 & 500 year floods and Local as well as intrastate and international cooperation

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☑ Other

If Project/Program

☑ Flood Control	☑ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☑ Rural Flood Control	☑ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☐ No

Jurisdictions/Stakeholders Involved
Red River Basin Counties and Communities

Description Of Problem Or Need And How Project Addresses That Problem Or Need

The Red River Basin Commission (RRBC) is a charitable, not-for-profit organization designed to help facilitate a cooperative approach to water management within the Basin and is a well-established forum for identifying, developing, and implementing solutions to cross-boundary issues.
The RRBC is currently advancing projects to manage subsurface drainage at the sub-watershed scale, update the Long Term Flood Solutions (LTFS) report for the basin and facilitating cross boundary interactions concerning water quality, water supply and the Pembia road/dike dispute.
The funding totals totals listed below include $150,000 annual funding from each Jurisdiction of ND, MN, and MB as well as a match from local government units as negotiated between Jurisdictions in 2003. That annual funding amount has not increased in more than 10 years and this increase is intended offset inflation. Small basin wide projects could be undertaken each year with consultation at the state level to determine priorities annually. In most cases additional matching funds would be sought from other sources based on the nature of the project being proposed.

Has Feasibility Study Been Completed?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone

The LTFS is a foundational report cited in nearly all flood control projects in the basin. Updates and revisions are needed as projects have altered some assumptions. Advancement of research on subsurface drainage at the sub-watershed scale will further inform hydrologic models for the basin

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? No

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$ 425,000.00	$	$ 425,000.00	$
State Water Commission	$ 300,000.00	$	$ 300,000.00	$
Other State	$ 690,000.00	$	$ 690,000.00	$
Local	$ 750,000.00	$	$ 750,000.00	$
Total	$ 2,165,000.00	$ 0.00	$ 2,165,000.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied

None

Please Explain Implementation Timelines, Considering All Phases And Their Current Status

The LTFS Update began in November 2018 and will be completed by November 2020. Sub-watershed drainage Scoping will be completed by October 2019

Have Assessment Districts Been Formed? ☐ Yes ☐ No ☐ Ongoing ☑ Not Applicable

Submitted By Ted Preister			Date 7 May 2019
Address 1120 28th Ave N Ste. C	City Fargo	State ND	ZIP Code 58102
Telephone Number 701-356-3183	Engineer Telephone Number		
Sponsor Email Address ted@redriverbasincommission.org	Engineer Email Address		

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature	Date 7 MAY 2019

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

Red River Basin Commission

Manitoba • Minnesota • North Dakota • South Dakota

Fargo Office: 1120 28th Avenue North, Suite. C, Fargo ND 58102
Phone 701-356-3183 • FAX 701-235-7394

Winnipeg Office: 205 – 1100 Concordia Ave. • Winnipeg, MB R2K 4B8
Phone 204-982-7250 • FAX 204-982-7255 • info@redriverbasincommission.org

www.redriverbasincommission.org

April 22, 2019

Garland Eberle, State Engineer
ND State Water Commission
900 E. Blvd., Dept. 770
Bismarck, ND 58505

Dear Mr. Eberle:

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

The RRBC continues to leverage its unique position in promoting jurisdictional dialog on key basin wide activities related to: water supply, flood damage reduction including; mainstem modeling, flow reduction goals and distributed storage, water quality, soil conservation-land use issues, fish wildlife and aquatic ecosystem health, recreation and public support.

We are requesting the 2019-2021 (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, 2019; June 30, 2020; December 31, 2020; and June 30, 2021). 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.

International Red River Board (IRRB): The RRBC nominates two citizen representatives to the IRRB. The RRBC also facilitates and supports the IRRBs meetings twice a year. The IRRB discuss issues related to the international boundary as well as supporting scientific work inform and report to the International Joint Commission.

Lower Pembina River Basin Advisory Board (LPRBAB): Since the governor and Premier have appointed new members to a task force addressing the Pembina Road/Dyke, the RRBC will continue to facilitate and support the twice annual meetings of the LPRBAB. RRBC is coordinating with the Co-Chairs from both Manitoba and North Dakota to facilitate this dialogue. RRBC is also working closely with Randy Gjestvang on reviewing previous efforts at modeling as well as identifying options that exist for moving forward.

- 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% and apply methods for improving water quality.

- 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) as needed.

- 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 required 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. These meetings will focus on Water supply, Water Quality and Flooding over the next Biennium
  - RRBC will continue to refine the NRFP tracking, review and reporting process that will assist in the identification of gaps, celebration of successes (that continues to be part of Annual Summit Conferences), and the NRFP update process.
  - RRBC finished its work in the development of the US Army Corp of Engineers Red River Basin Comprehensive Watershed Management Plan. The RRBC will continue integration of goals set out in the plan as well as facilitating implementation of plan elements as identified in its 6 focus goal areas have been identified: Flood risk management and hydrology (NRFP Goal #s 5,6,7 and 8); Aquatic and Riparian Ecosystem Restoration (NRFP Goal #12); Water Quality (NRFP Goal #9); Water Supply and Drought Management (NRFP Goal #10); Recreation (NRFP Goal #13); Soil Health (NRFP Goal #11).
- NRFP Goal # 3: Data and Technology.
  - Continue to develop and assist with technology and models as appropriate.
- NRFP Goal # 4: Education and Communication.
  - Water Minutes and Ripple Effects
  - Annual Summit Conferences
  - Celebrating Successes in the Red River Basin
  - Basin-wide Outreach
  - Social media and redesign of RRBC website
- NRFP Goal # 5: Forecasting.
  - Forecast Working Group has completed the Report on needs, gaps, and a path forward for gaging and precipitation data collection. RRBC will begin to help facilitate the implementation of the recommendations of this report.

- NDSU is leading an effort to expand and integrate data flows from USGS systems as well as the North Dakota Agricultural Weather Network. The RRBC will continue to participate and lobby for a stronger, cost effective basin wide system that can be employed for a broader array of forecasting tools.

- NRFP Goal # 6: Flood Damage Reduction.
  - This goal is related to the Long-Term Flood Solutions (LTFS) project and the recommendations in that report. Work is ongoing and will continue over the next biennium on an update to the LTFS report. Specific modelling of 200- and 500-year floods as well as integration of completed projects is included in the update. Additionally, a comprehensive review of stormwater regulations at multiple levels is being conducted to assist communities in risk identification and mitigation. As part of the LTFS project, the RRBC continues to track and encourage progress on the recommendations.
  - The RRBC has initiated work to facilitate cross boundary modeling for the Pembina and Roseau Rivers. This effort requires dramatic consultation as the Federal boundary is a challenge for agencies to work across. Engagement is ongoing with Manitoba's Sustainable Development to ensure they collaborate with the USACE modelling efforts. Current efforts underway with numerous Departments in Manitoba beginning with the two watersheds along the border to complete updated HEC-HMS and HEC-RAS using LIDAR driven inputs.
  - The RRBC will continue to follow and participate in the efforts of the Red River Retention Authority as it relates to funds for retention/detention strategies in the Red River Basin through the Natural Resources Conservation Service.

- NRFP Goal # 8: Drainage
  - The Drainage WG will continue to work on the implementation of strategies that were identified in the Tile Drainage Study as well as the Surface Drainage Study. RRBC will connect efforts to increase understanding of sub-surface and surface drainage.
  - RRBC is scoping a project to integrate surface and sub-surface drainage at the sub-watershed scale. The scoping will include developing support from landowners, identification of long-term study plans and potential recommendations to expand to other sub-watersheds.

- NRFP Goal # 9: Water Quality
  - Continue to work with IRRB, the states and the province to identify basin water quality commonalities and goals. The IRRB Water Quality Committee is currently evaluating basin-wide nutrient reduction goals and objectives for recommendation.
  - RRBC has participated and contributed to various efforts in the engagement process for the North Dakota Nutrient Reduction strategy. We will continue to assist when needed in this process.

- RRBC is working with ND Department of Health, Minnesota Pollution Control Agency and Manitoba Conservation and Water Stewardship to explore the development of a Basin-wide Nutrient Reduction Strategy. As a first step the RRBC will establish a Water Quality working group with parties from Minnesota to determine if partnerships from rural and urban groups can find common ground to develop a credit trading/offset program that could be expanded to ND and MB.
- Carry on the work of the ND Department of Health through the transition to Department of Environmental Quality with respect to Cold Climate Best Management Practices for Nutrient Management. The initial workshop has been completed but reporting and outreach will continue into 2020-21. We will also work toward future workshops relating to soil health management and drainage water management in coordination with the Red River Retention Authority.

- NRFP Goal # 10: Water Supply
  - RRBC will continue to expand the basin water supply effort by actions related to the Drought Scoping Document recommendations. We will continue to pursue opportunities related to the development of a Long-Term Drought Preparedness Strategy for the Red River Basin. RRBC continues to meet with the Water Supply Workgroup to develop a Basinwide water supply plan.
  - RRBC continues to provide a channel for communication between interested parties in MN, MB and Nd regarding the Red River Valley Water Supply Project. There are still tensions to work through, however, there has been a concerted effort by all parties to understand the sources of conflict.
- 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.
  - The RRBC participates as a member of the North Dakota Aquatic Invasive Species Committee. This committee meets twice per year.
  - The RRBC continues to highlight fish,wildlife and outdoor recreation at the annual conference through the Success Stories Initaitive, Lightning Talks and other presentation platforms (presentations, exhibitors, advertisers)

RRBC is requesting the $300,000 ND State 2019/2021 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. RRBC will coordinate and continue to provide tours of relevance in the basin (approximately 2-4 tours per year). July 2019-June 2021.

- Goal # 2: Engagement with all jurisdictions as well as non-participation local government and tribal leadership to ensure all voices are heard.
- Goal # 3: Finalize LiDAR collection in the southern portions of Manitoba to better support cross boundary modelling.
- Goal # 4: Complete the next two annual summit conferences: 37th in January 2020 and 38th in January 2021. "Success Stories" and NRFP reports as needed for the annual summit conferences: January 2020 and 2021. Continue outreach to update basin on activities of the RRBC. Develop and distribute educational postcard on the Manitoba tile drainage webinars. Provide support to ongoing Soil health workshops and ensure that follow on to the Cold Climate Best Management Practices for Nutrient Management through an implementation workshop. Assist the Red River Retention Authority with drainage and soil health workshops in early 2018.
- Goal # 5: Continue to work with NDSU and USGS on developing an integrated network for forecasting as well as identify new opportunities from emerging technologies.
- Goal # 6: Update the LTFS as needed. January 2019 – December 2020.
- Goal # 8: Finalize the Integrated Drainage Scoping project and secure funding to proceed with implementation.
- Goal # 9: Regular meeting on the issues between the jurisdictions connected through IRRB to address the work plan that is being followed.
- Goal # 10: Continue work on a basin-wide long-term drought preparation strategy. We will facilitate, as we able, the progress of the State of North Dakota in regard to the Red River Water Supply project. July 2019-June 2020.
- Goals # 12 & 13: Continue participation on the ND Aquatic Invasive Species Committee in July 2019-June 2021, and highlight fish, wildlife and outdoor recreation at the annual conference in January 2020 and 2021
- Work on NRFP Goals # 1, 2, 3, 4, 5, 6, 8, 9, 10, 12, & 13 as funding and staff allow. July 2019-June 2021.

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,

Ted Preister
Executive Director, RRBC
Cell: 719-641-35296
Email: ted@redriverbasincommission.org

APPENDIX S

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

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

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Assinbioine River Basin Initiative (ARBI)

Sponsor(s)
Assiniboine River Basin Initiative

County	City	Township/Range/Section
	Maxbass	

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Working with all stakeholders to achieve resiliency through basin-wide integrated watershed actions that will benefit current and

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☑ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☐ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☑ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
The Assiniboine River Basin Initiative (ARBI) encompasses the Mouse Basin State of North Dakota, as well as the Souris,

Description Of Problem Or Need And How Project Addresses That Problem Or Need

ARBI is a water based organization that is working with a multitude of stakeholders collaboratively and cooperatively on watershed actions across the entire basin.

A Framework Plan has been developed (and will be updated over the course of the next year to ensure it remains current and in-tune with stakeholder needs) and a number of projects have been undertaken with stakeholder organizations that are engaged both on the board as well as in cooperation with other agencies such as the Red River Basin Commission (RRBC). The Framework Plan has four key areas: to increase stakeholder understanding of the basin, to increase basin-wide stakeholder decision making capabilities, to create a more resilient basin respecting water issues and to develop a basin strategy for addressing land use issues, base on jurisdictional approaches.

Project examples include engaged in the development of a HydroGeoSphere model for the entire Assiniboine River Basin and working on the additions of layers to this model such as quantifying sources of phosphorus releases, and evaluation of

Has Feasibility Study Been Completed?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone

Stakeholders from across the basin have been engaged since the inception of ARBI in our development, direction and work undertaken on their behalf. This will continue through working sessions with stakeholders at the annual conference, events, meetings, review of framework plan etc

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? Not applicable.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$	$	$ 100,000.00	$
Other State	$	$	$	$
Local	$	$	$	$
Total	$ 0.00	$ 0.00	$ 100,000.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied

Not applicable.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status

ARBI continues to develop and deliver a variety of projects that are of benefit to all basin stakeholders. The ask of $50,000 per year for the 2019-2021 biennium will be coupled with other funds to assist the ARBI in the deliver of key projects identified by st

Have Assessment Districts Been Formed? ☐ Yes ☐ No ☐ Ongoing ☑ Not Applicable

Submitted By: Assiniboine River Basin Initiative			Date: April 15, 2019
Address: 8874 18th Ave. NW	City: Maxbass	State: ND	ZIP Code: 58760
Telephone Number: 204-795-6672		Engineer Telephone Number	
Sponsor Email Address: info@arb-int.com		Engineer Email Address	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature: Wanda McFadyen, Executive Director, ARBI	Date: April 15, 2019

MAIL TO:

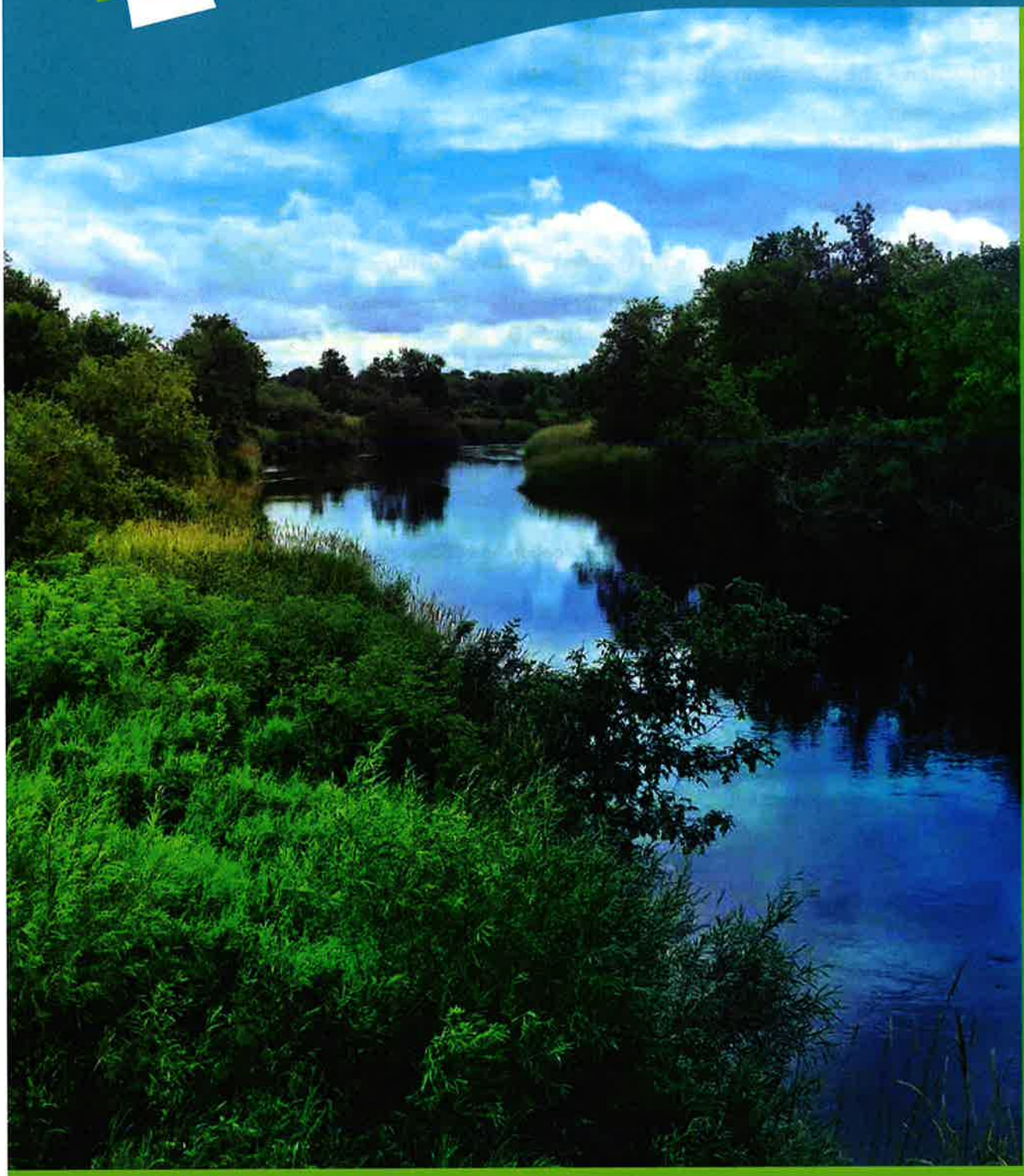
ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

MARCH 2017 V1

ARBI

Assiniboine River Basin Initiative

FRAMEWORK FOR WATERSHED STEWARDSHIP



QU'APPELLE • SOURIS • ASSINIBOINE

PREPARED BY: ASSINIBOINE RIVER BASIN INITIATIVE

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Funding support for this Project was made possible due to funding from the Government of Manitoba and Canada, through the Growing Forward 2, Growing Actions Program.

Canada Growing Forward 2 A federal-provincial-territorial initiative Manitoba

INTRODUCTION

Assiniboine River Basin Framework for Watershed Stewardship

The Assiniboine River Basin

The Assiniboine River Basin (Basin) encompasses the Qu'Appelle, Souris and Assiniboine River watersheds in parts of two Canadian provinces, Saskatchewan and Manitoba, and one U.S. state, North Dakota. Most of the Assiniboine River Basin water flows into the Red River at Winnipeg, but some flows can be diverted, when necessary, through the Portage Diversion into Lake Manitoba, with the final outflow of both being Lake Winnipeg. The Basin is approximately 162,000 square kilometers and home to over 1.5 million people.

Assiniboine River Basin Initiative

Three Rivers – One Basin

The Assiniboine River Basin Initiative (ARBI)

The Assiniboine River Basin Initiative (ARBI) is a multi-stakeholder non-profit organization, operating in Canada and the United States in the Assiniboine River Basin (Basin) in Manitoba, North Dakota and Saskatchewan. ARBI stakeholders include: citizens; local governments; provincial and state governments; businesses/industry; non-governmental organizations; local groups such as cottager associations and agriculture organizations; and other groups that wish to work together and help shape the future direction of the Basin through action around a shared vision.

In 2008, the Province of Manitoba commissioned a report on the Basin through the Red River Basin Commission (RRBC). Based on stakeholder meetings, the report highlighted strong interest to work together in a collaborative manner on issues of common concern. Strong support was shown for the formation of a group like RRBC.

While the 2008 report did not bear fruit immediately, in late 2013, under the guidance of the Prairie Improvement Network, a Basin-wide water management initiative resurfaced. Their goal was to facilitate and support a coordinated approach to water related issues in the Basin. The original Steering Committee, with representation from all three jurisdictions (ND, SK, MB), was re-engaged. A multi-stakeholder workshop held in March of 2014 in Virden revisited a basin approach and gathered consensus on next steps. The consensus view was to develop an organization that would transcend provincial and state boundaries and engage stakeholders from all levels of governments, non-profit organizations, agricultural groups, the business community, and citizens at large.

The building process proceeded with many miles travelled, many meetings, and a large tent open for everyone to become engaged. The first annual Basin-wide conference was hosted in Regina in 2014. There was broad participation from municipal, provincial, state and federal governments, non-profit organizations, agricultural groups, business representatives, and citizens at large. The Planning Committee became the first ARBI Board, and the Interim Executive continued as the ARBI Executive.

The Planning Committee had five main objectives: develop the organization as a functioning charitable entity; establish a base funding structure, begin to secure funding; develop a Basin-wide plan based on attendee's feedback; and assess potential projects that would benefit all citizens in the Basin.

The second annual conference was hosted in Brandon in 2015. This conference affirmed the direction and organizational development work that the Board had undertaken the previous year, and provided direction from stakeholders on the next steps.

One of the key activities going forward was the development of a consensus-driven vision for the future of the Basin that was to include goals, objectives and desired outcomes. That effort has led to this document, the *Assiniboine River Basin Framework for Watershed Stewardship*. Built on Basin-wide input from stakeholders at the grass-roots, agency, and organizational levels, this document identifies key issues of concern and pathways to cooperative solutions. The framework has been constantly adjusted by stakeholders at meetings and the annual conferences in 2015 and 2016, all with the goal of achieving a broad consensus on concrete steps that would enhance resilience and sustainability in the Basin.

EXECUTIVE SUMMARY

The Assiniboine River Basin Framework for Water Stewardship

The *Assiniboine River Basin Framework for Water Stewardship* (Framework) has been developed by the Assiniboine River Basin Initiative (ARBI). The document has been refined through ongoing interactions with the ARBI stakeholder base through workshops, three annual conferences (2014-2016), one-on-one meetings, surveys, small group discussions, and individual feedback. Looking forward, the Framework is intended to be a living document that will guide and enable ARBI and others to act, individually or in partnership, toward a shared vision for the Assiniboine River Basin (Basin).

The ARBI Vision and Mission statements and guiding principles are the core elements that underpin the development of the goals, objectives, and desired outcomes in the Framework:

ARBI Vision Statement:

A resilient Assiniboine River Basin, where stakeholders work together to achieve Basin-wide comprehensive integrated watershed actions that will benefit current and future generations.

ARBI Mission Statement:

To create a resilient Assiniboine River Basin, where all residents can adapt to change and achieve environmental, social and economic sustainability through collaborative actions across the Basin.

ARBI Guiding Principles:

1. Define the Basin as the watersheds of the Qu'Appelle, Souris, and Assiniboine Rivers.
2. Seek equitable and fair solutions for all stakeholder constituencies across the entire Basin.
3. Balance current needs with future generational needs.
4. Realize that change is occurring and adaptation is necessary.
5. Work across jurisdictional boundaries (Manitoba, North Dakota, Saskatchewan; Canada and the United States) to develop Basin-wide strategies for the good of the whole Basin.
6. Work collaboratively with all stakeholders (government, nongovernment, business, organizations, etc.) in Saskatchewan, North Dakota and Manitoba in the Basin.
7. Acknowledge, and take actions that complement the statutory and regulatory responsibilities of the federal, provincial, state, local, and trans-boundary jurisdictions in the Basin.
8. Approaches to issues will be based on using all available information and sound science.

Framework Key Strategies:

A fundamental component of the Framework is the establishment of Key Strategies – the basic tools and methods that will lead to success in the Basin.

Key Strategies:

1. Trans-Boundary: Information, Communication, Education and Cooperation
2. Science, Research and Technology
3. Sustainable Development and Resiliency

Framework Goals, Objectives and Desired Outcomes

Working within the Framework articulates four major goals, under which objectives and desired outcomes are established:

GOAL #1: To Increase Stakeholder Understanding of the Basin.
This goal has one objective: to create a *State of the Basin Report* that captures past, present, and future conditions in the Basin, to provide stakeholders with a broad-based perspective of the Basin.

Objective #1: **To better understand the following Basin conditions:**

- Natural conditions, natural variability, and extreme events;
- Anthropogenic influence, and extreme events since European settlement;
- Predicted impacts of climate change: inventory, resources, assets, liabilities.

GOAL #2: To Increase Basin-wide Stakeholder Decision Making Capabilities.
This goal has three objectives, all related to the increased collection and availability of data, and the development of models and other decision making tools that can be applied at any scale, from local to Basin.

Objective #1: To increase collection and availability of data.

Objective #2: To have relevant model outputs available for stakeholder decision making.

Objective #3: To develop and use decision-support tools at the Basin and sub-watershed planning levels.

GOAL #3: To Create a More Resilient Basin Respecting Water Issues.
This goal has four objectives that focus on the need for a strategy for more effective and integrated jurisdictional water management that relates to water quantity and water quality issues with increased awareness of the importance and value of water.

Objective #1: To develop a Basin strategy for more effective and integrated jurisdictional water management.

Objective #2: To develop Basin strategies for water quantity.

Objective #3: To develop Basin strategies for water quality.

Objective #4: To increase knowledge and awareness of the value of water.

GOAL #4: To Create a More Resilient Basin Respecting Land Issues.
This goal has three objectives, all focused on the need for Basin-wide understanding and dialogue on land issues, and an increased awareness of jurisdictional constraints.

Objective #1: To develop a Basin strategy for addressing land use issues, based on jurisdictional approaches.

Objective #2: To create opportunities for Basin dialogue on key land and water issues.

Objective #3: To create a Basin document that fosters a better understanding of land use issues.

The above goals and objectives have numerous desired outcomes that can potentially be achieved by agencies, groups, organizations, and individuals around the Basin. Simply put, the vision for the Basin will be achieved by: trans-boundary information, communication, education, and cooperation; science, research, and technology; and sustainable development and resiliency principles and actions outlined in the Framework.

The Framework will provide the means to measure progress being made through the actions of many partners across the Basin. It will also guide the development of ARBI work plans, and will be a fundamental yardstick to measure ARBI effectiveness.

1 INTRODUCTION – THE ASSINIBOINE RIVER BASIN INITIATIVE

A. WHAT IS ARBI?

The Assiniboine River Basin Initiative (ARBI) is made up of citizens and organizations that are dedicated to a sustainable and resilient Assiniboine River Basin.

The Assiniboine River Basin (Basin) includes the Qu'Appelle, Souris and Assiniboine Rivers in Canada and the United States and encompasses parts of Manitoba, North Dakota, and Saskatchewan.

ARBI Vision Statement: A resilient Assiniboine River Basin, where stakeholders work together to achieve Basin-wide comprehensive integrated watershed actions that will benefit current and future generations.

ARBI Mission Statement: To create a resilient Assiniboine River Basin, where all residents can adapt to change and achieve environmental, social and economic sustainability through collaborative actions across the Basin.

B. WHO MAKES UP ARBI?

ARBI stakeholders include: citizens; local governments; provincial and state governments; businesses/industry; non-governmental organizations; local groups such as agricultural organizations and cottager associations; and any other groups/organizations that wish to help shape the future direction in the Basin through cooperation and collaboration.

C. CORE VALUES

The Core Values (Appendix I) were used by the ARBI Board in the development of the ARBI Vision and Mission Statements and Guiding Principles, listed below.

D. ARBI GUIDING PRINCIPLES

1. Define the Basin as the watersheds of the Qu'Appelle, Souris, and Assiniboine Rivers.
2. Seek equitable solutions for all stakeholder constituencies across the entire Basin.
3. Balance current needs with future generational needs.
4. Realize that change is occurring and adaptation is necessary.
5. Work across jurisdictional boundaries (Manitoba, North Dakota, Saskatchewan; Canada and the United States) to develop Basin-wide strategies.
6. Work collaboratively with all stakeholders (government, nongovernment, business, organizations, etc.) in Saskatchewan, North Dakota and Manitoba in the Basin.
7. Acknowledge, and take actions that complement the statutory and regulatory responsibilities of the federal, provincial, state, local, and trans-boundary jurisdictions in the Basin.
8. Approaches to issues will be based on using all available information and sound science.

II ASSINIBOINE RIVER BASIN FRAMEWORK FOR WATERSHED STEWARDSHIP

A. WHAT IS THE *ASSINIBOINE RIVER BASIN FRAMEWORK FOR WATERSHED STEWARDSHIP?*

The *Assiniboine River Basin Framework for Watershed Stewardship (Framework)* identifies key issues of importance to stakeholders across the Basin. It recognizes that those issues are expressed across multiple jurisdictions in two Canadian provinces and one American state. Approaches to these issues have been shaped by the core values of these stakeholders. This document articulates Goals, Objectives, and Expected Outcomes for the Basin, in order to achieve the future that stakeholders envision. The Framework will be updated by ARBI as the needs and wishes of stakeholders evolve.

B. WHO GUIDES THE DEVELOPMENT THE *ASSINIBOINE RIVER BASIN FRAMEWORK FOR WATERSHED STEWARDSHIP?*

The cornerstone of this initial document is stakeholder input on the key issues using small group discussion and feedback. This feedback has been gathered at meetings and conferences attended by Basin-wide stakeholders. This input began in 2013 with feedback gathered at the inaugural meeting. It continued at the March 2014 ARBI workshop and ARBI annual conferences (2014-16). Input was also received from issues forms circulated to Basin stakeholders in 2015 and 2016 and from select outreach meetings with key stakeholder groups in 2015-2016.

This document is intended to be a living document that is continually updated with new information and needs in the Basin, as well as edits based on achievements in the goals, objectives, and desired outcomes. Input has been, and will continue to be, received from Basin stakeholders at annual conferences and other events.

C. WHO PROVIDED INPUT INTO THE *ASSINIBOINE RIVER BASIN FRAMEWORK FOR WATERSHED STEWARDSHIP?*

Input has been gathered from many sources: grassroots citizens; local, provincial, and state agencies; non-governmental organizations; businesses; agricultural industries; oil and gas producers; cottager associations; and other stakeholders in the Basin whose lives are impacted by natural and human events and actions (see Appendix I).

D. HOW WILL THE *ASSINIBOINE RIVER BASIN FRAMEWORK FOR WATERSHED STEWARDSHIP* BE USED?

1. To identify issues of importance to Basin residents.
2. To guide Basin-wide desired outcomes for the future.
3. To provide direction to ARBI on Basin issues and solutions.
4. To direct and guide the annual ARBI work-plan.
5. To provide a means of tracking progress toward Basin-wide goals.
6. To provide a method to document and celebrate successes achieved by any agency or group that relate to the Framework.
7. To be a living document to guide Basin-wide efforts that ARBI will continually update and revise.

E. HOW WILL THE *ASSINIBOINE RIVER BASIN FRAMEWORK FOR WATERSHED STEWARDSHIP* BE UPDATED?

The Framework document will be continually updated through annual ARBI work plan, annual conferences stakeholder input, ongoing mailings, and outreach meetings at the local level for additional input.

F. WHAT CAN YOU DO TO HELP?

1. Attend and provide input at each ARBI annual summit conference.
2. Support ARBI efforts and work plan.
3. Implement actions in the Framework that fit within your mandates to help achieve Basin-wide goals.
4. Communicate your successful efforts to achieve actions in harmony with the Framework, so others can learn from you and applaud your efforts.

KEY STRATEGIES

The key strategies are the tools and methods that ARBI and others will use to address the goals, objectives, and desired outcomes in the Basin. The key strategies will be used at a Basin level when possible. The key strategies are areas of activity that are based on the core values (see Appendix) that stakeholders have identified and the ARBI board has used in developing ARBI.

A. TRANS-BOUNDARY: INFORMATION, COMMUNICATION, EDUCATION AND COOPERATION

1. **NEEDS:**
   - **a.** A clearinghouse to assist Basin stakeholders in finding and sharing information.
   - **b.** Improved communication between jurisdictions and among stakeholders.
   - **c.** Connect information to the grassroots level.
   - **d.** Educate and update all generations on key Basin issues and projects.
   - **e.** Elevate water management to a higher priority
   - **f.** Drive behavioral changes.
   - **g.** Communicate key messages back to all ARBI constituencies.
   - **h.** Provide more background knowledge on ARBI to the Basin.
   - **i.** Continually identify topics of interest.
   - **j.** Harmonious and uniform policies and programs across the Basin related to: regulations; zoning; planning; forecasting; integrated flood/drought plans; uniform risk mitigation; shared long term vision; mechanisms for communication; and Basin land and water metrics and progress indicators.
   - **k.** Harmonious jurisdictional goals that are supported at the federal level.
   - **l.** A Basin-wide approach that is proactive not reactive, that optimizes investments, and that considers Basin-wide governance opportunities.

2. **HOW NEEDS CAN BE MET**
   - **a.** Develop communication and awareness materials: newsletters; flyers; brochures; white papers; reports; web site; etc.
   - **b.** Provide opportunities to learn, interact, and to provide input: annual conference; workshops for training/learning; workshops for dialogue, input, and consensus; symposiums; etc.
   - **c.** Arrangements with partners to share databases and publications.
   - **d.** Prepare *State of the Basin* reports that will provide a current snapshot on issues specific to select goals, objectives, or desired outcomes.
   - **e.** Assist trans-boundary cooperation through: workshops; outreach; meetings; and conferences by facilitation; education; and dialogue.
   - **f.** Communication and education to inform and explain the respective roles of governments, First Nations, and organizations.
   - **g.** Use ARBI to promote trans-boundary cooperation.

B. USE SCIENCE, RESEARCH AND TECHNOLOGY

1. **NEEDS:**
   a. Increase investment in science, research and technology.
   b. Improve the science base for public policy development and decision making.
   c. The collection, development, and use of data/technology to optimize water and land management.

2. **HOW NEEDS CAN BE MET:**
   a. Assist in science and research needs by: identifying gaps in science for decision making; advocating for increased funding for science and research needs; working towards the greater use of science in setting policy and managing resources; science for entire Basin; and communicating the Basin's science base more effectively to broad audiences.

   b. Hold a science symposium as part of the annual conference to inform stakeholders about research from other Basin organizations.

C. SUSTAINABLE DEVELOPMENT AND RESILIENCY

1. **NEEDS:**
   a. A uniform and fair approach to balancing the economy and the environment.
   b. The protection and improvement of wetlands, ecosystem health, biodiversity, fish, and wildlife through applied best management practices and incentive opportunities for landowners.

2. **HOW NEEDS CAN BE MET:**
   a. Adopt sustainable development and resiliency as concepts that undergird the vision, mission, and activities of ARBI, and the Framework document.

      i. Sustainable Development Definition: Balance between economic, environment, and community needs in decision-making.

      ii. Resiliency Definition: The capacity of the basin to maintain desired processes, outputs, and services in the face of a fluctuating environment and human use.

      iii. Stewardship Definition: Using land and water resources in a manner that leaves these resources in as good or better condition for future users.

IV BASIN GOALS, OBJECTIVES AND DESIRED OUTCOMES

Through extensive stakeholder input at workshops and conferences, and through questionnaires and other methods, key land and water issues have been identified for the Basin. From this feedback, Basin-wide goals, objectives, and desired outcomes have been developed. These desired outcomes will shape and guide the ARBI annual work plan. The desired outcomes will also encourage others to focus their activities in specific areas, and to act to benefit the larger Basin as they carry out their specific charges and mandates, and provide a measure against which their actions can be assessed against Basin goals. The desired outcomes will assist ARBI in promoting activities that provide Basin-wide benefits.

A. GOAL #1: TO INCREASE STAKEHOLDER UNDERSTANDING OF THE BASIN.

1. **Objective: To better understand the following Basin conditions:**
   - Natural conditions, natural variability, and extreme events;
   - Anthropogenic influence, and extreme events since European settlement;
   - Predicted impacts of climate change: inventory, resources, assets, liabilities.

   a. Desired Outcome #1: Prepare a *State of the Basin* document that speaks to the subjects listed above.

   b. Desired Outcome #2: Education and outreach activities.

B. GOAL #2: TO INCREASE BASIN-WIDE STAKEHOLDER DECISION MAKING CAPABILITIES.

1. **Objective #1: To increase collection and availability of data.**

   a. Desired Outcome #1: LiDAR collection across the Basin in MB, ND, and SK.

   b. Desired Outcome #2: Completed water conveyance infrastructure inventory (culverts, bridges, rock, etc.) across the Basin in MB, ND, and SK.

   c. Desired Outcome #3: Uniform and adequate collection of meteorological and hydrometric data across the Basin.

2. **Objective #2: To have relevant model outputs available for stakeholder decision making.**

   a. Desired Outcome #1: Development of Basin-wide hydrologic assessment capabilities for decision making established through the MFGA Aquanty Project.

   b. Desired Outcome #2: Development of hydrologic models for sub-areas with acute water problems.

3. **Objective #3: To develop and use decision-support tools at the Basin and sub-watershed planning levels.**

   a. Desired Outcome #1: The development of models for water quantity and quality, and evaluation of "What If" scenarios to create more effective action plans in the Basin.

   b. Desired Outcome #2: The development of predictive climate models in the Basin.

C. GOAL #3: TO CREATE A MORE RESILIENT BASIN RE: WATER ISSUES.

1. **Objective #1: To develop a Basin strategy for more effective and integrated jurisdictional water management.**

   a. Desired Outcome #1: Effective Basin-wide dialogue with local, provincial, state, federal governments, and other entities in the Basin.

   b. Desired Outcome #2: Movement toward uniform policy and decision-making processes across jurisdictions, to facilitate inter-jurisdictional water management in the Basin.

      i. Desired Outcome #2a: Dialogue that increases integration of water management across jurisdictions.

      ii. Desired Outcome #2b: A Basin coordinated approach for sustainable drainage.

      iii. Desired Outcome #2c: A coordinated approach for water retention and releases across the Basin.

      iv. Desired Outcome #2d: Movement toward common jurisdictional rules that apply to all people in the Basin.

   c. Desired Outcome #3: Effective flood and drought mitigation strategies at the local, provincial, state, and federal levels.

   d. Desired Outcome #4: Release the *Assiniboine River Basin Framework for Watershed Stewardship.*

      i. Desired Outcome #4a: A common Basin vision that all can work toward.

      ii. Desired Outcome #4b: Update the Framework as required.

2. **Objective #2: To develop Basin strategies for water quantity.**

   a. Desired Outcome #1: Development of a Basin Inventory of retention/detention storage and control operations.

   b. Desired Outcome #2: Inclusive approach to increasing water storage capacity for flood control and mitigation.

      i. Desired Outcome #2a: Decrease in spring water levels that cause devastation to property, infrastructure, and the environment.

   c. Desired Outcome #3: Increase opportunities for more storage for water supply.

      i. Desired Outcome #3a: Preparedness for extended drought periods that will sustain economic activity and reduce economic loss.

      ii. Desired Outcome #3b: Preparedness for adequate water supply for a growing economy and increased population throughout the Basin.

      iii. Desired Outcome #3c: Sufficient water storage (dams, ponds, wetlands, etc.) across the watershed to help mitigate major floods and provide supplies during droughts.

      iv. Desired Outcome #3d: Agreements among users and stakeholders to reduce conflict between economic, environmental, and social uses of these retained waters.

d. Desired Outcome #4: Increased storage opportunities for irrigation.

e. Desired Outcome #5: Increased opportunities for multipurpose storage that will also benefit nutrient load reduction.

f. Desired Outcome #6: Increased storage opportunities for habitat.

g. Desired Outcome #7: A distributed storage strategy developed across the Basin.

3. **Objective #3: To develop Basin strategies for water quality.**

   a. Desired Outcome #1: A Basin-wide jurisdictional approach on water quality condition and stressors in the Basin.

   b. Desired Outcome #2: A Basin-wide jurisdictional approach that identifies the nutrient loads and the impacts from urban and agriculture areas on nutrient loads across the Basin.

   c. Desired Outcome #3: A Basin-wide monitoring system with provincial, state, and federal participation.

   d. Desired Outcome #4: Increased funding at all levels in the Basin to reduce pollution, increase biodiversity, and reduce floods to improve water quality.

   e. Desired Outcome #5: A Basin-wide effort to revise the standards on waste water treatment.

   f. Desired Outcome #6: Development of a *State of the Basin Water Quality Report* with the ISRB and jurisdictional input.

      i. Desired Outcome 6a: Development of recommendations from the *State of the Basin: Basin Water Quality Report.*

4. **Objective #4: To increase knowledge and awareness of the value of water.**

   a. Desired Outcome #1: Development of a *State of the Basin Economic Report* that includes economic impacts caused by anthropogenic and extreme events in the Basin, highlighting the value of water as it relates to federal and provincial programs and incentives.

      i. Desired Outcome #1a: Development of recommendations from the *State of the Basin Economic Report.*

      ii. Desired Outcome #2a: Development of Basin-wide and jurisdictional recommendations related to Basin hydrology needs, gaps, and uniform approaches.

D. GOAL #4: TO CREATE A MORE RESILIENT BASIN RESPECTING LAND ISSUES.

1. **Objective #1: To develop a Basin strategy for addressing land use issues, based on jurisdictional approaches.**
   - a. Desired Outcome #1: Basin-wide workshops for dialogue on conflicting land uses and the development of Basin strategies and recommendations that include funding and programs to reduce conflict.
   - b. Desired Outcome #2: A Basin-wide bank erosion inventory with local and provincial/state input into strategies to address the problem and to prioritize restoration.
   - c. Desired Outcome #3: Basin-wide efforts connected to federal, provincial, and state agencies that reach out to local stakeholders to identify program gaps and needs for ecological goods and services programs across the Basin.
     - i. Desired Outcome #3a: Opportunities for stakeholders to learn about and access these programs through education, workshops, conferences, and outreach.
     - ii. Desired Outcome #3b: Basin strategies at the federal, provincial, and state levels to provide adequate funding to land managers for ecological goods and services.
   - d. Desired Outcome #4: Basin-wide efforts to develop public policies for sensitive wildlife habitats as part of an overall approach for dealing with invasive species, nutrient transport, flood mitigation, and natural habitat improvement.
   - e. Desired Outcome #5: Increased understanding of the impacts of the loss of soil organic matter, especially its relationship to a watershed's capacity for water absorption and preventing nutrient leaching from soil into water.
   - f. Desired Outcome #6: Increase the structural ability of the soil to hold water.

2. **Objective #2: To create opportunities for Basin dialogue on key land and water issues.**
   - a. Desired Outcome #1: Opportunities for dialogue and education on management and issues related to: diversions; dams; closed basins; water quality; and drought.
   - b. Desired Outcome #2: Improved awareness of the importance of water retention on the land leading to more dialogue, planning, and funding for dams and retention sites to hold water.
   - c. Desired Outcome #3: Greater understanding across government departments and agencies of the need to take a "whole of government" approach to dealing with drainage and flood mitigation efforts.

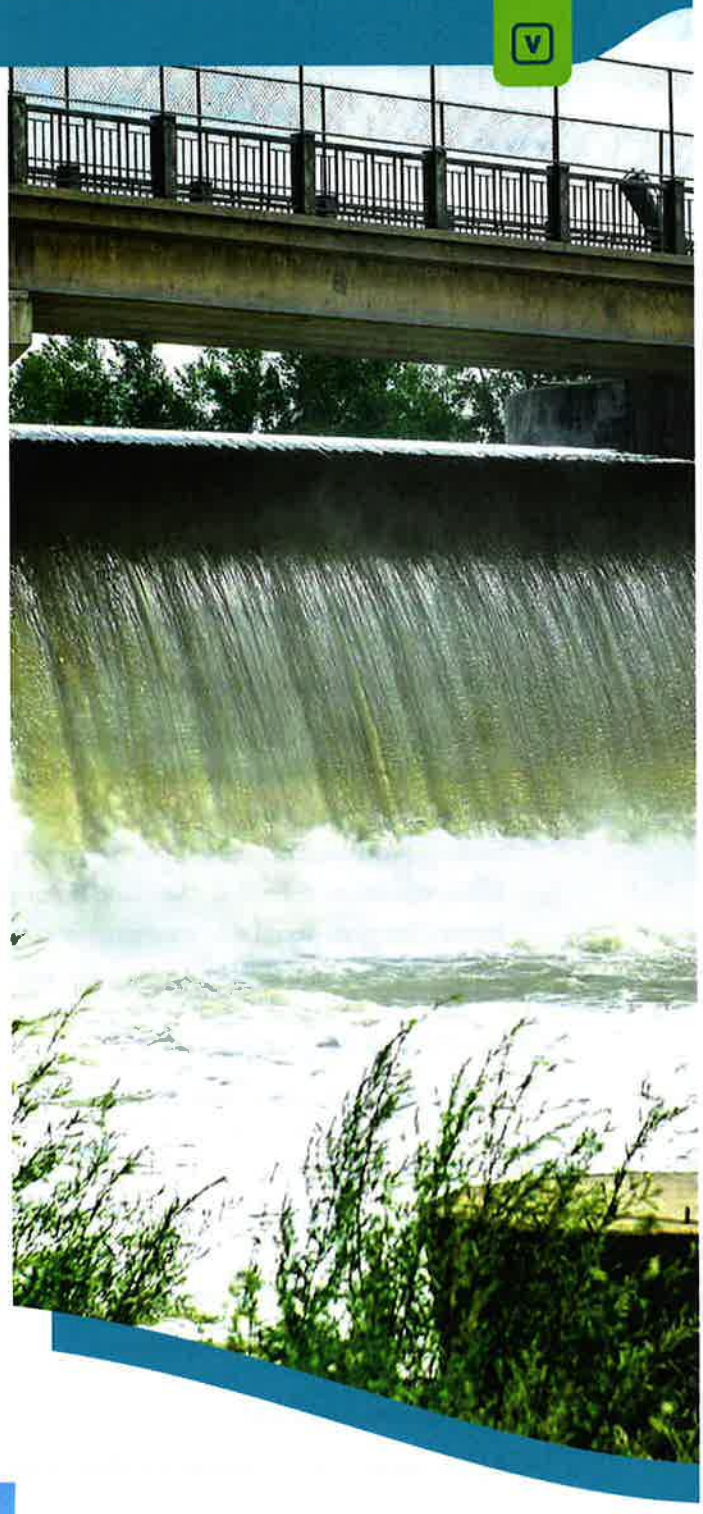
3. **Objective #3: To create a Basin document that fosters a better understanding of land use issues.**
   - a. Desired Outcome #1: Increased education, workshops, conferences, and outreach presentations on basin watershed and sub-watershed details, and Basin topography, geography, and hydrology throughout the Basin.

V CONCLUSION

A considerable amount of work has occurred to date since the first workshop in March 2014. This workshop, as well as the 2014, 2015, and 2016 annual ARBI conferences generated a tremendous amount of discussion on the future direction of ARBI. This feedback from a broad representation of Basin stakeholders has been woven into the current *Assiniboine River Basin Framework for Watershed Stewardship* document.

Opportunities for feedback in the future will be provided at outreach meetings during the year and at the ARBI annual conference. Relevant new information and stakeholder perspectives will be integrated into the Framework through open processes at future ARBI conferences.

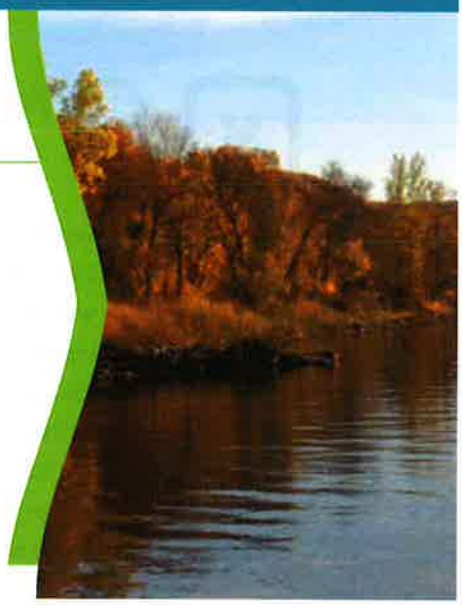
The Framework is intended to be a living document that will guide ARBI activities and, more broadly, provide a means to measure and celebrate results that any person, group, or agency might be able to achieve in the Basin that contributes to sustainability and resilience. Collective and cooperative action by all is needed to create the future that our children deserve.



ARBI

VI APPENDICES

APPENDIX I



ARBI CORE VALUES

The Core Values have been used by the board to develop ARBI and the supporting Vison, Mission, and Guiding Principles documents. Feedback was received from early leaders in the effort and from participants at the Virden, MB workshop the March 2014 and the first annual conference in November of 2014. These core values will also guide and shape the issues focus in theAssiniboine River Basin-Coordinated Action Plan and the annual work-plan of ARBI.

Basin-Wide (Systems) Approach

- Focus on the Basin, physical size, complexity, Water flows travels between jurisdictions, water does not see political boundary. (ARBI has been formed to do this) aim for a direction and align people. Align industry. Balance priorities. Enforce policies. Lack of Basin-wide mgmt. Fractured or unclear decision making processes. Accountability and measurement. Respect differences and commitments within Basin, apolitical, farmland / wetland balance, agricultural productivity - global demand, risk of losing farms / farmers, equal say, hear smaller community voices, cottager's voices, help each other, rural and urban, protect infrastructure.

Be More Proactive (not reactive)

- Focus on risk mitigation and prevention of damage (instead of reacting to catastrophe).

Encourage Team Work

- We are all in this together. Give us hope. More action (less talking).

Enable "Balanced" Decisions

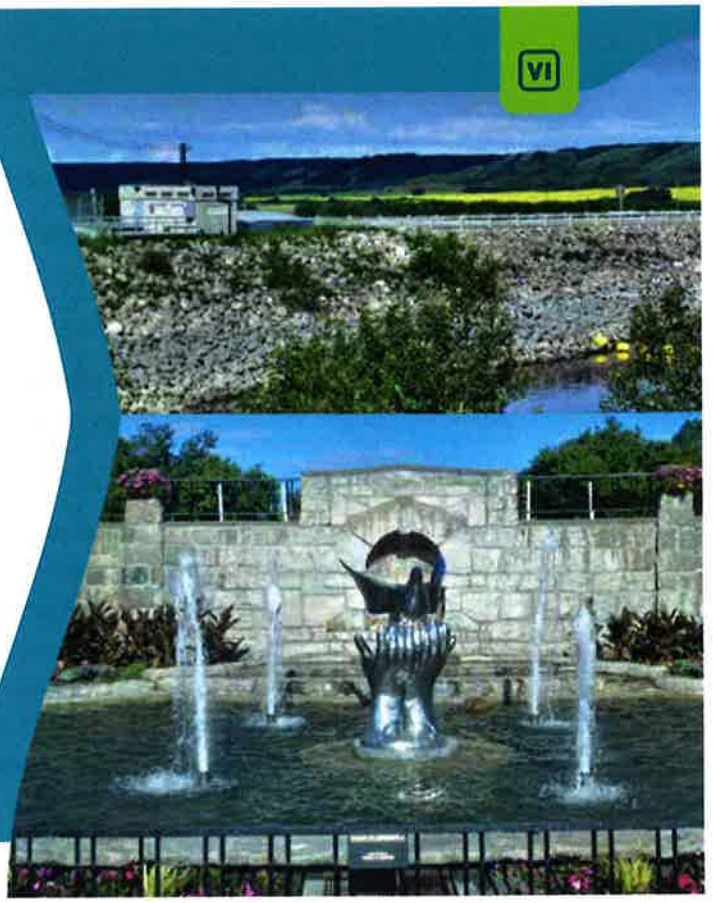
- Issues and problems are interrelated.

Improve Communication

- Across jurisdictions and between various stakeholders and government in a consistent and frequent manner.

Cross Jurisdictions

- Water does not know jurisdictional boundaries. Ensure full basin representation, , approach industry water users and invite them to participate, consult directly with missing organizations, add other groups - federal wildlife agency, first nations, more intimate stakeholder engagement, include more Saskatchewan RM's, industry - potash, oil and gas, mining, transportation, food processing - rail, trucking, irrigation groups, urban and rural, watershed organizations, academia, Saskatchewan government, First Nations, not just a rural - urban needs to be at the table too.



Invite Science

- Focus on fact based decision making.

More Effective Management

- Align management tools, less talk and more action, accomplish something tangible but minimize admin. costs. One-stop shop for water management. Set manageable goals, define needs and communicate, organizational needs, look at it top down and bottom up (grassroots), define structure options/pros and cons, purpose, define leadership strategy, priorities, needs, mission statement, goals and objectives. Define problem statement, bring forward ideas and solutions, work from a plan, prioritize issues, activities, keep the momentum, maintain continuity, short term focus, long term vision, incentives, identify lead org., develop a leadership role and model.

Expand Stakeholder Base and Strength

- There are similar organizations within different jurisdictions. Bring them together to share common issues and solutions. Bring provincial and state governments and stakeholders together - create a safe environment for collaborative problem solving. Expand stakeholder base to include all who are affected by water challenges - even those outside the Basin. There is strength in numbers and need to get local support.

KEY BASIN ISSUES

Small Group Feedback from November 2015 conference (five small groups) was gathered and was incorporated in to the draft document under the various areas as noted by the groups.

Land Related Issues

- Land use conflict. Bank erosion, nutrient leaching. Understanding land use changes.

Water Architecture (Evaluation of various types of infrastructure)

- Levels and flooding on lakes and river systems, swamps, man-made structures (dams, diversions) and decision making process to operate, connecting head waters, potholes, etc. ii. Architecture - Storage (distributed), execution, reduce use of portage diversion (nutrient load), water retention, and smaller dams.
- Architecture - Land issues, watershed details, dams, overview of hydrology.
- Architecture - Define Basin topography, geography, and hydrology.

Mother Nature's Challenges (Extreme Events --- Resiliency)

- Floods, Flood management, Drought, Aquifer capacity, watershed protection and sustainability, invasive species, quantity and quality.

Man Made Challenges (Extreme Events --- Resiliency)

- Drainage, Storage, Irrigation, water quality, nutrient loading, eutrophication, water quality, pollution, public health, recreation, what crosses the jurisdictional boundaries.

Water Management (more effective, integrated, jurisdictional water management)

- Riverbank authority, land buyout, incentives to land owners, integrated water management system, set rules people will follow, accountability, take nature's force into account, adapt to change, common voice / common plan, better coordination, use water efficiently, promote a healthy Basin, wiser multi-objective development, execution, long term management, leadership, measure and deliver results, a well-managed watershed that meets the demands and needs of residents and leads to a flourishing economy, eliminate political boundaries, proactive not reactive, prevention, CFI would be a good model, deliver goals, synergy - whole is greater than the sum of the parts, balanced decisions, vision, able to deal with extreme weather, sustainable.

Water Storage

- Storage, controlled release, coordinate existing structures, drainage outflow vs storage.

Flood Control

- Storage, more flood controls, structures, Basin strategy for floods, flood mitigation strategy, shift irrigation to surface.

Water Value

- Need to put a value on Water, water is a valuable resource.

Water Quantity and Retention

- Excessive water levels in spring devastate property and cause massive infrastructure & environmental damage. Drought periods lead to restricted economic activity and economic loss. A growing economy in the watershed will place more demand upon existing supply. Water storage (dams, ponds, marshland, etc.) across the watershed need to be sufficient to help mitigate major floods and provide resources during droughts. Conflict between economic, environmental and social uses of these retained waters need to be identified and addressed for the benefit of all watershed users.

Water Quality

- Urban areas are significant contributors to the nutrient load across the watershed; farm-based nutrients are being lost; both are contributing to eutrophication of lakes throughout the drainage Basin (Lake of the Prairies, the Qu'Appelle Valley Lakes, Rafferty, etc.), and ultimately into Lake Winnipeg.

- Water Quality - Quality is critical, look at industry, agriculture, wildlife, environment, recreation. Effluent release, monitoring, nutrient management plans, need funding, reduce pollution, biodiversity, floods impact quality.

APPENDIX II

AGENCIES AND ORGANIZATIONS IN THE BASIN THAT HAVE BEEN INVOLVED WITH ARBI

FEDERAL

- Agriculture & Agri-Food Canada (AAFC)
- International Joint Commission (IJC)
- International Souris River Board (ISRB)

MANITOBA

Manitoba Agencies

- Manitoba Agriculture (MA)
- Manitoba Infrastructure (MI)
- Manitoba Sustainable Development (MSD)
- Association of Manitoba Municipalities (AMM)

Manitoba Conservation Districts

- Manitoba Conservation District Association (MCDA)
- Assiniboine Hills (AHCD)
- Lake of the Prairies (LPCD)
- LaSalle Redboine (LSRBCD)
- Upper Assiniboine River (UARCD)
- West Souris River (WSRCD)
- Turtle Mountain (TMCD)
- Little Saskatchewan River (LSRCD)

Manitoba Commodity Groups

- Keystone Agricultural Producers (KAP)
- Manitoba Beef Producers (MBP)
- Manitoba Forage & Grassland Association (MFGA)

Manitoba NGOs

- Lake Winnipeg Foundation (LWF)
- International Institute of Sustainable Development (IISD)
- Manitoba Habitat Heritage Corporation (MHHC)
- Ducks Unlimited Canada (DUC)

Manitoba Universities & Colleges

- Assiniboine Community College (ACC)
- Brandon University (BU)
- University of Manitoba (U of M)
- University of Winnipeg (U of W)

NORTH DAKOTA

North Dakota Agencies

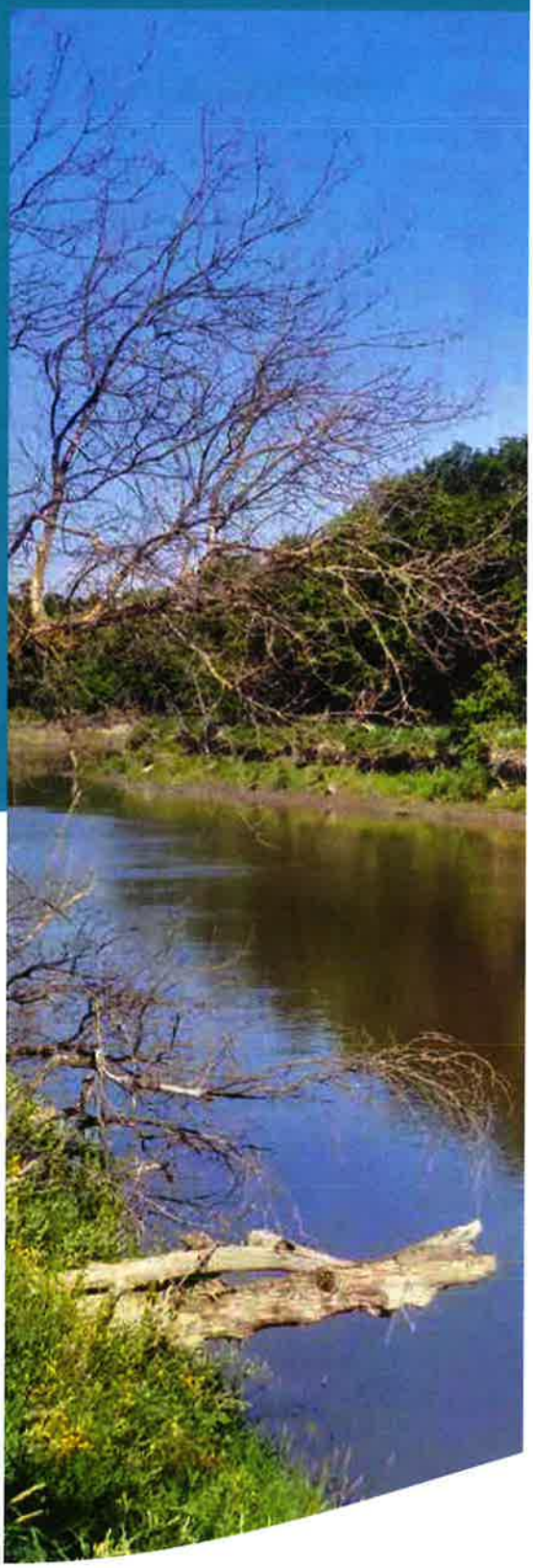
- North Dakota Department of Agriculture (NDA)
- North Dakota Department of Environmental Quality (NDDEQ)
- North Dakota Game and Fish (NDGF)
- North Dakota State Water Commission (NDSWC)

North Dakota NGOs

- Souris River Joint Board (SRJB)

North Dakota Universities

- North Dakota State University (NDSU)
- Minot State University (MSU)
- University of North Dakota (UND)



SASKATCHEWAN

Saskatchewan Agencies

- Water Security Agency (WSA)
- Saskatchewan Association of Urban Municipalities (SUMA)
- Saskatchewan Association of Rural Municipalities (SARM)

Saskatchewan Watershed Associations

- Saskatchewan Association of Watersheds (SAW)
- Assiniboine Watershed Stewardship Association (AWSA)
- Lower Souris River Watershed Stewards (LSRWS)
- Moose Jaw River Watershed Stewards (MJWS)
- Wascana Upper Qu'Appelle Watersheds Taking Responsibility (WUQWTR)
- Lower Qu'Appelle River Watershed Stewards (LQRWS)
- Upper Souris Watershed Stewards (USWS)

Saskatchewan Commodity Groups

- Agricultural Producers Association of Saskatchewan (APAS)

Saskatchewan NGOs

- Ducks Unlimited Canada (DUC)
- Saskatchewan Conservation & Development Agency (SCDA)
- Saskatchewan Farm Stewardship Association (SFSA)

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MFGA Aquanty

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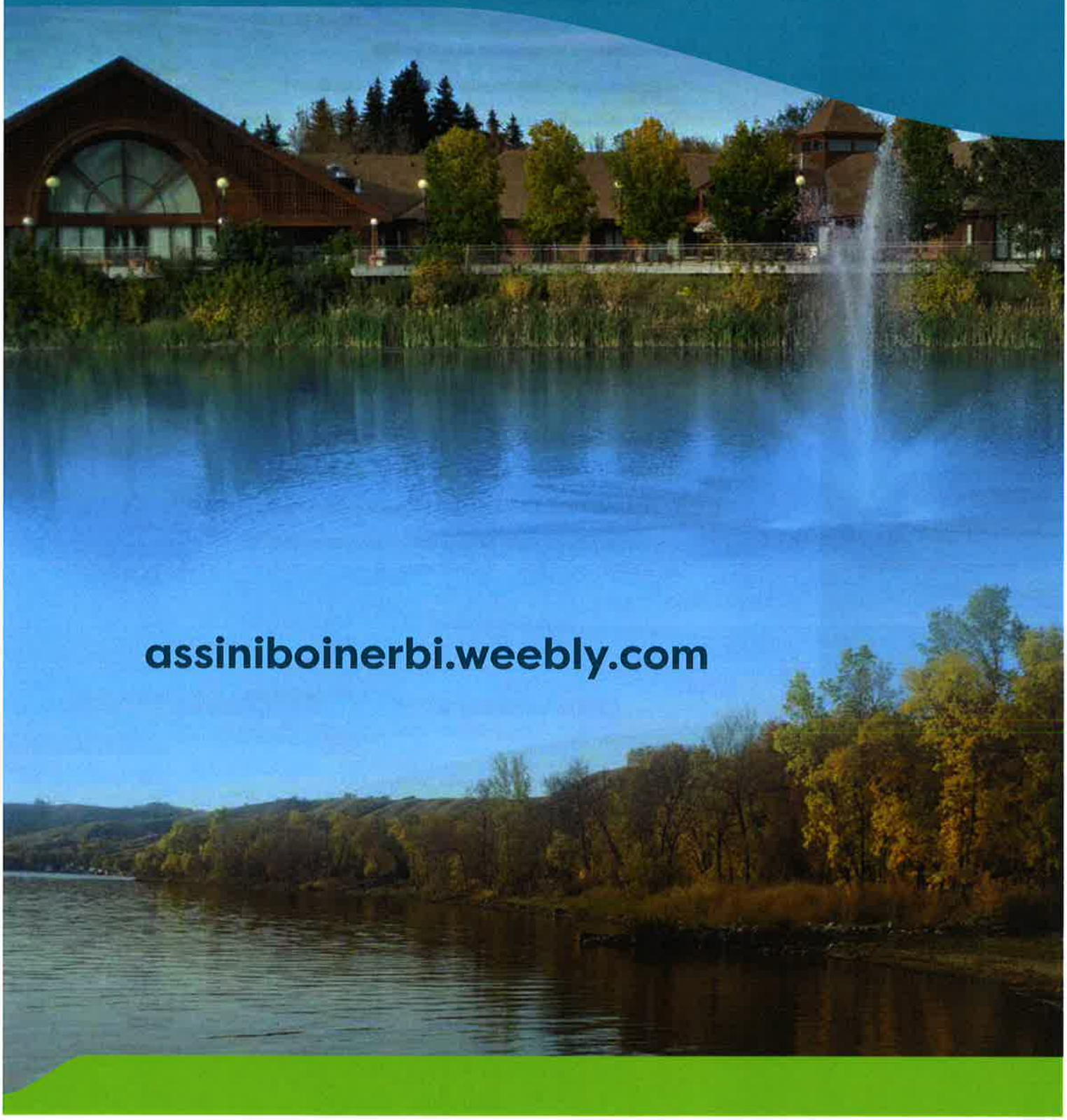
Assiniboine River Basin Initiative



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APPENDIX T

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
(701) 328-2750 • TTY 1-800-366-6888 or 711 • FAX (701) 328-3696 • http://swc.nd.gov

M E M O R A N D U M

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer-Secretary
SUBJECT: SWC/USGS Cooperative Monitoring Program FY-2020 (July 1, 2019-June 30, 2020)
DATE: June 19, 2019

The State Water Commission has participated in a cooperative statewide hydrologic monitoring program with the US Geological Survey since the 1950s. The Joint Funding Arrangement for data collection consists of three components: **stream gaging** to measure flow rate and volume, stream and lake **water quality monitoring**, and **aquifer water level and water quality monitoring**. This data collection system consists of:

Surface Water gage sites (51 Total, of which SWC shares in the cost of 46)
Groundwater Observation Wells (82 Total, of which SWC shares in the cost of 75)
- 56 measured monthly
- 26 equipped with real-time monitoring

Water Quality monitoring
- 44 Surface water sites (semi-annually)
- 9 Chain of Lakes network (quarterly)
- About 1/3 of Groundwater network (25-30 wells, annually)

The stream gaging network provides stream flow statistics that are needed for a wide variety of applications including the design of flood control structures, bridges, culverts, general water resource planning, floodplain mapping, water management and permitting. Many of the gaging sites provided real-time stream stage data which was crucial in responding to the flood events that occurred in 2009 and 2011, and in water appropriation regulatory decisions based on gage flow readings during the recent drought and temporary industrial water permit conditions based on gage readings from these gages.

Water samples are collected for chemical analysis at specific stream sites during high and low-flow periods and at selected lakes. This data is used to determine the suitability of the chemical quality for beneficial use, interpret area hydrology, and to assess changes in the quality resulting from the stresses of both man-induced activities and natural processes caused by climatic variations. The water quality data also provides planners with a basis to assess if waste-water resulting from beneficial use can be discharged into surface water bodies.

Monitoring ground-water levels and quality in wells completed in selected aquifers throughout the state provides essential information used to allocate and manage the state's ground-water resources. The data collection system include real-time monitoring capabilities to the continuous recorder wells.

The total cost of the monitoring program for FY2020 (July 1, 2019-June 30, 2020) is $1,180,080. The State Water Commission portion of this amount is $553,575 or 47%. This represents a 0.9% decrease in program funding over the similar time span of the previous fiscal year.

I recommend that the State Water Commission approve the FY 2020 (July 1, 2019-June 30, 2020) Joint Funding Arrangement with the USGS North Dakota Water Science Center not to exceed $553,575 from the funds appropriated to the State Water Commission in the 2017-2019 biennium.

GE:JCP(2041)

ND State Water Commission/USGS Cooperative Monitoring Program

Program Summary for Funding Year, Oct. 1, 2019 to June 30, 2020

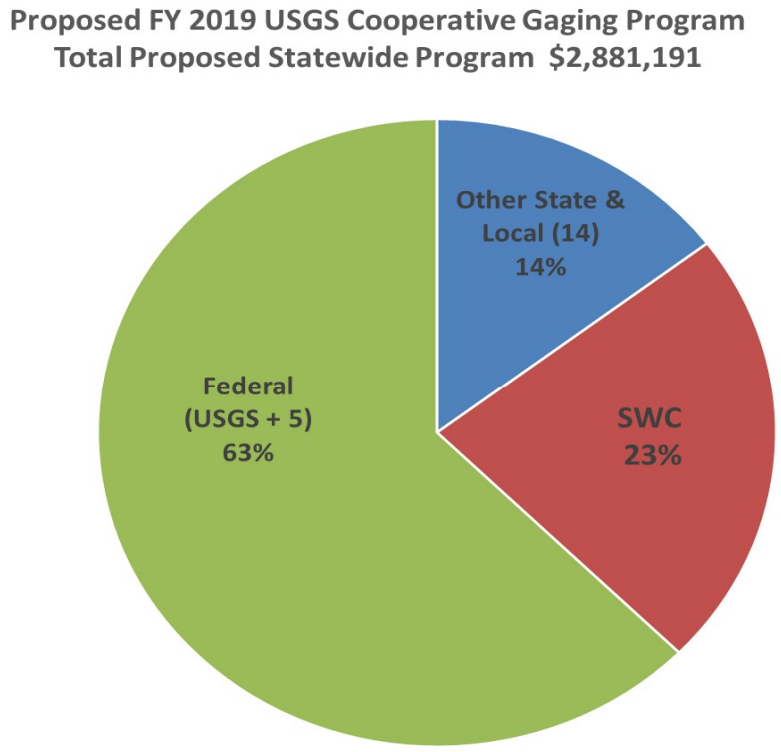
			USGS				
Program	**Credit**	**NDSWC**	**CMF**	**FPS**	**NGWMN**	**Other**	**Total**
Surface water		337,365	221,370	109,160		47,885	715,780
Ground water		111,810	50,510		36,050		198,370
Water Quality	28,500	132,900	102,770			1,760	265,930
	Total:	582,075	374,650	109,160	36,050		
	Credit Applied	(28,500)					
	Total:	**553,575**	**519,860**			**49,645**	**1,180,080**

FY 2019 419,945 (9 months) **558,530** (12 months)
FY 2020 **553,575**

0.9 % Decrease

Prepared by SMR on 5/29/2019

Credit - Credit for SWC construction crew support
CMF - USGS Cooperative Matching Funds
FPS - USGS Federal Priority Streamgage Funds
NGWMN - USGS National Ground Water Monitoring Network Funds
Other - Additional funding partners



Attachment 2

State Water Commission/USGS SW Monitoring Program for **2020 FY**

Site ID	Station Name	Site Type	AC Power	Field Office	SW Funding	USGS FPS	USGS CMF	NDSWC	USACE	USFWS	USBR	RRWMB	LHRWRD	Morton County WRD	Remarks
05051600	Wild Rice River near Rutland, ND	Cs		GFork	12,220		2,180	10,040							
0505152130	Red River at Enloe Bridge,ND	Cs		GFork	13,580			4,760	4,070			4,750			
05054000	Red River at Fargo, ND	C		GFork	20,940	20,940									
05054500	Sheyenne River above Harvey, ND	C	x	Bis	17,140		6,380	10,760							
05056060	Mauvais Coulee Trib #3 nr Cando, ND	Cs		GFork	12,220		5,130	7,090							
05056100	Mauvais Coulee nr Cando	Cs		GFork	12,220		5,130	7,090							
05056200	Edmore Coulee nr Edmore	Cs		GFork	12,220		5,130	7,090							
05056215	Edmore Coulee Trib nr Webster	Cs		GFork	12,220		5,130	7,090							
05056222	Morrison Lake nr Webster, ND	L		GFork	0										Funding moved to DLJWRB
05056239	Starkweather Coulee nr Webster	Cs		GFork	12,220		5,130	7,090							
05056241	Dry Lake nr Penn, ND	L		GFork	0										Funding moved to DLJWRB
05056265	Big Coulee bl Churches Ferry, ND	L		GFork	0										Funding moved to DLJWRB
05056340	Little Coulee nr Leeds, ND	Cs		GFork	12,220		5,130	7,090							
05056500	Devils Lake nr Devils Lake, ND	L		GFork	0										Funding moved to DLJWRB
05056665	Eastern Stump Lake nr Lakota, ND	L		GFork	0										Funding moved to DLJWRB
05059500	Sheyenne River at West Fargo, ND	C	x	GFork	16,970		7,130	9,840							
05059600	Maple River near Hope, ND	Cs		GFork	12,220		5,130	7,090							
05059700	Maple River near Enderlin, ND	C		GFork	17,490	17,490									
05066500	Goose River at Hillsboro, ND	C	x	GFork	16,970		7,130	9,840							
05082500	Red River at Grand Forks, ND	C		GFork	20,940	20,940									
05082625	Turtle River at State Park near Arvilla, ND	C		GFork	16,220		6,810	9,410							
05083500	Red River at Oslo, MN	S		GFork	10,030	10,030									
05084000	Forest River near Fordville, ND	C		GFork	16,220		6,810	9,410							
05090000	Park River at Grafton, ND	C		GFork	16,220		6,810	9,410							
05101000	Tongue River at Akra, ND	Cs		GFork	12,220		5,130	7,090							
05120000	Souris River nr Verendrye, ND	C	x	Bis	16,970		6,360	8,780	1,830						
05122000	Souris River nr Bantry, ND	C	x	Bis	18,240		375	375		17,490					
06331000	L Muddy bl Cow C nr Williston, ND	C		Bis	16,220		6,810	9,410							
06332000	White Earth River near White Earth, ND	C		Bis	16,220		5,350	10,870							
06332515	Bear Den Creek nr Mandaree, ND	C	x	Bis	16,970	12,730		4,240							
06336600	Beaver Creek nr Trotters, ND	Cs		Bis	12,220	12,220									
06337000	Little Missouri River nr Watford City, ND	C		Bis	17,800	8,000	4,860	4,940							Increase
06339100	Knife River at Manning, ND	C	x	Bis	16,970		7,130	9,840							
06339500	Knife River nr Golden Valley, ND	C	x	Bis	16,970		7,130	9,840							
06340000	Spring Creek at Zap, ND	C	x	Bis	16,970		7,130	9,840							
06342260	Square Butte Creek below Center, ND	C	x	Bis	16,970		7,130	9,840							
06342450	Burnt Creek nr Bismarck, ND	Cs	x	Bis	12,970		5,450	7,520							
06343000	Heart River nr South Heart, ND	Cs	x	Bis	13,590		4,530	4,530			4,530				
06344600	Green River nr New Hradec, ND	C		Bis	16,220		6,810	9,410							
06345500	Heart River nr Richardton, ND	C	x	Bis	16,970		7,130	9,840							
06345780	Heart R ab Lake Tschida nr Glen Ullin, ND	C		Bis	16,220		6,810	9,410							
06347000	Antelope Creek nr Carson	Cs		Bis	12,220		5,130	7,090							Funding from Stark Bridge
06347500	Big Muddy Creek nr Almont, ND	Cs		Bis	12,220		5,130	2,790					2,300	2,000	Funding Shortfall - added $2,790
06348300	Heart River at Stark Bridge nr Judson, ND	C		Bis	16,220		5,305				5,610		5,305		Funds moved to cover Carson
06348500	Sweetbriar Creek nr Judson, ND	Cs		Bis	12,220		5,130	7,090							
06349070	Missouri River below Mandan, ND	L		Bis	9,560			9,560							
06350000	Cannonball River at Regent, ND	C	x	Bis	16,970		7,130	9,840							
06351200	Cannonball River nr Raleigh, ND	C		Bis	16,220		6,810	9,410							
06352000	Cedar Creek nr Haynes, ND	C	x	Bis	16,970		7,130	9,840							
06353000	Cedar Creek nr Raleigh, ND	C		Bis	16,220	6,810		9,410							
06354480	SBr Beaver Creek nr Zeeland, ND	Cs		Bis	12,220		5,500	6,720							
06354490	Beaver Creek nr Strasburg, ND	L		Bis	7,330			7,330							
06470800	Bear Creek nr Oakes, ND	C		Bis	16,220		6,810	9,410							
Total funding:			15		715,780	109,160	221,370	337,365	5,900	17,490	10,140	4,750	7,605	2,000	

SEASONAL	17
CONTINUOUS	27
LAKE	7
MISCELLANEOUS	0
MISC CSG	0
AC	15

FY	2019	262,465 9 months
FY	2020	337,365 18,850 in monitoring costs moved to Devils Lake Joint Water Resource Board
INCREASE		28.5

Attachment 3

ND State Water Commission/USGS Groundwater Monitoring Program FY 2020

COUNTY NAME	LOCAL WELL NO.	USGS ID	AQUIFER NAME	OFFICE	FQ	POR	REMARKS	Total	SWC	USGS CMF	USGS NGWMN
ADAMS	132-097-07CAB2	461614102515202	LUDLOW-HELL CREEK	Bis	M	1971-		1,080	670	410	
ADAMS	132-097-07CAB3	461614102515203	LUDLOW	Bis	M	1971-		1,080	670	410	
BENSON	151-063-29AAC2	475224098443202	WARWICK AQUIFER	Bis	C	1951-	Real-time	5,360	3,910	1,450	
BENSON	151-069-01BBB	475601099264701	MADDOCK AQUIFER	Bis	M	1969-		1,080	670	410	
BENSON	151-069-03CCC	475515099292101	MADDOCK AQUIFER	Bis	M	1969-		1,080	670	410	
BENSON	154-067-15BBB	480958099154801	SPIRITWOOD AQUIFER	Bis	M	1970-		1,080	670	410	
BENSON	154-071-11AAD1	481041099442701	FOX HILLS SANDSTONE	Bis	M	1968-		1,080	670	410	
BENSON	156-071-04BBA	482212099475801	PLEASANT LAKE AQUIFER	Bis	C	1968-	Real-time, 100% NGWMN	5,150			5,150
BOTTINEAU	159-082-34DDC	483248101141301	GLENBURN AQUIFER	Bis	M	1980-		1,080	670	410	
BOWMAN	131-102-07DDD1	461039103282801	HELL CRK-FOX HILLS	Bis	M	1972-		1,080	670	410	
BOWMAN	131-102-07DDD3	461039103282803	TONGUE RIVER MEMBER	Bis	M	1972-		1,080	670	410	
BURKE	163-093-17DDD	485618102455401	COLUMBUS AQUIFER	Bis	M	1967-		1,080	670	410	
BURLEIGH	138-077-22AAD	464540100222101	MCKENZIE AQUIFER	Bis	C	1961-	Real-time, 100% NGWMN	5,150			5,150
BURLEIGH	142-075-19CCB	470556100142501	WING CHANNEL AQUIFER	Bis	M	1962-		1,080	670	410	
CASS	143-054-08BBB2	471326097332902	PAGE AQUIFER	Gfork	C	1982-	Real-time	5,360	3,910	1,450	
CAVALIER	161-060-21BBB	484534098254401	PIERRE SHALE	Gfork	M	1969-		1,080	670	410	
CAVALIER	161-063-29BBB	484444098504301	MUNICH AQUIFER	Gfork	M	1970-		1,080	670	410	
DIVIDE	163-097-34ABB	485432103151701	YELLOWSTONE AQUIFER	Bis	M	1972-		1,080	670	410	
DUNN	145-095-22DAD2	472144102453402	KILLDEER AQUIFER	Bis	C	1972-	Real-time	5,360	3,910	1,450	
DUNN	146-091-35BBC	472537102144801	GOODMAN CREEK AQUIFER	Bis	C	1974-	Real-time, 100 % NGWMN	5,150			5,150
EMMONS	134-075-15BBB	462539100061101	FOX HILLS SANDSTONE	Bis	M	1972-		1,080	670	410	
FOSTER	147-067-35AAA	473051099093601	CARRINGTON AQUIFER	Bis	C	1991-	Real-time	5,360	3,910	1,450	
GOLDEN VALLEY	140-105-30CCC6	465421103590706	HELL CREEK-FOX HILLS	Bis	M	1985-		1,080	670	410	
GRAND FORKS	152-054-31BBB	475646097372201	ELK VALLEY AQUIFER	Gfork	C	1965-	Real-time, 100 % NGWMN	5,150			5,150
GRANT	135-090-23BBB1	463000101575101	FOX HILLS SANDSTONE	Bis	M	1973-		1,080	670	410	
GRANT	135-090-23BBB2	463000101575102	TONGUE RIVER MEMBER	Bis	M	1973-		1,080	670	410	
GRIGGS	145-061-04DAD1	472412098261201	SPIRITWOOD AQUIFER	Gfork	C	1970-	Real-time	5,360	3,910	1,450	
GRIGGS	146-058-26BBDB	472624098013101	MCVILLE AQUIFER	Gfork	M	1999-		1,080	670	410	
HETTINGER	135-097-04DCA	463153102521001	FOX HILLS SANDSTONE	Bis	M	1968-		1,080	670	410	
KIDDER	139-72-34DDA3	464836099443803	DAKOTA AQUIFER	Bis	C	2006-	Real-time	5,360	3,910	1,450	
LOGAN	136-070-26BBB2	463417099271002	STREETER AQUIFER	Bis	C	1978-	Real-time	5,360	3,910	1,450	
MCHENRY	154-077-18CCC	480913100372501	NEW ROCKFORD AQUIFER	Bis	C	1976-	Real-time	5,360	3,910	1,450	
MCINTOSH	129-072-30BBB	455807099450701	ZEELAND AQUIFER	Bis	M	1976-		1,080	670	410	
MCINTOSH	130-069-21BBB1	460411099200701	SPRING CREEK AQUIFER	Bis	M	1977-		1,080	670	410	
MCINTOSH	130-069-21BBB2	460411099200702	SPRING CREEK AQUIFER	Bis	M	1977-		1,080	670	410	
MCKENZIE	150-098-23AAB2	474814103104702	CHERRY CREEK	Bis	M	2001-		1,080	670	410	
MCKENZIE	151-102-14CCC	475335103424101	CHARBONNEAU AQUIFER	Bis	C		Real-time	5,360	3,910	1,450	
MERCER	146-090-20CCC	472641102105901	FOX HILLS FORMATION	Bis	M	1968-		1,080	670	410	
MORTON	138-081-09ABB5	464734100543505	FOX HILLS SANDSTONE	Bis	M	2017-	Replaces 138-081-09ABB1	1,080	670	410	
MORTON	138-081-09ABB2	464734100543502	HELL CREEK FORMATION	Bis	M	1974-		1,080	670	410	
MORTON	138-081-09ABB4	464734100543504	CANNONBALL-LUDLOW UNDIF	Bis	M	1975-		1,080	670	410	
MORTON	139-087-31DDA	464824101420001	FOX HILLS FORMATIOM	Bis	M	2014-		1,080	670	410	
MORTON	139-086-35BCC	464847101303801	SIMS AQUIFER	Bis	M	1974-		1,080	670	410	
MORTON	139-088-34BCC3	464846101464503	TONGUE RIVER MEMBER	Bis	M	1974-		1,080	670	410	
NELSON	153-058-32DBB	480138098074101	PIERRE SHALE	Gfork	M	1948-		1,080	670	410	
OLIVER	142-084-24BBA	470642101162701	FOX HILLS FORMATION	Bis	M	1968-		1,080	670	410	
PIERCE	156-073-12CCC	482033099594901	FOX HILLS SANDSTONE	Bis	M	1967-		1,080	670	410	
PIERCE	158-073-17BBB	483054100071901	LAKE SOURIS AQUIFER	Bis	M	1968-		1,080	670	410	
RAMSEY	153-065-09DDD2	480449099002402	SPIRITWOOD AQUIFER	Gfork	M	1973-		1,080	670	410	
RAMSEY	154-065-21CCC	480817099013201	SPIRITWOOD AQUIFER	Gfork	M	1973-		1,080	670	410	
RAMSEY	156-062-20BBB	481929098392601	PIERRE SHALE	Gfork	M	1973-		1,080	670	410	
RANSOM	133-058-25BBA2	461838097553402	ENGLEVALE AQUIFER	Gfork	C	1982-		5,360	3,910	1,450	
RANSOM	134-058-24CDC2	462400097552502	ENGLEVALE AQUIFER	Gfork	C	1968-		5,360	3,910	1,450	
RENVILLE	161-084-24DDD	484500101294901	FOX HILLS FORMATION	Bis	M	1979-		1,080	670	410	
RICHLAND	134-048-20ADD2	462425096441202	COLFAX AQUIFER	Gfork	C	1980-	Real-time	5,360	3,910	1,450	
RICHLAND	134-052-06CCD2	462633097163402	SHEYENNE DELTA AQUIFR	Gfork	C	1963-	Real-time, 100 % NGWMN	5,150			5,150
RICHLAND	136-052-22DDD2	463422097115602	SHEYENNE DELTA AQUIFER	Gfork	C	1963-	Real-time	5,360	3,910	1,450	
ROLETTE	163-073-11CCC2	485707100053702	HELL CREEK FORMATION	Bis	M	1978-		1,080	670	410	
SARGENT	129-058-06AAA3	460120097591803	OAKES AQUIFER	Bis	C	1993-	Real-time	5,360	3,910	1,450	
SHERIDAN	150-074-14CCC	474817100063801	MARTIN AQUIFER	Bis	M	1978-		1,080	670	410	
SIOUX	130-086-28CCC1	460244101272701	FOX HILLS SANDSTONE	Bis	M	1973-		1,080	670	410	
SIOUX	130-086-28CCC2	460244101272702	HELL CREEK FORMATION	Bis	M	1973-		1,080	670	410	
SIOUX	134-079-32ADD	462239100375601	STRASBURG AQUIFER	Bis	M	1973-		1,080	670	410	
STARK	140-095-08AAA	465755102410701	SENTINEL BUTTE	Bis	C	1968-	Real-time, 100 % NGWMN	5,150			5,150
STEELE	145-054-27CDC	472024097315201	DAKOTA SANDSTONE AQUIFER	Gfork	M	1970-		1,080	670	410	
STUTSMAN	139-062-02CCC	465243098284801	SPIRITWOOD AQUIFER	Bis	C	1967-	Real-time	5,360	3,910	1,450	
STUTSMAN	140-062-02DDD	465757098274401	SPIRITWOOD AQUIFER	Bis	C	1984-	Real-time	5,360	3,910	1,450	
TOWNER	158-066-30BBB	482908099134601	SPIRITWOOD AQUIFER	Bis	C	1980-	Real-time	5,360	3,910	1,450	
TOWNER	160-067-10BBB1	484209099174101	SPIRITWOOD AQUIFER	Bis	M	1980-		1,080	670	410	
TOWNER	160-067-10BBB2	484209099174102	SPIRITWOOD AQUIFER	Bis	M	1980-		1,080	670	410	
TOWNER	163-067-18AAA1	485659099222801	SPIRITWOOD AQUIFER	Bis	M	1980-		1,080	670	410	
TOWNER	163-067-18AAA2	485659099222802	SPIRITWOOD AQUIFER	Bis	M	1980-		1,080	670	410	
WALSH	155-053-25CDD4	481234097234604	LAKE AGASSIZ CLAY	Gfork	M	1991-		1,080	670	410	
WALSH	155-053-25CDD5	481234097234605	LAKE AGASSIZ CLAY	Gfork	M	1991-		1,080	670	410	
WALSH	156-056-22DDD	481841097490301	FORDVILLE AQUIFER	Gfork	C	1968-	Real-time	5,360	3,910	1,450	
WALSH	157-055-21DBC	482408097443201	DAKOTA SANDSTONE	Gfork	M	1968-		1,080	670	410	
WALSH	157-058-18DDD	482449098095801	PIERRE SHALE	Gfork	M	1968-		1,080	670	410	
WARD	154-082-03CDC3	481058101120403	SUNDRE BURIED CH AQ	Bis	C	1968-	Real-time	5,360	3,910	1,450	
WELLS	145-068-10BCC	472329099194401	PIPESTEM CREEK AQUIFER	Bis	M	1965-		1,080	670	410	
WILLIAMS	158-100-08DAA1	483127103373101	LITTLE MUDDY AQUIFER	Bis	M	1966-		1,080	670	410	
WILLIAMS	158-100-08DAA2	483127103373102	LITTLE MUDDY AQUIFER	Bis	C	1966-	Real-time, 100 % NGWMN	5,150			5,150
WILLIAMS	159-098-10AAD	483700103191501	WEST WILDROSE AQUIFER	Bis	M	1965-		1,080	670	410	
							Current FY	**198,370**	**111,810**	**50,510**	########
			Measure Only	**56**							
			Publication	**0**			Previous FY	148,840	83,295	38,445	########
			Recorder	**26**				9 months			

Attachment 4

ND State Water Commission/USGS Water Quality Monitoring Program FY 2020

Site ID	Station Name	Field Office	# samples	total	SWC	USGS CMF	Remarks
STATE WIDE RIVER WATER QUALITY NETWORK							
05051522	Red River at Hickson, ND	GFork	6	4,740	2,650	2,090	
05051600	Wild Rice River near Rutland, ND	GFork	6	4,740	2,650	2,090	
05052500	Antelope Creek at Dwight, ND	GFork	4	3,160	1,770	1,390	
05054500	Sheyenne River above Harvey, ND	Bis	4	3,160	1,770	1,390	
05056000	Sheyenne River near Warwick, ND	GFork	6	4,740	2,650	2,090	
05056060	Mauvais Coulee Trib #3 nr Cando, ND	GFork	4	3,160	1,770	1,390	
05056100	Mauvais Coulee nr Cando	GFork	4	3,160	1,770	1,390	
05056200	Edmore Coulee nr Edmore	GFork	4	3,160	1,770	1,390	
05056215	Edmore Coulee Trib nr Webster	GFork	4	3,160	1,770	1,390	
05056239	Starkweather Coulee nr Webster	Gfork	4	3,160	1,770	1,390	
05056340	Little Coulee nr Leeds, ND	GFork	4	3,160	1,770	1,390	
05057200	Baldhill Creek near Dazey, ND	GFork	6	4,740	2,650	2,090	
05059700	Maple River near Enderlin, ND	GFork	6	4,740	2,650	2,090	
05060500	Rush River at Amenia, ND	GFork	4	3,160	1,770	1,390	
05064500	Red River at Halstad, MN	GFork	6	4,740	2,650	2,090	
05065500	Goose River nr Portland, ND	GFork	6	4,740	2,650	2,090	
05082625	Turtle River at State Park near Arvilla, ND	GFork	6	4,740	2,650	2,090	
05084000	Forest River near Fordville, ND	GFork	6	4,740	2,650	2,090	
05092000	Red River at Drayton, ND	GFork	6	4,740	2,650	2,090	
05099400	Little South Pembina near Walhalla, ND	GFork	4	3,160	1,770	1,390	
05101000	Tongue River at Akra, ND	GFork	4	3,160	1,770	1,390	
05113600	Long Creek nr Noonan, ND	Bis	4	3,160	1,770	1,390	
05120500	Wintering River nr Karlsruhe, ND	Bis	4	3,160	1,770	1,390	
05123400	Willow Creek nr Willow City, ND	Bis	6	4,740	2,650	2,090	
05123510	Deep River nr Upham, ND	Bis	6	4,740	2,650	2,090	
06331000	L Muddy bl Cow C nr Williston, ND	Bis	4	3,160	1,770	1,390	2 additonal by NDDH (6 total)
06332000	White Earth River nr White Earth, ND	Bis	4	3,160	1,770	1,390	2 additonal by NDDH (6 total)
06332515	Bear Den Creek nr Mandaree, ND	Bis	4	3,160	1,770	1,390	
06335500	Little Missouri River at Marmath, ND	Bis	6	4,740	2,650	2,090	
06335750	Deep Creek nr Amidon, ND	Bis	4	3,160	1,770	1,390	
06336600	Beaver Creek nr Trotters, ND	Bis	4	3,160	1,770	1,390	
06339100	Knife River at Manning, ND	Bis	4	3,160	1,770	1,390	
06340000	Spring Creek at Zap	Bis	6	4,740	2,650	2,090	
06342260	Square Butte Creek below Center, ND	Bis	4	3,160	1,770	1,390	
06342500	Missouri River at Bismarck, ND	Bis	6	4,740	2,650	2,090	
06343000	Heart River nr South Heart, ND	Bis	4	3,160	1,770	1,390	
06344600	Green River nr New Hradec, ND	Bis	4	3,160	1,770	1,390	
06347000	Antelope Creek nr Carson	Bis	4	3,160	1,770	1,390	
06347500	Big Muddy Creek nr Almont, ND	Bis	4	3,160	1,770	1,390	
06348500	Sweetbriar Creek nr Judson, ND	Bis	4	3,160	1,770	1,390	
06349500	Apple Creek nr Menoken, ND	Bis	6	4,740	2,650	2,090	
06350000	Cannonball River at Regent, ND	Bis	6	4,740	2,650	2,090	
06352000	Cedar Creek nr Haynes, ND	Bis	6	4,740	2,650	2,090	
06354580	Beaver Creek blw Linton, ND	Bis	6	4,740	2,650	2,090	
06469400	Pipestem Creek nr Pingree, ND	Bis	6	4,740	2,650	2,090	
06470800	Bear Creek nr Oakes, ND	Bis	4	3,160	1,770	1,390	
			Sub-total	**176,960**	**99,020**	**77,940**	
CHAIN OF LAKES WATER QUALITY NETWORK							
05056220	Sweetwater L at Sweetwater, ND	GFork	..... Quarterly Sample	5,390	3,130	2,260	
05056222	Morrison Lake nr Webster, ND	GFork		5,390	3,130	2,260	
05056241	Dry Lake nr Penn, ND	GFork		5,390	3,130	2,260	
05056250	Lake Alice nr Churches Ferry, ND	GFork		5,390	3,130	2,260	
05056260	Lake Irvine nr Churches Ferry, ND	GFork		5,390	3,130	2,260	
05056665	Eastern Stump Lake nr Lakota, ND	GFork		5,390	3,130	2,260	
05056666	McHugh Slough nr Lakota, ND	GFork		5,390	3,130	2,260	
05056669	Lake Loretta nr Michigan, ND	GFork		5,390	3,130	2,260	
05056670	Western Stump Lake nr Lakota, ND	GFork		5,390	3,130	2,260	
			Sub-total	**48,510**	**28,170**	**20,340**	
GROUNDWATER WATER QUALITY NETWORK							
Varied	GW wells about 1/3 of network per year	Annual		10,200	5,710	4,490	
			Sub-total	**10,200**	**5,710**	**4,490**	
			Total Before Credit for Infrastructure Support	**235,670**	**132,900**	**102,770**	
Gaging Station Infrastructure Support							
			Credit for Infrastructure Support		28,500	0	
			TOTAL	**235,670**	**104,400**	**102,770**	
			Previous FY	155,700	77,110	78,590	9 months

APPENDIX U

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
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M E M O R A N D U M

TO: Governor Doug Burgum
Members of the State Water Commission

FROM: Garland Erbele, P.E., Chief Engineer and Secretary, SWC

SUBJECT: **2019 Airborne Electromagnetic (AEM)** Funding Request

DATE: June 19, 2019

Airborne Electromagnetic (AEM) surveying involve a helicopter towing equipment that scans the earth collecting enormous amounts of geophysical data. The geophysical data can be used to help refine our understanding of the geometry and depth of buried valley aquifers and the fresh water supplies they contain.

The technology has been successfully used by the State Water Commission in three previous investigations in the state, with great success.

In 2016, a survey consisting of 1,950 km of flight lines was flown over the Spiritwood buried valley aquifer in central North Dakota. The results of the survey exceeded expectations. Not only did the survey provide an image of where the deep channel of the Spiritwood aquifer was located, it also showed there was an even deeper, previously unknown, buried aquifer channel traversing through the study area. Test drilling during the following field season confirmed the existence of this previously unknown aquifer. The AEM work greatly increased our understanding of the amount of available water supply from the aquifer and will be invaluable for expanding and refining the hydrogeological flow model of the region.

In 2017, a survey consisting of 3000 km of flight lines was flown over the West Fargo and Wahpeton buried channel aquifers in eastern North Dakota. Aqua Geo Frameworks (AGF), a hydrogeological consulting firm specializing in AEM data processing, performed advanced processing techniques and methodology. Their work product resulted in valuable 3D imagery and hydrogeological interpretation. Recent test drilling confirmed the location of previously unknown deep channels near Wahpeton that warrant serious consideration of further hydrogeologic investigation as potential replacement supplies for the City's current tenuous well locations.

Most recently, in late 2018/early 2019, a project consisting of 3000 km of flight lines was flown over the Spiritwood, Oakes, Lamoure, and other smaller aquifers in southeast North Dakota and over the Spiritwood and Warwick aquifers in Benson, Eddy, Ramsey, and Nelson Counties in northeast North Dakota. Geotech offered, and the SWC agreed, to use a slightly different process using the VTEM-ET (early time) data collection system. The 2016 and 2017 surveys used the VTEM-PLUS system. The VTEM-ET system is intended to provide a

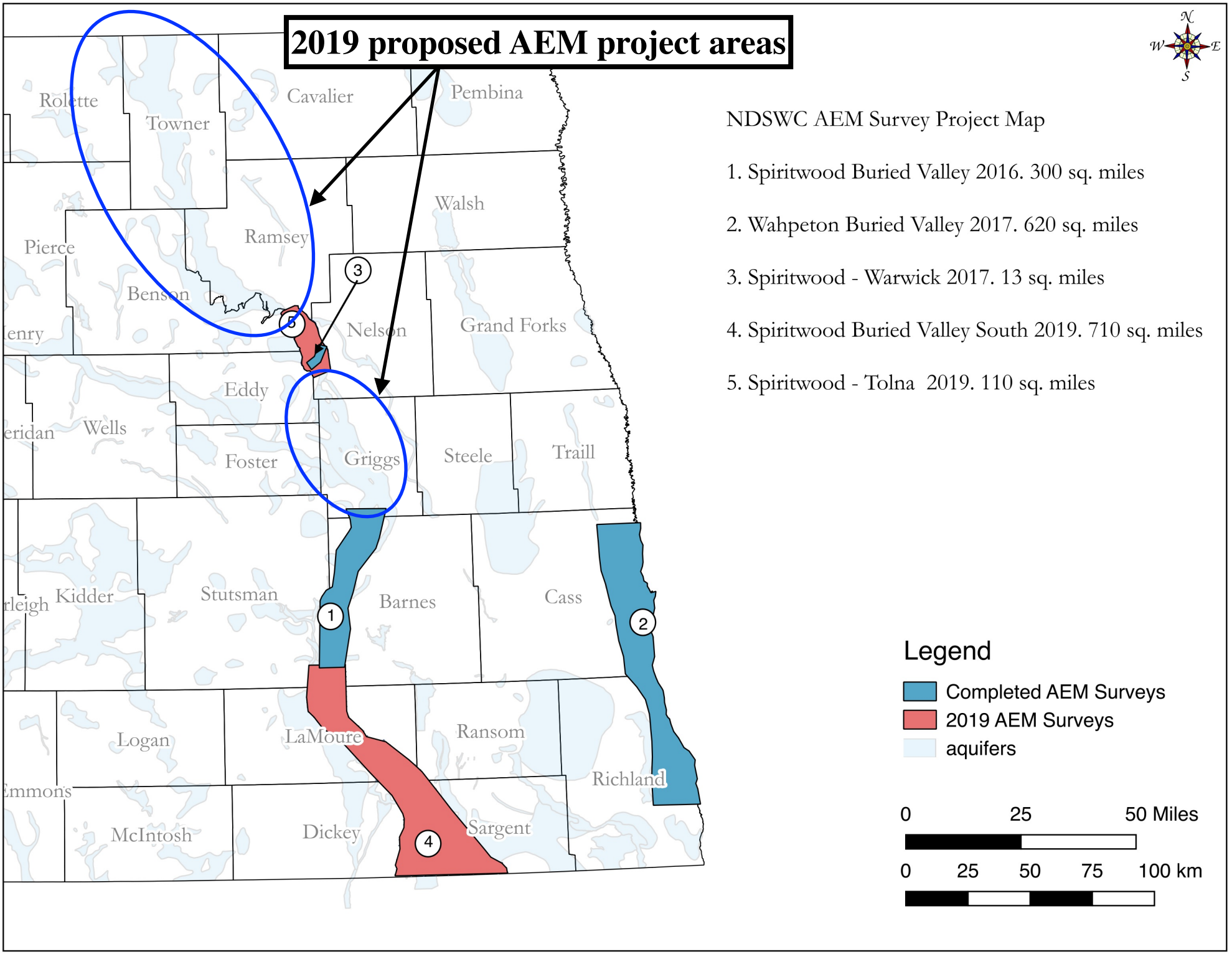
higher resolution of the early-time data which in turn could provide a better inversion result for depicting shallow sand and gravel deposits of which shallow aquifer systems like the Warwick, Oakes, and Lamoure aquifers are comprised. After review of the data, the VTEM-ET seems to overexaggerate the thickness and texture of the shallow material. The deeper sediments, such as the buried channel deposit properly depicted.

The competitive bidding process in 2016 resulted in an unexpectedly low flight-kilometer price point which allowed the project to be paid from the division's 2015-2017 operational budget. Another competitive bidding process was undertaken for the 2017 project which resulted in a multi-year contract with the successful bidder, Geotech, Inc. An option under the contract was to employ the services of AGF. Similar to the 2016 project, the 2017 project was paid from the division's 2017-2019 operational budget. The 2018/19 project was authorized with $425,000 from general water funds by the SWC at the August 9, 2018 commission meeting. The contract agreement signed in 2017 allowed for two renewals; one renewal remains.

With SWC approval, another project will be undertaken in the fall of 2019 of similar scale to the 2018/19 project – approximately 3,000 km flight-lines. The project would involve the completion of the Spiritwood aquifer AEM investigation in Griggs, Ramsey, and Towner Counties, and is estimated to be cost approximately $425,000.

Therefore, it is proposed that funding for an approximate 3000 fight-km project be approved to be paid from the State Water Commission's *General Water* funds.

I recommend that the State Water Commission approve an additional $425,000 ($850,000 total) for continued AEM work under the contract with Geotech, Inc. and AGF, Inc. from the funds appropriated to the State Water Commission in the 2017-2019 Biennium.


2019 proposed AEM project areas
Rolette
Towner
Cavalier
Pembina
Walsh
Ramsey
Pierce
Benson
Nelson
Grand Forks
Eddy
Wells
Foster
Griggs
Steele
Traill
Kidder
Stutsman
Barnes
Cass
Logan
LaMoure
Ransom
Richland
McIntosh
Dickey
Sargent
1
2
3
4
5
N
W
E
S
NDSWC AEM Survey Project Map
1. Spiritwood Buried Valley 2016. 300 sq. miles
2. Wahpeton Buried Valley 2017. 620 sq. miles
3. Spiritwood - Warwick 2017. 13 sq. miles
4. Spiritwood Buried Valley South 2019. 710 sq. miles
5. Spiritwood - Tolna 2019. 110 sq. miles
Legend
Completed AEM Surveys
2019 AEM Surveys
aquifers
0 25 50 Miles
0 25 50 75 100 km

APPENDIX V

North Dakota State Water Commission

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MEMORANDUM

TO: Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer/Secretary
SUBJECT: Procurement of 30 cm Quality Aerial Imagery for North Dakota
DATE: May 30, 2019

Aerial photography is an invaluable tool for North Dakota. Quality aerial photography allows for enhanced perspective on snapshots of the past in order to make informed decisions and analyses in the present.

Decisions, however, on aerial imagery collection and the level of quality of that collection must be made with a future-proofing perspective. It is impossible, for example, to go back and collect statewide aerial photography of 2008 in 2019. We must always strive to collect the best quality data now, as these data steadily gain value with age. Strategic investment in high quality data is a down payment on information that has an unlimited return on value.

The Natural Resources Conservation Service (NRCS) has recently approved a 2019 aerial photography collection for North Dakota under the USDA's National Agriculture Imagery Program (NAIP). Hexagon Geospatial, through their subcontractor Fugro (which acquired Rapid City's own Horizons, Inc.), will perform the collection. The standards for this aerial collection will be for a ground resolution of 60 cm (or roughly 2 ft.) (see attached Exhibit 1).

The NAIP collections are, and have always been, widely used in the general public and public agencies as generally the best available aerial imagery for a statewide extent. While this level of collection does have value for typical agricultural and environmental uses, a higher level of detail would be extremely useful in aiding the Water Commission in agency reviews and decisions. Whenever the NAIP is collected, as in 2018, there is an opportunity to purchase higher resolution aerial photography from the aerial photography contractor. Exhibit 2 shows an example of this higher quality, a 30 cm (approximately 1 ft.) resolution for the same area as shown in Exhibit 1.

As technology advances, the ways aerial imagery is leveraged is advancing with it. For example, Microsoft and their Bing Maps team leveraged a variety of aerial datasets throughout the United States to develop approximate building footprint GIS data nationwide. The Water Commission is currently attempting to connect with the Bing Maps team on the possibility of collaborating on a ND-specific project using a higher quality (30 cm) aerial imagery dataset. A higher quality data input is expected to produce a higher quality and more consistent data set, both temporally and qualitatively.

Funding and collection of high-quality data is one half of this puzzle, with data delivery a very important second half. The Water Commission's internal staff have developed an intuitive and robust aerial imagery map service that provides end users, for free, the ability to not only view all agency-housed aerial datasets (some dating as far back as 1938) but also the ability to download

the georeferenced image tiles for use across multiple platforms. The 2018 30 cm dataset would be added to this map service and will further enhance the information available to the public, allowing access to the best information possible.

Hexagon Geospatial is providing the opportunity for North Dakota to obtain 2018's 30 cm aerial imagery for $765,000. By comparison, if ND were to contract with an aerial photography firm to collect these data, the cost for a statewide collect at 30 cm would be approximately $2.5 million. In addition to the 2018 30 cm dataset, Hexagon is offering the opportunity to purchase a 2019 30 cm license for streaming aerial imagery for $25,000.

There are some caveats to the 2019 data. Hexagon keeps the best available aerial data in ND as a 3-year licensed product. Initially, the 2019 dataset would only be viewable through a streaming feed that would be made available for viewing and streaming for all State government entities (and their contractors) to their desktop systems. If Hexagon collects 30 cm aerial imagery in ND in 2020 or 2021, ND would obtain full rights of the 2019 30 cm dataset, including rights to download imagery, for no additional cost.

If, however, Hexagon does not complete 30 cm aerial imagery work in ND in 2020 or 2021, the streaming service terminates unless the license is renewed. In the off-chance Hexagon does not collect 30 cm imagery in ND for 3 years, for an investment of $25,000 ND would be obtaining access to the best available aerial dataset for a 3-year period.

With this unique opportunity to upscale the planned data delivery to a higher quality for enhanced use for current and future information seekers and decision makers, I recommend that the Water Commission approve $765,000 to procure Hexagon's 2018 30 cm aerial dataset with an additional $25,000 to license the 2019 30 cm dataset for a 3-year period for a total cost of $790,000.


Exhibit 1: 60 cm (~2 ft.) Resolution
2017 USDA NAIP Photography, 0.6m (1.97ft) resolution


Exhibit 2: 30 cm (~1 ft.) Resolution
2015 US Army Corps 0.9 ft resolution

APPENDIX W

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MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer - Secretary
SUBJECT: SWPP – Project Update
DATE: May 17, 2019

Contract 8-1A New Hradec Reservoir:
This contract involves furnishing and installing a 296,000-gallon fusion powder coated bolted steel reservoir. Olander Contracting Company is the contractor. The contract documents were executed on May 16, 2013, and the Notice to Proceed was issued on June 3, 2013. The substantial completion date on this contract was September 15, 2013. The tank was put into service on February 20, 2014. The contractor disputed the liquidated damages withheld. The contractor did not provide any justification for the delays. The contractor filed a lawsuit against us and their tank sub-contractor in October 2016. Our legal counsel filed an answer to their lawsuit. We did not hear anything regarding the lawsuit for many months. In October 2018, the contractor filed the complaint in the District Court and requested a scheduling conference for the lawsuit. The trial for this lawsuit was scheduled for January 14 – 20, 2020. The attorneys for the contractor and subcontractor contacted our legal counsel and agreed to pursue mediation. On May 7, 2019, a three-party mediation was held at the SWC office. The dispute was settled by us agreeing to reduce the liquidated damages withheld to our actual estimated damages for $85,000. A change order has been executed by all parties and final payment processed and contract closed out.

Contract 3-2D Six (6) MGD Water Treatment Plant (WTP) at Dickinson:
The water treatment plant started producing finished water on February 7, 2018. The contract was considered substantially complete on March 7, 2018.

An issue with delamination of concrete floors was identified, and a solution was provided to the General Contractor. The General Contractor filed a claim disputing the decision by the Engineer on potential change order for the concrete floor repair work. The contractor was directed to complete the repair work, with responsibility for the cost to be resolved thereafter. The floor repair work is complete. After review of the documentation provided by the contractor and the engineer, we have sent a letter to the contractor agreeing to a change order for 50 percent of the claim amount.

Administrative items remain before the General, Mechanical and Electrical contracts can be closed out.

Contract 3-2E Residual Handling Building at Dickinson WTP:
The preconstruction conference for this contract was held on October 5, 2017 with all three contractors; Rice Lake Construction Group, Central Mechanical, Inc., and Edling Electric. The General Contractor, Rice Lake Construction Group, mobilized to site on October 16, 2017. The contract had a milestone completion date of September 1, 2018 for having the building enclosed and a Substantial Completion date of February 28, 2019. The Milestone Completion was considered achieved on October 19, 2018. General Contractor requested a time extension request for 81 days on the Milestone, Substantial and Final completion dates. Their request was based on submittal review delays and a trucker strike in India. Their request was reviewed, and 31 days of extension was determined to be justified. With the Change Orders executed, the Milestone and Substantial Completion dates were extended to October 10, 2018 and April 10, 2019.

To date, on the General contract, two change orders totaling $83,864.05 (1 percent of the contract amount), Electrical contract, one change order, extending the completion dates and in the Mechanical contract, two change orders totaling $36,934.95 (6 percent of the Contract amount) has been signed by all parties.

Start up for the two filter presses included in the contract was held on April 26, 2019 and May 1, 2019. All three contractors are working on remaining items on the contract to facilitate obtaining the occupancy permit from the City of Dickinson which will constitute Substantial Completion of the Contract.

Contract 5-1A and 5-2A 2nd Richardton Reservoir and 2nd Dickinson Reservoir:
The State Water Commission (SWC), at its October 12, 2016 meeting, awarded Contract 5-2A, 2nd Dickinson Reservoir, to John T. Jones Construction Company. A preconstruction conference for this contract was held on March 30, 2017. The contractor has completed work on the new reservoir which came online September 7, 2018. The contract was considered substantially complete on December 5, 2018. The contract completion date on this contract was November 1, 2017. Extension due to weather delays and work change directives would have extended the completion date to January 18, 2018. After multiple discussions with the Contractor the completion date was extended to December 5, 2018 after the Contractor agreed to reimburse the SWC the actual field observer's costs. A Change order incorporating the reimbursement of field observer's cost has been signed by all parties. A few work change directive items, administrative items and punch list items remain before the contract can be closed out.

The SWC at its December 9, 2016 meeting awarded Contract 5-1A, 2nd Richardton Reservoir, to Engineering America, Inc. A preconstruction conference was held on June 7, 2017. The contract was approximately 88 percent complete when Engineering America, Inc., went out of business as of the end of July 2018. The bonding company has taken over responsibility for the remaining work on the contract. The bonding company directed us to get quotes for completing the remaining work with them being responsible for any costs above the remaining funds on the contract. The remaining work on the contract required five different contractors; a bolted tank contractor, cathodic protection contractor, earthwork contractor, welded tank contractor and fencing contractor. We executed contracts with a

bolted tank contractor, welded tank contractor and cathodic protection contractor. The bolted tank contractor and the cathodic protection contractor have completed their work. The welded tank contractor has installed the supplemental overflow for the existing welded tank. Painting of the supplemental overflow will be completed in the Spring when the weather cooperates. An agreement has been executed with PKG Contracting, a General contractor, for completing the remaining earthwork and fencing.

Contract 2-1B Raw Water Line Capacity Upgrade from intake to OMND WTP:
The scope of work for Contract 2-1B generally consists of furnishing and installing 19,026 lineal feet of 30" diameter steel pipeline. The contract was substantially complete on November 15, 2018. A few punch list items, administrative items and landowner releases remain before the contract can be closed out. Two change orders totaling $227,269.68 (4 percent of the contract amount) have been signed by all parties.

Contract 1-2A Supplemental Raw Water Intake:
The contractor, J.W. Fowler Company (JWF), launched the Microtunneling Boring Machine (MTBM) along the current alignment in August 2017. On October 5, 2017, JWF had installed approximately 1000 feet of intake pipe when employees observed some cracks on pipe no. 58 located approximately 500 feet from the caisson. After pushing a few additional pipes, the cracks worsened. On October 18, 2017, JWF informed the SWC that the best course of action to remediate the incident was to leave the installed pipe string in place and pursue other options to complete the intake pipe to the screen location.

The contractor's plan for completing the project using Horizontal Directional Drilling method has been reviewed a few times with more clarifications and details sought to complete the application to the federal agencies (Bureau of Reclamation and US Army Corps of Engineers) for the construction license and easement. A meeting was held on April 24, 2019 with the US Army Corps of Engineers to explain the new plan from the contractor and the timeline for obtaining the construction license and easement. We were informed that the most optimistic timeline for receiving the construction license and the easement is November 2019, if the application is submitted without delay. The insurance information from the contractor is under review. After the insurance issues are resolved we expect a change order to be signed with the new insurance package. We expect the contractor to seek an extension to the contract completion date in that change order. The current completion date on the contract is December 31, 2018.

Contract 4-1E/4-2B Upgrades at the Dodge and Richardton pump stations:
Contract documents are executed for all three contracts – General, Mechanical and Electrical. BW/AECOM has started receiving submittals from the contractors for review and approval. A preconstruction conference was held on April 3, 2019. A change order to include upgrading the chloramination equipment at the Dodge pump station to accommodate higher flows will be included in this contract.

Future Contracts:
Specific Authorizations for the design of the 2nd Davis Butte reservoir, 2nd Belfield reservoir, blowoff and inline valve upgrades along the main transmission required because of

pump station upgrades, and review of the 911 address information to assess the potential capacity needs of the rural areas have been executed. The reservoirs, blow off upgrades, intake supplemental pump station and distribution upgrades contracts are planned for construction next biennium.

Ownership Transfer Study:
The contract for engineering services has been executed with Apex Engineering Group. The kickoff meeting was held on May 13, 2019.

GE:SSP:pdh1736-99

North Dakota State Water Commission

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MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission

FROM: Garland Erbele, P.E., Chief Engineer - Secretary

SUBJECT: SWPP - Reimbursement from Reserve Fund for Replacement and Extraordinary Maintenance

DATE: May 17, 2019

The Southwest Water Authority (SWA) collects and maintains a reserve fund for "Replacement and Extraordinary Maintenance" (REM). This fund is required by authorizing legislation, and expenditures from this fund are to be authorized by the Commission.

The State Water Commission received the attached letter from the SWA requesting reimbursement from the REM funds for four separate items of work.

The items requested for reimbursement include balance on the anode replacement work on 2-2C, 2-2D and 2-3E contracts for $2,820.01, balance on the east lime sludge pond berm raise contract for $34,428.07, providing additional cathodic protection at the Tesoro crossing along the raw water transmission line for $41,724.63 and replacement of the variable frequency drive on the 350hp motor at the Jung Lake pump station for $95,714.94.

The total costs for all items requested for reimbursement is $174,687.65. The current balance in the REM fund is $19,706,368.12 as of May 7, 2019. The budgeted year-end balance for 2019 is $19.83 Million

I recommend approval of reimbursement from the Reserve Fund for Replacement and Extraordinary Maintenance (REM) in the amount of $174,687.65

GE:SSP:pdh/1736-99
Attachments

APPENDIX X

North Dakota State Water Commission

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MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele P.E., Chief Engineer – Secretary
SUBJECT: Devils Lake Update
DATE: May 29, 2019

Hydrologic Update

The May 29th Devils Lake water surface elevation is 1449.15 feet. This is 0.65 feet below the lake level one year ago. In the Devils Lake Basin, winter precipitation was near average and spring precipitation has been below average. The lake rose approximately one foot from snowmelt and may continue to rise slightly from spring and summer rain. The June probabilistic forecast will include an outlook for how low the lake may drop by winter. An elevation of 1448.0 feet is likely by this fall. At that elevation, the Devils Lake Outlets Management Advisory Committee has agreed to re-convene to develop recommendations regarding future outlet operating parameters.

Devils Lake Outlet Management Advisory Committee

The Devils Lake Outlet Management Advisory Committee met on May 9th in Carrington. At the meeting, a presentation was provided which summarized the current situation in the basin and included the state of outlet operations and water quality monitoring. After the presentation, each member of the committee and interested members of the audience provided their input and perspective on the lake level and the future of outlet operation.

Testimony was provided by citizens and committe members with agricultural interests who would like the outlets to operate at their maximum allowable capacities to lower the lake to 1446 feet as soon as possible. They stated that the outlets continue to be crucial because of the potential for the lake to rise several feet in a single year and the desire to provide a buffer for the land that is gradually returning to production after years of inundation.

There were also several comments provided by citizens who focused on the recreational benefits of the lake with higher water levels. They are concerned that continuing to remove water through the outlets will diminish the fishery, reduce lake accessibility, and eliminate the benefits to their growing communities. Comments from committee members also included the continued concerns of water quality reduction in the Sheyenne and Red Rivers.

The final committee recommendation was that the outlets should continue to operate within their specified limitations on downstream water quality and quantity to a target lake elevation of 1448.0 feet. In addition, the committee requested additional information before their next meeting to enable them to make a more informed recommendation for how the outlets should be managed in the future.

To inform their future recommendations, the committee requested a survey of the Jerusalem Channel and a study of the economic impact of lake level change on the agricultural and recreational interests. The State Water Commission survey crew will perform the survey of the Jerusalem Channel which will help to determine when Stump Lake will become isolated from Devils Lake as the lake elevation falls. The economic impact on the agricultural and recreational interests will be studied and compiled by their respective proponents.

GE:JK:TD:ph/416-10

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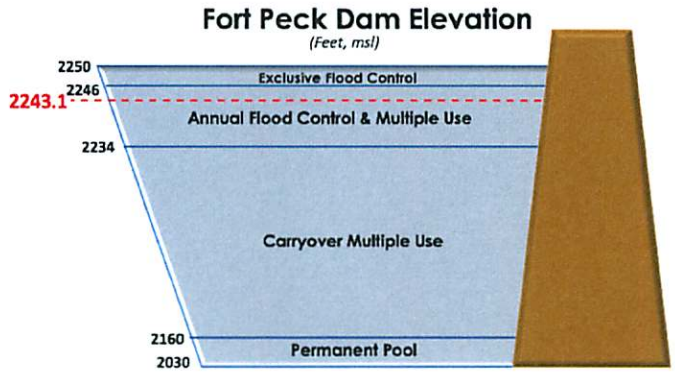
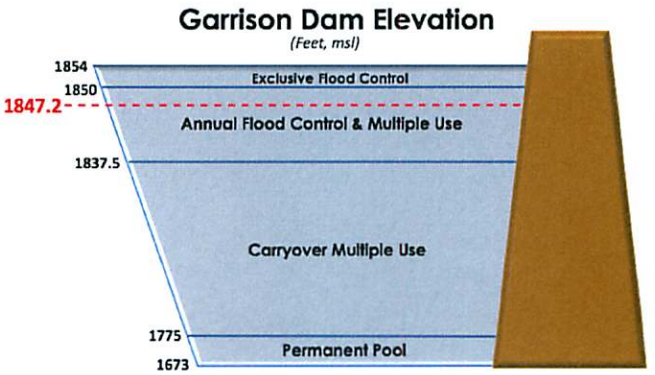
MEMORANDUM

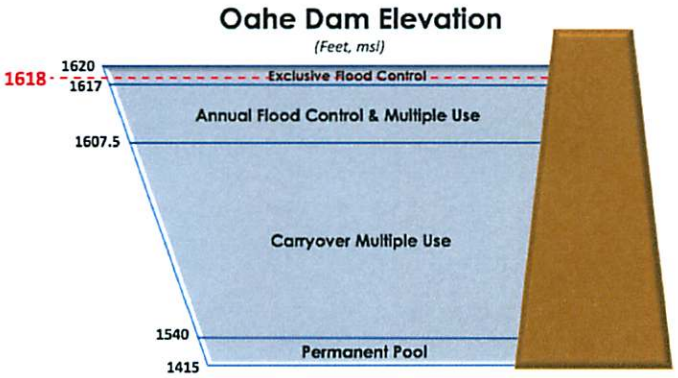
TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer-Secretary
SUBJECT: Missouri River Update
DATE: May 28, 2019

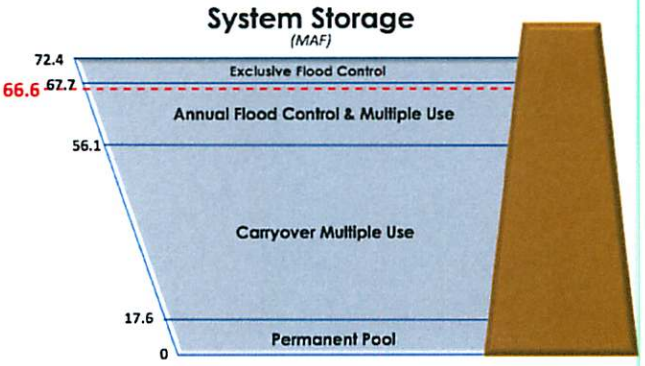
System/Reservoir Status

Reservoir elevations and system volume as of May 28th are presented in the schematics below and identified by the red lines. System storage is presented in million acre-feet (MAF). Historical data for the system is provided in a table on the following page.









Legend	
May 28th, 2019	- - - - - - - - - -

Table 1: Reservoir System Historical Data

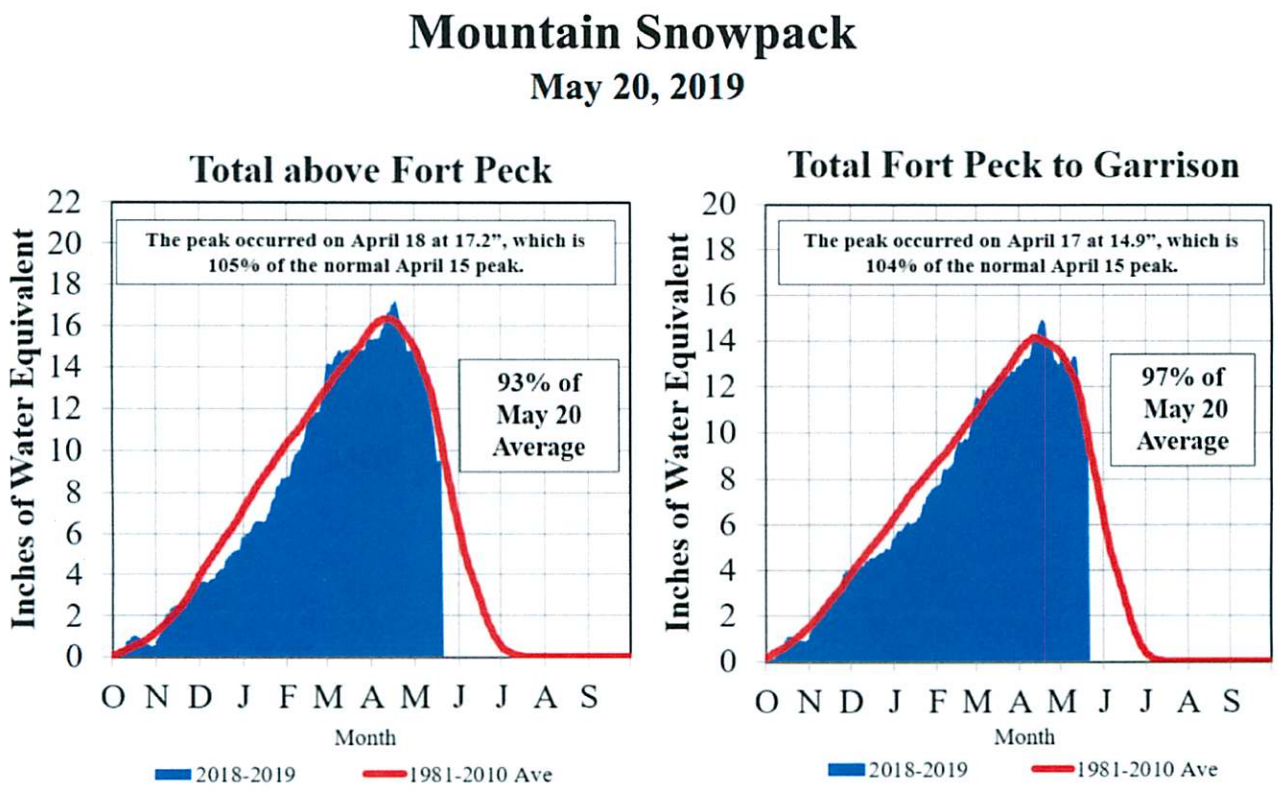
	Reservoir Elevation (feet msl)			Total System Storage (MAF)
	Fort Peck	Garrison	Oahe	
May 28th, 2019	2,243.1	1,847.2	1,618.0	66.6
One-Year Ago	2,243.7	1,845.7	1,611.2	62.8
End of May				
Average	2,230.6	1,834.9	1,605.3	56.7
Record High (elevation *[year]*)	2248.9 *[2011]*	1853.3 *[2011]*	1618.8 *[2011]*	70.4 *[2011]*
Record Low (elevation *[year]*)	2199.6 *[2005]*	1808.8 *[2005]*	1576.5 *[2005]*	36.1 *[2005]*

Runoff and Reservoir Forecasts

In late May, releases from Garrison Dam were reduced to about 20,000 cfs due to heavy rainfall and runoff in the lower basin. Releases are forecasted to increase to 36,000 cfs by the second week of June. The May runoff forecast predicts runoff above Sioux City for this year to be 43.2 MAF or 170 percent of average.

Mountain Snowpack

As shown in the figures below, the snowpack in the "Above Fort Peck Reach" was 93% of average on May 20th and peaked on April 18th at 105 percent of average. The "Fort Peck to Garrison Reach" (including the Yellowstone River basin) was 97 percent of average on May 20th and peaked on April 17th at 104 percent of average.



Missouri River Recovery Implementation Committee (MRRIC)

Section 5018 of the 2007 Water Resources Development Act (WRDA) authorized the Missouri River Recovery Implementation Committee (MRRIC). The Committee is to make recommendations and provide guidance on activities of the Missouri River Recovery Program (MRRP). MRRIC has nearly 70 members representing local, state, tribal, and federal interests throughout the Missouri River Basin. The representatives for the State of ND on MRRIC are John Paczkowski (primary) and Jesse Kist (alternate).

A plenary meeting was held in Sioux Falls on May 21-23, during which the group reached tentative consensus on recommendations to the U.S. Army Corps of Engineers (Corps) and the U.S. Fish and Wildlife Service regarding the Missouri River Recovery Program Strategic Plan and the Science and Adaptive Management Plan. A plenary webinar is scheduled for Wednesday, June 26th in order for the group to reach final consensus on these recommendations.

Bird Habitat - Emergent Sandbar Habitat Construction

Emergent Sandbar Habitat in the Missouri River remains a primary habitat metric for the Corps to achieve compliance with the Endangered Species Act regarding the threatened piping plover and the endangered least tern. There are no near-term plans for an emergent sandbar habitat (ESH) construction project in the Garrison Reach, as habitat is currently well above the target acreage.

The Plover Habitat Ad Hoc Group (sub-group of the MRRIC) is hosting a tour of piping plover habitat in North Dakota on July 1-2. Tour stops will include Lake Audubon National Wildlife Refuge, the John E. Williams Preserve, and emergent sandbar habitat on the Missouri River.

Water Supply Rule

In October, SWC staff became aware that the Corps decided to delay finalizing the Water Supply Rule until August 2019 to allow time to consult with states and tribes. The proposed rule attempts to define how the Corps would require users to enter into storage contracts and be charged for the use of water from Corps' reservoirs for domestic, municipal, and industrial purposes.

The state has previously submitted comments to the Corps that emphasize that the proposed rule is fundamentally flawed due to the Corps' differing interpretation of state versus federal jurisdictions with respect to water appropriation and western water law, and its interpretation of the 1944 Flood Control Act. The proposed rule does not recognize states' rights to allocate water, and it interferes with states' sovereign rights. Language within the proposed rule is also cause for concern relative to the proposed use of Lake Ashtabula as a re-regulation reservoir for the Red River Valley Water Supply Project.

GE:JGK:pdh/1392

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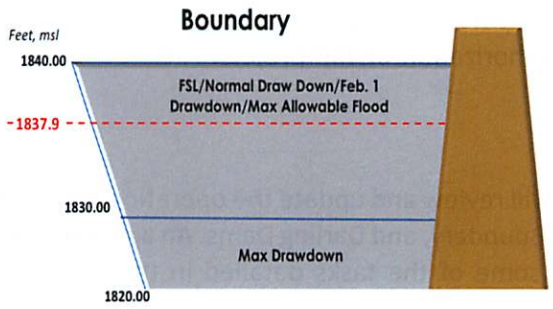
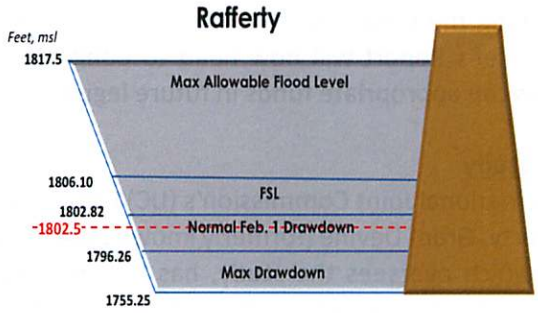
MEMORANDUM

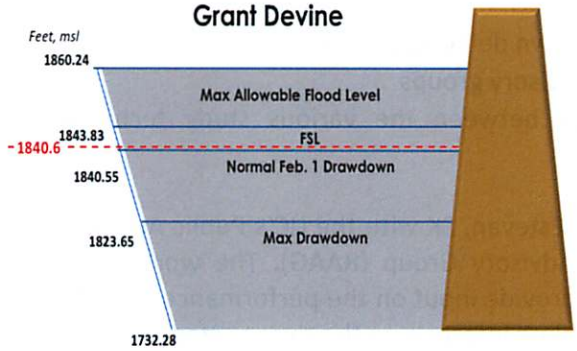
TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer-Secretary
SUBJECT: Mouse River Update
DATE: May 30, 2019

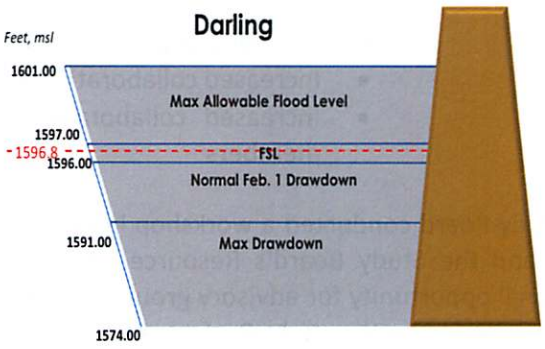
System/Reservoir Status Above Minot

Reservoir elevations as of May 28th are presented in the schematics below and identified by the red lines. System volume on May 28th in the four reservoirs above Minot was approximately 545,000 acre-feet, with an available flood storage volume of nearly 500,000 acre-ft.









Mouse River Enhanced Flood Protection Project (MREFPP)

The Souris River Joint Board (SRJB) sponsored Mouse River Enhanced Flood Protection Project (MREFPP) is a basin wide project looking to reduce flood risk in the Mouse River Basin within North Dakota.

In Minot, work continues on the Broadway Pump Station and Perkett Ditch Pump Station. Contractors on Phase MI-1 are beginning to excavate floodwall footing areas and place footing forms. Placement of levee along Phase MI-2 continues now that weather permits.

Outside of Minot, removal of the Colton Avenue Bridge has commenced. The Colton Avenue Bridge will be replaced with a larger more flood resilient structure to provide another crossing during high flow events. The project is also furthering designs on bridges in Mouse River Park, Sawyer, and Velva. A Section 408-permit for the Burlington Levee Project has also been submitted. The SRJB hopes for approval of the Section 408-permit by this fall.

Integrated Feasibility Study

The Integrated Feasibility Study with the United States Army Corps of Engineers (Corps) is being conducted to determine if there is a federal government has interest in the MREFPP. On April 16, 2019 Senator John Hoeven and Lieutenant General Todd Semonite met in Minot to discuss the MREFPP. At the conclusion of the meeting the Lieutenant General signed the Chief's Report which finalizes the feasibility study. The signed Chief's Report will now head to Congress for authorization of the project. After authorization, Congress can appropriate funds in future legislation.

Plan of Study

The International Joint Commission's (IJC) Plan of Study will review and update the operating agreements for Rafferty, Grant Devine (formerly known as Alameda), Boundary, and Darling Dams. An appointed Study Board, which oversees the study, has begun work on some of the tasks detailed in their work plan. Currently, the study is moving from the creation of tools and modeling platform phases towards the plan formulation and alternative development phases.

The Study Board has submitted a request to the IJC to extend the study deadline by one year. The request for additional time and funding was submitted due to:

- U.S. Federal government shutdown delaying critical input
- Increased collaboration with advisory groups
- Increased collaboration needs between the various study technical team members

The Study Board conducted a workshop in late April in Estevan, SK with the IJC's Public Advisory Group (PAG) and the Study Board's Resource and Agency Advisory Group (RAAG). The workshop was an additional opportunity for advisory group members to provide input on the performance indicators that were developed for the study. Performance indicators relate interests on the river to stage or flow, so the study can identify impacts due to alternative operating plans. Advisory group members also provided input on alternative operating plans to be considered by the Study Board.

The Study Board continues to engage with members of the First Nations, Metis, and Tribes Advisory Group. The Study Board intends to host a joint workshop this fall for First Nations, Metis, and Tribes in Canada and the United States.

The Study Board and its technical team met in Saskatoon in mid-May to discuss preliminary results from its first set of model runs. The model runs were meant to show what specific changes to portions of the operating agreement could mean for future alternatives. The team developed selection criteria for future alternatives and selected which of the initial runs should be carried forward into the next modeling phase. The technical team plans on completing the next phase of model runs by late summer.

GE:CK/1974/2122

APPENDIX Y

North Dakota State Water Commission

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MEMORANDUM

TO: Governor Doug Burgum
State Water Commission
CC: State Engineer Garland Erbele
FROM: Jennifer Verleger, Assistant Attorney General
SUBJECT: State Water Commission Litigation Update
DATE: May 30, 2019

STATE WATER COMMISSION LITIGATION

Case: Manitoba v. Norton
Date Filed: October 21, 2002
Court: U.S. District Court for the District of Columbia
Attorney: Jen Verleger/Nessa Horewitch, SAAG (Beveridge and Diamond)

Consolidated With

Case: Missouri v. Salazar
Date Filed: February 2009
Court: U.S. District Court for the District of Columbia, Case #1:02-cv-02057
D.C. Circuit Court of Appeals, Govt. of the Province Manitoba, et al. v. Sally Jewell, et al - Case #16-5203
D.C. Circuit Court of Appeals, Govt. of the Province Manitoba, et al. v. Ryan Zinke, et al - Case #17-5241 (Consolidation with #17-5242)

Judge: Rosemary Collyer (U.S. District Court for the District of Columbia)
Henderson, Rogers, and Srinivasan (D.C. Circuit Court of Appeals)

Opposing Counsel: Missouri Attorney General's Office

Issues: Manitoba asserts that the U.S. Bureau of Reclamation violated NEPA by failing to prepare an environmental impact statement for the Northwest Area Waters Supply Project ("NAWS"), a project designed to bring Missouri River water to North Central North Dakota. Manitoba is concerned that the project will bring Missouri River Basin biota to and harm the environment of the Hudson Bay Basin. Missouri intervened in the case alleging harm from depletions to the Missouri River.

Current Status: WE WON! The D.C. Circuit Court of Appeals affirmed the District Court's decision that Missouri did not have standing to bring suit as parens patriae against the federal government. Missouri has until August 1, 2019, to appeal to the U.S. Supreme Court.

Case:	**Olander Contracting Co. v. North Dakota State Water Commission and Tank Connection, LLC**
Date Filed:	**October 7, 2016**
Court:	**Burleigh County District Court (08-2018-CV-02679)**
Attorneys:	**Jennifer Verleger**
Opposing Counsel:	**Matthew Collins (Olander)** **Randy Bakke and Brad Wiederholt (Tank Connection)**
Issues:	The State Water Commission entered into a contract with Olander for the Southwest Pipeline Project, New Hradec tank project. The project was not completed within the contract time. Claims are over payments and liquidated damages.
Current Status:	All parties reached settlement during mediation. State retained liquidated damages in an amount to cover additional hard costs incurred by the delays.
Next Steps:	Waiting on final paperwork and approval from other parties before case is voluntarily dismissed.

State of North Dakota

Office of the State Engineer

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MEMORANDUM

TO:	Governor Doug Burgum State Water Commission
CC:	State Engineer Garland Erbele
FROM:	Jennifer Verleger, Assistant Attorney General
SUBJECT:	Office of the State Engineer Litigation Update
DATE:	May 30, 2019

OFFICE OF THE STATE ENGINEER LITIGATION

Case:	**In re: Fischer Water Appropriations Permit**
Date Filed:	**November 8, 2018**
Court:	**Administrative Action (ALJ Dawson)**
Attorneys:	**Jennifer Verleger**
Opposing Counsel:	**Lynn Mesteth/Jack Dwyer**
Issues:	Opposition to State Engineer's recommendation to defer water appropriation permit.
Current Status:	The ALJ issued a recommended order to dismiss the case. The State Engineer adopted the ALJ's decision. The Fischers did not appeal. This case will be removed from the next report.

Case:	**North Dakota Office of the State Engineer and North Dakota Board of University and School Lands v. Bureau of Land Management**
Date Filed:	**April 25, 2016**
Court:	**US DOI Board of Land Appeals (IBLA)**
Attorney:	**Charles Carvell, Jennifer Verleger, Dave Garner**
Opposing Counsel:	**Unknown**
Current Status:	In 2014, the Bureau of Land Management resurveyed land along the Missouri River to locate the boundary between public domain land owned by the United States and the riverbed owned by the State of North Dakota. The boundary between riparian land and the riverbed is the ordinary high watermark. The Office of State Engineer and Board of University and School Lands appealed the decision of the Bureau of Land Management to officially file the Supplemental Plats of Survey posted and described in the Federal Register on July 8, 2014. The land is located in Fifth Principal Meridian,

Township 154 North, Range 98 West. A Statement of Reasons was filed in June 2016. In July 2018, the IBLA indicated that a panel has not yet been assigned to the case and that we are at least a year away from any work on the case.

Next Steps: Waiting to hear from IBLA. We were contacted by opposing counsel asking if we would be interested in staying the case in light of other on-going similar disputes. We declined and asked that the case move forward.

Case: Whiting Oil and Gas Corporation v. Arlen A. Dean, et. al. (27-2016-CV-00040)
Date Filed: January 25, 2016
Court: McKenzie County District Court
Judge: Robin Schmidt
Attorney: Jennifer Verleger (OSE)
Dave Garner (Land Board)
Opposing Counsel: Paul Forster, Shane Hanson
Kevin Chapman
Bruce Selinger
Peter Morowski
Lawrence Bender
Shane Hanson
Numerous pro se defendants

Issues: Whiting filed an interpleader for the lands underlying a spacing unit located near the Montana border for which the Yellowstone River runs through. Whiting is requesting the Court determine the property interests for the spacing unit so that Whiting can correctly distribute the proceeds from the well located in the unit. There are islands contained within the river for which Whiting is unable to determine ownership.

Current Status: The State Engineer is currently conducting work with a geomorphologist. Additionally, pending legislation regarding navigability may impact the issues the court must decide.

Next Step: The State Engineer has determined which lands it is claiming as sovereign. State Engineer intends to file a motion with the court to amend its original answer to provide more specificity about its claims. Waiting to hear from the other parties whether they will consent to that motion.

Additionally, because mineral title flows from surface title, the State Engineer intends to bring a separate quiet title action against the purported surface owners in the disputed area, many of whom are already involved in the case. Without the involvement of the surface owners, the case would be subject to being re-opened if they are not involved. Counsel needs to draft a complaint for the quiet title action. The intention will be to consolidate the two cases and resolve holistically.

Case: William S. Wilkinson, et. al. v. Board of University & School Lands, Brigham Oil & Gas, LLP; EOG Resources, Inc. (53-2012-CV-00038)
Date Filed: January 2012
Court: Williams County District Court
Judge: Paul Jacobson
Attorney: Jennifer Verleger (OSE)
Dave Garner (Land Board)
Opposing Counsel: Josh Swanson/Rob Stock (Wilkinson)
Lawrence Bender (EOG)
Lyle Kirmis/John Ward (Statoil)
Michael Mazzone (XTO)

Issues: Plaintiffs claim interests in a tract of land in Williams County that borders the Missouri River. The Plaintiffs filed this as a quiet title action to determine the ownership of the minerals underlying the shorezones in the tract. Both the Land Board and the Plaintiffs have issued oil and gas leases for the shorezone acreage to three separate oil companies, two of which were named as defendants.

The State Engineer claims an interest in the surface ownership (and regulatory authority) and all minerals except oil, gas, and other hydrocarbons below the ordinary high water mark.

Current Status: This case is pending before the district court after a remand from the N.D. Supreme Court. The Supreme Court remanded based on two issues: 1) "for the district court to determine whether N.D.C.C. ch. 61-33.1 applies and governs ownership of the minerals at issue in this case," and 2) if the district court decides the State owns the Disputed Minerals, it must reconsider whether there has been a taking.

The Plaintiffs have filed a Summary Judgment motion. The State Engineer's response was due June 14, 2019. The Plaintiffs have until July 1, 2019 to respond. A hearing on the motion is scheduled for July 30, 2019.

Next Steps: Waiting for briefing to conclude and hearing on SJ motion.

The below cases have had no status change since the previous update.

Case: Whitetail Wave LLC v. XTO Energy, Inc.; the Board of University and School Lands; and the State of North Dakota (27-2015-CV-00164)
Date Filed: June 4, 2015
Court: McKenzie County District Court

Judge: **Robin Schmidt**
Attorney: **Jennifer Verleger (OSE)**
Dave Garner (Land Board)
Opposing Counsel: **Christopher Sweeney (Whitetail Wave)**
Lawrence Bender (XTO Energy)

Issues: This case is challenging the State's determination of the OHWM, but the tract is located on the east side of the Highway 85 Bridge where the Department has currently leased only the historic channel of the Missouri River. The Plaintiffs are requesting that title to the minerals be quieted and have alleged claims of Unconstitutional takings, trespass, slander of title and constructive trust/unjust enrichment against the State. The complaint also makes a number of claims against XTO individually.

The State Engineer claims an interest in the surface ownership (and regulatory authority) and all minerals except oil, gas, and other hydrocarbons below the ordinary high water mark. The State Engineer has never delineated the ordinary high water mark in this location.

Current Status: This case is before the district court, but stayed pending a final determination in the *Sorum v. State* litigation.

Next Steps: Provide a status update to the court upon final resolution of *Sorum v. State.*

Case: **Mary K. Starin, as Personal Representative of the Estate of Bruno Herman Weyrauch v. Kelly Schmidt, et. al. (53-2015-CV-00986)**
Date Filed: **August 17, 2015**
Court: **Williams County District Court**
Judge: **David Nelson**
Attorney: **Jennifer Verleger (OSE)**
Dave Garner (Land Board)
Opposing Counsel: **Dennis Johnson (Weyrauch)**

Issues: The Plaintiffs filed this quiet title action to clear title to the minerals on a tract of land located east of the Highway 85 Bridge that is currently inundated by Lake Sakakawea.

The State Engineer claims an interest in the surface ownership (and regulatory authority) and all minerals except oil, gas, and other hydrocarbons below the ordinary high water mark. The State Engineer has never delineated the ordinary high water mark in this location.

Current Status: This case is before the district court, but stayed pending a final determination in the *Sorum v. State* litigation.

Next Steps: Provide a status update to the court upon final resolution of *Sorum v. State.*