



# Grant All-Detail Report Targeted Watershed 2016

**Grant Title** - 2016 - Targeted Watershed (Shell Rock River WD)

**Grant ID** - P16-1051

**Organization** - Shell Rock River WD

<b>Grant Awarded Amount</b>	<b>\$825,610.00</b>	<b>Grant Execution Date</b>	<b>8/3/2016</b>
<b>Required Match Amount</b>	\$206,402.50	<b>Grant End Date</b>	12/31/2020
<b>Required Match %</b>	25%	<b>Grant Day To Day Contact</b>	Carmen Christensen

## Budget Summary

	Budgeted	Spent	Balance Remaining*
Total Grant Amount	\$825,610.00	\$4,412.38	\$821,197.62
Total Match Amount	\$210,187.50	\$0.00	\$210,187.50
Total Other Funds	\$0.00	\$0.00	\$0.00
<b>Total</b>	<b>\$1,035,797.50</b>	<b>\$4,412.38</b>	<b>\$1,031,385.12</b>

*\*Grant balance remaining is the difference between the Awarded Amount and the Spent Amount. Other values compare budgeted and spent amounts.*

## Budget Details

Activity Name	Activity Category	Source Type	Source Description	Budgeted	Spent	Last Transaction Date	Match
2 Stage Ditch	Agricultural Practices	Current State Grant	2016 - Targeted Watershed (Shell Rock River WD)	\$122,750.00			N
2 Stage Ditch	Agricultural Practices	Landowner Fund	Easement Land Value	\$12,000.00			Y

Activity Name	Activity Category	Source Type	Source Description	Budgeted	Spent	Last Transaction Date	Match
2 Stage Ditch	Agricultural Practices	Local Fund	Freeborn County	\$23,187.50			Y
Engineering/ Design	Technical/Engineering Assistance	Current State Grant	2016 - Targeted Watershed (Shell Rock River WD)	\$124,787.50			N
Project Administration	Administration /Coordination	Current State Grant	2016 - Targeted Watershed (Shell Rock River WD)	\$10,984.00	\$46.78	12/31/2016	N
Project Development	Project Development	Current State Grant	2016 - Targeted Watershed (Shell Rock River WD)	\$20,000.00	\$4,365.60	12/31/2016	N
Rock Inlet	Conservation Drainage	Current State Grant	2016 - Targeted Watershed (Shell Rock River WD)	\$15,688.50			N
SRRWD Technical Activity	Technical/Engineering Assistance	Current State Grant	2016 - Targeted Watershed (Shell Rock River WD)	\$20,000.00			N
Stream Bank Restoration	Streambank or Shoreline Protection	Current State Grant	2016 - Targeted Watershed (Shell Rock River WD)	\$115,000.00			N
Waterways	Agricultural Practices	Current State Grant	2016 - Targeted Watershed (Shell Rock River WD)	\$66,400.00			N
Wetland Restorations	Wetland Restoration/Creation	Current State Grant	2016 - Targeted Watershed (Shell Rock River WD)	\$330,000.00			N
Wetland Restorations	Wetland Restoration/Creation	Local Fund	Local Option Sales Tax	\$175,000.00			Y

## Activity Details Summary

Activity Details	Total Action Count	Total Activity Mapped	Proposed Size / Unit	Actual Size / Unit
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## Proposed Activity Indicators

Activity Name	Indicator Name	Value & Units	Waterbody	Calculation Tool	Comments
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## Final Indicators Summary

Indicator Name	Total Value	Unit
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## Grant Activity

Grant Activity - 2 Stage Ditch	
<b>Description</b>	<p>The 2 stage ditch project will be completed in conjunction with Freeborn County. The 2- Stage Ditch is approximately 5,000 linear feet and is located upstream of Pickerel Lake on County Ditch number 9. With space being an issue, using the in-ditch practice was a beneficial option. The main Freeborn County contact personnel is Ditch Inspector, Winston Beiser. Winston will be working with University of Minnesota staff (Joe Manger) on the implementation of activities for this project. Principle Engineer will be Steve Penkava with Jones, Haugh and Smith (JHS). JHS has provided engineering services on approximately 150 different County Drainage projects in Freeborn County and is the Engineer of Record for the Turtle Creek Watershed District. Agency review will be included in the design. The 2 stage ditch is proposed to remove 5 lb/yr of phosphorus, but more work needs to be completed to give an accurate proposed nutrient reduction.</p> <p>With Freeborn County working towards this project the county is putting in funds as a match. The landowner would like to get this project implemented and therefor is willing to donate the price of an easement as being in-kind work. The SRRWD welcomes the opportunity to work with interested landowners to address issues.</p>
<b>Category</b>	AGRICULTURAL PRACTICES
<b>Start Date</b>	<b>End Date</b>
<b>Has Rates and Hours?</b>	No
<b>Actual Results</b>	





## Description

Barr Engineering's project team consists of:

Janna Kieffer, P.E., Senior Water Resources Engineer

Janna has 13 years of water resources management experience. Her work includes performing hydrologic and hydraulic modeling, water quality modeling, lake management studies, best management practice (BMP) performance assessments, engineering feasibility studies, and preparing water management plans.

Daniel Tix, Senior Wetland Ecologist

Daniel has over 15 years of experience in natural resources and ecology, assisting clients with wetland permitting, mitigation, delineation, and monitoring. His work has included ecological restoration design and planning, rare species surveys, and natural resources management planning.

Peter Hinck, P.E., Water Resources Engineer

Peter has eight years of experience providing a variety of water resources-related services including assessment, design, and construction for stream restoration and bank stabilization projects; hydrologic and hydraulic modeling; and water quality modeling.

Greg Fransen, Water Resources Specialist

Greg has more than 20 years of experience in life sciences and a bachelor's degree in biology. He joined Barr in 2009 and completed his master's degree in natural resource science and management with an emphasis on hydrology and water quality management in 2012.

Jim Herbert, P.E., Civil Engineer

Jim Herbert has 30 years of experience, primarily in water resources management. His experience includes stormwater management, pond and hydraulic structure design, and environmental compliance.

Design elements will come from Joe Manger with the University of Minnesota combined with Jones, Haugh and Smith for the 2 stage Ditch Project. The Freeborn County Soil and Water Conservation District has technical approval authority for job class 1 and 2 for waterway installation. If waterways have CFS over the job class, the SWCD will consult with the NRCS or the joint powers board.

Category	TECHNICAL/ENGINEERING ASSISTANCE		
Start Date		End Date	
Has Rates and Hours?	No		
Actual Results			

**Grant Activity - Project Administration**

Description	Carmen Christensen, Financial Clerk, will track all time, expenditures, and revenues.		
Category	ADMINISTRATION/COORDINATION		
Start Date	5-Aug-16	End Date	
Has Rates and Hours?	Yes		
Actual Results	Grant work in Elink		

## Grant Activity - Project Development

Description	Many of the projects have targeted locations including the streambank restoration, wetland restoration and 2 stage Ditch. However, the rock inlets and waterways still need project development and landowner interaction to be implemented. SRRWD Staff, Courtney Christensen, Technician, will be working with landowners for project development.		
Category	PROJECT DEVELOPMENT		
Start Date	5-Aug-16	End Date	
Has Rates and Hours?	Yes		
Actual Results	<p>Shell Rock River Watershed District (SRRWD) is focused on reducing nutrient delivery to Pickerel Lake, located in the Pickerel Lake Subwatershed.</p> <p>The District is working with Freeborn County and the University of Minnesota for the implementation of the 2 stage ditch. Preliminary phone conferences have started and the first on-site visit with all involved parties will take place in early February. Design and engineering will take place during the spring with a majority of construction taking place in summer and fall of 2017.</p> <p>For the installation of the waterways the SRRWD is teaming with the Freeborn County Soil and Water Conservation District (SWCD). Due to the scheduling of the SWCD, the waterway installations can begin during the 2018 construction season. The goal is to break up the installation of waterways over the 4 year grant life cycle. During the 2017 year, locations for the waterways will be finalized.</p> <p>Like the waterways, the rock inlets will be installed over the course of the grant life cycle. The first round in letters promoting the installation of rock inlets was sent out in the fall of 2016.</p> <p>Engineering services have started for the streambank restoration. Engineering will take place during the spring of 2017 and the construction for the restoration will take place during the fall of 2017. After a final walk through, the project should be fully completed after the spring of 2018.</p> <p>Of the two wetland restoration projects, the first one the SRRWD will be completing is the Owens wetland restoration. The purchase of the Owens wetland is being made possible by the Lessard-Sams Outdoor Heritage Council funding. A purchase agreement is in place and engineering services have started. Once engineering is finalized the District will purchase the required acres for the restoration and begin construction. The project is expected to be fully constructed in the fall of 2017. The second wetland restoration will begin engineering and design in 2018.</p>		



**Grant Activity - Rock Inlet**

<p><b>Description</b></p>	<p>The SRRWD would like to replace open tile inlets to alternative rock inlet systems. Advantages of rock inlets include less sediment delivered into the subsurface tile system, resulting in less attached phosphorus being delivered downstream. On average one rock inlet prevents around 400lbs of sediment and 0.5lbs of phosphorus from getting into tile lines per year.</p> <p>Design of the rock inlets includes an excavated trench of 15ft in length, 3ft width, and 3ft depth. The tile installed is a 15ft plastic muck tile with sock. Fittings are needed for hookup, size is according to site conditions. Backfill must be natural rock of 3/8 to 3/4" in size. Approximately 8 cubic yards is needed, creating a 1 foot mound above the natural ground. Rock inlet design was adapted from Morriem Drainage, Freeborn Co. and Carver County SWCD. 20 rock inlets are budgeted but the installation of more could be done if funds allow. Jerad Stricker, with the SRRWD, has over 8 years' experience in water resources and has constructed and overseen the installation of over 150 rock inlets that have been installed in the District.</p>	
<p><b>Category</b></p>	<p>CONSERVATION DRAINAGE</p>	
<p><b>Start Date</b></p>		<p><b>End Date</b></p>
<p><b>Has Rates and Hours?</b></p>	<p>No</p>	
<p><b>Actual Results</b></p>		

**Grant Activity - SRRWD Technical Activity**

<p><b>Description</b></p>	<p>Andy Henschel, Director of Field Operations has over 13 years' experience in water resources and has overseen the installation of numerous District projects including the South Industrial Pond, the Albert Lea Lake Dam and Fish Barrier Installation, the installation of 4 additional fish barriers, storm water ponds, and various other projects. Andy will be providing project oversight during the construction of the wetland restorations, and the stream bank restoration. Jerad Stricker with the SRRWD has constructed and overseen the installation of over 150 rock inlets that have been installed in the District and will be providing oversight during the rock inlet installations.</p>	
<p><b>Category</b></p>	<p>TECHNICAL/ENGINEERING ASSISTANCE</p>	
<p><b>Start Date</b></p>		<p><b>End Date</b></p>
<p><b>Has Rates and Hours?</b></p>	<p>Yes</p>	
<p><b>Actual Results</b></p>		

**Grant Activity - Stream Bank Restoration**

**Description**

Landowners south of Pickerel Lake have brought to the Districts attention of streambank head cutting and erosion that is taking place in an inlet stream to Pickerel Lake. This stream bank restoration project is approximately 1,200 linear feet in length. Restoration measures include removing invasive plant species, armoring the toe of selected slopes, top-dressing riprap with existing stream bank soils at 3:1 slopes and seeding with native plant species mixes and hydro mulching to provide vegetative stability. Additional practices can include methods to improve aquatic habitat including hibernaculum structures, boulder retards, and vortex weirs.

Engineering is going to be done by Barr Engineering. Barr Engineering has the technical and engineering credentials for providing assistance to the District, the project team is in the engineering/design activity. Barr will follow NRCS standards for the stream stabilization and where feasible, natural channel stabilization techniques will be implemented. Due to the streambank head cutting and erosive qualities, restoring this streambank will result in a drop of sediment and associated attached phosphorus at an estimated 7lbs/year being deposited into Pickerel Lake.

**Category**

STREAMBANK OR SHORELINE PROTECTION

**Start Date**

**End Date**

**Has Rates and Hours?**

No

**Actual Results**

**Grant Activity - Waterways**

**Description**

The waterways portion of this project will be done with the assistance of the Freeborn County Soil and Water Conservation Staff. Staff at the Freeborn County SWCD has technical approval authority for job class 1 and 2 for waterway installation. If waterways have CFS over the job class, the SWCD will consult with the NRCS or the joint powers board. The SWCD will follow NRCS field technical guide standards. Approximately 9,000 linear feet of waterways are going to be installed. A majority of the sites have been identified, but more site work and landowner contact needs to be made to finalize installation. Priority is given to waterways with channelized erosion with direct sources to receiving water bodies. Further digital terrain analysis can be completed to determine priority locations for waterways.

Pickerel Lake is characteristic for its steep slopes located in the west region of the watershed. With sediment loss already taking place at the waterway locations, the BWSR Pollution Reduction Estimator calculated that approximately 60 to 90lbs of phosphorus could be reduced with the combined waterways installed.

**Category**

AGRICULTURAL PRACTICES

**Start Date**

**End Date**

**Has Rates and Hours?**

No

**Actual Results**

## Grant Activity - Wetland Restorations

<b>Description</b>	<p>The project proposes 2 wetland restoration projects. The first is located at Township 102, Section 30, Range 21 as is approximately 25 acres. This wetland restoration site drains 296 acres of agricultural land and is expected to remove 45lbs/year of TP. The second wetland restoration is located in Township 102, Section 22, Range 22 and approximately 20 acres in size. This second restoration drains 226 acres of agricultural land and the assumed TP removal of 33lbs/year. Janna Kieffer, P.E., reestimated both wetland phosphorus reductions based on new drainage acres that are higher than the original application. Both of the wetlands are upstream of Pickerel Lake and will provide areas in which sediment and phosphorus will be removed and treated from surface runoff. The wetlands will also be able to provide water storage to minimize impacts downstream during storm events.</p> <p>Engineering for both wetlands are going to be designed by Barr Engineering. Barr Engineering has the resources and required credentials for providing assistance and will have P.E signoff. Barr engineering will follow NRCS standards. The District is going to purchase one of the properties for the restoration. This land acquisition is using the SRRWD local-option sales tax to complete a wetland restoration and will be used as in-kind for the Targeted Watershed Grant. Land acquisition funds will not come from the BWSR grant funds. The SRRWD will oversee and maintain the project for the life of the BMP.</p>	
<b>Category</b>	WETLAND RESTORATION/CREATION	
<b>Start Date</b>	<b>End Date</b>	
<b>Has Rates and Hours?</b>	No	
<b>Actual Results</b>		

## Grant Attachments

Document Name	Document Type	Description
<b>2016 Targeted Watershed Grant</b>	Grant Agreement	2016 Targeted Watershed - Shell Rock River WD
<b>2016 Targeted Watershed Grant executed</b>	Grant Agreement	2016 Targeted Watershed - Shell Rock River WD
<b>BWSR_SRRWD Grant Agreement</b>	Grant	2016 - Targeted Watershed (Shell Rock River WD)
<b>Contract Form</b>	Grant	2016 - Targeted Watershed (Shell Rock River WD)
<b>Contribution Agreement_County_Watershed</b>	Grant	2016 - Targeted Watershed (Shell Rock River WD)
<b>Contribution Agreement_SWCD_Watershed</b>	Grant	2016 - Targeted Watershed (Shell Rock River WD)
<b>Grant Timeline</b>	Grant	2016 - Targeted Watershed (Shell Rock River WD)

Document Name	Document Type	Description
<b>Original Application</b>	Grant	2016 - Targeted Watershed (Shell Rock River WD)
<b>PTM Document</b>	Grant	2016 - Targeted Watershed (Shell Rock River WD)
<b>Pickrel Lake Subwatershed Topography, Land Use, and Hydrology</b>	Grant	2016 - Targeted Watershed (Shell Rock River WD)
<b>Project Locations</b>	Grant	2016 - Targeted Watershed (Shell Rock River WD)
<b>Water Monitoring Location and Jurisdictional Boundaries</b>	Grant	2016 - Targeted Watershed (Shell Rock River WD)
<b>Work Plan</b>	Workflow Generated	Workflow Generated - Work Plan - 07/20/2016
<b>Work Plan</b>	Workflow Generated	Workflow Generated - Work Plan - 06/17/2016