



Grant All-Detail Report Accelerated Implementation Grant 2016

Grant Title - Watonwan Watershed - Precision Targeting through Hydro-Conditioning

Grant ID - C16-9972

Organization - Greater Blue Earth River Basin Alliance

Original Awarded Amount	\$52,280.00	Grant Execution Date	3/3/2016
Required Match Amount	\$13,070.00	Original Grant End Date	12/31/2018
Required Match %	25%	Grant Day To Day Contact	Kay Gross
Current Awarded Amount	\$52,280.00	Current End Date	12/31/2018

Budget Summary

	Budgeted	Spent	Balance Remaining*
Total Grant Amount	\$52,280.00	\$52,280.00	\$0.00
Total Match Amount	\$13,483.00	\$16,864.00	\$-3,381.00
Total Other Funds	\$0.00	\$0.00	\$0.00
Total	\$65,763.00	\$69,144.00	\$-3,381.00

*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	Matching Fund
Administration and Coordination	Administration /Coordination	Local Fund	Staff Time - Local Match	\$2,320.00	\$4,277.50	10/31/2018	Y
BMP Targeting Assessment	Education/Information	Current State Grant	Watonwan Watershed - Precision Targeting through Hydro-Cond..	\$10,200.00	\$10,200.00	12/19/2018	N

Activity Name	Activity Category	Source Type	Source Description	Budgeted	Spent	Last Transaction Date	Matching Fund
Education and Training	Education/Information	Current State Grant	Watonwan Watershed - Precision Targeting through Hydro-Cond..	\$1,920.00	\$1,920.00	12/19/2018	N
Education and Training	Education/Information	Local Fund	Staff Time - Local Match	\$6,928.00	\$183.47	10/5/2017	Y
Hydromodificaiton of DEM	Inventory/Mapping	Current State Grant	Watonwan Watershed - Precision Targeting through Hydro-Cond..	\$31,210.00	\$32,007.50	12/19/2018	N
Hydromodificaiton of DEM	Inventory/Mapping	Local Fund	Staff Time and Mileage - Local Match	\$4,235.00	\$12,403.03	10/5/2017	Y
Watershed Delineation Assessments	Inventory/Mapping	Current State Grant	Watonwan Watershed - Precision Targeting through Hydro-Cond..	\$8,950.00	\$8,152.50	12/19/2018	N

Activity Details Summary

Activity Details	Total Action Count	Total Activity Mapped	Proposed Size / Unit	Actual Size / Unit
306M - LIDAR Derived Product(s)	2		393175 AC	AC

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 - Administration and Coordination

Description	<p>Administration and Coordination of this project will be provided by the GBERBA Coordinators and Bookkeeper. The Administrative Coordinator will administer the 2016 CWF Grant with duties to include E-link reporting, website updating and reporting documents as required by BWSR. The fiscal management will be completed by the GBERBA Financial Corrdinator and include all reporting documents as required by BWSR.</p> <p>The GBERBA Staff will not be taking grant funds for this endeavor; all funds expended will be in-kind.</p> <p>In-Kind Contribution: GBERBA Staff - 80 hrs - \$29.00 Total - \$2,320.00</p>		
Category	ADMINISTRATION/COORDINATION		
Start Date	8-Mar-16	End Date	31-Dec-18
Has Rates and Hours?	No		
Actual Results	<p>MARCH - DECEMBER 2016 GBERBA Coordinators in-kind contribution 85.0 hours @ \$30.00/hr TOTAL IN-KIND: \$2,550.00</p> <p>JANUARY - DECEMBER 2017 GBERBA Coordinators in-kind contribution 31.5 hours @ \$30.00/hr TOTAL IN-KIND: \$945.00</p> <p>JANUARY - DECEMBER 2018 GBERBA Coordinators In-Kind Contribution Admin and Tech – 15.5 hours @ \$35.00 = \$542.50 Financial – 8 hours @ \$30.00 = \$240.00 TOTAL IN-KIND: \$782.50</p>		

Grant Activity - BMP Targeting Assessment

Description	The contractor will identify focus areas for BMPs and map highly sensitive areas based on terrain analysis and SPI/CTI layers. The secondary attributes derived earlier along with soil information will define the focus areas needed to implement BMPs. In addition, contractors may at the request of local staff conduct targeting using various targeting programs such as the Agricultural Conservation Planning Framework (ACPF).		
Category	EDUCATION/INFORMATION		
Start Date	8-Mar-16	End Date	31-Dec-18
Has Rates and Hours?	No		
Actual Results	<p>MARCH - DECEMBER 2016</p> <p>0% completed. Work contingent upon completion of breachline inventory.</p> <p>No funds expended.</p> <p>JANUARY - DECEMBER 2017</p> <p>Preliminary BMP targeting assessments using the Ag Conservation Planning Framework (ACPF) have been completed for the Willow Creek watershed in Watonwan County per the request of the Watonwan River Engagement Team.</p> <p>Contractor funds invoiced: \$634.59</p> <p>JANUARY - DECEMBER 2018</p> <p>Watonwan Watershed partners identified and submitted priority resource points for their priority body of waters within each county. In addition, ACPF GIS toolset was ran across the entire Watonwan Watershed. WRC staff worked with Watonwan partners to discuss targeting using ACPF outputs in Willow Creek as an example of using some of the BMP data and engaging landowners.</p> <p>Contractor funds invoiced: \$7,794.47 and \$1,770.94</p> <p>TOTAL: \$9,565.41</p>		

Description

The Contractor will educate and train partners in the Watonwan River Watershed. A three-day training will be developed to allow local staff to utilize the data, learn the tools used to hydrologically correct a DEM and add to the existing terrain analysis inventory.

The culvert inventory is a database that needs to be continuously updated as new drainage features arise. Training local partners to ensure the inventory stays valid and that terrain analyses are being conducted on accurate DEMs is imperative.

In-Kind Contribution:

Training SWCD/County Staff and Boards

Total - \$6,000.00

(Calculated Hourly Rate will be used in formula)

GBERBA - Organization of Training Sessions

Total - \$928.00

Category	EDUCATION/INFORMATION		
Start Date	8-Mar-16	End Date	31-Dec-18
Has Rates and Hours?	No		
Actual Results	<p>MARCH - DECEMBER 2016</p> <p>0% complete - Contingent upon completion of breachline inventory, secondary attributes, and BMP targeting. The contractor (WRC) has started discussions with the contractor from the Blue Earth/Le Sueur watershed hydroconditioning grant about coordinating workshops between both CWF grant projects.</p> <p>No funds expended.</p> <p>JANUARY - DECEMBER 2017</p> <p>A training was held on June 13, 2017 to train local staff on a locally developed Collector application for ArcGIS to field verify "low confidence" culverts in the watershed.</p> <p>In-Kind from the event: Brown SWCD: \$98.25 (3 hrs @ \$32.75/hr) Watonwan SWCD: \$85.22 (2 hrs @ \$42.61/hr)</p> <p>More trainings will likely be scheduled for February 2018</p> <p>JANUARY - DECEMBER 2018</p> <p>Worked with WSN and GBERBA staff to coordinate an online presentation in August 1, 2018 providing an overview of the hydro terrain analysis project and what will be introduced at the hands-on GIS workshops. August 22, 2018 hosted a GIS workshop demonstrating hydrology and terrain analysis GIS datasets. Approximately 20 individuals participate in the hydrology and terrain analysis data exploration workshop. September 27, 2018 hosted a GIS workshop demonstrating water quality and BMP targeting datasets from PTMApp toolbar and ACPF toolset. Matt Drewitz, BWSR Outcomes Coordinator, demonstrated the PTMApp web application as another way to view and work with these data products. Approximately 25 individuals participated in the PTMApp and ACPF data exploration workshop. The final datasets were organized into geodatabase following a structure developed by the state. Metadata and final report detailing methods and the products was prepared, also containing workshop materials to help staff navigate data products and how to work with them.</p> <p>Contractor time invoiced: \$1,920.00</p>		

Description

Bids to conduct this work will be solicited. A contractor will be selected based on several parameters outlined in the bid, including cost-effectiveness and ability to complete the work to high standards. The selected contractor will fulfill the duty of generating a hydro-modified DEM of the Watonwan Watershed via an accurate and complete culvert inventory identifying sub-surface drainage features not detected by LiDAR. The culvert inventory will be completed by following acceptable methods used by the State of Minnesota and/or the Digital Elevation Committee, and/or other entities that have created similar inventories. This inventory will identify existing subsurface drainage features (e.g. culverts, drain tiles) by utilizing any existing inventories, GIS data, and direct observation. Local staff will field verify culverts for quality control.

Not all 561,620 acres of the Watonwan Watershed will need to be covered in the culvert inventory. To date, a culvert inventory of the Blue Earth County portion of the Watonwan Watershed has already been completed by Houston Engineering Inc. (HEI) and an additional seven HUC12 watersheds have been completed throughout the watershed by the MSU Water Resources Center (See application general attachment "Map of area remaining to be hydro-conditioned"). Taking into account the already completed work, approximately 393,175 acres of the watershed remains to be inventoried for sub-surface drainage features. Burnlines of features from the culvert inventory will be incorporated into the GIS database resulting in hydrologically-modified DEMs. Although only 393,175 acres of the watershed is yet to be inventoried, the contractor and local staff will quality control existing inventories and attempt to identify newly installed subsurface drainage features.

In-Kind Contribution:
Culvert Verification per County.
\$800.00 per SWCD - Total \$3,200.00
(Calculated Hourly Rate will be used in formula)
Mileage - Total \$1,035.00

Start Date

8-Mar-16

End Date

31-Dec-18

Has Rates and Hours? No

Actual Results

MARCH - DECEMBER 2016

RFQ developed to solicit contractor; 3 bids were received. Entered into contract July, 2016 with the WRC-MSU
No payments were made.

In-Kind contribution: Martin Co \$2,980.20; Blue Earth Co \$3,190.21 pictometry.
Annual Report attached.

JANUARY - DECEMBER 2017

Breachlines with low confidence were reviewed by local staff and updated in ArcGIS Collector App. The field-reviewed breachlines were used to update confidence levels; position breachlines in master dataset; final desktop review to generate a stream network modeling surface flow across the entire HUC8 watershed.

Staff in-kind to field verify culverts:

Brown SWCD \$229.25 (7 hr @ \$32.75/hr)

Watonwan SWCD \$1,903.66 (8.5 hr @ \$38.31/hr + 16 hr @ \$31.67/hr + 13 hr @ \$42.61/hr + 9.25 hr @ \$47.66 + 143 miles @ \$0.535/mi).

Contractor time invoiced: 2/10/2017 - \$9,006.26; 8/11/2017 - \$20,122.38

TOTAL - \$29,128.64

8/14/2017 - Submitted request for 40% grant funds.

In-kind contribution: Blue Earth Co \$4,099.71 pictometry.

Amendment with WRC to increase amount for training and extend contract expiration date to June 30, 2018.

JANUARY - DECEMBER 2018

Breachlines and wall lines were digitized across 1,062 sq. mi. including the entire Watonwan Watershed (878 sq. mi.) and a 1-mile buffer around the watershed (184 sq. mi.). The breachlines were attributed using the attribute fields determined from input by Vaughn, Moore, and Reineke. Breachlines designated as low confidence was given to local staff in the Watershed to verify existence of a subsurface conveyance structure. WRC provided training on June 2017 and ongoing technical assistance to Watershed partners in order to complete field verification of low confidence breachlines using ArcCollector application on their table and mobile devices. Updates from the field work and desktop QA/QC measures were incorporated into the final Task 1 Deliverables.

Contractor invoiced: \$1,454.50; \$1,424.36

TOTAL: \$2,878.86

Activity Action - Create hydrologically-modified DEMs			
Practice	306M - LIDAR Derived Product(s)	Count of Activities	1
Description	1. Identify and digitize subsurface drainage features 2. Generate modified DEMs 3. Verify modifications for quality control		
Proposed Size / Units	393,175.00 AC	Lifespan	In Perpetuity
Actual Size/Units	AC	Installed Date	
Mapped Activities	No		

Grant Activity - Watershed Delineation Assessments

Description	Once the burnlines have been incorporated into the existing DEM, the contractor will calculate secondary attributes (SPI, CTI) for each catchment area in the watershed to determine areas of high erosion and depressions. This will include identifying bluff and ravine areas.		
Category	INVENTORY/MAPPING		
Start Date	8-Mar-16	End Date	31-Dec-18
Has Rates and Hours?	No		
Actual Results	<p>MARCH - DECEMBER 2016</p> <p>0% complete. Contingent upon completion of breachline inventory.</p> <p>No funds expended.</p> <p>JANUARY - DECEMBER 2017</p> <p>Update from Contractor: "Breachlines with "low" confidence were reviewed by SWCD and County staff and updated in an online map using ArcGIS Collector App. The field-reviewed breachlines were used to update confidence levels and position of breachlines in the master dataset, and final desktop review to generate a stream network modeling surface flow across the entire HUC8 watershed. In addition, products that were completed include an hDEM, filled hDEM, raw dem, flow accumulation and flow direction. These products will be used to generate water quality and hydrology datasets."</p> <p>Contractor funds invoiced: 8/11/2017 - \$4,150.74</p> <p>JANUARY - DECEMBER 2018</p> <p>The inputs for PTMApp were created by WRC staff and incorporated into the toolbar to develop hydrology and water quality datasets. WRC worked with the developed of PTMApp, HEI and BWSR, as well as WSN to appropriately run the ArcGIS toolbar and generate products for the Watonwan River Watershed. In June 2018 BWSR hosted training on PTMApp and WRC attended to learn about the updates and new features to the toolbar that apply to this hydro terrain analysis project.</p> <p>Contractor time invoiced: \$4,001.76</p>		

Activity Action - Generate secondary attributes			
Practice	306M - LIDAR Derived Product(s)	Count of Activities	1
Description	Calculate SPI and CTI for each catchment area in the basin		
Proposed Size / Units	393,175.00 AC	Lifespan	In Perpetuity
Actual Size/Units	AC	Installed Date	
Mapped Activities	No		

Grant Attachments

Document Name	Document Type	Description
2016 Annual Report	Grant	Watowan Watershed - Precision Targeting through Hydro-Conditioning
2016 Competitive Grant	Grant Agreement	2016 Competitive Grant - Greater Blue Earth River Basin Alliance
2016 Competitive Grant executed	Grant Agreement	2016 Competitive Grant - Greater Blue Earth River Basin Alliance
2017 - WRC Invoice and Check Stub	Grant	Watowan Watershed - Precision Targeting through Hydro-Conditioning
2018 - WRC - Final Billing	Grant	Watowan Watershed - Precision Targeting through Hydro-Conditioning
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 01/05/2018
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 12/27/2018
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 10/06/2017
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 10/06/2017
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 01/22/2018
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 01/16/2018
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 01/16/2017
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 03/09/2017
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 12/31/2018
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 08/14/2017
Application	Workflow Generated	Workflow Generated - Application - 08/28/2015
BWSR - Final Financial Report - 12-19-18	Grant	Watowan Watershed - Precision Targeting through Hydro-Conditioning
C16-9972 Reconciliation B Checklist	Journal	Journal Dated - 12/27/2018

Document Name	Document Type	Description
Finanical Report - 40% Request	Grant	Watowan Watershed - Precision Targeting through Hydro-Conditioning
GBERBA - December - Financial Report - WRC Final Payment	Grant	Watowan Watershed - Precision Targeting through Hydro-Conditioning
Map of area remaing to be completed	Grant	Watowan Watershed - Precision Targeting through Hydro-Conditioning
Match Expeniture Email	Journal	Journal Dated - 07/21/2016
Watowan Hydro Modification Overview	Grant	Watowan Watershed - Precision Targeting through Hydro-Conditioning
Watowan Watershed area needing culvert inventory	Grant	Watowan Watershed - Precision Targeting through Hydro-Conditioning
Work Plan	Workflow Generated	Workflow Generated - Work Plan - 02/23/2016
Work Plan	Workflow Generated	Workflow Generated - Work Plan - 12/16/2015
grantmap_14649_2015-08-28_01-13-25-PM.jpg	Grant	Watowan Watershed - Precision Targeting through Hydro-Conditioning