FINAL REPORT

DICKINSON COUNTY CLEAN WATER ALLIANCE

Project 1016-010 Iowa Great Lakes

Preparer's Signature: Jeff Wie

SWCD Chairperson's Signature: Mark Anderson

Watershed Improvement Review Board

(January 1, 2011 to June 30, 2014)

Final Project Report

The term of the grant agreement:

- January 1, 2011 to June 30, 2014

Financial Accountability

Summary: Watershed Improvement Funds				
Grant Agreement Budget Line Item	**Total Funds Approved ($)**	**Total Funds Expended ($)**	**Available Funds ($)**	**Matching Funds($) ***
Conservation Easement	40,000	40,000	0	219,300.00
Rain Garden	15,916.31	15,916.31	0	13,126.19
Permeable Pavement	12,000	6,480.75	5,519.25	3,000.00
Bio-Swales	8,000	0	8,000	2,530.03
Bio-Retention Cell	44,083.69	26,013.25	18,070.44	41,083.43
Shoreline Restoration	32,000	25,606.30	6,393.70	722.10
Water and Sediment Control Basin	4,500	2,971.25	1,528.75	13,429.11
Grassed Waterway	12,000	3,126.38	8,873.62	0
Difference	168,500	120,114.24	48,385.76	293,190.86

*Dickinson SWCD

Explain significant differences between the approved application budget and actual amounts expended of Watershed Improvement Funds and any unspent balance.

The following differences in the Grant Agreement Budget Line Items were experienced (with explanation as to why the difference was experienced):

- Permeable Pavement – Pavers were more difficult to sell to urban landowners during this grant because the district restricted cost share to a maximum of 17 dollars per square foot. Most paver projects were well over that 17 dollars a square foot cost. This made pervious pavers a much less attractive option for homeowners who looked into this option.
- Bio-Swales – There was a bio-swale constructed but funds from outside sources were used to fund that project. No other projects were completed.
- Bio-retention Cell – A request was approved in 2013 to transfer the remaining amount of money in the Rain Garden Line Item to Bio-cells (see attached memorandum from September 25, 2013) because there was a need for additional cost share in the bio-cell line item. While we did have additional need for bio-cells versus rain gardens the need did not surpass the amount of money that we had available. Therefore we were unable to expend the entire amount of WIRB funds.
- Shoreline Restoration – Shoreline restoration and protection projects were not as expensive as originally forecast when writing the grant appliciation. We exceeded the amount of feet of shoreline restoration and were able to do that at less cost.
- Water and Sediment Control Basins – the cost of building WASCOB's exceeded the estimated cost when writing the grant application and we were able to build the basins that we did due to other funds besides WIRB.
- Grassed Waterways – The amount spent on Grassed Waterways is less than estimated due to landowners deciding to just build Grassed Waterways with their own money versus mess with the 10 year maintenance agreement.

Total Project Funding

Funding Source	Cash		In-Kind Contributions		Total	
	Approved Application Budget ($)	Actual ($)	Approved Application Budget ($)	Actual ($)	Approved Application Budget ($)	Actual ($)
WIRB	168,500	120,114.24			168,500	120,114.24
Dickinson SWCD	36,000	77,406.17			36,000	77,406.17
Local Partners	0	413,771.78			0	413,771.78
Land Owner	0	277,393.23			0	277,393.23
Totals	204,500	888,685.42			204,500	888,685.42

Watershed Improvement Fund contribution: Approved application budget: 82 %
Actual: 14 %

The differences in the approved application budget and actual dollars spent are in favor of the WIRB board. Contributions to the project were greater than origionally anticipated so a greater match to expense ratio was realized. The approved budget was to have WIRB spend 82% of the budget and the actual expense ratio was only 14% of the budget spent consisted of WIRB Funds.

Because we were successful in securing the WIRB grant we were able to leverage WIRB dollars against other grants and funds. This leveraging was a win-win situation for all parties. Because of the leveraging the District was able to accomlish much more conservation than originally thought. This conservation included other practices and areas than were included in the original grant application.

Another benefit that was not foreseen included the amount of money that landowners were willing to include in their "share" of the cost for conservation practices. In several instances, the landowner was the majority of the spender for conservation practices, not WIRB or a local partner.

Environmental Accountability

Previous conservation practices have been monitored and it has been determined that Low Impact Development Practices in the Iowa Great Lakes have been proven to reduce Phosphorous by 90%. In addition, other BMP's have a proven track record in Iowa.

Pollution Reduction Results:

- Conservation Easement/Wetland Restoration: 266 lbs. Phosphorous Reduction
- Rain Gardens: 24.75 lbs. Phosphorus Reduction
- Permeable Pavers: 4 lbs. Phosphorous Reduction
- Bio-Swale and Bio-Cell: 85.75 lbs. Phosphorous Reduction
- Shoreline Restoration: 856.7 lbs. Phosphorous Reduction
- WASCOB: 103 lbs. Phosphorous Reduction
- Grassed Waterway: 198 lbs. Phosphorous Reduction

Total Pollution Reduction Results from the Iowa DNR Pollution Reduction Calculator = **1538.2 lbs**. Phosphorous each year. The total Sediment Reduction to the lake is **1,128.7** tons per year and originated primarily from wetland restoration, prairie planting and grassed waterways. The total Nitrogen reduction due to these practices is **2,368.6** pounds per year and these reductions primarily came from shoreline restorations and wetland restorations.

Summary: Practices and Activities

Practice or Activity	Unit	Approved Application Goal	Accomplishments	Percent Completion
Conservation Easement	Ac	20	20	100
Rain Gardens	No.	80	10	13
Permeable Pavers	No.	20	3	15
Bio-cells/swales	No.	60	12	20
Shoreline Restoration	Ft.	7,500	8000	106
WASCOB	No.	10	7	70
Grassed Waterways	Ft.	9,000	1750	19
Reduced or No-tillage	Ac.	4,000	0	0

The major concern with most of the Lakes in Dickinson County and the Iowa Great Lakes, in particular is sediment and phosphorous loading. All the Best Management Practices that were installed as part of this project were geared toward sediment reduction and, by doing so, phosphorous reduction.

In the appendix of this final report please find photographs of the practices that were installed in addition to various statistics about each project that is pictured. Not all practices that were installed in connection this project are highlighted but significant examples of each type of practice are shown.

In addition to watershed protection the cultural awareness and educational opportunites that has occurred because of this project will affect generations to come. The awareness these conservation practices in many ways may be a bigger impact than the pollutants that are removed from runoff each year. Each person that is aware of why these practices are built have been very concious of trying to reduce pollutants to the lake.

As part of the process of changing the "culture" of the area toward conservation, the following Information and Education activities were performed as part of this project:

- Radio spots/interviews – 8
- Newspaper and Newsletter articles – 5
- Presentations and Tours – 9
- Informational signs – 2
- Personal one on one contacts – many

Program Accountability

This project was instrumental in other grant funding and project activities occurring in the Iowa Great Lakes. In addition to WIRB funds, money from local grantees as well as state and Federal organizations were secured. The WIRB Funds was a primary key to securing those grant funds and extend the District's options.

A challenge that occurred in concert with this project was the turn-over of project coordinators. The coordinator who began this project was "promoted" into the Urban Conservationist position in 2012. When the coordinator position became vacant the Clean Water Alliance Coordinator became the interim coordinator. The District then hired a new coordinator in January 2013 and that Coordinator took a new position in December 2013, one year later. The Clean Water Alliance Coordinator has been the interim coordinator for this project once again and is writing the final report. During vacancies the District was

able to move the project forward and secure accomplishments. However, there must be some accommodations for a learning curve for new coordinators and change over in staff.

The ultimate success would be achieved if a permanent position with a long-term coordinator could be assigned to one project and operate that project through completion. That would negate the effect of training, adjustment, and building relationships that are all a necessary part of project coordination.

Appendix:

Conservation Easement: Okoboji View Golf Course –

Photo 1 North Easement area with restored wetland already filled with water.

Photo 2 Golf Course Easement Area with Sheet Pile Structure.

Rain Gardens:

Photo 3 Rain Garden on Big Spirit Lake

Photo 4 Rain Garden as constructed with no vegetation planted yet in Spirit Lake

Permeable Pavers:

Photo 5 Pavers being placed and constructed. The underlayment is already in place.

Photo 6 Another Paver Project complete with proper spacing and filler

Bio-Cells/Bio-Swales:

Photo 7 A completed bio-swale without vegetation planted yet but fiber mulch.

Photo 8 Completed Bio-Cell with protective fiber log until establishment.

Shoreline Restoration:

Photo 9 Shoreline Restoration in the Winter

Photo 10 Wintertime photo of shoreline restoration.

Water and Sediment Control Basins:

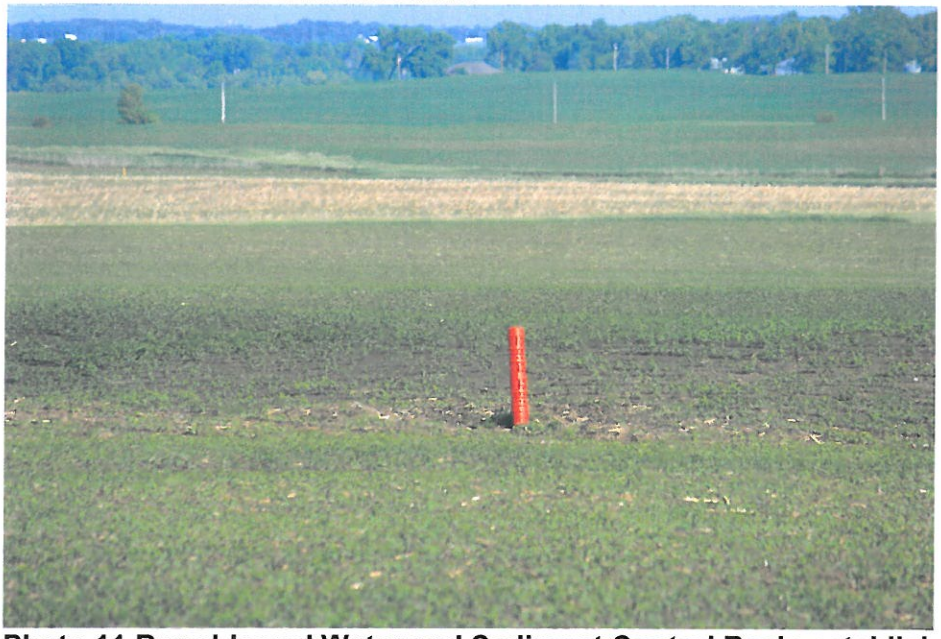

Photo 11 Broad-based Water and Sediment Control Basin established fall 2013

Photo 12 Broad-based Water and Sediment Control Basin established fall 2013

Grassed Waterways:

Photo 13 Grassed waterway shortly after shaping and seeding

Photo 14 Gully forming prior to shaping and seeding into Grassed Waterway

Photo 15 Same gully as Photo 14 after shaping and seeding of Grassed Waterway