

**Environment and Natural Resources Trust Fund
2017 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 078-B

Little Sioux Flood Mitigation - Wetlands and Channel Storage

Category: B. Water Resources

Total Project Budget: \$ 2,787,990

Proposed Project Time Period for the Funding Requested: 1.5 years, July 2017 - December 2018

Summary:

Construct wetland storage basins with low-flow rate control structures, and in-channel storage to provide water treatment and storage for improved water quality and reduced flooding to protect communities downstream.

Name: Tim Stahl

Sponsoring Organization: Jackson County Public Works

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Jackson MN 56143

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Web Address http://www.co.jackson.mn.us/land

Location

Region: Southwest

County Name: Jackson

City / Township: Round Lake Township (Jackson County) and Lorain Township (Nobles County)

Alternate Text for Visual:

This map shows the site and locations for the wetland storage basins and in-channel storage areas.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____ %

Environment and Natural Resources Trust Fund (ENRTF) 2017 Main Proposal
Project Title: Little Sioux Flood Mitigation - Wetlands and In-Channel Storage

PROJECT TITLE: Little Sioux Flood Mitigation - Wetlands and In-Channel Storage

I. PROJECT STATEMENT

Construction of multiple storage basins with low-flow rate control structures, and in-channel storage will provide storage and treatment for water quality and reduce flooding in far southeastern Minnesota. Located between the Iowa border and the I90 Corridor, this project will provide flood mitigation to downstream landowners and improve water quality with the construction of a wetland and in-channel storage.

- Water leads to Skunk Creek, an impaired water (Escherichia coli and turbidity), and downstream landowners experiencing regular flooding issues requested the project.
- The wetland and in-channel storage both address water quality through sedimentation and nutrient uptake. Skunk Creek outlets into the Little Sioux River, which ultimately outlets into the Des Moines River.
- It is restoring wetland areas and channel storage to bring back natural habitat, which helps alleviate the cause of much flooding.
- Provides treatment to a 24,000 Acre Watershed
- Easement acquisition, design, engineering and construction of:
 - 3-Wetlands (A: 2.57 acres, B: 10.75 acres and C:29.87 acres) 43.19 Total acres
 - 1-In Channel Storage (23,369 feet)

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Design of a nutrient treatment wetland and in-channel storage **Budget: \$197,600**

In-channel storage mimics the natural process of a stream and flood plain with a low-flow channel inside a high flow channel. The wetland reestablish natural hydrology and native vegetation to provide wildlife habitat and nutrient uptake.

Outcome: Reestablish the natural process for sedimentation and storage.	Completion Date
1. Wetland	Dec. 1, 2017
2. In-channel storage	Dec. 1, 2017

Activity 2: Easement Acquisition (22 Parcels) **Budget: \$394,840**

Landowners are receptive and have expressed interest in providing land for storage and water quality easements. This land is selected because it is the most suitable for these practices, due to low lying lands, prone to flooding. The in-channel storage design is wider than a standard channel and requires additional land acquisition to implement. The cost below only include the costs associated with widening the channel for additional storage purposes and the cost for easements for the treatment wetlands.

Outcome	Completion Date
1. Landowner meetings. Hearings to seek Landowner Input (103E process)	July 1, 2018
2. Acquire land through purchasing a permanent easement.	July 1, 2018

Activity 3: Construction of nutrient treatment wetland and In-channel storage **Budget: \$2,195,550**

Construction costs associated with widening the channel for additional storage purposes and the cost for easements for the treatment wetlands.

Outcome	Completion Date
1. Bidding and Award	February 1, 2018
4. Grading, excavation and erosion control	Dec. 1, 2018
2. Construction Administration	Dec. 1, 2018
3. Seeding and Restoration	Dec. 1, 2018

III. PROJECT STRATEGY

A. Project Team/Partners

Environment and Natural Resources Trust Fund (ENRTF) 2017 Main Proposal
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- **Jackson County Public Works:** Tim Stahl, PE will serve as the project manager and will implement the maintenance plan. Kevin Nordquist, Count Auditor will serve as the Fiscal Agent. Dave Macek, Drainage Supervisor, will review design plans and provide input.
- **Multiple landowners (22 parcels):** Landowners with easements will provide plan review and input.
- Landowners (downstream in the Sioux Valley area) without easements: Review design plans and provide input.
- **Jackson and Nobles County Drainage Authority:** Will provide input and approval of all reports, designs and plans.
- **Jackson County Soil and Water Conservation District (SWCD):** Will review the project.
- **Engineer:** Will provide design services, construction administration.

B. Project Impact and Long-Term Strategy

In-channel storage: This project goes beyond the traditional ditch design. Only expenses that are associated with expanding the existing channel to provide in-channel storage and reduce erosion are included. The expanded design provides habitat for wildlife, water storage and treatment.

Wetlands: The wetlands will be designed to reduce flooding downstream while providing sediment storage and water quality treatment. The wetland storage area will be designed to be maintained by the drainage authority with their regular maintenance at approximately 10 year intervals.

Easements: Will be perpetual and the basins will become a permanent part of the drainage system. The long-term strategy is to reduce flooding in the Sioux Valley area and to improve water quality and storage. This will also provide wildlife habitat within the In-channel storage, reduce erosion through prevention, as well as sedimentation.

C. Timeline Requirements

- **ENRTF:** The timing of this project is critical as wetlands and in-channel storage can be added to work that is already being planned for the watershed during 2017-2019.
- **Year 1:** Land acquisition, design and engineering of wetlands and in-channel storage.
- **Year 2-3:** Construction and seeding.
- **Future Funding:** Extending in-channel storage and increasing targeted water storage areas throughout the system will provide additional water quality improvements and further reduce flooding in the future.
- Ditch Authority is unable to fund the expanded portion of the project (wetlands and in-channel storage) because the benefits exceed the costs according to Minnesota Statute 103E.
- Public benefit includes reduced flooding to downstream communities, which benefits human health.
- The restoring wetlands replaces the natural sedimentation process that is needed before water enters public waters including Skunk Creek.

2017 Detailed Project Budget

Project Title: Little Sioux Flood Mitigation - Wetlands and Channel Storage

IV. TOTAL ENRTF REQUEST BUDGET 3 years

<u>BUDGET ITEM</u>	<u>AMOUNT</u>
Professional/Technical/Service Contracts: Proposed contracts: Design of a nutrient treatment wetland and in-channel storage	\$197,600
Acquisition (Permanent Easements): <i>The Drainage Authority will obtain a permanent easement for approximately 43 acres (22 parcels). Wetland A: 1.8 acres (\$2,700); Wetland B: 10.10 acres (\$15,150); Wetland C: 33.31 acres (\$175,475); Total Wetland Area 43.19 acres, Total Wetland Acquisition cost \$193,325. In-Channel Storage: Total length 23,369 feet, Land acquisition for storage 22.38 acre. Total land acquisition for in-channel storage (\$155,364).</i>	\$ 394,840
Professional/Technical/Service Contracts: Construction of nutrient treatment wetland and In-channel storage. Proposed contracts: Bidding, Construction Staking, Construction Administration. Construction will be bid for service contracts including grading, infrastructure, seeding, and erosion control (\$2,195,550).	\$2,195,550
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 2,787,990

V. OTHER FUNDS *(This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)*

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
Other Non-State \$ To Be Applied To Project During Project Period: <i>This funding is from landowners who will be paying for a majority of the project. The grant funding accounts only for water quality and additional storage. Note: Landowners will pay for the entire drainage improvement separately and Minnesota Statute 103E will not allow the authority to expend beyond the benefits ratio without outside funding such as the LCCMR. Another opportunity for combining projects is not expected for another 100 years.</i>	\$10,985,562	Secured
Other State \$ To Be Applied To Project During Project Period:	N/A	<i>Indicate: Secured or Pending</i>
In-kind Services To Be Applied To Project During Project Period:	N/A	<i>Indicate: Secured or Pending</i>
Funding History:	N/A	
Remaining \$ From Current ENRTF Appropriation:	N/A	<i>Indicate: Unspent? Legally Obligated? Other?</i>

**Environment and Natural Resources Trust Fund
2017 Proposed Acquisition/Restoration List**

Project Title: Little Sioux Valley Flood Mitigation Wetland and Channel Storage

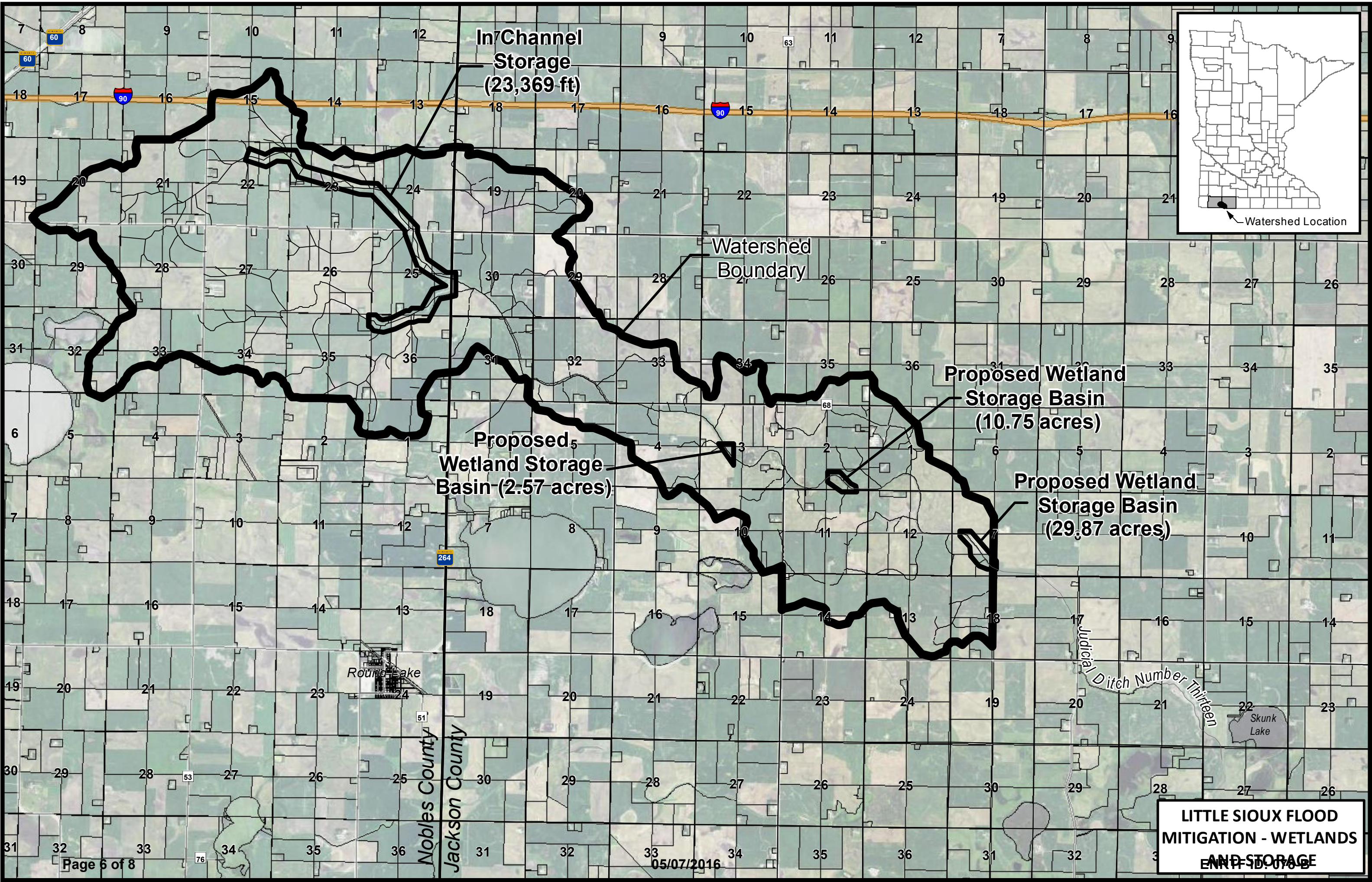
Project Manager Name: Tim Stahl

Organization: Jackson County Public Works

ENRTF \$ Request: \$2,787,990

#	Acquisition or Restoration Parcel Name	Geographic Coordinates Format: [Deg.]° [Min.]' [Sec.]" [Hemis.]		Estimated Cost	County	Ecological Significance	Activity Description	# of Acres	# of Shoreline Miles	Type of Landowner	Proposed Fee Title or Easement Holder (if applicable)
		Latitude	Longitude								
1	Byron L & Marlene M Baumgarn 170070300	43.560106	-95.330842	\$23,070	Jackson	Prairie pothole area.	Wetland Restoration	15.38	0	Private Individual	Jackson County Drainage Authority
2	James M Riley 170070400	43.560279	-95.329956	\$152,405	Jackson	Prairie pothole area.	Wetland Restoration	17.93	0	Private Individual	Jackson County Drainage Authority
3	Qtip Trust Agreement Etal 160020200	43.574154	-95.360104	\$15,150	Jackson	Prairie pothole area.	Wetland Restoration	10.10	0	Private Individual	Jackson County Drainage Authority
4	Dale & Roxanne Koster 160030300	43.575745	-95.388193	\$2,700	Jackson	Prairie pothole area.	Wetland Restoration	1.80	0	Private Individual	Jackson County Drainage Authority
5	Jerry L Beck & Glenda R Beck Trustees 13-0172-500	43.605456	-95.456392	\$20,230	Nobles	Prairie pothole area.	Two-Stage Ditch	2.38	0	Private Individual	Jackson County Drainage Authority
6	Shane T. Becker 13-0167-000	43.613403	-95.455254	\$3,706	Nobles	Prairie pothole area.	Two-Stage Ditch	0.44	0	Private Individual	Jackson County Drainage Authority
7	Jerry L Beck & Glenda R Beck Trustees 13-0168-000	43.613476	-95.461939	\$20,162	Nobles	Prairie pothole area.	Two-Stage Ditch	2.37	0	Private Individual	Jackson County Drainage Authority
8	Joanne Post & Marilyn A Post Trustees 13-0168-500	43.612602	-95.466818	\$2,380	Nobles	Prairie pothole area.	Two-Stage Ditch	0.28	0	Private Individual	Jackson County Drainage Authority
9	State of Minnesota Minnesota Dept. of Transportation 13-0165-500	43.617492	-95.464267	\$396	Nobles	Prairie pothole area.	Two-Stage Ditch	0.26	0	Public	Jackson County Drainage Authority
10	Frank Riley et al 13-0165-000	43.61956	-95.466993	\$23,528	Nobles	Prairie pothole area.	Two-Stage Ditch	2.77	0	Private Individual	Jackson County Drainage Authority
11	Henry H & Barbara A Greve 13-0158-000	43.624292	-95.476247	\$23,290	Nobles	Prairie pothole area.	Two-Stage Ditch	2.74	0	Private Individual	Jackson County Drainage Authority
12	Anna M Sonstegard 13-0159-000	43.620855	-95.479057	\$238	Nobles	Prairie pothole area.	Two-Stage Ditch	0.03	0	Private Individual	Jackson County Drainage Authority
13	Roger & Gary Teerink 13-0155-000	43.627397	-95.48613	\$11,798	Nobles	Prairie pothole area.	Two-Stage Ditch	1.39	0	Private Individual	Jackson County Drainage Authority
14	Ruth & Michael Fauskee 13-0155-500	43.629132	-95.489517	\$2,646	Nobles	Prairie pothole area.	Two-Stage Ditch	1.76	0	Private Individual	Jackson County Drainage Authority
15	Wayne R & Leanne Mccuen 13-0152-000	43.625607	-95.498785	\$1,968	Nobles	Prairie pothole area.	Two-Stage Ditch	1.31	0	Private Individual	Jackson County Drainage Authority
16	Wayne R Mccuen et al 13-0152-500	43.626144	-95.495011	\$5,916	Nobles	Prairie pothole area.	Two-Stage Ditch	0.70	0	Private Individual	Jackson County Drainage Authority
17	Kenneth Da & Joyce A Riley 13-0152-250	43.626065	-95.500802	\$5,508	Nobles	Prairie pothole area.	Two-Stage Ditch	0.65	0	Private Individual	Jackson County Drainage Authority
18	Joanne Post & Marilyn A Post Trustees 13-0172-000	43.606001	-95.464201	\$15,096	Nobles	Prairie pothole area.	Two-Stage Ditch	1.78	0	Private Individual	Jackson County Drainage Authority
19	Janet R Adolph 13-0246-000	43.597657	-95.458647	\$2,006	Nobles	Prairie pothole area.	Two-Stage Ditch	0.24	0	Private Individual	Jackson County Drainage Authority
20	Joy Fea & Thea Jensen 13-0247-000	43.598046	-95.466006	\$13,294	Nobles	Prairie pothole area.	Two-Stage Ditch	1.56	0	Private Individual	Jackson County Drainage Authority
21	Ruth & Michael Fauskee 13-0245-000	43.597495	-95.470892	\$2,454	Nobles	Prairie pothole area.	Two-Stage Ditch	1.64	0	Private Individual	Jackson County Drainage Authority
22	Keith R & Brenda Stanton 13-0241-500	43.600357	-95.47475	\$748	Nobles	Prairie pothole area.	Two-Stage Ditch	0.09	0	Private Individual	Jackson County Drainage Authority

Estimated tillable acres @ \$8,500/acre and pasture land @ \$1,500/acre



**In7 Channel
Storage
(23,369 ft)**

**Watershed
Boundary**

**Proposed₅
Wetland Storage
Basin (2.57 acres)**

**Proposed Wetland
Storage Basin
(10.75 acres)**

**Proposed Wetland
Storage Basin
(29.87 acres)**

Round Lake

Skunk Lake

Judicial Ditch Number Thirteen

Nobles County
Jackson County

**LITTLE SIOUX FLOOD
MITIGATION - WETLANDS
AND STORAGE**

Project Manager and Qualifications and Organization Description

Project Title: Little Sioux Flood Mitigation - Wetlands and Storage

Responsibilities Pertaining to Project:

- Coordinate communication with landowners and agencies
- Review and approve planning, design and engineering documents
- Process land acquisition
- Oversee construction schedule and process
- Oversee ongoing water sampling (completed by Andy Gieger, Director of Jackson County Land Management)
- Provide required reporting documentation
- Share lessons learned, results and information with others

Organization Description: Jackson County Public Works Department

The Jackson County Drainage Authority and Public Works Department maintains the public infrastructure including the Ditch System within Jackson County.

Project Manager Qualifications:

Tim Stahl began his role as Jackson County drainage engineer in 1999. He earned a 2014 Special Project of the Year from the Minnesota County Engineers Association. Dave Macek began working as a member of the drainage crew in 1993 until he was hired as Drainage Supervisor in 2000.

Together, they were instrumental in the effort to establish a Jackson County digitalization of all the profile maps, which lead to producing a website of the Jackson County GIS map. This map is now accessible for landowners to search, print, and fill out work orders which are sent directly to the drainage supervisor. This map is updated three to four times per year including every repair using GPS location points.

