



Lessard-Sams Outdoor Heritage Council

East Park WMA / Nelson Slough, Phase 3

ML 2025 Request for Funding

General Information

Date: 05/31/2024

Proposal Title: East Park WMA / Nelson Slough, Phase 3

Funds Requested: \$2,128,500

Confirmed Leverage Funds: \$1,295,400

Is this proposal Scalable?: No

Manager Information

Manager's Name: Morteza Maher

Title: Administrator

Organization: Middle-Snake-Tamarac Rivers Watershed District

Address: 453 N. McKinley St.

City: Warren, MN 56762

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Website: www.mstrwd.org

Location Information

County Location(s): Marshall.

Eco regions in which work will take place:

- Forest / Prairie Transition

Activity types:

- Enhance

Priority resources addressed by activity:

- Habitat
- Wetlands

Narrative

Abstract

Upon completion of the East Park WMA AKA Nelson Slough project, wildlife managers will be able to effectively manage flood waters to reduce “bounce,” thereby improving habitat conditions for nesting and migrating waterfowl and other wetland wildlife on this nearly 2,482-acre impoundment. This goal will be achieved through 1) replacement of the existing obsolete water control structure; and 2) increase embankment heights by three and a half feet to provide more freeboard during large flood events, thus improving management capacity and overall safety of the project to meet the current Dam Safety Codes.

Design and Scope of Work

What is the issue:

East Park WMA AKA Nelson Slough is an on-channel impoundment on Judicial Ditch 19 (JD19) built in 1971. In its over 50-year lifespan, the project has provided wetland wildlife habitat benefits and flood damage reduction benefits on East Park Wildlife Management Area (WMA). However, flood waters come more frequently than anticipated, and slow release of those flood waters is impeding wildlife production on the WMA. The structure has also passed its expected life span and doesn't meet the design standards of today.

What is the solution:

A project team established according to the 1998 Red River Basin Mediation Agreement to discuss how the project could best fit current needs. The Project Team consists of representatives from the Middle Snake Tamarac Rivers Watershed District (MSTRWD), the Minnesota Department of Natural Resources (DNR), and other local stakeholders, and settled upon the proposed design. The Watershed District along with the DNR is now looking forward to construction.

The project has two primary purposes:

1. Improve wetland wildlife habitat within the impoundment. Wildlife habitat, in particular for migratory waterfowl and wetland birds, will be managed to provide both forage and resting areas during the migration seasons, but also nesting habitat for those over-water nesting birds.
2. Improve the water storage capacity of the impoundment. In the new design the impounding capacity is not expected to change, but rather timing is expected to be utilized more effectively so the flood damages downstream are expected to be reduced with the improvements to the project.

Design and Scope of work:

MSTRWD-DNR partnership is proposing to replace the existing water control structure with a structure more capable of handling current flood events that feature the below changes:

The existing 6' primary and 70' secondary spillway will be changed to overall 250' spillway, with a 40' primary and 30' of secondary spillway, providing additional capacity that the existing structure lacks to manage the water elevation.

In addition, the existing embankments will be raised approximately 3.5' above the existing embankments to provide additional freeboard for expected flood events and to meet today's design standards.

Managers will be able to manage water elevation and release timing more effectively with the completion of this project. Currently flood waters are slow to leave the impoundment, flooding out water bird nesting attempts and negating potential storage for follow-up flood events. Furthermore, the current embankment leaves little freeboard, making the embankment a high risk for overtopping and a potential breach. With the replacement of the water control structure, the improved embankments, and improvements to correct stability issues downstream on

JD 19, flood waters can be effectively stored and metered out following downstream flood peaks to decrease damages caused to infrastructure and adjacent farmlands.

Through improvements to the JD 19 system to improve stability, proposers of the project also expect to see improvements in water quality downstream in the legal ditch system as well as in the Tamarac River and Red River.

Explain how the proposal addresses habitat protection, restoration, and/or enhancement for fish, game & wildlife, including threatened or endangered species conservation

Wetlands and shallow lakes in Minnesota provide habitat for more than 20 bird Species of Greatest Conservation Need (SGCN), eight or more amphibians and reptiles, and numerous invertebrates, including mussels, snails, and dragonflies. The Wildlife Action Network ranks the quality of terrestrial and aquatic habitat of East Park WMA as High and Medium-High.

Nelson Slough provides habitat for waterfowl, migratory water birds, and other wetland wildlife. Current operation limits the rate at which flood waters can be released from the impoundment leading to unacceptable levels of “bounce” following large rain events. This bounce can in turn flood nests of over-water nesting birds, reduce light penetration necessary for submerged aquatic vegetation to grow, and dislodge floating cattail bogs which further limit habitat availability and plant growth.

Species of Greatest Conservation Need (SGCN) located at Nelson Slough could include lesser scaup, northern pintail, trumpeter swans, American and least bitterns, black terns, Franklin’s gulls, and other over-water colonial nesting birds. Reduced bounce upon completion of the project should lead to better nesting success by SGCN and other waterfowl and over-water nesting birds. Specifically in the Aspen Parklands, Minnesota’s Wildlife Action Plan 2015-2025 (WAP) notes that management of shallow lakes is important for Forster’s terns, red-necked grebes, and western grebes.

Managing submerged aquatic vegetation for the benefit of migrating waterfowl is key to the Minnesota Shallow Lakes Program Plan. Many species of waterfowl and other wetland-associated birds migrate through the area each spring and fall and benefit from the lake maintained in the clear-water state dominated by submerged aquatic vegetation. A state endangered species, sheathed pondweed (*Stuckenia vaginata*) is found within the impoundment. This submerged plant species can be negatively affected by prolonged deep water, as light penetration needed for plant growth decreases with water depth and turbidity. Completion of the project is expected to allow managers to better maintain water levels that would benefit this and other submerged aquatic vegetation species.

What are the elements of this proposal that are critical from a timing perspective?

The existing facility is losing its attraction to wetland wildlife due to extreme water level fluctuations. It is also degrading due to invasive species taking over the majority of the Nelson Slough Shallow Lake.

Under ML24 application this project (WRE02) was partially funded which caused to scale the project into two phases. ML24 allocation will aid the construction of the outlet structure. This proposal will provide funding to construct the embankment (Phase 2). This is important as the current embankment doesn’t meet the safety codes of today. The breach of the embankment, if happens, will cause a disastrous impact on the whole WMA and downstream residences and infrastructures. With the alternating dry and wet years, the likelihood of 2025 becoming a wet year is high which will consequently increase the risk of the existing embankment breach happening.

Describe how the proposal expands habitat corridors or complexes and/or addresses habitat fragmentation:

The Minnesota Duck Recovery Plan goals include boosting the state's breeding duck populations. The most productive prairie wetland habitat is a mix of wetland and grassland as a habitat complex. A complex could be 4-9 square miles and should be comprised of 10% temporary/seasonal wetlands, 10% permanent wetlands, and 40% grasslands, with the remaining 40% available for crops. In addition to mixes of grasslands and healthy wetlands, The Duck Plan also called for accelerated efforts to restore 1,800 shallow lakes. The Nelson Slough Project will contribute to management of permanent wetlands within these complexes as well as management of a shallow lake.

The Minnesota Prairie Conservation Plan (2nd edition, 2018) outlines focal areas (Core Areas and Habitat Complexes) where we can build on an existing base of conservation lands and improve the habitat there. The Nelson Slough Project lies within the East Park Core Area identified in the Minnesota Prairie Conservation Plan. With the improvements to the site, wetland acres will be preserved within the East Park Core Area, where there is currently a shortfall in goal acres.

The Minnesota Biological Survey (MBS) lists areas adjacent to the project of Outstanding and Moderate Biodiversity, while the impoundment itself is listed as Below. Upon completion of this project, management will continue to improve wetland habitat conditions within Nelson Slough providing habitat for SGCN such as lesser scaup, northern pintail, least bitterns, American bitterns, marsh wrens, Virginia rails, trumpeter swans and Forster's terns, as well as state endangered species such as sheathed pondweed.

Which top 2 Conservation Plans referenced in MS97A.056, subd. 3a are most applicable to this project?

- Long Range Duck Recovery Plan
- North American Waterfowl Management Plan

Explain how this proposal will uniquely address habitat resilience to climate change and its anticipated effects on game, fish & wildlife species utilizing the protected or restored/enhanced habitat this proposal targets.

The new outlet structure will provide improved flexibility to store and release water necessary to improve habitat for wildlife in response to ever-changing climate conditions and altered hydrology. Expected increases in both precipitation and frequency of extreme precipitation events lead to increased runoff and flooding while deteriorating habitat conditions in absence of improvements from this project. A stable water level will improve nest success in this 2,482-acre impoundment.

Which LSOHC section priorities are addressed in this proposal?

Forest / Prairie Transition

- Protect, restore, and enhance habitat for waterfowl, upland birds, and species of greatest conservation need

Describe how this project/program will produce and demonstrate a significant and permanent conservation legacy and/or outcomes for fish, game, and wildlife, and if not permanent outcomes, why it is important to undertake at this time:

The proposed project is on an existing Wildlife Management Area (WMA) and is both permanently protected and publicly accessible. This project has served not only flood damage reduction goals but also wetland wildlife habitat

goals for over 50 years and those goals will not change upon completion of the project. The improvements proposed by this project are expected to last another 50 years, creating a long-term opportunity for public recreation and wildlife habitat management.

Outcomes

Programs in forest-prairie transition region:

- Improved aquatic habitat vegetation ~ *Pre-project submerged aquatic plant conditions have been documented on Nelson Slough by the Shallow Lakes Program of the DNR. We anticipate these surveys to continue. With this data, managers will be able to compare post-project conditions to those from past years to better guide management into the future.*

Remote data loggers have been documenting water levels continuously throughout the open-water season for multiple years at Nelson Slough. Since prolonged high water can negatively affect submerged aquatic vegetation (SAV), managers will be able to estimate how the impacts to SAV would have differed without the completion of the project.

What other dedicated funds may collaborate with or contribute to this proposal?

- N/A

Per MS 97A.056, Subd. 24, Please explain whether the request is supplanting or is a substitution for any previous funding that was not from a legacy fund and was used for the same purpose.

There is no previous State funding used for this project.

There is an application to State FHM funding for this project that has not been allocated yet. In case that funding will become available, OHF and local cost share will decrease accordingly.

How will you sustain and/or maintain this work after the Outdoor Heritage Funds are expended?

A typical goal with the proper operation and maintenance is to have water control structures and embankments last a minimum of 30-40 years. Completed infrastructure will be jointly managed by DNR and MSTRWD through a joint powers agreement that includes an operation and maintenance plan. Periodic enhancements such as invasive species removal and water control structure and embankment maintenance or replacement will be accomplished through annual funding requests to a variety of funding sources including, but not limited to, the Game and Fish Fund, bonding, gifts, the Environmental and Natural Resources Trust Fund, and federal sources such as the North American Wetlands Conservation Act grants. Enhancement projects, such as cattail control, prescribed burns, and the like are implemented to achieve quality, long-lasting habitat benefits. Monitoring by area wildlife staff, shallow lakes specialists, and Watershed District staff will ensure that follow-up management is employed as needed.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
2025-2065	DNR - MSTRWD	Operation and Maintenance of new structures	Cattail Control, Prescribed Burn on as needed basis	Structural inspection on as needed basis
2025-2065	Any other funding become available	Operation and Maintenance of new structures	Cattail Control, Prescribed Burn on as needed basis	Structural inspection on as needed basis
2025-2065	DNR - MSTRWD	Collection of maintenance records and plan for improvements on an annual basis accordingly	-	-
2025-2065	Any other funding become available	Collection of maintenance records and plan for improvements on an annual basis accordingly	-	-

Provide an assessment of how your program may celebrate cultural diversity or reach diverse communities in Minnesota, including reaching low- and moderate-income households:

Black, Indigenous, and People of color and diverse communities make up about 20% of the population of Minnesota, but only about 5% of the state park visitors, suggesting that there are barriers to use of public lands by BIPOC.

The Nelson Slough Project is located within East Park WMA in Marshall Co. This is a rural area of the state with low population densities, and a large portion (97% during the last census) of white residents. While as a WMA it is publicly accessible by all residents of Minnesota and visitors to the state, we recognize that most users of the WMA will likely not come from diverse communities. There are no tribal lands in Marshall Co., though the Red Lake Nation is about 35 miles from East Park WMA, providing reasonable access to those inhabitants.

The MSTRWD adheres to non-discriminatory practices when awarding contracts for construction. We at the project management level will do all we can to provide equal opportunity and encourage BIPOC to be involved in this project.

Activity Details

Requirements

Will restoration and enhancement work follow best management practices including MS 84.973 Pollinator Habitat Program?

Yes

Is the restoration and enhancement activity on permanently protected land per 97A.056, Subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15 or on lands to be acquired in this program?

Yes

Where does the activity take place?

- WMA
- Public Waters

Land Use

Will there be planting of any crop on OHF land purchased or restored in this program, either by the proposer or the end owner of the property, outside of the initial restoration of the land?

No

Will insecticides or fungicides (including neonicotinoid and fungicide treated seed) be used within any activities of this proposal either in the process of restoration or use as food plots?

No

Other OHF Appropriation Awards

Have you received OHF dollars through LSOHC in the past?

Yes

Are any of these past appropriations still OPEN?

Yes

Approp Year	Funding Amount Received	Amount Spent to Date	Funding Remaining	% Spent to Date
2024	\$4,174,000	-	-	-
Totals	\$4,174,000	-	\$4,174,000	0.0%

Timeline

Activity Name	Estimated Completion Date
Final Engineering and Permitting	2024
Operation and Maintenance Starts from	2025
Construction	2024-2025

Budget

Totals

Item	Funding Request	Total Leverage	Leverage Source	Total
Personnel	-	-	-	-
Contracts	\$2,128,500	\$743,000	MSTRWD, RRWMB and BWSR	\$2,871,500
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	-	-	-	-
Professional Services	-	\$552,400	MSTRWD	\$552,400
Direct Support Services	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	-	-	-	-
Supplies/Materials	-	-	-	-
DNR IDP	-	-	-	-
Grand Total	\$2,128,500	\$1,295,400	-	\$3,423,900

Amount of Request: \$2,128,500

Amount of Leverage: \$1,295,400

Leverage as a percent of the Request: 60.86%

DSS + Personnel: -

As a % of the total request: 0.0%

Easement Stewardship: -

As a % of the Easement Acquisition: -

Total Leverage (from above)	Amount Confirmed	% of Total Leverage	Amount Anticipated	% of Total Leverage
\$1,295,400	\$1,295,400	100.0%	-	0.0%

Detail leverage sources and confirmation of funds:

Leverage mentioned in the table is secured through local tax bases from both MSTRWD (the applicant) the RRWMB and the BWSR's WBIF through 1W1P program allocation.

Does this proposal have the ability to be scalable?

No

Please explain why this project can NOT be scaled:

This application is for the third and final phase of the project. Project cannot be broken down any further cost-effectively.

Contracts

What is included in the contracts line?

Construction is included in the Contracts line which will cover the construction cost of dikes along the Nelson Slough, and maintenance of the access road during construction.

Federal Funds

Do you anticipate federal funds as a match for this program?

No

Output Tables

Acres by Resource Type (Table 1)

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	0	0
Enhance	892	0	0	238	1,130
Total	892	0	0	238	1,130

Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	\$1,064,200	-	-	\$1,064,300	\$2,128,500
Total	\$1,064,200	-	-	\$1,064,300	\$2,128,500

Acres within each Ecological Section (Table 3)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0
Enhance	0	1,130	0	0	0	1,130
Total	0	1,130	0	0	0	1,130

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	\$2,128,500	-	-	-	\$2,128,500
Total	-	\$2,128,500	-	-	-	\$2,128,500

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	\$1,193	-	-	\$4,471

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	\$1,883	-	-	-

Target Lake/Stream/River Feet or Miles

Parcels

Sign-up Criteria?

No

Explain the process used to identify, prioritize, and select the parcels on your list:

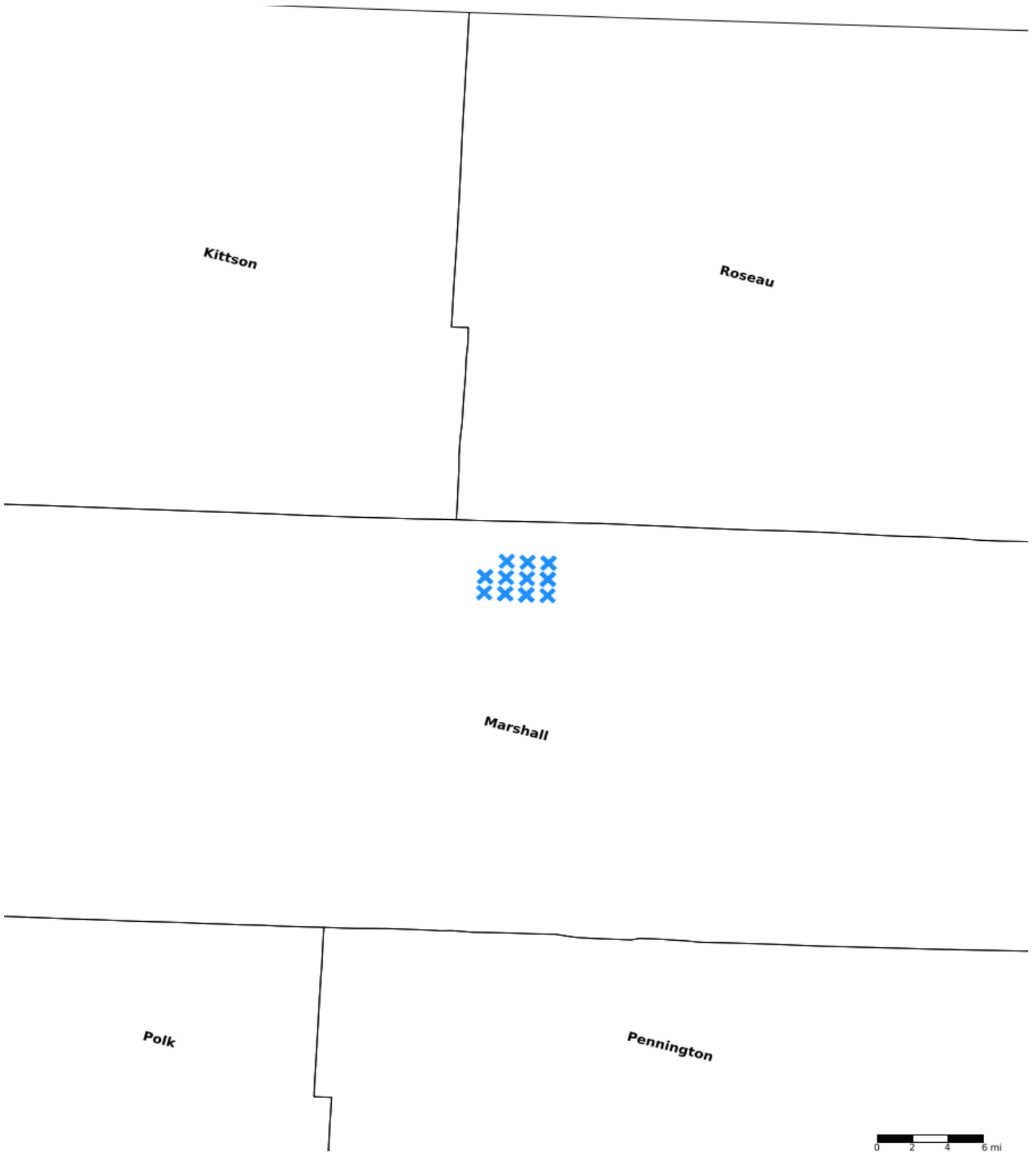
The parcels identified are those that are within the 100 year flood plain and the footprint on Nelson Slough within East Park WMA.

It is noteworthy that the parcel list is the same as the ML2024 application and Accomplishment Plan. Since the project footprint has not changed between phases 1-3, it is anticipated the same list should meet the purpose of this part of the application.

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection	Description
127087003	Marshall	15844228	466	-	Yes	-
127074002	Marshall	15844222	658	-	Yes	-
127068003	Marshall	15844216	1	-	Yes	-
126087201	Marshall	15844227	378	-	Yes	-
126087004	Marshall	15844229	4	-	Yes	-
126075001	Marshall	15844223	3	-	Yes	-
126074002	Marshall	15844221	618	-	Yes	-
126068004	Marshall	15844214	46	-	Yes	-
126074004	Marshall	15844220	17	-	Yes	-
126068002	Marshall	15844215	31	-	Yes	-
125087002	Marshall	15844227	41	-	Yes	-
125087301	Marshall	15844228	36	-	Yes	-
124087202	Marshall	15844227	54	-	Yes	-
124074001	Marshall	15844220	66	-	Yes	-
124068001	Marshall	15844214	99	-	Yes	-
120087000	Marshall	15844226	6	-	Yes	-
120077000	Marshall	15844223	262	-	Yes	-
120075000	Marshall	15844223	75	-	Yes	-

Parcel Map



- Protect in Easement
- ▲ Protect in Fee with PILT
- Protect in Fee W/O PILT
- ★ Restore
- ✕ Enhance
- ⊕ Other

Nelson Slough/ East Park WMA

Who?

Middle-Snake-Tamarac Rivers Watershed District & DNR

What?

Enhance Wetland/ Shallow Lakes, Waterfowl Habitat

Where?

NW MN, North Central Marshall County, Nelson Slough
East Park WMA



Existing Outlet Structure

When?

Engineering and Permitting in 2023-4,
Construction in 2024-5,
Operation and capturing benefits 2025-2075

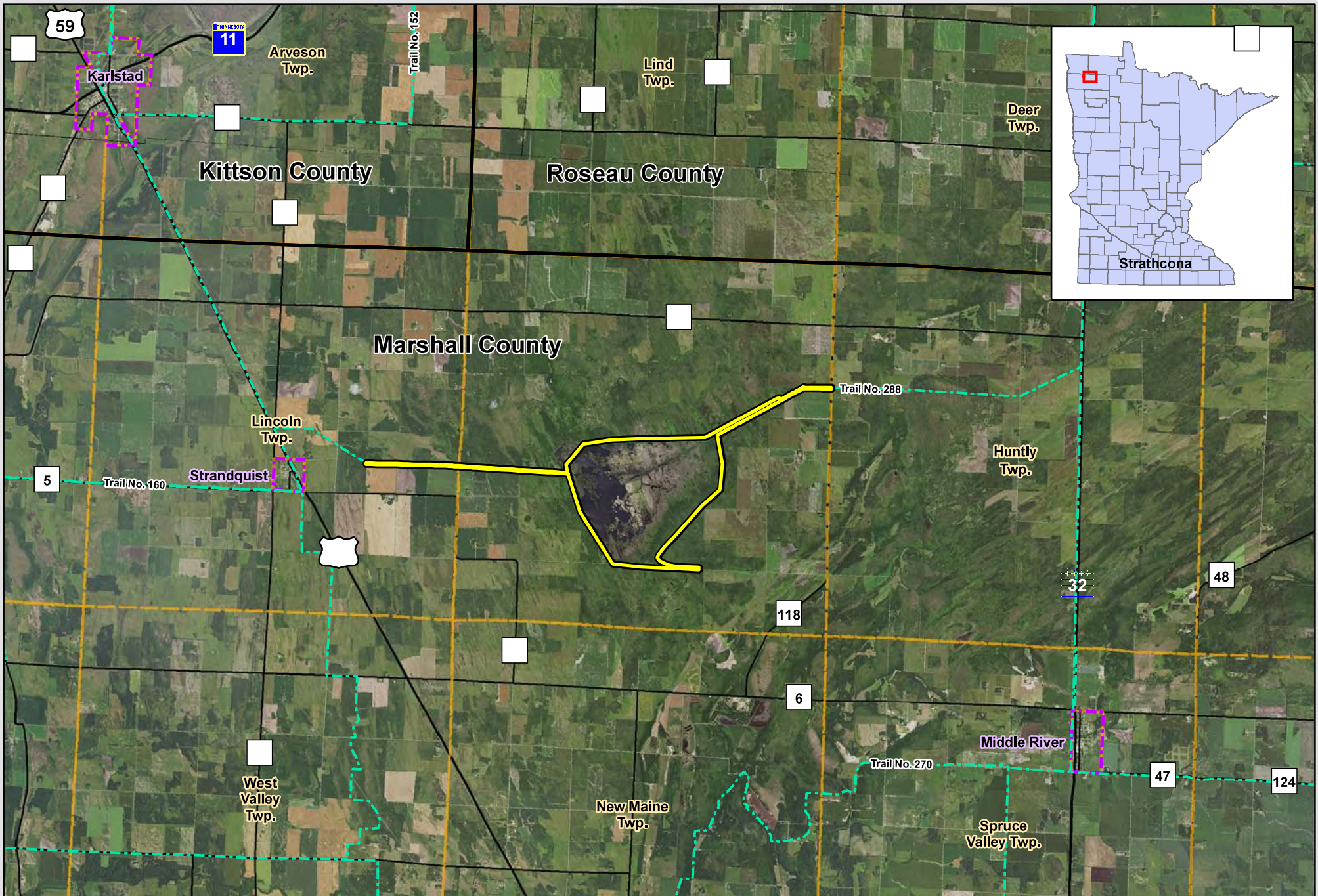
Why?

The existing outlet structure is obsolete and small inhibiting facility's ability to operate at normal and necessary pool elevation during nesting season.

How?

New outlet structure to manage water levels more efficiently for wildlife habitat, water flow, and erosion reduction. Increase levee by approximately 3.5 feet for freeboard as the facility currently doesn't meet today's design standards.





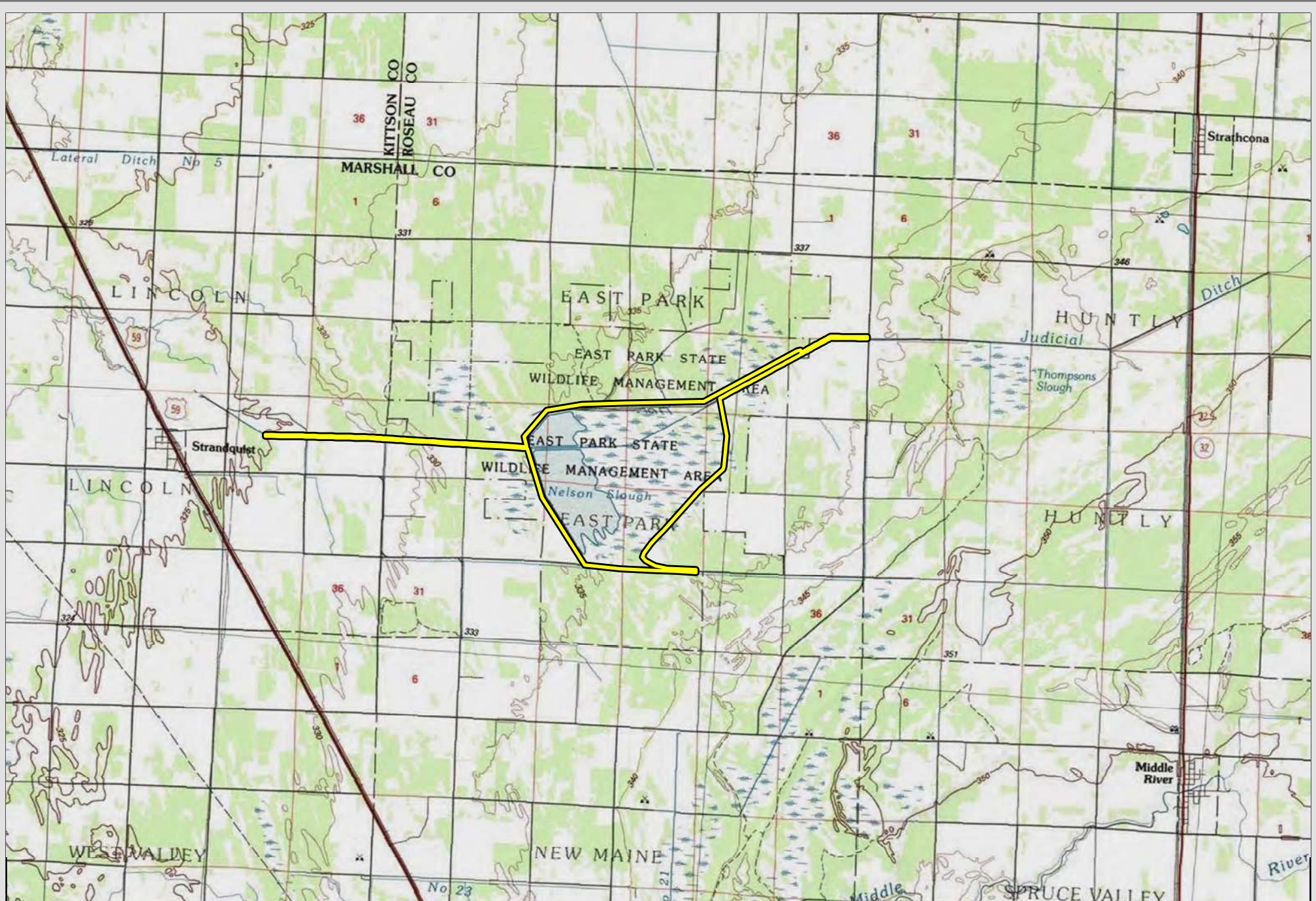
Scale: AS SHOWN
 Drawn by: BJH
 Checked by: N/A
 Project No.: 3425-048
 Date: 4/1/2021
 Sheet: of

Exhibit 1: Location Map
 Judicial Ditch 19 - Nelson Slough Middle-Snake-Tamarac Watershed District
 Marshall County, MN

- Project Corridor
- Counties
- Cities
- Townships
- Snowmobile Trails

1 inch = 0.5 miles

0 1.5 3 Miles



Scale: AS SHOWN
 Drawn by: EJI
 Checked by: NA
 Project No.: 3175-0048
 Date: 4/1/2021
 Sheet: of

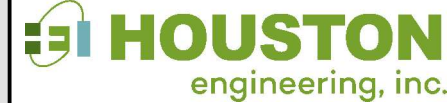
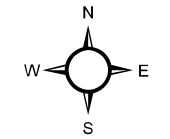
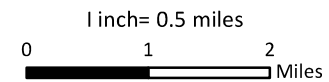


Exhibit 2: USGS 7.5 Minute (1:24,000) Map

Judicial Ditch 19 - Nelson Slough Middle-Snake-Tamarac Watershed District
 Marshall County, MN

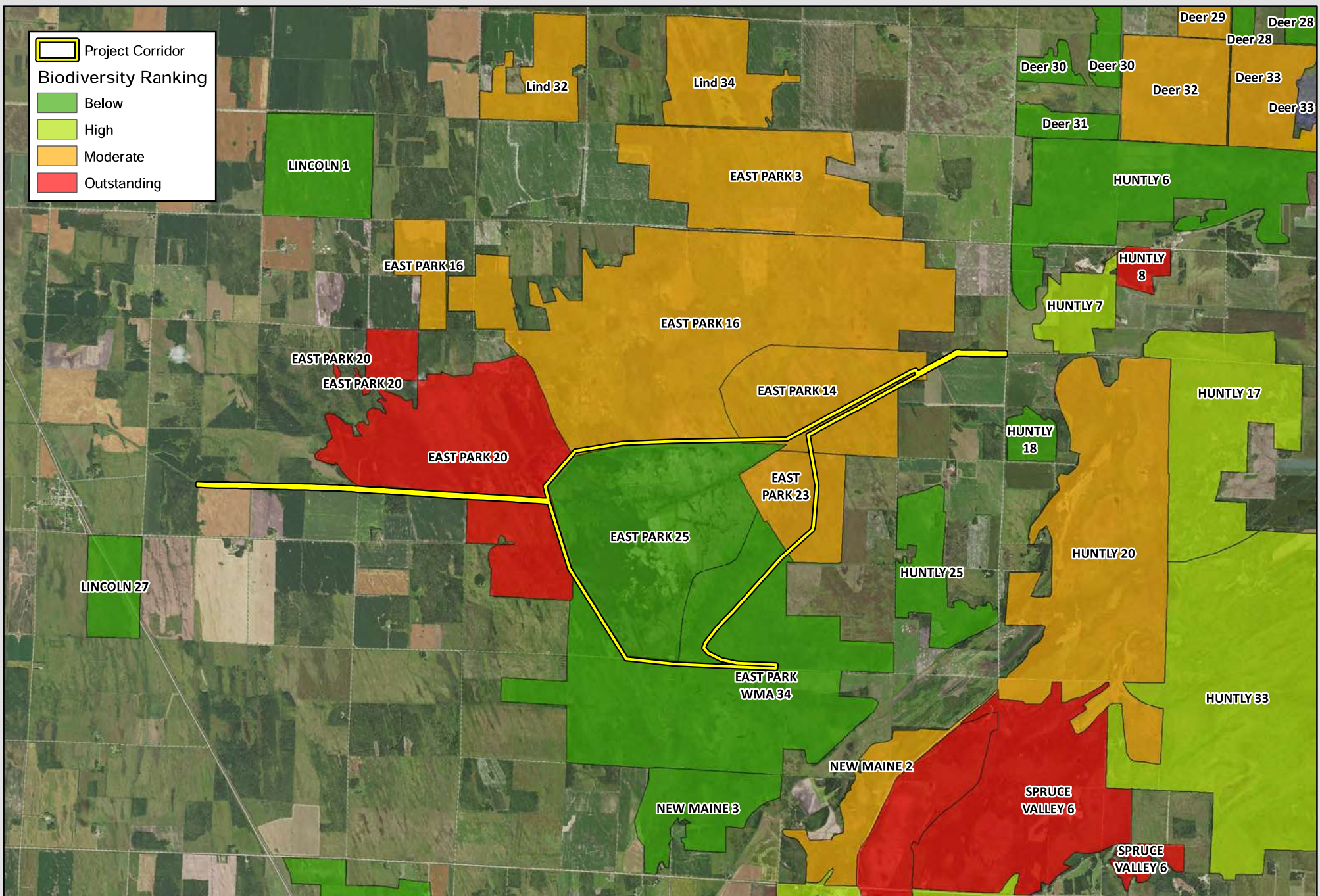
 Project Corridor



Project Corridor

Biodiversity Ranking

- Below
- High
- Moderate
- Outstanding



Scale: AS SHOWN | Drawn by: BJH | Checked by: NA | Project No.: 3179-0048 | Date: 4/1/2021 | Sheet: of

WEST HOUSTON VALLEY 15 engineering, inc.

Exhibit 4: MBS Site of Biodiversity Significance

Judicial Ditch 19 - Nelson Slough Middle-Snake-Tamarac Watershed District
Marshall County, MN
Holt 1

NELSON SLOUGH

NEW FOLDEN FEN | NEW MAINE 14 | SPRUCE VALLEY 18 | SPRUCE VALLEY 8

1 inch = 0.5 miles

1 2 Miles

Red River Basin Flood Damage Reduction Work Group

March 7, 2022

Morteza Maher, Administrator
Middle-Snake-Tamarac Rivers Watershed District
453 North McKinley Street
Warren, MN 56762



Dear Mr. Maher:

At the Red River Basin Flood Damage Reduction Work Group (FDRWG) meeting held on February 16, 2022, Tony Nordby of Houston Engineering presented information on the proposed JD 19/Nelson Slough project in Marshall County, MN. We understand the updated cost estimate for the project is approximately \$8.85 million.

At the same meeting the Red River Basin Coordinator Andrew Graham summarized recent outcomes of the Work Group's Natural Resources Enhancement (NRE) funding procedure as applied to this project. The funding procedure evaluations and formulas yielded a recommendation that the Department of Natural Resources Flood Hazard Mitigation (FHM) Program should fund 73.3 percent of total project cost not funded by other organizations (excluding the District and the Red River Watershed Management Board). This is of course subject to funding availability for the FHM Program as determined through the State legislative process. Mr. Graham also summarized findings of the Work Group's Technical and Scientific Advisory Committee (TSAC), which reviewed the project in January 2022.

Following discussion, the Work Group approved the JD 19/Nelson Slough project by consensus, certifying consistency with the 1998 Red River Basin Mediation Agreement. By this letter, the FDRWG recommends project funding be awarded by the State FHM Program and the Red River Watershed Management Board consistent with their respective procedures. This recommendation may also be provided to any other agencies that have suitable funding programs and to which you may apply.

We hope you find this recommendation to be satisfactory. If you have any questions, please contact one of us or the FDRWG Coordinator (Andrew.Graham@state.mn.us).

Respectfully,



Theresa Ebbenga
FDRWG Co-Chair - MnDNR



Dan Money
FDRWG Co-Chair - RRWMB

Cc: Tony Nordby, HEI
Pat Lynch, DNR FHM Program
Rob Sip, RRWMB