Jackson and Martin County Drainage Authority:

RE: Jackson and Martin Counties
Judicial Ditch No. 48
Redetermination of Benefits

April 29, 2021

In accordance with the Minnesota Statute 103E.351 law, we herewith submit the following Viewers' Report:

Benefits and Damages Statement

This report covers the redetermination of benefits for the a previously constructed drainage system. The basis for determining benefits and damages is, therefore, based upon a comparison of the conditions that would have existed prior to the establishment of the drainage system and those with the current drainage system in a reasonable state of repair.

Jackson and Martin County Judicial Ditch No. 48 was petitioned for establishment with construction occurring around 1917. The drainage system consists of an open ditch and several tile branches. Maintenance has been done but there has been no major repair or improvement of the system. The drainage system outlets into Four Mile Creek.

The system provides an outlet for lands in sections 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, and 36, in Wisconsin Township, Sections 1, 2, and 3 in Petersburg Township in Jackson County: Sections 30 and 31 in Jay Township and Section 6 Lake Fremont Township in Martin County.

Supporting documentation for the analysis and conclusions of the report are contained in our files and are available for inspection.

The figures stated herein are based on a full and fair consideration of all pertinent facts and information that we were aware of at the time of this appraisal. The following aids were used during the viewing process.

1. Soil Survey Manuals and Maps of Jackson and Martin Counties

2. GIS photos and data

3. Minnesota LiDAR

4. Yield averages and production costs taken from Minnesota State College and University Farm Management Records

5. Sales data from the Jackson and Martin County Assessors' offices, (MN ECRVs)

6. Visual inspection of each 40-acre tract

Land classification benefit values are based upon an increase in the potential for agricultural production as a result of constructing the drainage project and reconciled with sales value increases. Existing individual land management practices were not considered. All present land use was evaluated under estimated best land management practice. Special consideration was given to areas, which were considered to be in a native/non-converted condition or identified as wetlands under wetlands inventory and restricted from drainage by state or federal regulations.

Benefits for lands used for industrial agricultural purposes, such as large bin sites or hog production facilities, have been determined with consideration of the drainage system providing an outlet for the accelerated runoff and for a different land use. No direct consideration was given to structure values within the watershed.

Valuation Prior To Drainage

Beginning land use, property value, and economic productivity have been determined with the consideration that the benefited properties within the watershed currently do not have an adequate outlet for artificial drainage.

"A" -- Standing water or cattails, wetland classification with a market value for agricultural purposes of $0.00 per acre, economic productivity of $0.00.

"B" -- Seasonally flooded/pasture ground. Pasture classification with a market value of $1000.00 to $1500.00 per acre, economic productivity of $90.00 based on grazing days and/or hay values.

"C" -- Wet subsoil -- Marginal crop land, low to medium crop land classification with a market value of $5000.00 to $6000.00 per acre, annual economic productivity of $543.00, based upon average annual yield of 80 % of optimum with $341.97 production costs.

"D" --Upland areas not needing artificial drainage but irregular in shape and intermixed with wetter soils. Medium to high cropland classification with a market value of $5000.00 to $7000.00 per acre, annual economic productivity of $644.81 based upon average annual yield of 95 % of optimum with $341.97 production costs.

Valuation with NRCS Guideline Drainage

Potential land use, property value, and economic productivity, after public and private drainage have been installed and with the restrictive existing tile drainage system in a reasonable state of repair, using current crop rotation, income, and expense:

"A" -- Seasonally ponded agricultural ground. Low cropland classification with a market value of range of $ 5000.00 to $6000.00 per acre, annual economic productivity of $624.45 based upon average annual yield of 92 % of optimum with $341.97 production costs.

"B" -- Occasionally flooded agricultural ground. Medium cropland classification with a market value range of $6000.00 to $7000.00 per acre, economic productivity of $651.60 based upon average annual yield of 96 % of optimum with $341.97 production costs.

"C" -- Wet subsoil. Medium high cropland classification with a market value range of $7000.00 to $8000.00 per acre, annual economic productivity of $678.75 based upon average annual yield of 100 % of optimum with $341.97 production costs.

"D" --Upland areas not needing artificial drainage but irregular in shape and intermixed with wetter soils. Medium to high cropland classification with a market value range of $ 6000.00 to $8000.00 per acre, annual economic productivity of $678.75 based upon average annual yield of 100 % of optimum with $341.97 production costs.

Special consideration was given to areas where the ditch system has only provided an outlet adequate to convert the lands to pasture or hay land and are restricted from further individual improvements by regulatory restrictions.

Road benefits were determined with consideration of the reduced maintenance costs that should be realized after construction of the drainage system improvement. Tile benefits were given to reflect the additional value added as the ditch system tile provides one of the normal lines of tile for subsurface drainage.
Utilizing these productive values, potential benefit values were determined for the system based upon a 25-year effective life with proper maintenance, private improvement cost depreciated over the same 25-year period, and an allowance of 0.5 % return on the system investment. Adjustment was made to each land class based upon consideration of the change in hydraulic capacity and the subsequent increased productivity that the construction of the drainage system improvement provides. Benefit values were rounded off to an even percentage benefit increase for ease of computation.

Example: "B" Benefits per Acre

Potential productivity Value	$ 678.75
Adjustment for 96% economic efficiency	$ 651.60
Production Cost	- 341.97
Beginning Productivity Value	- 90.00
Change in Productivity Value	219.64
Private Improvement ($850/25) (Waterway or tile)	-36.00
Annual Benefit Value	$ 183.64

$1683.64for 25 years, discounted @ 2.0 % = $3585.29
Rounded to $3590.00

The existing drainage system has various tile capacities that do not have adequate size and capacity to meet the NRCS recommended drainage capacities for tile outlets for agricultural drainage. Adjustment to the potential benefit value is made by the application of an efficiency rate. This rate reflects the viewer's determination of that portion of the potential benefit being provided by the existing county ditch system with consideration of the drainage system capacities and a parcel's proximity to the adequate outlet.

The net benefit provided by the ditch system is determined by the adjusted potential benefit value being applied to the number of acres determined to be in each class per tract, accumulating the sum of these benefit values, and then applying the proximity rate percentage.

Damages have been given for the right of way required for the establishment of the statutory grass buffer strip as if acquired under the condition that existed prior to the passing of Minnesota statute 103F.048.

Respectfully submitted,

Ron Ringquist

Chuck Bowers

Dan Ruby

JACKSON AND MARTINCOUNTY
JUDICIAL DITCH NO. 48

2021 REDETERMINATION OF BENEFITS

INCOME APPROACH TO VALUE WORKSHEET
With NRCS Guideline drainage

PRODUCTION INCOME

CROP PLANTED	AVERAGE YIELD	SALES VALUE	GROSS INCOME	ROTATION PERCENTAGE	ADJUSTED INCOME
CORN	210 BU	3.75	787.50	50	393.75
SOYBEANS	60 BU	9.50	570.00	50	285.00
					$678.75

DIRECT PRODUCTION EXPENSE

CROP PLANTED	PRODUCTION COST		ROTATION PERCENTAGE	ADJUSTED EXPENSE
CORN	456.29		50	228.15
SOYBEANS	227.63		50	113.82
				$341.97

BENEFIT VALUE CALCULATION

PRODUCTION CAPABILITY BASED UPON CONSTRUCTED DRAINAGE SYSTEM
MEETING N.R.C.S. RECOMMENDED DESIGN STANDARDS

LAND CLASS	"A"	"B"	"C"	"D"
% PRODUCTION	92.0%	96.0%	100.0%	100.0%
GROSS INCOME	624.45	651.96	678.75	678.75
PRODUCTION COST (-)	341.97	341.97	341.97	341.97
NET INCOME	282.49	309.64	336.79	336.79
PREVIOUS INCOME (-)	0.00	90.00	201.04	302.85
INCREASED INCOME	282.49	219.64	135.75	33.94
PVT TILE COST (-)	36.00	36.00	36.00	0.00
NET ANNUAL INCREASE	246.49	183.64	99.75	33.94
CAPITALIZED FOR 25 YEARS @ 2.0 %	4812.34	3585.29	1947.46	662.58
BENEFIT VALUE	4810.00	$3590.00	$1950.00	$660.00