



**Report of Improvement Benefits for
Middle Snake Tamarac River Watershed District Polk CD 175**

In accordance with Minnesota Statute (MS) 103E.315 and MS 103E.321, we the viewers, submit the following Viewers' Report:

The fundamental principle for the determination of benefits and damages is based upon a comparison of the conditions prior to the construction of the ditch system with the conditions that exist after the implementation of the ditch system or proposed drainage project. Compared to the conditions that will exist after the proposed improvement project.

The undersigned viewers, pursuant to the order of the Middle Snake Tamarac River Watershed District (MSTRWD) Drainage Authority, did meet prior to commencing duties on the 18th day of September, 2017 at the MSTRWD office in Warren, Minnesota. Having taken the oath as required by MS 103E.305, did view, all lands affected by said proposed drainage system.

We were able to determine the boundaries of the improvement benefited area by processing and analyzing maps using "Light Detection and Ranging" (LiDAR) along with visually viewing the project area. Meetings were held with landowners, Engineers and MSTRWD staff. We viewed each County Assessors' records to determine the number of acres of land in each parcel of each 40-acre tract of land. Other sources of information used were USDA-Natural Resources Conservation Service Web Soil Survey, 12 years of USDA satellite imagery, US Fish and Wildlife Service National Wetland Inventory (NWI) maps, and Polk Counties Assessors' sales data and annual report.

We have determined the extent and basis of benefits and damages as prescribed under MS 103E.315 and MS 103E.321. We have indicated in tabular form, for each lot, 40-acre tract, and fraction of a lot or tract under separate ownership that is benefited or damaged (see Exhibit A).

An easement, in the form of an additional restriction on the use of real property adjacent to the open channel of the drainage system has already been acquired for this system. Damages were previously awarded for the establishment of a permanent strip of perennial vegetation approved by the drainage authority that will not impede future maintenance of the drainage system as required in MS 103E.021.

Right of way damages, having been determined and paid in the original proceedings for establishment of the drainage system, based on the area contemplated and included in the proceeding for the establishment or subsequent improvement of the drainage system, were not considered. Improvement does not increase original footprint of the ditch, therefore no additional right of way damages are required.

We have determined the following direct drainage benefits and indirect (outlet) benefits on and related to the redetermination of benefits for MSTRWD Polk CD 175. Benefits were determined based on the drainage system operating in its as constructed condition.

Direct Benefits – Class 1 (Mapped as Red)

Using the direct market value approach, giving consideration for the lands' geographic location in the watershed, location relative to the outlet, proximity to the ditch bottom elevation, soil types, as well as analyzing direct sales data for competitive properties in the market place, we determined the existing market values of land in an unimproved condition as well as in an improved condition. Though this description may not describe your lands exactly, your lands fell broadly under this category.

Class 1 lands, prior to the improvement of the drainage system, had a value range of \$5,303 to \$5,861 per acre. The improvement will change the system's capacity from a 2-year rain event to an 8-year rain event. Factoring the systems ability to handle larger rain events and the amount of land affected by rain events in the benefitted area, the market value has increased to \$5,558 to \$6,143 per acre.

The viewers have determined based on these values, along with the proposed system improvement that MSTRWD Polk CD 175 provides for an increased market value/benefit to agricultural/cropland acres in Class 1 by the rate of \$268 per acre.

Direct Benefits – Class 2 (Mapped as Yellow)

Using the direct market value approach, giving consideration for the lands' geographic location in the watershed, location relative to the outlet, proximity to the ditch bottom elevation, soil types, as well as analyzing direct sales data for competitive properties in the market place, we determined the existing market values of land in an unimproved condition as well as in an improved condition. Though this description may not describe your lands exactly, your lands fell broadly under this category.

Class 2 lands, prior to the existence of the drainage system, had a value range of \$5,405 to \$5,973 per acre. It was mostly utilized as high-risk crop land. Although some row crops were grown in this land class, it was not without substantial risk of loss to the grower. Now that adequate drainage has been established through these lands, the market value has increased to \$5,558 to \$6,143 per acre. The lands are now used to grow some of the most productive row crops in the area.

The viewers have determined based on these values, along with allowances for private improvement costs, that MSTRWD Polk CD 175 provides for an increased market value/benefit to agricultural/cropland acres in Class 2 by the rate of \$161 per acre.

Direct Benefits – Class 3 (Mapped as Green)

Using the direct market value approach, giving consideration for the lands' geographic location in the watershed, location relative to the outlet, proximity to the ditch bottom elevation, soil types, as well as analyzing direct sales data for competitive properties in the market place, we determined the existing market values of land in an unimproved condition as well as in an improved condition. Though this description may not describe your lands exactly, your lands fell broadly under this category.

Class 3 lands, prior to the existence of the drainage system, had a value range of \$5,481 to \$6,057 per acre. These lands were mostly utilized for the production of row crops, although over saturation of the soil and surrounding lands did not allow for these lands to realize their full production potential. Now that the drainage system has been established, the land is able to utilize the system as an outlet to drainage tile systems and increased the production potential. As a result, the land value range has increased to \$5,558 to \$6,143 per acre.

The viewers have determined based on these values, along with allowances for private improvement costs, that MSTRWD Polk CD 175 provides for an increased market value/benefit to agricultural/cropland acres in Class 3 by the rate of \$81 per acre.

Indirect Benefits – Class 4 (Mapped as Blue)

Class 4 lands are lands have had an increase in market value after the construction of the drainage system. As, they have now been able to be altered from their pre-settlement state in such a manner that they are now drained and farmed. As a result, they burden the drainage system's capacity, thus increasing a sediment load and causing a need for increased maintenance. Taking into consideration regular ditch maintenance, and sediment loading, as well as benefits in the form of protection, we determined the rate per acre that MSTRWD Polk CD 175 provides as an outlet, protection, or drainage benefit to these lands. The viewers have determined that Class 4 lands fall broadly under two categories, 4a lands that get a drainage benefit from the drainage system and 4b lands that mostly get a protection benefit from the drainage system. Though this description may not describe your lands exactly, your lands fell broadly under this category. The viewers have determined the Class 4a benefit rate to be \$27 per acre and the 4b benefit rate to be \$23 per acre.

Example of how benefits were calculated for Class 2:

Market Value Before Project:	\$5,689
Market Value After Project:	\$5,850
Increase in Market Value:	\$161
Net Benefits:	\$161

Road Benefits

The viewers have determined outlet as well as reduced maintenance cost benefits for all State, County, and Township roads located within the boundary of MSTRWD Polk CD 175 at a rate of \$16 per acre.

Residential Land Benefits

Outlet benefits were applied to residential lands within the watershed of MSTRWD Polk CD 175. The outlet benefit was calculated based on runoff burden to the drainage system and use of the drainage system as an outlet. The viewers have determined the outlet benefits for residential lands at the rate of \$4 per acre.

Non-benefiting Acres

Based on current land use and regulatory restrictions, permanent program restrictions (i.e. RIM or CREP) or other permanent restriction and restoration to pre-settlement landscape conditions or creation of wetland areas, we determined some areas to be non-benefited from the drainage system and restricted from taking future benefit from the drainage system. For example, we determined that lands restored to pre-settlement conditions and permanently restricted from future modification would not drain in any altered manner such that the drainage system would be burdened by the land other than such burden as nature would have provided. Further, for example, nonconverted wetlands that are so restricted from conversion by regulation that conversion is unlikely, were not determined to benefit from the system.

At the completion of our examination, we did sum up the total benefits for MSTRWD Polk CD 175. We found that the total benefits are \$1,288,554.09. (See Exhibit A for tabular report of benefits.)

We recommend that the MSTRWD Drainage Authority hold a final hearing on the report and confirm the benefits and damages for MSTRWD Polk CD 175.

Dated this 9th day of August, 2018.

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Respectfully submitted,

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Larry Murphy