

2016

Redwood County

Environmental Office

Version 1.2



[REDWOOD COUNTY DRAINAGE POLICY AND GUIDANCE]

This Drainage Policy and Guidance Document was drafted to assist those in Redwood County, Minnesota whom have an interest in the drainage system and its operation within the County.

Disclaimer

All attempts have been made to ensure that the information provided in this guidance document are accurate and in accordance with the law. This document is intended to be used as guidance and not as an affirmative statement of law. In the event of a conflict between this document and Minnesota Law, Minnesota Law will control. This document is not a complete representation of drainage policy, and is subject to changes by Redwood County at any time. Any specific questions should be directed to Redwood County Staff.

Redwood County Commissioners

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Adopted by the Board on 1/19/16

Amended by the Board on

This document was prepared by the Redwood County Environmental Office.

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1. INTRODUCTION

This policy is adopted by the Redwood County Drainage Authority to guide the administration of public drainage facilities within Redwood County. The purpose of this policy is to clarify the procedures for repair, maintenance, and the determination of benefits related to public drainage facilities.

The policy also identifies performance standards and best management practices that are necessary for the efficient and effective operation of public drainage facilities.

Benefitted landowners that own the ditch systems have the lawful right to have these drainage systems maintained. These benefitted lands and their owners have paid for the construction and maintenance of the systems without the use of public funds. State statute allows some outside funds to be used for flood control and environmental purposes only, as provided for in 103E.011.

2. DEFINITIONS

The definitions found in Minnesota Statute 103E.005 are used in this document. Definitions not found in 103E.005 are found below.

Drainage System: A public drainage system managed by the County or a Joint County Drainage Authority, including County, Judicial and Joint Ditches and drain tiles.

Drainage Inspector: A person appointed by the Drainage Authority, pursuant to Minnesota Statute 103E.065, to inspect and administer the drainage systems of the Drainage Authority.

Drainage System Improvement: Any work on or within a drainage system that lowers the original ditch or drain tile elevation or increases the original capacity of a ditch or drain tile.

Normal Agricultural Practices: Normal agricultural practices include activities normally undertaken for the purposes of raising an agricultural crop and include traditional methods tilling, planting, cultivating and harvesting. For the purposes of this policy the digging of ditches for surface drainage, tiling, the raising of crops that require unusually deep penetration of the soil or any other practices that require the unusually deep penetration of the soil, and are not considered normal agricultural practices.

3. GENERAL INFORMATION

Minnesota Statute 103E controls the repair of drainage facilities. This section is intended to restate the law in a manner that is clear and understandable to the ordinary person. "Repair" is defined by Minnesota Statute 103E.701, Subdivision 1 as "... to restore all or part of a drainage system as nearly as practicable to the same condition as originally constructed and subsequently improved, including re-sloping of ditches and leveling of waste banks if necessary to prevent further deterioration, realignment to original construction if necessary to restore the effectiveness of the drainage system and routine operation that may be required to remove obstruction and maintain the efficiency of the drainage system."

Essentially, a repair is any activity that maintains a ditch in the state it was constructed or designed. All decisions regarding repairs to public drainage systems are the responsibility of the Drainage Authority. In Redwood County, the Drainage Authority is made up of the five county commissioners. In the case of

joint county ditches, a select number of commissioners will be appointed by each County Board to serve as the Joint Drainage Authority. The Drainage Authority cannot delegate its statutory responsibilities to landowners. The Drainage Authority shall not approve any action in violation of Minnesota Law regardless of the percentage of landowners requesting a particular action.

Once a drainage system is established, the Drainage Authority has an affirmative duty to maintain the system and the grass strips. The drainage system is to be inspected on a regular basis.

4. INSPECTIONS

It is the policy of Redwood County to establish a “regular basis” for inspecting the public drainage system in the County. The Drainage Inspector shall put all ditches on a scheduled inspection rotation of once every twenty years, unless a known issue arises sooner. The Drainage Authority may provide for inspections at earlier intervals if it chooses. The Drainage Inspector shall keep and maintain a record of its inspections. This record shall include all necessary repairs and violations found, and the estimated cost of repairs. This schedule shall be maintained to the best of the ability of the Drainage Inspector. Any decision to issue a repair shall include weighing factors such as cost, maintenance history, susceptibility of system to blockage, and any other relevant factor. Tile lines will be inspected to the best of the ability of the Drainage Inspector. At a minimum, the drainage inspector will examine the outlets and accessible intakes for damage or signs of maintenance issues.

The Drainage Inspector or staff will make inspections of any work in progress and a final inspection after the work has been completed to insure that construction on the drainage systems has been performed in a satisfactory manner.

5. ADDITIONAL DRAINAGE

A. Approval for Property Benefitted by Public Drainage System

Landowners of benefitted property may seek approval from the Drainage Authority to drain water into the public drainage system by ditch or drain tile in accordance with Minnesota Statute 103E.225. B.

B. Approval for Property Not Benefitted by Public Drainage System

Landowners of property not assessed benefits for an existing drainage system may seek approval from the Drainage Authority to drain water into the public drainage system by ditch or drain tile in accordance with Minnesota Statute 103E.411.

C. Municipalities

A municipality may seek approval from the Drainage Authority to use the public drainage system as an outlet in accordance with Minnesota Statute 103E.401.

6. DRAINAGE SYSTEM IMPROVEMENTS:

All improvements to an existing drainage system require a landowner petition and proceeding before the Drainage Authority in accordance with Minnesota Statute 103E.215.

7. VIOLATIONS

All violation reports prepared by the Drainage Inspector shall contain enough information to clearly identify the violation and the results of the inspection, such as, photos, drawings, GPS locations, written descriptions of observations, and necessary repairs to fix identified violations. Failure to remedy violations defined in Minnesota Statute 103E.081 is a misdemeanor and subject to criminal prosecution. The Drainage Authority reserves the right to seek enforcement of violations in accordance with Minnesota Statute 103E.085.

8. REPAIR PROCEDURES

A. Procedure to Initiate Repairs

There are two methods that may be used to initiate a repair to a drainage system and grass strip.

- 1) **103E.705.** The most common is to have the Drainage Authority order the repair without a petition in accordance with Minn. Stat. 103E.705. The Drainage Authority may order any repair which becomes known to it in accordance with this section. As an alternative to petitioning for repairs, individuals may contact the drainage authority to inform them of needed repair work.
- 2) **103E.715.** An individual may make a petition to the Drainage Authority. The petition may be signed by “anyone with an interest in the drainage facility.” If the Drainage Authority determines that the drainage system needs repair, the engineer will examine the drainage system and make a report. Once the report is received from the engineer, a public hearing must be held with mailed notices to the petitioners as well as owners of property and political subdivisions likely to be affected by the repair. The notice must be mailed at least ten days before the public hearing. Minn. Stat. 103E.715, Subd. 4 restricts the Drainage Authority’s ability to reject the petition if at least 26% of landowners sign the repair petition. Minn. Stat. 103E.715, Subd. 6 requires the appointment of viewers to assess damages and benefits if certain repairs are necessary.

B. Replacement of Drain Tile

When replacing drain tile lines, it is Redwood County policy to use drain tile with the same size and rate of flow, and to locate the new drain tile at same depth and original location as nearly as practicable. Exceptions to this policy are:

- 1) Minnesota Statute 103E.701 Subdivision 6 specifically allows:
 - Drain tiles or open ditches may be realigned as a repair if the realignment is for the “preservation, restoration, or enhancement of wetlands,” in accordance with Minn. Stat. 103E.701, Subd. 6.
- 2) Incidental straightening of a drain tile system resulting from the tile-laying technology used to replace drain tiles, in accordance with Minn. Stat. 103E.701, Subd. 1.
- 3) Replacement of drain tiles with the next larger size that is readily available if the original size is not readily available, in accordance with Minn. Stat. 103E.701, Subd. 1.
Subsidence of peat ground or erosion may expose drain tile lines or reduce the cover to the

point where drain tile lines are being damaged by normal agricultural activities. Replacing drain tile deeper than originally installed is considered an improvement and will rarely be allowed, and then only under specific conditions. If more cover is necessary to protect the drain tile, realignment of the drain tile short distances into side hills is preferred where practicable. The following conditions must be met before the Redwood County Drainage Authority will allow a drain tile line to be realigned or replaced at a lower depth than originally constructed:

- 1) A written report from the drainage inspector or engineer must state that the drain tile line must be replaced in order to maintain the efficiency of the drainage system.
- 2) Subsidence or erosion must have occurred during normal agricultural practices.
- 3) Replacing the drain tile at its original location and depth will result in a situation where damage by normal agricultural practices is likely to occur.
- 4) The realignment or replacement of the drain tile at a lower depth will not result in additional lands being drained.
- 5) The realignment or replacement of the drain tile at a lower depth will not increase the efficiency of a private drain tile beyond the drain tile's original construction.
- 6) The Drainage Authority must consider the total cost of the repair and whether or not the repair is in the best interest of the drainage system.

C. Payment of Damages During a Repair

Minn. Stat. 103E does not provide for the repair of drainage right-of-way. The Courts, however, have determined that the repair right-of-way is permitted to the extent necessary to maintain the drainage system. It is Redwood County Drainage Authority policy to pay damages for damaged crops that result from a repair. Damages to grass buffer strips or other non-crop land may be paid when the damages occur on lands enrolled in a government program that requires vegetative cover be maintained as part of the program. Damages to grass or cover crop will not be paid if the replanting is performed by the contractor as part of the repair. Damages to crops planted in violation of an established buffer strip easement will not be paid.

D. Drainage System Repair Funds

Repair funds are held in a separate ditch account for each ditch system. These funds shall be managed in accordance with Minnesota Statute 103E.735.

Consistent with the Minnesota State Auditor's position, a reasonable balance must be maintained in each account to allow for the payment of most repairs without borrowing funds from another account. The Redwood County Drainage Authority has determined that \$4 to \$5 per benefitted acre is sufficient for most drainage systems. Depending on the maintenance needs of a drainage system, \$4 to \$5 per acre may be inadequate for some systems and excessive for others and may be adjusted accordingly. The Drainage Inspector will recommend to the Drainage Authority which systems should have repair funds and how much the yearly assessments should be. A yearly review of the fund balance will be done by the Drainage Inspector or County Auditor and recommendations made to the Drainage Authority to replenish the fund subject to statutory maximum.

If land has ditch benefits when sold and is assessed into the ditch system, the purchaser, even if it is the state or federal, should be responsible for paying any future assessments.

If a program is offered from FEMA, funds should be sought for damages after a disaster declaration

9. CHANGES IN BENEFITS

Once a drainage system is established, benefits can only be changed by petition and hearing as required by Minnesota Statute 103E. Corrections of clerical errors are permitted after sufficient documentation is provided.

A. Petition to Remove Land From a Drainage System

- 1) Once a drainage system is established, land cannot be removed from the system unless the landowner making the petition has physically diverted the water from the system. Diversions of waters can be done through an impoundment or diversion of water to a different public or private system. The petition to remove land from a drainage system must be made under Minn. Stat. 103E.805.
- 2) The procedures for the total abandonment of a public drainage system are found in Minnesota Statute 103E.811.
- 3) The procedures for a municipality or water management authority to take over all or part of a public drainage system is found in Minn. Stat. 103E.812. Redwood County encourages municipalities to formally take control of public systems used as municipal storm systems.

B. Petition to Remove Benefits But Not Land From a Drainage System

The placement of land into a temporary or permanent conservation easement program is not sufficient cause to remove or reduce a landowner's ditch benefits. The Redwood County Drainage Authority will remove benefits from lands as part of a wetland restoration project only after a certified engineer has shown that the impoundment is a benefit to the drainage system in the form of reduced maintenance or an increase in the efficiency of all or part of the system. Each petition for removal of benefits must be filed in accordance with Minn. Stat. 103E.805 and will be handled individually based on the merits of the restoration project.

Benefits may be reduced without impoundment or diversion only if a redetermination of benefits of the entire ditch system is performed.

C. Distribution of Benefits After the Subdivision of Land

The distribution of benefits resulting from the subdivision of ownership in lands benefitted by a drainage system may be determined by a Drainage Authority or by the landowners splitting the parcel. The benefits attributed to each new parcel must reasonably represent the benefits received by each parcel. Any party may ask for a hearing before the Drainage Authority to determine the distribution of benefits.

10. STRUCTURES PROHIBITED OVER DRAIN TILE LINES

Permanent structures of any type shall not be built over or near a public drain tile line. Landowners who do build any type of structure over or near a drain tile line assume liability for any damage caused by the failure of the drain tile line. The landowner is responsible for the cost of moving a drain tile line

away from a structure. Before a drain tile line is moved, the landowner must submit a plan to the Drainage Authority showing the new location of drain tile in relation to the old drain tile and all surrounding structures, a list of the materials to be used, and the name of the contractor doing the work. The Drainage Authority may require a licensed engineer to review the plan before construction.

11. PRIVATE CROSSINGS AND CULVERTS

The installation, repair, or replacement of a private crossing or culvert over a public drainage system requires approval from the Drainage Authority before any work is done. Private crossings or culverts that were built as part of the public drainage system will be repaired and costs charged to the repair account. Private crossings not built as part of the public drainage system are the responsibility of the landowner. If a private crossing or culvert, not built as part of the public drainage system, is removed or repaired by the Drainage Authority, the costs may be charged to the landowner.

A landowner wishing to construct a new private crossing or culvert over a public drainage system must submit a written request and get permission from the Drainage Authority prior to construction. The Drainage Authority may set the width, depth, and size of the crossing or culvert and will inspect the crossing or culvert after installation. The Drainage Authority may seek the advice of a licensed engineer to determine if the proposed crossing or culvert will impair the drainage system.

The Drainage Authority reserves the right to remove, at the landowner's expense, any improperly installed crossing or culvert, extension of a crossing or culvert, or any crossing or culvert installed without prior approval from the Drainage Authority.

Increasing the width of a crossing or culvert is not a repair and all material costs for such an improvement must be paid by the landowner requesting the increase in width.

The Drainage Authority has no obligation to grant a permit for improving or installing a crossing or culvert. The Drainage Authority reserves the right to use alternative methods to maintain a landowner's right of access, including, but not limited to, replacement of a bridge or culvert with another suitable material, or obtaining an alternative legal right-of-way. To the extent possible, the Drainage Authority will require the consolidation of crossings and culverts.

A permanent easement may be used to replace a bridge if practicable.

If a landowner places an additional crossing or culvert over a public drainage system or extends an existing crossing or culvert, the Landowner must follow the following guidelines:

- 1) All material costs of widening or extending the crossing or culvert must be paid by the landowners requesting the improvement.
- 2) Any new culvert must be bedded properly and installed at the same invert as the original culvert.
- 3) All materials used in the installation must be of the same or better quality than the original construction.
- 4) The flow under the crossing or through the culvert, to the extent practicable, must remain the same as the original flow characteristics.
- 5) A qualified contractor must perform all construction.

- 6) The landowner responsible for improving the crossing or culvert shall be responsible for all repairs or maintenance caused by improper installation.
- 7) If at some future date an extended crossing or culvert is replaced as a repair, the landowners shall be responsible for replacement of the extended portion of the crossing or culvert.
- 8) As a condition to the permit authorizing installation of the approach, crossing, or culvert, the landowner must execute and record a restriction on the property to acknowledge that the crossing or culvert shall not be part of the drainage system and subjecting the property, and any additional real estate added thereto, to ongoing operations and maintenance of the culvert.

Irrigation crossings shall be of a bridge-type that will not affect the flow of water, must be installed in a manner that will not restrict repairs on a system, and must be able to be removed easily. All costs associated with irrigation crossings shall be the responsibility of the landowner. The Drainage Authority reserves the right to regulate the width, depth and size of the crossing. If, after inspection, the crossing does not meet the Drainage Authority's requirements, the crossing must be modified to meet the requirements or removed at the landowner's expense.

12. EROSION CONTROL

The Drainage Authority shall actively promote erosion control measures that reduce future costly ditch clean outs and protect the downstream environment. Erosion control methods include, but are not limited to, the following:

A. Vegetation Control

Spraying Program. The intent of vegetation control is primarily to prevent a growth of any type of tree or brush within the public drainage system or its right-of-way as a method to reduce future repair and maintenance costs. The Drainage Inspector shall conduct regular inspections of the public drainage system. After inspection, the Drainage Inspector may recommend a spraying program to the Drainage Authority for approval.

Approved Chemicals. Only State and Federal approved chemicals shall be applied to eliminate trees and brush within the public drainage system. If landowners spray any private drainage system that flows into the public drainage system, only approved chemical shall be used.

Opt Out of Spraying Program. Landowners who disapprove of chemical application shall notify the Redwood County Drainage Authority in writing each year. The Landowner shall have the option to remove all trees and brush in the ditch right-of-way at their own expense. If, upon inspection, the removal of the trees and brush is satisfactory, that portion of the ditch will be removed from the spraying area. If the tree and brush removal is not satisfactory, the Drainage Authority will make arrangements to bring the tree and brush removal to a satisfactory level.

Mowing. The Drainage Authority may, if cost effective, consider using a mower to control weeds along a system to prevent possible contamination of the water from spray.

Tree Removal. Trees that need to be removed from a drainage system will be removed in a

manner the will not cause erosion. Trees may be chipped, piled and burned when dry, or buried. Landowners may remove trees at their own expense and liability, including damage to the public drainage system.

B. Drop Inlet Pipe Structures

The most common cause of erosion in public ditches is a lack of adequate structures to control side inlet water flow into the ditch. The Drainage Authority will install drop inlet pipe structures, as a maintenance procedure, in areas where erosion is a potential problem. The Drainage Authority shall be responsible for paying the following expenses to install a drop inlet pipe structure:

- 1) Enough pipe to reach from the outlet to the bottom of berm on the side of the berm facing away from the ditch; dual wall plastic pipe preferred, with the first twenty feet of the outlet end being non-perforated steel pipe, dual wall, or pvc;
- 2) Blind tee;
- 3) Marker flag;
- 4) Five feet of riser or trash guard, typically six inches in diameter; and
- 5) All excavation necessary to install the drop inlet pipe structure.

If a landowner requests extending the horizontal pipe beyond the edge of the berm, all expenses associated with the additional extension shall be paid by the landowner.

A landowner who has a private drain tile system that brings sub-surface water drainage into the public drainage system shall be solely responsible for the costs and installation of an adequate outlet into the public drainage system.

C. Grass Buffer Strips

The Redwood County Drainage Authority encourages the use of the grass buffer strips beyond the one rod buffer established under Minnesota Statute 103E.021 and the use of the grass buffer strips where the one rod buffer has not been established under 103E.021.

The Redwood County Drainage Authority is required to notify landowners of a violation of a grass buffer strip established under Minnesota Statute 103E.021. The landowner shall have 60 days to bring the area of non-compliance into compliance. If the area is not brought into compliance during this period, the Drainage Authority will proceed on a manner describe in Minnesota Statute 103E.021 Subdivisions 4 and 5.

Agricultural practices such as plowing, tilling, pasturing, or other practices, which are not consistent with the purpose of the grass buffer strip, are prohibited. The grass buffer strip may be cut for hay.

Buffer strips (or alternative practices) will be required on all waters in accordance with Minnesota Statute 103F.48. For ditches within the benefited area of a public ditch, the buffer will be 16.5 feet, and installation will be required by 2018. For public waters the buffer must be 50 feet, and installation will be required by 2017.

13. MUNICIPAL USE OF A PUBLIC DRAINAGE SYSTEM

Changes are highlighted in yellow.

Municipalities are encouraged to request transfer of all or part of a public drainage system being for municipal drainage to the Municipality. The laws regarding such transfers are found in Minnesota Statutes 103E.812. Municipalities using a Drainage System as an outlet must comply with State Law. Land within a municipality which is not already listed as benefitting from a drainage system, may not use a Drainage System without a petition under 103E.411.

14. DIVISION OF PUBLIC DRAINAGE BENEFITS

When a parcel containing drainage benefits is split or combined, the drainage benefits must be re-allocated. Drainage benefits are assessed in 40 acre increments (quarter quarters). Benefits must always remain within the same 40. Ditch benefits to any individual 40 can vary greatly and it is in the interest of the buyer and seller to discuss the division of benefits as part of the land transaction. Redwood County encourages all buyers and sellers to allocate the benefits prior to or during the time of transfer.

The Redwood County Environmental Office or the Redwood County Auditor's Office is available to assist individuals with allocating their benefits. After submitting the parcel split preapproval form to the Environmental Office individuals will be put on notice that there are drainage benefits which must be allocated between the new parcels. Individuals will be sent information showing where the benefits are and how much is assigned to each 40. If ten (10) business days pass after the parties have recorded their deed and they have not submitted the division of benefits form, the Redwood County Office will assign benefits to each parcel.

Parcels will be assessed benefits proportionally based on the percentage of land they have in any 40 acre benefited area. Whatever percentage of land is owned in a particular 40 will then be multiplied by the total assessed benefits of that 40 and assigned to that parcel. For example, if one owns 12 acres a 40 which has \$7,000 in benefits, then that individual's parcel would be assigned \$2,100 in benefits (12 acres / 40 acres = 30%) ($\$7,000 \times .30 = \$2,100$).

If individuals dispute the way the Environmental Office has allocated the benefits between parcels, they are always welcome to come into the office to fill out and sign a division of benefits form after the fact.

15. BEAVER CONTROL

When beaver dams are reported or discovered when inspecting drainage systems, a trapper will be retained by the Drainage Authority to remove the problem beaver. It is the trapper's responsibility to contact the DNR for appropriate approval for trapping beavers out of season. The rate of payment is currently \$50.00 per beaver and is subject to change. The County will only pay the trapping fee on beavers when:

- 1) The trappers have had their names registered with the Ditch Inspector;

- 2) The trapper has been directed by the Ditch Inspector to remove problem beavers from specifically designated County Ditches.
- 3) The beavers front feet must be presented to the Ditch Inspector before payment of \$50.00 per set of front feet will be authorized.

The Ditch Inspector will dispose of the beaver feet in such a way that they cannot be resubmitted.

After the beavers are removed, the Drainage Authority Representative may hire a contractor to remove the beaver dam by mechanical means whenever possible. If explosives are to be used by a contractor, the contractor must be approved by the County Sheriff and provide permits and insurance. Ditch banks and areas affected by the dam removal areas will be restored and reseeded as necessary to prevent erosion. If offered by the state, the Drainage Authority shall participate in the nuisance beaver control program.

16. MISCELLANEOUS DRAINAGE SYSTEM ISSUES

Livestock. Livestock are prohibited from drainage ditches, except to cross at approved locations. Locations are approved by the Drainage Authority. If livestock must cross a ditch, the preferred method is to have them cross at an installed crossing to prevent the livestock from entering the water. Livestock may be watered from a ditch but the access to the ditch must be controlled and minimal. Livestock are permitted to graze along a ditch for short periods of time to control vegetation. Trampling of the ditch banks is prohibited. Owners wishing to graze the spoils and slopes must contact the Drainage Inspector to work out a grazing rotation for the livestock.

Manure. Manure shall be spread a minimum of 300 feet from the crown of the spoils, and any stockpiling of manure shall be a minimum of 300 feet from the crown of the spoils, and manure shall be injected a minimum of 100 feet from the crown of the spoils, unless greater distances are imposed by other regulations.

Feedlot Runoff. Feedlot runoff must be prevented from entering the public drainage system.

Fences. No permanent fence may be installed closer than 16.5 feet from the crown of the spoils. When drainage system repair is performed, gates may be installed in the property line fences next to each side of the ditch to allow for the access of equipment used for repairing the ditch.

Septic Systems. No septic system will be allowed to discharge into a drainage system.

Obstructions. Any existing or proposed obstruction in a drainage system must be properly engineered, and must be permitted by the Drainage Authority only after a hearing has been conducted in compliance with Minnesota Statute 103E.075. The Drainage Authority must be notified of any temporary obstruction that will disrupt flow and drainage for more than 2 days.

Deer Stands. Deer stands and other facilities used for recreation shall not be placed closer than 16.5 feet from the crown of the ditch. Any structure blocking maintenance to the ditch will be removed by the Drainage Authority regardless of its distance from the ditch.

Rock and Debris. Rock and Debris is prohibited within the in-slope of a drainage ditch. Rock and Debris shall not be dumped within 16.5 feet of the crown of the spoil bank or 100 feet from the

center of the ditch, whichever is greater.

Landowner Rights. A public drainage system is an easement for drainage purposes. The land within a drainage system remains private property, with no right of public access. None of the policies of the Drainage Authority allow any additional entry by the public beyond the minimum entry allowed by state law. Drainage Authority staff and contractors shall make reasonable efforts to contact landowners before entering property.

Building Setbacks. No permanent structure shall be built within 100 feet of the top edge of the ditch.

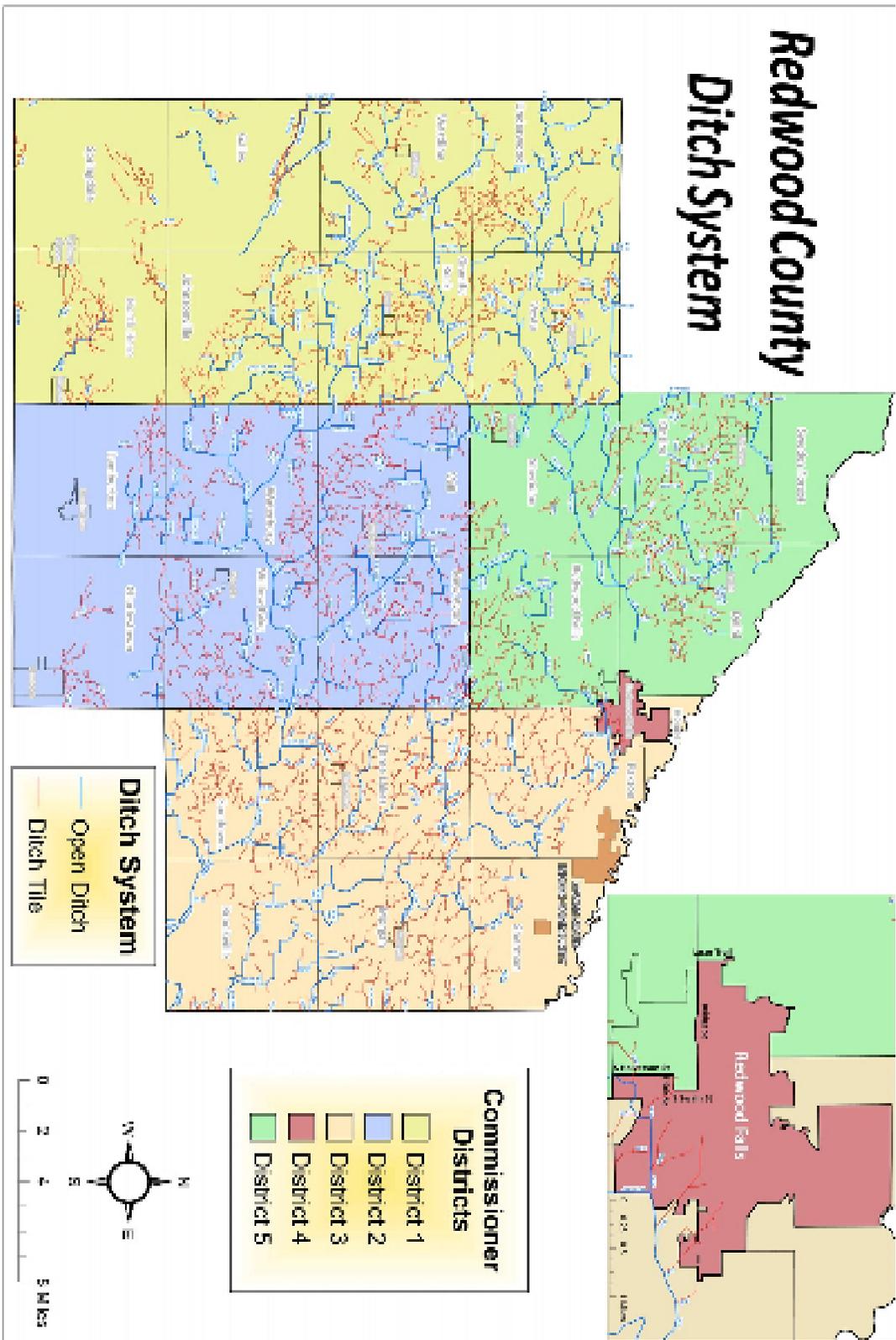
Rip-Rap. Whenever possible and allowed by law, concrete rip-rap will be used in the drainage system. If concrete is unavailable, or if granite rip-rap is a cheaper option, then granite rip-rap will be used.

Wetlands. Wetland areas along, or that are part of a drainage system, should be used for temporary storage for large rainfall events. These areas should be allowed to drain out naturally so storage is available for future storm events.

17. REMOVAL AND ABANDONMENT

Removal of property or abandonment of any section of ditch will follow 103E.805 or 103E.811.

APPENDIX A



Appendix B

Resources

Minnesota Statute Chapter 103E “Drainage”

<https://www.revisor.mn.gov/statutes/?id=103E>

Minnesota Statute Chapter 103F.48 “Riparian Protection and Water Quality Practices”

<https://www.revisor.mn.gov/statutes/?id=103F.48>

Minnesota Board of Water & Soil Resources Buffer Legislation Information

<http://www.bwsr.state.mn.us/buffers/>

Minnesota DNR Buffer Mapping Project

<http://www.dnr.state.mn.us/buffers/index.html>

Redwood County Environmental

http://www.co.redwood.mn.us/County_Departments/environmental_office.htm

Redwood County Soil and Water Conservation District

<http://www.redwoodswcd.org/>