

Faribault County, Minnesota

County Ditch #17

Staff Repair Report

June 2020

FARIBAULT COUNTY
Drainage Dept

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CD 17 Open Ditch Repair

BACKGROUND

Several landowners have raised concerns over the amount of sediment in the open channel, particularly at the beginning of the open ditch. The open ditch bottom was surveyed in the Winter/Spring 2020. The channel appeared to be impacted by sediment accumulation and fallen trees and branches in the ditch. The ditch banks are moderate to heavily treed from the field crossing in Blue Earth Township Section 5 to the outlet at the Blue Earth River in Prescott Township Section 31. There are three road crossings (US Hwy 169, CSAH 6, and CSAH 8) and two field crossings. One field crossing does not appear to be used anymore; neither side of the ditch is in crop production and small trees are growing over the top of the crossing surface, making it unpassable.

Legal ditch grade was determined based off the 1967 Improvement that established the open ditch upstream to its current extent. The improvement used a local datum that was adjusted to mean sea level with an adjustment factor of 1,000.2. The adjustment factor figured by fitting the profile to the original culverts from the 1967 improvement: CSAH 8 and the 2 field crossings. Based on this adjustment, the flowline elevation of the CSAH 6 and US Hwy 169 crossings are too low. Both crossings appear to have been replaced since 1967.

PROPOSED REPAIR DETAILS

It is recommended that the open ditch excavation not return the bottom to legal grade in the upper reach of the open ditch. Cleaning to the legal grade in the upper reach would remove 2.5-3.5 feet of sediment in some locations and would likely result in unstable side slopes and future ditch bank sloughing. Steepening the grade from the US HWY 169 crossing upstream to the beginning of the open ditch would result in less sediment excavation, maintain more stable side slopes, and allow for adequate drainage.

Tree and Brush Removal: Remove trees from the ditch slope and buffer strip area from Station 33+50 (CSAH8) to 110+30. The densest area of tree cover is from Station 47+50 to 65+50. The remaining area is sporadic with moderate to large trees.

Open Ditch Cleaning: Approximately 7,100 feet of open ditch cleaning from Station 40+00 to 111+00 (see profiles).

Field Crossing Removal: The field crossing at Station 54+00 can be removed from the ditch centerline. The crossing consists of 2-78" concrete culverts.

Timeline: The completion date for this repair is December 31, 2020

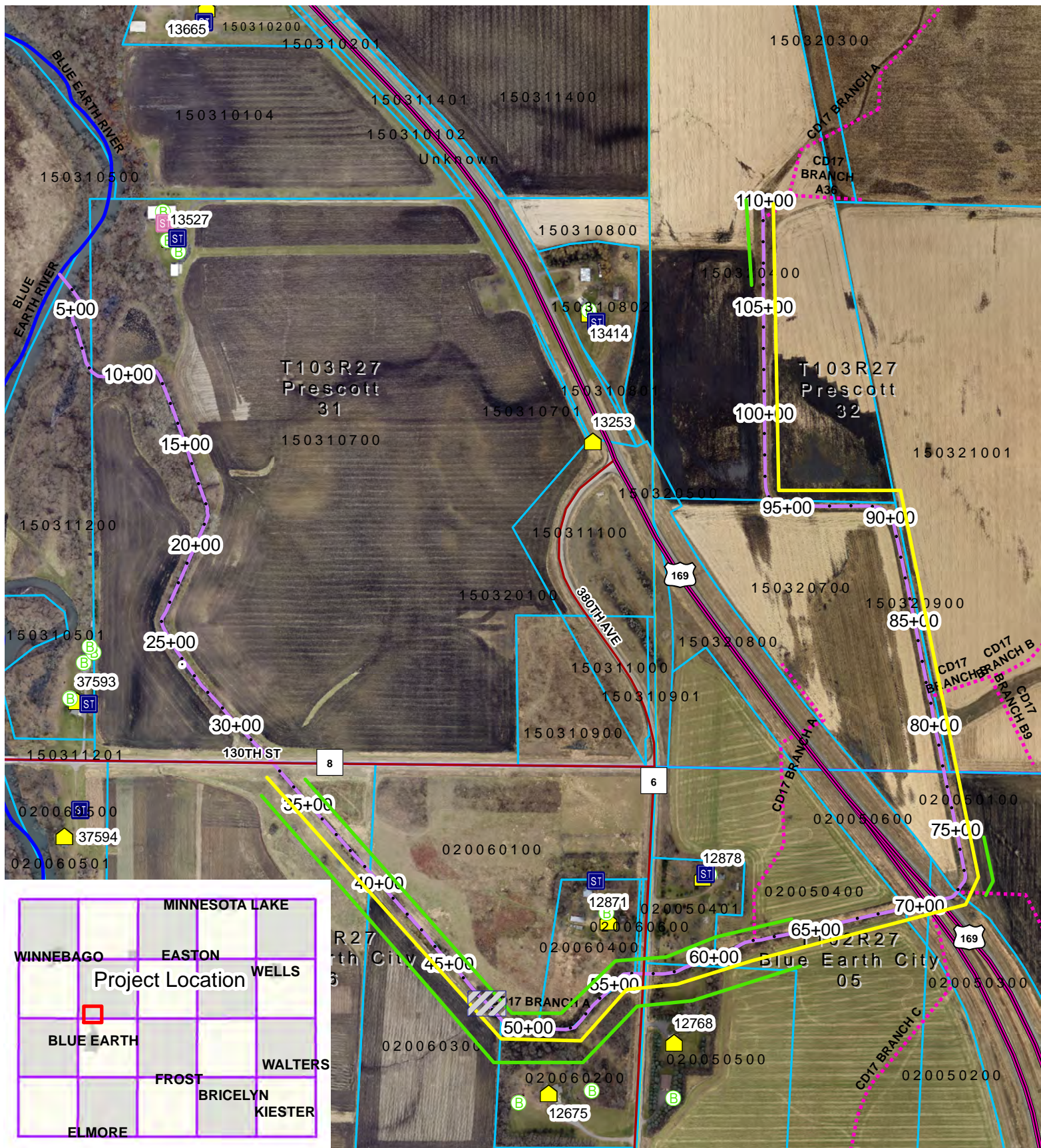


ESTIMATED COST

Item	Unit	Quant	Unit Price	Amount
Mobilization	LS	1	\$3,000.00	\$3,000.00
Tree and Brush Removal	LS	1	\$17,000.00	\$17,000.00
Field Crossing Removal (Seed and Place Category 3 Erosion Control Blanket)	EA	1	\$2,000.00	\$2,000.00
Open Ditch Excavation	LF	7,100	\$2.50	\$17,750.00
Buffer Strip - Till and Seed (bid separately)	AC	2.70	\$500.00	\$1,350.00
Total Estimated Cost				\$41,100.00

APPENDICES

Appendix A:	Repair Overview Map
Appendix B:	Plan Profiles
Appendix C:	Typical Ditch Cleaning Drawing
Appendix D:	Tree and Brush Removal Standards and Specifications



- Public Open Ditch
- Open Ditch Excavation
- ⋯ Public Tile
- Tree & Brush Removal
- Parcels
- Field Crossing Removal

1 inch = 600 feet



Disclaimer: Faribault County and Faribault County SWCD do not warrant or guarantee accuracy of the GIS data. The data is meant for reference purposes only and should not be used for official decisions. The data contained in the maps were compiled from the best available records that could be found and may contain errors or omissions.

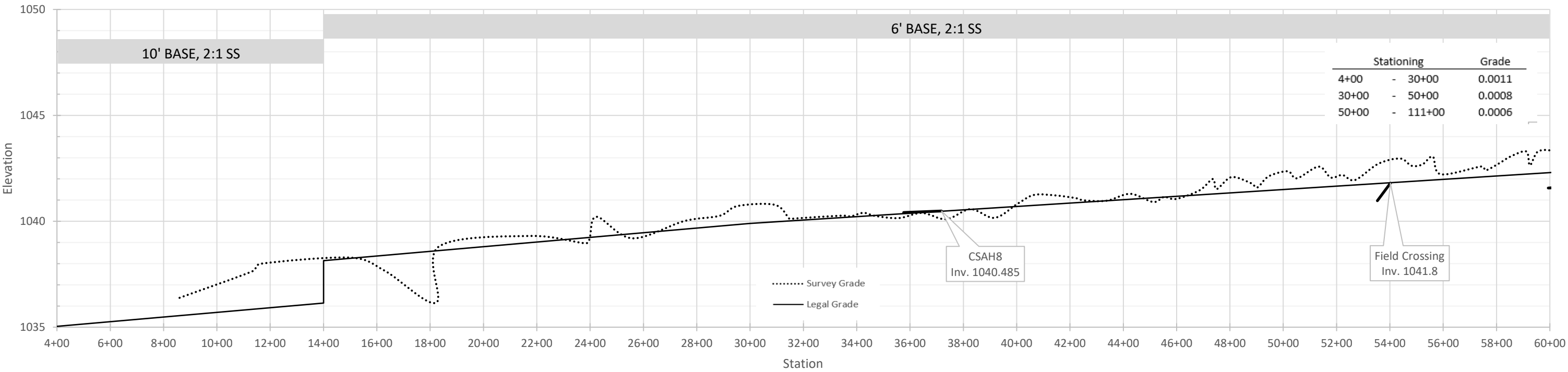


APPENDIX A: REPAIR OVERVIEW MAP

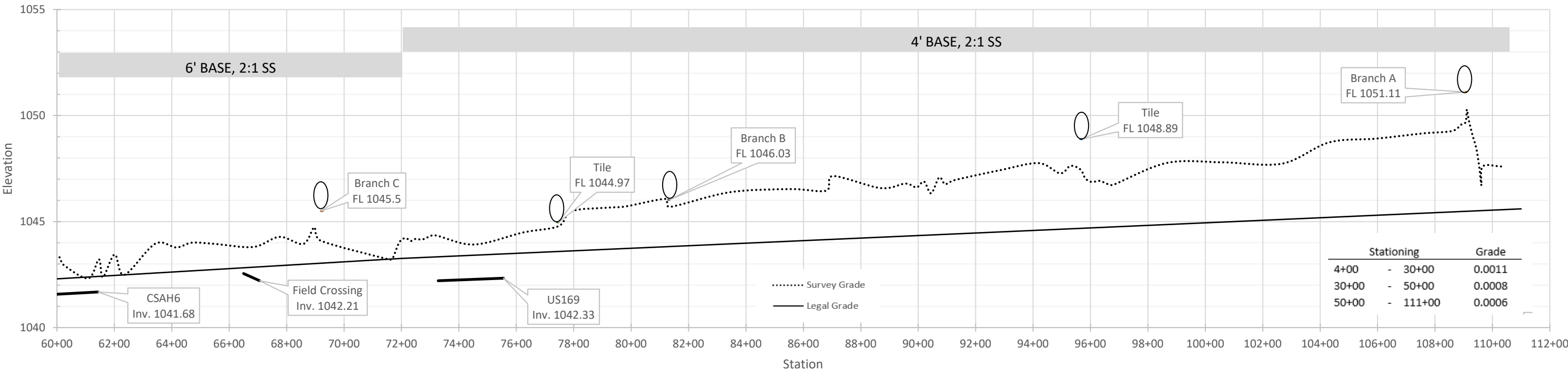


APPENDIX B: PLAN PROFILES

CD17 Main Trunk Profile



CD17 Main Trunk Profile



APPENDIX C: TYPICAL DITCH CLEANING DRAWING

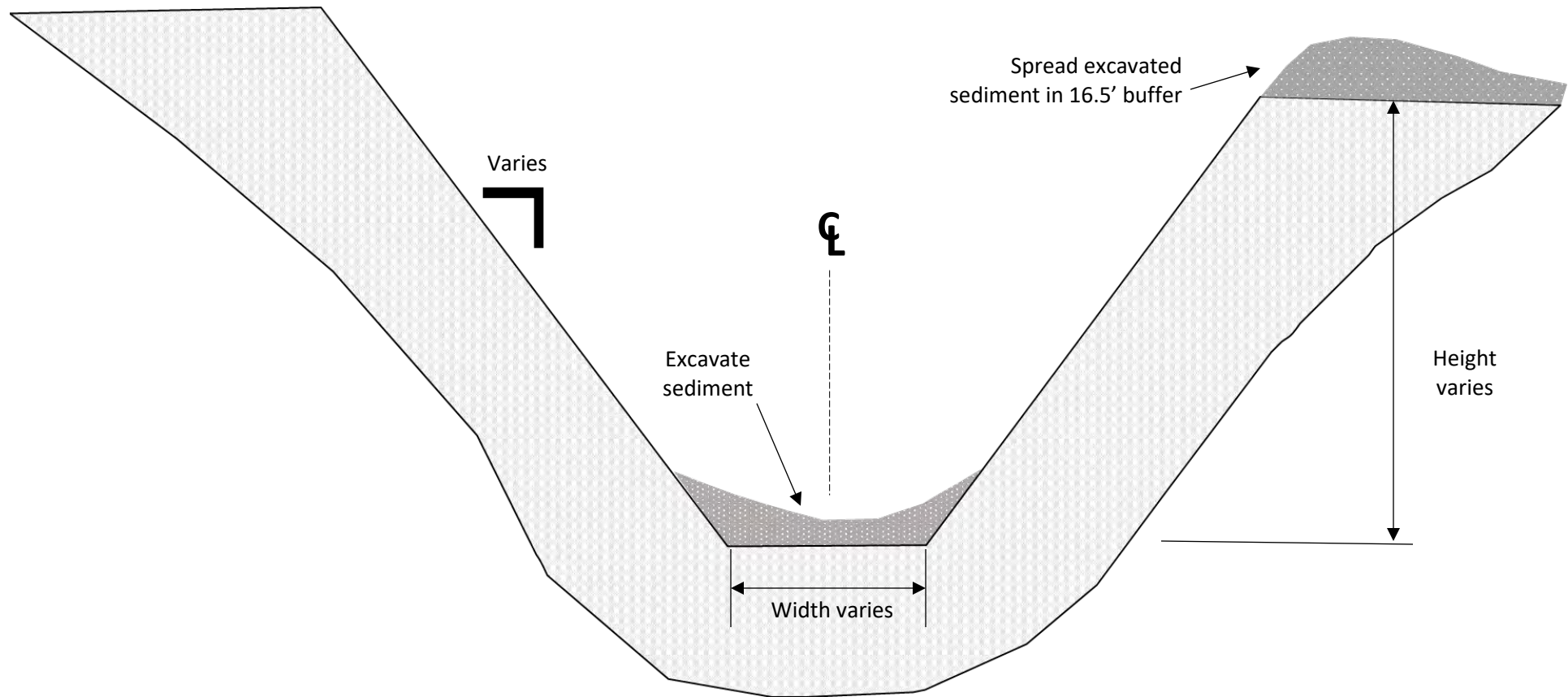
Notes:

Place all spoils from ditch cleaning on the lower side of the ditch (as feasible), no wider than 16.5' wide from the top of the slope.

Miscellaneous tree clearing shall be incidental to normal ditch cleaning as needed.

Do not place spoils in areas that may inhibit the function of drop intakes and side inlets.

Re-slope side slopes if needed (incidental)



TYPICAL DITCH CLEANING

NTS

APPENDIX D: TREE AND BRUSH REMOVAL STANDARDS AND SPECIFICATIONS

Faribault County Drainage Department



Tree Clearing and Grubbing Standards and Specifications

REQUIREMENTS

The Contractor agrees to provide all labor, materials, tools, and equipment necessary or incidental to clear, grub, and remove trees, brush, stumps, roots, and other vegetation including dead or decaying matter indicated in the Contract Documents, Scope for Work, or as directed by the Drainage Department. For additional standards, please refer to MnDOT Specification Section 2101 – Clearing and Grubbing

PAYMENT

Heavy and/or light vegetation removal shall be paid by linear foot OR at an agreed upon lump sum price.

SITE PREPARATION

Coordinate work with utility companies and obtain required permits from permitting authorities. Notify utility companies and the Drainage Department before starting work.

EXTENT OF WORK

Do not remove or damage vegetation beyond the limits of Easements held by the Drainage Department

1. All woody vegetation within 16.5 feet from top of bank shall be removed unless otherwise specified
2. Additional removal outside the 16.5-feet from top of bank may take place with approval from the Drainage Department or private landowner for safe construction practice at no additional cost to the landowner.

CLEARING AND GRUBBING OPERATIONS

In-Slope: All stumps (includes existing stumps) on the in-slope of the drainage ditch shall be removed to a maximum of 12 inches above the grade or as indicated by the Drainage Department.

Buffer Strip Area (16.5 feet from top of bank): All stumps (includes existing stumps) shall be removed or grubbed/grinded 18 inches below the ground surface. Fill holes left by removal of stumps and roots using a suitable fill material, with top surface neat in appearance and smooth.

DISPOSAL

The Contractor shall ensure the proper disposal of trees, brush, stumps, roots, and the debris or byproducts by (preference given to on-site uses):

- Chipping or grinding
 - Byproducts may be disposed of on site in a manner and location agreed upon by the Drainage Department

APPENDIX D: TREE AND BRUSH REMOVAL STANDARDS AND SPECIFICATIONS

Faribault County Drainage Department



- Burning
 - Inert and unburned remnants may be buried on site to a depth so as not to interfere with farming operations (>30 inches below the field surface) and in a location agreed upon by the Drainage Department and/or private landowners.
- *Marketing. Contractor reserves the rights to all vegetation after removal
- *Removal from site.

*Refer to MnDOT Specification Section 2101 – Clearing and Grubbing for reference to disposal methods that prevent the spreading of insects and disease pests.

PROTECTION OF ITEMS TO REMAIN

For items designated to remain, the Contractor shall perform clearing and grubbing operations in a manner that will not damage or jeopardize the surrounding plant life, property, and drainage system components.

CLEAN UP

Leave site in a clean condition, ready for subsequent work. Clean up spillage and wind-blown debris from public and private lands.