



**UPDATED
SUPPLEMENT TO
ENGINEER'S REPORT
ON REPAIRS
TO MAIN TILE
DRAINAGE DISTRICT
NO. 86
HARDIN COUNTY,
IOWA**

	I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA
	<p><i>Lee O. Gallentine, P.E.</i> Jan 20/2025 LEE O. GALLENTINE, P.E. DATE</p> <p>LICENSE NUMBER: 15745 MY LICENSE RENEWAL DATE IS DECEMBER 31, 2026 PAGES OR SHEETS COVERED BY THIS SEAL: SHOWN ON TABLE OF CONTENTS</p>

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Updated Supplement to Engineer's Report on Repairs to Main Tile, Drainage District No. 86 Hardin County, Iowa

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Updated Supplement to Engineer's Report on Repairs to Main Tile, Drainage District No. 86 Hardin County, Iowa

1.0 INTRODUCTION

- **SCOPE OF WORK** – The Hardin County Board of Supervisors, acting as District Trustees, requested Clapsaddle-Garber Associates to investigate and report concerning repairs to the Main tile of Drainage District No. 86. At the hearing held on January 22, 2020, the original Engineer's Report was discussed and reviewed by the District Trustees along with comments received by landowners. As a result, the District Trustees requested Clapsaddle-Garber Associates to move ahead with this supplement for an additional option for the detailed investigation area. Since then, Iowa Code was clarified relative to the apportionment of costs related to drainage district facilities on railroad property. As a result, the District Trustees requested that this report be updated related to the tile replacement option.

2.0 REPAIR METHOD – To repair the issues discussed in the original report for the detailed study area, there are several options, but the following is one that was discussed at the above mentioned hearing:

Full Tree Removal and Open Ditch Installation

- For the portion of the Main tile south of the former C&NW railroad tracks that is severely plugged with tree roots, remove trees within 50' of the Main tile.
- For the portion of the Main tile south of the former C&NW railroad tracks that is severely plugged with tree roots, remove and replace the existing Main tile with an open ditch. Typically, an open ditch would be in the same location as the existing Main tile in order to locate and outlet private and district tile.
- For reference, the detailed location of the proposed work near the C&NW railroad tracks is shown on the map included in Appendix I.
- For the remainder of the Main tile between Dago Lake and the former C&NW railroad tracks, verify the Main tile route and remove any trees within 50' of the Main tile.

With the above-mentioned repair methods, the following should be noted:

- The above option would involve taking of right of way.
- In the area of open ditch installation, the above option would require future monitoring for additional tree growth and beaver activity.
- The above option would only remove obstructions in the Main tile at the location of proposed open ditch installation. Any obstructions at other locations would remain in the existing Main tile.
- Repairs have historically been viewed as not having an impact on jurisdictional wetlands. As such, individual landowners should consult with applicable staff at the Hardin County NRCS office to verify the existence of said jurisdictional wetlands and that there will be no impact on them.

Per Iowa Code Chapter 468.126, any of the above actions that do not increase capacity would be considered a repair. Therefore, a hearing will be required. Per Iowa Code Chapter 468.126.1.g, the right of remonstrance does not apply to the proposed repairs.

- 3.0 OPINION OF PROBABLE CONSTRUCTION COSTS – Using the above method of repair, an itemized list of project quantities and associated opinion of probable construction costs for this option was compiled and are included in Appendix J of this report. A summary of said cost is as follows:

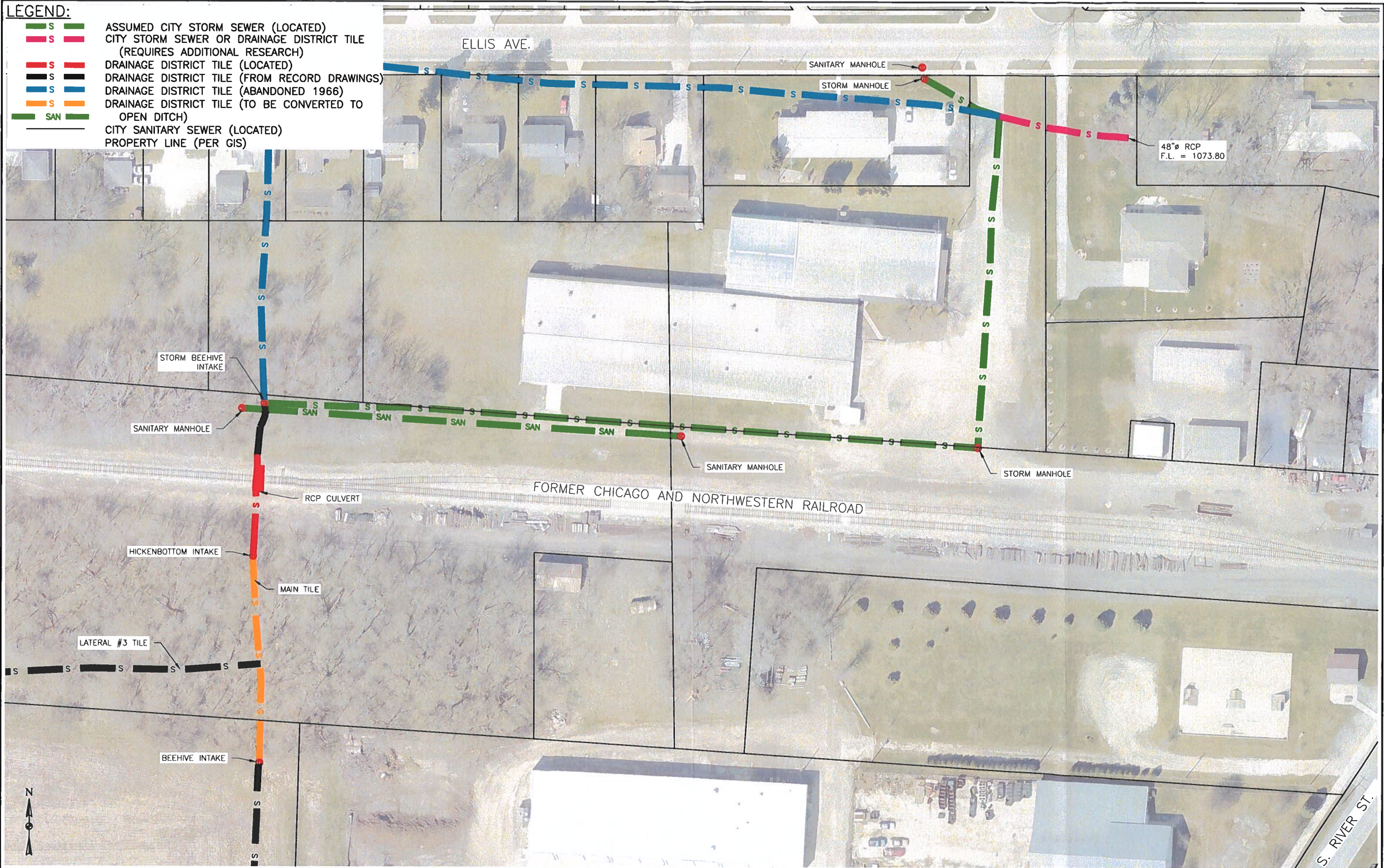
REPAIR METHOD	DISTRICT CONSTRUCTION COST	RAILROAD RIGHT OF WAY CONSTRUCTION COST
Full Tree Removal and Open Ditch Installation	\$183,712.50	\$179,745.00

It should be noted that said costs include materials, labor, and equipment supplied by the contractor to complete the necessary repair and include applicable engineering, construction observation, and project administration fees by Clapsaddle-Garber Associates. However, said costs do not include any interest, legal fees, county administrative fees, crop damages, other damages, previous repairs, engineering fees to date, wetland mitigation fees, right of way acquisition, or reclassification fees (if applicable). As always, all costs shown are opinions of Clapsaddle-Garber Associates based on previous lettings on other projects. Said costs are just a guideline and are not a guarantee of actual costs.

- 4.0 RECOMMENDATIONS – There is a definite need to perform one of the repairs from the updated original report or this updated supplement. The repair would remove the identified current and future restrictions and impediments to the Main tile and extend the serviceable lifespan of the same. Therefore, it is recommended that the Hardin County Board of Supervisors, acting as District Trustees, should take action to accomplish the following:
- Approve the Updated Supplement to Engineer's Report as prepared by Clapsaddle-Garber Associates.
 - Hold the required hearing on the proposed repairs.
 - Adopt one of the recommendations of the Updated Original Report or Updated Supplement to Engineer's Report.
 - Direct Clapsaddle-Garber Associates to prepare plans and specifications for the proposed repair.
 - Consult legal counsel to properly notify the railroad to proceed with their construction per Iowa Code 468.109 and 468.110.
 - Notify the railroad to proceed with their construction per Iowa Code 468.109 and 468.110.
 - Direct Clapsaddle-Garber Associates to proceed with receiving bids from interested contractors for necessary portions.
 - Award contract to the lowest responsible contractor.

LEGEND:

- S— ASSUMED CITY STORM SEWER (LOCATED)
- S— CITY STORM SEWER OR DRAINAGE DISTRICT TILE (REQUIRES ADDITIONAL RESEARCH)
- S— DRAINAGE DISTRICT TILE (LOCATED)
- S— DRAINAGE DISTRICT TILE (FROM RECORD DRAWINGS)
- S— DRAINAGE DISTRICT TILE (ABANDONED 1966)
- S— DRAINAGE DISTRICT TILE (TO BE CONVERTED TO OPEN DITCH)
- SAN— CITY SANITARY SEWER (LOCATED)
- PROPERTY LINE (PER GIS)



J:\6789.3-DD\Drawings\6789.3_ENGINEER_REPORT_OPEN_DITCH.dwg - Plan - 01-23-20 - 1:40pm - ZJS443



NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE



Clayco-Clayco Associates, Inc.
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DESIGNED: ZJS DATE: 2019.11.04
DRAWN: ZJS DATE: 2019.11.04
CHECKED: LOG DATE: 2019.11.04
APPROVED: LOG DATE: 2019.11.04

DRAINAGE DISTRICT #86

HARDIN, IOWA

DETAILED REPAIR MAP

PROJECT NO.
6789.3
SHEET NO.
1



Updated Engineer's Opinion of Probable Construction Cost
Project: Main Tile Repair for D.D. #86
 Location: Section 13, T89N, R21W Hardin County, Iowa

By: Z.J.S.
 Date: 1/23/2020
 Checked By: L.O.G.
 Date: 1/27/2020
 Updated By: L.O.G.
 Date: 1/17/2025

FULL TREE REMOVAL AND OPEN DITCH INSTALLATION	ITEM #	DESCRIPTION	Unit Cost	Units	Quantity	Units	Total Cost
	DISTRICT CONSTRUCTION COSTS						
	201	OPEN DITCH CONSTRUCTION	\$ 150.00	LF	80	LF	\$ 12,000.00
	202	MAIN TILE OUTLET WITH HEADWALL	\$ 40,000.00	EA	1	EA	\$ 40,000.00
	203	PRIVATE TILE OUTLET	\$ 1,500.00	EA	2	EA	\$ 3,000.00
	204	FLARED END SECTIONS	\$ 500.00	EA	2	EA	\$ 1,000.00
	205	REVETMENT	\$ 60.00	TN	200	TN	\$ 12,000.00
	206	TILE REMOVAL	\$ 10.00	LF	80	LF	\$ 800.00
	207	INTAKE REMOVAL	\$ 1,000.00	EA	1	EA	\$ 1,000.00
	208	TREE REMOVAL (FOR 100' AT REPLACEMENT)	\$ 5,000.00	LS	1	LS	\$ 5,000.00
	209	SEEDING	\$ 5,000.00	LS	1	LS	\$ 5,000.00
	210	TILE LOCATE (FROM DAGO LAKE TO START OF REPLACEMENT)	\$ 8,000.00	LS	1	LS	\$ 8,000.00
	211	TREE REMOVAL (FROM DAGO LAKE TO START OF REPLACEMENT)	\$ 40,000.00	LS	1	LS	\$ 40,000.00
				DISTRICT CONSTRUCTION SUBTOTAL		\$ 127,800.00	
				Contingency (15%)		\$ 19,170.00	
				DISTRICT CONSTRUCTION TOTAL		\$ 146,970.00	
				Engr. & Const. Observation (25%)		\$ 36,742.50	
				DISTRICT TOTAL COST		\$ 183,712.50	
	INSIDE RAILROAD RIGHT OF WAY CONSTRUCTION COSTS						
	RR1	OPEN DITCH CONSTRUCTION	\$ 150.00	LF	180	LF	\$ 27,000.00
	RR2	MAIN TILE INTLET WITH HEADWALL	\$ 40,000.00	EA	1	EA	\$ 40,000.00
	RR3	LATERAL 3 OUTLET	\$ 1,500.00	EA	1	EA	\$ 1,500.00
	RR4	FLARED END SECTIONS	\$ 500.00	EA	2	EA	\$ 1,000.00
	RR5	REVETMENT	\$ 60.00	TN	200	TN	\$ 12,000.00
	RR6	TILE REMOVAL	\$ 10.00	LF	180	LF	\$ 1,800.00
	RR7	INTAKE REMOVAL	\$ 1,000.00	EA	1	EA	\$ 1,000.00
	RR8	SEEDING	\$ 12,000.00	LS	1	LS	\$ 12,000.00
	RR9	TREE REMOVAL (FOR 100' AT REPLACEMENT)	\$ 60,000.00	LS	1	LS	\$ 60,000.00
				RAILROAD CONSTRUCTION SUBTOTAL		\$ 156,300.00	
				Contingency (15%)		\$ 23,445.00	
				RAILROAD CONSTRUCTION TOTAL		\$ 179,745.00	

Note: Per Iowa Code 468.111, railroad crossings (highlighted pink) are not typically a district expense at locations agreed to by the railroad or at the location of natural waterways.