

E s t i m a t e   o f   D i t c h .   N o .   4 8

and its Branches by the

Petitioned Route.

J.   E.   H i l l .

Civil Engineer.

Estimate of Preliminary expenses

for

Ditch No. 48

County of Anoka.

Fees in the Auditor's Office,	\$ 75.00
" for Printing, notices,	30.00
a " Sheriff for posting notices etc.	40.00
" " Register of Deeds Office,	5.00
County Commissioner Meetings and hearings	100.00
Survey	125.00
Estimates and reports,	75.00
Inspections,	75.00
Viewers,	<u>50.00</u>
Total,	\$ 575.00

Estiamte of Ditch No. 48.

Sheet No.	No. Cu. Yds	Cost of Excavation.	Prelininary Cost.	Total Cost
Sheet No. 1.	2714.64	\$ 271.46	\$ 97.09	\$ 368.56
Sheet No. 2.	3070.73	307.04	97.09	404.13
Sheet No. 3	3807.93	556.81	44.71	601.52
Sheet No. 4.	2520.46	320.80	52.38	373.18
Sheet No. 5.	3349.98	502.45	81.30	583.75
Sheet No. 6.	<u>604.30</u>	<u>90.64</u>	<u>20.44</u>	<u>111.08</u>
	16068.09	\$ 2049.20	\$ 393.01	\$ 2442.22

Branch No. 1.

Sheet No. 1.	1025.69	102.57	81.76	184.33
Sheet No. 2.	<u>140.30</u>	<u>14.03</u>	<u>15.07</u>	<u>29.10</u>
	1165.99	116.60	96.83	\$ 213.43

Branch No. 2.

Sheet No. 1.	253.03	25.31	15.74	41.05
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Branch No. 3.

Sheet No. 1.	<u>1290.62</u>	<u>129.06</u>	<u>71.54</u>	<u>200.62</u>
Grand Totals.	18,777.68	\$ 2320.17	\$ 577.12	\$2897.32

EXHIBIT 2.

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# Engineer's Report

IN

Ditch Proceedings.

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## EXHIBIT 2 OF ENGINEER'S REPORT IN DITCH PROCEEDINGS.

Showing Estimated Depth of Cut, Width, No. of Cubic Yards Removed and Cost of Same, in Main Ditch No. 48

SECTION	(1) DEPTH OF CUT	(2) WIDTH OF CUT AT BOTTOM	(3) WIDTH OF CUT AT TOP	(4) NO. OF CUBIC YARDS TO BE REMOVED	(5) Estimated Cost Per Cubic Yards		(6) Character of Other Expenses, Including Preliminary Expenses And Expense of Inspecting Work Until Completed With Total Per Section		(7) Total Estimated Cost per Section		
					\$	CTS.	\$	CTS.	\$	CTS.	
Between Stake No. 0	4.2	3'	11.4								
and Stake No. 1	4.3		11.6	114.14		10	11.41	5	11	16	52
Between Stake No. 2	4.3		11.6	116.27			11.602	5	11	16	73
and Stake No. 3	4.5		12.0	120.60			12.06	5	11	17	17
Between Stake No. 4	4.6		12.2	127.25			12.72	5	11	17	83
and Stake No. 5	4.5		12.0	127.25			12.73	5	11	17	84
Between Stake No. 6	4.7		12.4	129.50			12.95	5	11	18	06
and Stake No. 7	4.8		12.6	136.35			13.63	5	11	18	74
Between Stake No. 8	5.0		13.0	143.38			14.34	5	11	19	45
and Stake No. 9	5.2		13.4	153.01			15.30	5	11	20	41
Between Stake No. 10	4.6		12.2	143.38			14.34	5	11	19	45
and Stake No. 11	4.5		12.0	127.25			12.72	5	11	17	84
Between Stake No. 12	4.6		12.2	127.25			12.73	5	11	17	84
and Stake No. 13	4.7		12.4	131.77			13.18	5	11	18	29
Between Stake No. 14	4.7		12.4	134.04			13.40	5	11	18	51
and Stake No. 15	5.0		13.0	141.02			14.10	5	11	19	21
Between Stake No. 16	5.1		13.2	150.59			15.06	5	11	20	17
and Stake No. 17	6.3		15.6	183.67			18.37	5	11	23	48
Between Stake No. 18	7.9		18.8	132.58			13.26				
and Stake No. 19	5.8		14.6	102.18			10.22	5	11	28	59
Between Stake No. 19	5.2		13.4	173.16			17.32	5	11	28	43
				2714.64			2714.6				

Total Estimated Cost of Whole Work, \$ 97.09 369.56 cts.

## EXHIBIT 2 OF ENGINEER'S REPORT IN DITCH PROCEEDINGS.

Showing Estimated Depth of Cut, Width, No. of Cubic Yards Removed and Cost of Same, in.....Ditch No.....

SECTION	(1) DEPTH OF CUT	(2) WIDTH OF CUT AT BOTTOM	(3) WIDTH OF CUT AT TOP	(4) NO. OF CUBIC YARDS TO BE REMOVED	(5) Estimated Cost Per Cubic Yards		(6) Character of Other Expenses, Including Preliminary Expenses And Expense of Inspecting Work Until Completed With Total Per Section		(7) Total Estimated Cost per Section	
					\$	CTS.	\$	CTS.	\$	CTS.
Between Stake No. 20 and Stake No. 21	5.3	3.0'	13.6	160.04	10	16.00	5	11	21	11
Between Stake No. 21 and Stake No. 22	5.9		14.8	178.38	10	17.84	5	11	27	95
Between Stake No. 22 and Stake No. 23	6.2		15.4	8.00	10	.80				
Between Stake No. 23 and Stake No. 24	5.8		14.6	192.00	10	19.20	5	11	25	11
Between Stake No. 24 and Stake No. 25	5.2		13.4	173.16	10	17.31	5	11	27	42
Between Stake No. 25 and Stake No. 26	5.1		13.2	155.50	10	15.55	5	11	20	66
Between Stake No. 26 and Stake No. 27	5.1		13.2	153.01	10	15.30	5	11	20	41
Between Stake No. 27 and Stake No. 28	5.2		13.4	155.50	10	15.55	5	11	20	66
Between Stake No. 28 and Stake No. 29	5.2		13.4	157.94	10	15.79	5	11	20	90
Between Stake No. 29 and Stake No. 30	5.5		14.0	165.40	10	16.54	5	11	21	65
Between Stake No. 30 and Stake No. 31	5.2		13.4	165.40	10	16.54	5	11	21	65
Between Stake No. 31 and Stake No. 32	5.4		13.8	162.94	10	16.29	5	11	21	40
Between Stake No. 32 and Stake No. 33	5.2		13.4	165.40	10	16.54	5	11	21	65
Between Stake No. 33 and Stake No. 34	5.2		13.4	157.94	10	15.79	5	11	20	90
Between Stake No. 34 and Stake No. 35	5.1		13.2	155.50	10	15.55	5	11	20	66
Between Stake No. 35 and Stake No. 36	5.0		13.0	150.42	10	15.04	5	11	20	15
Between Stake No. 36 and Stake No. 37	5.1		13.2	150.42	10	15.04	5	11	20	15
Between Stake No. 37 and Stake No. 38	5.0		13.0	150.42	10	15.04	5	11	20	15
Between Stake No. 38 and Stake No. 39	5.1		13.2	150.42	10	15.04	5	11	20	15
Between Stake No. 39 and Stake No. 40	5.5		14.0	162.94	10	16.29	5	11	21	40

30707.3

Total Estimated Cost of Whole Work, \$ 87.09 404.13 ct

## EXHIBIT 2 OF ENGINEER'S REPORT IN DITCH PROCEEDINGS.

Showing Estimated Depth of Cut, Width, No. of Cubic Yards Removed and Cost of Same, in.....Ditch No.....

SECTION	(1)	(2)	(3)	(4)	(5)		(6)		(7)		
	DEPTH OF CUT	WIDTH OF CUT AT BOTTOM	WIDTH OF CUT AT TOP	NO. OF CUBIC YARDS TO BE REMOVED	Estimated Cost Per Cubic Yards		Character of Other Expenses, Including Preliminary Expenses And Expense of Inspecting Work Until Completed With Total Per Section		Total Estimated Cost per Section		
					\$	CTS.		\$	CTS.	\$	CTS.
Between Stake No. 38 and Stake No. 39	4.7	3	12.4	15301	10		29 107 1530	5	11	20	41
Between Stake No. 40 and Stake No. —	4.75	—	12.5	13450	10		1345	5	11	18	56
Between Stake No. 70+59 and Stake No. 71	6.16	4	82.48	126.89	10		319.82 Sand				
Between Stake No. +50 and Stake No. +55	6.91		24.73	84.07	10		19.03	5	11	24	14
Between Stake No. +75 and Stake No. 72	8.85		30.65	116.37	10		25.67				
Between Stake No. +25 and Stake No. +60	6.33		22.99	83.00	10		3.61				
Between Stake No. 73 and Stake No. +50	7.74		27.22	152.20	10		17.46				
Between Stake No. 74 and Stake No. +30	7.80		27.40	247.60	10		17.16	5	11	69	01
Between Stake No. 75 and Stake No. +50	10.65		35.95	443.31	10		12.45				
Between Stake No. 76 and Stake No. +75	11.41		38.23	439.40	10		16.68				
				691.20	10		22.83	5	11	57	07
				3520.42	10		37.05				
					10		37.24	5	11	79	30
					10		20.90				
					10		66.49	5	11	92	50
					10		62.00				
					10		65.91	5	11	133	02
					10		103.68	3	83	107	51

3520.42  
 69 + 3  
 Total Estimated Cost of Whole Work, \$ 528.06 34.49 562.55 <sup>OK</sup>





## EXHIBIT 2 OF ENGINEER'S REPORT IN DITCH PROCEEDINGS.

Showing Estimated Depth of Cut, Width, No. of Cubic Yards Removed and Cost of Same, in \_\_\_\_\_ Ditch No. \_\_\_\_\_

SECTION	(1)	(2)	(3)	(4)	(5)		(6)		(7)		
	DEPTH OF CUT	WIDTH OF CUT AT BOTTOM	WIDTH OF CUT AT TOP	NO. OF CUBIC YARDS TO BE REMOVED	Estimated Cost Per Cubic Yards		Character of Other Expenses, Including Preliminary Expenses And Expense of Inspecting Work Until Completed With Total Per Section		Total Estimated Cost per Section		
					\$	CTS.		\$	CTS.	\$	CTS.
<i>G.N. Right of Way</i>											
<i>88+9-edge</i>											
Between Stake No.	89	5.4	14.8	177.21	15		2658	4	65	31	83
and Stake No.	90	5.8	15.0	201.60	15		3024	5	11	35	35
Between Stake No.	91	5.9	15.8	213.12	15		3196	5	11	37	07
and Stake No.	92	6.0	16.0	219.04	15		3285	5	11	37	96
Between Stake No.	93	6.2	16.4	228.59	15		3429	5	11	39	40
and Stake No.	94	6.3	16.6	231.62	15		3474	5	11	39	85
Between Stake No.	95	6.5	17.0	248.13	15		3722	5	11	42	33
and Stake No.	96	8.8	21.6	334.55	15		5018	5	11	55	29
Between Stake No.	97	6.8	17.6	344.25	15		5164	5	11	56	74
and Stake No.	+50	5.0	14.0	108.17	15		1622				
Between Stake No.	98	6.0	16.0	96.76	15		1451	5	11	35	84
and Stake No.	99	4.9	13.8	190.76	15		2862	5	11	33	73
Between Stake No.	99+50	2.8	9.6	55.98	15		839				
and Stake No.	99+50	8.8	21.6								
Between Stake No.	100	6.5	17.0	167.34	15		2510				
and Stake No.	100	5.5	15.0					5	11	38	60
Between Stake No.	101	4.1	12.2	156.48	15		2347	5	11	28	58
and Stake No.	102	3.9	11.8	118.54	15		1778	5	11	22	89
Between Stake No.	103	4.1	12.2	118.54	15		1778	5	11	22	89
and Stake No.	104	4.8	13.6	139.30	15		2089	5	11	26	00

3349.98

Total Estimated Cost of Whole Work, \$ 50225 81.30 583.75

## EXHIBIT 2 OF ENGINEER'S REPORT IN DITCH PROCEEDINGS.

Showing Estimated Depth of Cut, Width, No. of Cubic Yards Removed and Cost of Same, in.....Ditch No.....

SECTION	(1) DEPTH OF CUT	(2) WIDTH OF CUT AT BOTTOM	(3) WIDTH OF CUT AT TOP	(4) NO. OF CUBIC YARDS TO BE REMOVED	(5) Estimated Cost Per Cubic Yards		(6) Character of Other Expenses, Including Preliminary Expenses And Expense of Inspecting Work Until Completed With Total Per Section		(7) Total Estimated Cost per Section	
					\$	CTS.	\$	CTS.	\$	CTS.
Between Stake No. 105 and Stake No. 106	5.2	4	14.4	166.67	15	25.00	5	11	30	11
Between Stake No. 107 and Stake No. 107+110	5.5		15.0	185.27	15	27.79	5	11	32	90
Between Stake No. 107 and Stake No. 107+110	5.1		14.2	187.55	15	27.38	5	11	32	49
Between Stake No. 107+110 and Stake No. 107+110	5.2		14.4	69.81	15	10.47	5	11	15	58
Between Stake No. 107+110 and Stake No. 107+110				604.30		90.64	2	04	111	08
Between Stake No. 107+110 and Stake No. 107+110				16,068.04		2049.16	393	01	2442	20
Between Stake No. 107+110 and Stake No. 107+110				1165.99		116.60	96	83	213	43
Between Stake No. 107+110 and Stake No. 107+110				253.03		25.31	15	74	41	05
Between Stake No. 107+110 and Stake No. 107+110				1290.62		129.06	71	54	200	62
Between Stake No. 107+110 and Stake No. 107+110				18,777.68		2320.13	577	12	2897	30

Total Estimated Cost of Whole Work, \$.....

Branch No. 1

## EXHIBIT 2 OF ENGINEER'S REPORT IN DITCH PROCEEDINGS.

Showing Estimated Depth of Cut, Width, No. of Cubic Yards Removed and Cost of Same, in Branch 1 Ditch No. 48

SECTION	(1)	(2)	(3)	(4)	(5)		(6)		(7)		
	DEPTH OF CUT	WIDTH OF CUT AT BOTTOM	WIDTH OF CUT AT TOP	NO. OF CUBIC YARDS TO BE REMOVED	Estimated Cost Per Cubic Yards		Character of Other Expenses, Including Preliminary Expenses And Expense of Inspecting Work Until Completed With Total Per Section		Total Estimated Cost per Section		
					\$	CTS.		\$	CTS.	\$	CTS.
Between Stake No. 0 and Stake No. 1	2.03	2	6.03								
Between Stake No. 2 and Stake No. 3	1.99	2	5.9	29.65	10	2.96	5.11	8	07		
Between Stake No. 4 and Stake No. 5	2.65		7.3	25.33	10	2.53	5.11	7	64		
Between Stake No. 6 and Stake No. 7	3.10		8.2	51.74	10	5.17	5.11	10	28		
Between Stake No. 8 and Stake No. 9	2.75		7.5	52.65	10	5.26	5.11	10	37		
Between Stake No. 10 and Stake No. 11	2.79		7.5	47.40	10	4.74	5.11	9	85		
Between Stake No. 12 and Stake No. 13	2.65		7.3	47.10	10	4.71	5.11	9	82		
Between Stake No. 14 and Stake No. 15	3.18		8.4	67.98	10	6.80	5.11	11	91		
Between Stake No. 16 and Stake No. 17	3.33		8.7	64.10	10	6.41	5.11	11	52		
Between Stake No. 18 and Stake No. 19	2.88		7.7	58.55	10	5.86	5.11	10	97		
Between Stake No. 20 and Stake No. 21	2.03		6.1	40.60	10	4.06	5.11	9	17		
Between Stake No. 22 and Stake No. 23	2.85		7.7	24.36	10	2.44					
Between Stake No. 24 and Stake No. 25	3.38		8.7	23.42	10	2.34	5.11	9	89		
Between Stake No. 26 and Stake No. 27	4.34		15.02	111.11	10	11.11	5.11	16	22		
Between Stake No. 28 and Stake No. 29	4.72		16.16	92.88	10	9.29					
Between Stake No. 30 and Stake No. 31	4.39	areas of old ditch subtracted 2.1	15.17	76.82	10	7.68	5.11	22	08		
Between Stake No. 32 and Stake No. 33	3.54	12.1	9.1	117.40	10	11.74	5.11	16	86		
Between Stake No. 34 and Stake No. 35	3.59	13.83	9.2	47.80	10	4.78	5.11	9	89		
Between Stake No. 36 and Stake No. 37	3.64	11.5	9.3	46.80	10	4.68	5.11	9	79		
and Stake No.				1045.69			102.57	81	76		

Total Estimated Cost of Whole Work, \$ 184.33

## EXHIBIT 2 OF ENGINEER'S REPORT IN DITCH PROCEEDINGS.

Showing Estimated Depth of Cut, Width, No. of Cubic Yards Removed and Cost of Same, in.....Ditch No.....

SECTION	(1)	(2)	(3)	(4)	(5)		(6)		(7)	
	DEPTH OF CUT	WIDTH OF CUT AT BOTTOM	WIDTH OF CUT AT TOP	NO. OF CUBIC YARDS TO BE REMOVED	Estimated Cost Per Cubic Yards		Character of Other Expenses, Including Preliminary Expenses And Expense of Inspecting Work Until Completed With Total Per Section		Total Estimated Cost per Section	
					\$	CTS.	\$	CTS.	\$	CTS.
	<i>Branch No 1 - continued</i>									
	16		<i>Butford.</i>	1025.69			1025.7	81.76	184	33
Between Stake No.	17.	3.80	9.6	45.90		10	4.59	511	9	70
and Stake No.	18	3.75	9.5	47.20		10	4.72	511	9	83
Between Stake No.	+95	3.90	9.8	47.20		10	4.72	485	9	57
and Stake No.				1165.99			1162.60	9683	213	43
Between Stake No.										
and Stake No.	<i>Branch No 2</i>									
Between Stake No.	0	2.80	7.60							
and Stake No.	+16	2.56	7.10	7.29		10	7.23			
Between Stake No.	1	2.77	7.54	38.30		10	3.83	511	19	67
and Stake No.	2	3.84	9.44	64.76		10	6.48	511	11	59
Between Stake No.	3	3.20	8.40	74.70		10	7.47	511	12	58
and Stake No.	+08	3.57	9.14	67.98		10	6.80	41	7	21
Between Stake No.				453.03			45.31	15.74	41	05
and Stake No.										
Between Stake No.										
and Stake No.										
Between Stake No.										
and Stake No.										
Between Stake No.										
and Stake No.										

Total Estimated Cost of Whole Work, \$.....

## EXHIBIT 2 OF ENGINEER'S REPORT IN DITCH PROCEEDINGS.

Showing Estimated Depth of Cut, Width, No. of Cubic Yards Removed and Cost of Same, in Branch 3 Ditch No. 48

SECTION	(1) DEPTH OF CUT	(2) WIDTH OF CUT AT BOTTOM	(3) WIDTH OF CUT AT TOP	(4) NO. OF CUBIC YARDS TO BE REMOVED	(5) Estimated Cost Per Cubic Yards		(6) Character of Other Expenses, Including Preliminary Expenses And Expense of Inspecting Work Until Completed With Total Per Section				(7) Total Estimated Cost per Section	
					\$	CTS.	\$	CTS.	\$	CTS.		
<i>Branch No. 3</i>												
Between Stake No. 0 and Stake No. 1	2.86	3	8.7	63.36	10	6.34		5 11		11 45		
Between Stake No. 2 and Stake No. 3	3.24	3	9.4	54.10	10	5.41		5 11		10 52		
Between Stake No. 4 and Stake No. 5	3.38		9.8	77.90	10	7.80		5 11		12 91		
Between Stake No. 6 and Stake No. 7	3.62		10.2	84.26	10	8.43		5 11		13 54		
Between Stake No. 8 and Stake No. 9	3.71		10.4	89.90	10	8.99		5 11		14 10		
Between Stake No. 10 and Stake No. 11	3.75		10.5	91.80	10	9.18		5 11		14 29		
Between Stake No. 12 and Stake No. 13	3.84		10.6	95.70	10	9.57		5 11		14 68		
Between Stake No. 14 and Stake No. 15	3.88		10.8	97.40	10	9.74		5 11		14 85		
Between Stake No. 16 and Stake No. 17	3.87		10.7	98.80	10	9.88		5 11		14 99		
Between Stake No. 18 and Stake No. 19	3.86		10.7	97.40	10	9.74		5 11		14 85		
Between Stake No. 20 and Stake No. 21	4.04		11.1	122.90	10	12.29		5 11		17 40		
Between Stake No. 22 and Stake No. 23	4.08		11.2	106.10	10	10.61		5 11		15 72		
Between Stake No. 24 and Stake No. 25	4.02		11.0	105.70	10	10.57		5 11		15 68		
Between Stake No. 26 and Stake No. 27	4.06		11.1	105.30	10	10.53		5 11		15 64		
Between Stake No. 28 and Stake No. 29				1790.64		129.06		71 54	200	62		
Between Stake No. 30 and Stake No. 31				857.1								

Total Estimated Cost of Whole Work, \$.....

Exhibit 2.

Ditch No. 48 Anoka Co.

Engineer's Report.

Filed in the office of the

County Auditor of Anoka County

at 2<sup>00</sup> P. M. this

13<sup>th</sup> day of June

A. D. 1908.



County Auditor.