S. A. R. No. 8

JOB No. 3201

CONTRACTOR PERMANENT RECORD

MINNESOTA HIGHWAY DEPARTMENT

STATE AID HIGHWAY CONSTRUCTION

SHEET No. 1

ESTIMATE No.

BENA-FEDERAL DAM CASS COUNTY

RETURN SHOWING PROGRESS TO 0 to 19 . DIV. M TO M . STA. TO STA. . ENGR.

STATION TO STATION	Clearing Acres	Grubbing Acres	Excavation Cu. Yds. Earth	Excavation Cu. Yds. Loose Rock Solid Rock	GRADING ITEMS Hand Ditch Cu. Yds.	Over Haul Cu. Yds.	Guard Rail Lin. Ft.	Portable Culverts—Lin. Ft. 12 in.	15 in.	18 in.	24 in.	30 in.	36 in.	42 in.	48 in.	SURFACING OR GRAVELING ITEMS Hauling Culverts Ton Miles	Stripping Pits Cu. Yds.	Screen & Load Cu. Yds.	Haul Cu. Yd. Miles		Shaping & Compacting Mn.Hrs. Tm.Hr.
Stationing																					
Semi Tang PI =	PI.		Def. Angle	Distance	Cal Bearing		N Latitudes S.				E Departures W				—	Coordinates			Mag. Bear.	Tang D	L of C.
	291+84.4		43°-49'L																		
				2616.2	S35°-31'W														S36°-30'W		
265+68.2	265+74.0		18°-49'R																	316.5 3°R	627.2
				2955.9	S16°-42'W				2831.2				849.4		22 910.2	+		3455	S18°-30'W		
236+18.1	236+18.9		6°-30'R																	325.4 1°R	650.0
				1914.5	S10°-12'W				1884.2				339.0		20 079.0	+		1194.9	S11°-30'W		
217+04.4	217+22.6		27°-32'L																	Δ 68°-3°L	917.8
				1704.5	S37°-44'W				1348.0				1043.1		18 194.8	+		1533.9	S39°-00'W		
200+18.1	200+28.0		29°-32'R																		
				1175.4	S8°-12'W				1163.4				167.7		16 846.8	+		2577.0	S6°-45'W		
188+52.6	189+02.2		52°-08½'R																		
	d Sta 177+47.4		-100' in drainage																		
				1761.0	S43°-56½'E				1268.0		1222.0				15 683.4	+		2744.7	S44°-45'E		
171+41.2	171+47.8		17°-17½'L																		
				3355.1	S26°-39'E				2998.7		1504.9				14 415.4	+		1522.7			
137+92.7	137+93.2		4°-49'R																		
				3269.7	S31°-28'E				2788.9		1706.8				11 416.7	+		17.8	S30°-38'E		
105+23.3	105+33.1		24°-37'R																		
				1962.6	S56°-05'E				1095.1		1628.7				8 627.8	-		1689.0	S55°-15'E		
85+70.5	89+46.1		93°-18'L																		
				3495.0	S37°-13'W				2783.3				2113.9		7 532.7	-		3317.7	S38°-00'W		
54+51.1	54+53.5		12°-14'R																		
				2024.3	S24°-59'W				1834.9				855.0		4 749.4	-		1203.8	S25°-30'W		
34+29.2	34+80.8		56°-31'L																		
				775.7	S81°-30'W				114.7				767.2		2 914.5	-		348.8	S83°-30'W		
27+05.1	28+30.9		90°-00'R																		
				2830.9	S8°-30'E				2799.8		418.4				2799.8	+		418.4	S7°-00'E		
	0+00																				
Total To Date																					
Previous																					
Present																					
Unit Cost	34+80.8								1383.5				-577.6		-2 914.5	-		348.8			
Present Cost	15+47.7		31°-38'R		S23°-08'W				1531.0		228.8										
					S8°-30'E																

MINNESOTA HIGHWAY DEPARTMENT

STATE AID HIGHWAY CONSTRUCTION

S. A. R. No. _____ JOB No. _____ CONTRACTOR _____

SHEET No. _____ ESTIMATE No. _____ _____ CASS COUNTY

RETURN SHOWING PROGRESS TO _____ 19____. DIV. ____ M ____ TO M ____. STA. ____ TO STA. ____. _____ ENGR.

STATION TO STATION	GRADING ITEMS: Clearing Acres	Grubbing Acres	Excavation Cu. Yds. Earth	Loose Rock	Solid Rock	Hand Ditch Cu. Yds.	Over Haul Cu. Yds.	Guard Rail Lin. Ft.	12 in.	Portable Culverts—Lin. Ft. 15 in.	18 in.	24 in.	30 in.	36 in.	42 in.	48 in.	Hauling Culverts Ton Miles	SURFACING OR GRAVELING ITEMS: Stripping Pits Cu. Yds.	Screen & Load Cu. Yds.	Haul Cu. Yd. Miles			Shaping & Compacting Mn.Hrs, Tm,Hr
Sim Tang P.I.	P.I.		Def Angle	Distance		Cal. Bearing		+N Latitudes	S-	E+ Departures	-W						Coordinates S	+E	-W	Mag. Bear.	Tang.	D	L.&C.
	407+51.3																						
371+32.2	371+43.5		34°-28'R	3589.1		53°-55'E														53°-00'E			
354+99.7	355+00.0		5°-19'R	1643.8		538°-23'E				1288.5	1020.7				32	281.7	+	1498.8		537°-30'E	178°	10°R	344.7
341+60.9	341+84.5		35°-24'L	1339.1		543°-42'E				968.1	925.2				30	993.2	+	478.1		542°-45'E	266°	1°R	581.7
291+46.3	291+84.4		43°-49'L	5038.2		58°-18'E				4985.4	727.3				30	025.1	-	447.1		57°-00'E	365.8	5°L	708.6
265+68.2	265+74.0		18°-49'R	2616.2		535°-31'W				2129.5			1519.9		25	039.7	-	1174.4		536°-30'W	384.2	6°L	730.3
Total To Date															35	773.5	+	1737.9					
Previous																							
Present																							
Unit Cost																							
Present Cost																							

S. A. R. No. _____

JOB No. _____

CONTRACTOR _____

MINNESOTA HIGHWAY DEPARTMENT

STATE AID HIGHWAY CONSTRUCTION

SHEET No. _____

ESTIMATE No. _____

_____ CASS COUNTY

RETURN SHOWING PROGRESS TO _____ 19____. DIV. ____ M ____ TO M ____. STA. ____ TO STA. ____. _____ ENGR.

STATION TO STATION	GRADING ITEMS: Clearing Acres	Grubbing Acres	Excavation Cu. Yds. Earth	Loose Rock	Solid Rock	Hand Ditch Cu. Yds.	Over Haul Cu. Yds.	Guard Rail Lin. Ft. 12 in.	Portable Culverts—Lin. Ft. 15 in.	18 in.	24 in.	30 in.	36 in.	42 in.	48 in.	Hauling Culverts Ton Miles	SURFACING OR GRAVELING ITEMS: Stripping Pits Cu. Yds.	Screen & Load Cu. Yds.	Haul Cu. Yd. Miles				Shaping & Compacting Mn.Hrs, Tm,Hr
									S		E		W		N		+S	-W					
Ec. Sta 76	Sta PI		Distance	Tangents	A		Cal Bear	+ Latitude -			+ Departure -				- Coordinates								
0+00	28+30.9		2830.9		90°-00' R.		S8°-30' E		2799.8		418.5				- 2799.8		+ 418.5						
29+93.0	34+80.8		775.7	287.9	56°-31' L		S81°-30' W		114.7				767.2		- 2914.5		- 348.7						
37+37.6	54+53.5		2024.3	308.4	12°-14' R		S24°-59' W		1835.0				855.0		- 4749.5		- 1203.7						
57+58.1	89+46.1		3495.0	307.0	93°-18' L		S37°-13' W		2783.3				2113.9		- 7532.8		- 3317.6						
93+80.3	105+33.1		1962.6	809.8	24°-37' R		S56°-05' E		1095.1		1628.7				- 8627.9		- 1688.9						
108+35.9	137+93.0		3269.7	312.6	9°-49' R		S31°-28' E		2789.1		1706.8				- 11417.0		+ 17.9						
140+33.7	171+47.8		3355.1	291.0	17°-17½' L		S26°-39' E		2998.6		1505.1				- 14415.6		+ 1523.0						
175+76.8	187+54.2		1613	435.6	50°-21' R		S43°-56½' E		1161.5		1119.3				- 15577.1		+ 2642.3						
187+54.2	199+56.3		1202.1		31°-08' R		S6°-24½' W		1194.6				134.2		- 16771.7		+ 2508.1						
199+56.3	1 Pt		1720.0		28°-06½' L		S37°-32½' W		1363.8				1048.1		- 18135.5		+ 1460.0						
1	2		1914.8		11°-42' L		S9°-26' W		1888.9				313.8		- 20024.4		+ 1146.2						
2	3		3085.0		17°-43' R		S21°-08' W		2877.5				1112.3		- 22901.9		+ 33.9						
3	4		2914.4		93°-47' L		S38°-51' W		1880.3				1514.5		- 24782.2		- 1480.6						
4	5		5025.0		35°-28' L		S4°-56' E		5006.4		432.2				- 29788.6		- 1048.4						
5	6		1480.0		6°-35' R		S46°-24' E		1127.1		959.2				- 30915.7		- 89.2						
6	7		1563.5		32°-52' R		S33°-49' E		1299.3		870.4				- 32215.0		+ 781.2						
7	8		3077.6				S00°-57' E		3077.2		51.0				- 35292.2		+ 832.2						
Total To Date																							
Previous																							
Present																							
Unit Cost																							
Present Cost																							

S. A. R. No. 8

JOB No. 5201

CONTRACTOR PERMANENT RECORD

RETURN SHOWING PROGRESS TO 0 to 19___. DIV.___ M___ TO M___. STA.___ TO STA.___.

MINNESOTA HIGHWAY DEPARTMENT

STATE AID HIGHWAY CONSTRUCTION

SHEET No. 1

ESTIMATE No.___

BENA-FEDERAL DAM CASS COUNTY

___ENGR.

STATION TO STATION	Clearing Acres	Grubbing Acres	Excavation Cu. Yds. Earth	Excavation Cu. Yds. Loose Rock Solid Rock	Hand Ditch Cu. Yds.	Over Haul Cu. Yds.	Guard Rail Lin. Ft.	Portable Culverts—Lin. Ft. 12 in.	15 in.	18 in.	24 in.	30 in.	36 in.	42 in.	48 in.	Hauling Culverts Ton Miles	Stripping Pits Cu. Yds.	Screen & Load Cu. Yds.	Haul Cu. Yd. Miles		Shaping & Compacting Mn.Hrs. Tm.Hr
Stationing																					
Semi Tang PI =	PI.		Def. Angle	Distance	Cal Bearing		N Latitudes				E Departures			W	—	Coordinates			Mag. Bear.	Tang D	L of C.
	291+84.4		43°-49'L																		
				2616.2	S35°-31'W														S36°-30'W		
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				2955.9	S16°-42'W				2831.2				849.4		22 910.2		+	3455	S18°-30'W		
236+18.1	236+18.9		6°-30R																	325.4 1°R	650.0
				1914.5	S10°-12'W				1884.2				339.0		20 079.0		+	1194.9	S11°-30'W		
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				1704.5	S37°-44'W				1348.0				1043.1		18 194.8		+	1533.9	S39°-00'W		
200+18.1	200+28.0		29°-32R																		
				1175.4	S8°-12'W				1163.4				167.7		16 846.8		+	2577.0	S6°-45'W		
188+52.6	189+02.2		52°-08½'R																		
			Sta 177 left 4 ft. — 100' in drainage	761.0	S43°-56½'E				1268.0		1222.0				15 683.4		+	2744.7	S44°-45'E		
171+41.2	171+47.8		17°-17½'L																		
				3355.1	S26°-39'E				2998.7		1504.9				14 415.4		+	1522.7			
137+92.7	137+93.2		4°-49'R																		
				3269.7	S31°-28'E				2788.9		1706.8				11 416.7		+	17.8	S30°-30'E		
105+23.3	105+33.1		24°-37'R																		
				1962.6	S56°-05'E				1095.1		1628.7				8 627.8		-	1689.0	S55°-15'E		
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				3495.0	S37°-13'W				2783.3				2113.9		7 532.7		-	3317.7	S38°-00'W		
54+51.1	54+53.5		12°-14'R																		
				2024.3	S24°-59'W				1834.9				855.0		4 749.4		-	1203.8	S25°-30'W		
34+29.2	34+80.8		56°-31'L																		
				775.7	S81°-30'W				114.7				767.2		2 914.5		-	348.8	S83°-30'W		
27+05.1	28+30.9		90°-00'R																		
				2830.9	S8°-30'E				2799.8		418.4				2799.8		+	418.4	S7°-00'E		
	0+00																				
Total To Date																					
Previous																					
Present																					
Unit Cost	34+80.8				S23°-08'W				1383.5				-577.6		-2 914.5		-	348.8			
Present Cost	15+47.7		31°-38'R		S8°-30'E				1531.0		228.8										
	0+00																				