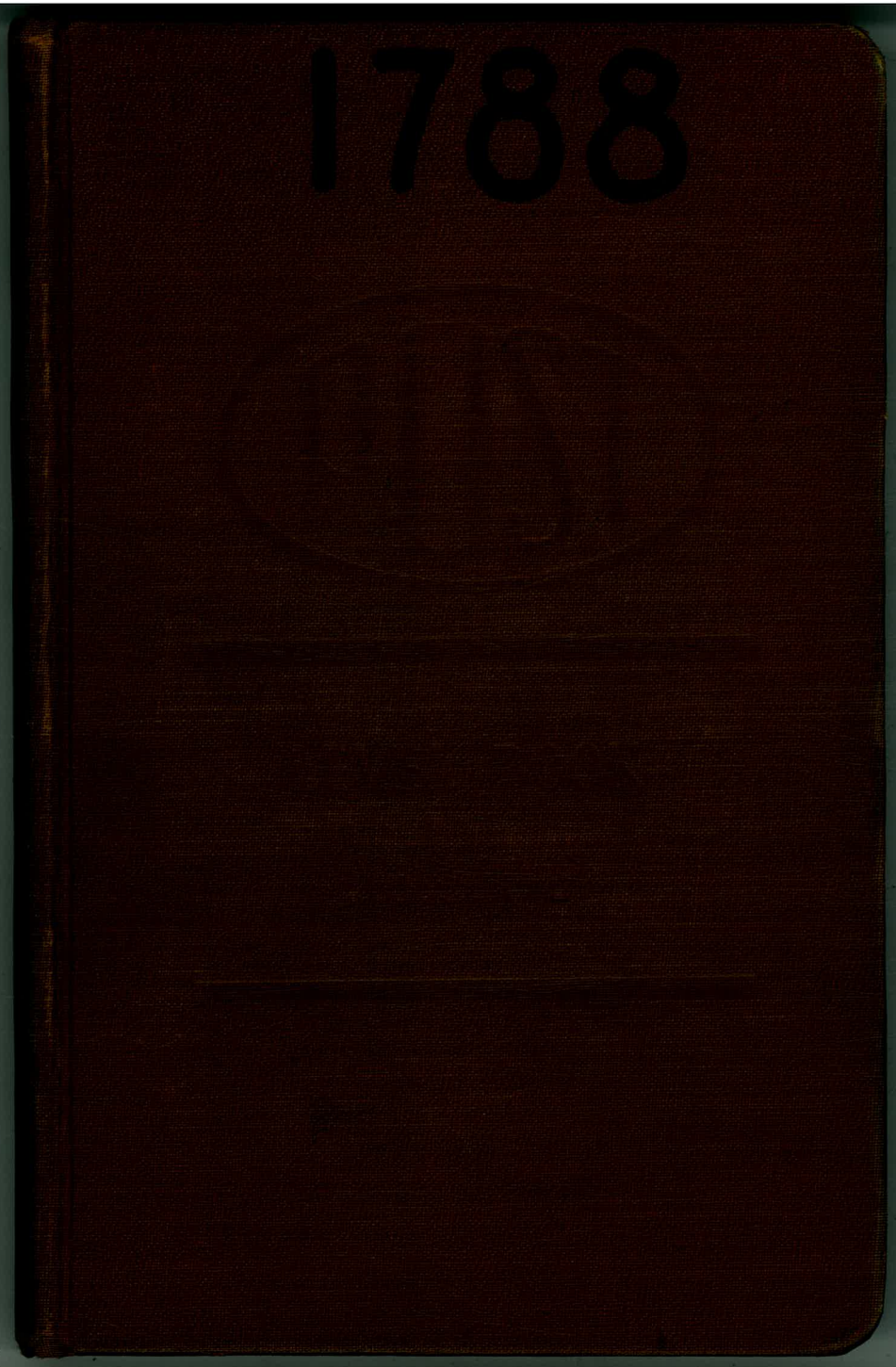
1788

MADE IN U.S.A.

Our Leather Bound Engineers Note Books are carried in the following rulings:

No. 380 LEVEL BOOK.	Left and Right Hand Page the same as Left Hand Page of this Book.
No. 382 FIELD BOOK.	Left Hand Page as in this Book, Right Hand Page 4x4 to the inch, Center Line Red.
No. 384 MINING TRANSIT BOOK.	Left Hand Page as in this Book, Right Hand Page 8x8 to the inch, Center Line Red.
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THE FREDERICK POST CO.

ENGINEERING and DRAFTING SUPPLIES

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SISSON - R-2407.

Levels Mission Valley Trunk Sewer #3

South Half of Pacific Hwy to City Line

Ground

BM	11.57	16.27		4.70	Mar 65.79 Sta 35+19.84 From Ground on R.P. Invert -8.8
35+16.28	= Existing Man Hole		12.39	3.88	
"			12.7	3.6	
35+85	Grade break			3.8	5.1
36+0			12.5	3.8	-5.1
+10	= W½ Jacking		12.4	3.9	-5.1
+17	= Toe Slope		12.3	4.0	-5.1
TP	6.89	20.19	2.97	18.30	
+47			3.0	17.2	-5.0
+59	= W½ Conc Paving		2.96	17.8	
+94	= ℄ Conc Island		1.61	18.58	Top
37+21	= Gutter		2.52	17.67	
"	= Top of Curb		1.88	18.31	
+28			1.8	18.4	
TP	6.93	14.75	11.77	8.42	

Alignment 1786

Grades 9281

W.O. 60181

July 9-47

Sisson McCoy Haddel Williams

1

Cut	Av. Cut	Length	Av. Cy. Ex/100'	Exc. Yds.	Pipe
11.9					
8.9	10.4	158.4		59.7	52.72
8.9	8.9	15.0	137.3	20.6	24" V.C.
	8.95	10.	138.0	13.8	7.28.
9.0				9 tot	24" V.C.

From Sta. 36+10. - 37+70

158' = 36" Casing Jacked.

162" - 24" C.I. Laid.

158' - 36" Casing Grouted.

No Excavation

No Backfill.

Distances from ℄ Exist. M.H To M.H #1

½ Exist. M.H.	2'		
Stub	4'		
24" V.C.	60'		
24" C.I.	162'	M.H #1	40+54.63
24" V.C.	198'	Ex M.H	35+45.28
24" C.I.	81.33		
½ M.H. #1.	2.00		509.35'
	509.33'		

Gravel YDS	Conc. ENCASE	CONC CRADLE	COMP. BACK.	Req. Back. YDS/100	Req. BACK YDS
8.11	None	None.	14.0	95	51.25
1.48	None	None.	2.66	79.5	7.95
					59.20
~~9.59~~	None	None			
~~19.18~~			16.66		
9.59					

			Ground	Exact	Cut	Av. Cut	Length	Av. Cut Ex/100	Excav. Yds	Pipe
		(14.73)								
37+56	Toe of Slope	9.2	5.5							
68					8.9					
+90	Fly Sacking	10.6	4.2	-9.7		8.75	30	135.8	40.5	26' 24" V.C.
38+0		10.7	4.0	-4.6	8.6					
						8.6	50	133.2	66.5	50' 24" V.C.
+50		10.6	4.1	-4.5	8.6					
						8.7	16	12	20.1	16' 24" V.C.
+66		11.6	3.1	-4.5	7.6					
						7.7	34	124.0	41.14	34' 24" V.C.
39+0		11.3	3.4	-4.1	7.8					
						10.5	9	152.74	13.75	9' 24" V.C.
+09		5.9	8.8	-4.7	13.8					
						13.85	10	20	20.6	10' 24" V.C.
+19		4.5	10.2	-4.3	14.5					
						13.3	11	195.0	20.35	11' 24" V.C.
+30		6.9	7.8	-4.3	12.1					
						12.05	20	181.0	36.4	20' 24" V.C.
+50		6.9	7.8	-4.3	12.0					
						12.15	10	182.5	18.25	10' 24" V.C.
+10		6.6	8.1	-4.2	12.3					
						11.6	13	175	22.75	12' 24" V.C.
+73	Fly Sacking	8.0	6.7	-4.2	10.9					1' 24" C.I.
									300.20	198' 24" V.C. 1' 24" C.I.

Gravel Yds.	Conc Encas.	Conc. Cradle	Comp. Backfill	Req. Backfill Yds/100	Req. Backfill Yds.	6" Tcr	Rein. Steel.
	1½ C.V.					Sta 38+50	22#
4.15	Joint 37+70	None	8.0	77.00	23.1	1	Joint 37+70.
7.4	None	"	13.3	75.00	37.5	None	None
2.37	"	"	4.26	68.00	10.88	"	"
4.05	"	"	9.05	62.00	21.08	"	"
1.33	"	"	2.4	101.5	9.09	"	"
1.5	"	"	2.6	148.0	14.8	"	"
1.63	"	"	2.9	140.0	15.4	"	"
2.96	"	"	5.2	122.0	24.4	"	"
1.5	"	"	2.6	144.5	17.45	"	"
1.93	"	"	3.5	116.5	15.14	"	"
29.42			53.81		183.84		

		(14.75)			
39+89			2.1	12.6	
40+0	= ℄ Santa Fe RR.		0.54	(14.21)	Top Rail
+10			2.8	11.9	
BM			2.06	(12.69)	4.5 C+G Disc 53' Above Santa Fe Bridge 12.70
+30	= ℄ Jacking		11.9	2.8	-4.0
TP	6.43	(9.31)	11.87	(2.88)	
40+58.13	Δ		6.1	3.2	-4.0
+74			4.0	5.3	-3.9
41+0			4.2	5.1	-3.9
+50			4.1	5.2	-3.8
42+0			4.9	4.3	-3.7
+50			4.5	4.8	-3.7
43+00					

Cut	Av. Cut	Length	Av C.Y. Ex/100'	Exc. Yds.	Pipe
	Sta. 39+73 To 40+30				
	No Excavation - No Backfill.				
	57' - 36" Casing Jacked.				
	57' - 24" C. I. Laid.				
	57' - 36" Casing Grouted.				
	~~Used 3 sacks for 24" C.I.~~				
6.8					
7.0	25.13	10+2.5 ~~11.0~~	~~25.8~~ ~~27.9~~	23.33	24" C.I.
7.2			27" V.C.		
8.25	18.87	138.5	~~26.13~~ 26.0	16.87	27" V.C.
9.2					
9.15	26'	157.0	39.4	26'	27" V.C.
9.0					
9.0	50'	149.7	74.8	50'	27" V.C.
9.0					
8.55	50'	147.0	71.7	50'	27" V.C.
8.0					
8.25	50'	138.5	69.75	50'	27" V.C.
8.5					
8.55	50'	143.0	~~77.5~~ 71.5	50'	27" V.C.
8.6					
			381.67	242.87	27" V.C.

Gravel Yds.	Conc. Encas.	Conc. Cradle	Comp. Rock	Req. Rock Yds/100'	Req. Rock Yds.	Tee.
			Comp's. Report #1, 11 Mi. + 2300', Sta. 647+50 - Sta. 752+50			
3.66 ✓	None	None		52.4	13.1	
3.01 ✓	"	"		70.5	13.3 ✓	
4.15 ✓	"	"		84.0	21.8 ✓	
8.0 ✓	"	"		82.7	41.3 ✓	
8.0 ✓	"	"		74.4	37.2	
8.0 ✓	"	"		72.7	36.4	
8.0 ✓	"	"		74.4	37.2	1-6" TEE Sta. 13+00
42.82 ✓					200.4	

		(9.81)			
43+0			4.8	5.0	-3.6
+50			5.8	5.5	-3.5
44+0			5.5	5.8	-3.4
+50			5.8	5.5	-3.4
45+0			4.7	4.6	-3.3
TP	4.76	(9.52)	4.55	(4.76)	
+50			4.4	5.1	-3.2
46+0			5.1	4.4	-3.1
+50			4.9	4.6	-3.1
47+0			4.9	4.6	-3.0
+50			4.4	5.1	-2.9
48+0			4.4	5.1	-2.8
48+50					

Cut	Av. Cut	Length	Av. C.Y. Exc/100	Exc. Yds	P. I. D. E.
8.6					
	8.8	50	147.6	73.8	50' - 27' V.C.
9.0					
	9.1	50	151.0	75.5	50' - 27' V.C.
9.2					
	9.0	50	150.3	75.3	50' - 27' V.C.
8.9					
	8.4	50	140.8	70.4	50' - 27' V.C.
7.9					
	8.1	50	136.5	68.25	50' - 27' V.C.
8.3					
	7.85	50	133.5	66.75	48' - 27' V.C.
7.5					
	7.5	50	127.0	64.2	48' - 27' V.C.
7.7					
	7.65	50	129.5	64.75	50' - 27' V.C.
7.6					
	7.8	50	131.8	65.9	50' - 27' V.C.
8.0					
	7.95	50	134.0	67.0	50' - 27' V.C.
7.9					
	7.6	50	128.7	64.25	50' - 27' V.C.
				754.05	516' - 27' V.

	Gravel Yds.	Conc. Encas.	Conc. Cradle	Comp. Backfill	Reg. Back Yds. /100'	Reg. Back Yds.	Tee
43+	8.0	None	None		79.6	39.8	
+5	8.0	"	"		84.0	42.0	
44+	8.0	"	"		83.0	41.5	
+5	8.0	"	"		73.5	36.7	
45+							
TP	8.0	"	"		69.0	34.5	
+5	8.0	"	"		66.2	33.1	
46+0	8.0	"	"		61.8	30.9	
+5	8.0	"	"		62.5	31.3	
47+	8.0	"	"		64.8	32.1	
+5	8.0	"	"		66.8	33.1	1-6" Tee Sta. 48+00
48+							
48+	8.0	"	"		61.7	30.9	
	88.0					386.5	

Sta. 43+00 Back Fill 12.4 c.y. Sta. 43+17 to Sta. 48+00 = 483' @ 40.5 c.y. / 100' = 195.4 c.y.

			(9.52)				Cut	Av. Cut	Length	Ar. C.Y. / 100'	Exc. Y.DS.	PIPE
46	48+50			5.0	4.5	-2.8	7.3					
								7.35	50	125.0	62.5	50'-27" V.C
	49+0			4.8	4.7	-2.7	7.4					
								7.6	50	128.5	64.25	50' 27" V.C
44	+50			4.3	5.2	-2.6	7.8					
								7.45	50	126.5	63.25	50' 27" V.C
	50+0			4.9	4.6	-2.5	7.1					
								7.3	50	124.0	62.0	50' 27" V.C
45	+50			4.5	5.0	-2.5	7.5					
								7.35	50	124.7	62.35	50' 27" V.C
TP	51+0			4.7	4.8	-2.4	7.2					
								7.45	38.42	126.5	48.6	36.42' 27"
	51+38.42			4.1	5.4	-2.3	7.7					286.42'-27"
	51+00											
46+	TP	6.57	(11.99)	4.10	(5.42)			8.2	50	137.7	68.85	50' 27"
	+50			5.5	6.5	-2.2	8.7					
								9.1	50	151.0	75.5	50' 27"
47+	52+0			4.7	7.3	-2.2	9.5				507.30	
								9.55	50	158.0	79.0	50' 27"
48	+50			4.5	7.5	-2.1	9.6					
								9.3	50	154.0	77.0	50' 27"
48+	53+0			5.0	7.0	-2.0	9.0					
								9.23	50	153.5	76.75	50' 27"
49+	53+50						9.5					
											232.4	

	Yds. Graval	Conc. Encas.	Conc. Cradle	Comp. Back.	Req. Back Cy/100'	Req. Back Yds.	TEE
10	8.0 ✓	None	None		58.0	29.0 ✓	
	8.0 ✓	"	"		61.7	30.8 ✓	
12	8.0 ✓	"	"		59.5	29.7 ✓	
	8.0 ✓	"	"		56.2	28.1 ✓	
15	8.0 ✓	"	"		58.0	29.0 ✓	
17	6.14 ✓	"	"		59.5	22.9 ✓	
16	8.0 ✓	"	"		70.5	35.3 ✓	
	8.0 ✓	"	"		84.0	42.0 ✓	
17	62.14 ✓				90.5	45.2 ✓	
					87.2	43.6 ✓	
18					85.5	42.8 ✓	
19						378.4 ✓	

			(11.99)			1.9						
45	53+50			45	7.5	-2.0						
							9.5	9.45	50'	5.6	77.8	50' 27"
	54+0			4.5	7.5	-1.9	9.4				78.75	
								9.8	50'	1.7	80.9	50' 27"
47	+50			3.6	8.4	-1.8	10.2					
								11.1	43'	181.2	78.0	43' 27"
	+98			1.7	10.3	-1.7	12.0				77.9	
49								12.55	7'	203.0	14.1	7' 27"
	55+0	A 17°26'Lt		0.6	11.4	-1.9	13.1				250.9	ST 4 55+02
TP											2.3x.4	TO
	TP	11.80	(23.24)	0.55	(11.44)						483.3	Sta.
						BPS&W Co Bridge 20.00						56.46
	BM			3.22	20.02			16.4	25'	220.5	55.1	
46												144'
	+25				180	-1.7	19.7					24" C.I.
								19.85	40'	264.6	105.8	
	+65				18.1	-1.6	20.0				95.84	
								18.3	35'	244.8	85.68	
47	56+0				157	-1.5	16.6					
								14.9	25'	201.3	50.3	
	+25				11.8	-1.1	13.2					
								12.45	23.42	170.0	39.8	
48	+4842	A 14°10' Rt			103	-1.4	11.7			171.5	40.17	
								12.65	20.58	201.5	41.5	20' - 27" RC
49	56+69						13.6			204.5	41.09	
											369.20	
											3.30	
											365.90	

Taken From 1903

Minus for No Rock Base Sta 56+4842 - 56+69

Sta 55+02 to Sta. 56.46 144' 24" C.I.

Sta 56+69 to Sta 55+02 = 2.17

	Yds Gravel	Conc Encase.	Conc Cradle	Comp Back	Req. Back / 100'	Req. Ba C. Yds.	Tag	Reinf. Steel.
4	Gravel Sta. 52+00 - 55+00 300.0 @ 15.67 / 100. 47.01 C.Y.				88.7	44.3 ✓		
					94.6	47.3 ✓		
					114.0	49.0 ✓		
	None	None	Sta. 55+00 To 56+48.42 Minus 5'0" 144'		135.5	9.5 ✓		None
	"	"		25 30.1		120.5		
16			20.75 C.Y.	40 86.2		215.5		
	"	"		35 68.3		195.0		
17	"	"		25 37.9		151.50		
	"	"		23.42 28.2 250.9		120.6		
18	"	6.4 C.Y.			122.7	25.2 175.3		500 # Sta. 56+50 - 59+05

Sta. 55+00 to Sta. 56+48.42 Minus 5'0" Depth Actual 11'5" Depth Actual

	Sta.	Cut	Invert Grade	Av. Cut	Length	Av. C.Y. / 100'	Exc. Yds.	Pipe
1	56+69	13.6 ✓	-1.3 ✓ to I.G.					
				13.55 ✓ Minus Sta.	31 ✓ for No Rock Base	215.0 ~~216.5~~	66.7 ~~67.11~~ 4.9 67.21	31"-27" VC
	57+10	13.5 ✓	-1.3 ✓					
		10.8 ✓ ~~10.85~~		12.0 ✓	50 ✓	203.0	101.5	50'
	+50							
		10.A ✓ ~~8.8~~		9.65 ✓	50 ✓	168.0	84.0	50
	58+0							
		8.8 ✓		8.8	35	155.2	54.3	35
	+25 = Fly Rip Rap	8.8 ✓						
	+40	11.0 ✓		10.65	35	182.7	63.9	35
	+70	17.5 ✓						
				9.0	15	158.3	23.7	15
	+85	5.6 ✓						
				5.4	15	104.3	15.6	15
	59+0	5.2 ✓						
				4.9	50	96.8	48.4	50
	+50	4.6 ✓						
				4.4	56	89.3	50.0 441.4*	56
	60+06.46 ⌐ 60+05.00 ⌐ Δ 10°25' Rt	4.2 ✓						
				4.4	45	89.3	40.2	45
	+50	4.6 ✓						
				4.9	50	96.8	48.4	50
	61+0	5.2 ✓						
				5.55	50	106.0	53.0 441.6*	50
	+50	5.8 ✓						
							583.0	

Down From Sta. 17+0

12.2 ✓ m
12.2 ✓
9.X ✓
9.m ✓ ~~9.9~~
1.7 ✓ = ~~9.9~~
9.9 ✓
11.5 ✓
9.6 ✓
8.2 ✓
8.7 ✓
8.1 ✓
8.9 ✓
8.5 ✓
5.2 ✓

-1.3 ✓
-1.3 ✓
-1.2 ✓
-1.1 ✓
-1.1 ✓
-1.0 ✓
-1.0 ✓
-1.0 ✓
-0.9 ✓
-0.8 ✓
-0.7 ✓
-0.6 ✓

Yds Gravel	Conc. Encasa	Conc. Cradle	Comp. Back	Req. Back /100'	Req. Back Yds.
4 None	10 cy			150.8	46.7
				127.5	63.8
4				92.4	46.2
				79.8	27.8
12 No Gravel from Sta. 55+00 To Sta. 60+05				107.2	37.5
11				82.5	12.4
				31.8	4.8
16				25.3	12.6
None				19.0	10.6
17				19.0	8.6
				25.3	12.7
18				33.5	16.7
					301.4

Sta. 57+05 To Sta. 60+05 = 300 Lin. Ft. Conc. Encasement x 3.14 x 1.5 Ft. Rad. x 1.5 Ft. Rad. x 1/27 = 66.7 C.Y.

Sta. 57+05 To Sta. 60+05 = 300 Lin. Ft. Conc. Cradle Backfill x 3.14 x 1.5 Ft. Rad. x 1.5 Ft. Rad. x 1/27 = 66.7 C.Y.

Sta. 48+42 To Sta. 49+00 = 58 Lin. Ft. Conc. Encasement. Sta. 49+00 To Sta. 60+05 = 1105 Lin. Ft. Conc. Cradle Backfill

Sta. 57+05 To Sta. 60+05 = 300 Lin. Ft. Conc. Encasement. Sta. 60+05 To Sta. 62+00 = 195 Lin. Ft. Conc. Encasement x 3.14 x 1.5 Ft. Rad. x 1.5 Ft. Rad. x 1/27 = 23.732 C.Y.

Tons Steel

From Sta. 57+05 To Sta. 62+00 = 495 Lin. Ft. Reinforcing Steel

61+50			4.4 ✓	-0.5 ✓	Cut	Av. Cut	Length	Av. C.Y. /100'	Exc. yds.	Pipe
62+0					5.8 ✓	5.35	50	103.5	51.75	50
					4.9 ✓					
+50			5.2 ✓	-0.4 ✓		5.25	50	102.0	51.0	50
					5.6 ✓					
63+0			5.0 ✓	-0.4 ✓		5.5	50	106.0	53.0	50
					5.4 ✓					
+32.56	Δ 7°09'Rt		4.5 ✓	-0.5 ✓		5.1	32.56	100.0	32.6	32.6
					4.8 ✓					
64+0			4.0 ✓	-0.2 ✓		~~5.0~~ A.1	67.44	98.4	66.3	67.4
					4.7 ✓					
+50			5.3 ✓	-0.1 ✓		4.8	50.	95.3	47.6	50
					5.4 ✓					
65+0			6.1 ✓	-0.1 ✓		5.8	50	110.3	55.2	50
					6.2 ✓					
+50			6.8 ✓	0.0 ✓		6.5	50	123.2	61.6	50
					6.8 ✓					
66+0			6.7 ✓	+0.1 ✓		6.7	50	126.2	63.1	50
					6.6 ✓				482.15 *	
+50			7.9 ✓	+0.2 ✓		7.15	50	127.0	64.0	50
					7.7 ✓					
67+0			9.3 ✓	+0.2 ✓	9.1 ✓	8.0	50	134.8	67.4	50
					8.4 ✓					
+50			8.6 ✓	+0.3 ✓		8.5	50	142.2	71.1	50
					8.6 ✓				199.50 *	
			8.9 ✓	+0.3 ✓					681.65	

Taken from 174+00 page 4

Yds Gravel	Conc. Encase	Conc. Cradle	Comp Back.	Req. Back / 100'	Req Back C. Yds.
				31.2	15.6
				30.0	15.0
				33.0	16.5
				29.2	9.5
				26.6	17.9
				24.0	12.0
				36.0	18.0
				46.0	23.0
				48.2	24.1
				55.2	27.6
				67.8	33.9
				75.0	37.5
					250

Sta. 1+00 to Sta. 2+00 = 595 C.Y. @ 18.30 C.Y. = 1,280 ft. + Undercut Trench Excavation

Sta. 2+00 to Sta. 4+00 = 1,190 C.Y. @ 18.30 C.Y. = 2,560 ft. + Undercut Trench Excavation

Sta. 4+00 to Sta. 7+00 = 1785 C.Y. @ 18.30 C.Y. = 3,840 ft. + Undercut Trench Excavation

Sta. 7+00 to Sta. 7+50 = 297.5 C.Y. @ 18.30 C.Y. = 640 ft. + Undercut Trench Excavation

Backfill Sta. 1+00 to Sta. 7+50 Bedding Base

Foundation Backfill with Rock Base

Tot.

1-8" Sta. 66+50

						Cut to I.G.	Av. Cut	Length	Av. C.V. / 100'	Exc. Yds.	Pipe 17
67+50				13.4 ✓M	0.3 ✓	8.6 ✓M					
67+77						13.1 ✓					
+87				13.7 ✓	0.4 ✓	13.3 ✓					
68+0				14.0 ✓	0.4 ✓	13.6 ✓	11.1	50	181.2	90.6	50
+17				6.5 ✓	0.4 ✓	4.8 ✓					
+35				6.7 ✓	0.4 ✓	6.3 ✓					
+56.62	= Δ 0° 46' Lt			7.0 ✓	0.5 ✓	6.5 ✓	10.0	56.62	164.7	92.2	56.62
69+0				7.4 ✓	0.5 ✓	6.9 ✓	6.7	43.38	115.2	49.9	43.38
+89.15 J				7.9 ✓	0.6 ✓	7.3 ✓	7.1	61	121.2	73.8	61
+61.05 J				10.3 ✓	0.7 ✓	9.6 ✓	8.45	39	141.5	55.2	39
70+0				10.5 ✓	0.8 ✓	9.7 ✓	9.65	58	159.5	92.5	58
+58				10.0 ✓	0.8 ✓	9.2 ✓	9.45	42	156.4	65.7	42
71+0				9.2 ✓	0.9 ✓	8.3 ✓	8.75	50	146.0	73.0	50
+50				9.1 ✓	1.0 ✓	8.1 ✓	8.2	50	137.8	68.9	50
72+0										661.8	

Tolan Form #1203

Tolan Form #1635-25

Yds. Travel			Comp. Back.	Req. Back / 100'	Req. Back C. yds.	Tons
				114.0	57.0	
				97.6	55.2	
				48.4	21.0 ✓	
				54.0	32.9 ✓	
				74.5	29.0 ✓	
				92.3	53.5 ✓	
				89.1	37.5 ✓	
				79.0	39.5 ✓	1-8" Sta. 70+49
				70.6	35.3 ✓	
					360.9	

Travel, Base - Sta. 64+00 to Sta. 74+00 = 1000' = 1.0 Mi.
800 @ 1.0 Mi. = 800.0
1500 @ 1.0 Mi. = 1500.0
1277.2 @ 1.0 Mi. = 1277.2

							Cut to Fill Gr. Int.	Av. Cut	Length	C. Yds. /100'	Exc. yds.	P. pd.
72+00					10/8/47		8.1	8.5	50	142.7	71.1	50
72+50				9.9	1.0		8.9					
								8.85	50	147.5	73.75	50
73+0				9.9	1.1		8.8					
								8.95	50	149.0	74.5	50
+50				10.3	1.2		9.1					
								9.0	50	149.8	74.9	50
74+0				10.2	1.3		8.9				294.25*	
BM	536	(16.89)		(11.53)	0 to 74+0 = 10 Lt. 73+21 = 1663 - 37 = 1626			9.1	50	139.5	69.75	50
+50	Wk Light Bench		6.3	10.6	1.4		9.3					
								9.3	50	142.5	71.25	50
75+0			6.1	10.7	1.4		9.5					
								8.95	50	137.5	68.75	50
+50			6.8	10.1	1.5		8.6					
								8.15	50	125.4	62.7	50
76+0			7.6	9.3	1.6		7.7					
								7.5	50	115.7	57.85	50
+50			7.9	9.0	1.7		7.3					
								7.6	50	115.8	57.9	50
77+0			7.3	9.6	1.7		7.9					
								7.9	50	121.5	60.75	50
+50			7.2	9.7	1.8		7.9					
								7.85	50	121.0	60.5	50
78+00					1.9		7.8				509.45*	
											803.70	

Yds. Gravel	Conc. Encase	Comp Back.	Req. Back / 100'	Req. Back C. Yds.	Tag
			75.0	37.5 ✓	
			80.4	40.2 ✓	
			81.8	40.9 ✓	
			82.5	41.3 ✓	
			84.0	42.0 ✓	
No Gravel Base Under Pipe from Sta. 74+00 To Sta. 101+00 End of Period 9/30/47			87.0	43.5 ✓	
			81.8	40.9 ✓	
			70.0	35.0 ✓	
			60.5	30.3 ✓	
			61.8	30.9 ✓	1-8" Sta 76+95
			66.2	33.1 ✓	
			65.5	32.8 ✓	
				448.4	

Comp Back Fill Sta 74+00 To Sta 90+00
1600 Lin. Ft. x 4 M.Y. = 1584 C.Y. + 3417 C.Y. / 100' =
541.3 C.Y.

						Cut	Av. Cut	Length	Cu. Yds / 100'	Exc Yds	Pipe
		⟨16.89⟩				7.8					
78+00			7.2	9.7	1.9		7.9	50	121.5	60.75	50
+50			6.9	10.0	2.0	8.0					
79+00			4.1	12.8	2.0		9.4	50	144.0	72.0	50
+12			3.8	14.1	2.0	10.8					
+32	= Wtr Oil Pav.		2.2	14.7	2.1	12.1					
+50			2.3	14.6	2.1	12.6	11.65	50	177.7	88.85	50
80+00			2.0	14.9	2.2	12.5					
+22	= Ely Oil Pav.		2.2	14.7	2.2		12.6	50	192.0	96.0	50
TP	0.98	⟨16.09⟩	1.78	⟨15.11⟩		12.7					
+50			5.1	11.0	2.3	12.5					
81+01.25	Δ 3°29'30" Lt.		7.0	9.4	2.3		10.7	50	160.5	80.45	50
+50			6.1	10.0	2.4	8.7					
82+00							7.75	51.25	119.5	61.2	51.25
						6.8					
							7.2	48.75	111.0	54.1	48.75
						7.6					
							7.95	50	122.5	61.25	50
						8.3					
										574.40	

Yds. Gravel			Comp Back	Req Back /100'	Req Back C yds	Tag
				66.2	33.1 ✓	
				88.4	44.2 ✓	
				122.4	61.2	
				136.3	68.1 ✓	
				108.0	54.0	
				64.0	32.8 ✓	
				55.5	27.1 ✓	
				67.0	33.5 ✓	
					354.0	

		(16.09)			
82+0			5.3	10.8	2.5
+50			5.0	11.1	2.6
83+0			4.4	11.7	2.6
+50			4.4	11.7	2.7
84+0			4.3	11.8	2.8
+46.05	Δ 3°50' Rt		4.3	11.8	2.8
85+0			4.4	11.7	2.9
+50	Ely Light & Bench		2.8	13.3	3.0
+90	W/4 Oil Paving		1.0	15.1	3.1
86+0			1.0	15.1	3.1
PT	3.00	(18.32)	0.77	(15.33)	Nail Pole
+50			2.7	15.6	3.2
+70					3.2

Cut	Av. Cut	Length	Cu Yds / 100'	Exc. Yds	Pipe
8.3					
	8.4	50	129.0	64.5	50
8.5					
	8.8	50	135.0	67.5	50
9.1					
	9.0	50	138.0	69.0	50
9.0					
	9.0	50	138.0	69.0	50
9.0					
	9.0	46.05	138.0	63.5	46.05
9.0					
	8.9	53.95	136.6	73.7	53.95
8.8					
	9.55	50	146.0	73.0	50
10.3					
12.0					
	11.15	50	170.05	85.0	50
12.0					
	17.2	50	186.0	93.0	50
12.4					
	12.0	20	183.0	36.6	20
11.7					
				694.8	

Yds Gravel	Comp. Back	Req. Back / 100'	Req. Back C. yds.
		73.7	36.8
		69.8	34.9
		82.6	41.3
		82.6	41.3
		82.6	37.9
		81.0	43.7
		90.5	45.3
		114.7	57.4
		130.6	65.3
		127.5	24.3
			428.2

Tag

1-8"
Sta
86+78

						Cut	Av. Cut	Length	Cu. Yds / 100'	Exc Yds	Pipe
		[18.32]									
86+70	Ely Oil	Paving	3.4	14.9	3.2	11.7					
							11.2	30	171.0	51.3	30
87+0			4.4	13.9	3.2	10.7					
							10.6	50	161.2	80.6	50
+50			4.5	13.8	3.3	10.5					
							10.35	50	158.4	79.2	50
88+0			4.7	13.6	3.4	10.2					
							10.3	50	157.5	78.6	50
+50			4.4	13.9	3.5	10.4					
							10.35	56	158.4	88.7	56
89+06	Δ 17°00' Lt		4.5	13.8	3.5	10.3					
							10.1	44	154.4	67.9	44
+50			4.8	13.5	3.6	9.9					
							10.25	50	156.6	78.3	50
90+0			4.0	14.3	3.7	10.6					
+17			3.9	14.4	3.7	10.7					
+25			5.3	13.0	3.7	9.3					
							9.5	50	145.4	77.7	50
+50			6.1	12.2	3.8	8.4					
							8.25	50	127.0	63.5	50
91+0			6.4	11.9	3.8	8.1					
							8.2	50	126.0	63.0	50
+50					3.9	8.3					
										728.8	

Yds Gravel			Comp. Back	Req. Back 1100'	Req. Back C. yds	Tog
				115.3	34.5	
				106.5	53.2	
				102.5	51.3	
				102.0	51.0	
				102.5	57.4	
				98.8	43.5	
				101.5	50.7	
End of Period 9/30					341.6	
			50	90.0	45.0	
			50	71.5	35.75	
			50	70.7	35.35	1-8" Sta 91+53

		(18.32)			
91+50			6.1	12.2	6.9
92+0			6.7	11.6	4.0
+50			5.4	12.9	4.1
TP	5.02	(19.25)	4.09	(14.23)	
92+0			6.2	13.1	4.1
+50			6.5	12.8	4.2
+65.00	Δ 1°49'30" Rt		6.6	12.7	4.2
BM			9.05	19.20	93+65
94+0			6.3	13.0	4.3
+50			5.6	13.7	4.3
TP	5.94	(19.72)	5.46	(13.79)	
95+0			5.0	14.7	4.4
+50			4.3	15.4	4.5
96+0			4.7	15.0	4.6

0.720 RPS to 93+65

Cut	Av. Cut	Length	Av. Yds / 100'	Exc. Yds.	Pipe
8.3					
	7.95	50	127.4	61.2	50
7.6					
	8.2	50	126.0	63.0	50
8.8					
	8.9	50	136.6	68.3	50
9.0					
	8.8	50	135.7	67.6	50
8.6					
	8.55	15	131.5	19.7	15
8.5					
	8.6	35	137.0	46.2	35
8.7					
	9.0	50	138.0	69.0	50
9.4					
	9.85	50	149.4	74.7	50
10.3					
	10.6	50	162.7	81.1	50
10.9					
	10.65	50	162.8	81.4	50
10.4					
				632.7	

Yds. Gravel				Req. Back. /100'	Req. Back. Cu. Yds.
			50	67.0	33.5
			50	70.8	35.4
			50	81.0	40.5
			50	79.6	39.8
			15	76.0	11.4
			35	76.5	26.77
			50	82.4	41.2
			50	95.4	47.7
			50	106.5	53.25
			50	107.0	53.5

Tot
1-6"
95+75

96+00		(19.73)			
96+22			5.6	14.1	4.7 (6)
+50			8.8	10.9	4.7
TP	4.02	(15.23)	8.52	(11.21)	
97+0			3.6	11.6	4.7
+50			4.0	11.2	4.8
+87.02	Δ 17°22'	15" Rt	4.9	10.3	4.9
BM			4.60	(10.63)	07 20.24 R.P 97+87.02
98+0			4.7	10.5	4.9
+50			5.7	9.5	5.0
99+0			4.1	11.1	5.0
+50			4.6	10.6	5.1
100+0			4.2	10.9	5.2
+50			4.7	10.5	5.3

Cut	Av Cut	Length	Cu. Yds /100'	Exc. Yds	Pipe
10.4					
	9.9	22	151.5	33.3	22
9.5					
	7.8	28	120.0	33.6	28
6.2					
	6.55	50	101.4	50.7	50
6.9					
	6.65	50	102.7	51.4	50
6.4					
	5.9	37.02	91.7	33.9	37.02
5.4					
	5.5	12.98	86.7	11.2	12.98
5.6					
	5.0	50	78.2	39.1	50
4.5					
	5.3	50	82.6	41.3	50
6.1					
	5.8	50	90.0	45.0	50
5.5					
	5.6	50	87.2	43.6	50
5.7					
	5.45	50	85.0	47.5	50
5.2					
				430.6	

Yds Gravel				Req. Back 1001	Req. Back C. Yds
			22	96.0	21.12
			28	64.7	18.12
			50	46.0	23.0
			50	47.5	23.75
			37.02	36.5	13.5
			12.98	30.5	39.6
			50	22.7	11.35
			50	27.2	13.6
			50	35.0	17.5
			50	31.8	15.9
			50	29.5	14.75

100+50		(15.23)			
101+0			4.5	10.7	5.3
TP	6.78	(17.66)	4.35	(10.88)	
+50			6.8	10.9	5.4
102+0			6.9	10.8	5.5
+50			6.5	11.2	5.5
+50			5.0	12.7	5.6
103+0	Acc 1703/7		1.9	15.8	5.6
103+ ~~33.32~~ 28.39	Δ 22°52' Rt		4.7	13.0	5.7
103+ ~~28.39~~ +33.32					
+42			3.9	13.8	5.7
+55			0.1	17.6	5.7
TP	8.47	(22.80)	3.33	(14.33)	
104+0			3.6	19.2	5.8
+50			5.8	17.0	5.8
105+00		End of Period		9/30/47	

Cut	Av. Cut	Length	Av. C.Y. / 100'	Exc. Yds.	Pipe
5.2	5.3	50	82.6	41.3	
5.4					
	5.45	50	85.0	42.5	
5.5					
	5.4	50	84.2	41.1	
5.3					
	5.5	30	86.7	26.0	
5.7					
	6.4	20	99.0	19.8	
7.1					
	8.65	50	132.5	66.25	
10.2					
	8.75	28.39	134.3	38.0	
7.3					
	7.7	8.68	118.8	10.3	
8.1					
	10.0	13	153.1	19.9	
11.9					
	12.65	45	192.4	86.6	
13.4					
	12.3	50	187.5	93.75	
11.2					
	9.65	50	147.5	73.75	
8.1				559.25	

				Req. Back. / 100'	Req. Back C yds	
Yds. Gravel			50	27.2	13.6	Tea.
None.						
To Sta						1-6"
End of						Sta.
Period			50	29.5	14.75	101+
9/30/47.						
			50	29.0	14.5	
			30	30.5	9.15	
			20	43.0	8.6	
			50	77.5	38.75	
			28.39	79.0	22.43	
			8.68	63.2	5.5	
			13	97.6	12.7	
			45	137.0	61.65	
			50	132.0	66.0	
			50	92.4	46.2	

						Cut	Av. Cut	Length	Av. C.Y. / 100'	Exc. C.Yds.
		(22.80)				8.1				
105+0			8.8	14.0	5.9		7.15	50	110.6	55.8
+50			10.6	12.2	6.0	6.2				
							5.1	45'	79.7	35.9
+95			12.7	10.1	6.1	4.0				
							4.95	5'	77	3.4
106+0			10.8	12.0	6.1	5.9				
							5.7	50'	88.7	44.35
+50			11.2	11.6	6.1	5.5				
							6.2	50'	96.0	48.00
107+0			9.7	13.1	6.3	6.9				
							7.0	16'	108.2	17.3
+16			9.5	13.5	6.2	7.1				
							6.4	7'	99.0	6.93
+23			10.9	11.9	6.2	5.6				
							6.25	27'	97.0	26.7
+50			9.7	13.1	6.3	6.8				
							7.55	50'	116.5	58.25
108+0			8.1	14.7	6.4	8.3				
TP	462	(19.82)	7.60	(15.20)			8.6	50'	132.0	66.0
+50			4.5	15.3	6.4	8.9				
							8.45	50'	129.7	64.85
109+0			5.3	14.5	6.5	8.0				
							8.15	50'	125.5	62.75
+56.00	S 21°06'30" W.		4.9	14.9	6.6	8.3				

				Req. Back / 100'	Req. Back C.Yds.
			50	55.0	27.5
			45	24.7	10.9
			5	22.0	1.1
			50	33.2	16.6
			50	40.8	20.4
			16	53.0	8.48
			7	44.0	3.1
			27	41.5	11.2
			50	61.0	30.5
			50	76.4	38.2
			50	74.5	37.25
			50	70.	35.0

109+50		(19.82)				Cut	Av. Cut	Length	Av. C.Y. /100'	Exc. C.yds.
110+0			5.6	14.2	6.7	8.3	7.9	50	121.6	60.8
+50			6.5	13.3	6.7	7.5	7.0	50	108.3	54.15
111+0			7.4	12.4	6.8	6.6	6.1	50	94.7	47.35
+50			7.8	12.0	6.9	5.6	5.35	50	83.5	41.75
112+0			7.9	11.9	7.0	5.1	5.0	50	78.2	39.1	
+43.59	∠67°17'30" Rt		7.1	12.7	7.0	4.9	5.3	43.59	82.8	36.1
PT	8.10	(21.57)	3.41	(16.41)		5.7	9.6	11.41	147.0	16.77
+55	=N½ Shoulder		4.4	20.5	7.0	13.5	13.4	11	204.0	22.44
+66	=N½ Conc. Pav.		4.12	20.39	7.1	13.3	13.45	24	204.5	49.0
+90	=S½ " "		3.83	20.68	7.1	13.6	13.15	10	200.0	20.0
113+0			4.7	19.8	7.1	12.7	13.2	19	201.0	38.2
+19	=N½ Conc Pav.		3.76	20.75	7.2	13.6	13.55	24	206.0	49.44
+43	=S½ " "		3.94	20.57	7.2	13.4	13.3	7	202.5	14.2
+50			4.1	20.4	7.2	13.2				

				Req. Back. /100'	Req. Back C.Yds
			50	56.2	28.1
			50	53.0	26.5
			50	39.0	19.5
			50	29.5	14.75
			50	22.8	11.4
			43.59	27.2	11.9
			11.41	91.5	10.4
			11	148.5	16.3
			21	149.0	35.75
			10	144.5	14.45
			19	145.4	27.6
			24	151.0	36.24
			7	147.0	10.3

						Cut	Av. Cut	Length	Av. C.Y. / 100'	Sept. 24-47 S. Sno McCoy Allen 114+0 to	Exc. C.Y.
113+50		[24.51]		Ground	Invert	13.2	12.15	43.7'	185.0		
113+93.70	Δ 66°22'30" Lt.		6.1	18.4 +M	7.3	11.1				80.8	
BM			6.29 +	[18.25] +	0.10' R.P. 113+93.70						
TP	L 0.3	[28.33] +	2.51	[22.00] +							
B.M.			2.95	[25.38] +	Chisel in Nut at Hillcrest Ave. Elev. 25.29 Plug						
B.M.	2.98	[28.27] +		25.29	Above		10.95	6.3'	167.4	10.55	
TP	4.04	[24.58] +	9.73	[18.54] + M							
114+0			4.5	18.1 +M	7.3	10.8					
							10.72	50'	163.7	81.85	
+50			4.6	18.0	7.36	10.64					
							10.55	50'	161.2	80.6	
115+0			4.8	17.8	7.43	10.37					
							10.86	11'	165.8	18.24	
+11 = W½ EC Pav			3.8	18.8	7.44	11.36					
							11.34	17'	173.3	29.46	
+28 = E½ " "			3.8	18.8	7.47	11.33					
							11.11	22'	169.5	37.29	
+50			4.2	18.4	7.51	10.89					
							10.65	50'	163.	81.5	
116+0			4.6	18.0	7.58	10.42					
							10.03	50'	152.8	76.4	
+50			5.5	17.3	7.66	9.64					
							9.45	50'	144.5	72.25	
117+0			5.6	17.0	7.73	9.27					

	Req. Back / 100'	Req Back C yds
13.7	129.7	56.7
6.3	112.7	71.0
50	108.0	54.0
50	106.0	53.0
11	110.✓	12.12
17	117.4	19.95
22	114.0	25.1
50	107.0	53.5
50	97.65	48.8½
50	89.5	44.75

						Cut	Av. Cut	Length	Av. C.Y. / 100'	Exc. C. Yds
117+0		(22.58)				9.27	9.48	50'	145.0	72.5
117+50			5.1	17.5	7.81	9.69				
							9.78	18'	149.7	26.95
+68			4.9	17.7	7.84	9.86				
							10.3	10'	157.5	15.75
+78	= W/L of C. Pav		4.0	18.6	7.85	10.75				
							10.74	11'	164.0	18.04
+89	= E/L " " "		4.0	18.6	7.87	10.73				
							10.18	11'	155.7	17.13
118+0			5.1	17.5	7.88	9.62				
							9.13	50'	140.0	70.0
+50			6.0	16.6	7.95	8.65				
							8.64	4r.56'	132.5	56.39
+92.56	Δ 18° 10' Lt		5.93	(16.65)	8.02	8.63				
TP	6.54	(23.19)	5.93	(16.65)	8.02 07 & Hub 118+92.56		8.75	16.44'	134.2	27.06
119+08			6.5	16.9	8.04	8.86				
							10.45	15'	159.0	23.85
+23			3.1	20.1	8.07	12.03				
							12.15	10'	185.0	18.5
+33	= W/L of C. Pav		2.85	20.34	8.08	12.26				
							12.15	15'	185.0	27.75
+48	= E/L " " "		2.95	20.24	8.11	12.13				
							11.57	5r'	176.7	91.88
120+0			4.0	19.2	8.18	11.02				

			Req. Back 1,100'	Req. Back C.yds.
		50	90.0	45.0
		18	94.0	16.9±
		10	102.0	10.±
		11	108.4	11.9±
		11	100.0	11.0
		50	84.4	42.±
		42.56	77.4	32.9
		16.44	79.0	12.98
		15	104.4	15.66
		10	129.6	12.96
		15	129.6	19.44
		5±	121.0	6±.9±

						Cut	Av. Cut	Lengths	Av. CY. /100'	Exc. C.Y.'s
120+00		(28.19)				11.0	10.88	50'	166.2	83.1
120+50			4.2	19.0	8.26	10.74				
							10.6	50'	162.0	81.0
121+0			4.4	18.8	8.33	10.47				
							10.83	50'	165.4	82.7
+50			4.5	18.7	8.41	10.29				
							10.35	50'	158.2	79.1
122+0			4.3	18.9	8.48	10.42				
							10.28	50'	157.2	78.6
+50			4.5	18.7	8.56	10.14				
							10.15	50'	155.0	74.5
122+0			4.4	18.8	8.63	10.17				
							10.18	50'	155.5	74.75
+50			4.3	18.9	8.70	10.2				
							9.92	41.41	151.7	62.82
123 +91.41	Δ 2°26'LT		4.79	(18.40)	8.77	9.63				
25+48.68					07% Hot		9.54	53.37	146.2	77.95
26+0			4.9	18.5	8.85	9.45				
							9.46	50	144.8	72.4
+50			4.8	18.4	8.93	9.47				
							9.08	50	139.2	69.6
27+0			5.5	17.7	9.00	8.7				
PT	7°03	(25.52)	4.70	(18.49)			8.78	27	135.0	36.45
+27			7.6	17.9	9.04	8.86				
							10.6	14	167.0	22.68
+41	7°44' RT		4.13	21.39	9.06	12.33				

	Req Back /100'	Req Back C.yds
50	110.7	55.35
50	106.4	53.2
50	109.7	54.85
50	102.7	51.35
50	101.6	50.8
50	99.8	49.9
50	100.	50.0
41.41	96.4	39.9
53.3x	90.5	48.25
50	89.4	44.7
50	83.7	41.85
27	79.0	21.33
14	106.5	14.9

32+61		(25.52)			
27+57	= Ely. ℄ Ch.		421	21.31	9.09
+74	= W.Ly. ℄ Ch.		450	21.0	9.11
+93	= Ely ...		47	20.8	9.14
28+0			57	19.8	9.15
+23			86	16.9	9.19
+50			98	15.7	9.23
29+0			95	16.0	9.30
+50			93	16.2	9.38
30+0			92	16.3	9.45
+50			91	16.4	9.53
31+0			84	171	9.60
TP	4.44	(21.61)	8.35	(17.17)	
+40	on Hub		452	17.09	9.66
+50			45	171	9.68

Cut	Ar Cut	Length	Av. C.Yds /100'	Exc. C.yds.
12.33	12.27	13 16.	187.0	24.31
12.22				
	12.05	17	183.5	31.2.
11.89				
	11.78	19	179.7	34.1
11.66				
	11.15 10.55	7	103.0	11.4
10.65				
	9.18	23	139.7	35.0
7.71				
	7.09	27	112.0	30.2
6.47				
	6.58	50	101.7	50.85
6.7				
	6.76	50	104.6	52.3
6.82				
	6.84	50	105.5	52.75
6.85				
	6.86	50	105.6	52.8
6.87				
	7.18	50	113.3	56.65
7.5				
	7.47	40	115.0	46.0
7.43				
	7.42	10	114.3	11.43
7.42				

				Reg. Back 1/100'	Reg. Back C. yds
			13	131.6	17.1
			17	128.4	21.8
			19	109.0	20.7
			7	107.2	7.5
			23	85.0	19.55
			27	53.7	14.5
			50	46.6	23.3
			50	49.0	24.5
			50	50.4	25.2
			50	50.6	25.3
			50	55.0	27.5
			40	59.6	23.84
			10	59.0	5.9

						Cut	Av. Cut	Length	Av. C.Yds /100'	Exc C.Yds
31+50		(21.61)				7.4	7.38	50	114.3	57.15
32+0			4.5	17.1	9.75	7.35				
							7.36	50	114.2	57.1
+50			4.4	17.2	9.83	7.37				
							7.18	50	110.7	55.35
33+0			4.7	16.9	9.90	7.0				
							7.01	50	108.2	54.1
+50			4.6	17.0	9.98	7.02				
							7.03	50	108.4	54.2
34+0			4.5	17.1	10.05	7.05				
							7.16	50	113.0	56.5
+50			4.2	17.4	10.13	7.27				
							7.03	50	108.4	54.2
35+0			4.6	17.0	10.20	6.8				
							6.91	50	107.7	53.85
+50			4.3	17.3	10.28	7.02				
							6.93	50	107.8	53.9
36+0			4.4	17.2	10.35	6.85				
TP	9.41	(26.77)	4.25	(17.36)			7.11	50	110.0	55.0
+50			9.0	17.8	10.43	7.37				
							7.28	50	112.0	56.0
37+0			9.1	17.7	10.50	7.2				
							7.1	32	109.8	35.0
+32	0.4 Hub		9.21	17.56	10.55	7.01				
							6.96	18	107.8	19.4
+50			9.3	17.5	10.58	6.92				

	Req. Back / 100'	Req. Back C.Y.'s
50	57.4	28.7
50	57.0	28.5
50	55.0	27.5
50	53.0	26.5
50	53.2	26.6
50	54.7	27.35
50	53.2	26.6
50	51.4	25.7
50	51.8	25.9
50	54.2	27.1
50	55.8	27.9
34	54.2	17.34
18	52.2	9.4

						Cut	Av. Cut	Length	Av. C.Y. /100'	Exc. C.Yds
37+50		(26.77)				6.9	7.03	50'	108.4	54.2
38+0			9.0	17.8	10.65	7.15				
							7.41	50'	114.2	57.1
+50			8.4	18.4	10.73	7.67				
							7.86	10'	121.0	12.1
+60			8.0	18.8	10.74	8.06				
							9.56	11'	146.6	16.13	
+71	=W4 AC. Pav		4.95	21.82	10.76	11.06				
							11.18	14'	170.5	23.87
+85	= Ply ... "		4.70	22.07	10.78	11.29				
							10.25	8'	157.0	12.56
+93			6.8	20.0	10.79	9.21				
							8.35	21'	128.4	26.96
39+14			8.5	18.3	10.82	7.48				
							7.30	36'	112.5	40.5
+50			8.8	18.0	10.88	7.17				
							7.28	50'	112.0	56.0
40+0			8.4	18.4	10.95	7.45				
							7.66	50'	118.0	59.0
+50			7.9	18.9	11.03	7.87				
							7.83	50'	120.5	60.25
41+0			7.9	18.9	11.10	7.8				
							7.56	50'	116.3	58.15
+50			8.3	18.5	11.18	7.32				
TP	264	(22.73)	6.68	(20.09)			8.31	10'	127.7	12.77
+60			22	20.5	11.20	9.3				

	Rq'd. Back 1/100'	Rq'd. Back C yds
50	53.2	26.6
50	59.0	29.5
10	66.5	6.65
11	90.6	9.97
14	115.0	16.20
8	101.4	8.11
21	72.7	15.27
36	57.2	20.59
50	57.0	28.5
50	62.6	31.3
50	65.2	32.6
50	61.2	30.6
10	72.3	7.23

						Cut	Ar. Cut	Length	Av. C.Y. /100'	Exc. C.Yds
41+60		(22.73)				9.3	8.72	40	126.3	50.52
42+00			4.2	18.5	11.25	7.45				
+50			4.1	18.6	11.33	7.27	7.21	50	114.0	55.5
43+00			4.6	18.1	11.40	6.7	6.98	50	107.8	53.9
+21	0.7 Hub		5.05	17.68	11.44	6.24	6.47	24	100.0	24.0
+50			4.9	17.8	11.48	6.32	6.28	26	97.0	25.2
44+00			5.0	17.7	11.52	6.14	6.23	50	96.5	48.25
+32			4.5	18.2	11.61	6.59	6.36	32	98.6	31.55
+38			5.9	16.8	11.62	5.18	5.88	6	91.0	5.46
+45			4.8	17.9	11.63	6.27	5.72	7	89.0	6.23
45+00			5.2	17.5	11.71	5.79	6.03	56	93.4	4.67
+50			4.6	18.1	11.78	6.32	6.06	50	94.0	47.0
46+00			4.9	17.8	11.86	5.94	6.13	50	95.3	47.65
+50			5.1	17.6	11.93	5.67	5.8	50	90.0	45.0

	Reg. Back 1/100'	Reg. Back C.yds
40	71.0	28.4
50	55.8	27.9
50	52.8	26.4
24	44.6	10.7
26	42.7	11.1
50	42.0	21.0
32	43.6	13.95
6	37.0	2.22
7	35.0	1.05
5	39.2	1.96
50	39.6	19.8
50	40.5	20.25
50	36.0	18.0

						Cut	Av. Cut	Length	Av. C.Y. /100'	Exc. C.Yds
46+50		(22.73)				5.67	5.78	50'	89.7	44.85
47+0			4.8	17.9	12.01	5.89				
TP	8.88	(26.63)	4.48	(18.25)			5.91	50'	91.6	45.8
+50			8.6	18.0	12.08	5.92				
							6.43	50'	99.6	49.8
48+0			7.5	19.1	12.16	6.94				
							8.92	20'	137.0	27.4
+20	=W4 AC Pvng		5.55	23.08	12.19	10.89				
							10.94	14'	167.4	23.4
+34	=Fly " "		5.43	23.20	12.21	10.99				
							8.73	16'	134.0	21.44
+50			7.9	18.7	12.23	6.47				
							6.93	50'	106.8	53.4
49+0			6.9	19.7	12.31	7.39				
							7.5	15'	115.6	17.3
+15	on Hub Δ 0° 34' 30" Rt		6.69	19.94	12.33	7.61				
							7.57	20'	116.5	23.3
+35			6.7	19.9	12.36	7.54				
							9.47	9'	145.0	13.05
+44	=W4 AC Paving		2.85	23.78	12.38	11.4				
							11.54	22'	176.0	38.72
+66	=Fly " "	"	2.53	24.10	12.41	11.69				
							10.39	10'	159.0	15.9
+76			5.1	21.5	12.42	9.08				
							8.26	24'	126.8	30.43
50+0			6.7	19.9	12.46	7.44				

	Req. Back /100'	Req. Back C.yds.
50	35.7	17.85
50	37.5	18.75
50	44.2	22.1
20	81.2	16.24
14	111.4	15.6
16	78.4	12.54
50	51.6	25.8
15	60.0	9.0
20	61.2	12.24
9	89.4	8.05
22	120.4	26.5
10	103.4	10.34
24	71.5	17.16

						Cut	Av Cut	Length	Av. C.yds /100'	Exc. C.yds
50+00		(26.63)				7.44	7.45	50'	115.0	57.5
50+50			6.6	20.0	12.53	7.47				
							7.53	50'	116.0	58.0
51+0			6.4	20.2	12.61	7.59				
							7.93	16'	122.0	19.5
+16			5.7	20.9	12.63	8.27				
							7.06	9'	109.0	9.81
+25			8.1	18.5	12.65	5.85				
							6.95	10'	107.5	10.75
+35			5.9	20.7	12.66	8.04				
							7.73	15'	119.0	17.85
+50			6.5	20.1	12.68	7.42				
							7.18	50'	110.8	55.4
52+0			6.9	19.7	12.76	6.94				
							7.27	30'	112.0	33.6
+30			6.2	20.4	12.80	7.60				
							9.1	17'	139.5	16.74
+42	= W4 RC Pvt		3.20	23.43	12.82	10.61				
TP	4.07	(27.35)	3.35	23.28			10.92	17'	167.0	20.0
+54	= El " "		3.27	24.08	13.84	11.24				
							8.85	17'	135.5	16.3
+66			8.1	19.3	12.86	6.45				
							6.27	34'	97.0	33.0
53+0			8.4	19.0	12.91	6.09				
							6.1	50'	94.5	47.25
+50			8.3	19.1	12.98	6.12				

	Reg. Back 1100'	Reg. Back C.Yds.
50	59.5	29.75
50	60.6	30.3
16	66.7	10.67
9	53.6	4.8
10	52.0	5.2
15	63.6	9.54
50	55.3	27.65
30	56.6	16.98
12	84.0	10.08
12	111.2	13.34
12	80.5	9.66
34	42.6	14.48
50	40.2	20.1

						Cut	Av. Cut	Length	Av. C.Y. /100'	Exc. C.Yds
53+50		[27.35]				6.17	6.03	50	93.4	46.7
54+0			8.1	19.0	13.06	5.94				
							5.98	15.78	93.0	14.7
+15.78	∠ 17°22'30"Rt		8.25	19.10	13.08	6.07				
							6.1	34.22	94.5	32.3
+50			8.1	19.2	13.13	6.17				
							6.03	50	93.4	46.7
55+0			8.3	19.1	13.21	5.89				
							5.9	50	91.8	45.9
+50			8.2	19.2	13.28	5.92				
							5.93	50	92.0	46.0
56+0			8.1	19.3	13.36	5.94				
							5.95	50	92.5	46.25
+50			8.0	19.4	13.43	5.97				
							5.98	50	93.0	46.5
57+0			7.9	19.5	13.51	6.0				
							5.96	50	92.5	46.25
+50			7.9	19.5	13.58	5.92				
							6.03	50	93.4	46.7
58+0			7.6	19.8	13.66	6.14				
TP	565	[26.15]	6.85	[20.50]			6.2	50	96.2	48.1
+50			6.3	20.0	13.73	6.27				
							6.48	50	100.0	50.0
59+0			5.7	20.5	13.81	6.69				
							6.85	50	105.5	52.75
+50			5.2	20.9	13.88	7.02				

				Req. Back / 100'	Req. Back C.Yds
			50	39.2	19.6
			15.78	38.5	6.08
			34.2	40.2	13.75
			50	39.2	19.6
			50	37.4	18.7
			50	37.6	18.8
			50	38.0	19.0
			50	38.4	19.2
			50	38.2	19.1
			50	39.2	19.1
			50	41.5	20.75
			50	45.0	22.5
			50	50.5	20.25

59+50		(26.15)				Cut	Ar. Cut.	Length	Ar. C.Y. / 100'	Exc. C.Yds
60+0			49	21.3	13.96	7.0	7.18	50'	111.0	55.5
						7.34				
+50			48	21.4	14.03		7.35	50'	113.2	56.6
						7.37				
61+0			4.1	22.1	14.11		7.68	50'	118.0	59.0
						8.0		9.0' Apx M.H. Const.		
+06.98	= Exist. Sewer	on Hdb	4.68	21.47	14.12		7.67	6.48	118.0	7.64
						7.35				

				Req. Back. 1100'	Req. Back C.Yds
			50	55.0	27.5
			50	58.0	29.0
			5.0	62.8	31.4
			6.48	62.7	4.06

Levels Mission Valley Trunk Sewer #3
East of 6th St. Extension

BM	5.60	(27.49)	21.89	07+25 Sta 67+51.86 2.703-69	
66+72.29 = Ely Exist Sewer		5.47	22.02	15.25	
67+0		4.8	22.7	15.81	
+51.86	Δ 13°05'Rt	5.2	22.3	15.41	
68+0		4.5	23.0	15.54	
+50		4.4	23.1	15.64	
69+0		4.6	22.9	15.74	
+50		4.7	22.8	15.84	
70+0		4.7	22.8	15.94	
+50		4.8	22.7	16.04	
71+0		4.8	22.7	16.14	
+50		4.6	22.9	16.24	
72+0		4.9	22.6	16.34	

Cut	Av. Cut	Length	Av. C.Y. /100'	Oct 22-47 Sisson McCoy & Allen Exc C.Y.
6.77				
	7.08	27.71'	101.0	27.98
7.39				
	7.17	51.86'	101.8	52.79
6.86				
	7.16	48.14'	102.4	49.4
7.46				
	7.46	50'	106.3	53.15
7.46				
	7.31	50'	104.4	52.2
7.16				
	7.06	50'	100.8	50.4
6.96				
	6.91	50'	99.0	49.5
6.86				
	6.76	50'	96.6	48.3
6.66				
	6.61	50'	94.6	47.3
6.56				
	6.61	50'	94.6	47.3
6.66				
	6.46	50'	92.3	46.15
6.26				

		Req. Back 1/100'	Req. Back C. Yds.
	27.71	53.5	14.82
	51.86	54.0	26.0
	48.16	54.5	26.24
	50	58.7	29.35
	50	56.8	28.4
	50	53.3	26.65
	50	51.0	25.5
	50	49.0	24.5
	50	47.0	23.5
	50	47.0	23.5
	50	44.8	22.4

						Cut	Av. Cut	Length	Av. C.Y. /100'	Exc. C.Yds.
72+00		[27.49]				6.26	6.41	50'	91.8	45.9
72+50			4.5	23.0	16.41	6.56				
							6.51	50'	93.3	46.65
73+0			4.5	23.0	16.54	6.46				
							6.41	50'	91.8	45.9
+50			4.5	23.0	16.64	6.36				
							6.45	16'	92.4	14.78
+66			4.5	23.2	16.67	6.53				
TP	6.03	[29.15]	4.37	[23.17]	03 Stas 9 73+66		6.45	31'	92.4	31.4
74+0			6.1	23.1	16.74	6.36				
							6.41	50'	91.8	45.9
+50			5.9	23.3	16.84	6.46				
							6.51	50'	93.3	46.65
75+0			5.7	23.5	16.94	6.56				
							6.61	50'	94.6	47.3
+50			5.5	23.7	17.04	6.66				
							6.76	50'	96.5	48.25
76+0			5.2	24.0	17.14	6.86				
							7.01	50'	100.0	50.0
+50			4.8	24.9	17.24	7.16				
							7.11	50'	101.7	50.85
77+0			4.8	24.4	17.34	7.06				
							7.01	50'	100.0	50.0
+50			4.8	24.4	17.44	6.96				
							6.91	50'	99.0	49.5
78+0			4.8	24.4	17.54	6.86				

	Req Back /100'	Req. Back C.Yds
50	44.6	22.3
50	45.8	22.9
50	44.6	22.3
16	45.0	7.2
34	45.0	15.75
50	44.6	22.3
50	45.8	22.9
50	47.0	23.5
50	49.0	24.5
50	53.0	26.5
50	54.0	27.0
50	53.0	26.5
50	51.2	25.6

						Cut	Av. Cut	Length	Av. C.Y. /100'	Exc C.Yds.
78+00		(29.15)				6.86	6.71	50	96.0	48.0
78+50			5.0	24.2	17.64	6.56				
							6.71	50	96.0	48.0
79+0			4.6	24.6	17.74	6.86				
							7.06	50	101.0	50.5
+50			4.1	25.1	17.84	7.26				
							7.37	30.69	104.4	32.04
+80.69					17.90					
+99.93	Δ 16°52'R		3.88	25.27		7.37				
							7.14	50.07	102.0	51.07
80+50			4.3	24.9	18.00	6.9				
							7.0	50	100.0	50.0
81+0			4.0	25.2	18.10	7.1				
							7.2	6	102.8	6.17
TP	5.08	(30.30)	3.95	(25.22)						
+06			5.1	25.2	18.11	7.09				
							7.55	6	107.6	6.45
+12			4.2	26.1	18.12	8.0				
							8.12	15	115.4	17.3
+27			3.9	26.4	18.15	8.25				
							7.78	11	111.0	12.2
+38			4.8	25.5	18.18	7.33				
							7.26	12	103.5	12.42
+50			4.9	25.4	18.20	7.2				
							7.1	50	101.4	50.7
82+0			5.0	25.3	18.20	7.0				
							7.0	50	100.0	50.0
+50			4.9	25.4	18.40	7.0				

			Req. Back. /100'	Req. Back Cy/s
		50	48.5	24.25
		50	48.5	24.25
		50	53.4	26.7
		30.69	57.0	17.5
		50.07	54.4	27.25
		50	52.8	26.4
		6	55.2	3.31
		6	60.0	3.6
		15	68.0	10.2
		11	63.2	6.95
		12	56.0	6.72
		50	53.8	26.9
		50	52.8	26.4

82+50		(50.50)				Cut	Ar Cut	Length	Av. C.Y /100'	Exc. C.yds.	
83+0			5.2	25.1	18.50	7.0	6.8	50	97.2	48.6	
+50			4.7	25.6	18.60	6.6	6.8	50	97.2	48.6	
84+0			5.5	24.8	18.70	7.0	6.55	50	93.6	46.8	
+50			5.4	24.9	18.80	6.1	6.1	50	87.5	43.75	
85+0			4.3	26.0	18.90	6.1	6.6	50	94.6	47.3	
+30			4.4	25.9	18.96	7.1	7.02	30	100.3	30.1	
+40			5.3	25.0	18.98	6.94	6.48	10	93.0	9.3	
+50			5.0	25.3	19.00	6.02	6.16	10	88.4	8.84	
86+0			5.2	25.1	19.10	6.3	6.15	50	88.2	44.1	
+50			4.8	25.5	19.20	6.0	6.15	50	88.2	44.1	
87+0			5.0	25.3	19.30	6.3	6.15	50	88.2	44.1	
+15			4.8	25.5	19.33	6.0	6.11	15	87.6	13.14	
+25			5.8	26.5	19.35	6.77	6.68	10	95.4	9.54	
						7.15					

	Reg. Back / 100'	Reg. Back C.Yds
50	49.7	24.85
50	49.7	24.85
50	46.	23.0
50	40.8	20.4
50	47.0	23.5
30	53.0	15.9
10	45.2	4.52
10	41.6	4.16
50	41.5	20.75
50	41.5	20.75
50	41.5	20.75
15	40.8	6.12
10	48.	4.8

						Cut	Av. Cut.	Length	Av. C.Y /100'	Exc. C.Yds
87+25		(30.30)				7.15	7.22	25	103.0	25.75
87+50			3.6	26.7	19.40	7.3				
							6.7	7	95.7	6.70
+57			4.8	25.5	19.41	6.09				
							6.25	43	89.5	38.49
88+0			4.4	25.9	19.50	6.4				
							6.35	50	91.0	45.5
+50			4.4	25.9	19.60	6.3				
							6.35	50	91.0	45.5
89+0			4.2	26.1	19.70	6.4				
							6.75	50	96.5	48.25
TP	6.35	(32.62)	4.03	(26.27)						
BM			4.86	27.76	Sp.to=Pole 1.4 @ 89+74 29.80 plan					
						7.1				
+50			5.7	26.9	19.80		7.22	25	103.0	25.75
						7.35				
+75			5.4	27.2	19.85		8.33	15	118.6	17.76
						9.32				
+90			5.4	29.2	19.88		9.31	10	132.0	13.2
						9.3				
90+0			3.4	29.2	19.90		8.29	10	117.8	11.78
						7.28				
+10			5.4	27.2	19.92		6.99	40	100.0	40.0
						6.7				
+50			5.9	26.7	20.00		6.78	34.03	97.0	33.0
						6.87				
+84.03	Δ 3°36'L		5.68	26.94	0.7 & Stn 20.07					
TP	4.33	(31.27)	5.68	(26.94)						

			Rqd. Back 1/100'	Rqd. Back C yds.
		25	54.5	13.63
		7	48.5	3.4
		43	42.5	18.28
		50	44.0	22.0
		50	44.0	22.0
		50	49.0	24.5
		25	55.6	13.9
		15	71.0	10.65
		10	84.4	8.44
		10	70.3	7.03
		40	52.7	21.08
		34.03	49.8	16.95

						Cut	Ar. Cut	Length	Av. C.Y. / 100'	Exc. C.Yds
90+84.03		(31.27)				6.87	6.8	15.97'	97.3	15.5
91+0			4.5	26.8	20.1	6.7				
							6.65	50'	95.0	47.5
+50			4.5	26.8	20.2	6.6				
							6.6	50'	94.5	47.25
92+0			4.4	26.9	20.3	6.6				
							6.4	50'	91.8	45.9
+50			4.7	26.6	20.4	6.2				
							6.0	50'	86.2	43.1
93+0			4.9	26.4	20.5	5.9				
							5.95	50'	85.5	42.75
+50			4.7	26.6	20.6	6.0				
BM			4.67	26.60	20.7 (93+81 26.62 OK)		5.9	50'	84.8	42.4
94+0			4.8	26.5	20.7	5.8				
							5.8	50'	83.4	41.7
+50			4.7	26.6	20.8	5.8				
							5.65	50'	81.0	40.5
95+0			4.9	26.4	20.9	5.5				
							5.6	50'	80.6	40.3
+50			4.6	26.7	21.0	5.7				
							5.5	51.53'	80.0	41.22
96+01.53	Δ 4°14R'		4.88	26.39	(95+01 21.11)	5.3				
							5.35	48.47'	79.0	38.19
+50			4.7	26.6	21.2	5.4				
							5.75	50'	75.5	37.75
97+0			4.9	26.4	21.3	5.1				

	Req. Back /100'	Req. Back C.Yds.
15.97	49.8	7.95
50	47.5	23.75
50	47.0	23.5
50	44.0	22.0
50	38.8	19.4
50	38.6	19.3
50	37.5	18.75
50	36.0	18.0
50	33.5	16.75
50	33.0	16.5
51.53	32.0	16.5
48.47	29.5	14.3
50	28.2	14.1

						Cut	Av. Cut	Length	Av. C.Y. /100'	Exc. C.Yds.
97+0		(31.27)				5.1	5.1	50	73.8	36.9
97+50			48	26.5	21.40	5.1				
TP	4.74	(31.36)	4.65	(26.62)			4.85	50	70.	35.0
98+0			5.3	26.1	21.50	4.6				
							4.8	50	69.6	34.8
+50			4.8	26.6	21.6	5.0				
							5.0	50	72.4	36.2
99+0			4.7	26.7	21.7	5.0				
							4.9	50	71.0	35.5
+50			4.8	26.6	21.8	4.8				
							4.9	50	71.0	35.5
100+0			4.5	26.9	21.9	5.0				
							5.0	50	72.4	36.2
+50			4.4	27.0	22.0	5.0				
							5.0	50	72.4	36.2
101+0			4.3	27.1	22.1	5.0				
							5.0	50	72.4	36.2
+50			4.2	27.2	22.2	5.0				
							4.92	20	71.2	14.24
+70.00	Δ 0°24'Rt		4.28	27.08	22.28	4.87				
For Check			2.85	(28.51)	22.23					

		Rag Back / 100'	Rag Back C.Yds.
	50	26.4	13.2
	50	22.6	11.3
	50	22.2	11.1
	50	24.8	12.4
	50	23.5	11.75
	50	23.5	11.75
	50	24.8	12.4
	50	24.8	12.4
	50	24.8	12.4
	20	24.0	4.8

						Cut.	Av. Cut.	Length	Av. C.Y. / 100'	Oct 30-47 S. Sloan McCoy Exc. Filled C.Y.
101+70						4.8				
B.M.	728	(34.41)		27.13	0.28 Stub 101+70 & 231-36					
							4.97	30	71.6	21.48
102+0			7.0	27.4	22.3	5.1				
							5.1	50	73.8	36.9
+50			6.9	27.5	22.4	5.1				
							5.1	50	73.8	36.9
103+0			6.8	27.6	22.5	5.1				
							5.3	50	76.4	38.2
+50			6.5	28.1	22.6	5.5				
							5.5	50	80.0	40.0
104+0			6.2	28.2	22.7	5.5				
							5.75	50	82.7	41.35
+50			5.6	28.8	22.8	6.0				
							6.3	50	90.4	45.2
105+0			4.9	29.5	22.9	6.6	End of Period 10/31			10.02 28.03
							6.62	25	94.7	23.68
+25			4.8	29.6	22.95	6.65				
							6.79	10	97.0	9.7
+35			4.5	29.9	22.97	6.93				
							6.71	15	96.0	14.40
+50			4.9	29.5	23.0	6.5				
							6.55	50	94.0	47.0
106+0			4.7	29.7	23.1	6.6				
							6.6	50	94.5	47.25
+50			4.6	29.8	23.2	6.6				
										142.03

			Req. Brick / 100'	Req. Brick C.Yds
		30	24.6	7.38
		50	26.2	13.1
		50	26.2	13.1
		50	29.0	14.5
		50	32.0	16.0
		50	35.5	17.75
		50	43.0	21.5
	End of Period		10/31	216.78
		25	47.0	11.75
		10	49.8	4.98
		15	48.7	7.30
		50	46.5	23.25
		50	46.9	23.45
				70.73

						Cut	Ar. Cut	Length	Ar. Cy. /100'	Exc. C. Yds.
106+50		(34.41)				6.6	6.6	50	94.5	47.25
107+0			4.5	29.9	23.3	6.6				
							6.56	30	94.0	28.20
+30			4.5	29.9	23.37 on 5 ft rod	6.53				
TP	5.05	(35.02)	1.49	(29.97)	10 Pt 107+30					
							6.56	70	94.0	65.80
108+0			4.9	30.1	23.51	6.59				
							6.54	50	94.0	47.0
+50			4.9	30.1	23.61	6.49				
							6.64	50	95.0	47.5
109+0			4.5	30.5	23.71	6.79				
							6.69	50	95.5	47.75
+50			4.6	30.4	23.81	6.59				
							6.59	50	94.4	47.2
110+0			4.5	30.5	23.91	6.59				
							6.49	50	93.5	46.75
+50			4.6	30.4	24.01	6.39				
							6.34	50	90.8	45.4
111+0			4.6	30.4	24.11	6.29				
							6.29	50	90.4	45.2
+50			4.5	30.5	24.21	6.29				
							6.24	50	89.5	44.75
112+0			4.5	30.5	24.31	6.19				
							6.19	50	88.9	44.45
+50			4.4	30.6	24.41	6.19				
										557.25

	Req Back / 100'	Req Back @ Yds.
50	46.9	23.45
30	46.5	13.95
70	46.5	32.55
50	46.3	23.15
50	47.1	23.55
50	48.7	24.35
50	46.8	23.4
50	45.7	22.85
50	43.5	21.75
50	42.8	21.4
50	42.1	21.05
50	41.6	20.8
27		2.75

						Cut	Av. Cut	Length	Av. C.Y. /100'	Exc. C.Y.
112+50		(35.02)				6.19	6.14	40	88.0	35.2
112+90			44	30.6	24.5	6.1				
							6.2	60	89.0	53.4
113+50			4.1	30.9	24.6	6.3				
							6.25	50	89.5	44.75
114+0			4.1	30.9	24.7	6.2				
TP	4.90	(35.79)	4.13	30.89	on stub 10 Rt 11+46		6.2	50	89.0	44.5
+50			4.8	31.0	24.8	6.2				
							6.2	50	89.0	44.5
115+0			4.7	31.1	24.9	6.2				
							6.2	50	89.0	44.5
+50			4.6	31.2	25.0	6.2				
							6.1	50	87.6	43.8
116+0			4.7	31.1	25.1	6.0				
							5.95	50	85.5	42.75
+50			4.7	31.1	25.2	5.9				
BM			2.38	30.41	Chisel D HM Culvert 69+41 11+69 83.37		5.95	50	85.5	42.75
117+0			4.5	31.3	25.3	6.0				
							6.05	50	86.8	43.4
+50			4.3	31.5	25.4	6.1				
							6.05	50	86.8	43.4
118+0			4.3	31.5	25.51	6.0				
							6.31	33	90.5	29.87
+33			3.6	32.2	25.58	6.62				
							7.0	3	100.0	3.0
118+36						7.4				516.8

	Reg Back 1100'	Reg. Back C. yds
40	41.1	16.44
60	41.8	25.08
50	42.3	21.15
50	41.8	20.9
50	41.8	20.9
50	41.8	20.9
50	40.3	20.15
50	38.0	19.0
50	38.0	19.0
50	39.5	19.75
50	39.5	19.75
33	43.0	14.19
3	52.7	1.58
		238.79

						Cut	Av. Cut	Length	Av. C.Y. / 100'	Exc. C. Yds.
		(35.79)								
118+36			2.8	33.0	25.58	7.42				
							7.41	9	106.0	9.54
+45			2.8	33.0	25.60	7.4				
							7.0	5	100.0	5.0
+50	Δ 12°22'Lt		3.6	32.2	25.61	6.59				
										14.54
TP			3.96	(32.33)	07 Sta 3 12' Rt 118+50					

	Rag Back 1100'	Rag Back C.K
9	58.0	5.22
5	52.6	2.64
		7.86

IMPROVED TABLES AND INFORMATION

HORIZONTAL STADIA CORRECTIONS

2°—00′ — 0.1	21°—00′ — 12.8	33°—00′ — 29.7
3°—00′ — 0.3	21°—30′ — 13.4	33°—15′ — 30.1
4°—00′ — 0.5	22°—00′ — 14.0	33°—30′ — 30.5
5°—00′ — 0.8	22°—30′ — 14.7	33°—45′ — 30.9
6°—00′ — 1.1	23°—00′ — 15.3	34°—00′ — 31.3
7°—00′ — 1.5	23°—30′ — 15.9	34°—15′ — 31.7
8°—00′ — 1.9	24°—00′ — 16.5	34°—30′ — 32.1
9°—00′ — 2.5	24°—30′ — 17.2	34°—45′ — 32.5
10°—00′ — 3.0	25°—00′ — 17.9	35°—00′ — 32.9
10°—30′ — 3.3	25°—30′ — 18.6	35°—15′ — 33.3
11°—00′ — 3.6	26°—00′ — 19.2	35°—30′ — 33.7
11°—30′ — 4.0	26°—30′ — 19.9	35°—45′ — 34.1
12°—00′ — 4.3	27°—00′ — 20.6	36°—00′ — 34.6
12°—30′ — 4.7	27°—30′ — 21.3	36°—15′ — 35.0
13°—00′ — 5.1	28°—00′ — 22.0	36°—30′ — 35.4
13°—30′ — 5.5	28°—30′ — 22.8	36°—45′ — 35.8
14°—00′ — 5.9	29°—00′ — 23.5	37°—00′ — 36.2
14°—30′ — 6.3	29°—30′ — 24.3	37°—15′ — 36.6
15°—00′ — 6.7	30°—00′ — 25.0	37°—30′ — 37.1
15°—30′ — 7.2	30°—15′ — 25.4	37°—45′ — 37.5
16°—00′ — 7.6	30°—30′ — 25.8	38°—00′ — 37.9
16°—30′ — 8.1	30°—45′ — 26.2	38°—15′ — 38.3
17°—00′ — 8.5	31°—00′ — 26.5	38°—30′ — 38.7
17°—30′ — 9.0	31°—15′ — 26.9	38°—45′ — 39.1
18°—00′ — 9.5	31°—30′ — 27.3	39°—00′ — 39.6
18°—30′ — 10.1	31°—45′ — 27.7	39°—15′ — 40.0
19°—00′ — 10.6	32°—00′ — 28.1	39°—30′ — 40.5
19°—30′ — 11.2	32°—15′ — 28.5	
20°—00′ — 11.7	32°—30′ — 28.9	
20°—30′ — 12.3	32°—45′ — 29.3	

Chains to Feet	
1	66
2	132
3	198
4	264
5	330
6	396
7	462
8	528
9	594
10	660

Feet to Chains	
100	1.515
200	3.030
300	4.545
400	6.060
500	7.575
600	9.090
700	10.606
800	12.121
900	13.636
1,000	15.151

14.83
5.5

741
741

8.15

157.5

7875
7875

86.625
32

86.30

26.63

13.31
1331

14.64
52