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Inexed to p. 27 [illegible]

En Canto Water Grades 10-11-28

SW Klauber & Scm	Scimitar Grades 5.02	435.86		430.84 BM	
60 = P.C. in Klauber St			6.0	429.9	Grade 424.8
1 47°-14'-20"			11.5	24.4	23.1
2 14°-28'-40"			10.8	25.1	21.4
3 ∠ 21°-43'			9.3	26.6	419.7
1 ∠ 26°-10'-30"			5.3	30.6	419.5
2 ∠ 30°-38' T.P.	9.67	443.58	1.95	433.91	420.2
18' to Brk					
40'			8.0	35.6	420.9
2 Brk			4.9	38.7	424.1
3 "			4.6	39.0	426.6
4 "			5.6	38.0	428.0
5 "			7.5	36.1	429.0
6 "			8.5	35.1	429.4
1			9.3	34.3	29.0
2 T.P.	4.75	439.25	9.08	34.50	28.5
3			4.0	35.3	28.1
4			4.1	35.2	27.7
5			4.2	35.1	427.3
L P.R.C Brk			6.7	32.6	426.9
1			6.9	32.4	25.8
2			7.7	31.6	24.6
3			10.1	29.2	23.4
4 Brk T.P.	2.67	429.44	12.48	426.77	422.2
1			3.4	26.0	20.6
2 P.R.C. Brk			5.3	24.1	419.0

		Def Δ	chd 50.50
+5.1		3°-37'-10"	chd 50.50
+1.3		7°-14'-20"	" 50.50
+3.7		10°-51'-30"	" 31.12
+6.9	Y Branch	13°-05'-15"	" 31.12
+11.1		15°-19'	L C 211.32
+13.7		1°-15'-30"	chd 17.57
+14.7		(2°-47'-42")	
+14.6		4°-03'-12"	39.01
+12.4	12.22 / 1.77 / 13.99	6-30.57	39.00
+10.0		9-38-36	"
+7.1		12-26-18	"
+5.7	429.44 / 11.89 / 418.05 / 1.27 / 419.32 / 14.00 / 405.32	15-14	"
+5.3		3-08.30	43.85
+6.0		6-17	"
+7.2 ✓		9-25.30	"
+7.5 ✓		12-34	"
+7.8 ✓		15-42.30	"
+5.7 ✓		18-51	"
+6.6		4°-56-30	chd. 51.69
+7.0		9-53	" "
+5.8		14-49-30	" "
+4.6 ✓		19-46-00	" "
+5.4 ✓		4-36	
+5.1 ✓		24-32	" 49.86
		29-18	" "

See Page 20 for Water Grades Scimitar to Tank

Seimilar Water Grades (Con)

		430.66									
P.R.C.			6.5	24.1	419.0	+5.1 ✓		405.36 BM Wren & Seimilar 12.40 417.76 0.01 417.75 12.91 430.66		Def Δ 5°-40'-50"	℄ ehd 35.64
1			7.7	23.0	417.0	+6.0				11°-21'-40"	35.64
2			9.2	21.5	414.9	+6.6				17°-02'-30"	35.64
		417.76									
3 T to Tank			1.4	16.4	412.8	+3.6				24°-28'-30"	45.57
Y Branch at Wren			2.6	15.2	410.1	+5.1 ✓					
P.R.C. Brk			7.4	10.4	406.5	+3.9 ✓					
1			9.5	8.3	404.5	+3.8 ✓				3°-33'-22"	33.49
2			10.8	7.0	402.6	+4.4 ✓				7°-06'-44"	" "
3 T.P.	0.09	405.47	12.38	405.38	400.6	+4.8 ✓				10°-40'-07"	" "
4 P.R.C. Brk			1.4	4.1	398.7	+5.4 ✓		3.5		14°-13'-30"	" "
1			2.8	2.7	97.3	+5.4 ✓		5.3.2 93.2		3°-45'-20"	35.37
2			4.1	1.4	96.0	+5.4 ✓				7°-30'-40"	" "
3			6.2	99.3	94.6	+4.7 ✓				11°-16'	" "
4			7.8	97.7	93.2	+4.5 ✓		398.52 93.12 5.40 ✓		15°-01'-20"	" "
5			8.9	96.6	91.8	+4.8 ✓				18°-46'-40"	" "
6 P.R.C. Brk			10.4	95.1	390.4	+4.7 ✓				22°-32'	" "
1			12.2	93.3	89.3	+4.0 ✓				5°-01'	36.75
T.P.	5.79	398.52	12.74	392.73							
2			7.0	91.5	88.3	+3.2 ✓				10°-02'	" "
3			8.7	89.8	87.2	+2.6 ✓				15°-03	" "
4 Brk			9.0	89.5	386.2	+3.3 ✓				20°-04'-30"	" "
T in Winnett			10.2	88.3	386.2	+2.1 ✓					
1			9.4	89.1	386.1	+3.0 ✓				5-44-48	41.91
2 Brk			9.6	88.9	386.0	+2.9 ✓				5-44	41.91
1			9.2	89.3	386.8	+2.5 ✓				4-17-50	31.47
2 Brk			8.4	90.1	387.6	+2.5 ✓				4-17-50	" "

Sxm Tan Water Grades

			398.52								Def Δ	Echd 3
Brk				8.4	90.1	387.6	+2.5 ✓					
1				5.8	92.7	89.2	+3.5 ✓				5°00'46"	36.71
2				3.5	95.0	90.8	+4.2 ✓				" " "	" "
3	T.P.	12.85	411.07	1.2 0.31	97.3 398.21	92.4	+4.9 ✓				" " "	" "
4	Brk			11.5	99.6	394.0	+5.6 ✓				" " "	" "
1				9.8	01.3	95.7	+5.6 ✓				4°17'50"	31.47
0+00	2 E.E. Brk			8.7	02.4	397.5 4.5	+4.9 ✓				" " "	" "
1+00				5.3	05.8	402.0	+3.8 ✓					
2+00	T.P.	12.79	423.30	0.56	410.51	406.5	+4.0 ✓					
3+00				7.0	16.3	11.0	+5.3 ✓					
4+00				2.4	20.9	15.5	+5.4 ✓					
	T.P.	7.94	433.10	0.14	423.16							
5+00				8.1	25.0	20.0	+5.0 ✓					
5+24	P.C. Brk			6.2	26.9	421.0	+5.9 ✓			& Pipe Distance		
	Brk.			4.8	28.3	422.5	+5.8 ✓			31.3	8°09'	29.47
	Brk			3.1	30.0	423.7	+6.3 ✓			40.	10°25'	37.60
	Brk			2.8	30.3	424.1	+6.2 ✓			40.	10°25'	" "
	Brk			4.2	28.9	424.0	+4.9 ✓			40.	10°25'	" "
P.R.C.				6.4	26.7	23.3	+3.4 ✓		0+43	43.	11°12'	40.40
1				7.6	25.5	22.6	+2.9 ✓			36.6	6°59'15"	37.95
2				8.4	24.7	22.0	+2.7 ✓			"	13°58'30"	" "
3	T.P.	4.08	430.01	7.17	425.93	21.3	+4.6 ✓				20°57'45"	" "
4 = P.R.C.				3.2	26.8	20.7	+6.1 ✓		1789.4	44.4	27°57'	" "
1				3.1	26.9	20.0	+6.9 ✓			36.5	6°32'	35.04
2	Brk			4.0	26.0	419.3	+6.7 ✓			36.5	6°32'	" "
	Brk			5.4	24.6	417.0	+7.6 ✓			40.	7°09'	38.32
E.C.	Brk			7.6	22.4	416.4	+6.0 ✓			31.5	5°39'	30.28

Scimitar Water Grades

		430.01									
0+00 E.C. Brk					416.4						
T.P.	0.29	425.84	4.46	425.55					3.4		
T.P.	1.27	414.07	13.04	412.80					22.4		
+93.1 94.3			1.9	12.2	10.8	+1.4					
00= 1+86.8 T to Pump Brk		188.5	5.0	09.1	405.2	+3.9					
91.9			10.3	03.8	400.0	+3.8					
00= T.P.	0.47	401.54	13.00	401.07							
1+83.8 Brk P.C.			3.3	98.2	394.2	+3.5					2 188.6
29.5											94.3
00= 2+13.3 45° Bend Brk			7.4	94.1	394.5	+2.6					
T.P.	0.55	389.53	12.56	388.98							
00= +74.7 45°+22.5 Bends Brk			2.0	87.5	383.7	+3.8					182.8
											91.6
+95.6 45° Bend			12.3	77.2	374.4	+2.8					
38 T.P.	0.49	377.64	12.38	377.15							
1+33.6 Brk cov			4.0	73.6	370.5	+3.1					
+80 T.P.	2.50	367.50	12.64	365.00	62.5	+2.5					
80											
1+60 Brk T.P.	1.10	357.40	11.20	356.30	354.6	+1.7					
1.00											
2+60			10.2	47.2	46.6	+0.6					
1.00 T.P.	0.63	345.23	12.80	344.60							
3+60			5.2	40.0	338.6	+1.4					
78.1											
4+38.1 N. Line. Bach			11.2	34.0	332.0	+2.0					
			11.8	33.4	Pavmt						414.07
											12.53
											401.54
		Pump House Line									
00= T on Scimitar					405.2						
		392.23									
0+36.4 Brk			1.5	90.7	386.8	+3.9					
50											
0+86.4 Brk			6.6	85.6	382.7	+2.9					367.50
50											0.62
1+36.4 N. Line Pump House					373.8						366.88
											12.72
											379.60
											0.07
											379.53
											12.70
											392.23
											0.42
											391.81
											10.17
											401.98
											0.42
											401.56
Outlet Pump House		379.60			368.0						
00= 0+12.13 Δ 18°-12'			11.7	367.9	365.1	+2.8					
		367.50									
0+26.28 Brk N.E. Line Scimitar			7.8	62.7	359.0	+3.7					
56											
0+82.25 Brk			13.5	354.0	350.5	+3.5					
14											
9+96.25 Connection 30" Pipe					350.5						

A Fix Water Grades

	352.36				
T Altix + Radio		9.8	342.6	339.7	+2.9
+20 Brk 40		10.1	42.3	340.0	+2.3
+60 Brk 40		9.1	43.3	341.7	+1.6
1+00 Brk 50 T.P. 13.00	365.35	4.3 0.01	48.1 352.35	346.0	+2.1
1+50 Brk 55 T.P. 12.84	378.08	9.0 0.15	56.4 365.20	354.0	+2.4
2+05 55		11.6	66.5	62.6	+3.9
2+60 Brk T.P. 12.50 70 T.P. 12.47	390.58 402.69	0.00 0.36	78.08 390.22	371.3	+6.8
3+30 70		11.4	91.3	384.6	+6.7
4+00 N. Line		1.7	401.0	398.0	+3.0

Water Grades 65th St.

00 S. Line Brooklyn					263.0				BM. Pipe SE. Klauber + Bittern.		385.78
		79.8									3.47
1			10.5	69.3	67.0	+2.3					389.25
											13.07
2			6.2	73.6	70.9	+2.7					376.18
		291.1									0.14
3			11.7	79.4	74.8	+4.6					376.32
											12.80
4			8.0	83.1	78.7	+4.4					363.52
											0.30
5 = S. Line Wonderlyn			4.0	87.1	282.7	+4.4					363.82
		301.9			5.5						12.77
1			10.4	91.5	88.2	+3.3					351.05
											0.51
2			5.6	96.3	93.8	+2.5					351.56
		314.4									12.39
3			12.7	301.7	99.3	+2.4					339.17
											0.35
4			6.1	308.3	304.8	+3.5					339.52
											12.60
5 = S. Line Back			1.6	312.8	310.4						326.92
											0.52
											327.44
											13.06
		324.81							Nails in Pole S.W. Klauber + Bach.		314.38
N. Line Bach			12.8	312.0	312.0	0.0 ✓	F.L. Pipe				00.04
					2/4						314.42
1+00	T.P. 12.78	336.76	0.83	323.98	19.5	+4.5					12.74
											301.68
2+00			3.4	33.4	27.10	+6.3					0.24
											301.92
2+61 T in Wren St	T.P. 13.05	349.32	0.49	336.27	331.7	+4.6					12.33
											289.59
2+81 Brk N Line " "			11.8	37.5	332.9	+4.6					1.50
											291.14
1+00			4.3	45.0	41.5	+3.5					12.24
	T.P. 13.00	362.30	0.02	349.30							278.90
2+00			8.5	53.8	50.1	+3.7					0.80
											279.80
2+32 Brk			6.0	56.3	352.9	+3.4					10.12
											269.68
2+98 Brk	T.P. 12.71	374.56	0.45	361.85	357.3	+4.6					
3+64			7.2	67.4	60.5	+6.9					
4+31 Brk			2.4	72.2	363.7	+8.5					
5+205			1.1	73.5	66.3	+7.2					
6+10 T in Sparrow			2.0	72.6	368.9	+3.7					
6+60 Brk			1.3	73.3	370.3	+3.0					
T.P.	13.02	387.55	0.03	374.53							

5-99.1

5-99.1

71.75
2.4
69.3

5 (495.6
99.1

339.52
8.27
BM 331.25 N.W. Blk Cor. Hub Klauber + Wren

314.38
11.98
326.36

12.85
13.50

11.53
314.80

12.8
.8
312.0

Nails Pole N.E. Brooklyn + Klauber

314.38
10.43
324.81

336.76
1.25
5.51

Klauber Water Gradient

Brk Nof Sparrow St.	387.55			370.3					9.0	8.5.0	
0+94		9.9	77.7	374.8	+2.9						
1+88 Brk		2.6	85.0	379.3	+5.7						
T.P.	393.97										
2+88 45° Bend		6.9	87.1	382.2	+4.9						
0+58.35		3.9	90.1	384.8	+5.3						
1+16 Brk		1.3	92.7	387.5	+5.2						
T.P. 12.56	406.27	0.26	393.71								
1+68 Brk		10.2	96.1	391.0	+5.1						
2+48		5.3	401.0	97.7	+3.3						
T.P. 12.32	418.43	0.16	406.11								
3+28 Brk		9.9	408.5	404.5	+9.0						
4+05		2.0	16.4	411.0	+5.4						
T.P. 8.59	426.95	0.07	418.36								
4+81 Brk		5.4	21.5	417.5	+4.0						
5+51 Branch into Seminar		0.4	26.5	419.2	+6.8						
T.P. 10.37	436.92	0.40	426.55								
P.C. N. of Seminar Page 1		7.0	429.9	424.8	+5.1						
+82.42 Brk.		5.8	431.1	426.4	+4.7						
1+22.62 Brk		4.9	32.0	426.2	+5.8						
2+02.62 Brk		6.9	30.0	424.5	+5.5						
2+62.62 Branch into Elder		9.4	27.5	422.25	+5.3						
0+20 Brk		11.0	25.9	421.5	+4.4						
T.P. 0.38	424.71	12.59	424.33								
		3.7	21.0	417.5	+3.5						
2		7.4	17.3	413.4	+3.9						
3		11.1	13.6	409.4	+4.2						
T.P. 0.54	412.85	12.40	412.31								
4 Brk		3.5	09.3	405.4	+3.9						
85' 45° Bend		5.8	07.0	401.5	+5.5						
84.0 Brk		9.0	03.8	399.5	+4.3						
1+24 Tie & Mix		9.8	03.0	399.1	+3.9						

385.78 / 8.19 / 393.97

385.78 / 5.52 / 391.30

9.60 8.3 391.7 383.0

5.18 / C 1.56 / 6.74 / 9.19 / 2.45

4.08 / C 1.85 / 5.93 / 8.07 / 2.10

0+38.22 S. of Seminar

5.98 / F 0.15 / 5.90 / 7.10 / 1.30

4+28.6

Sparrow W.

C 1.38 / K 7.30 / 3.68 / 5.04 / 1.36

K 7.98 / C 2.15 / 10.16 / 11.70 / 1.54

C 4.43 / 0.19 / 4.62 / 6.69 / 2.07

Klauber Water Grades

		412.85				
T. in Mix st			9.8	403.0	399.1	+3.9
1			10.5	402.4	398.1	+4.3
2 Brk			10.2	402.7	397.1	+5.6
"Y" in Hilger			9.1	403.8	397.7	+6.1
	T.P. 12.76	416.76	8.85	404.00		
2+78.5 Brk 80.			14.5	402.3	398.4	+3.9
1+58.5 Brk 80			11.6	405.2	402.0	+3.2
2+38.5 Brk 90			4.2	12.6	408.5	+4.1
	T.P. 12.61	429.02	0.35	416.41		
3+28.5 90			5.1	23.9	416.3	+7.6
	T.P. 12.18	440.38	0.82	428.20		
4+18.5 Brk 78.5			8.5	31.9	424.2	+7.7
4+97.0 78.5			6.1	34.3	427.6	+6.7
5+75.5 78.5			4.1	36.3	431.0	+5.3
6+54.0 Y in Plover =00			3.0	37.4	434.4	+3.8
	T.P. 12.12	452.04	0.46	439.92		
1+03. Brk 40			6.5	45.5	438.8	+6.7
1+43. Brk 40			4.6	47.4	440.5	+7.1
1+83 Brk 40			4.7	47.3	441.6	+5.7
2+23 Brk 40			4.3	47.7	442.6	+5.1
2+63 Brk 100			3.0	49.0	443.4	+5.6
3+63 Brk 40			1.6	50.4	445.2	+5.2
4+03 " 40			1.8	50.2	445.6	+4.6
4+43 " 40			1.2	50.8	445.6	+5.2
4+83 " 40			1.5	50.5	444.9	+5.6
5+23 " 40			2.6	49.4	443.7	+5.7
5+63 Brk 80.4			4.0	48.0	442.0	+6.0
6+43.4 80.4	T.P. 5.90	448.90	9.04	443.00	438.0	+5.0
7+23.8 Brk W Zeller 56.7			11.2	37.7	434.0	+3.7
780.5 Y						

Q-93.7 187.5 57.3

418.5 235.5 654.0

3 | 235.5 78.5

723.8 56.7 780.5

Klauber Water Grades

448.90

7+80.5 "Y" Branch in Zeller. =0+00			10.8	38.1	434.4	+3.7	Rodon stub		Rodon Air		
0+12 3 98.9 Brk E. Zeller			9.4	39.5	434.5	+5.0	H.I. 448.62				
T.P. Stub 12.35		461.25	0.00	448.90							
1+11 2 98 8			11.9	49.4	40.5	+8.9	19.2	49.4		57.9 / 46.5 / 11.4 / 5.7	
2+10.0 Brk 100			6.3	55.0	446.5	+8.5	13.6	55.0			
3+10 100			1.1	60.2	52.32	+8.0	stub gone ground 0.55 8.4	60.2		52.2 / 57.9	
T.P.	8.12	68.62	0.75	460.50							
4+10 40 Brk			5.1	63.5	457.9	+5.6	5.1	63.5			
4+50 40 "			3.6	65.0	459.3	+5.7	stub gone ground 0.55 3.6	65.0			
4+90 40 "			2.2	66.4	459.7	+6.7	stub gone ground 0.55 2.2	66.4			
5+30 40 "			2.5	66.1	459.2	+6.9	2.5	66.1		457.90 BM. NW. Brk Cor. / 10.7 69th + Klauber	
5+70 40 "			5.1	63.5	457.8	+5.7	5.1	63.5	10.7 / 57.9		
6+10 100 Brk			8.6	60.0	455.5	+4.5	8.6	60.00	13.1 / 55.5		
T.P.	3.12	461.02	10.72	457.90	BM. 69th & Klauber						
7+10 Y Branch at 69th =0+00			9.1	51.9	448.2	+3.7					
T.P.	6.97	467.58	0.41	460.61							
0+78 Brk 40			6.0	61.6	453.8	+7.8					
1+18 40 "			4.5	63.1	455.0	+8.1					
1+58 40 "			3.5	64.1	455.7	+8.4				4.83 / 405.20	
1+98 Brk =0+00			4.5	63.1	456.0	+7.1					
1+00			7.0	60.6	56.4	+4.2					
2+00			6.2	61.4	56.9	+4.5					
3+00			7.6	60.0	57.3	+2.7					
4+00			6.2	61.4	57.8	+3.6					
T.P.	7.38	470.03	7.93	62.65							
5+00			6.3	63.7	58.2	+5.5					
6+00			6.0	64.0	58.7	+5.3					
7+00			4.7	65.3	59.1	+6.2					
8+00			4.0	66.0	59.6	+6.4					
8+60			4.4	65.6	59.9	+5.7					
9+20 "T" in Mallard.			4.7	65.3	460.1	+5.2					

Mallard + ~~Orange~~ Springfield

Water Grades

BM.	1.10	466.27		465.17	Mon 69th & Mallard				
T in 69th & Mallard.			1.0	65.3	460.1	+5.2			
+82			4.8	61.5	56.5	+5.0			
1+64 Brk			11.1	55.2	453.0	+3.2			2164 / 82 / 144
2+04 Brk			13.1	53.2	452.0	+3.2			
2+44 Brk			12.3	54.0	452.5	+1.5			
2+94			8.6	57.7	53.6	+4.1			152.5 / 7.5 / 160.0
T.P.	3.92	463.97	6.22	460.05		Δ ons Hab			
3+44 Brk			3.9	60.1	454.7	+5.4			
3+55.4 Y Branch Mallard + Orange			4.5	59.5	454.6	+4.9			
4+26			6.2	57.8	53.9	+3.9			
5+08 Y Branch orange + Radio			Brk 7.7	56.3	453.2	+3.1	stations from W. Line Radio		
5+90			8.3	55.7	52.4	+3.3	00 = 49' W. of Y Branch in Radio		3.48
6+73 Brk			4.4	59.6	451.7	+7.9			
7+13 Brk			5.6	58.4	450.9	+7.5			
T.P.	0.72	451.67	13.02	450.95					
7+93 Brk			0.6	51.1	446.9	+4.2			
8+73			5.7	46.0	41.2	+4.8			
9+53 Brk			9.3	42.4	439.5	+6.9			
T.P.	0.91	439.89	12.69	438.98					
9+93 "			0.5	39.4	433.1	+6.3			
10+33 "			3.1	36.8	431.6	+5.2			
10+73 "			6.1	33.8	430.7	+3.1		5+49.7 F.H.	
11+13 "			6.6	33.3	430.5	+2.8			
11+53 "			5.9	34.0	431.0	+3.0			
11+93 Brk			3.8	36.1	432.3	+3.8			
12+43 T.P.	10.13	449.50	0.52	439.37	34.5	+4.9			
12+93 Brk			8.0	41.5	436.7	+4.8			

Orange Water Grades

			449.50					stations from Radio	
12+93 Brk 40			8.0	41.5	436.7	+4.8		7+36 40	
13+33 " 40			6.1	43.4	437.2	+6.2		7+76 ✓ 40	
13+73 " 40			4.9	44.6	439.3	+5.3		8+16 ✓ 40	
14+13 " 40			4.0	45.5	440.1	+5.4		8+56 ✓ 40	41.37
14+53 " 40			3.5	46.0	440.5	+5.5		8+96 ✓ 40	
14+93 Brk			4.2	45.3	440.5	+4.8		9+36 ✓ 41.4	11+49.7
1			4.7	44.8	40.1	+4.7		9+97.4 ✓	11 20.3
2			5.9	43.6	39.7	+3.9		10+58.8 ✓	29.5
3			5.9	43.6	39.4	+4.2		11+20.2 ✓	
4 T.P.	2.20	445.74	5.96	443.54	39.0	+4.5		11+49.7 F H	
5			1.4	44.3	38.6	+5.7		11+81.5 ✓	
6			2.6	43.1	38.2	+4.9		12+42.9	
7			4.5	41.2	37.9	+3.3		13+04.3	
8			4.3	41.4	37.5	+3.9		13+65.7	
9			4.6	41.1	37.1	+4.0		14+27.1	
10 Brk 15+50 40			5.5	40.2	436.7	+3.5		14+88.5	
15+90 Brk 80			6.5	39.2	436.3	+2.9		15+50 ✓	
16+70 Brk 80			8.7	37.6	433.7	+3.3			
17+50 Brk 50 T.P.	0.30	433.22	12.1 / 12.82	33.6 / 432.92	429.0	+4.6		17+49.7 F, H,	
18+00 50			3.0	30.2	24.7	+5.5			
18+50 Brk 60 T.P.	4.31	424.44	8.4 / 13.09	24.8 / 420.13	420.5	+4.3			
19+10 Brk ✓ 45			6.2	18.2	415.6	+2.6			
19+55 Brk ✓ 40			9.9	14.5	412.5	+2.0			
19+95 Brk ✓ 40			10.9	13.5	411.2	+2.3			
20+35 Brk			10.7	13.7	411.0	+2.7			

613.7 10 - 61.37

Orange Water Grades

424.44

20+35 Brk		10.7	13.7	411.0	+2.7	
20+95 Brk		7.2	17.2	412.9	+4.3	
21+35 Brk		3.2	21.2	416.6	+5.2	
21+50 Brk TP 12.57	435.87	1.14	423.30	418.3	+5.0	
22+15 Brk		6.9	29.0	423.7	+5.3	
22+75 Brk		4.3	31.6	427.0	+4.6	
23+15 Brk		2.5	33.4	427.8	+5.6	
23+60 Brk 10' W of E. Line Paradise. TP 4.67	438.41	1.3 2.13	34.6 433.74	428.0	+6.6 NW. Paradise & Orange	
23+70 T in Paradise		3.5 Paradise	37.9	427.6	+7.3	
0+20's = S. Line Orange Brk		5.6	32.8	426.8	+6.0	
0+60 3 = T in Orange to West.		11.3	27.1	421.0	+6.1	
0+70 Brk 57.5 TP 0.26	425.91	12.3 12.76	26.1 425.65	419.6	+6.5	
1+27 5 57.5	413.63	10.7	15.2	408.4	+6.8	
1+85 Brk 90	389.11	9.8	403.8	397.3	+6.5	
2+75 Brk 90	376.14	4.1	85.0	379.0	+6.0	
3+65 Brk 60	364.11	8.7	67.4	361.0	+6.4	
4+25 Brk 36.8		8.2	55.9	349.1	+6.8	
4+61.8 T in Radio	352.36 Radio	4.8	47.6	346.2	+1.4	
0+28 2 Brk 55.9		6.5	45.9	344.0	+1.9	
0+84 1 55.9		7.8	44.6	42.9	+1.7	
1+40 Δ 47.4		8.5	43.9	41.8	+2.1	
2+07 8 61.5		9.4	43.0	40.7	+2.3	
2+63.6 Brk 20		9.4	43.0	339.5	+3.5	
2+83 6 T in Attix		9.8	42.6	339.7	+2.9	

Continued Page 5

T 425.91
12.46
413.25
0.38
T 413.63
12.55
401.08
0.54
401.62
12.90
388.72
0.39
389.11
13.06
376.05
0.09
376.14
12.62
363.52
0.59
364.11
12.75
351.36
1.00
352.36

51.36
12.75

Crosses

Klauber

	452.0				
S. Line at Plover		9.9	42.1	434.4	+7.7
	448.90				
S. Line at Zeller		9.8	39.1	434.4	+4.7
	461.0				
S Line at 19th		11.0	450.0	447.3	+2.7

Scimitar Crosses

	417.8			change	
S. Line at Wren		8.5	409.3	(410.1) 408.1	+1.2
	398.5				
N. Line at Minnett		6.6	91.9	386.5	5.4

Orange Cross

	463.97				
N.W. Line at Mallard		5.1	58.9	454.6	+4.3
	463.97				
S.E. Line at Radio		8.3	55.7	453.2	+2.5
	438.41				
N.W. Line at Paradise		0.7	37.7	431.5	+6.2

Paradise Cross

	438.41				
N. Line at Orange		9.7	28.7	421.0	+7.7
	352.4				
E. Line At Radio		2.8	48.6	346.5	+2.5

Allix Cross

N Line at Radio		12.8	39.6	339.7	-0.1

Crosses

65 + Klauber

W. Brooklyn				263.8	
10' E. "				263.8	
E "				263.8	
	291.1				
W. at Wunderlin		1.7	89.4	283.8	+5.6
10' E. " "		3.9	87.2	283.8	+3.4
E " "		3.1	88.0	283.8	+4.2
W. at AKins				214.9	
10' E. " "				214.9	
S. line AKins				215.00	
	336.8				
W. at Wren		6.6	30.8	330.0	+0.8
E Pipe " "		0.5	36.3	331.7	+4.6
	374.6				
W. at Sparrow		8.4	66.2	365.0	+1.2
E Pipe " "		2.0	72.6	368.9	+3.7
	436.9				
W. at Eider		6.3	30.6	422.2	+8.4
E Pipe "		9.4	27.5	422.2	+5.3
	412.8				
N. at Attix		11.8	401.0	398.0	+3.0
E Pipe " "		9.8	403.0	399.1	+3.9
	412.8				
S. at Hilger		11.1	101.7	397.7	+4.0

Fire Plugs

X

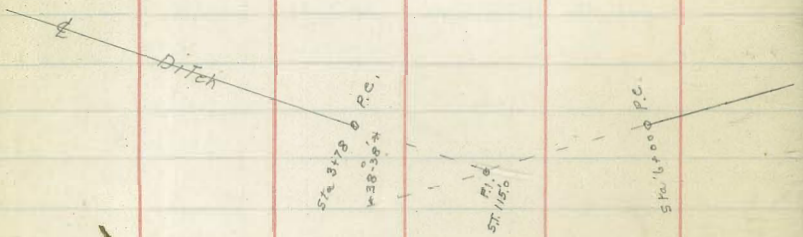
272.64

Klaubers + Brooklyn	291.14	4.87	267.77	268.30 ✓	−0.53	changed to N.E. Cor.	269.68		269.68	
" " Wandervlin	326.36	4.30	286.84	285.72 ✓	+1.12		2.07		2.96	
" C. Bach	393.97	9.96	316.40	273.35 ✓	+43.05		271.75		272.64	
" " Bittern	426.95	5.76	388.21	384.75 ✓	+3.46		5.42	3.6		
" " Scimitar	412.85	11.35	415.60	425.34 ✓	−9.74		266.33	68.14	4.50	
" " Hilger	452.04	12.05	400.80	401.05 ✓	−0.25				68.14	
" " Player	448.90	9.27	442.77	438.80 ✓	+3.97					
" " Zeller	461.02	8.00	40.90	438.39 ✓	+2.51					
" " 69th	463.97	8.42	452.60	453.36 ✓	−0.76					
Orange + Radio: Mallard	439.89	4.10	59.87	457.80	+2.07					
" 549.7 from Radio	449.50	4.40	435.49	433.45	+2.04					
" 1149.7 " "	445.74	5.32	444.18	442.14	+2.04					
" 600 N.E. Paradise	438.41	12.06	433.74	431.80	+1.94					
" at Paradise	352.36	5.66	32.75	429.49	+3.26					
Attly at Radio	417.76	9.33	43.03	443.66	−0.63					
Scimitar " Wren	398.52	5.59	12.17	414.65 ✓	−2.48					
" " Winnett	433.10	4.30	394.22	391.00	+3.22					
" Bet Wren + Pump House		5.50	427.60	427.00	+0.60					

Water Grades Sanitar to Tank

			417.76									
"T.T." Sanitar	0+00 T.P.	12.91	430.66	1.4	16.4	412.8	+3.6				4/192.9 48.2	
				0.01	417.75							
+40.1 Valve N Line				7.5	23.2	412.8	+10.4 change					ground at ℄
+60 Brk				5.3	25.4	426.0	22.6 change	+3.4	Brk			25.4
	T.P.	12.84	443.29	0.21	430.45							
1+08				7.0	36.3	33.8	32.3 change	+4.0				36.0
	T.P.	12.43	455.43	0.29	443.00							
1+56				7.2	48.2	41.7	48.7 change	+5.5	Brk			46.4
	T.P.	10.73	465.46	0.70	454.73							
2+04				9.1	56.4	49.5	453.0	+3.4	Brk			54.2
2+52 Brk	45° Bend	∠	39°-30"	4.8	60.7	457.4	+.O.K. change	+3.3	Brk	5.25 .68 5.90		
2+79		∠	39°-30'	4.2	61.3	457.4	458.3 459.6	+3.0				
3+99.10				5.9	459.6	457.4	Flowline Pipe					

Survey of Encanto Ditch
Merlin Drive - West

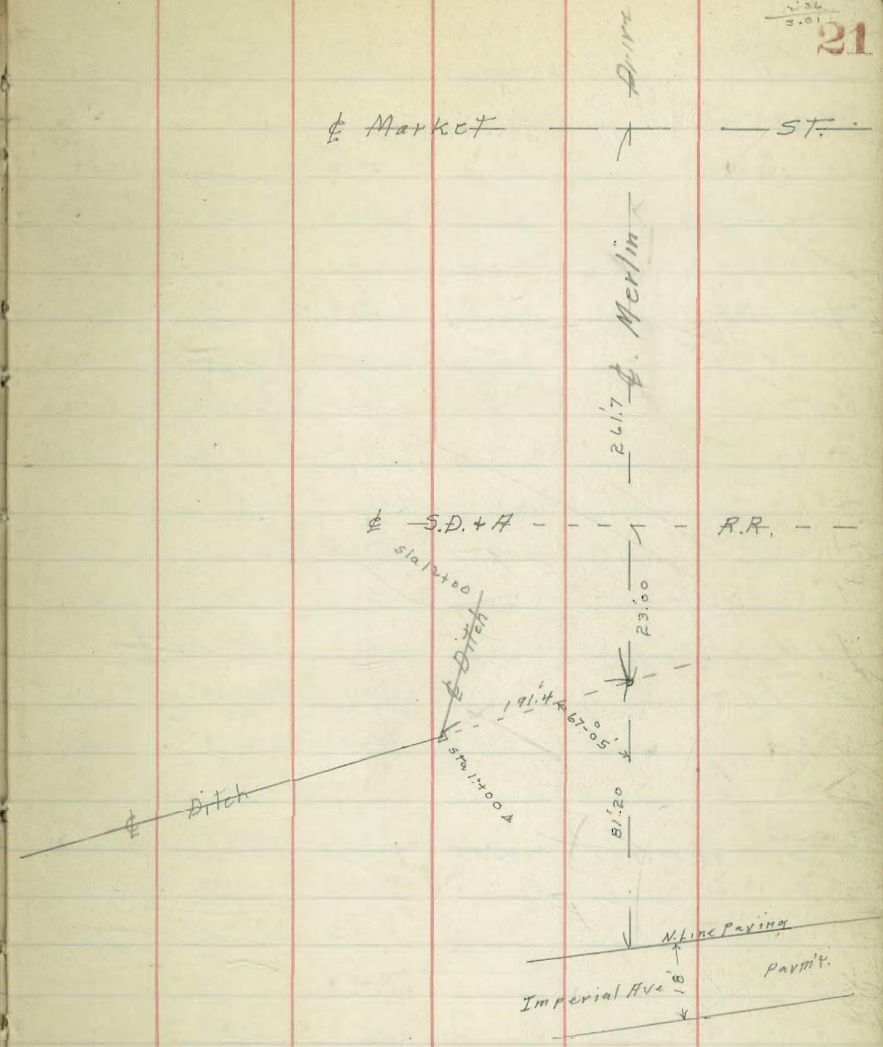


191.40

246.70
15
261.70

2365
1.36
3.01

21



Encanto Ditch 10-31-28

154.57
148.50
6.07

22

0+00 = 1100 W. of Δ. S of R.R. Bridge at Merlin Drive

				Ground at ℄		Elev 20' Tie out slab	Grade	Offset ++ −	℄ ++ −	Highway BM. #10 Tel. Pole S. Side Highway above BM. City Datum
1+00		146.64					0+00 = 133.0 130			
							134.26			
2+00			14.0	132.6			133.0			
							135.52			
3+00			12.6	134.0	5.6	141.0	134.5 136.78	+6.5	−0.5	
3+78 P.C.			6.1	140.5	4.0	142.6	135.7 137.76	+6.9	+4.8	
4+89 Ctr Curve			3.7	142.9	2.8	143.8	137.4 139.16	+6.4	+5.5	Δ 38°-38'
T.P.	8.97	153.07	2.54	144.10						ST 115.0
6+00 E.C.			8.3	144.8	7.7	145.4	139.0 140.56	+6.4	+5.8	
7+00			5.3	147.8	4.0	149.1	140.5 141.82	+8.6	+7.3	
8+00			4.1	149.0	4.3	148.8	142.0 143.08	+6.8	+7.0	
9+00			3.8	149.3	3.4	149.7	143.7 144.34	+6.0	+5.6	
T.P.	7.72	154.89	5.90	147.17						
10+00			7.3	147.6	5.2	149.7	145.2 145.60	+4.5	+2.4	
11+00 Δ Left			6.1	148.8	4.6	150.3	1.26 % 146.86	+3.4	+2.0	
12+00			5.5	149.4	4.6	150.3	148.12	+2.2	+1.3	
13+10 Δ R.			3.1	151.8	+1.0	155.9	149.38	+6.5	+2.4	
T.P.	6.65	158.18	3.36	151.53						
14+00			5.4	152.8	4.4	153.8	150.64	+3.2	+2.2 13+47.5	℄ Bridge at Merlin
15+00			3.4	154.8	3.0	155.2	151.90	+3.3	+2.9	
16+00			2.0	156.2	1.4	156.8	153.16	+3.6	+3.0	
T.P.	9.79	166.52	1.45	156.75						
16+80 Δ L			10.0	156.5	9.4	157.1	154.17	+2.9	+2.3	
18+00			8.7	157.8	8.7	157.8	155.68	+2.1	+2.1	
19+00			7.4	159.1	5.9	160.6	156.94	+3.7	+2.2	
19+90 Δ R			7.3	159.2	3.7	162.8	158.07	+4.7	+1.1	
21+00			5.5	161.0	3.7	162.8	159.46	+3.3	+1.5	
T.P.	8.72	170.30	4.94	161.58						
22+00			4.8	165.5	5.6	164.7	160.72	+4.0	+4.8	
23+00			5.0	165.3	5.1	165.2	161.98	+3.2	+3.3	
23+31 = ℄ Bridge at Detroit = 60th St							162.37	—		
T.P.	6.60	172.63	4.27	166.03						

		Encanto	Ditch	Ground at ℄		Elev of 20' Tie out stub.	Grade	20' Offset ± on ±	℄ + −
		X 172.63							
24+00			5.3	167.3	1.9	170.7	163.24	+7.5	+4.1
24+35 Δ R			4.6	168.0	4.6	168.0	163.68	+4.3	+4.3
25+00			5.0	167.6	3.8	168.8	164.50	+4.3	+3.1
26+00			2.6	170.0	3.5	169.1	165.76	+3.3	+4.2
27+00			2.8	169.8	2.5	170.1	167.02	+3.1	+2.8
27+50 Δ L			2.8	169.8	0.6	172.0	167.65	+4.3	+2.1
T.P.	9.56	181.54	0.65	171.98					
28+00			10.0	171.5	9.1	172.4	168.28	+4.1	+3.2
29+00			9.3	172.2	8.5	173.0	169.54	+3.5	+2.6
30+00			7.2	174.3	7.0	174.5	170.80	+3.7	+3.5
31+00			6.5	175.0	6.4	175.1	8/0 172.06	+3.0	+2.9
31+50 Δ L			7.0	174.5	5.1	176.4	126 172.69	+3.7	+1.8
32+50 Δ L			5.5	176.0	3.8	177.7	173.93	+3.7	+2.0
T.P.	7.90	185.53	3.91	177.63					
33+00			8.0	177.5	7.5	178.0	174.28	+3.4	+2.9
34+00			5.5	180.0	6.2	179.3	175.84	+3.5	+4.2
35+00			4.0	181.5	2.5	183.0	177.10	+5.9	+3.4
35+45 Δ R			4.4	181.1	1.5	184.0	177.67	+6.3	+3.4
36+00 Δ R			5.0	180.5	3.5	182.0	178.36	+3.6	+2.1
37+00			2.5	183.0	2.2	183.3	179.62	+3.7	+3.4
T.P.	6.50	191.20	0.83	184.70					
38+00			7.4	183.8	3.7	187.5	180.88	+6.6	+2.9
39+00			5.0	186.2	4.2	187.0	182.14	+4.9	+4.1
40+15 Δ L			5.2	186.0	1.2	190.0	183.59	+6.4	+2.4
T.P.	7.97	194.42	4.75	186.75					
41+40 Δ L			6.4	188.0	6.7	187.7	185.16	+2.5	+2.8
41+99 = ℄ Bridge 63rd St.							185.91	—	
42+00			7.0	187.4	5.7	188.7	185.92	+2.8	+1.5
43+00			4.4	190.0	3.1	191.3	187.18	+4.1	+2.8
44+00			3.3	191.2	4.0	190.4	188.44	+2.0	+2.7

		En Canto Ditch									
		π 194.42		Ground at ℄		Elev of 20' Tie out Stubs	Grade	20' offset + or −	℄ + or −		
45+00			2.1	192.3	2.5	191.9	189.70	+2.2	+2.6		
46+00			0.6	193.8	1.1	193.3	190.96	+2.3	+2.8		
T.P.	7.26	200.57	1.11	193.31 on	stub at 46+00						
46+40 Δ.R.			7.0	193.6	5.2	195.4	191.46	+3.9	+2.1	Hub − 59+20 −	211.7
47+00			5.8	194.8	5.3	195.3	192.22	+3.1	+2.6	+	4.5
48+00			5.0	195.6	4.6	196.0	193.48	+2.5	+2.1	H.I.	216.2
49+00			4.0	196.6	0.4	200.2	194.74	+5.5	+1.8	−	6.9
50+00 Δ.R.			3.2	197.4	+0.9	201.5	196.00	+5.5	+1.4	Top. 36" W.S. pipe	209.3
T.P.	11.39	208.84	3.12	197.45							
51+00			9.7	199.1	6.3	202.5	197.26	+5.2	+1.8	Grade	207.1
52+00			6.6	202	7.2	201.6	198.52	+3.1	+3.7		2.1
52+60 ΔL			6.4	202 4	6.6	202.2	199.28	+2.9	+3.1		
53+00			6.0	202 8	6.5	202.3	199.78	+2.5	+3.0		
54+00			4.7	204 1	3.5	205.3	201.04	+4.3	+3.1		
54+50 ΔR			5.0	203 8	1.8	207.0	201.67	+5.3	+2.1		
T.P.	6.75	211.39	4.20	204.64							
55+15 ΔR			6.8	204.6	6.2	205.2	202.49	+2.7	+2.1		
56+00			6.3	205.1	4.3	207.1	203.56	+3.5	+1.5		
56+99 = ℄ Bridge at 65th St.							204.81				
57+00			4.9	206.5	2.9	208.5	204.82	+3.7	+1.7		
58+00			2.7	208.7	4.4	207.0	206.08	+0.9	+2.6		
58+82 = ℄ 30" Wood Stave Waterpipe			2.1	209.3		Top of Pipe	207.11				
T.P.	8.80	219.32	0.87	210.52							
59+20 ΔL			9.0	210.3	7.6	211.7	207.59	+4.1	+2.7		
60+00			8.4	210.9	7.0	212.3	208.60	+3.7	+2.3		
61+00 ΔL			7.5	211.8	4.8	214.5	209.86	+4.6	+1.9		
62+00			7.1	212.2	0.3	219.0	211.12	+7.9	+1.1		
T.P.	11.88	225.88	5.32	214.00							
63+00			12.5	213.4	6.5	219.4	212.38	+7.0	+1.0		

Encanto Ditch

			ground ℄		Elev of 20' Tieout Stubs	Grade	20' offset + or −	℄ + or −
	225.88							
64+00 △R		12.2	✓13.7	10.4	215.5	213.64	+1.9 ✓	0.0 ✓
64+08 = ℄ Bridge at 66th St.						213.74		
chk on BM. spk Pole		5.31	220.57 =	220.56	N.W. Akins + 66th St.			
65+00		9.6	✓16.3	6.0	219.9	214.90	+5.0 ✓	+1.4 ✓
66+00		9.2	✓16.7	4.9	221.0	216.16	+4.8 ✓	+0.5 ✓
T.P.	10.44	229.28	7.04	218.84				
66+50 △R		11.3	✓18.0	4.9	224.4	216.79	+7.6 ✓	+1.2 ✓
67+15 △R		11.7	✓19.6	9.8	219.5	217.61	+1.9 ✓	0.0 ✓
67+71 = ℄ S.D.+A. R.R. Bridge						218.31		
68+00		10.5	✓18.8	8.0	221.3	218.68	+2.6 ✓	0.0 ✓
68+41 = N. Line Emperial Ave Highway Bridge		10.3	19.0	9.3	220.10	219.2 ✓	+0.8 ✓	0.0 ✓

Mark on wing 10' W. of ℄

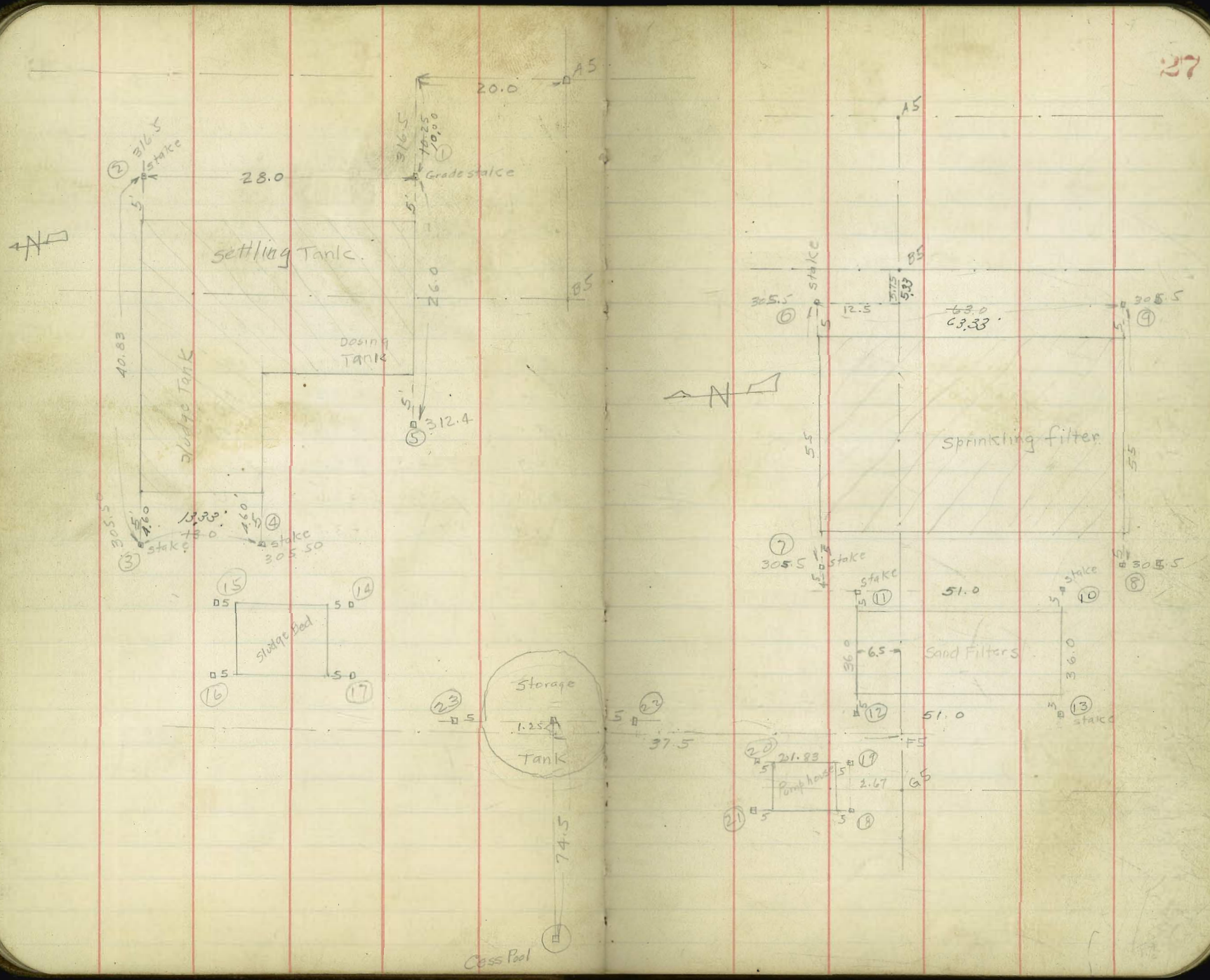
Encanto Ditch

Alignment Change Sta 16+80 to Sta

11-14-28

BM.		*		Ground at ℄		Elev of 12 Tie outs	Grade	offset + or −	℄ + or −
Sta 16+80 B.M.	12.50	169.60				157.1	154.2	+2.9	
18+00			10.3	59.3	11.3	58.3	55.7	+2.6	+3.6
19+00			7.5	62.1	7.5	62.1	57.0	+5.1	+5.1
20+00			5.3	64.3	5.1	64.5	58.3	+6.2	+6.0
21+00			4.1	65.5	4.4	65.2	59.6	+5.6	+5.9
22+00			2.6	67.0	3.1	66.5	60.9	+5.6	+6.1
23+00			0.0	69.6	+0.3	69.9	62.2	+7.7	+7.4
T.P.	10.72	180.17	0.15	169.45					
24+00			8.3	71.9	8.1	72.1	63.5	+8.6	+8.4
25+00			4.6	75.6	5.0	75.2	64.8	+10.4	+10.8
26+00			4.0	76.2	3.8	76.4	66.1	+10.3	+10.1
27+00			8.5	71.7	9.2	71.0	67.4	+3.6	+4.3
28+00			7.5	72.7	7.5	72.7	68.7	+4.0	+4.0
29+00			6.6	73.6	6.6	73.6	70.0	+3.6	+3.6
29+65 = 30+00 New Line Old Line					5.7	74.5	170.8	+3.7 chk	

℄ - 12' N of S. Line



20.0
A5
316.5
stake
28.0
Grade stake
settling Tank
26.0
B5
Dosing Tank
40.83
Sludge Tank
312.4
305.5
stake
13.33
13.0
305.50
Sludge Bed
Storage
1.25
Tank
37.5
74.5
Cess Pool
305.5
12.5
63.0
63.33
Sprinkling filter
55
305.5
stake
51.0
6.5
Sand Filters
36.0
51.0
F5
G5
201.83
Pump house
2.67

Cut Stakes - College Sewer
from M.H. #1 to Settling tank:

	396.93	El.	Grade	Cut.	
M.H. #1	7.67	389.26	382.12	7.14	
1	3.62	393.31	381.25	12.06	
2	2.91	394.02	380.38	13.64	
3	4.86	392.07	379.51	12.56	
4	7.41	389.52	378.64	10.88	
5	10.52	386.41	377.77	8.64	
M.H. #2	10.22	386.71	376.90	9.81	
	11.84	385.09	375.99	9.10	
	11.30	385.63	375.09	10.54	
	10.75	386.18	374.18	12.00	
	10.42	386.51	373.28	13.23	
	389.53				
M.H. #3	8.44	381.09	372.37	8.72	
	5.10	384.43	371.37	13.06	
	7.74	381.79	370.36	11.43	
	10.35	379.18	369.36	9.82	
	13.30	376.23	368.36	7.87	
	11.25	378.28	367.35	10.93	
M.H. #4	7.82	381.71	366.35	15.36	
1@48.06	11.08	378.45	365.39	13.06	
1@38.06	7.48	382.05	364.63	17.42	
	10.85	378.68	363.67	15.01	
	380.75				
	5.06	375.69	362.71	12.98	
	7.64	373.11	361.75	11.36	
1@10	12.74	368.01	360.79	7.22	
M.H. #5	12.64	368.11	360.58	7.53	

6@43.50

5@45.29

6@50.18

4@48.06

B.M.
385.09
11.84
396.93
-12.72
384.21
5.32
389.53
-13.03
376.50
+4.25
380.75

Cut Stakes College Sewer

						380.75
						-12.55
M.H. #5	380.75		360.58			368.20
	12.02	368.73	359.64	9.09		+3.85
	12.55	368.20	358.70	9.50		372.05
	372.05					-12.85
	4.89	367.16	357.76	9.40		359.20
						2.21
	5.93	366.12	356.82	9.30		361.41
						13.09
	7.08	364.97	355.88	9.09		348.32
						0.67
	9.50	362.55	354.94	7.61		348.99
						-13.07
D.M.H. #6	12.89	359.16	354.00	5.16		335.92
						0.45
D.M.H. #6	361.41		351.03	8.13		336.37
						12.74
	1.08	360.33	345.12	15.21		323.63
						0.94
	6.55	354.86	339.21	15.65		324.57
	348.99					12.73
M.H. #7	3.07	345.92	333.29	12.63		311.84
						-0.18
	10.36	338.63	327.19	11.44		312.02
	336.37					10.48
	6.52	329.85	321.09	8.76		B.M-301.54
	324.57					
Con at set tank C	1.78	322.79	315.00	7.79		

8/8/30

Stakes on Disposal plant College Sewer. (See P 27)

		324.57				
top set tank			El	Grade		
	1	8.35	316.22	316.50	F 0.28	301.54
						2.27
	2	5.42	319.15	316.50	C 2.65	303.81
top sludge tank		312.02				-13.02
	3	12.73	299.29	305.50	F 6.21	290.79
						0.71
	4	12.17	299.85	305.50	F 5.65	291.50
top Dosing tank						1.20
	5	8.94	303.08	312.40	F 9.32	278.30
top Filter well						0.43
	6	6.69	305.33	305.50	F 0.17	278.73
		303.81				+2.98
	7	7.66	296.15	305.50	F 9.35	265.75
						0.42
	8	9.53	294.28	305.50	F 11.35	266.17
		312.02				0.35
	9	4.22	307.80	305.50	C 2.30	265.82
		303.81				12.73
	10	9.42	294.39	295.00	F 0.61	278.55
						0.19
	11	8.62	295.19	295.00	C 0.19	278.36
		291.50				12.72
	12	8.41	283.09	295.00	F 11.91	291.08
						0.28
	13	3.34	288.16	295.00	F 6.84	290.80
						13.16
	14	4.92	286.58	285.00	C 1.58	303.96
						2.40
	15	8.28	283.27	285.00	F 1.73	B.M-301.56
	16	11.00	280.50	285.00	F 4.50	
	17	8.76	282.74	285.00	F 2.26	
		278.73				
	18	5.54	273.19	270.00	C 3.19	
	19	1.40	277.33	270.00	C 7.33	
	20	3.09	275.64	270.00	C 5.64	
	21	7.35	271.38	270.00	C 1.38	
		291.50				
	22	7.52	283.98	286.00	F 2.02	
	23	7.85	283.65	286.00	F 2.35	
Cess pool		266.17				
		9.44	256.73	253.00	C 3.73	

	427.18			Cut	
DE	5.27	421.91	416.86	5.05	
	5.53	421.65	413.50	8.15	
	8.22	418.96	410.14	8.82	
	12.36	414.82	406.78	8.04	
	417.16				
	5.94	411.22	403.42	7.80	
MH #8	9.59	407.57	400.06	7.51	
	11.61	405.55	396.44	9.11	
	11.93	405.23	392.82	12.41	
	404.57				
	1.92	402.65	389.20	13.45	
	4.11	400.46	385.58	14.88	
	391.84				
MH #9	3.17	388.67	381.96	6.71	
	379.55				
	6.47	373.08	362.64	10.44	
	354.02				
	1.63	352.39	343.32	9.07	
	341.19				
Cess Pool	10.62	330.57	324.00	6.57	

Near Power House

B.M.

396.65
12.89
409.54
0.12
409.42
12.97
422.39
1.97
420.42
6.76
427.18
1.21
425.97

B.M. N.W. Cor of Area Wall North of Acid line against railing.

427.18
12.36
414.82
3.34
417.16
12.99
404.17
0.40
404.57
13.17
391.40
0.44
391.84
12.64
379.20
0.35
379.55
12.61
366.94
0.08
367.02
13.02
354.00
0.02
354.02
12.89
341.13
0.06
341.19

Walker
Bliss
Drebert
Isabell 10-28-30

STATE COLLEGE
GRADES FOR 2½" Conduit Line
Profile 2 - Drawing 547-D

E. Line	π			Grade Flow Line	Cuts and Fills	Book 1394-2 = BM on Con Mon. #2 = 430.66
Pump House = 0+00	285.36	9.83	275.53	276.00	-0.47	← BM. on ℄ Hub F-5 Book 1394-4
0+~~10~~ 30 = Brk	297.29	11.89	285.40	282.00	+3.40	
+~~46~~ 66 = "	309.96	12.72	297.24	293.70	+3.54	
1+~~86~~ 06 = "		7.85	302.11	~~301.00~~ 300.00	+1.11 +2.11	
1+~~10~~ 30 = "	322.48	9.99	312.49	~~310.00~~ 309.00	+2.49 +3.49	
(38')2 1+~~48~~ 68	347.25	11.55	335.70	332.~~50~~ 00	+3.70	
2+06 ~~1+86~~ = Brk	358.61	0.60	358.01	355.00	+3.01	
2+~~29~~ 49	394.73	10.08	384.65	382.50	+2.15	
2+91.98	425.72	12.28	413.44		Flow Cuts	offsets
= 2+71.98 = Δ Rt. 74°59'30" = Hand Hole #3				410.00	+3.44	6' Lt.
(57.5)2 3+29.48		5.24	420.48	417.00	+3.48	" "
+86.98 = Brk.		0.20	425.52	424.00	+1.52	" "
(40-3) 4+33.65	435.98	7.92	428.06	425.33	+2.73	" "
+80.32		6.48	429.50	426.67	+2.83	" "
5+27.00 Brk		5.30	430.68	428.00	+2.68	" "
(439.1)4 5+70.91		4.53	431.45	427.75	+3.70	" "
6+14.82		4.59	431.39	427.50	+3.89	" "
+58.73	438.62	7.83	430.79	427.25	+3.54	" "
Hand hole #2 7+02.64 = Brk Δ 74°58' Lt.		8.88	429.74	427.00	+2.74	" "
(62.5)2 7+65.14		6.92	431.70	428.50	+3.20	" "
8+27.64 = Brk.		5.85	432.77	430.00	+2.77	" "
(47')5 8+74.64		5.01	433.61	430.20	+3.41	" "
9+21.64		4.48	434.19	430.40	+3.79	" "
+68.64		3.74	434.88	430.60	+4.28	" "
10+15.64		3.60	435.02	430.80	+4.22	
Hand hole #1 +62.64 = Δ Rt. 26°06'		3.67	434.95	431.00	+3.95	" "

Cont. on P-32

284.31	430.66
5.20 +	4.14 +
289.51 = π	434.80
5.20 −	11.69 −
284.31 = T.P.	423.11 = T.P.
1.05 +	2.61 +
285.36 = π	425.72 = π
1.05 −	0.20 −
284.31 = T.P.	425.52 = T.P.
12.98 +	10.46 +
297.29 = π	435.98 = π
0.32 −	5.30 −
296.97 = T.P.	430.68 = T.P.
12.99 +	7.94 +
309.96 = π	438.62 = π
0.37 −	
309.59 = T.P.	
12.89 +	
322.48 = π	
0.69 −	
321.79 = T.P.	
13.09 +	
334.88 = π	
0.61 −	
334.27 = T.P.	
12.98 +	
347.25 = π	
1.59 −	
345.86 = T.P.	
12.75 +	
358.61 = π	
0.60 −	
358.01 = T.P.	
12.61 −	
370.62 = π	
0.47 −	
370.15 = T.P.	
12.25 +	
382.40 = π	
0.54 −	
381.86 = T.P.	
12.87 +	
394.73 = π	
0.09 −	
394.64 = T.P.	
12.16 +	
406.80 = π	
0.24 −	
406.56 = T.P.	
11.34 +	
417.90 = π	
4.44 −	
413.46 chk on 2+71.98	
413.44 = Stub.	
0.02 = Error.	

2½" CONDUIT LINE
Cont. from P. 31

6-(50')										438.62=π
11+12.64		438.62	4.28	434.34	431.17	+3.17				4.23 −
+62.64			4.23	434.39	431.~~34~~ 14	+3.05	+3.25			434.39=TP.
12+12.64		438.45	4.14	434.31	431.~~51~~ 31	+2.80	3.00			4.06+
+62.64			4.38	434.07	431.~~58~~ 38	+2.39	2.69			438.45=π
13+12.64			4.70	433.75	431.~~86~~ 46	+1.89	2.29	chk. on Mon. BM		5.95−
+62.64			4.99	433.46	~~432.04~~ 431.54	+1.42	+1.92			432.50=TP
52.78					431.62					4.21
14+15.42=Exist. M.H.					~~432.22~~					436.71
										6.04
										430.67
										430.66=BM.
										0.01=Error.

STATE COLLEGE
SEWER GRADE STAKES
Profile sheet 1 Drawing #546-D

	Proj. Line Grades	Cuts	offsets
226.45 East of MH#3			
=0+00 = MH#2	386.71	380.00	+6.71	10' Lt.
(45.29') 6			
0+45.29	385.09	379.43	+5.66	" "
+90.58	385.63	378.87	+6.76	" "
1+35.87	386.18	378.30	+7.88	" "
+81.16	386.51	377.34	+9.17	" "
2+26.45 = ∠ MH#3 = Δ R+81°20'	381.09	376.61	+4.48	" " 20' R.P. #180
(50.18') 6			
2+76.63	384.43	375.35	+9.08	" "
3+26.81	381.79	374.10	+7.69	" "
+77.00	379.18	372.84	+6.34	" "
4+27.18	376.23	371.59	+4.64	" "
+77.36	378.28	370.33	+7.95	" "
MH. #4			
5+27.54 = Δ 84°53' = Turned 84°51'45" from	381.71	369.08	+12.63	" " (20'S + 12'E) R.P.
(48.06')			
5+75.60	378.45	368.02	+10.43	" "
(38.06')			
6+13.66	382.05	367.18	+14.87	" "
(48.06') 4			
6+61.72	378.68	366.12	+12.56	" "
7+09.78	375.69	365.06	+10.63	" "
+57.84	373.11	364.00	+9.11	" "
8+05.90	368.01	362.94	+5.07	" "
1-10' MH #5			
+15.94 = Δ Lt. 17°52'45"	368.11	362.74	+5.37	" " 10' = 20' R.P.
(47.01') 7			
8+62.95	368.73	361.71	+7.02	" "
9+09.96	368.20	360.68	+7.52	" "
+56.97	367.16	359.64	+7.52	" "
10+03.98	366.12	358.61	+7.51	" "
+51.00	364.97	357.57	+7.40	" "
+98.01	362.55	356.53	+6.02	
MH. #6			
11+45.03 - Δ	359.16	355.50	+3.66	" " 10' & 19.8' Lt. R.P.

Cont on P-33

SEWER GRADES

Cont. from P-32

(31.68)² 11+76.71	61.20	353.28	+7.92
12+08.4 = BM.	58.18	351.06	+7.12
(35')² 12+43.4	52.97	344.06	+8.91
+78.4 = MH # 7	345.92	337.06	+8.86
(45.85')³ 13+24.25	338.63	329.71	+8.92
+70.10	329.85	322.35	+7.50
14+15.95 = 1' E. ME Cor. Bldg.	322.79	315.00	+7.79

GRADE LEVELS ON PUMP HOUSE

285.36

		Floor Elev.	Cuts
See P-27 Cor. # 18 = SW	12.27	273.09	270.00	+3.09
" # 19 = SE	8.11	277.25	270.00	+7.25
" # 20 = NE	9.81	275.55	270.00	+5.55
" # 21 = NW	14.08	271.28	270.00	+1.28

GRADES ON SETTLING TANK

①	322.48	6.32	316.16	316.50	-0.34
②	322.48	3.40	319.08	316.50	+2.58
③	309.96	10.73	299.23	305.50	-6.27
④	309.96	10.18	299.78	305.50	-5.72
⑤	309.96	6.95	303.01	312.40	-9.39

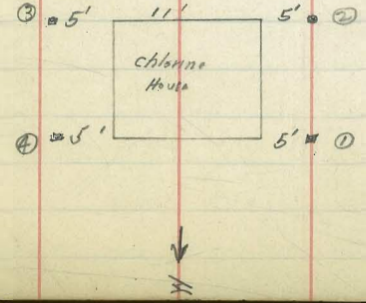
GRADES ON CHLORINE TANK

417.88 ℄ - P-31 - Elevation

			Floor Elev.	Cuts Floor
①	10.63	407.25	405.50	+1.75 N ←
②	7.37	410.51	405.50	+5.01
③	8.67	409.21	405.50	3.71
④	11.33	406.55	405.50	+1.05
	7.37	31		

BM on Hub F-5

28431
1.057
285.36
1.05 -
284.31 = T.P.
12.98 +
297.29 = ℄
0.32 -
296.97
12.99 +
309.96 = ℄
0.37 -
309.59
12.89 +
322.48 = ℄



SLUDGE TANK

Top of Wall - - -	305.50			
-	18.00	301.17 = π		
Bottom - - -	287.50		287.50 / 13.67	287.40 / 13.77 / 8.75 / +5.02
Elev 45° Bend C.I. Pipe	287.40			

1.

Elev. stake #④ P39 = 299.89
1.28 +
301.17 = π

Walker
Bliss
Diebert
10-30-30

"ACID LINE"

STATE COLLEGE

{Plan 540-D
Profile 546-D}

			Elev. State	GRADE Flow Line	Flow Line Cuts
Exist. Line at C Worth Science Bld					
=0+00	427.12	5.54	421.58	416.86	+4.72
+46.67		5.44	421.68	415.84	+5.84
+93.34		8.15	418.97	414.82	+4.15
1+40 = Brk.		12.14	414.98	413.80	+1.18
+90	415.13	3.58	411.55	408.40	+3.15
2+41.35=Δ #1					
=2+40 - MH=Δ 4.78 40'30" (45-1)		7.53	407.60	403.00	+4.60
2+85		9.69	405.44	401.65	+3.79
3+30		9.93	405.20	400.30	+4.90
3+75		12.28	402.85	398.95	+3.90
4+20 - Brk.	401.64	13.67	401.46	397.60	+3.86
4+75 - MH. #2 = Δ RH 4°57' (45-1)		12.96	388.68	384.95	+3.73
5+20 = Brk. (40-1)	377.27	7.17	370.10	366.95	+3.15
5+60 = "	352.32	2.51	349.81	345.95	+3.86
+95 = ℄ Cess Pool	339.74	9.23	330.51	324.00	+6.51

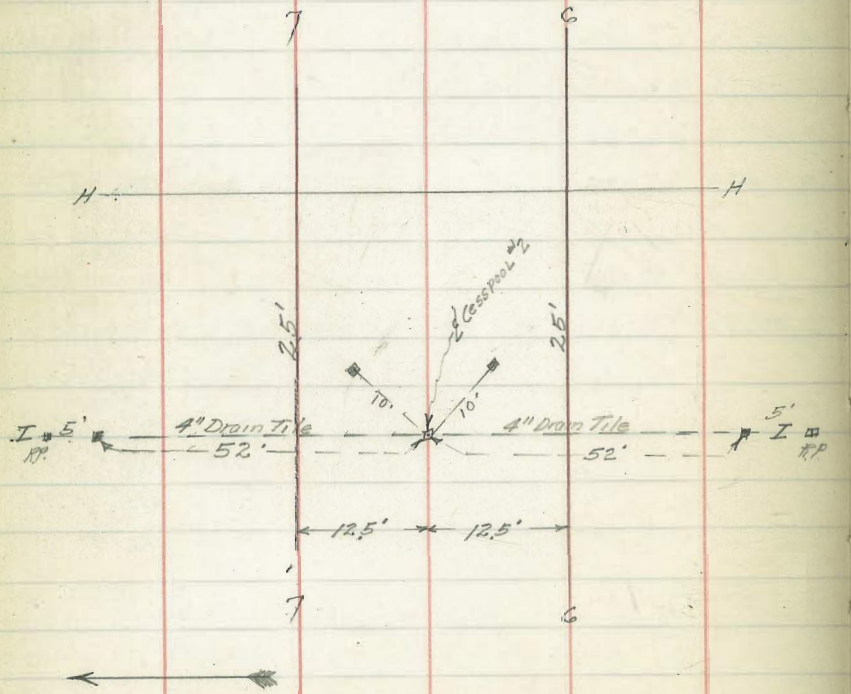
B.M. on Stub Bot 1394-79 = 396.65

396.65
13.16 T
409.81 = π
0.38 −
409.43 = T.P.
11.23 +
420.66 = π
0.97 −
419.69
1.43 +
427.12 = π
1.02 −
414.10 = T.P.
1.03 +
415.13 = π
13.67 −
401.46 = T.P.
0.18 +
401.64 = π
12.96 −
388.68 = T.P.
0.75 +
389.43 = π
12.56 −
376.87 = T.P.
0.40 +
377.27 = π
13.12 −
364.15 = T.P.
0.40 +
364.55 = π
13.09 −
351.46 = T.P.
0.86 +
352.32 = π
12.80 −
339.52 = T.P.
0.22
339.74

Walker
Bliss
Drebert
Kanagy
11-3-30

STATE COLLEGE
GRADES FOR CESSPOOL No 2

	⊼			top Elev.		offsets	B.M. on "K-5" Book 1894-7 =	244.91 = B.M.
℄ Cesspool	256.81	0.14	256.67	253.00	+3.67	10' S.E.		11.53 +
								256.44 = ⊼
				Flow Line				11.53 =
N. end 4" Drain Tile		4.59	252.22	249.50	+2.72	5' North ℄		244.91 = T.P.
S " 4" " "	256.44	4.88	251.56	249.50	+2.06	5' South ℄		11.90 +
								256.81 = ⊼



Walker
Bliss
Drawn 11-5-30

GRADES for 1" Galv. Water Line

STATE COLLEGE

Station.	432.5			GRADE Flow Line		
0+00 = 2+71.38 P31				410.00		offsets Con Mon. #2 BM = 430.66
+54.02 = End 4" C.I. Line = beg. 1½ Line		17.2	415.3	414.6	+0.7	6' +12' Lt. from ℄ 1.82+
1+00 = Brk.		14.1	418.4	417.3	+1.1	6' Lt. 432.48
+50 = "		10.5	422.0	420.9	+1.1	" "
2+00		9.6	422.9	421.91	+1.0	" "
+50 "		8.2	424.3	422.98	+1.3	" "
+75 = Brk.		7.9	424.6	423.5	+1.1	" "
3+25 = "		6.9	425.6	424.2	+1.4	" "
+75		4.9	427.6	425.2	+2.4	" "
4+25 = Brk.		5.0	427.5	426.2	+1.3	" "
+75	out.			427.25		" "
+91.35 = End Line		2.1	430.4	428.3	+2.1	15' Rt. 25' Rt. from ℄

Profile Levels For "Acid Line"

				BM. 0+00 Stub.
3.6' West And 2.9' N	5.10	426.68	421.58	4" C.I
= 0+00 = End Exist. Acid Line		6.94		top Pipe
0+06 on Ground		5.2		
+17		4.9		
+25		3.6		
+50		3.8		
+80		4.8		
1+04		8.0		
+25		8.4		
+50		12.2		
+75		13.2		
2+10		16.7		
+42		21.1	405.6	

GRADES on SETTLING P-33
Re-set. 11-12-30

				Elev. top Wall	Cuts
①	317.67	6.33	316.34	316.50	-0.16
②	317.67	4.28	318.39	316.50	+1.89
③	303.72	5.17	298.55	305.50	-6.95
④	303.72	3.83	299.89	305.50	-5.61
⑤	314.00	11.10	302.90	312.40	-9.50

SPRINKLING FILTER
Re-staked 11-12-30

				Elev. top Wall	
⑥	319.00	10.66	303.34	305.50	-2.16
⑦	303.72	7.59	296.13	305.50	-9.37
⑧	303.72	9.55	294.17	305.50	-11.33
⑨	314.00	6.13	307.87	305.50	+2.37

	Stakes inside Above Tank			Floor Elev	
	303.14				
⑥				298.00	
⑦		7.99	295.15	298.00	-2.85
℄ bet. 7 & 8		8.44	294.70	296.00	-1.30
⑧		9.95	293.19	298.00	-4.81
9		4.77	298.37	298.00	+0.37

BM. on Hub "A-5" Book 1394-1 = 319.87
2.80 +
322.67 = T
11.94 -
310.73 = TP
3.27 +
314.00 = T
13.01 -
300.99 = TP
2.73
303.72 = T

Elev stake # ⑦ ---- 296.13
7.01 +
303.14 = T

SLUDGE BED
INSIDE Elev Floor

Elev (14) Stake P-29 286.58 + 4.08 = 290.66

(14)	290.66	9.24	281.42	282.50	- 1.08
(15)		8.85	281.81	282.50	- 0.69
(16)		9.30	281.36	282.50	- 1.14
℄ Bet 16 & 17		9.95	280.71	282.00	- 1.29
(17)		10.25	280.41	282.50	- 2.09

GRADES For 6" C.I. Line
Bet. Sludge Bed And Sludge Tank.

294.57=X Book 1394 Page 50

				Cuts
90° Bend at Sludge Bed	10.01	284.56	284.56	+0.00
30' South of "Y"	9.07	285.50	285.50	+0.00
15' South East of "Y"	8.60	285.97	285.97	+0.00

GRADES Floor Storage Tank.

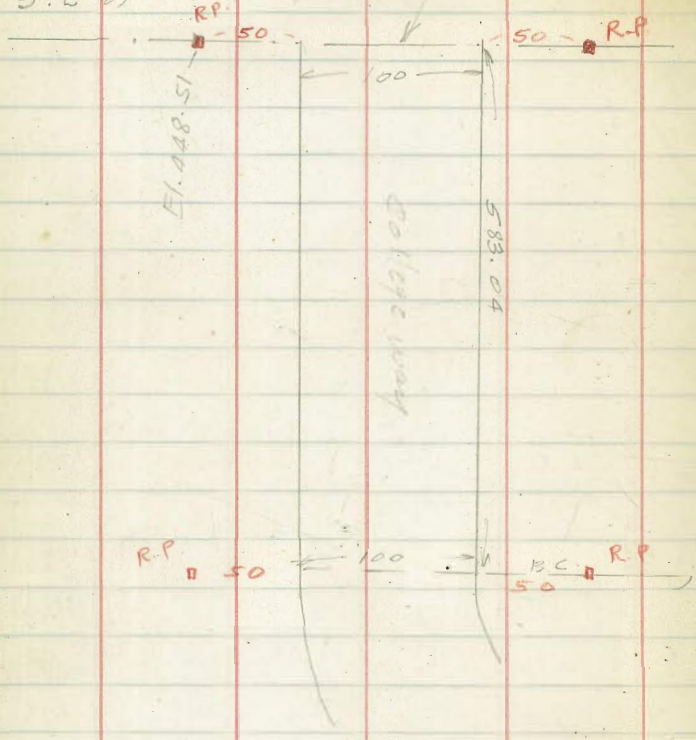
294.57=X

275.00

Floor Grade ℄ Sprinkling Filter on West side. Cuts

~~306.53~~

	~~9.53~~	~~297.00~~	~~297.00~~	~~+0.0~~
306.73	10.73	296.00	296.00	✓



8/10/30 Loudon.

Grade Stakes College Way

From S.L College site to B.C 583.04 South.

457.1

47

			Grade		
0+00 = S.L College ground.					
E	8.4	448.7	447.5	C 1.2	
W	8.1	449.0	447.5	C 1.5	
0+50					
E	7.9	449.2	447.85	C 1.3	
W	7.5	449.6	447.85	C 1.7	
1+00					
E	7.4	449.7	448.20	C 1.5	
W	7.5	449.6	448.20	C 1.4	
1+50					
E	6.6	450.5	448.55	C 1.9	
W	6.7	450.4	448.55	C 1.8	
2+00					
E	6.2	450.9	=448.90	C 2.0	
W	6.2	450.9	448.90	C 2.0	
2+50					
E	5.9	451.2	449.25	C 1.9	
W	6.3	450.8	449.25	C 1.5	
3+00					
E	5.7	451.4	449.60	C 1.8	
W	5.3	451.8	449.60	C 2.2	
3+50					
E	5.0	452.1	449.95	C 2.1	
W	6.1	451.0	449.95	C 1.0	

B.M. Hub 4
449.66
7.39
457.05
8.54
448.51
B.M. Hub S.L College site 50' W of Col. Way

457.1

4+00				
E	5.2	451.9	450.30	C 1.6
W	4.8	454.3	450.30	C 4.30
4+50				
E	4.0	453.1	450.65	C 2.5
W	5.4	451.7	450.65	C 1.0
4+83				
E	4.0	453.1	450.87	C 2.2
W	4.7	452.4	450.87	C 1.5
5+03				
E	4.8	454.3	451.03	C 3.3
W	3.5	453.6	451.03	C 2.6
5+23				
E	3.1	454.0	451.20	C 2.8
W	4.4	452.7	451.19	C 1.5
5+43				
E	2.3	454.9	451.47	C 3.5
W	5.5	451.6	451.35	0.2
5+63				
E	1.3	455.9	451.30	C 4.5
W	6.6	450.5	451.51	F 1.0
5+83				
E	3.1	454.0	451.30	2.7
W	6.2	450.9	451.68	F 0.8

College Way

Walker
Bliss
Dibert
9-18-30

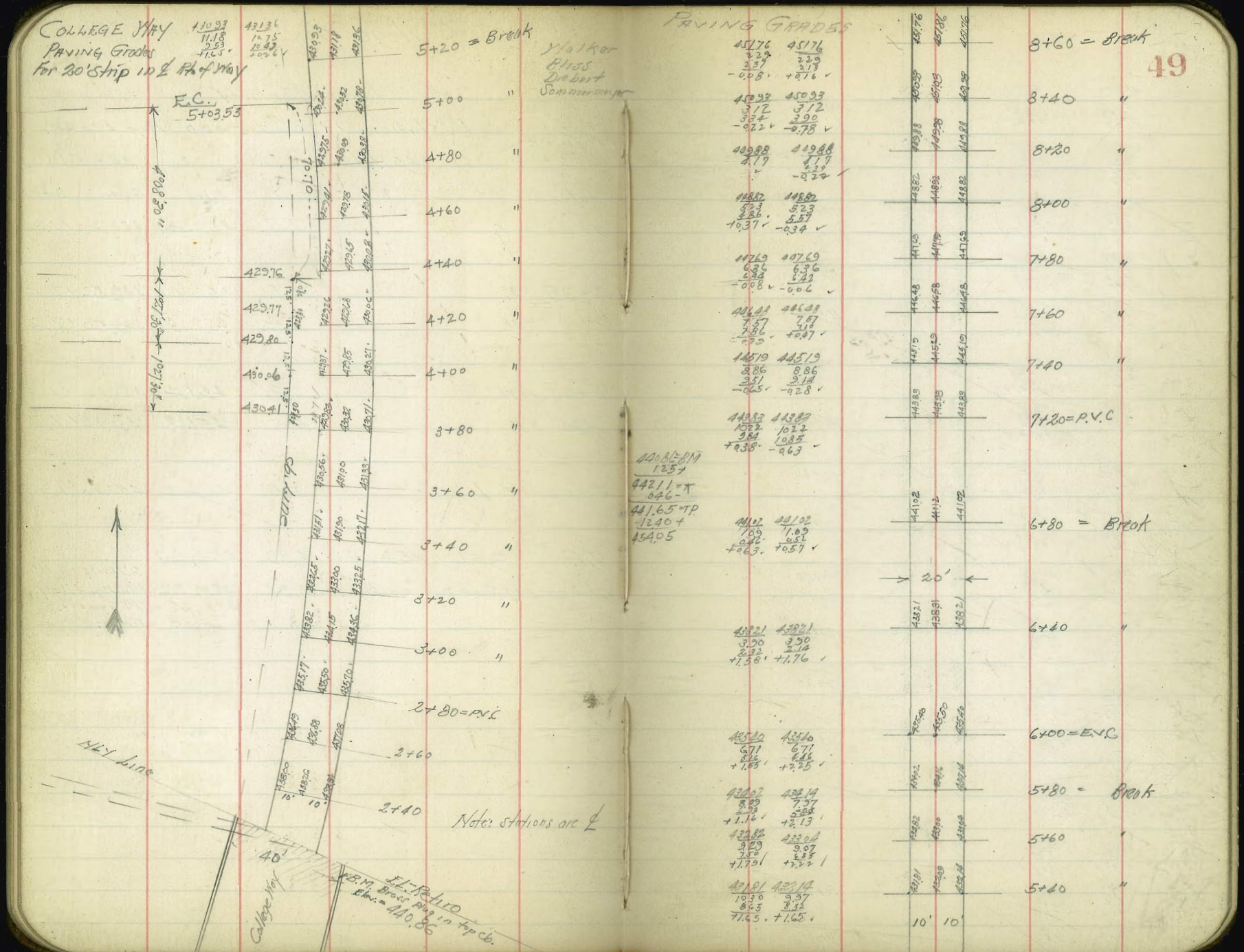
Grade Stakes Replaced

Between Station 1+00 And 5+00 Page 47-48

B.M. on 50' R.P. Page 47 — 915 — 457.66 — 448.51

Station	+	±	−	Elev.	Grade	cuts
1+00 on E			7.7	450.0	448.2	+1.8
2+85 "E			5.7	452.0	449.50	+2.5
" 4 "W			5.4	452.3	449.50	+2.8
3+75 on W			6.3	451.4	450.12	+1.3
+75 "E			5.8	451.18	450.12	+1.7
4+00 on E			5.5	452.2	450.30	+1.9
T.P.	6.51	459.18	4.99	452.67		
Chk. on B.M. Grade Book 4 150 Page 73			5.96	453.22		3' Nails in Pole N.E. College & Perry

453.22 = B.M. Grade Bk. 150
0.00 = Error.


COLLEGE WAY
PAVING GRADES
For 20' Strip in ℄ Rt. of Way
E.C.
5+03.53
5+20 = Break
5+00
4+80
4+60
4+40
4+20
4+00
3+80
3+60
3+40
3+20
3+00
2+80 = P.V.C
2+60
2+40
Walker
Bliss
Drebert
Sommermeyer
Note: stations are ℄
40'
College Way
E.L. Retiro
B.M. Brass plug in top Cb.
Elev. = 440.86
PAVING GRADES
8+60 = Break
8+40
8+20
8+00
7+80
7+60
7+40
7+20 = P.V.C
6+80 = Break
6+40
6+00 = E.V.C
5+80 = Break
5+60
5+40
20'
10'
10'

455.49	455.49		455.20	455.20	455.20	
5.36	5.64					
5.33	5.17		455.37	455.37	455.37	12+00 = EVC
+0.03 ✓	+0.47 ✓					
455.87	455.87					
5.26	5.26					
5.45	5.16		455.97	455.97	455.97	11+80 = Break
-0.19 ✓	+0.10 ✓					
456.20	456.20					
4.93	4.93		456.20	456.20	456.20	11+60 "
5.21	4.88					
-0.18 ✓	+0.05 ✓					
456.43	456.43					
4.70	4.70		456.43	456.43	456.43	11+40 "
4.80	4.43					
-0.10 ✓	+0.27 ✓					
456.58	456.58					
4.55	4.55		456.58	456.58	456.58	11+20 "
4.65	3.93					
-0.10 ✓	+0.62 ✓					
456.67	456.67					
4.46	4.46		456.67	456.67	456.67	11+00 "
4.70	4.08					
-0.24 ✓	+0.49 ✓					
456.65	456.65					
4.48	4.48		456.65	456.65	456.65	10+80 "
4.33	4.24					
+0.15 ✓	+0.24 ✓					
456.61	456.61					
4.52	4.52		456.61	456.71	456.61	10+60 "
4.12	4.06					
+0.40 ✓	+0.46 ✓					
456.97	456.97					
4.16	4.16		456.97	456.97	456.97	10+40 "
4.55	3.97					
+0.11 ✓	+0.69 ✓					
456.24	456.24					
4.89	4.89		456.24	456.24	456.24	10+20 "
4.64	4.44					
+0.25 ✓	+0.45 ✓					
455.93	455.93					
5.20	5.20		455.93	456.03	455.93	10+00 "
5.06	5.11					
+0.14 ✓	+0.09 ✓					
455.57	455.57					
5.86	5.56		455.57	455.67	455.57	9+80 "
5.32	4.51					
+0.54 ✓	+1.05 ✓					
455.13	455.13					
6.00	6.00		455.13	455.23	455.13	9+60 "
5.46	6.33					
+0.54 ✓	-0.33 ✓					
454.59	454.59					
6.54	6.54		454.59	454.69	454.59	9+40 "
6.78 ✓	6.32 ✓					
+0.24 ✓	+0.22 ✓					
453.93	453.93					
7.20	7.20		453.93	454.03	453.93	9+20 "
7.30	7.30					
+0.10 ✓	-0.10 ✓					
453.84	453.84					
0.09	0.09		453.84	453.94	453.84	9+00 "
1.26	1.26					
+0.62 ✓	-0.57 ✓					
453.53	453.53					
1.40	1.41		453.53	453.63	453.53	8+80
-0.14 ✓	+0.00 ✓					

446.20	446.20		446.20	446.20	446.20	
2.31	2.31					
2.61	2.08		446.50	446.50	446.50	14+60 = EVC
+0.30 ✓	+0.23 ✓					
447.39	447.39					
1.02	1.02		447.39	447.49	447.39	14+40
1.00	1.29					
+0.02 ✓	-0.27 ✓					
448.65	448.65					
12.48	12.49		448.65	448.65	448.65	14+20
12.20	12.69					
-0.12 ✓	-0.41 ✓					
449.75	449.75					
11.38	11.38		449.75	449.85	449.75	14+00
11.26	11.53					
+0.12 ✓	-0.15 ✓					
450.70	450.70					
10.43	10.43		450.70	450.80	450.70	13+80
10.58	10.55					
-0.15 ✓	-0.12 ✓					
451.54	451.54					
9.59	9.59		451.54	451.64	451.54	13+60
9.47	9.42					
+0.12 ✓	+0.17 ✓					
452.23	452.23					
8.90	8.90		452.23	452.33	452.23	13+40
8.10	8.80					
+0.80 ✓	+0.10 ✓					
452.86	452.86					
8.27	8.27		452.86	452.96	452.86	13+20
8.30	7.78					
-0.03 ✓	+0.53 ✓					
453.35	453.35					
7.78	7.78		453.35	453.45	453.35	13+00 = PVC
7.20	7.08					
+0.68 ✓	+0.70 ✓					
454.47	454.47					
6.66	6.66		454.47	454.57	454.47	12+50
6.15	5.98					
+0.51 ✓	+0.68 ✓					
						12+00 = EVC

45205
-029
453.76 = TP
-7.37 ✓
461.13 = ℄
-12.89
448.24 = TP
+0.17 ✓
448.41 = ℄

438.65 9.76 9.26 +0.50	438.65 9.76 8.83 +0.93			438.65	438.75	438.65	17+40
437.83 10.58 10.25 +0.33	437.83 10.58 9.85 +0.73			437.83	437.93	437.83	17+20
437.20 11.21 11.00 +0.21	437.20 11.21 10.73 +0.48			437.20	437.34	437.20	17+00
436.91 11.50 11.37 +0.13	436.91 11.50 11.14 +0.36	16+85.6	1097 37.48	436.96	437.06	436.91	16+85.6
436.72 11.69 11.82 -0.13	436.72 11.69 11.54 +0.15			436.77	436.89	436.77	16+70.4
436.68 11.73 11.68 +0.05	436.68 11.73 11.66 +0.07			436.74	436.85	436.74	16+60
436.74 11.67 11.61 +0.06	436.74 11.67 11.63 +0.04	16+45.6	1118 37.28	436.74	436.90	436.79	16+45.6
436.90 11.51 10.82 +0.69	436.90 11.51 11.57 -0.06			436.90	437.07	436.90	16+30.4
437.13 11.28 11.08 +0.20	437.13 11.28 11.14 +0.14			437.13	437.27	437.13	16+20
437.73 10.68 10.61 +0.07	437.73 10.68 10.56 +0.12			437.73	437.83	437.73	16+00
438.51 9.90 9.48 +0.42	438.51 9.90 9.13 +0.77			438.51	438.61	438.51	15+80
439.52 8.89 7.50 +1.39	439.52 8.89 7.21 +1.68			439.52	439.62	439.52	15+60
440.77 7.64 6.10 +1.54	440.77 7.64 6.42 +1.22			440.77	440.87	440.77	15+40 = P.V.C
							15+20
443.48 4.93 3.46 +1.47	443.48 4.93 5.16 -0.23			443.48	443.58	443.48	15+00

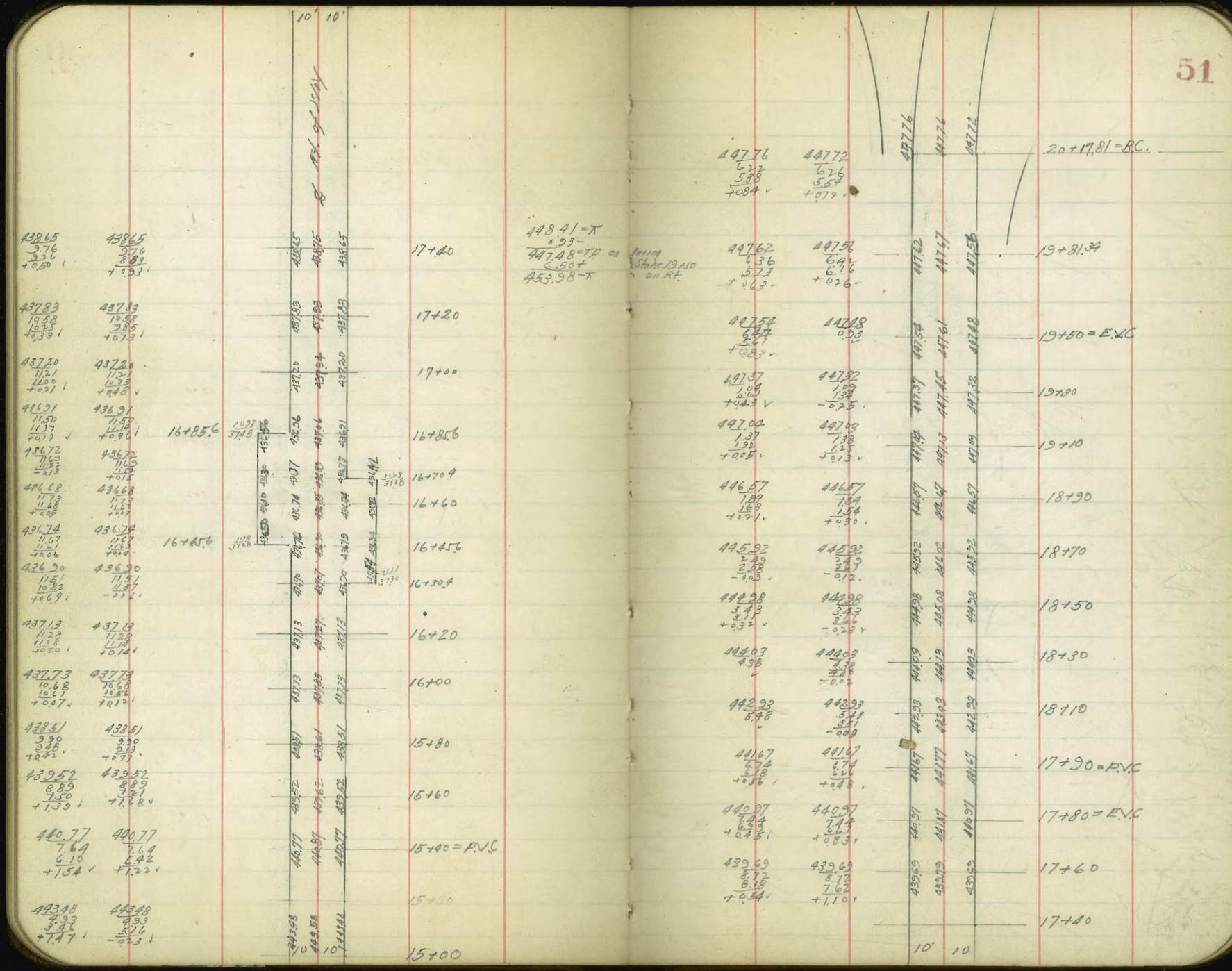
10' 10'

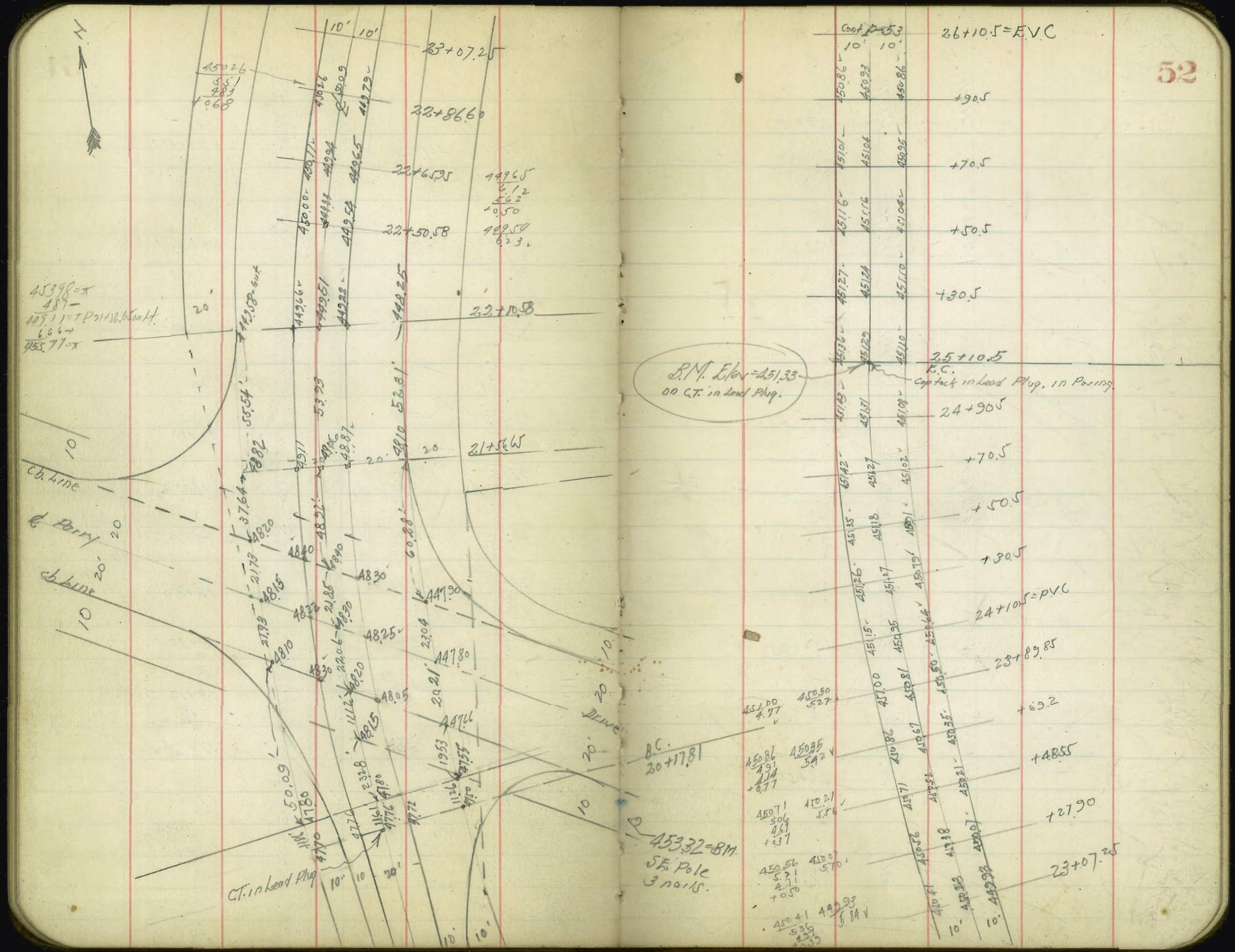
℄ Rt. of Way

448.41 = π
0.93 −
447.48 = TP on Rt. Stake 19+50
6.50 +
453.98 = π

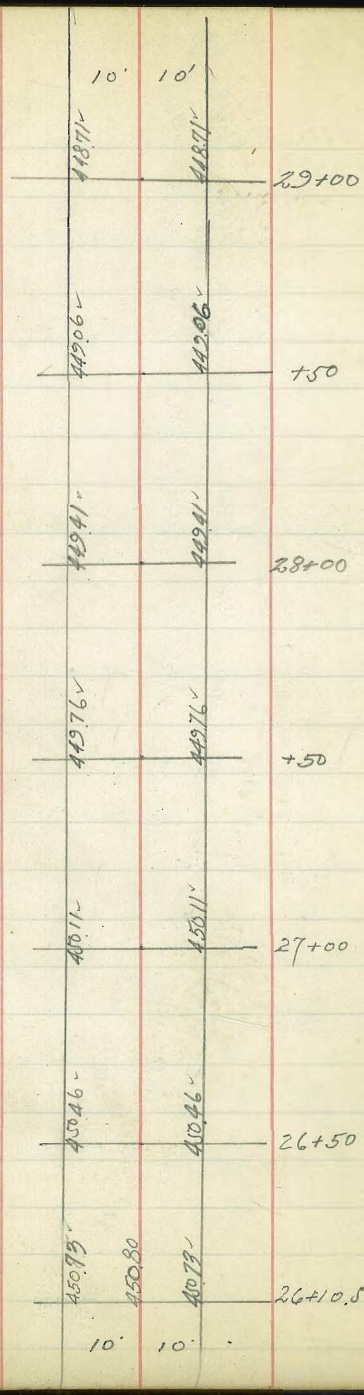
447.76 6.22 5.38 +0.84	447.72 6.26 5.54 +0.72			447.76	447.76	447.72	20+17.81 = B.C.
447.62 6.36 5.73 +0.63	447.56 6.42 6.16 +0.26			447.62	447.67	447.56	19+81.34
447.54 6.44 5.61 +0.83	447.48 0.93			447.54	447.61	447.48	19+50 = E.V.C
447.37 1.04 0.61 +0.43	447.32 1.09 1.34 -0.25			447.37	447.45	447.32	19+30
447.04 1.37 1.32 +0.05	447.03 1.38 1.25 +0.13			447.04	447.13	447.03	19+10
446.57 1.84 1.63 +0.21	446.57 1.84 1.54 +0.30			446.57	446.67	446.57	18+90
445.92 2.49 2.58 -0.09	445.92 2.49 2.61 -0.12			445.92	446.02	445.92	18+70
444.98 3.43 3.11 +0.32	444.98 3.43 3.66 -0.23			444.98	445.08	444.98	18+50
444.03 4.38	444.03 4.38 4.40 -0.02			444.03	444.13	444.03	18+30
442.93 5.48	442.93 5.48 5.51 -0.03			442.93	443.03	442.93	18+10
441.67 6.74 6.18 +0.56	441.67 6.74 6.26 +0.48			441.67	441.77	441.67	17+90 = P.V.C
440.97 7.44 6.99 +0.45	440.97 7.44 6.61 +0.83			440.97	441.07	440.97	17+80 = E.V.C
439.69 8.72 8.18 +0.54	439.69 8.72 7.62 +1.10			439.69	439.79	439.69	17+60
							17+40

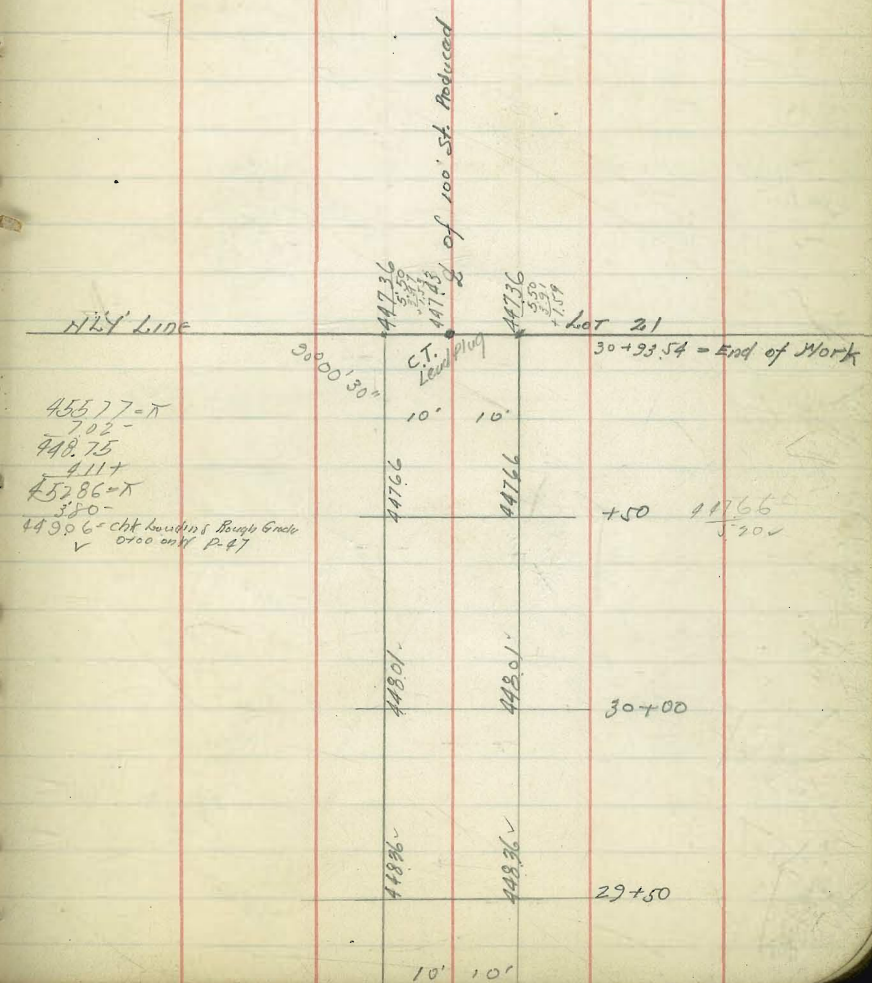
10' 10





23+07.25
22+86.60
22+65.95
22+50.58
22+10.58
21+56.65
Cb. Line
℄ Parry
Cb. Line
Drive
B.C.
20+17.81
453.32=BM
SE Pole
3 nails.
C.T. in Lead Plug
26+10.5=E.V.C
+90.5
+70.5
+50.5
+30.5
25+10.5
E.C.
Cap tack in Lead Plug. in Paving.
B.M. Elev=451.33
on C.T. in Lead Plug.
24+90.5
+70.5
+50.5
+30.5
24+10.5=P.V.C
23+89.85
+69.2
+48.55
+27.90
23+07.25



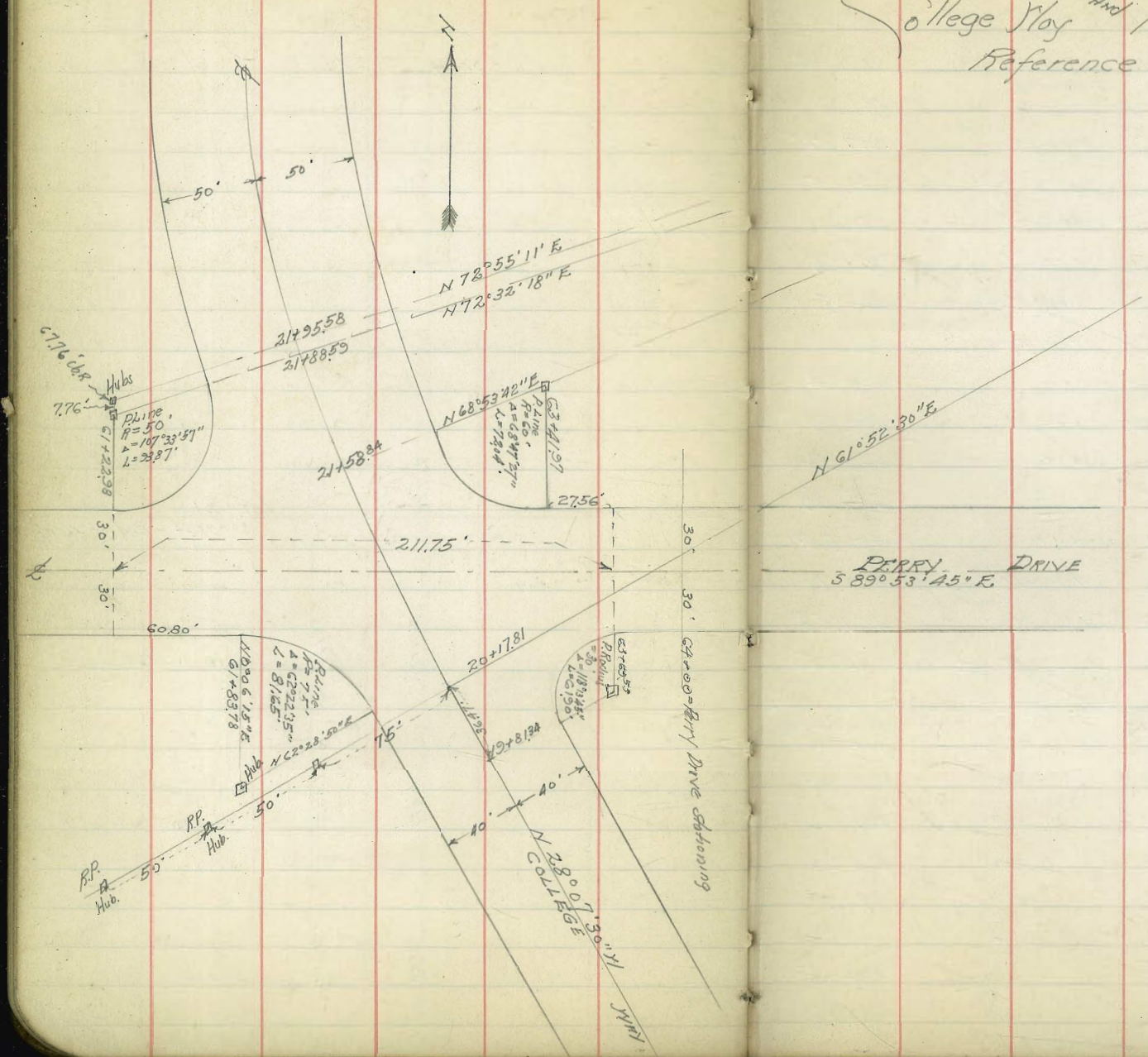


455.77 = π
7.02 -
448.75
4.11 +
452.86 = π
3.80 -
449.06 = chk Loudins Rough Grade
0+00 on St P-47

INTERSECTION

College Way and Perry Drive Reference Points.

Walker
Bliss
Drebert
9-18-30



5-2-31
Walker
Bliss
Dreibert

College Way
Curb Grades
From N.L.Y. Line Lot 21. South

E.L. Station	E.L. Grades	N.L. Station (E.L. Stake Prop)	N.L. Grades
Note: Stations Here Copied out by Chas. Moore from 0+00 to 5+83.04 from Large Copy of Proposed Subdivision of the Bell-Boyd Co.		= 0+00	447.50
		+11 = E.C. 16' C.R.	447.58
		+50	447.85
		1+00	448.20
		+50 Alley Ret.	448.55
		+72 = P.C. 3' Radius Alley Ret	448.70
		+98 = P.C. 3' Radius	448.88
2+05 = E.C. Lots 11-12	448.94	2+50	449.24
+58	449.31	3+00	449.59
3+11	449.68	+50	449.94
+64	450.05	4+00	450.29
4+17	450.42	+50	450.64
+70 = P.C. Com. Ave. Prop Rad on South	450.78	+70 = P.C. on North Com. Ave. Prop. Rad. Com. Ave.	450.78
5+70 = P.C. " "	451.34	5+70 = P.C. " "	451.58
+83.04 = E.C. Lt. 2 R=1000' = 25+10.5 from South.	451.30	+83.04 = E.C. Lt. 2 R=1000'	451.68

Stations From Here are ℄ and are from South

N.L. ℄ Station	N.L. Grades	℄	E.L. Grades
25+10.5 = E.C.	451.68	451.29	451.30
24+90.5 = B/S.	451.82	451.31	451.23
+70.5 = "	451.90	451.27	451.12
+50.5 = "	451.90	451.18	450.98
+30.5 = "	451.87	451.07	450.84
24+10.5 = P.C.	451.80	450.95	450.70
23+89.85	451.65	450.81	450.55
+69.20	451.50	450.67	450.39

Cont. on P-58

45332 = B.M.
181 +
45513 =
201 -
45322 = T.P.
295 +
455.17 =

55

N.L.	447.50	4758	47.85	48.20	48.55	48.70	48.88	49.24
	7.67	7.59	7.32	6.97	6.62	6.47	6.29	5.93
	6.97							
	+1.50							
							= 2+05	
E.L.							48.34	49.31
							6.13	5.86
N.L.	449.59	49.94	50.29	50.64	50.78	51.58	51.68	
	5.58	5.23	4.88	4.53	4.39	3.59	3.49	
E.L.	449.68	450.05	50.42	50.78	51.34		51.30	
	5.49	5.12	4.75	4.39	3.83		3.87	

451.58 - E.L. on Stake on N.L. 3+70 = E.C.
552 +
457.10 =
5.77 -
451.33 = T.P. on C.L. in ℄ Pav. Sta. 25+10.5 = E.C.

N.L.	451.68	51.82	51.90	51.90	51.87	51.80	51.65	51.50
	5.42	5.28	5.20	5.20	5.23	5.30	5.45	5.60
E.L.	451.30	51.23	51.12	50.98	50.84	50.70	50.55	50.39
	5.80	5.87	5.98	6.12	6.26	6.40	6.55	6.71

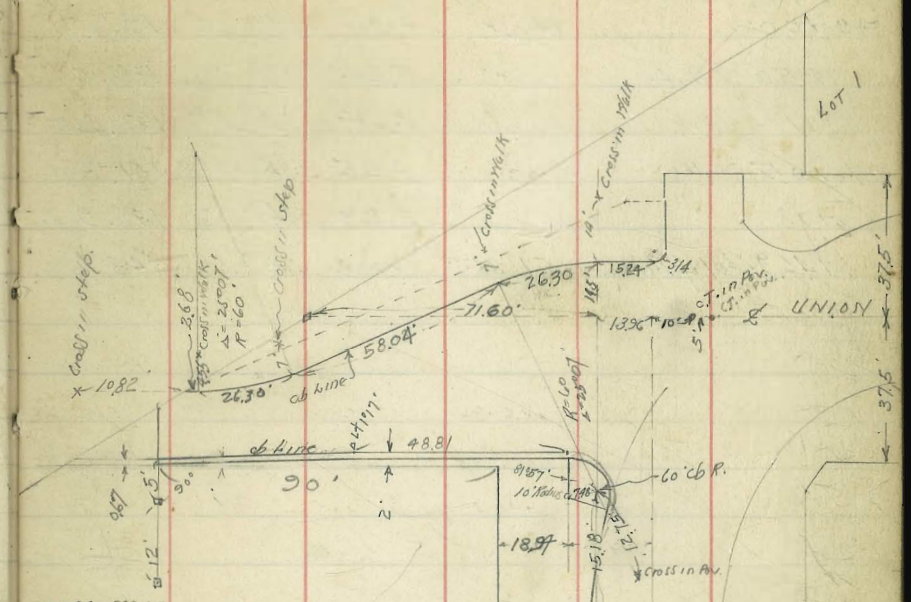
GRADING UNION ST.
From WALNUT St. North.

W.L. Station	W.L. Grades.	E.L. Station 21' West E.L.	E.L. Grades.
P.R.C on Walnut	134.80 (98 as in)	= P.C. 2'R	141.00 (20 as in)
①	135.40 (52)	E.C. = 0+00	141.10 (17)
②	135.90 (36)	0+10 Left out	141.35
= 0+00 ③ = E.C. N.W. Co Walnut	136.30	+15.84 = P.C. Lt.	141.50 (141.02)
0+10	136.70	① = +28.78 = ℄ curve	141.00 (140.89)
+18.51	136.90	+41.72 = E.C.	140.75
+28.51	137.20	+51.72	140.70
+38.51	137.50	+61.72	140.75
+48.51 = △ in cb Lt. 1°17'	138.05	+71.72	140.82
+58.51	138.90	+81.72	140.95
+68.51	140.10	+91.72	141.22
+78.51	141.70	+99.80 = B.C.	141.33
+88.51	143.60	1+06.27	141.68 (74)
+98.51	145.65	1+12.74	142.50 (62)
1+08.51 = End cb.	147.55	+19.21	144.00 (18)
		+25.68 = E.C. = End cb	145.70 (95)
		1+27.17 = End cb	145.95

145.21 = ⊼ Page 57
1.77
143.44 = T.P.
8.37 +
151.81 = ⊼
5.86 -
145.95 = top step on East at E.L.
145.94 = Loud in
0.01 = Error

Rough Grade stakes End Paving = 145.25

W.L.	136.30	136.70	136.90	137.20	137.50	138.05	138.90	140.10
	8.91	8.51	8.31	8.01	7.71	7.16	6.31	5.11
	9.47	9.63	8.71	9.4	9.11	8.06	7.41	6.32
	-0.56	-1.1	-.14	-1.4	-1.4	-0.9	-1.1	-1.2
E.L.	141.35	141.50 (= P.C.)	141.00	140.75	140.70	140.75	140.82	
	3.86	3.71	4.21	4.46	4.51	4.46	4.39	
	3.5	3.84					4.28	
	+0.3	-0.1					+0.1	
W.L.	141.70	143.60	145.65	147.55				
	3.61	1.61	+0.44	4.26				
	4.87	3.26	1.86	4.77				
	-1.46	-1.65	-2.30	-0.5				
E.L.	140.95	141.22	141.33 (= B.C.)	141.68	142.50 (℄ curve)	144.00	145.70 (= E.C.)	145.95 (= End cb.)
	4.26	4.0	3.8	out	9.31	out	6.1	
			+0.1		9.9		6.4	
					-0.6		-0.3	



136.44 = B.M. B.P.
5.25 +
141.69 = ⊼
5.25 -
136.44 = T.P.
7.59 +
144.03 = ⊼
2.33 -
141.70 = T.P.
6.92 -
148.62 = ⊼

E.L.	41.20 (= Exist cb.)	41.17	41.07 (= B.C.)	40.89 (= ℄)	40.75 (= E.C.)	
	0.77	0.80	0.95	1.08	1.22	
W.L.	34.80	35.52	35.96	36.30	36.70	36.90
	6.89	6.17	6.73	5.39	4.99	4.79
	6.71					
	0.18 H					
E.L.	40.70	40.75	40.82	40.95	41.22	41.33 (E.C.)
	3.33	3.28	3.21	3.08	2.81	2.70
W.L.	37.20	37.50	38.05	38.90	40.10	41.70
	4.49	4.19	3.64	2.79	1.59	
E.L.	41.74	42.62	44.18	45.95		
	2.29	1.41	4.44	2.67		
W.L.	43.60	45.65	47.55			
	5.02	2.99	1.07			

145.25 - Paving Grade
5.56
5.6
-0.1

GRADES. For 2" WATER MAIN
UNION St. North of Walnut.

Station	π			Bottom Ditch		
10' South ℄ Walnut =0+00	145.21	4.97	140.24	137.7	+2.5	
+50 = ℄ Gate		5.24	139.97	137.0	+3.0	
+77 = Brk.		4.54	140.67	137.2	+3.5	
1+05 "		4.05	141.16	137.8	+3.3	
+18 "		3.29	141.92	138.9	+3.0	
+46.9 = end of Line	151.81	2.63	149.18	143.6	+5.6	

B.P. S.Cb. Walnut on W.L. Union
Book 1402-8

136.44
8.77 +
145.21 = π
1.77 −
143.44 = T.P.
8.37 +
151.81 = π

College Way.
Cont. from P-55

℄ Station	Y.L. Grade	℄	E.L. Grade
23+48.55	451.34	450.52	450.24
+27.90	451.19	450.38	450.08
+17.11	451.11		450.00

457.10 - ⊼ P-55

Y.L.	451.34	451.19	451.11
	5.76	5.91	5.99
E.L.	450.24	450.08	450.00
	6.86	7.02	7.10

Walker
Bliss
Dist. 2-6-3

College Way
Additional Stakes For Grading And Widening to 80' st.

℄ Station	W.L.	W.L. cb. Grade	℄ Station	E.L. cb. GRADE
2+22.19 = W.L. El Retiro		438.81 = Exist. cb.		440.76
+40		437.98		439.10
+60		436.69		437.70
+80 = P.V.C		435.40		436.30
3+00		434.05		435.00
+20		433.00		433.90
+40		431.90		432.90
+60		431.00		432.10
+80		430.25		431.50
4+00		429.82		431.10
+20		429.75		430.90
+40		429.80		430.90
+60		429.93		431.02
+80		430.24		431.19
5+00		430.74		431.57
+03.53 = E.C.		out.		out.
+20		431.40		432.07
+40		432.24		432.74
+60		433.25		433.57
+70		433.81		434.06
+80		434.42		434.59
6+00 = E.V.C		435.77		435.77
+20		437.17		437.17
+40		438.58		438.58
+70		440.69		440.69
+80		441.39		441.39
7+20 = P.V.C.		444.20		444.20
+40		445.56		445.56

440.86 = BM. See sketch P.39
0.63 +
441.49 = ⊼

EL.	439.10 / 2.39	437.70 / 3.79	436.30 / 5.19	435.00 / 6.49	433.90 / 7.59	432.90 / 8.59	432.10 / 9.4	431.50 / 10.0
WL.	437.98 / 3.51 / 3.54	436.69 / 4.80	435.40 / 6.09	434.05 / 7.44	433.00 / 8.49	431.90 / 9.59	431.00 / 10.49	430.25
EL.	31.10 / 10.39	30.90 / 10.59	30.90 / 10.59	31.02 / 10.47	31.19 / 10.30	31.57	32.07 / 15.68	32.74 / out.
WL.	29.82	29.75	29.80	29.93 / 11.56	30.24 / 11.25	30.74 / 10.75	31.40 / 16.35	32.24 / out

440.86 = BM
6.89 +
447.75

	5+70		= E.V.C	6+20	+70	7+20	
EL.	34.06 / 13.69	34.59 / out	35.77 / out	37.17 / 10.58	40.69 / 7.06	44.20 / 3.55 = cb	44.20 / 18.02 / 15.8 / +2.2
	= 5+70		= E.V.C		+70	7+20	
WL.	33.81 / 13.94	34.42 / out	35.77 / out.	37.17 / 10.58	40.69 / 7.06	44.20 / 3.55 = cb.	44.20 / 18.02 / 15.24 / +2.78

College Way
Cont from P-59

℄ Station	W.L. cb. Grade	E.L. cb. Grade
7+60	446.85	446.85
+80	448.06	448.06
8+00	449.19	449.19
+20	450.25	450.25
+40	451.30	451.30
+60	452.13	452.13
+80	452.96	452.96
9+00	453.71	453.71
+20	454.38	454.38
+40	454.98	454.98
+60	455.50	455.50
+80	455.94	455.94
10+00	456.30	456.30
+20	456.61	456.61
+40	456.84	456.84
+60	456.98	456.98
+80	457.02	457.02
11+00	457.04	457.04
+20	456.95	456.95
+40	456.80	456.80
+60	456.57	456.57
+80	456.24	456.24
12+00 = E.V.C	455.86	455.86
+50	454.79 (67)	454.79
13+00	453.72	453.72

447.75 = π
0.32 −
447.43 = T.P.
14.79 +
462.22 = π
13.06 −
449.16 = T.P.
0.61 +
449.77 = π

W.L. 46.85 48.06 49.19 50.25 51.30 52.13 52.96 53.71 54.38 54.98
15.37 13.03 10.9 9.26 7.84
14.04 11.03 9.6 7.76 2.10
+1.33 +2.0 +1.3 +1.5 +0.7
7+60

E. 46.85 48.06 49.19 50.25 51.30 52.13 52.96 53.71 54.38 54.98
15.37 13.03 10.92 9.26 7.84
12.28 10.37 8.83 7.63 5.61
+3.1 +2.66 +2.1 +1.63 +2.2

W. 55.50 55.94 56.30 56.61 56.84 56.98 57.02 57.04 56.95 56.80
6.7 5.92 5.38 5.2 5.27
5.7 2.93 0.67 3.16 2.27
+1.0 +3.0 +4.7 +2.0 +3.00

E. 55.50 55.94 56.30 56.61 56.84 56.98 57.02 57.04 56.95 56.80
6.72 5.92 5.38 5.20 5.27
3.35 2.16 2.20 2.15 2.33
+3.37 +3.76 +3.18 +3.05 +2.94

W. 56.57 56.24 55.86 54.79 53.72
5.65 5.98 6.36 7.43 8.5
2.27 4.48 3.5 6.2
+3.38 +1.88 +3.9 +2.3

E. 56.57 56.24 55.86 54.79 53.72
5.65 6.36 7.43 8.50
2.71 1.61 3.79 4.5
+2.94 +4.75 +3.94 +4.0

College Way
Cont from P-6.0

℄ Station	M.L. cb Grade	E.L. cb Grade
13+20	453.23	453.23
+40	452.60	452.60
+60	451.91	451.91
+80	451.07	451.07
14+00	450.12	450.12
+20	449.02	449.02
+40	447.86	447.86
+60 = E.V.C	446.57	446.57
15+00	443.85	443.85
+40 = P.V.C	441.14	441.14
+60	439.89	439.89
+80	438.87	438.88
16+00	438.09	438.10
+20	437.54	437.54
+40	437.21	437.21
+60	437.12	437.12
+80	437.25	437.25
17+00	437.61	437.61
+20	438.20	438.20
+40	439.02	439.02
+60	440.06	440.06
+80 = E.V.C.	441.34	441.34
17+90 = P.V.C.	442.04	442.04
18+10	443.30	443.30
+30	444.40	444.40

449.77 = π
2.65 −
447.12 = TP
9.89 +
457.01 = π

W. 53.23 52.60 51.91 51.07 50.12 49.02 47.86 46.57
9.0 6.0 +3.0 | 10.31 6.86 +3.45 | 12.1 10.46 1.64 | 14.36 11.16 +3.2 | 15.65 11.45 +4.2

E 53.23 52.60 51.91 51.07 50.12 49.02 47.86 46.57
9.0 4.4 +4.6 | 10.3 5.6 +4.7 | 12.1 7.1 +5.0 | 14.36 9.96 +4.4 | 15.65 10.53 +5.1

W 43.85 41.14 39.89 38.87 38.09 37.54 37.21 37.12
18.37 12.53 +5.8 | 8.63 3.63 +5.0 | 10.90 10.0 +0.9 | 12.23 11.53 +0.7

E 43.85 41.14 39.89 38.87 38.09 37.54 37.21 37.12
18.37 11.33 +7.0 | 8.63 8.06 +0.6 | 10.9 10.0 +0.9 | 12.23 10.0 +2.2 | 12.65 10.8 +1.8

W 37.25 37.61 38.20 39.02 40.06 41.34 42.04 43.30 44.40
12.16 11.36 +0.8 | 10.75 9.6 +1.1 | 8.43 | 6.47

E 37.25 37.61 38.20 39.02 40.06 41.34 42.04 43.30 44.40
12.16 4.33 +7.8 | 10.75 6.27 +4.48 | 15.67 6.47 +9.2 | 13.7 5.9 +7.8

COLLEGE WAY

Cont. From P-61

℄ station	W.L. cb. Grade	E.L. cb. Grade
18+50	445.35	445.35
+70	446.29	446.29
18+90	446.95	446.93
19+10	447.44	447.40
+30	447.77	447.72
+50 = E.V.C	447.94	447.87
19+81.34 = B.V.C.	448.07	447.97

457.01 ✗	W. 445.35	46.29	46.95	47.44	47.77	47.94	48.07
3.71	11.66		10.06		9.24	9.07	8.94
453.30	3.42		7.20		4.94	4.91	4.11
453.32 = BM Perry & College Way	+3.2		+2.86		+4.3	+4.16	+4.83
0.02 Error							
	E 45.35	46.29	46.93	47.40	47.72	47.87	47.97
	11.66		10.1		9.3	9.14	9.04
	5.16		2.54		3.68	3.5	4.41
	+6.55		+5.56		+5.62	+5.6	+4.63

Walker Bldg
Dorbert 5-531

"G" St. Grading.

From E.L. 25TH to Alley

N.L. Station E.L. 25TH St.	N.L. Grade	S.L. Station E.L. 25TH	S.L. Grade
=0+00	172.20	=0+00	169.83
+20 = Brk.	171.60	+20	169.30
+40 = Brk.	170.30	+40	168.30
+60 = "	168.50	+60	166.70
+80 = "	165.60	+80	164.60
1+00 = "	162.40	1+00	161.40
+40.26 = N.L. Alley.	156.00	+40.26 = N.L. Alley.	156.00

172.18 = N.Y.B.P. "G" St. HW 25TH
2.48 +
179.66 = T

63

N.L.	172.20	171.60	170.30	168.50	165.60	162.40	156.00	159.00	
	2.96	3.06	4.36	6.16	3.06	13.26	18.66	20.66	
		1.20	6.60	6.20	3.90	6.30	17.80	20.80	
		+1.86	+3.76	-0.04	+1.56	+6.06	+0.86	+0.76	
S.L.	162.83	162.50	168.30	166.70	164.60	161.40	155.00	153.00	
	4.83	5.16	6.76	7.96	10.06	13.26	19.66	21.66	
		1.20	6.30	7.60	9.55	10.51	18.70	2.47	
		+0.26	+0.1	+0.36	+0.51	+2.72	+0.96	-3.04	

Walker
Bliss
Dobert.
5-18-31

PAVING GRADES FOR 20' Alley
Block 186 MANNASSE & SCHILLER
Bet. Julian And Kearney Sts.
From N.L. Beardsley St. to East ch. Line 19th St.

S.L. Station N.L. Beardsley St.	S.L. Grade	N.L. Station N.L. Beardsley	N.L. Grades
=0+00	45.20	=0+00	45.30
+20 = Brk.	46.10	+20 = Brk.	46.10
+40 = "	46.60	+40 = "	46.70
+60 = "	46.60	+60 = "	46.60
1+00	45.80	1+00	45.90
+40	45.00	+40	45.20
+80 = Brk.	44.20	+80 = Brk.	44.50
2+20	44.00	2+20	44.30
+60 = Brk.	43.80	+60 Brk.	44.10
+80 = "	43.70	+80 = "	43.90
3+00 = "	43.30	3+00 = "	43.60
+20 = "	42.80	+20 = "	43.00
+40 = "	42.10	+40 = "	42.10
+90 = "	40.20	+90 = "	39.90
4+10 = "	39.20	4+10 = "	38.70
+30 = "	37.80	+30 = "	37.40
+72.45 = "	34.30	4+60.4	34.95
5+14.90 = Brk. Δ (31.75)	30.80	+90.8 = Brk.	32.50
5+46.65 = Brk.	28.40	5+00 = "	31.75
+66.65	26.98	+14.9 = "	31.00
+86.65	25.92	5+27.13 = " Δ	30.80
6+06.65	25.21	5+29.37 = Pt. Δ to Δ Pt. on South (31.75)	30.50
+26.65	24.88	5+61.12 = Brk.	28.20
+36.65 = E.L. 19th	24.80	+81.12	26.95

Cont. P-65

4604 = S.E. B.P. Kearney & Beardsley
479 +
5083 = ⊼
562 −
4521 = T.P.
716 +
5237 = ⊼
701 −
4536 = T.P.
400 +
4936 = ⊼
570 −
4366 = T.P.
329 +
4695 = ⊼
1248 −
3447 = T.P.
303 +
3750 = ⊼
1020 −
2730 = T.P.
410 +
3140 = ⊼

N.L.	45.30	46.10	46.70	46.60	45.90	45.20	44.50	44.30	44.10
	7.07	6.27	5.67	5.77	6.47	7.17	4.86	5.06	5.26
	6.93	4.64	5.19	4.93	5.47	6.89	4.51	4.06	4.26
	+0.14	+1.63	+0.48	+0.84	+1.00	+0.28	+0.35	+1.00	+1.00
S.L.	45.20	46.10	46.60	46.60	45.80	45.00	44.20	44.00	43.80
	7.17	6.27	5.77	5.77	6.57	4.36	5.16	5.36	5.56
	6.67	4.27	5.16	4.77	5.57	3.36	4.16	4.36	4.56
	+0.50	+2.00	+0.61	+1.00	+1.00	+1.00	+1.00	+1.00	+1.00
N.L.	43.90	43.60	43.00	42.10	39.90	38.70	37.40	34.95	32.50
	5.46	3.35	3.95	4.85	7.05	8.25	9.55	12.08	5.00
	4.46	2.35		3.85	1.55	7.61	8.74	11.24	1.72
	+1.00	+1.00		+1.00	+0.50	+0.59	+0.81	+0.76	+3.28
S.L.	43.70	43.30	42.80	42.10	40.20	39.20	37.80	34.30	30.80
	3.25	3.65	4.15	4.85	6.75	7.75	9.15	12.65	6.70
	2.25	2.31	3.15	2.85	5.91	5.75	6.15	10.22	4.64
	+1.00	+1.34	+0.70	+2.00	+0.84	+2.00	+3.00	+2.43	+2.06
N.L.	31.75	31.00	30.80	30.50	28.20	26.95			
	5.75	6.50	6.70	6.90	3.20	4.45			
	5.69	6.43	6.68	11.07	6.43	5.24			
	+0.06	+0.07	+0.02	−0.17	−3.23	−0.77			
S.L.	28.40	26.98	25.92	25.21	24.88	24.80			
	3.00	4.42	5.48	6.19	6.52	6.60			
	5.76	6.63	6.97	4.70	7.75	6.02			
	−2.76	−2.21	−1.49	+1.49	−1.23	+0.58			

top Pav.

This stake on N. but is marked for South line

Alley Restaked
Grade Changed
by Chas. Moore
See P-67-68

Alley Blk. 186 - Mannase - Schiller
Cont. from P. 64

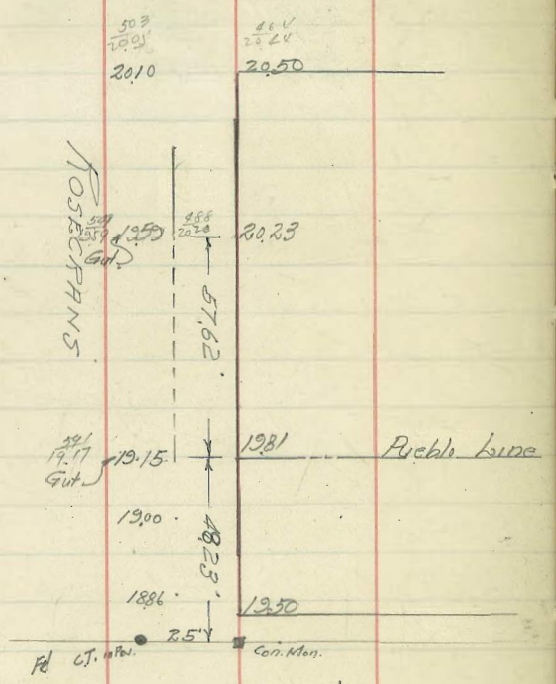
S.L. Sta	S.L. Grade	N.L. Sta	N.L. Grade
6+50.65 = E.cb. 19th	24.16	6+01.12 = Break	26.00
		+21.12 = Break	25.35
		+41.12 = Break	25.00
		+51.12 = Break	24.90
		+65.12 = E.cb. 19th	24.76

3140 = π = P. 64
623 -
2517 = chk. on ℄ cb. E.cb. Line 19th St. Book 1370-B
25.17 = cb
0.00 = Error

N.L. 2600 2535 2500 2490 2479 2560
540 605 640 650 664 580
476 470 531 556 586 556
+0.64 +1.35 +1.01 +0.94 +0.75 +0.24
3' from cb. = Top cb. at Prop.
3' from cb. = top cb. at Prop.

S.L. 2419 2500
724 640
664 602
+0.57 +0.38

Walker.
Bliss
Drobert.
5-21-31



20.65
4.43+
25.08-T

Walker
Bliss
Diebert
5-25-31

Alley Blk. 186 - Mannasse & Schiller

Set Kearney + Sulian from N.L. Beardsley to S.L. Line 19th.

S.L. Station N.L. Beardsley	S.L. Grade	N.L. Sta.	N.L. Grade
=0+00	45.30		45.30
+20 = Blk.	46.10		46.10
+40 "	46.65		46.65
+60 "	46.60		46.60
1+00	45.85		45.85
+40	45.10		45.10
+80 "	44.35		44.35
2+20	44.15		44.15
+60 = Blk.	43.95		43.95
+80 "	43.80		43.80
3+00 "	43.45		43.45
+20 "	42.90		42.90
+40 "	42.10		42.10
+90 "	40.05		40.05
4+10 "	38.95		38.95
+30 "	37.60	4+30 = Blk.	37.60
4+72.45	34.20	+60.4	35.16
5+14.90 = Δ 31.75	30.80	+90.80 = Blk.	32.72
+46.65	28.30	5+00	31.98
+66.65	26.95	+14.9 = Rk. to Δ on South	31.00
+86.65	25.95	+22.13 = Δ	30.80
6+06.65	25.28	+29.37 = Rk. to Δ on South	30.60
+26.65	24.95	5+61.12 = Rk. to 5+46.45 on S	28.30
6+36.65 = S.L. 19th St.	24.85	+81.12	26.95
+50.65		6+01.12	26.00

Cont P-68

46.04 = S.S. B.P. Kearney + Beardsley
3.71 +
49.75 = π
4.28 -

67

45.47 = T.P.	S.L.	45.30	46.10	46.65	46.60	45.85	45.10	44.35	44.15
4.84 +		1.45	7.21	3.66	3.71	4.76	3.41	4.16	4.96
50.31 = π		2.05	2.21	3.13	2.71	3.51	2.52	v	3.52
5.06 -		+0.40	+1.50	+0.56	+0.00	+0.95	+0.89		+0.84
44.25 = T.P.	N.L.	45.30	46.10	46.65	46.60	45.85	45.10	44.35	44.15
4.26 +		1.45	4.21	3.66	3.71	4.76	5.21	4.16	4.96
48.51 = π		4.31	2.57	3.13	2.87	3.41	4.84	3.69	3.21
8.49 -		+0.14	+1.64	+0.53	+0.84	+1.05	+0.37	+0.49	+1.15
40.02 = T.P.	S.L.	43.95	43.80	43.45	42.90	42.10	40.05	38.95	37.60
2.24 +		4.56	4.71	5.06	5.61	6.41	8.46	3.31	4.66
42.26 = π		3.71	3.85	3.88	5.01	4.21	4.11	1.03	1.46
12.84 -		+0.85	+0.86	+1.18	+0.60	+2.00	+1.00	2.26	+3.20
29.42 = T.P.	N.L.	43.95	43.80	43.45	42.90	42.10	40.05	38.95	37.60
1.67 +		4.56	4.71	5.06	5.61	6.41	8.46	3.31	4.66
31.09 = π		3.37	3.62	3.89	5.49	5.41	8.11	1.97	4.05
		+1.19	+1.09	+1.17	+0.12	+1.00	+0.35	+0.34	+0.61

	S.L.	34.20	30.80	28.30	26.95	25.95	25.28	24.95	24.85
		8.06	11.46	2.79	4.14	5.14	5.81	6.14	6.24
		2.53	2.37	5.41	6.92	6.66	6.38	7.43	5.70
		+2.53	+2.09	-2.65	-2.18	-1.52	+1.43	-1.29	+0.54
	N.L.	35.16	32.72	31.98	31.00	30.80	30.60	28.30	26.95	26.00
		7.10	9.54	10.28	11.26	11.46	11.66	2.79	4.14	5.09
		6.85	4.31	11.44	11.18	11.84	11.23	4.15	2.85	4.46
		+0.55	+3.03	-0.16	-0.08	+0.07	-0.27	-1.32	-0.31	+0.64

S.L.

N.L.

O.K. Per. Chas. Moore
by
5-25-31
Grades

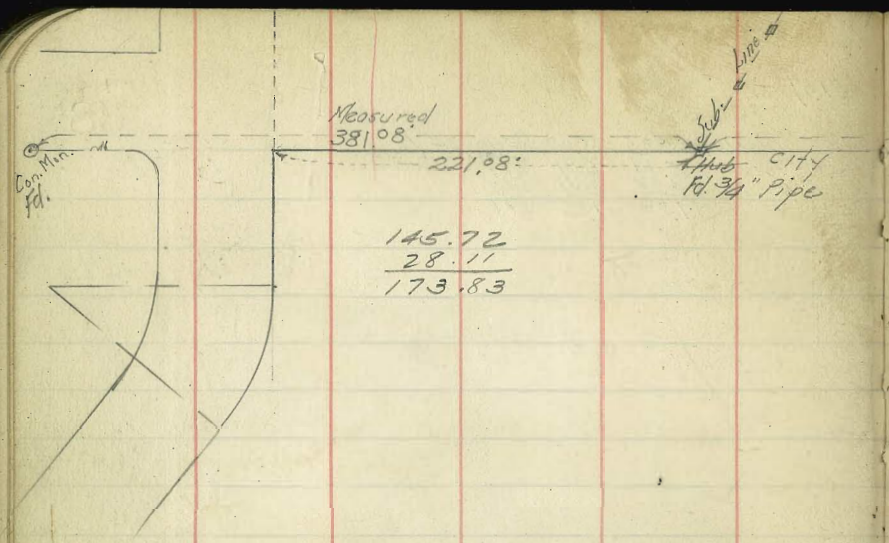
Alley 186
MANNASSAS – Schiller
Cont. from P 67

N.L. Sta	N.L. Grade
6+21.12	25.35
+41.12	25.00
+51.12 = E.L. 194	24.90
+65.12	24.76

= 310.9 – T

68

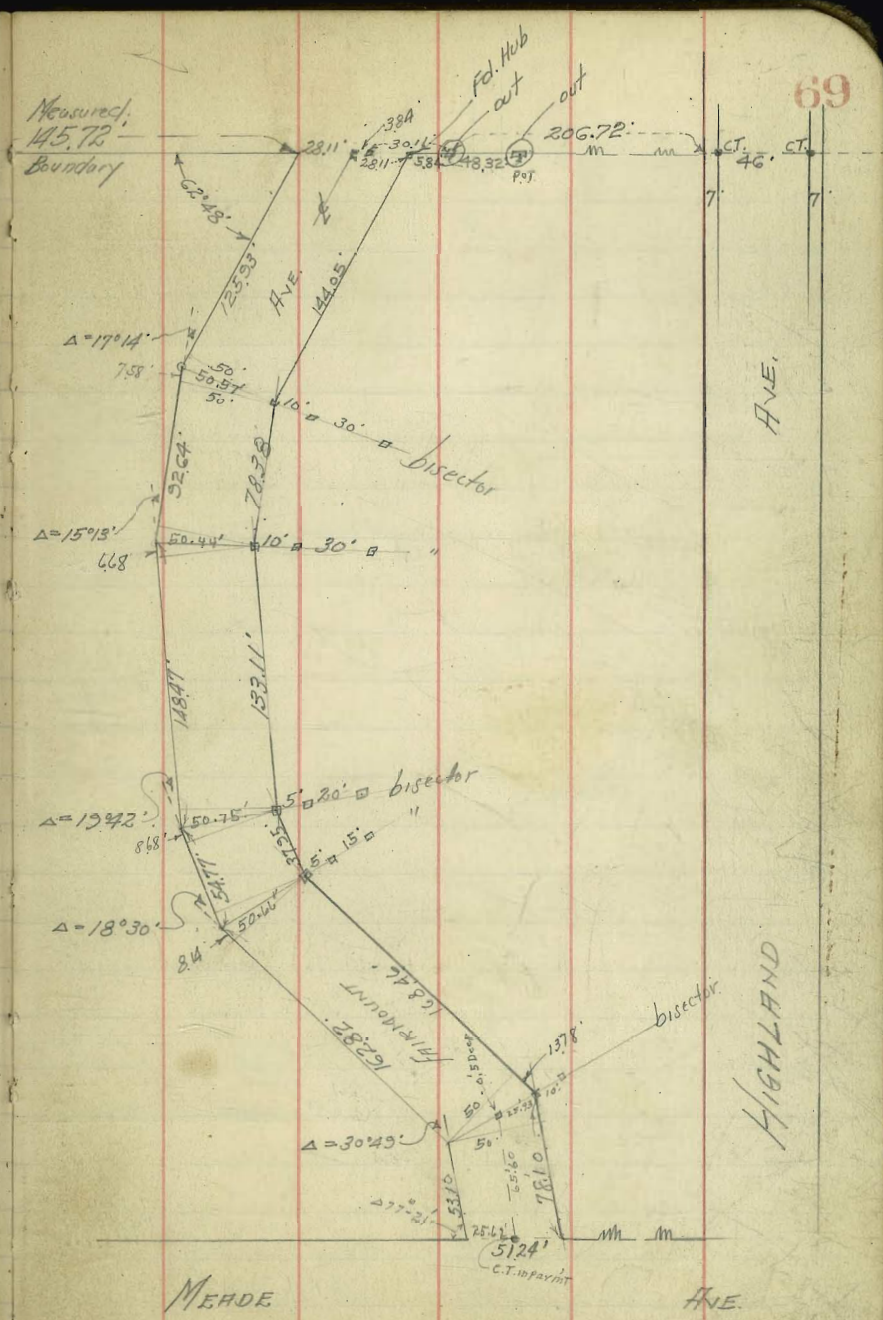
N.L. 25.35 25.00 24.90 24.76
5.74 6.09 6.19
4.38 5.07 5.25
+1.36 +1.02 +0.94



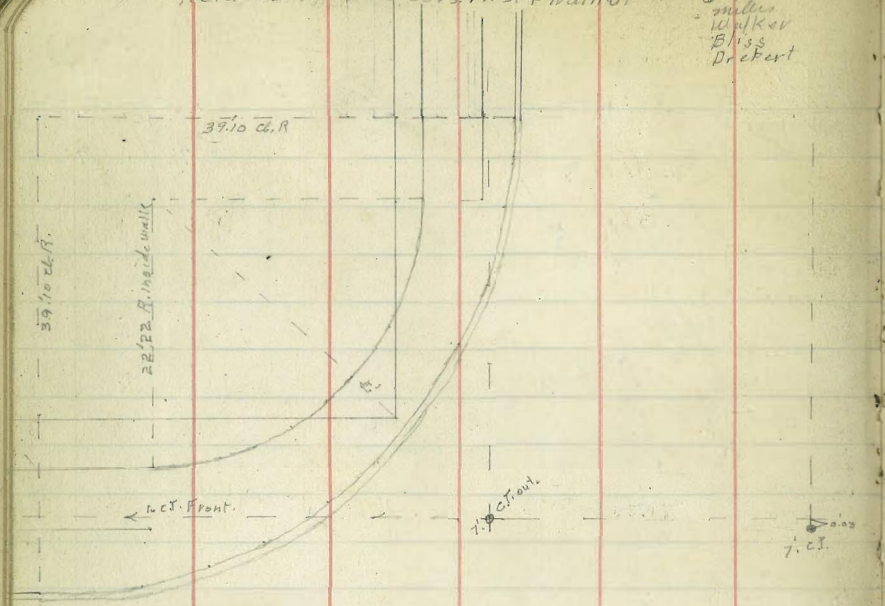
Walker
Bliss
Diebert
6-3-31

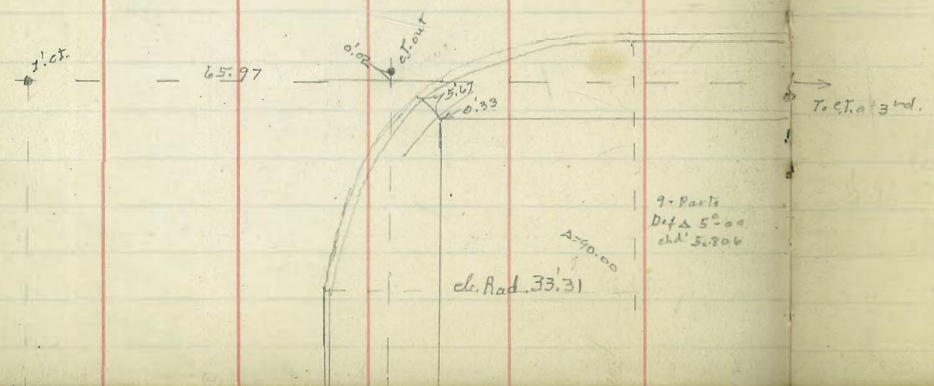
SURVEY FAIRMOUNT AVE.

from N.L. Meade Ave
to City Boundary.



Returns NW + SE Cors First + Walnut 6-11-31
miller
Walker
Bliss
Drekert





270.12 B.M. B.P. N.E. 1st & Walnut.
1.16
271.28

N.W. cor.

N.P.C.	1	2	3	4	5	6	7 W.E.C.
69.25	69.08	68.88	68.63	68.33	67.96	67.52	67.02
2.03	2.20	2.40	2.65	2.95	3.32	3.76	4.26

581
6648

2.77

270.12
2.17
272.29

6 (45 - 180
7 .30

1305
3321
1305
3915
3915
3915
4346955
2
8.69

59
22
37
522
37
463

25.5 E	PC	1	2	3	4	5	6 E.C.
3.26	68.53	68.00	67.50	67.35	67.20	66.90	66.49
69.03	3.76	4.29	4.79	4.94	5.09	5.39	5.80

27) 1.70 (.063
162
80
.504

Dramage Municiple Golf Course
Head. Cedar St. Grade
"A" Line

						Grade
BM. Top Hydt.	5.6	205.6		200.00	assumed	
0+00			8.1	197.5	196.	+1.5
0+50			7.5			
1+00			7.1			
1+30			6.3			
1+46			4.6			
2+25			10.0	195.6		
2+50			12.			
2+95			5.2	200.4	193.	
3+05			6.6	199.0	193	
4+00			11.0		192.	
4+30			12.8	192.8	191.7	

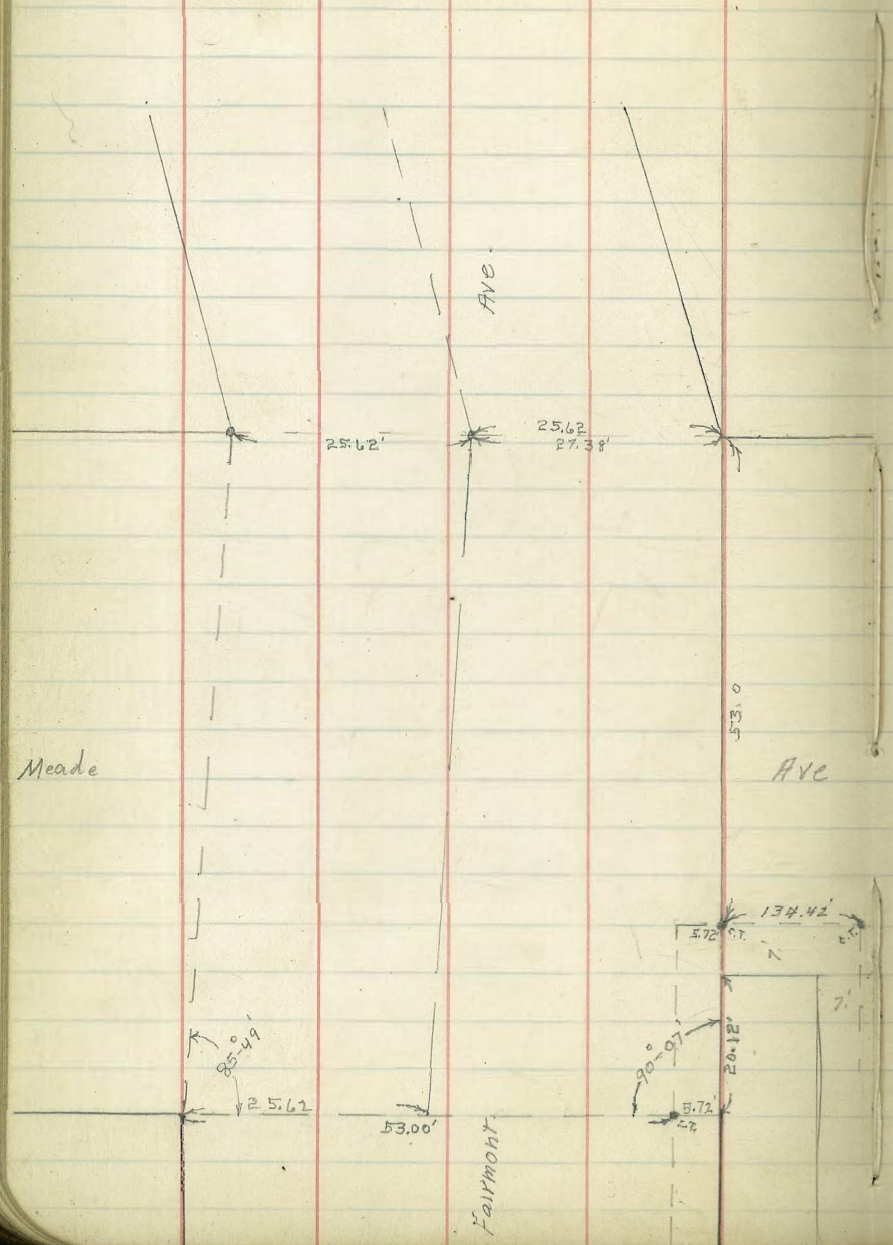
Drainage Municipal Golf Course

B. Line

				Gr assumed	
BM Top Hydt.	1.95	201.95	200.00		
0+00 same		4.5	197.5	197.0	
0+50		3.2	198.8	196.5	
1+00		1.3	200.7	196.0	+4.7
1+50		1.2	200.8	195.5	+5.3
2+00		2.7	199.3	195.0	+4.3
2+50		5.3		194.5	
2+75		7.2		194.2	
3+00		9.6		194.0	

"C" Line

0+00	4.5	197.5	
0+03	3.8		
0+50	7.9		
1+00	11.5		
1+50	10.2		
2+00	11.5		
2+55	12.9		
2+90	15.0		


Ave
25.62'
25.62
27.38'
53.0
Meade
Ave
134.42'
5.72'
7'
7'
85°-49'
25.62
53.00'
90°-07'
20.12'
5.72'
Fairmont

IMPROVED TABLES

AND

INFORMATION

421.58
2 23
419.35

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1½ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

122
115

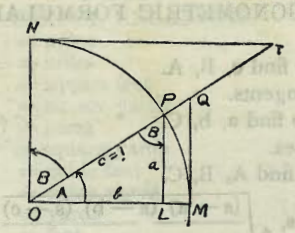


TABLE II

TRIGONOMETRIC FORMULÆ.

$\angle A = \angle MOP \qquad \angle B = \angle PON = \angle OPL$

$R = OB = c = 1$

$$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$$

$$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$$

$$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$$

$$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$$

$$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$$

$$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$$

$$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B \#$$

$$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$$

$$\text{exsec } A = PQ = \text{coexsec } B$$

$$\text{coexsec } A = PT = \text{exsec } B$$

$$\sin \tfrac{1}{2} A = \sqrt{\frac{1 - \cos A}{2}} \qquad \cos \tfrac{1}{2} A = \sqrt{\frac{1 + \cos A}{2}}$$

$$\sin 2A = 2 \sin A \cos A \qquad \cos 2A = \cos^2 A - \sin^2 A$$

$$\text{Law of Sines} \quad \frac{\sin A}{a} = \frac{\sin B}{B} = \frac{\sin C}{C}$$

$$\text{Law of Cosines} \quad c^2 = a^2 + b^2 - 2ab \cos C$$

$$\text{Law of Tangents} \quad \frac{a+b}{a-b} = \frac{\tan \tfrac{1}{2}(A+B)}{\tan \tfrac{1}{2}(A-B)}$$

1293
74
13.67

4056
.21

57.3
23.3
80.6

56112
52213
12899
65112

65112

66517
63665
2847
1473
088

50
2.35
47.6562

5)26
10

.0208
125)26000
250
1000

10

4209
52
21.42
21.94

4209
10
421.94
422.98
52
43350

)2.652

4209
52
421.42
2194
46

11)1686
153

38943
1022
379.21