

W143

FIELD BOOK

361

CITY OF  
SAN DIEGO - CALIFORNIA  
ADDITIONAL WATER SUPPLY  
SAN DIEGO RIVER RESERVOIR  
360 CONTOUR

2

# KEUFFEL & ESSER CO.

DRAWING MATERIALS

AND

SURVEYING INSTRUMENTS.

NEW YORK.

CHICAGO. **MICROFILMED** SAN FRANCISCO. MONTREAL.

## Tables for Excavations and Embankments.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.  
ROADWAY 18 FEET WIDE. SIDE SLOPES 1 TO 1.  
FOR SINGLE TRACK EXCAVATION.

"Copyright, 1895, by Keuffel & Esser Co."

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	0
1	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	1
2	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	2
3	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	3
4	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	4
5	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	5
6	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	6
7	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	7
8	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	8
9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	9
10	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	10
11	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	11
12	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	12
13	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	13
14	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	14
15	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	15
16	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	16
17	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	17
18	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	18
19	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	19
20	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	20
21	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	21
22	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	22
23	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	23
24	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	24
25	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	25
26	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	26
27	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	27
28	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	28
29	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	29
30	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	30
31	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	31
32	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	32
33	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	33
34	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	34
35	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	35
36	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.

FOR KEITH'S RAILROAD CURVE TABLES SEE END OF BOOK.

City of San Diego  
Calif.

Water Commission Office

320 McNece Block

H.N. Savage CE

X1625W 13 Track North

#11 - 12° 1162.9 ~~6~~ 89° 57' 30"  
 #11 W fence 657°  
 " E fence 729°  
 #12 13 on fence base  
 BK #2  
 12-13 329°

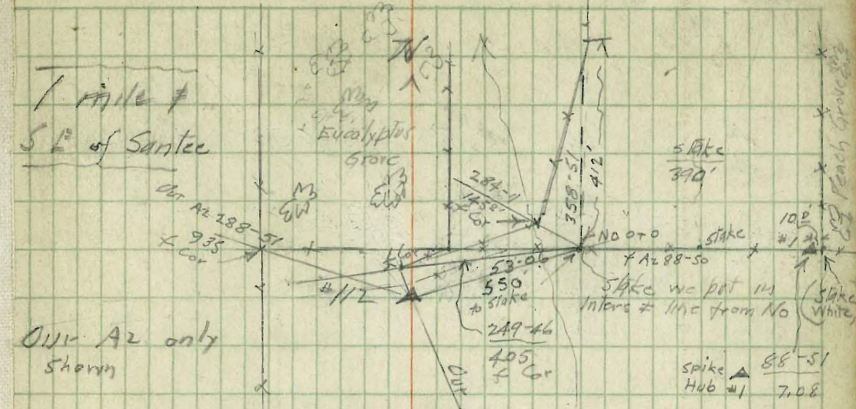
B	F		
5.423	8.305	8.1680	4.05
4.862	1.680	1.73	6.65
10.285	10.185		
1.95			
10			
05			

4862	1730	8.48
5450	8386	
10.312	10.115	
11		
.20		

5450	8480	
4910	185	
10.360	10.330	.015
	358-53	
	660	

# Ties

13  
345  
1-13  
935  
706



1 mile S of Santee

OUTLINE

Going East from 53-06 stake  
550

To #1 88-51  
7.08

#2 88-51 #2 is S'W of Inters N+E+W  
3.36

X @ #2 358-53 - 6.60 5' W of (White Stake) No side 57' line  
(Approx East Side Sec 28)

" " " 88-51  
2.75 fence Cor E+W + So.

#2 to #115 146-50  
5.35 #115 is 10 E. of N+S Fence

X @ #115 X Revs.

115 to 114 = Az 10-15 ✓ 10-16 to 23

(See Sketch on Page 57)

Tie #95 to # across SDR Valley p 53

## Ties

Sta A<sub>2</sub> Rod H Dist Vert  
 A@<sup>BS</sup> #155<sup>up</sup> 1 mile NNE of Santee

241-44	2.70		$\frac{1}{16}$ f cor
101-16	5.85		$\frac{1}{2}$ # way at abscinder
169-03	8.20	+5' to f North	$\frac{1}{16}$ Cor
89-03	5.18	-5 to f No.	
359-36	9.50	+0-12'	
" "	10.17	+2-16	
" "	8.12	+4-28	
358-20	2.00	-0-36	

A@ #162

61-38	8.30	-0-07	
10-10	3.90	+1-22	
301-55	6.90	+1-24	
269-17	3.33	-2-51	
268-54	13.20	+0-36	

1-A

(See sketch on page 57)  
 G.R.H.

A here to #154 309-42 Rod 3.36 -0-34'  
 A@ 154 to 155 A 262-31 O.K sec p #31

A here 268-34 -0.65 f cor V

3x3 White Post in Mound of Rocks 5' to W of line.

Fence Cor N+S + one E

BS on 161 A: 274-26 p 32

5x4 Cor Eucalyptus Grove

to 4x4 post E+V of sec 22 marked #1 on E #2 on V

Spike So of E+V of fence sec 22

to 4x4 post 11' So of E+V of " " " no marks

to Inters N+S fence and E+V " " " <sup>same</sup> Fence (A) 1st Tie  
 front page

Mission Gorge Dam Sites

Sta	Az	Red	Hor Dist	Vert L	Dist	Elev
$\pi @ \Delta^1$	47					351.23
	313-40	1.01	81.2	-26-56	-41.23	310.0
	133-40	0.88	75.7	+22-48	+31.81	383.04
	133-40	0.22		+21-54		

360 Contour Survey

0400						
$\pi @ \Delta^1$	45					
	35-02	2.06	206	+0-53		
$\pi @ \Delta^1$	45	0				
360 Cont	239-21	0.13	13	-11-57		
"	42-11	1.15	115	-1-29		
"	42-54	5.05	505	-0-20		
$\pi @ \Delta^1$ to $\Delta^2$	43-32	5.11	511	+0-03		

$\pi @ \Delta^2$	46					
360 Cont	221-12	2.40	240	-0-41		
"	52-11	1.22	122	-1-30		
$\pi @ \Delta^2$ to $\Delta^3$	57-33	1.29	129	-0-39		
$\pi @ \Delta^3$	435					
#360 Cont	80-18	0.98	98	-3-46		
#3 to #4	89-23	1.23	123	+0-21		
$\pi @ \Delta^4$	44					
360 Cont	114-27	0.80	80	-3-41		
"	104-38	1.30	130	-1-39		
#4 to #5	110-24	2.08	208	+2-12		

Hayler Loc  
Franklin T  
Williams road  
7/20/21

137 40  
160  
297 80

Survey of 360' Contour Line

on So Side Mission Gorge Dam Site #3  
on Fletcher hub 310

360' Contour top 19th Stake S.D. 1st 360 on  $\Delta^1$  Dam

Sta	Elev	-	+	Gr Red
Elev from 1st 360 on $\Delta^1$ Dam	360	369.50	4.50	4.5
	360.03	7.57	7.54	2.6
	360.0	7.57	7.91	7.9
	360.01	7.90	7.10	9.1
	360.01	7.10	7.87	9.9
	359.99	9.88	7.01	9.0

(Draftsmans Note - N.S.S. Section lines  
seem to have Azm = 359° 40')

Instrument Stadia Constant = 100.

96

Sta	Az	Rod	Hor Dist	Vert L
$\pi @ \#5$ <sup>45</sup>				
#5 to #6	140-20	1.04'		-0-50
$\pi @ \#6$ <sup>435</sup>				
360 Cont	17-15	0.17	✓	-10-03
"	151-19	2.95	✓	-0-33
#6 to #7A	151-41	5.24'	✓	-0-19
$\pi @ \#7$ <sup>46</sup>				
360 Cont	288-13	1.50'	✓	-0-04
"	246-42	2.04'	✓	+0-04
"	234-52	1.65'	✓	+0-04
"	246-0	1.00'	✓	+0-04
"	95-37	0.71'	✓	0-03
"	100-03	1.50'	✓	+0-04
"	67-40	2.58'	✓	+0-02
"	47-16	3.28'	✓	0-0
"	41-05	4.67'	✓	+0-01
#7 to #8	42-28	5.91'	✓	+0-02
360 Cont	41-33	4.35'	✓	"
$\pi @ \#8$ <sup>455</sup>	71-50	1.04'		+0-3
#8 to #9	81-58	2.19'	✓	+0-04
$\pi @ 9$ <sup>472</sup>				
360 Cont	106-10	1.78'	✓	+0-03
#9 to #10	112-09	3.40'	✓	-0-01

Bubble Shot +  
Vert. Kernick not good  
0-00-0K

Sta El - T + Gr Rod

$\pi @ \#5$	359.99	367.70	7.41	7.4
	360.0	364.60	4.60	4.6
360		354.39	4.39	4.4
"	4.39	364.46	4.86	4.86

360 Cont









Sta	Az	Rod	Hor Dist	Vert	←
π@ 23	471				
	98-57	1.06 ✓		0	
	90-51	1.77 ✓		"	
	68-23	1.94 ✓		"	
	20-34	2.08 ✓		"	
	10-40	2.35 ✓		"	
#23 to #24	1-01	3.85 ✓		"	
π@ 24	455				
#24 to #25	27-32	0.78 ✓		"	
π on #25	450				
#25 to #26	63-29	0.68 ✓		"	
π@ 26	448				
#26 to #27	80-04	3.98 ✓		"	
π on #27	445				
	248-07	2.80 ✓		0	
	231-06	2.65 ✓		"	
	212-30	2.70 ✓		"	
	201-09	3.30 ✓		"	
	190-34	3.75 ✓		"	
#27 to #28	141-57	4.15 ✓		"	
π@ #28	430				
	240-18	3.62 ✓			
	236-42	3.92 ✓			
	222-11	4.00 ✓			
	193-50	3.10			

360 Cont.

" " in pass

" "

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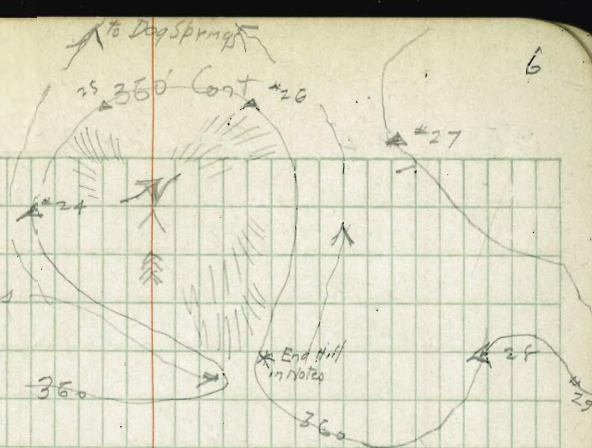
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" E side Dog Springs gulches

360 Cont E side hill in above sketch

" "

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" "

E side Dog Spr Gulches

E side hill above sketch end of hill \*

Sta	Az	Rod	Hor Dist	Vert L
π@ #28	192-11	1.80 ✓		0
	154-37	0.85		"
#28 to #29	67-39	1.98		"
π@ #29	445			
	140-25	1.40 ✓		"
	121-52	2.35 ✓		"
	124-22	2.90 ✓		"
	112-05	2.50 ✓		"
	100-56	2.00 ✓		"
	97-34	1.06 ✓		"
	64-0	1.10 ✓		"
	356-45	1.26 ✓		"
	335-42	1.40 ✓		"
	330-39	2.20 ✓		"
	324-26	1.77 ✓		"
π@ 28 again	475	2.05		
	359-12	2.05 ✓		0
	340-18	2.38 ✓		"
	333-55	3.18 ✓		
π@ #27 Again	450			
#27 to #30	328-17	0.67 ✓		+2.925
π@ #30	7.77			
#30 to #31	3-37	2.77 ✓		-0.33'

360 Cont

"

"

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"

π  
36450

F.S. # 28

360.02 = 4.48 362.77 7.75

I.P. 360.08 = 7.69 364.69 4.61

360' Cont also

Sta	Az	Rod	Hr. Dist	Vert L
π@ #31	4.69			
	177-09	1.80 <sup>✓</sup>		0
	144-12	1.15 <sup>✓</sup>		"
	100-20	0.70 <sup>✓</sup>		"
	325-55	0.58 <sup>✓</sup>		"
	339-0	1.10 <sup>✓</sup>		"
*31 to #32	327-51	3.09 <sup>✓</sup>		"
π@ #32	4.33			
	109-04	1.11 <sup>✓</sup>		"
	350-0	1.21 <sup>✓</sup>		"
#32 to #33	341-11	2.68 <sup>✓</sup>		"
π@ #33	4.57			
	89-0	1.55 <sup>✓</sup>		"
*33 to #34	358-53	0.80 <sup>✓</sup>		"
π@ #34	4.78			
	287-0	1.48 <sup>✓</sup>	-17-34	
*34 to #35	21-53	1.34 <sup>✓</sup>		0
π@ #35	4.49			
	154-15	1.32 <sup>✓</sup>		"
	35-50	1.06 <sup>✓</sup>		"
#35 to #36	25-11	2.66 <sup>✓</sup>		"
π@ #36	4.55			
	56-26	1.12 <sup>✓</sup>		0
	355-30	0.75 <sup>✓</sup>		"
#36 to #37	348-46	1.85 <sup>✓</sup>	to-A1	

7/31/21

360 Cont

" "

" "

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"

" also

360' Cont

"

"

"

"

Fletcher lath 330 Elev

360 Cont

"

"

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"

"

P.O. Rock T.P. Blue Kid on Rock = 360.00

Sta	Az	Rad	Hor Dist	Vert	
$\pi$ @ # 37	702				
	63-0	0.75 $\checkmark$		0	
	39-10	0.65 $\checkmark$		"	
	33-20	1.02 $\checkmark$		"	
	5-04	1.23 $\checkmark$		"	
	359-88	1.89 $\checkmark$		"	
#37 to #38	01-27	2.50 $\checkmark$		-0-30	
$\pi$ @ #38	445				
	33-0	0.82 $\checkmark$		0	
	17-14	1.21 $\checkmark$		"	
	3-30	1.41 $\checkmark$		"	
#38 to #39	1-44	1.82 $\checkmark$		+0-51	
$\pi$ @ #39	715				
	42-40	0.39 $\checkmark$		0	
#39 to #40	10-11	1.41 $\checkmark$		"	
$\pi$ @ #40	444				
	283-51	0.65 $\checkmark$		-30-0	
	30-45	1.61 $\checkmark$		0	
	13-42	2.10 $\checkmark$		"	
#40 to #41	15-02	2.39 $\checkmark$		+1-14	
$\pi$ @ #41	240	0			
	15-0	0.79 $\checkmark$		0	
	19-35	1.56 $\checkmark$		"	
	11-45	1.85 $\checkmark$		"	
	10-19	2.35 $\checkmark$		"	

360 Cont

"	"				
"	"				
"	"	359.44	-7.04	364.45	+4.7
"	"	362.58	-1.87		
"	"				
"	"			367.15	+7.5
"	"	361.63	5.52	364.44	+2.81

P.O. Rock

Fletcher 330 path

360 Cont.

above 360

360 Cont

"  
"  
"  
"

Sta	Az	Rod	Hor Dist	Vert	←
π @ #41	940				
#41 to #42	8-19	3.55 <sup>✓</sup>		0	
π @ #42	452				
	172-30	0.99 <sup>✓</sup>		0	
#42 to #43	12-17	1.30 <sup>✓</sup>		"	
π @ #43	439				
#43 to #44	21-55	1.20 <sup>✓</sup>		"	
π @ #44	419				
	40-06	1.52 <sup>✓</sup>		0	
	12-39	2.29 <sup>✓</sup>		"	
	10-22	3.20 <sup>✓</sup>		"	
	7-47	4.96 <sup>✓</sup>		"	
#44 to #45	6-51	6.49 <sup>✓</sup>		"	
π @ #45	440				
	43-0	1.45 <sup>✓</sup>		"	
	25-25	1.50 <sup>✓</sup>		"	
	7-35	1.70 <sup>✓</sup>		"	
	358-50	2.21 <sup>✓</sup>		"	
#45 to #46	359-45	2.80 <sup>✓</sup>		"	
	357-47	2.35		"	
π @ #46	457				
	292-0	0.69 <sup>✓</sup>	-28-35		
	27-20	0.79 <sup>✓</sup>		0	
#46 to #47	14-30	1.25 <sup>✓</sup>		"	

26a Cont

" "

"

"

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7

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Fletcher 330 1/2

360

"







Sta	Az	Rod	Hor Dist	Vert	L
π@ #64	4.93				
#64 to #65	36-37	2.18 ✓		0	
π@ #65	4.33				
#65 to #66	48-10	1.69 ✓		0	
π@ #66	3.32				
	326-43	0.90 ✓		-13	-06
	350-05				
360 Cont	64-46	0.66 ✓		0	
#66 to #67	66-14	1.76 ✓		0	
π@ #67	4.47				
#67 to #68	81°-47'	2.51 ✓	252	"	
	79-09	1.68 ✓		"	
π@ #68	1.39				
	131-40	1.55 ✓		0	
	356°-38'	4.60 ✓	447	-9-56	-78.3 221.7
	352°-59'	6.33 ✓	622	-7-22	-80.3 279.7
	98-18	1.75 ✓		0	
	85-36	2.69 ✓		"	
	87-07	4.32 ✓		"	
	83-56	4.90 ✓		"	
#68 to #69	80-56	6.50 ✓		"	
π@ #69	418°-30'	1.38 ✓		-12-24	
	92-22	1.78 ✓		0	
	68-55	2.00 ✓		"	

0N68 - Elev 360.0

BS 3.90 to 67

Rd 2.53

Az 261°47'

13

Az = 2°02'

Rd = 3.94

Vert = -11°04' to 16.92 on Gage

HD = 380.5

VD = 74.43

Elev = 285.57

0 = 268.65

360

E1

264.33

358.4

358.39

594

West side

So side

4x4 Stake Lot #13 Cor 9

C 8

Stake #66 is on line approx with W side of across ranch fence Az = 350-05 (no side run)

360 also

"

"

Out of Gorge thence

Sept 2/21

360 in wash

So End of Top Old Mission Dam on S.D. River (600 ft So End)

No " " " " " " " " (Broken out)

(U.S.G.S B.M. was not found)

360 Cont

G.R.H. 3-2-22

Inst. @ Sta A 68 H.I. = 363.90 Elev = 360.00

B.S. on Sta A 67 Azi = 261°47' Rod = 2.53

To U.S.G.S. Gage = Enamelled Plate on Sycamore tree near South End of Old Mission Dam Reading at +16.92 on Gage

Azi = 2°02' Rod = 3.94 Vert = -11°04'

Hor. Dist = 380.5 Vert Dist = -74.43 Elev 285.57

360 Cont Wash

Zero of Gage = 285.57 - 11.92 = 268.65 Elev.



Sta	Az	Rod	Hor Dist	Vert	L
N @ #77	4.55				
	221-20	0.95 ✓	0		
	211-50	1.15 ✓	"		
	188-55	1.63 ✓	"		
	144-53	2.37 ✓	"		
	147-33	5.60 ✓	"		
	141-45	5.30 ✓	"		
	129-50	3.90 ✓	"		
*77 to *78	98-17	4.03 ✓	"		
N @ #78	4.91				
	113-0	1.09 ✓	"	0	
	129-0	2.37 ✓	"	"	
	114-06	3.70 ✓	"	"	
	89-54	5.10 ✓	"	"	
	83-13	6.30 ✓	"	"	
	77-55	7.80 ✓	"	"	
	77 78-32	9.30 ✓	"	"	
*78 to *79	77-41	10.60 ✓	"	"	
N @ #79	4.45				
	107-50	0.80 ✓	"	"	
*79 to *80	84-41	2.77 ✓	"	"	
N @ #80	4.80				
	3-35	0.28 ✓	-7-0		
	"	0.99 ✓	-4-36		

360 Cont

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So fence County Road Az 244

No

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Compass back OK



Sta	AZ	Rad	Hor-Dist	Vert L
T @ #84	<sup>5.00</sup> 110-03	5.00 ✓		0
	113-32	5.15 ✓		0
	115-50	5.97 ✓		"
#84 to #85	107-48	7.90 ✓		"
T @ #85	<sup>4.95</sup> 138-08	2.12 ✓		0
	141-18	2.38 ✓		"
	148-10	3.80 ✓		"
	153-20	4.45 ✓		"
	135-29	4.72 ✓		"
#85 to #86	129-24	6.28 ✓		"
T @ #86	<sup>4.70</sup> 160-38	1.26 ✓		0
	147-37	2.80 ✓		"
	#86 to #87	139-41	3.89 ✓	
T @ #87	<sup>5.09</sup> 246-20	1.18 ✓		"
	204-0	1.65 ✓		"
	192-34	2.52 ✓		"
	170-0	2.13 ✓		"
	144-04	1.99 ✓		"
	148-02	3.55 ✓		"
	147-14	3.57 ✓		"
	#87 to #88	146-50	8.35 ✓	

Ranch fence N+S

360 Cont

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Ranch fence E+W

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Sta	Az	Rod	Hor Dist	Vert L
π @ #92	<sup>472</sup> 101-27	5.30 ✓		0
#92 to #93	<u>86-10</u>	8.15		"
π @ #93	<sup>465</sup> 97-10	3.18 ✓		0
	89-52	6.15 ✓		"
#93 to #94	<u>89-49</u>	8.12 ✓		"
π @ #94	<sup>438</sup> 100-0	1.80 ✓		"
	75-25	4.43 ✓		"
94 to #96	<u>73-56</u>	5.75 ✓		"
	56-53	3.88 ✓		"
	37-14	4.06 ✓		"
94 to #95	<u>33-08</u>	5.33 ✓		"
π @ #95	<sup>451</sup> 88-45	1.50 ✓		"
π @ #96	<sup>480</sup> 352-02	2.20 ✓		"
	5-30	0.97 ✓		"
	134-00	0.81 ✓		"
	94-37	3.50 ✓		"
	101-27	6.30 ✓		"
	79-06	5.03 ✓		"
	46-39	5.10 ✓		"
#96 to #97	<u>61-04</u>	8.10 ✓		"

360 Contour

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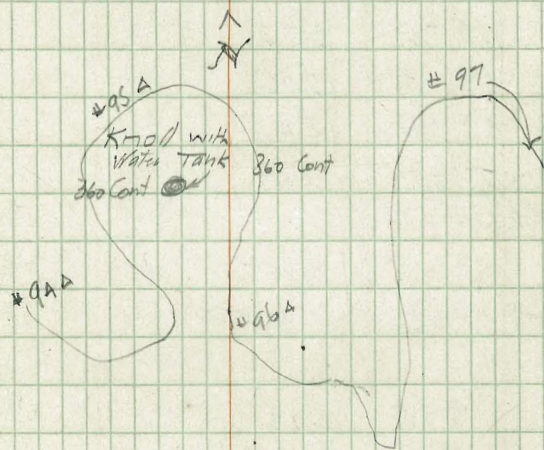
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Sta	Az	Rad	Hor Dist	Vert L
T@ #97	<sup>5.06</sup> 145-31	3.80 <sup>v</sup>		0
	146-52	6.45 <sup>v</sup>		"
#97 to #98	145-13	8.30 <sup>v</sup>		"
T@ #98	503			
	84-0	0.79 <sup>v</sup>		0
	"	1.21 <sup>v</sup>		"
	146-0	2.45 <sup>v</sup>		"
	139-10	4.12 <sup>v</sup>		"
	129-50	5.88 <sup>v</sup>		"
	119-41	5.70 <sup>v</sup>		"
	115-36	5.06 <sup>v</sup>		"
	92-30	5.41 <sup>v</sup>		"
#98 to #99	77-09	7.85 <sup>v</sup>		"
T@ #99	490			
	80-46	3.74 <sup>v</sup>		"
#99 to #100	86-16	5.35 <sup>v</sup>		"
T@ #100	463			
	157-05	2.13 <sup>v</sup>		"
	122-45	4.70 <sup>v</sup>		"
	115-33	6.50 <sup>v</sup>		"
#100 to #101	114-20	8.20 <sup>v</sup>		"
T@ #101	500			
	133-37	1.70 <sup>v</sup>		"
	101-52	4.00 <sup>v</sup>		"
	87-22	8.00 <sup>v</sup>		"

360 Contour

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W fence N+S Road 2nd class

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Sta	Az	Rod	Hor Dist	Vert L
$\pi @ \# 111$	510			
✓	298-0	117 ✓		□
✓	360-0		100	
✓	132-55	4.29 ✓		"
✓	111-0	5.70 ✓		"
$\#111$ to $\#112$	114-04	7.30 ✓		"
$\pi @ \# 112$	506			
✓	157-20	1.88 ✓		"
119-19 ✓	110-19	4.33 ✓		"
$\#112$ to $\#113$	129-41	8.20 ✓		"
✓	131-43	5.67 ✓		"
$\pi @ \# 113$	460			
✓	150-37	4.20 ✓		"
✓	145-0	6.70 ✓		"
✓	135-06	8.95 ✓		"
$\#113$ to $\#114$	129-03	12.25 ✓		"
$\pi @ \# 114$	487			
✓	99-02	2.33 ✓		"
✓	89-30	3.25 ✓		"
✓	77-16	7.60 ✓		"
✓	86-05	9.60 ✓		"
✓	74-35	7.60 ✓		"
✓	56-07	6.60 ✓		"
✓	43-25	5.40 ✓		"
✓	8-0	6.35 ✓		"

365  
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360 Cont

Entry fence across Valley East

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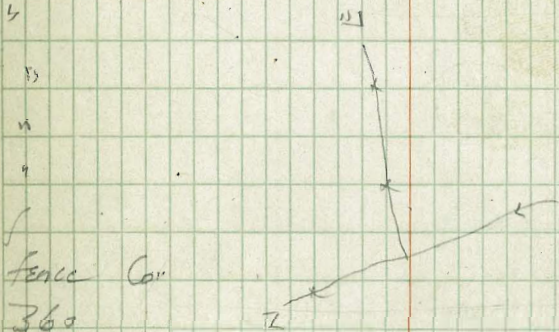
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Sta	Az	Red	Hor-Dist	Vert L.	Elev
π@ #125	4.90				
#125 to #126	76-36	3.60 ✓		0	362.53
π@ #126	7.55				
✓ 327-25		1.35 ✓		0	
✓ 58-25		1.60 ✓		"	
✓ 45-28		4.00 ✓		"	
#126 to #127	45-40	4.61 ✓		"	
π@ #127	5.24 5.22				
#127 to #128	39-10	1.97 ✓		"	
π@ #128	4.90				
✓ 70-0		1.30 ✓		0	
✓ 88-03		2.85 ✓		"	
#128 to #129	95-19	6.70 ✓		"	
X					
π@ #129	3.27				
✓ 282-30		4.35 ✓		0	
✓ 266-34		4.70 ✓		"	
✓ 243-45		2.86 ✓		"	
✓ 216-10		2.93 ✓		"	
✓ 197-29		4.10 ✓		"	
✓ 187-43		3.20 ✓		"	
✓ 159-34		1.51 ✓		"	
✓ 115-40		0.22 ✓		"	

	-	π	+
	2	364.70	
	362.53	2.37	365.24 2.71
360 Cont			
"			
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in Church yard			
360 Cont			
"			
Low point in paving Santee	El	π	+
	363.93	368.31	4.385
On A #129	358.82	349.	1.18 too low
Correct 360 Hub	360.00	8.31	
X			
8/7/21			
Elev taken off 360.00 Set by Level above			
360			
"			
"			
"			
"			
"			
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"			
"			
Now 360 Hub above mentioned			

Sta	Az	Rod	Hor Dist	Vert	L
π@ #129 <sup>327</sup>	42-10	1.56		0	
	57-15	2.78		"	
	56-0	3.95		"	
	44-32	4.81		"	
*129 to #130	35-36	6.83		"	
	184-53	4.38		0	
	187-49	4.20		"	
	197-29	4.58		+0-55'	
	73-20	5.80		+1-05	
	68-26	5.60		+0-58'	
	63-21	5.40		+0-40	
	48-46	5.15		-0-08	
π@ #130	470				
	77-41	2.78		0	
	77-35	4.14		"	
	68-20	6.0		"	
#130 to #131	53-18	6.88		"	
π@ #131	516				
	40-30	1.39		"	
*131 to #132	89-37	2.24		"	3646
	708				
π@ #132					
	1-04	3.04		0	

360 Cont

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## Topog in Santee

E side Highway Culvert N+S road N of Santee

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S.D. Ry H.B. Sta. Siding Santee E end

E Ry

Sand Oil fence S side SE cor

" " " SW cor

369

360

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NE cor. 1-2-30  
N+Y Co Note = 360 E/cv

364 63 053 367.71 908



Sta	Az	Rod	Hor Dist	Vert L
$\pi$ on #137	<sup>5.36</sup> 45-55	360		0
#137 to #138	45-56	361		"
$\pi$ @ #138			X	
$\pi$ @ #138	<sup>4.88</sup>			
	✓ 50-59	2.85		0
	✓ 45-52	2.73		"
	✓ 46-35	4.80		"
#138 to #139	46-10	7.90		"
$\pi$ @ #139	<sup>4.60</sup> 448 on Check			
	✓ 44-16	3.18		"
#139 to #140	31-31	6.60		"
$\pi$ @ #140	<sup>4.63</sup>			
#140 to #141	23-23	2.54		"
$\pi$ @ #141	<sup>5.03</sup>			
#141 to #142	38-29	3.46		"
$\pi$ @ #142	<sup>5.09</sup>			
#142 to #143	25-01	3.09		"
$\pi$ @ #143	<sup>4.12</sup>			
	✓ 209-15	0.64		"
	✓ 74-0	1.10		"
	✓ 70-40	1.72		"
	✓ 44-40	1.90		"
	✓ 298-10	0.82		"
	✓ 285-20	2.55		"

Along Ry side Ry fall in R of Ry

Station / Description	Value 1	Value 2	Value 3
360			
Check Highway BM 1M No Santee			
8/8/21 Twp	361.922	364.882	2.96
Ry + Culvert Bridge	359.86	5.02	
Wash King on R of Ry			
360			
Hwy. BM	359.970	364.48	4.51
West of Ry R of Ry again			
#140A			250' $\neq$ Ry
#143 in S.D. R			
E edge S.D. R			
360 Xing R			

4.75  
12  
4.63

28

5.02

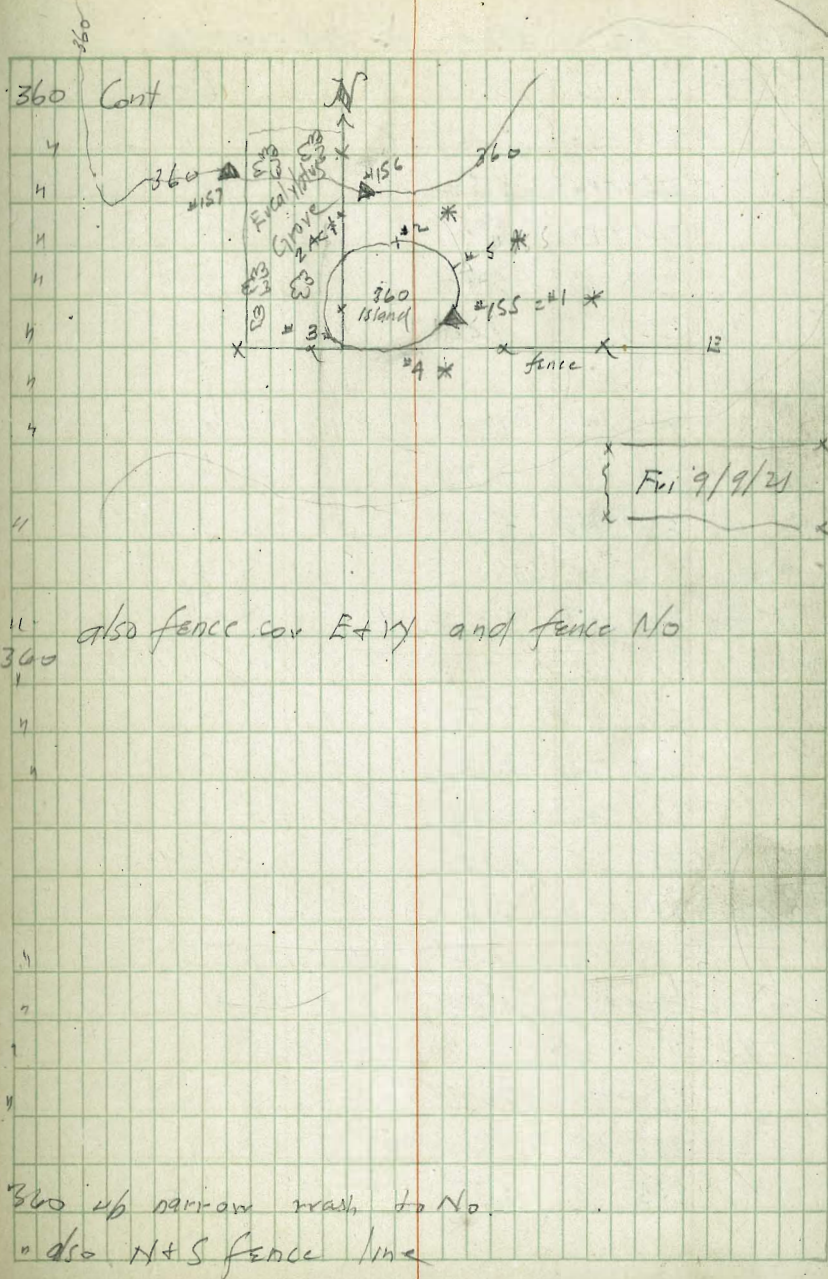


Sta	Az	Rad	Hor Dist	Vert L
π@ #143	4.12			
#143 to #144	249-44	5.50 ✓		0
π@ #144	4.13			
#144 to #145	262-07	3.93 ✓		"
π@ #145	5.13			
✓ 73-30		3.15 ✓		"
✓ 64-45		1.70 ✓		"
✓ 303-40		0.92 ✓		"
✓ 22-45		1.93 ✓		"
✓ 308-05		1.70 ✓		"
#145 to #146	301-03	2.62 ✓		"
π@ #146	5.09			
✓ 206-16		0.85 ✓		"
✓ 343-20		0.75 ✓		"
✓ 5-26		4.95 ✓		"
✓ 326-50		1.25 ✓		"
✓ 233-10		2.55 ✓		"
#146 to #147	230-38	4.30 ✓		"
π@ #147	4.31			
#147 to #148	233-50	2.37 ✓		"
π@ #148	4.50			"
✓ 258-10		3.20 ✓		"
#148 to #149	262-28	4.66 ✓		"
π@ #149	4.40			
✓ 295-46		1.00 ✓		0

360 Y edge S.D.R bed  
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 "  
 360 leaves S.D.R bed thence Y side of R  
 "  
 " up small slough  
 "  
 "  
 "  
 " up narrow slough @ toe of MH NW side SDR  
 360  
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 N+S fence + fence Y @ Cor



Sta	Az	Rad	Hor Dist	Vert	
$\pi$ @ #154	<sup>4.75</sup> 320-20	5.40		0	
	✓ 333-42	7.05		"	
	✓ 323-04	9.80		"	
	✓ 318-47	13.40		"	
	✓ 309-37	12.90		"	
	✓ 306-05	10.30		"	
	✓ 285-27	9.60		"	
#154 to #155	262-31*	8.36	✓	Dist	+
$\pi$ @ #155	<sup>4.34</sup>				
	✓ 320-06	3.90		"	
#2	* 270-37	2.40			
#4	* 241-19	2.76		0	
#3	* 201-49	1.37		"	
#5	* 295-47	1.05		"	
#155 to #156	320-28	5.00		"	
$\pi$ @ #156	<sup>5.23</sup>				
#156 to #157	269-28	3.38		"	
$\pi$ @ #157	<sup>4.71</sup>				
	✓ 261-31	2.06		"	
	✓ 247-35	4.27		"	
	✓ 274-42	5.35		"	
#157 to #158	275-21	8.60		"	
$\pi$ @ #158	<sup>4.80</sup>				
	✓ 339-20	1.85		"	
	✓ 288-30	1.00		"	



Sta	Az	Rod	Hor. Dist	Vert L
π@ #158	<sup>4.80</sup> 274-10	2.15		0
	✓ 289-50	4.10		"
	✓ 265-16	4.55		"
	✓ 244-19	4.71		"
	✓ 239-46	6.85		"
#158 to #159	<u>229-17</u>	7.86		"
π@ #159	<sup>4.98</sup>			
	✓ 324-22	1.75		0
	✓ 296-15	3.55		"
#159 to #160	<u>297-40</u>	4.80		"
π@ #160	<sup>4.95</sup>			
#160 to #161	<u>269-03</u>	3.30		"
π@ #161	<sup>4.70</sup>			
	✓ 249-10	1.06		"
	✓ 233-54	2.10		"
	✓ 260-45	2.55		"
	✓ 258-55	4.90		"
	✓ 249-55	6.13		"
	✓ 230-16	6.92		"
#161 to #162	<u>224-26</u>	10.40	10.35	"
π@ #162	<sup>4.92</sup>			
	✓ 280-30	1.82		"
	✓ 252-45	3.60		"
#162 to #163	<u>236-58</u>	6.72		"

360 Contour

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40 acres ±  
in Eucalyptus Grove 100 rods ± No of Soil Ind

Sta	Az	Rod	Hor Dist	Vert L
π @ #163	492			
	255-0	3.10 ✓		0
#163 to #164	270-40	3.22 ✓		"
π @ #164	475			
	03-10	2.20 ✓		"
	5-48	5.72 ✓		"
	1-27	9.40 ✓		"
	333-52	8.00 ✓		"
	314-11	7.80 ✓		"
	303-04	8.70 ✓		"
#164 to #165	285-31	8.06 ✓		"
π @ 165	#47			
	252-0	2.32 ✓		"
#165 to #166	256-50	2.56 ✓		"
π @ #166	454			
	293-20	1.55 ✓		"
	256-0	2.80 ✓		"
#166 to #167	259-53	8.95 ✓		"
π @ #167	512			
	271-37	1.75 ✓		"
	277-28	3.78 ✓		"
	250-38	6.75 ✓		"
#167 to #168	250-04	9.85 ✓		"
π @ #168	490			
	271-05	1.25 ✓		"

360 Contour

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" also E &amp; W fence

" also N &amp; S fence





Sta	Az	Rad	Hor Dist	Vert L
$\pi @ \#176$	509			
$\#176$ to $\#177$	336-20	4.98		0
$\pi @ \#177$	515			
	7-40	3.58		"
	23-45	7.80		"
	22-35	9.40		"
	21-10	7.95		"
	11-107	5.00		"
	359-53	3.75		"
	347-0	2.80		"
$\#177$ to $\#178$	332-35	2.92		"
$\pi @ \#178$	485			
	350-50	1.72		"
	341-42	3.57		"
$\#178$ to $\#179$	341-33	4.48		"
$\pi @ \#179$	510			
	01-30	0.73		"
$\#179$ to $\#180$	355-16	3.92		"
$\pi @ \#180$	511			
	35-30	0.94		"
	22-37	1.97		"
$\#180$ to $\#181$	10-37	4.10		"
$\pi @ \#181$	492			
	29-30	0.53		"
	352-40	1.54		"

360 Contour

In Wash

Up Sycamore Canal R side



Sta	Az	Rod	Hor Dist	Vert L
κ@ #181	<sup>4.92</sup>			c
	✓ 344-08	3.50✓		○
	✓ 343-40	4.75✓		"
	✓ 385-46	6.55✓		"
#181 to #182	<u>335-22</u>	<u>8.60✓</u>		b
κ@ #182	<sup>4.13</sup>			
	327-30	3.40✓		"
	283-50	1.85✓		v
	255-30	2.04✓		v
	254-56	3.40✓		"
#182 to #183	<u>258-41</u>	<u>6.10✓</u>		"
κ@ #183	<sup>4.58</sup>			
	✓ 13-50	1.75✓		"
	✓ 329-35	0.85✓		"
	✓ 242-30	1.14✓		"
	✓ 214-10	1.95✓		"
	✓ 194-05	3.33✓		"
	✓ 201-30	5.73✓		"
	✓ 200-11	8.00✓		"
#183 to #184	<u>193-23</u>	<u>10.00✓</u>		"
κ@ #184	<sup>4.34</sup>			
	✓ 169-06	2.35✓		"
	✓ 163-35	3.65✓		"
	✓ 159-45	5.65✓		"
	163-20	6.75✓		

360 Cont.

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" Sycamore G. King it

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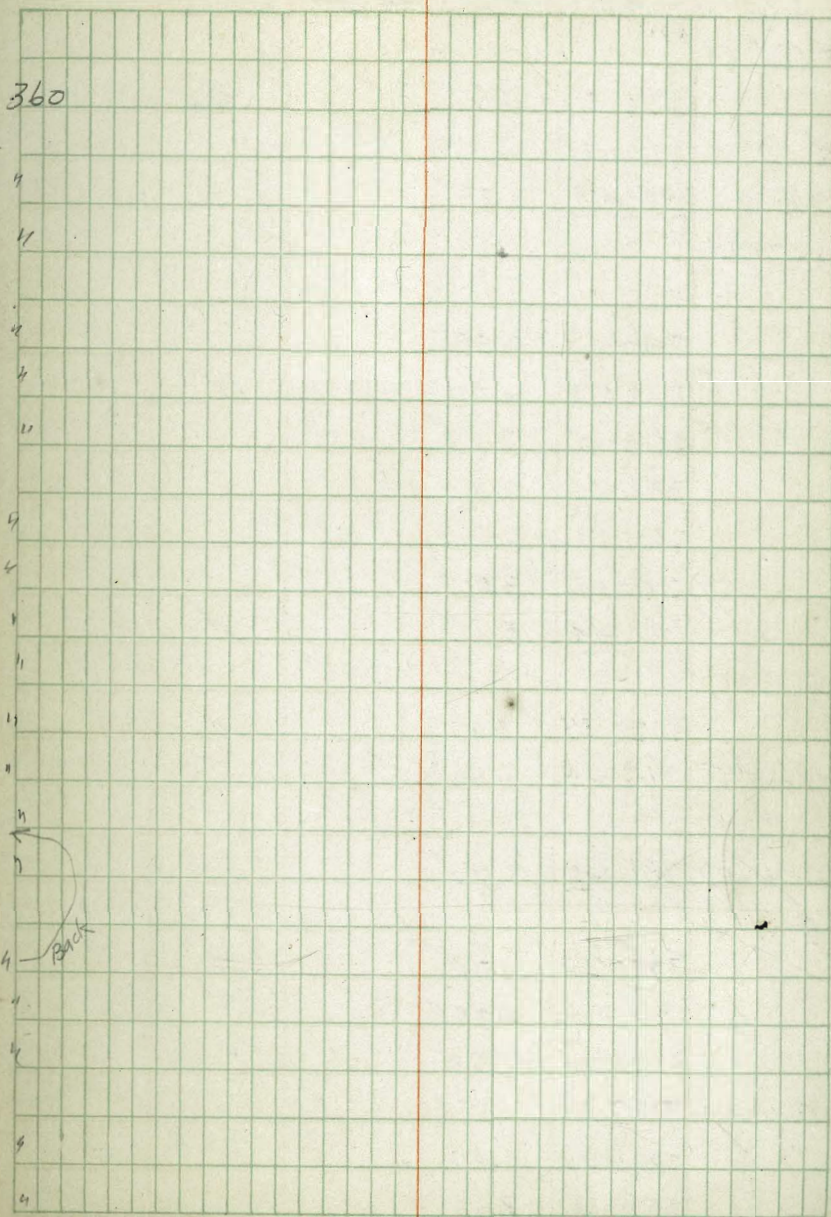
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Sta	Az	Rad	Hor Dist	Vert L
$\pi$ @ #184	<sup>4.34</sup>			
#184 to #185	161-23	11.50 <sup>✓</sup>		0
$\pi$ @ #185	<sup>4.35</sup>			
	166-51	1.70 <sup>✓</sup>		"
#185 to #186	175-46	2.74 <sup>✓</sup>		"
$\pi$ @ #186	<sup>5.06</sup>			
	240-0	1.48 <sup>✓</sup>		"
	190-20	2.70 <sup>✓</sup>		"
#186 to #187	199-33	3.36 <sup>✓</sup>		"
$\pi$ @ #187	<sup>5.13</sup>			
	260-0	2.30 <sup>✓</sup>		"
	243-0	3.30 <sup>✓</sup>		"
	253-20	4.68 <sup>✓</sup>		"
	217-30	4.75 <sup>✓</sup>		"
	213-35	1.85 <sup>✓</sup>		"
	183-05	11 <sup>✓</sup>		"
	175-35	3.08 <sup>✓</sup>		"
#187 to #188	178-30	5.94 <sup>✓</sup>		"
$\pi$ @ #188	<sup>5.15</sup>			
	327-46	1.75 <sup>✓</sup>		"
	196-27	2.60 <sup>✓</sup>		"
#188 to #189	191-10	5.83 <sup>✓</sup>		"
$\pi$ @ #189	<sup>4.81</sup>			
	344-0	2.50 <sup>✓</sup>		"
	326-47	4.08 <sup>✓</sup>		"



Sta	Az	Red	Hor Dist	Vert L
$\pi$ @ #189	481			
	323-27	3.65 <sup>v</sup>		0
	320-10	1.68 <sup>v</sup>		"
#189 to #190	197-47	2.85 <sup>v</sup>		"
$\pi$ @ #190	460			
	305-30	1.70 <sup>v</sup>		"
	290-17	2.55 <sup>v</sup>		"
	278-35	4.00 <sup>v</sup>		"
	264-0	2.28 <sup>v</sup>		"
	247-05	2.30 <sup>v</sup>		"
	238-25	3.70 <sup>v</sup>		"
	214-46	3.17 <sup>v</sup>		"
#190 to #191	192-44	5.82 <sup>v</sup>		"
$\pi$ @ #191	504			
	702-35	3.95 <sup>v</sup>		"
#191 to #192	212-54	7.56 <sup>v</sup>		"
$\pi$ @ #192	470			
#192 to #193	281-34	2.03 <sup>v</sup>		"
$\pi$ @ #193	440			
	338-20	1.75 <sup>v</sup>		"
	324-06	4.35 <sup>v</sup>		"
	324-01	6.73 <sup>v</sup>		"
	312-22	5.55 <sup>v</sup>		"
	285-05	2.90 <sup>v</sup>		"
	257-25	3.05 <sup>v</sup>		"

378  
756

39

360 Contour

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Sta	Az	Rad	Hor Dist	Vert L
$\pi @ \#193$	<sup>4.10</sup> 215-40	3.85 <sup>v</sup>		0
$\#193$ to $\#194$	213-45	5.10 <sup>v</sup>		"
$\pi @ \#194$	<sup>4.61</sup>			
$\#194$ to $\#195$	269-58	3.26 <sup>v</sup>		"
$\pi @ \#195$	<sup>5.20</sup>			
	308-51	2.09 <sup>v</sup>		"
	284-02	3.00 <sup>v</sup>		"
	255-36	4.92 <sup>v</sup>		"
$\#195$ to $\#196$	253-55	7.00 <sup>v</sup>		"
$\pi @ \#196$	<sup>4.92</sup>			
	20-40	2.96 <sup>v</sup>		"
	10-50	4.70 <sup>v</sup>		"
	326-30	5.00 <sup>v</sup>		"
$\#196$ to $\#197$	307-20	9.20 <sup>v</sup>		"
$\pi @ \#197$	<sup>4.12</sup>			
	328-03	4.75 <sup>v</sup>		"
	331-05	6.30 <sup>v</sup>		"
	322-42	7.10 <sup>v</sup>		"
	324-36	9.30 <sup>v</sup>		"
	313-25	10.00 <sup>v</sup>		"
	293-50	7.73 <sup>v</sup>		"
	273-41	9.32 <sup>v</sup>		"
$\#197$ to $\#198$	269-46	13.20 <sup>v</sup>		"
$\pi @ \#198$	<sup>4.78</sup>			
	311-0	4.23 <sup>v</sup>		"

360 Contour

"

Mon 10/12/24

"

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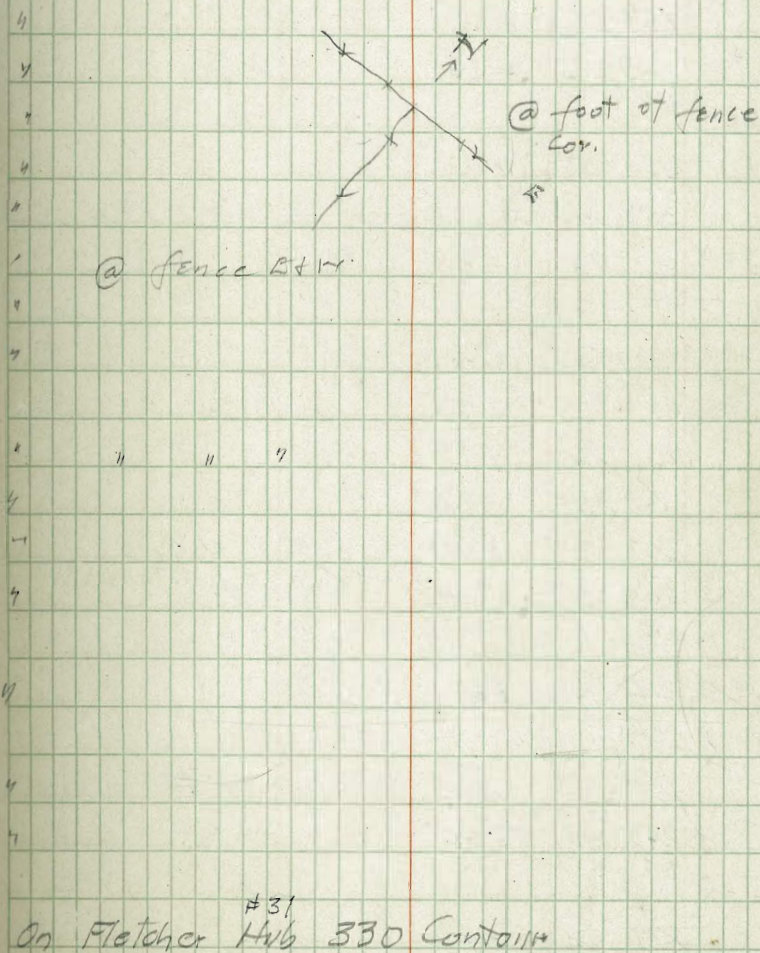
"

"

"

Sta	Az	Rod	Hor Dist	Vert L
$\pi$ @ #198	<sup>4.78</sup>			
#198 to #199	<u>313-10</u>	5.25 <sup>✓</sup>		0
$\pi$ @ #199	<sup>4.55</sup>			
	330-30	1.10 <sup>✓</sup>		"
	340-05	2.55 <sup>✓</sup>		"
	330-09	3.40 <sup>✓</sup>		"
	316-23	6.32 <sup>✓</sup>		"
	318-30	7.10 <sup>✓</sup>		"
	301-43	6.50 <sup>✓</sup>		"
	294-24	6.97 <sup>✓</sup>		"
#199 to #200	<u>286-54</u>	10.30 <sup>✓</sup>		"
$\pi$ @ #200	<sup>4.57</sup>			
	310-18	1.64 <sup>✓</sup>		"
	303-22	2.93 <sup>✓</sup>		"
	298-50	4.20 <sup>✓</sup>		"
#200 to #201	<u>297-44</u>	6.43 <sup>✓</sup>		"
$\pi$ @ #201	<sup>4.81</sup>			
#201 to #202	<u>303-21</u>	3.35 <sup>✓</sup>		"
$\pi$ @ #202	<sup>4.42</sup>			
$\pi$ @ #202	330-10	0.78 <sup>✓</sup>		"
#202 to #203	<u>330-13</u>	2.86 <sup>✓</sup>		"
$\pi$ @ #203	<sup>4.40</sup>			
	213-43	2.94 <sup>✓</sup>	-5.38	331 <sup>2</sup>
	117-10	1.20 <sup>✓</sup>		"
	89-45	1.55 <sup>✓</sup>		"

360 Contour



Sta	Az	Rod	Hor Dist	Vert
$\pi$ @ #203	440			
#203 to #204	295-24	2.89		0
$\pi$ @ #204	462			
-	353-35	2.25		"
#204 to #205	345-02	4.76		"
$\pi$ @ #205	446			
-	356-07	4.65		"
-	352-40	6.80		"
#205 to #206	317-05	4.80		"
$\pi$ @ #206	471			
-	20-50	4.38		"
-	21-30	2.90		"
-	15-50	1.75		"
-	209-10	1.73		"
-	202-25	3.18		"
#206 to #207	202-11	7.10		"
$\pi$ @ #207	475			
#207 to #208	212-36	1.66		7
$\pi$ @ #208	485			
-	161-0	1.58	-10-47	330 <sup>g</sup>
#208 to #209	248-41	1.60		0
$\pi$ @ #209	463			
-	274-55	2.68		"
#209 to #210	273-12	5.30		"

461

360 Contour

Little Sycamore Cr Wash

on Fletcher 330 Hub #30

360

Sta	Az	Rod	Hor Dist	Vert L
κ@ #210	4.76			
#210 to #211	282-16	2.22		0
κ@ #211	4.66			
#211 to #212	323-13	1.16		"
κ@ #212	4.44			
	356-0	1.31		"
	347-17	3.60		"
#212 to #213	345-35	7.00		"
κ@ #213	4.96			
	146-50	2.18		"
	123-0	1.45		"
	342-10	2.80		"
	335-50	5.08		"
#213 to #214	338-32	6.65		"
κ@ #214	5.00			
	03-40	1.31		"
	342-12	3.00		"
	314-50	4.70		"
	294-50	3.20		"
	251-52	3.02		"
#214 to #215	216-17	3.61		"
κ@ #215	4.77			
	190-20	2.80		"
#215 to #216	180-27	6.08		"

360 Contour

"

"

"

"

"

"

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"

In Spring Canon

Gulch back of #213

Xing Spring Wash

Sta	Az	Rod	Hor Dist	Vert	✓
π @ #216	492				0
	189-10	3.30	✓		n
	185-07	4.10	✓		.
#216 to #217	182-38	7.56	✓		γ

See Book #1 - p 44

360 Contour

n  
r  
s



Sta Az Rod H. Dist V<sub>gt</sub> L

See p. 57 Book #1.

10 to #11 189-51-30 1.40 ✓

π @ #11 486

#11 to #12 153-21-30 0.67 ✓

π @ #12 489

#12 to #13 104-41 1.29 ✓

π @ #13 463

#13 to #14 77-17 2.37

π @ #14 514

52-27 3.32

#14 to #1A 80-50 6.43

π @ 1A

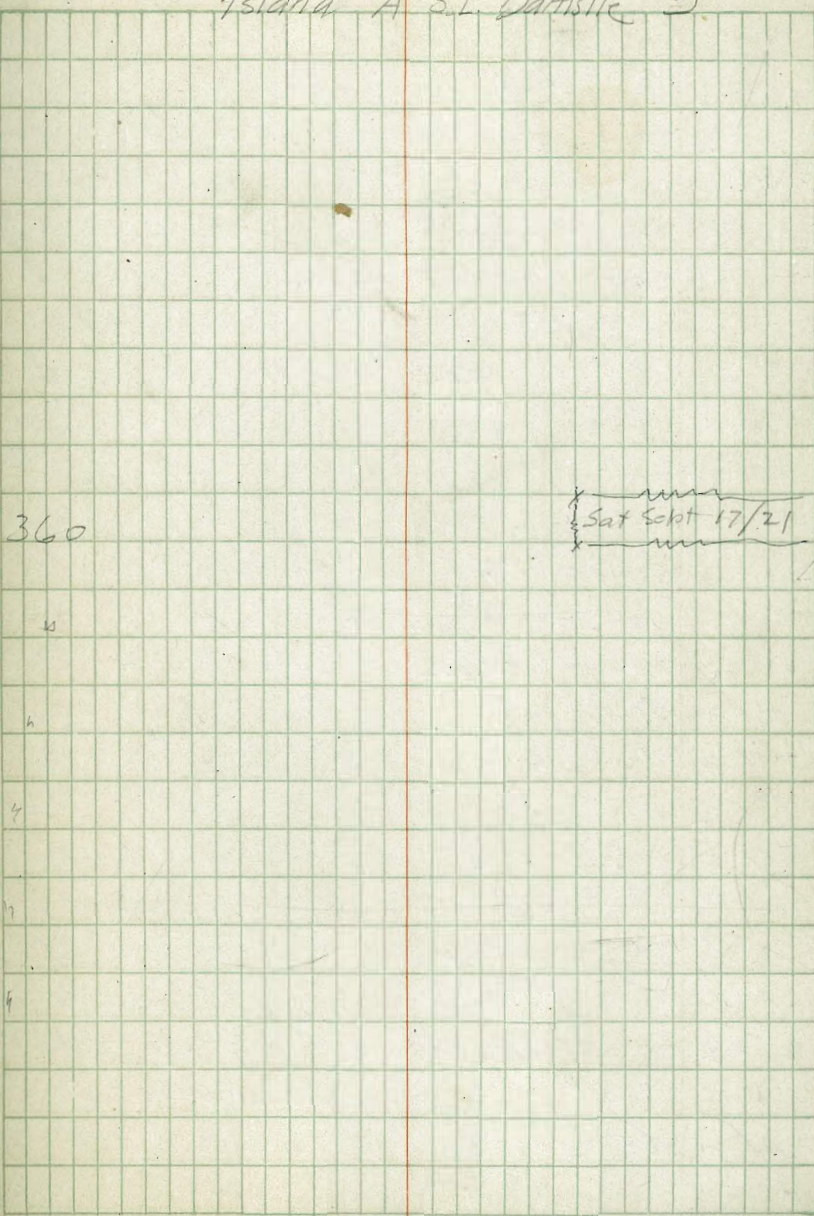
#1A to #2A 69-53<sup>1</sup>/<sub>2</sub> 1.41

π @ #1A 463

#1A to #13 307-27-03

Levels V -12

Island # A S.E. Dam site #3



$\pi @ \#3A$  4.61 BS on  $\Delta \#13$  Az 319-10

$A \#3$  to  $A \#4$  313  $\checkmark$  20E

$A \#3$  to  $B \#1$  24-41 10.24 0

32-36 9.65 "

40-38 9.20 "

46-55 9.40 "

51-27 8.95 "

56-19 9.10 "

57-50 9.70 "

61-27 9.20 "

67-20 10.60 "

78-0 12.05 "

$A \#3$  to  $B \#2$  81-0-0 13.70<sup>v</sup> "

453

on Island  $\#B$

$\pi @ \#B \#2$

$\#2$  to  $\#3$  65-27 2.15<sup>v</sup> "

537

$\pi @ B \#3$

$\#3$  to  $\#4$  38-05 1.40<sup>v</sup> "

471

$\pi @ \#4$

$\#4$  to  $\#5$  09-31 1.00<sup>v</sup> "

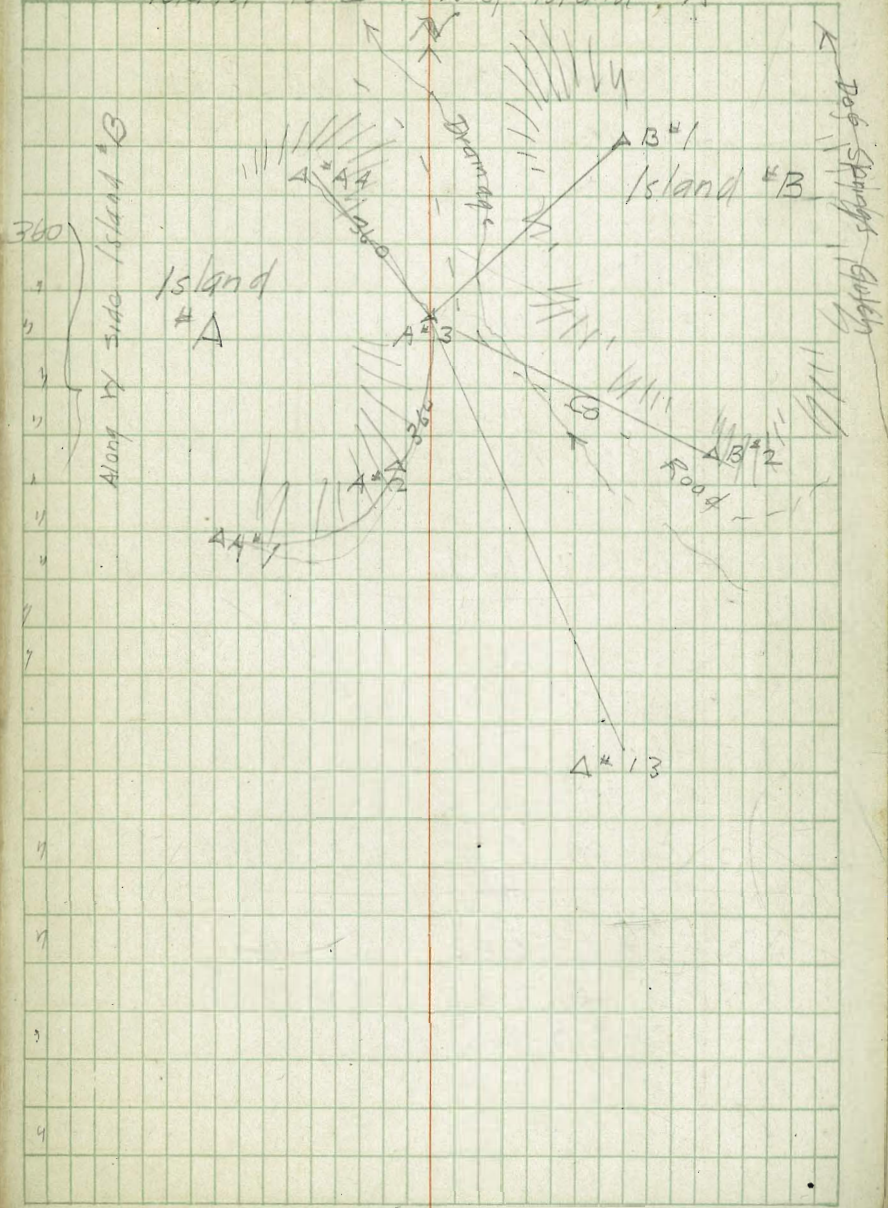
491

$\pi @ \#5$

$\#5$  to  $\#6$  351-05 3.38<sup>v</sup> "

485 685  
970 1370

Island No B NE of Island  $\#A$



Sta	Az	Rad	H. Dist	Vert	L
$\pi @ \# 6$	461				
	180-0	1.55 <sup>v</sup>		0	
	290-10	1.17 <sup>v</sup>		"	
	309-0	2.20 <sup>v</sup>		"	
$\# 6$ to $\# 7$	329-13	3.15 <sup>v</sup>		"	
$\pi @ \# 7$	466				
$\# 7$ to $\# 8$	308-48	1.05 <sup>v</sup>		"	
$\pi @ \# 8$	516				
	248-30	1.10 <sup>v</sup>		"	
$\# 8$ to $\# 9$	266-23	2.06 <sup>v</sup>		"	
$\pi @ \# 9$	474				
$\# 9$ to $\# 10$	256-10	1.57 <sup>v</sup>		"	
$\pi @ \# 10$	502				
	218-18	1.28 <sup>v</sup>		"	
	236-0	2.72 <sup>v</sup>		"	
$\# 10$ to $\# 11$	253-13	4.55 <sup>v</sup>		"	
$\pi @ \# 11$	522				
$\# 11$ to $\# 12$	254-34	1.00 <sup>v</sup>		"	
$\pi @ \# 12$	488				
$\# B12$ to $B1$	215-30	0.58			
$\pi @ B \# 1$	488				
	24-36	Checks had on	$\left. \begin{matrix} \# 46 \\ (A3 \text{ to } B1) \end{matrix} \right\}$		# 46

## Island B

360 Back Shots in gulch

9

7

4

7

4

4

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4

7

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4

4 21

Island "A" grass, } Island Brush  
 stakes visible } stakes not visible Long Vad B.S.'s

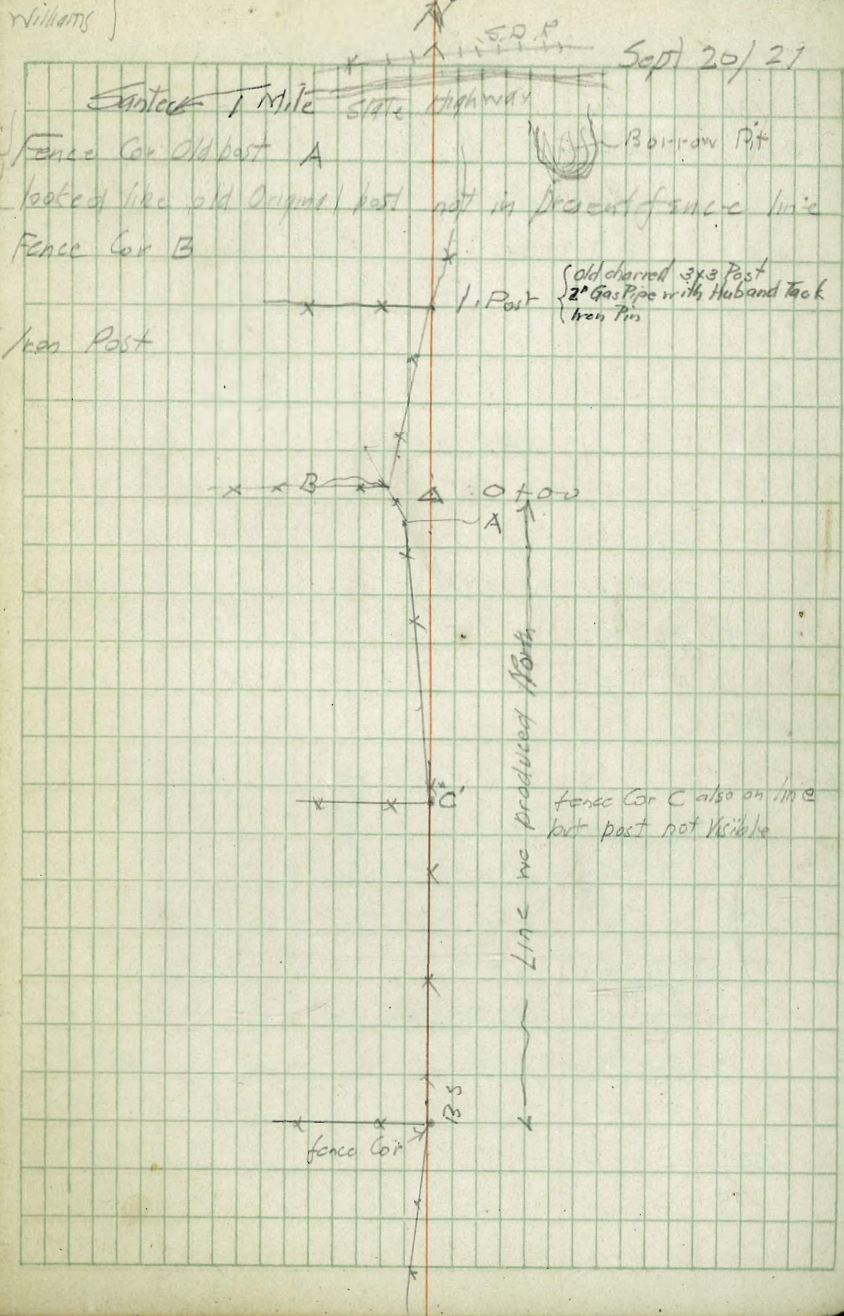
Survey of Section Line near Riverview

Presumed to be line between Sections 23+24 and 25+26 } See next page

Sta	Az	Rod	
$\Delta @ 0400$	5.18		
	215-06	0.38	+6-55
	281-39	0.64	+7-52
	0-00	3.74	-13-22
$\Delta @ 1.P.$	4.95		
	11	9.30	-7-34

Hayler  
Franklin  
Williams

$\Delta D = C = 8$  next page 78



Sta AZ Rod H. Dist Vert L Elevation  
 138 to 139 46-10 7.90 P. 28  
 T @ #139 4.38 } fence to East lines with 139+05 360  
 (don't cross - is E of highway to H&S fence  
 (maybe) on page preceding

T @ 139

139 to #1 43-49 6.90 0 361.63

T @ #1 4.32

#1 to #2 54-47 2.21 " 365.10

#2 to #3 47-16 5.95 " 366.81

#3 to #4 39-51 5.98 " 369.77

#4 to #5 41-43 5.00 " 372.80

#5 to #6 57-43 4.29 " 374.88

T @ #6

✓ 257-0 0.87 " "

✓ 62-40 1.40 " "

#6 to #7 79-43 5.62 " 376.34

T @ #7

✓ 93-43 1.92 " "

✓ 88-14 3.60 " "

✓ 88-30 11.50 " "

77-30 4.87 " "

#7 to ID 8 332-20 3.86 371.72

✓ 324-40 0.68 " "

Line around probable silt area  
 above Santee

BS on 138		-	T	+
Highway BM	359.270		364.38	4.41 #139
Ry to pole	361.63	2.75	365.95	4.32 "
	365.10	(0.85)		
#1514	361.63		369.59	7.96 2
Hwy BM	365.12	(4.47)		
	366.81	2.78	371.42	4.61 3
#2 is 8' W of E SD+A	369.77	1.65	373.99	4.22 4
#3 " 8' E of E track (BC of end of from Santee Curve 4'	372.80	1.19	377.32	4.52 5
#4 " 19' W of " 1 Red Truck (Opposite Sand Loading Plant at River view)	374.88	2.14	379.26	4.38 6
	376.34	2.92	380.95	4.61 7
	379.708		380.94	0.91
	379.708		380.62	0.91
370 Contour	371.7	8.95		
" "	371.72	8.90		on D or #8 8
#7 is 7' E of E SD+A				
BC on E Highway				
EC " " also Culvert				
E Highway Tang from above E.C. @ Magnolia Ave E				
BC E SD+A Ry				
ID see preceding page				
370 Contour				

Sta	Az	Rod	H. Dist	Vert	Σ
π @ <sup>4.43</sup> ID = #8					
D South	179-04				
π @ #8	93-30	1.80		0	
	147-30	1.14		"	
	213-45	0.52		"	
	357-30	0.55		"	
#8 to #9	51-53	2.40		"	<sup>#9</sup> 372.71
π @ #9					
#9 to #10	45-30	1.07		"	369.15
π @ #10					
	88-40	1.70		"	
#10 to #11	74-26	1.56		"	372.04
	"	0.68			
π @ #11					
#11 to #12	331-44	2.28		"	373.10
	247-15	1.30		"	
π @ #12					
	265-30	0.50		"	
	348-38	2.60		"	
#12 to #13	348-28	2.85		"	369.3
π @ #13					
	42-05	1.70		"	
	23-25	1.77		"	
	347-45	1.10		"	
#13 to #14	282-56	1.74			370.

BS. to C#7

Angle = Back Azim D to 0+00 + C of sketch p 48

370 Contour	π	+		
" " #8	371.72	376.15	4.43	
" " #9	372.71	344	377.28	4.57
" " <sup>Tues/9/2#12</sup> #8	371.72	377.20	5.48	

370 is 8' North

Levels p 56

370 Contour

" " Xing W on line

370 Cont

370 on Hub up 7/10 #

370 "

" "

" "

Surf = 370.6

"C" Line

Sta	Az	Road	H Dist	Vert	Elev
⊖ @ #14	496				
#14 to #15	336-15	2.89		0	370
⊖ @ 15					
✓	19-40	2.35			
✓	8-16	2.50			
✓	337-0	1.45			
✓	272-30	"			
#15 to #16	241-25	3.45			370
⊖ @ #16					
#16 to #17	228-14	3.71			370
⊖ @ #17	524				
✓	358-54				
✓	309-15	1.20			
#17 to #18	232-10	4.04			370
⊖ @ #18	504				
#18 to #19	222-07	5.68			370
⊖ @ 19					
✓	177-54	2.68			369.25
✓	249-0	1.82			
#19 to #20	275-57	5.60			370
⊖ @ #20	374.77				
#20 to #21	28-17	5.60			
⊖ @ #21		6.4			
✓	21-10	6.45			
#21 to #22	4-35	8.12			

@ Surf

370 Contour

" "

" "

" "

@ Surf

Surf 371.5

Az of fence line W of River Bottom 1/2 mile away

370 Cont West side of County Road

" " Surf

@ surface

Johnson's

S.W. Cor Pumping Plant 7475

-5,50 26925 @ surface

370 Contour

@ Surface

370 Cont.

C Line

Sta	Az	Rod	H. Dist	Vert L	Elev
π @ #22	<sup>5.12</sup>				370
✓	219-40	6.25		0	
✓	231-45	4.78		"	
✓	31-30	3.20		"	
✓	32-25	4.50		"	
✓	19-53	6.40		+0-36	
370 Cont	✓ 308-05	2.92			
#22 to #23	✓ 270-26	5.58		0	370
π @ #23					
#23 to #24	✓ 234-40	5.85		"	370
π @ #24	<sup>5.35</sup>				
✓	228-30	5.10		"	
#24 to #25	✓ 186-27	11.86		"	370
✓	225-54	7.02		0	
π @ #25	<sup>5.0</sup>				
✓	335-25	9.50		0	
✓	37-06	5.08			{ Surface 367.6
✓	333-50	1.85		0	
#25 to #26	✓ 167-13	4.73		0	
π @ #26	<sup>5.32</sup>				
#26 to #27	✓ 180-01	2.55		0	
π @ #27	<sup>4.83</sup>				
#27 to 146	✓ 180-32	5.50		-1-0	
146 to 145	301-03-30				
	38-31	4.30			

End "C" Line

370 Contour } Back shot between Nos 21 + 22  
 " " }  
 370 " }  
 " " }  
 { Concrete Reservoir } Johnson's } π 375.19  
 and Pumping Sta. } 60' well

370 Contour  
 " "

370 Cont Back shot π 375.0 367.6  
 SE Cor Pump Ho -7.4  
 370 Back shot  
 370 Cont also

370

360  
 B.S. on #27 "C" Line 301-03  
 Shot on fence line Maybe E+VX Sec 23  
 intersecting fence runs North from this point.



Sta	Az	Rod	H. Dist	Vert L	Elev
K@68	4.35				
0+00	354-54	5.48	536	-8-38	
K on Dam	4.95	7			
0 to #1	243-28	7.35		-0-05	
#1 to #2	201-53	7.00		-1-08	
#2 to #3	180-53	10.10		-0-34	
#3 to #4	230-56	5.10		-0-27	
X					
Tie across S.D.R Valley to Sycamore					
#94 to #95	33-08	5.33			
K@ #95	4.35				
#95 to #1	359-25	5.53		-2-0	
	5.07				
	298-58	1.02		-5-54	
	357-42	5.60		-2-0	
	5-29	6.78		-1-34	
#1 to #2	3-11-30	9.10		-1-06	
K@ #2	4.57				
	00-29	3.45		-1-11	
	356-15	6.50		-1-0	
#2 to #3	357-00	7.46		-0-34	
K@ #3	4.68				
#3 to #4	23-59	3.08		+0-28	

BS on #67 b 15  
point on top Old Mission Dam

Top large flat Rock in SDR Bed

Hub in SDR bed

" " " "

" " " "

Canon A #95 to A #

Sept 23/21

This bk p 19 #95 is 22ft E of fence } wire fence  
part down

BS on #94

#1 is 10' E of fence line above

#64 Fletcher 330 lath + hub

fence So of County High way

" No " " and fence North } High Board fence

10' W of above fence running North

End of above High board fence, thence wire since flood  
In C Bed of S.D.R

Tie

Sta	Az	Rad	H. Dist	Vert L
π@ #4	432			
#4 to #5	14-19	2.65 ✓		-0-05
π@ #5	423			
#5 to #6	10-34	0.93 ✓		+0-38
π@ #6	447			
#6 to #7	23-49	3.52 ✓		+0-20
π@ #7	422			
#7 to #8	13-41	5.78 ✓		+0-30
π@ #8	415			
#8 to #9	13-49	8.16 ✓		+1-39
π@ #9	523			
#9 to #10	348-26	9.10 ✓		-0-21
π@ #10	515			
	350-38	2.62		-1-37
#10 to #176	357-18	7.16		+0-45
#176 to #177	336-04-30	4.97		0

Tie

π@ #173	282-06	5.00 ✓		
	4-49	8.80		+1-25

13  
4.2  
8.8

54

#1 is 10' W of fence bearing N-13-W ±

#10 " " " " " " " " " "

Above N+S fence ends joining one E+W ±

360 ✓ on page #36 176 to 177 is 336-20 Error 0-15'

BS in #172 to 35  
4x4 post on E+W fence line (blazed on North Cor and painted white)  
Probably subdivision corner, scales 1320' North and 570'± west of SW Cor of Sec. 21.

0700

3

The right page of the notebook features a large grid of 20 columns and 25 rows, outlined in green. A vertical red margin line is positioned on the left side of the grid, approximately one-fifth of the way across the page. The grid is currently empty.

## Levels for "C" line pg 50

Filey	-	A	+
#8	371.72	377.20	5.48
#10 =	369.15	8.05 373.59	4.44
#11 =	372.04	1.55 376.66	4.62
#12 =	373.10	3.56 377.46	4.36
#13 =	370.00	7.46 373.78	3.78
#14 =	370.00	3.78 374.96	4.96
#15 =	370.00	4.96 374.48	4.48
#16 =	370.00	4.48 374.78	4.78
#17	370.00	4.78 375.24	5.24
#18	370.00	5.24 375.04	5.04
#19	370.00	5.04 374.75	4.75
#20	370.00	4.75 374.77	4.77
#21 =	369.97	4.80 374.60	4.63
#22 =	370.00	4.60 375.19	5.19
#23 =	370.00	5.19 374.46	4.46
#24	370.00	4.46 375.35	5.35
#25	370.00	5.35 375.0	5.00
#26	370	5.00 375.32	5.32
#27	370.00	5.32 374.83	4.83

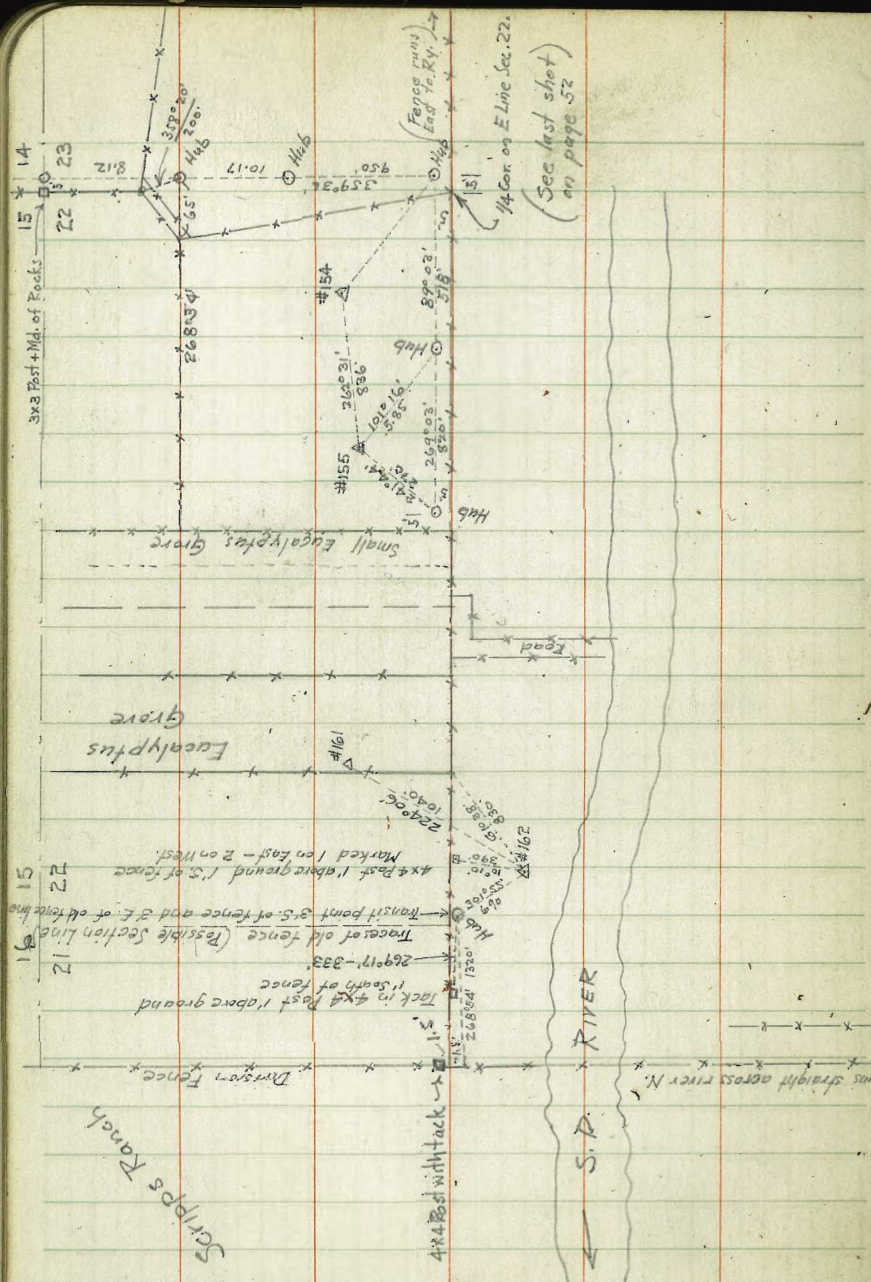
$$\begin{array}{r} 14 \\ 72.71 \\ \hline 78.65 \end{array}$$

$$\begin{array}{r} 593 \\ 2 \\ \hline 11.86 \end{array}$$

7.4

56

On #8 p #50  
 " #10

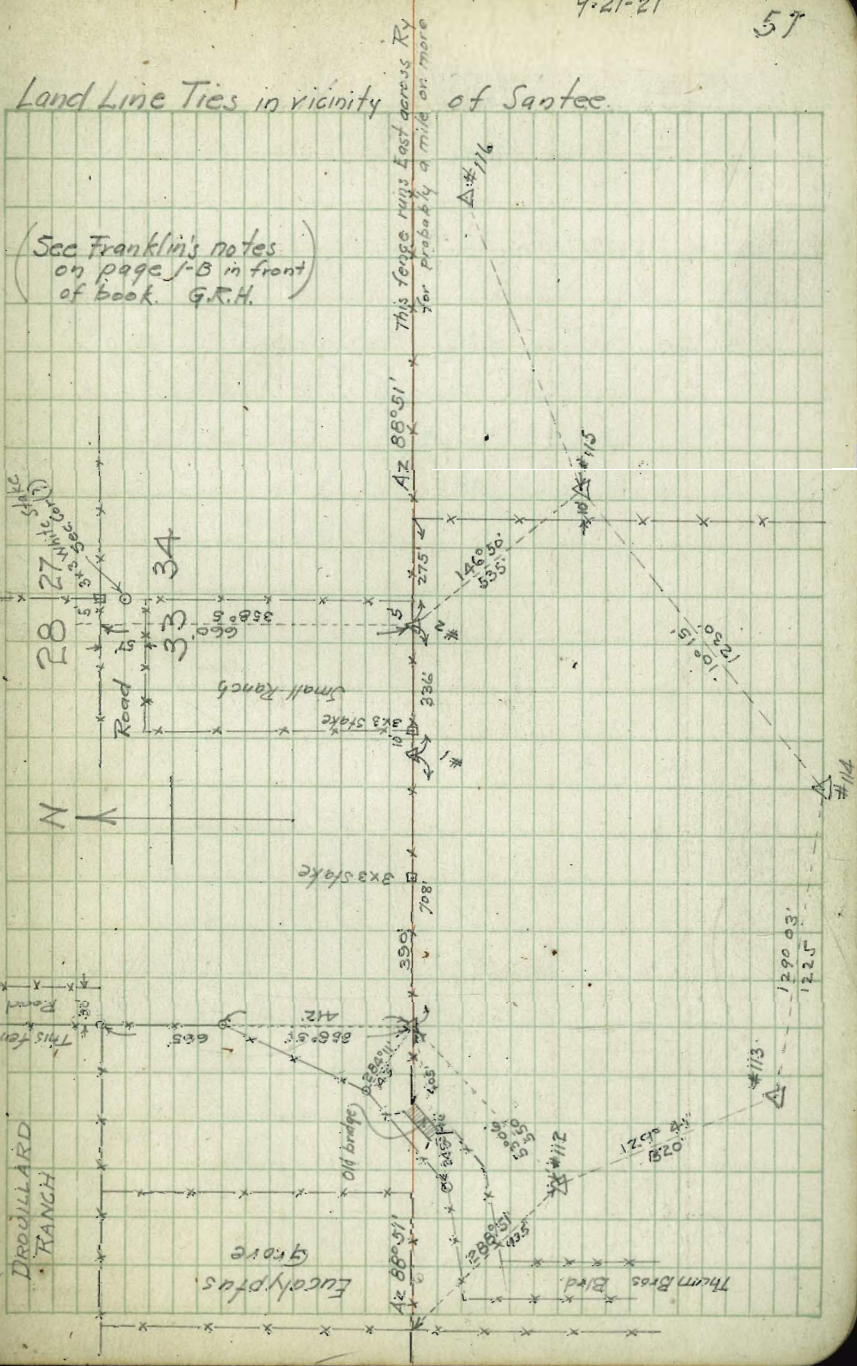


Land Line Ties in vicinity of Santee.

9-21-21

57

(See Franklin's notes on page J-B in front of book G.R.H.)



8/25/21

Elevations on State Highway near  
Santee

1. Top of pavement at low point in curve  
near Santee junction Elev. = 363.93 U.S.G.S.

2. Top of pavement 2600' N. of Santee  
Lowest point in Highway between El Cajon  
and Lakeside. Elev. 361.30 U.S.G.S.

Information from Co Highway Com. by G.C.

# KEITH'S RAILROAD CURVE TABLES.

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## HOW TO USE KEITH'S TABLES.

### EXAMPLE.

Wanted a Curve with an Ext. of about 12 ft. Angle  
of Intersection or I. P. =  $23^{\circ} 20'$  to the R. at Station  
542+72.

Ext. in Tab. IV opposite  $23^{\circ} 20' = 120.87$   
 $120.87 \div 12 = 10.07$ . Say a  $10^{\circ}$  Curve.

Tan. in Tab. IV opp.  $23^{\circ} 20' = 1183.1$   
 $1183.1 \div 10 = 118.31$ .

Tab. V correction for A.  $23^{\circ} 20'$  for a  $10^{\circ}$  Cur. = 0.16  
 $118.31 + 0.16 = 118.47 =$ corrected Tangent.

(If corrected Ext. is required find in same way)  
Ang.  $23^{\circ} 20' = 23.33^{\circ} \div 10 = 2.3333 =$ L. C.

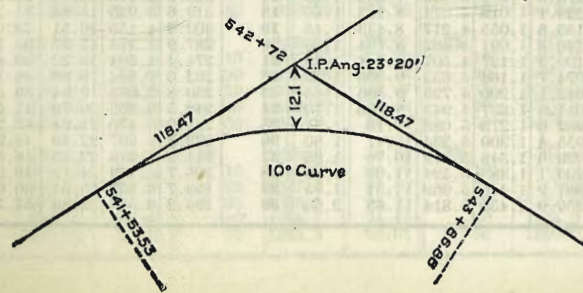
$2^{\circ} 19\frac{1}{2}' =$ def. for sta.	542	I. P. = sta.	542+72
$4^{\circ} 49\frac{1}{2}' =$ " " "	+50	Tan. =	1.18.47
$7^{\circ} 19\frac{1}{2}' =$ " " "	543	B. C. = sta.	541+53.53
$9^{\circ} 49\frac{1}{2}' =$ " " "	+50	L. C. =	2.33.33
$11^{\circ} 40' =$ " " "	543+	E. C. = Sta.	543+86.86

$100 - 53.53 = 46.47 \times 3' (\text{def. for 1 ft. of } 10^{\circ} \text{ Cur.}) = 139.41' =$   
 $2^{\circ} 19\frac{1}{2}' =$  def. for sta. 542.

Def. for 50 ft. =  $2^{\circ} 30'$  for a  $10^{\circ}$  Curve.

Def. for 36.86 ft. =  $1^{\circ} 50\frac{1}{2}'$  for a  $10^{\circ}$  Curve.

(These tables are published in Field Books of  
KEUFFEL & ESSER Co., New York, N. Y.)



13 to A2	307-27	5.81
A2 to A3	7-02	1.58
A3 to A4	313-21	3.21
A4 to A5	312-59	5.48
5 - 6	267-09	0.94
6 - 7	220-03	2.56
7 - 8	214-21	2.30
8 - 9	202-57	2.31
9 - 10	196-05	1.25
10 - 11	187-51-30	1.40
13 - A1	297-08	

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 14 FEET WIDE. SIDE SLOPES 1½ TO 1.

FOR SINGLE TRACK EMBANKMENT.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.2	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	26
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.