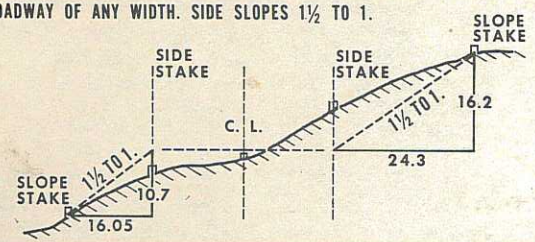
351 (2) ALIGNMENT

351 (2)
ALIGNMENT

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

ROADWAY OF ANY WIDTH. SIDE SLOPES 1½ TO 1.



Cut or Fill	Distance out from Side or Shoulder Stake.										Cut or Fill
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0 00	0 15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1 65	1 80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3 45	3.60	3 75	3.90	4.05	4.20	4 35	2
3	4.50	4 65	4.80	4.95	5.10	5 25	5 40	5.55	5.70	5.85	3
4	6.00	6 15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7 50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9 00	9 15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10 65	10.80	10.95	11.10	11.25	11.40	11.55	11 70	11.85	7
8	12.00	12 15	12.30	12.45	12.60	12.75	12.90	13 05	13.20	13.35	8
9	13 50	13.65	13 80	13 95	14.10	14.25	14.40	14 55	14.70	14.85	9
10	15.00	15 15	15 30	15 45	15.60	15.75	15.90	16.05	16.20	16 35	10
11	16 50	16 65	16 80	16.95	17 10	17.25	17.40	17.55	17.70	17.85	11
12	18 00	18.15	18.30	18 45	18.60	18 75	18.90	19.05	19.20	19 35	12
13	19 50	19 65	19.80	19.95	20.10	20.25	20 40	20.55	20.70	20.85	13
14	21.00	21 15	21.30	21.45	21 60	21.75	21.90	22 05	22 20	22 35	14
15	22 50	22 65	22 80	22 95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24 15	24 30	24 45	24.60	24.75	24 90	25 05	25.20	25.35	16
17	25.50	25 65	25.80	25 95	26.10	26 25	26 40	26.55	26.70	26.85	17
18	27.00	27 15	27.30	27 45	27.60	27.75	27.90	28.05	28 20	28.35	18
19	28 50	28 65	28 80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30 00	30 15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31 50	31 65	31.80	31.95	32 10	32 25	32.40	32.55	32 70	32 85	21
22	33 00	33 15	33 30	33 45	33.60	33 75	33.90	34.05	34.20	34.35	22
23	34 50	34 65	34.80	34.95	35.10	35 25	35 40	35.55	35.70	35 85	23
24	36.00	36 15	36.30	36 45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37 80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39 00	39 15	39.30	39 45	39 60	39.75	39.90	40.05	40.20	40.35	26
27	40 50	40 65	40 80	40.95	41.10	41.25	41 40	41.55	41.70	41.85	27
28	42 00	42 15	42.30	42.45	42.60	42 75	42.90	43.05	43.20	43.35	28
29	43 50	43 65	43.80	43 95	44.10	44 25	44 40	44.55	44.70	44 85	29
30	45 00	45 15	45.30	45 45	45.60	45.75	45.90	46.05	46 20	46.35	30
31	46.50	46.65	46.80	46 95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48 00	48.15	48.30	48 45	48.60	48 75	48.90	49.05	49 20	49.35	32
33	49.50	49 65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51 00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52 50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54 00	54.15	54.30	54 45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55 50	55 65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57 45	57.60	57.75	57.90	58.05	58.20	58 35	38
39	58 50	58.65	58 80	58.95	59.10	59 25	59.40	59 55	59.70	59.85	39
40	60 00	60.15	60 30	60 45	60 60	60.75	60 90	61.05	61 20	61.35	40

Property of Cache County

Address 210 Court House
Logan, Utah

Telephone 752 8327

This Book is manufactured of a High Grade 50% Rag Paper having a Water Resisting Surface, and is sewed with Nylon Waterproof Thread.

Index

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~~Alignment~~ VOID	~~3~~
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155 –

154+50

154 –

153+66 32/PC

152+50

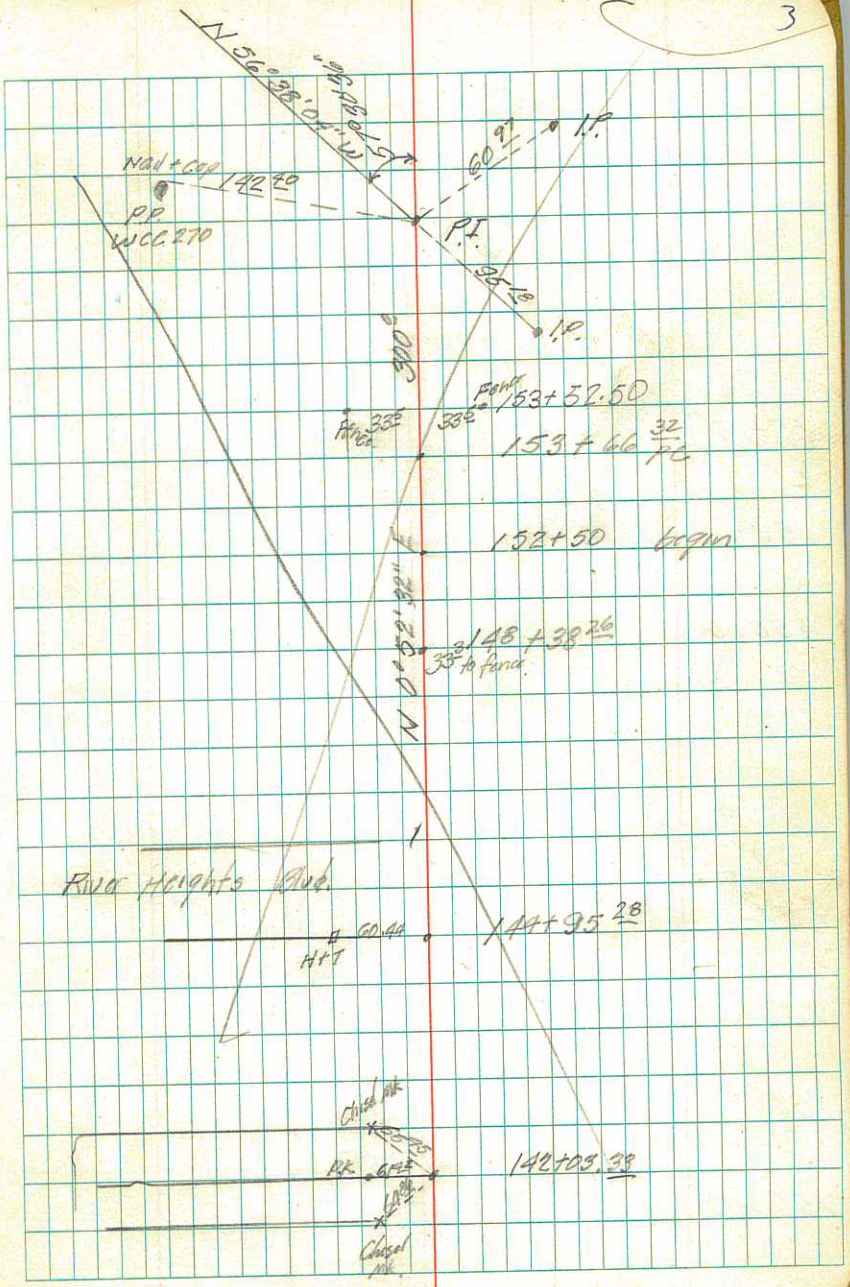
begin job

Δ 57° 30' 36"

T = 300'

E = 546.71

L = 548.75



159+15.07 PT

159-

158+50

158-

157+50

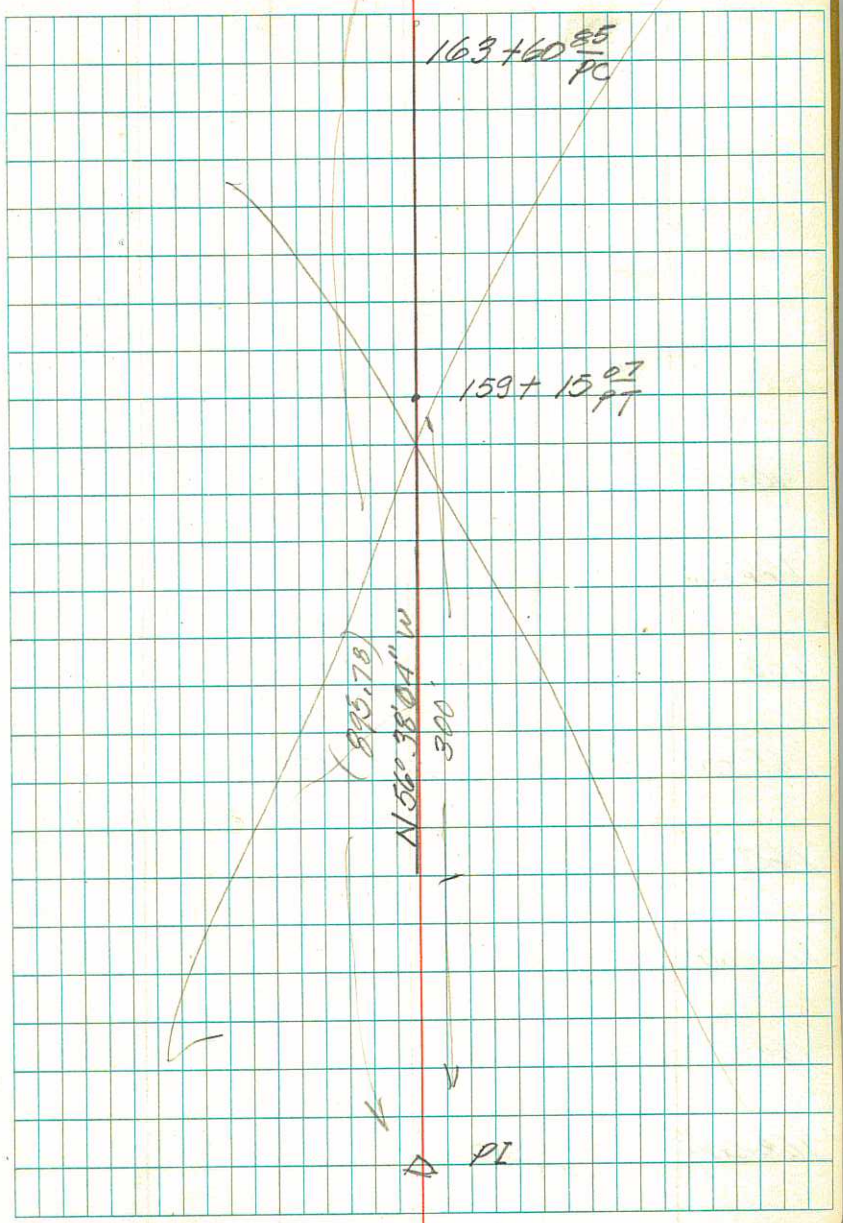
157-

156+50

156-

155+50

9340-100



166+36 52

166+50

166 ~

165+50

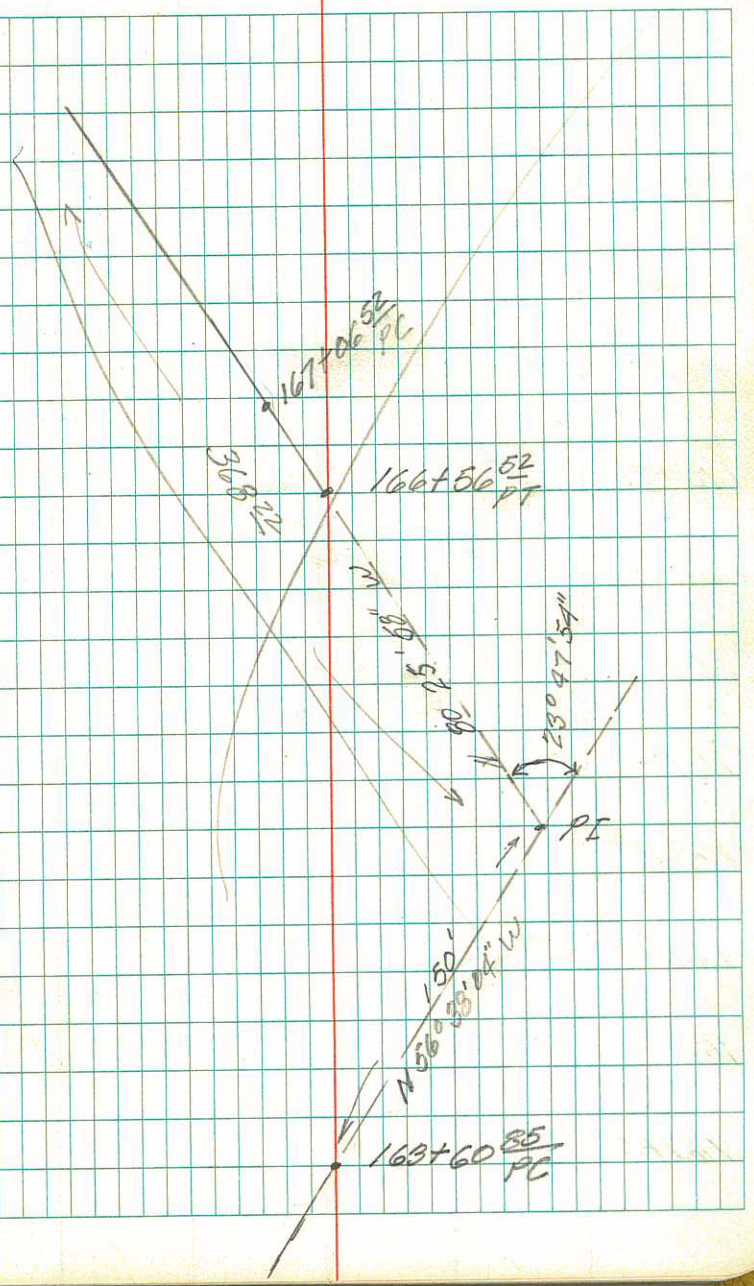
165 ~

164+50

164 ~

163+60 85 PC

Δ=23°47'54"
T=150'
R=711.85
L=295 97



172

171+50

171 –

170+50

170+36.98 PRC

170 –

169+50 Δ 30°24'16"
R = 622.74
T = 168.22
L = 330.46

169 –

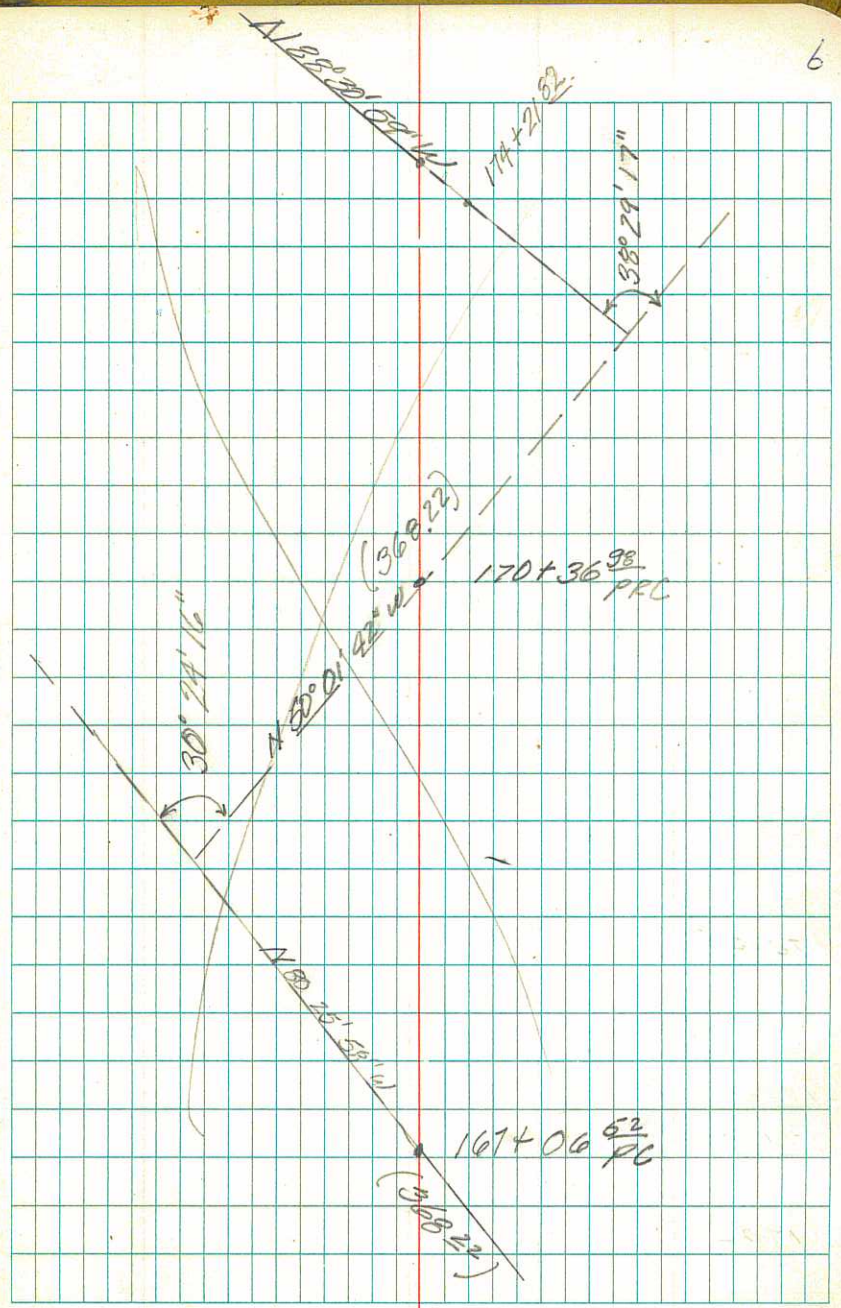
168+50

168 –

167+50

167+06.52 PC

Δ 38°29'17"
R = 572.90
T = 200.00
L = 384.84

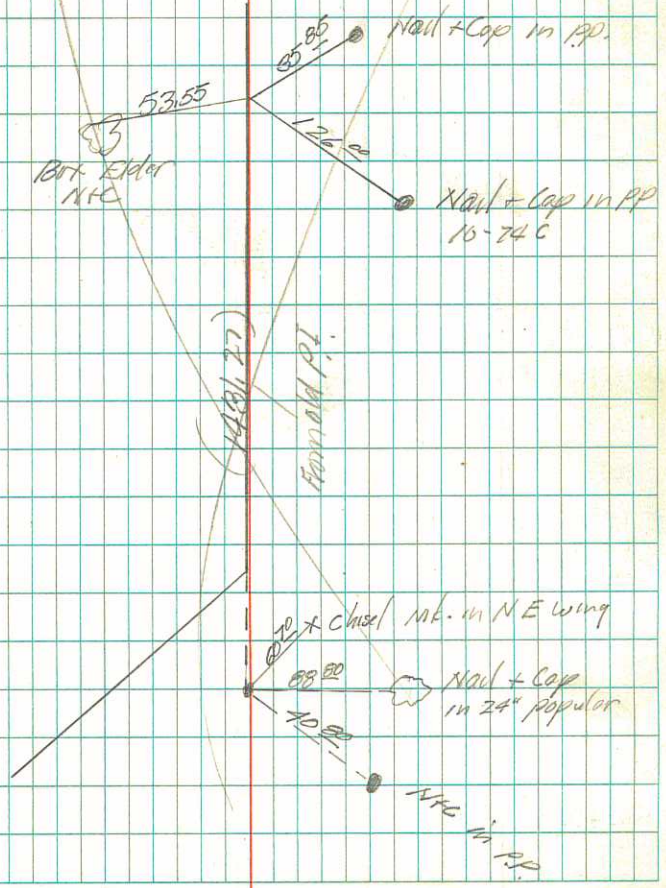


174+21.82

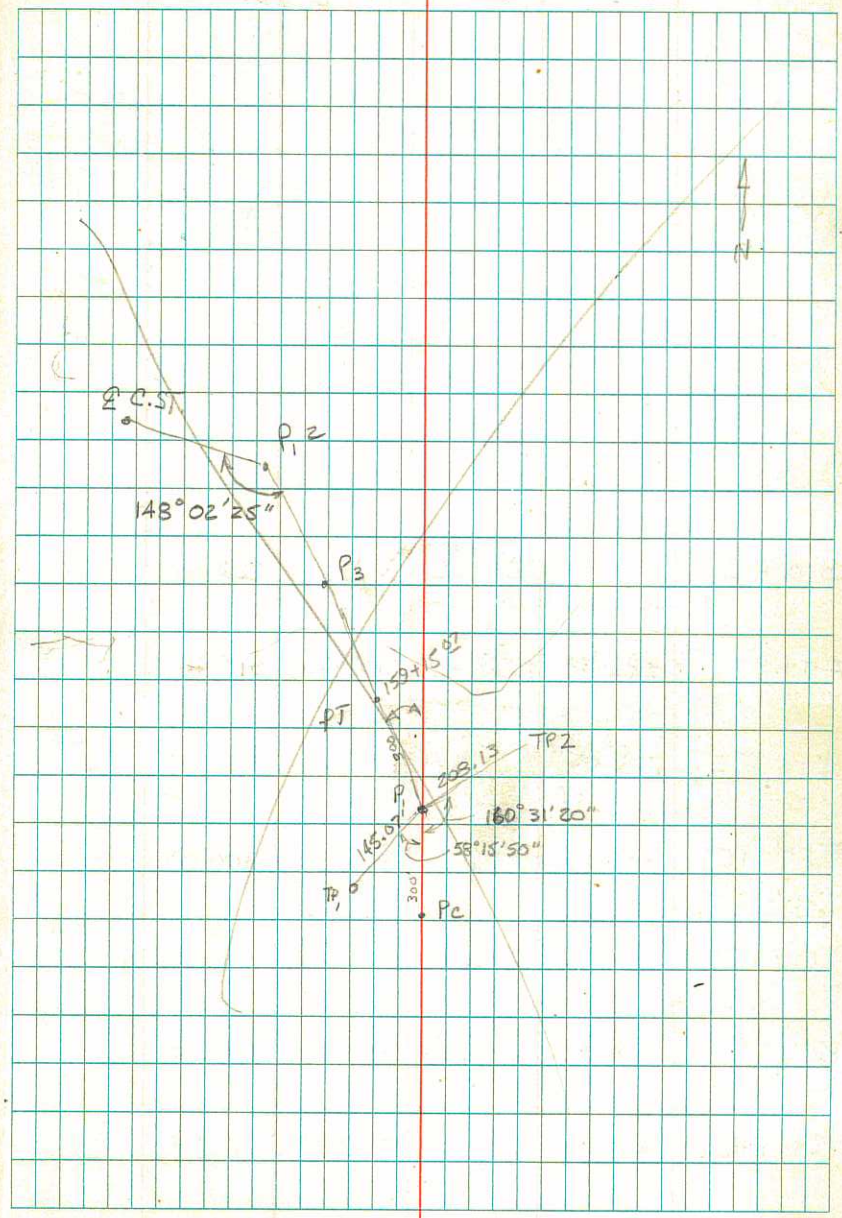
174-

173+50

173-

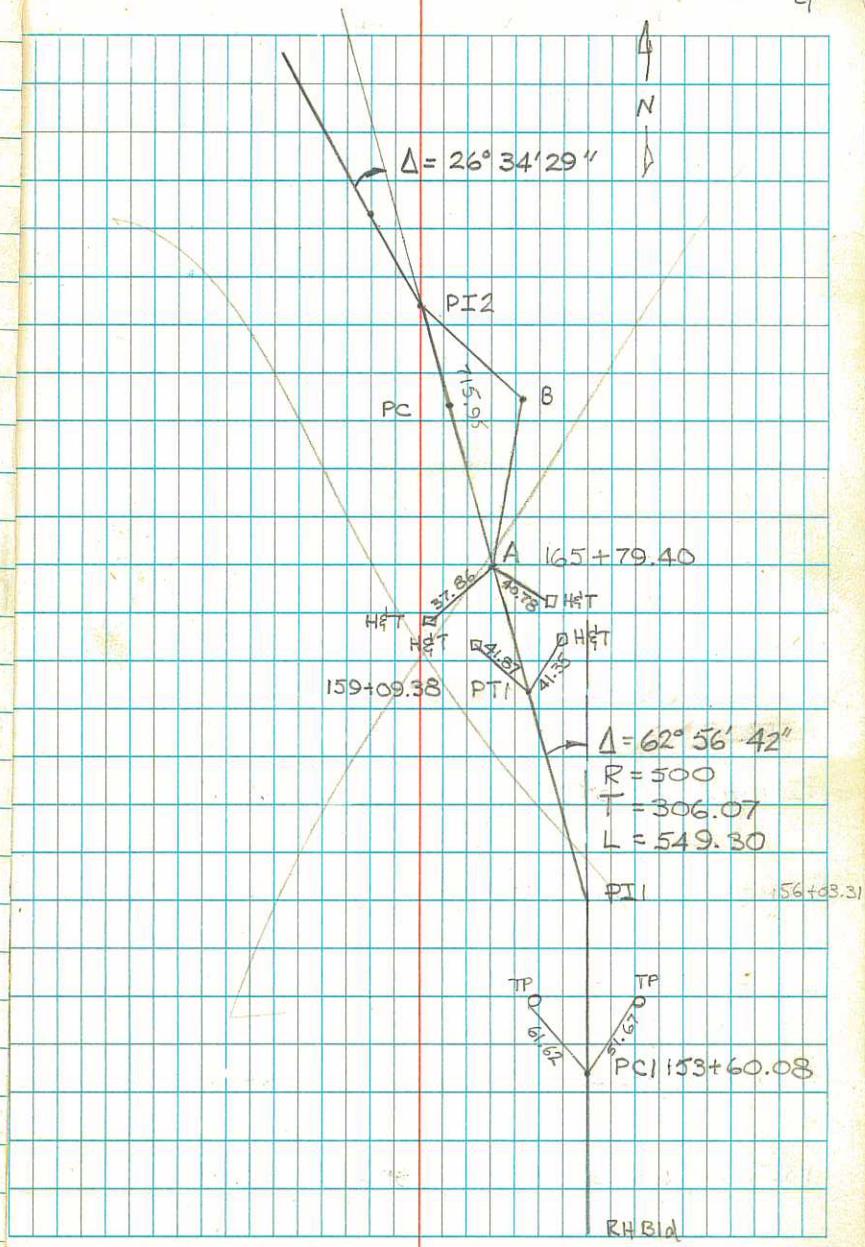


	DIST	Δ	VA	HOR. DIST
P3 TO PI2	724.17		82°04'	717.24
P1 TO P3	713.09		91°36'	712.81
PI1 TO PT	300.74	57°30'36"	94°01'	300.00
PI1 TO PC	30°.83	~~DE~~	92°15'	300.00
PI1 TO TP2	208.13'	160°31'20"	78°04'	
PI1 TO TP1	145.07'	58°15'50"	93°16'	
PI 156+66.32	4.69			4.69
156+61.63				
~~156+58.32~~	1459.18		91°59'10"	1458.30
142+03.33				

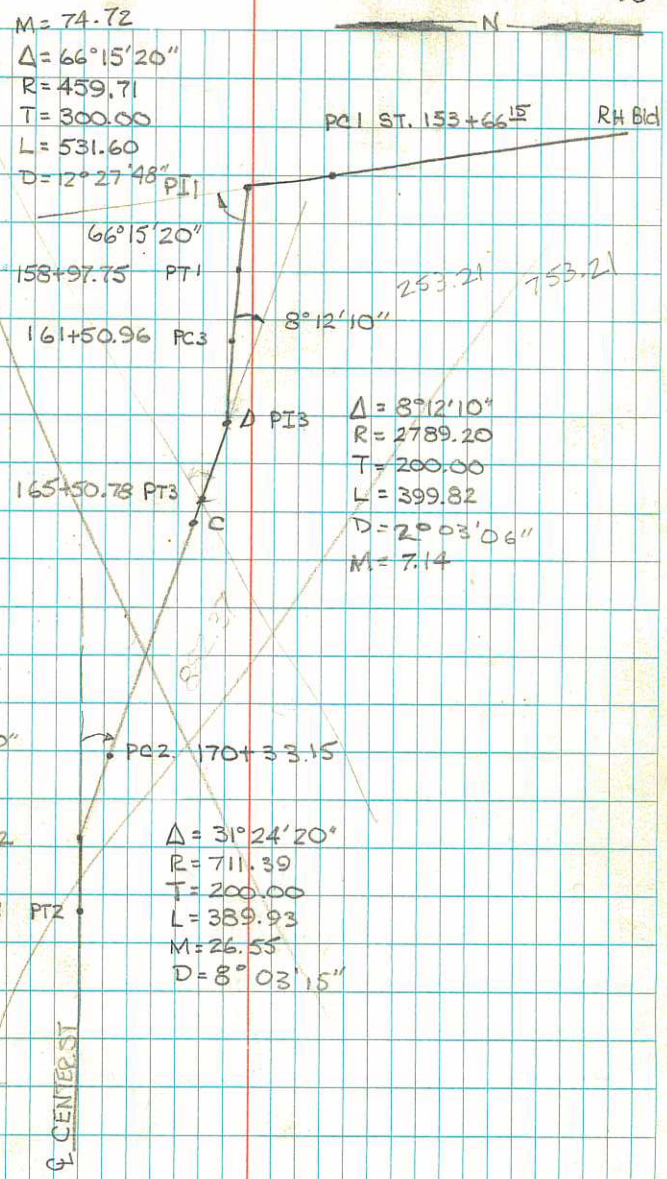


WARM, WINDY
6-11-75
⊼ NDW
⊕ PBW

	DIST	∠	VER ∠	HOR. DIS.	
B TO PI2		144°16'43"		229.02	
A TO B	523.58	10°45'30"	100°06'20"	515.46	
A TO PI2	715.95	—	—	715.95	COULDN'T SEE
PI1 TO PC1	306.22	—	91°45'	306.07	
PI1 TO PT1	306.90	62°56'42"	94°14'40"	306.07	
PI1 TO A	976.30	62°56'42"	91°11'50"	976.09	
PI1 TO RHBld	1463.54	—	91°48'10"	1462.82	



	Dis	VA	Δ	Hor Dis
PI to PC1	300.95	94°33'40"	Δ	300.00
RHBLD to PI1		66°15'20"		
D to PI1	753.38	88°46'10"	8°12'10"	753.21
C to D	245.23	89°00'00"	—	245.19
PI2 to C	643.39	82°2'10"	31°24'20"	637.18



147+00

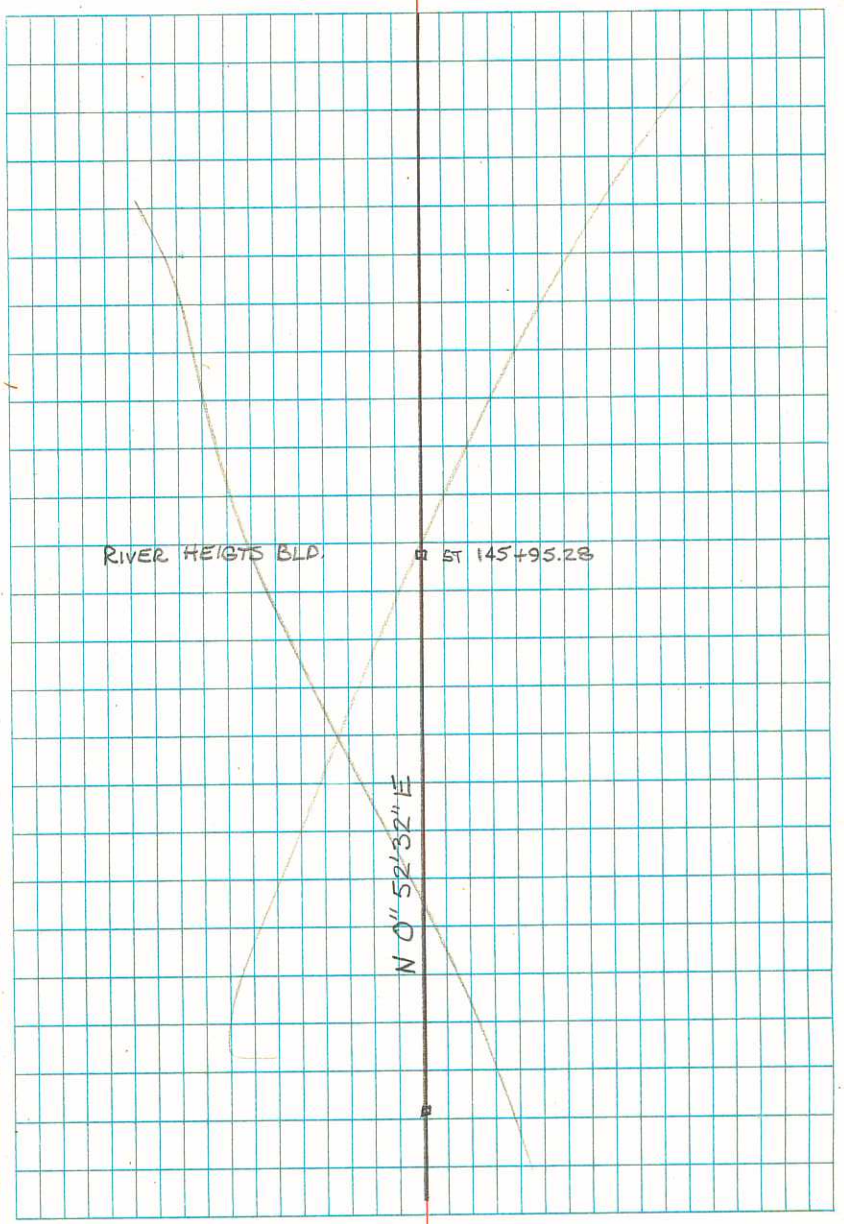
146+00

145+00

144+00

143+00

142+08.33



153+00

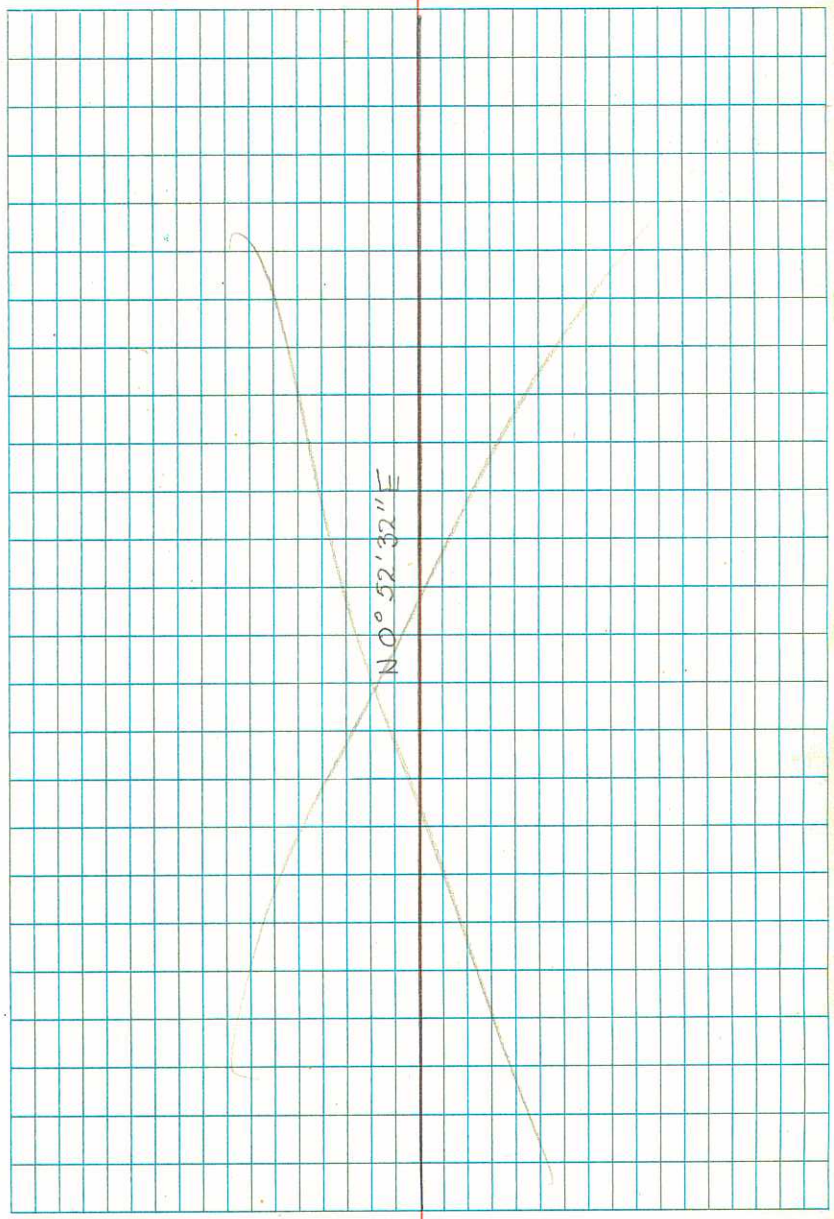
152+00

151+00

150+00

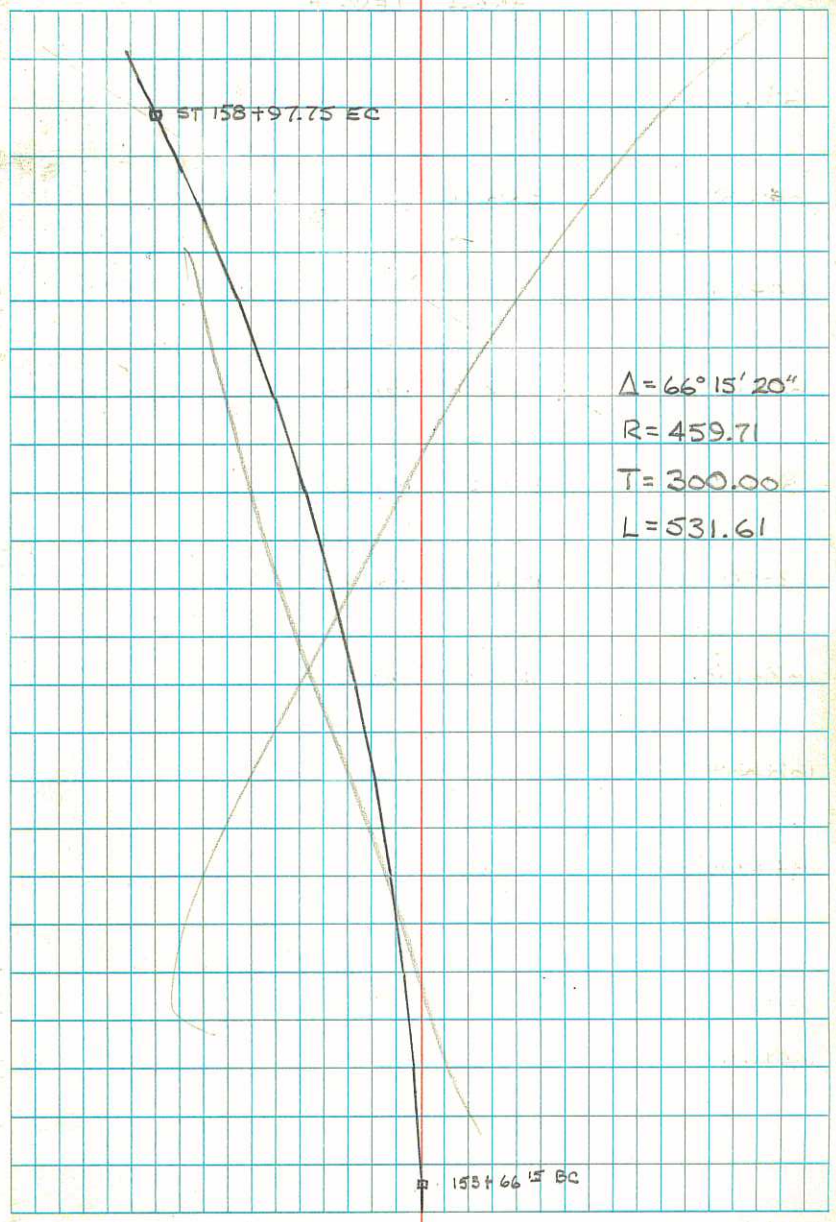
149+00

148+00



	DEFLEC. ANGLE	CHORD LENGTH	RIGHT SIDE
159+00			
158+97.75 EC	33°07'40"	502.47	535.12
158+50	30°09'06"	461.82	491.95
158+00	27°02'09"	417.92	445.19
157+50	23°55'12"	372.79	397.12
157+00	20°48'15"	326.55	347.87
156+50	17°41'18"	279.36	297.59
156+00	14°34'21"	231.33	246.43
155+50	11°27'24"	182.62	194.54
155+00	8°20'27"	133.37	142.08
154+50	5°13'31"	83.73	89.20
154+00	2°06'34"	33.84	36.05
153+66.15			

9340-100



$\Delta = 66° 15' 20"$

$R = 459.71$

$T = 300.00$

$L = 531.61$

		DEFLEC ANGLE	CHORD LENGTH	PI TANGENT LENGTH	Δ_{PI}
165+50.78 EC		4°06'05"	398.98		
165+00		3°35'06"	348.81	149.72	171°37'25"
164+50		3°04'17"	298.89	99.75	170°45'41"
164+00		2°33'28"	248.95	49.95	167°08'56"
163+50		2°02'39"	198.98	7.19	80°49'26"
163+00		1°31'51"	149.03	51.18	4°27'51"
162+50		1°01'02"	99.03	101.00	0°59'51"
162+00		0°30'13"	49.03	150.97	0°09'49"
161+50.96 BC					
161+00					
160+00					

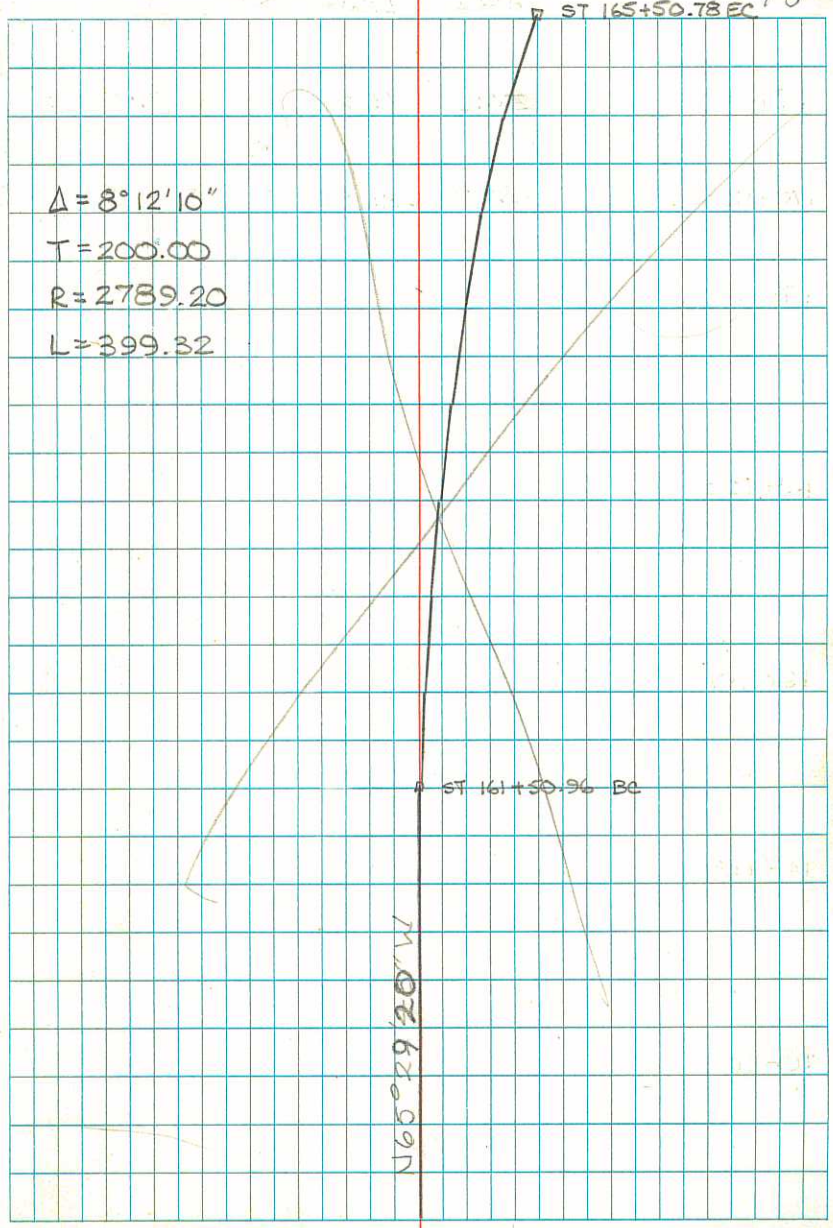
9340-100

$\Delta = 8°12'10"$

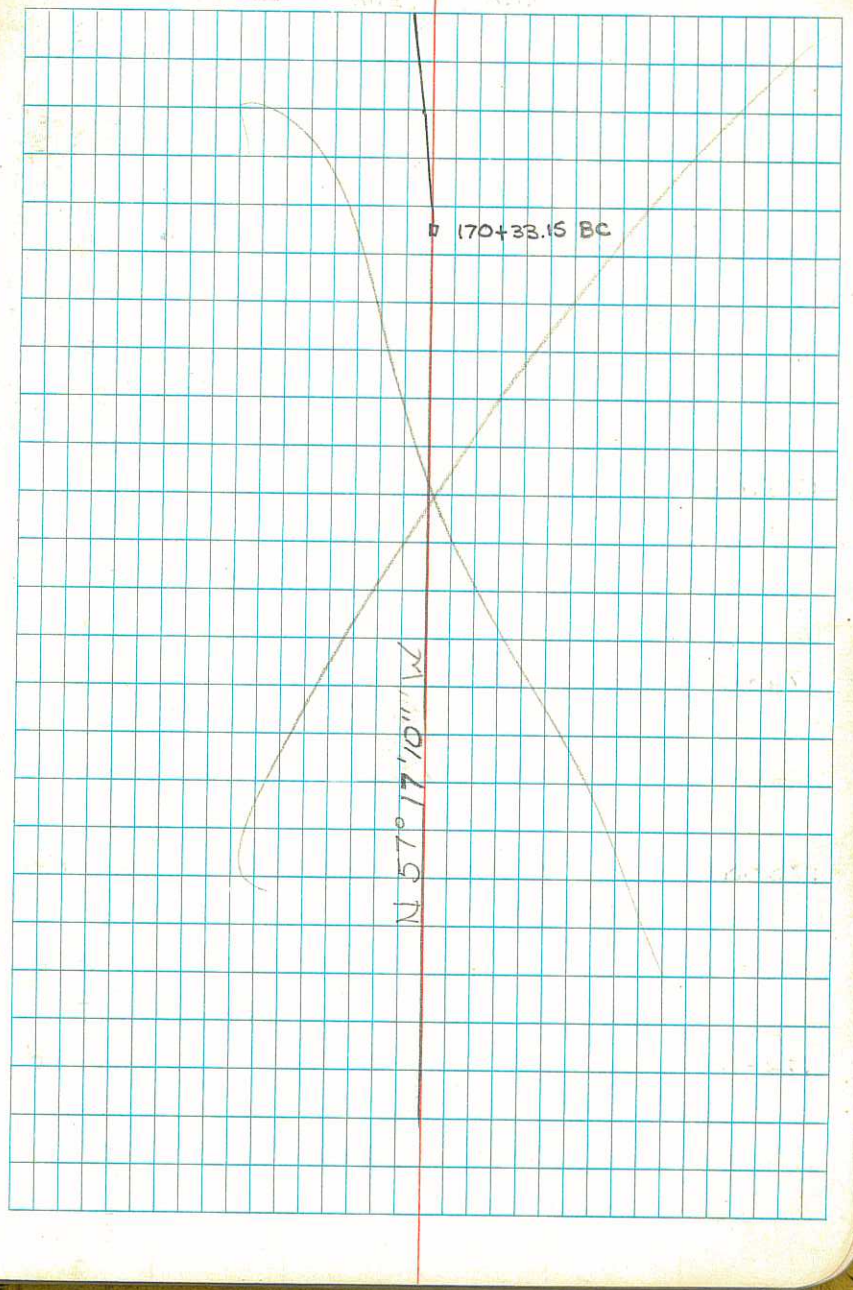
$T = 200.00$

$R = 2789.20$

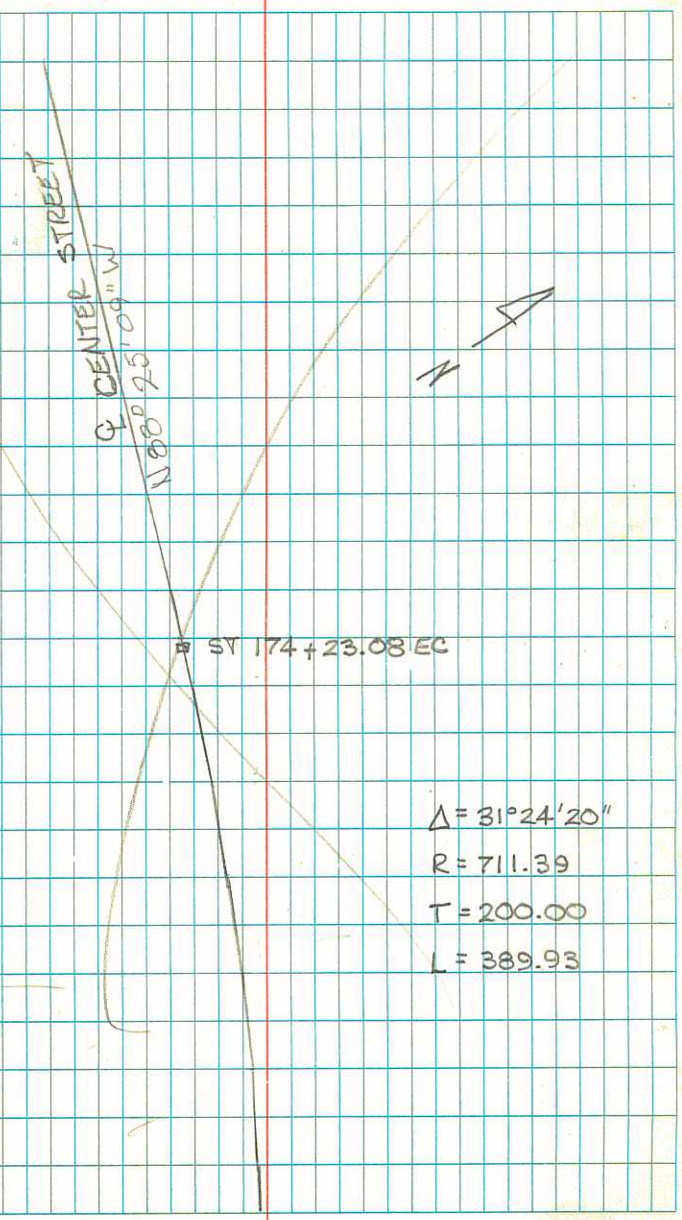
$L = 399.32$



		DEFLEC ANGLE	CHORD LENGTH	PI TANGENT LENGTH	Δ_{PI}
171+00		2°41'31"	66.82	133.99	1°20'57"
170+50		0°40'43"	16.85	183.15	0°03'45"
170+33.15 BC					
170+00					
169+00					
168+00					
167+00					
166+00					



	DEFLEC. ANGLE	CHORD LENGTH	PI TANGENT LENGTH	Δ_{PI}
175+00				
174+23.08 EC	15°42'10"	385.04		
174+00	14°46'24"	362.80	146.92	148°28'23"
173+50	12°45'35"	314.24	127.10	146°54'13"
173+00	10°44'46"	265.29	78.25	140°47'39"
172+50	8°43'58"	216.02	35.47	112°23'47"
172+00	6°43'04"	166.47	39.77	29°06'46"
171+50	4°42'20"	116.72	84.22	6°31'42"



Δ = 31°24'20"
R = 711.39
T = 200.00
L = 389.93

	Dio	VA	∠	Hor Dist
North TP to PI3				35.4
West TP to PI3				93.5
RPI to BCI	493.75	96°12'30"	100°24'50" LT	
RPI to PI1	202.10	102°00'30"	88°27'10" LT	
RPI to ECI	353.50	100°28'50"	28°55'20" LT	
RPI to PI2	768.34	94°44'00"	9°03'30" LT	
RPI to EC2	955.29	94°19'30"	4°20'20" LT	

REFERENCE POINT #1 (RPI) IS TEN FEET FROM A POWER POLE LOCATED NORTH OF PI1, AT THE TOP OF THE HILL. THE 0°00'00" BEARING IS OBTAINED BY SIGHTING ON THE WEST SPIRE OF THE LOGAN TEMPLE.

CENTER LINE TIE TO THE SECTION LINE.

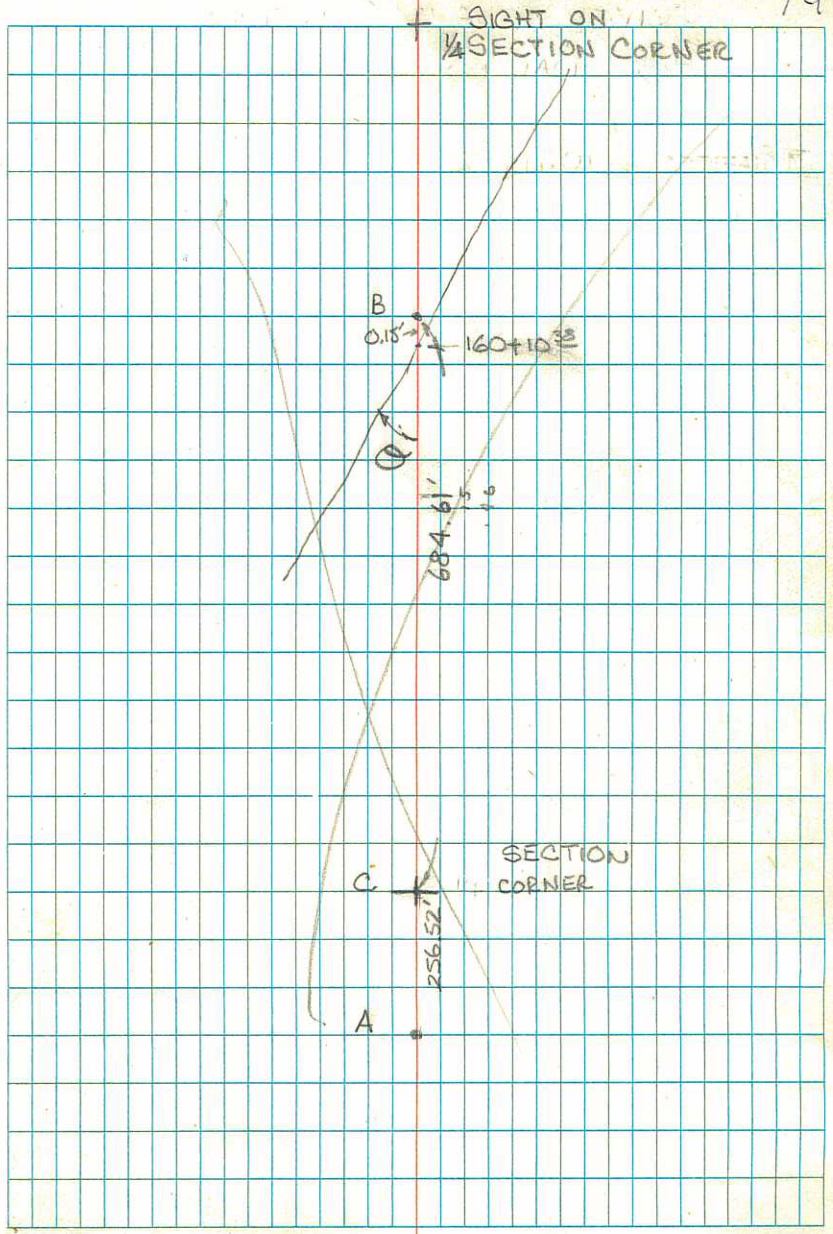
~~STA SLP DIS VERT Δ HOR. DIST.~~

DOUBLE ANGLE DATA

1 24° 56' 30"

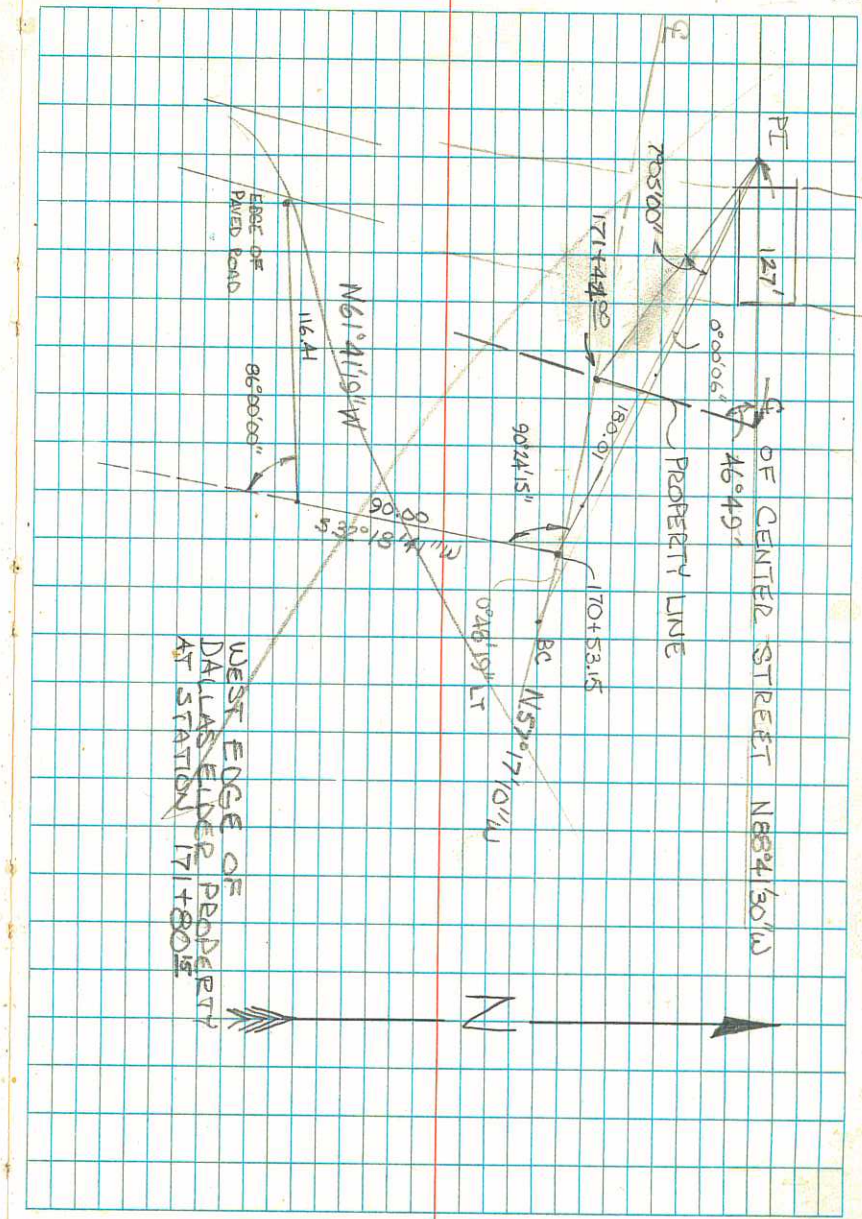
2 49° 52' 50" ⊖ 24° 56' 25"

STA	SLP DIS	VERT Δ	HOR DIST
AB	941.13'	89°49'30"	941.13'
AC	256.62	91°59'00"	256.52'



DRIVEWAY AND ℄ INTERSECTION
FOR DALLAS ELDER

TS NOTES – WILLIAMS
CHAIN – WARD, HOANH
10/28/75 – SUNNY, 40°F



STA	STA	SLP. DIST	VERT ∠		HOR. DIST
A	C				~~99.92~~
REBAR A	REBAR B	405.02	91°16'05"		404.92

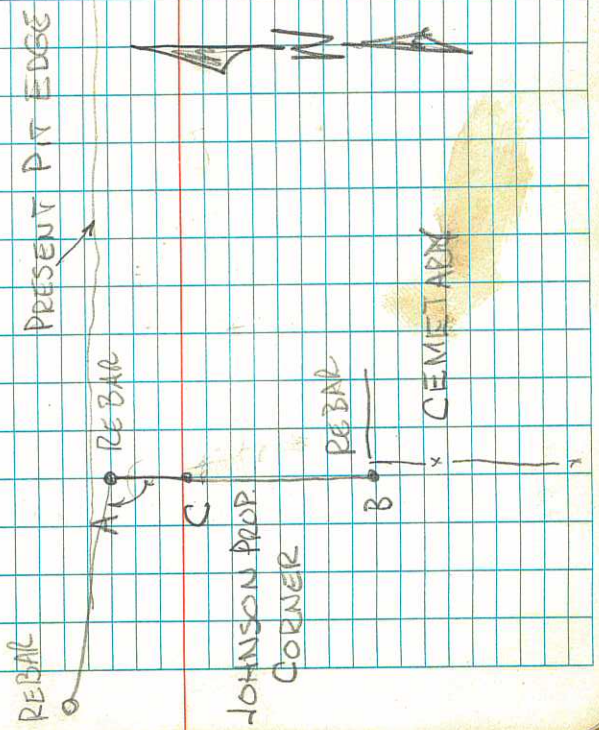
JOHNSON PROP. SURVEY

T & NOTES - WILLIAMS

⊕ - WARD, RICHARDSON

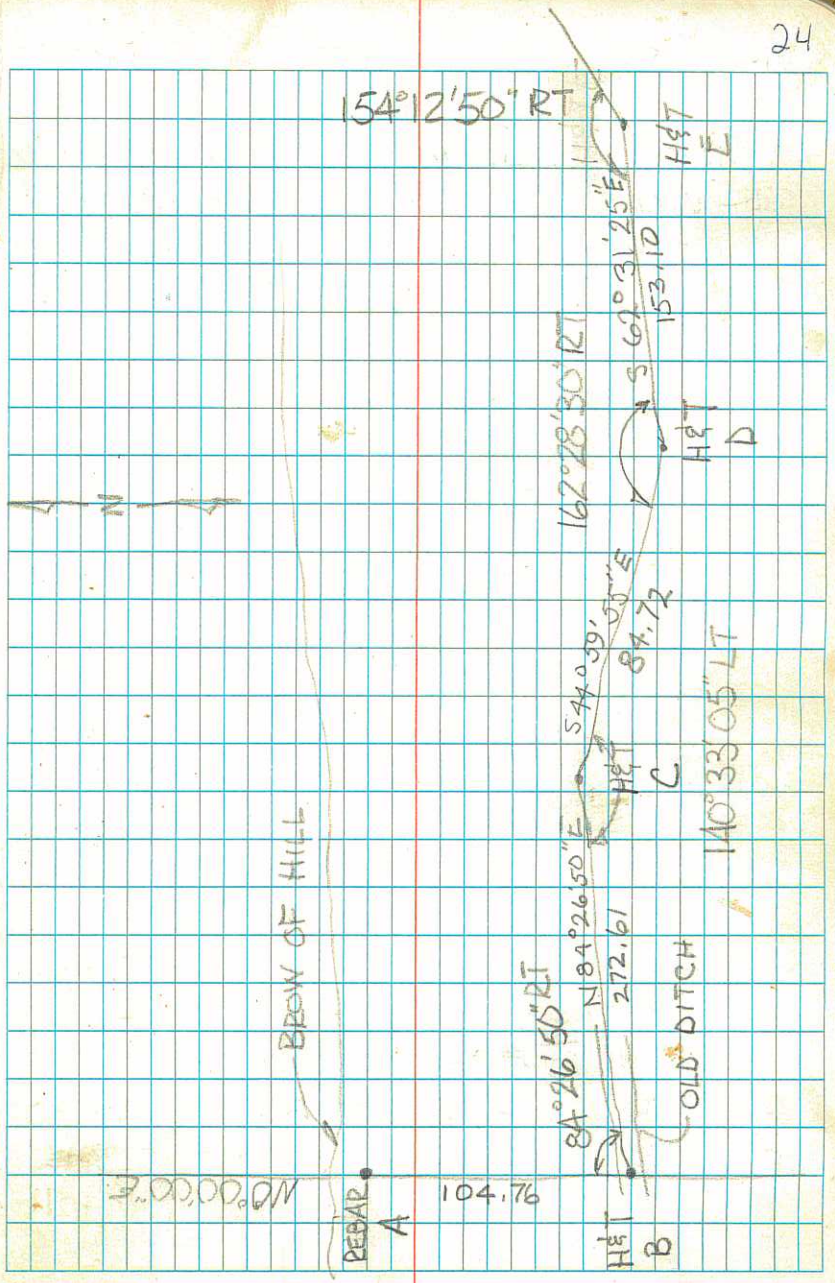
9-15-76

PPM 57 AM



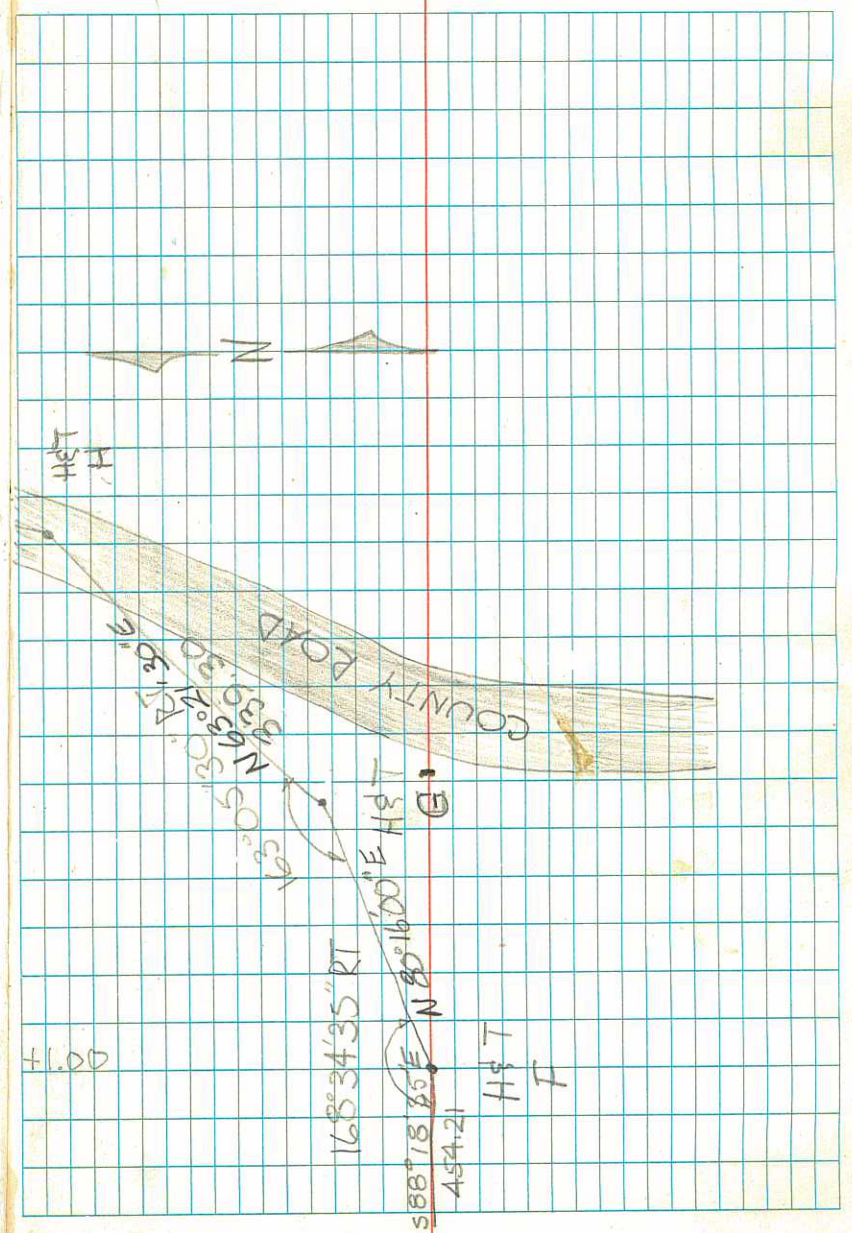
9340-100

STA	to	STA	SLP DIST	VERT &	HOR DIST
				FOUND A HUB AND TACK ON THE SECTION LINE, IN THE CENTER OF AN OLD IRRIGATION DITCH. SET THE INSTRUMENT UP ON THE H & T, AND PROCEEDED TO RUN IN THE LINE	
				PPM: 67 2:30 PM	
D		E	153.11	90°48'00"	153.10
C		D	84.74	90°13'00"	84.72
B		C	272.67	88°47'00"	272.61
A		B	104.92	86°52'30"	104.76

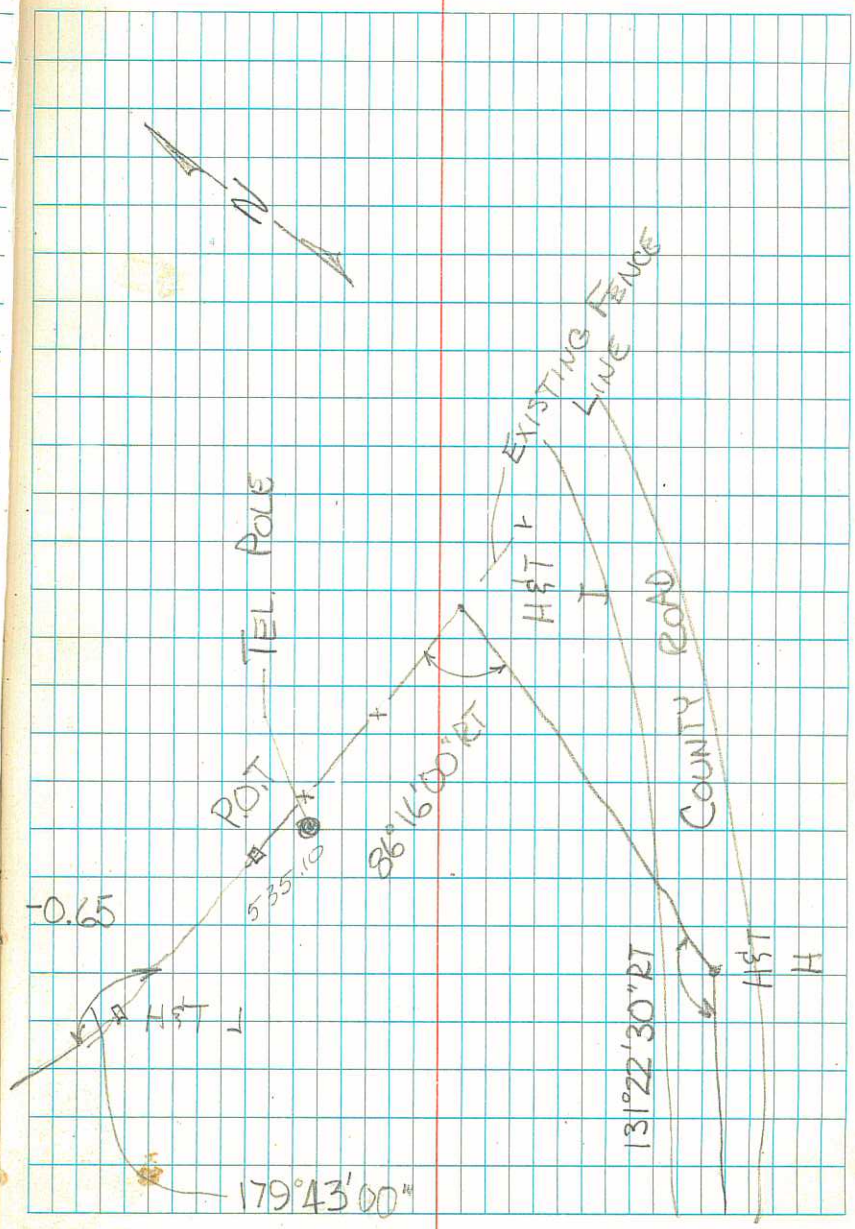


STA	to STA	SLP DIST	VERT ∠	HOR DIST
π & NOTES - WILLIAMS			9/16/76	9:00 AM
ϕ - WARD			PPM : 65	
G	H	340.46	85°16'30"	339.30
F	G	226.16	89°52'05"	226.16
E	F	454.24	89°20'40"	454.21

ADD

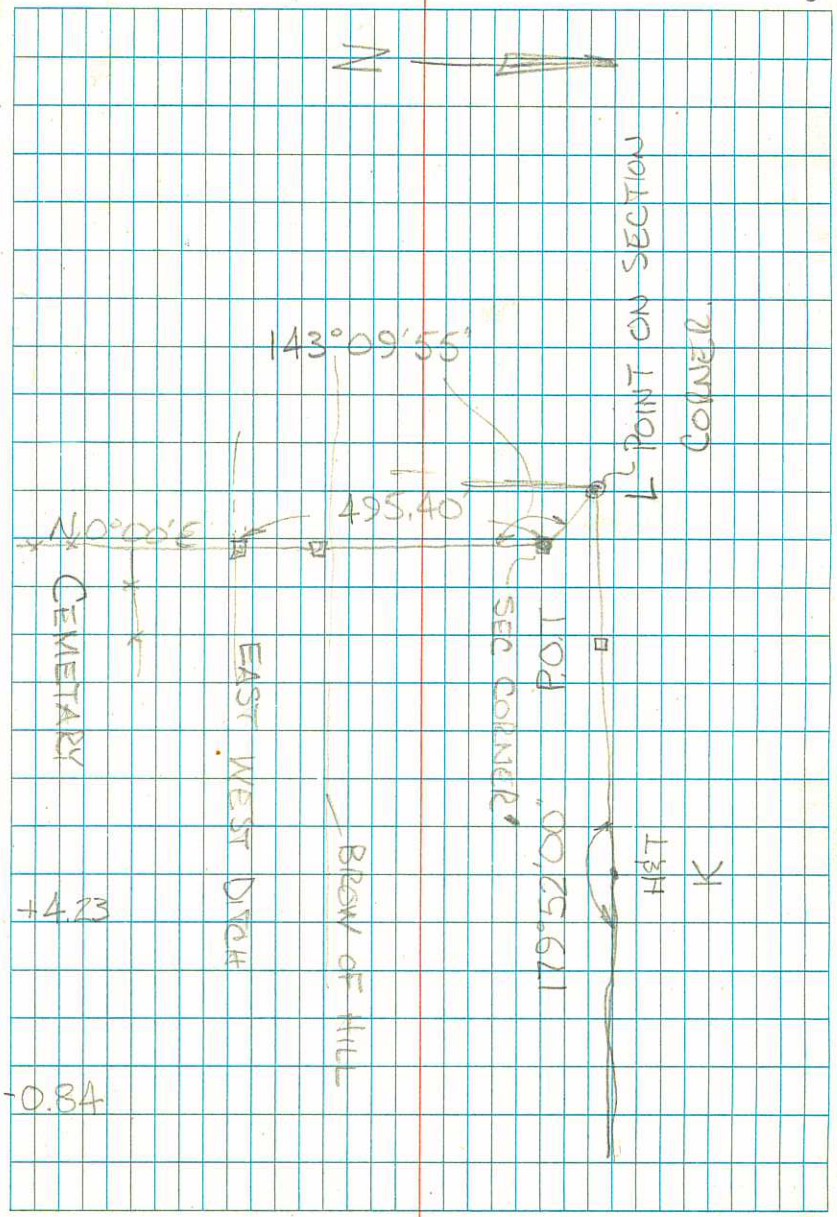


STA	to STA	SLP DIST	VERT	∠	HOR DIST
P.O.T	J	329.93	100°26'10"		324.47
~~P.O.T~~	~~J~~	~~321.20~~	~~100°38'00"~~		~~318.63~~
I	P.O.T	210.71	91°33'00"		210.63
H	I	204.86	82°27'00"		203.08

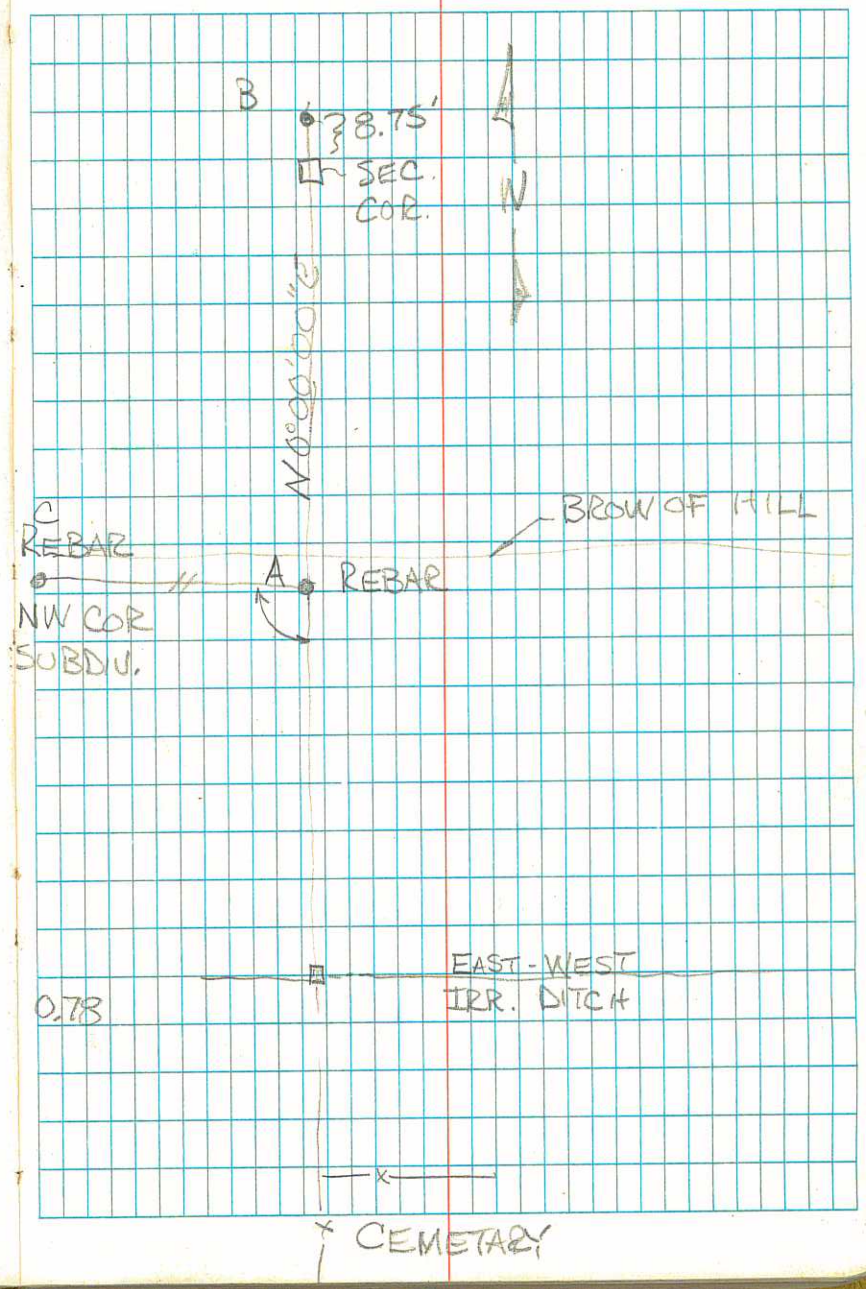


POINT "L" WAS SET BY BEGINNING AT THE HUB IN THE ℄ OF DITCH AND FOLLOWING THE TRAVERSE EAST. SEC. CORNER WAS SET BY GOING NORTH THE RECORDED DISTANCE FROM THE POINT IN THE DITCH TO THE RECORDED LOCATION OF THE SECTION CORNER.

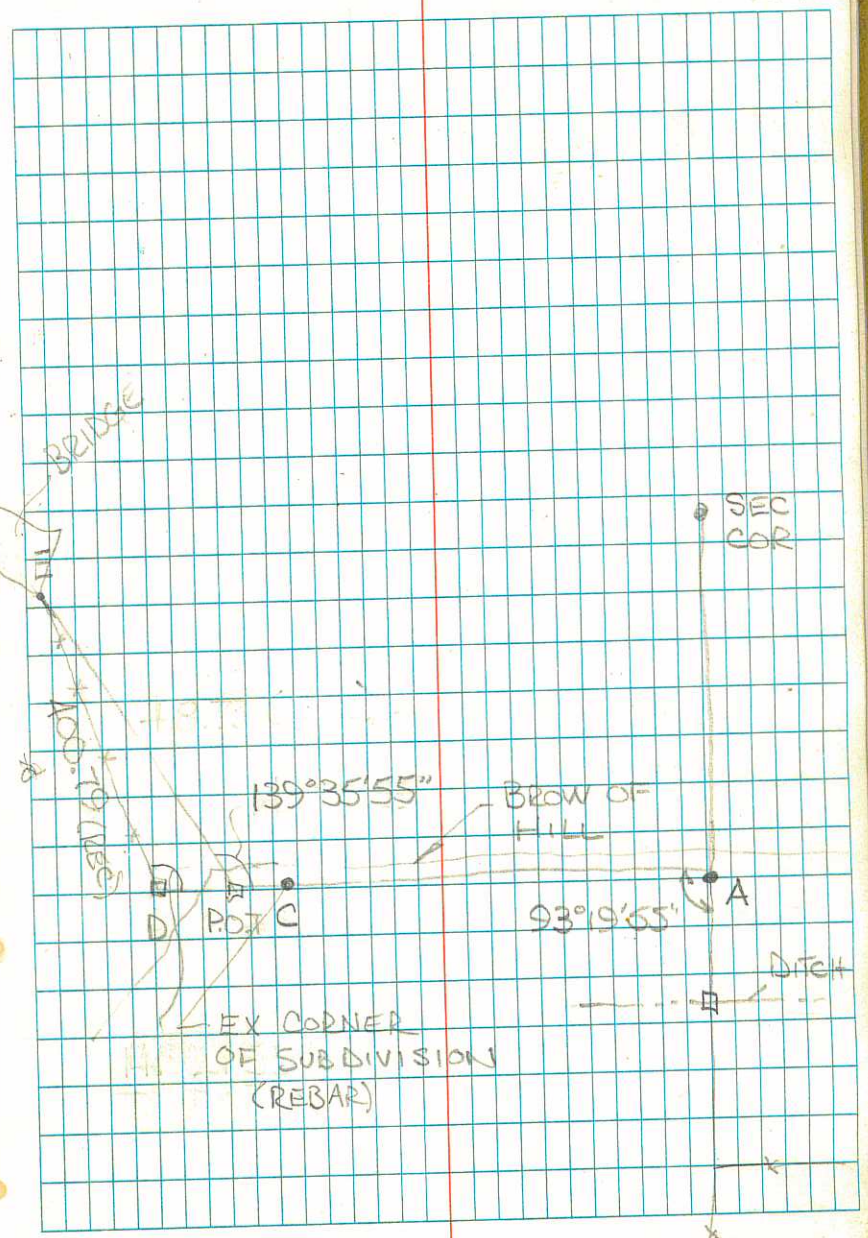
L	SE Cor'			11.24
P.O.T.	L	89.62	101° 39' 50"	87.77
K	P.O.T	264.53	89° 11' 50"	264.50
J	K	546.45	90° 51' 50"	546.39



A	C	466.16	269°36'30"	466.15	
A	SEC COR	391.15	265°21'00"	389.86	
A	B	400.56	265°36'50"	399.39	

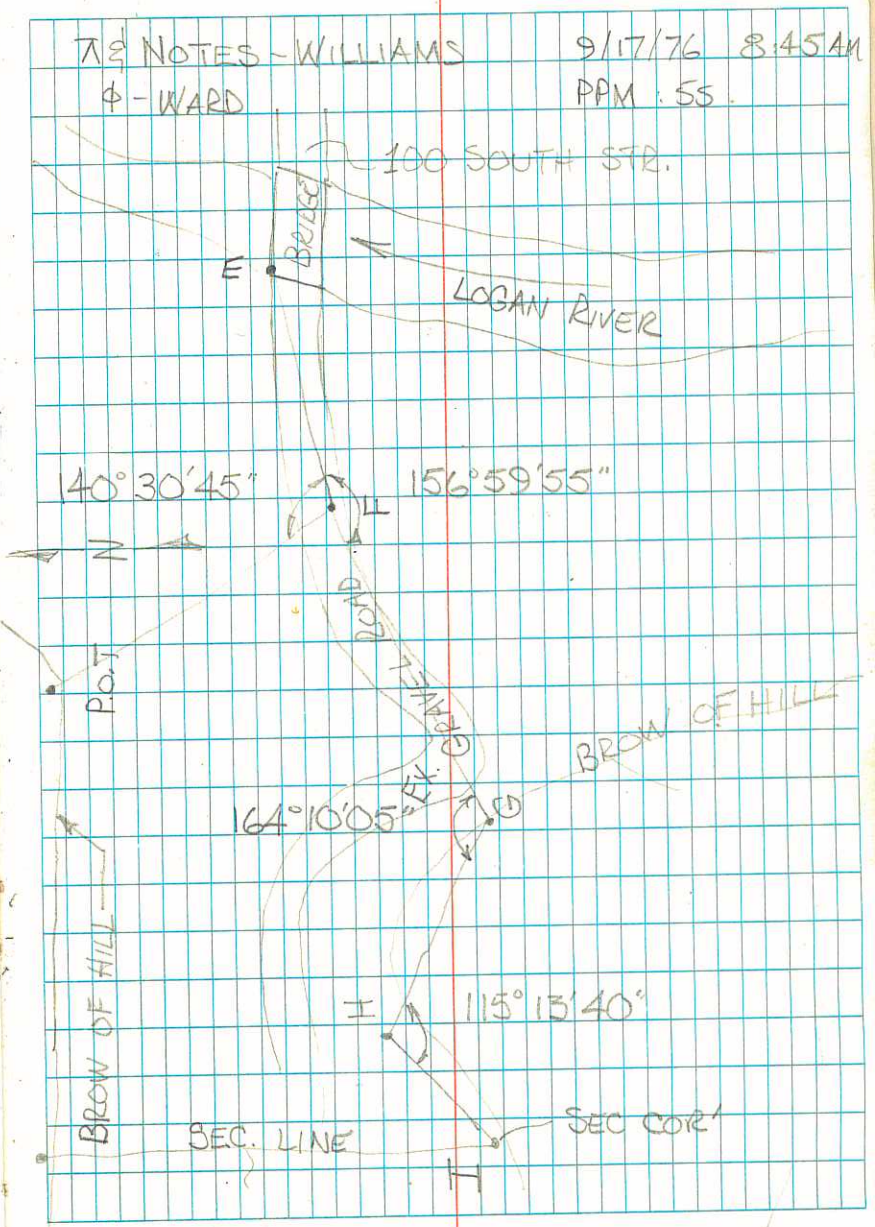


STA	to STA	SLP DIST	VERT Δ	HOR DIST
P.O.T.	E	441.94	104°03'40"	428.70
D	P.O.T			22.66
A	P.O.T	528.30	269°37'05"	528.29



STA	to STA	SLP DIST	VERT. ∠	HOR DIST
H	I	76.13	85°41'25"	
G	H	251.95	97°14'05"	
F	G	446.91	76°45'50"	
E	F	121.99	91°55'10"	
F	P.O.T	343.07	72°39'10"	

T&E NOTES - WILLIAMS 9/17/76 8:45AM
Φ - WARD PPM : 55



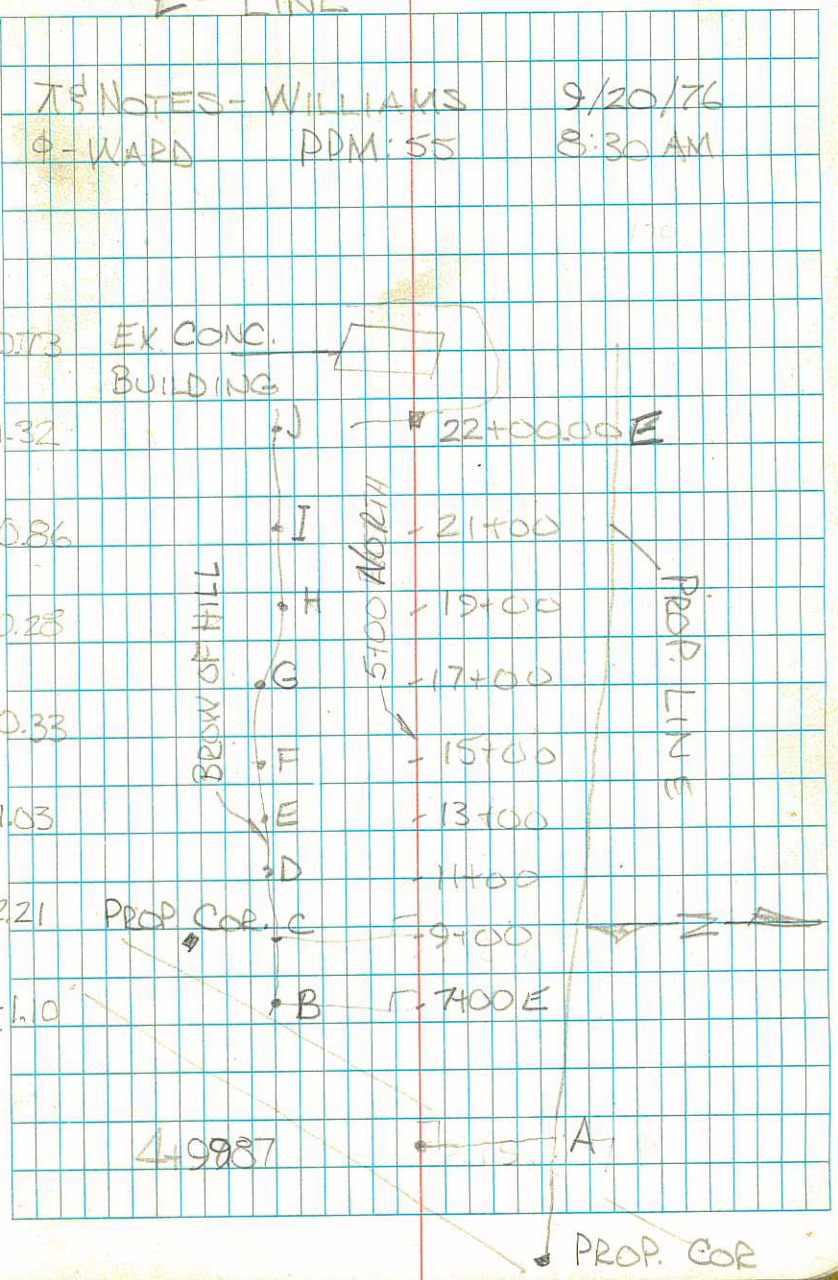
9340-100

STA	to STA	SLP DIST	VERT ∠	HOR DIST
PPM: 70		11:30 AM		

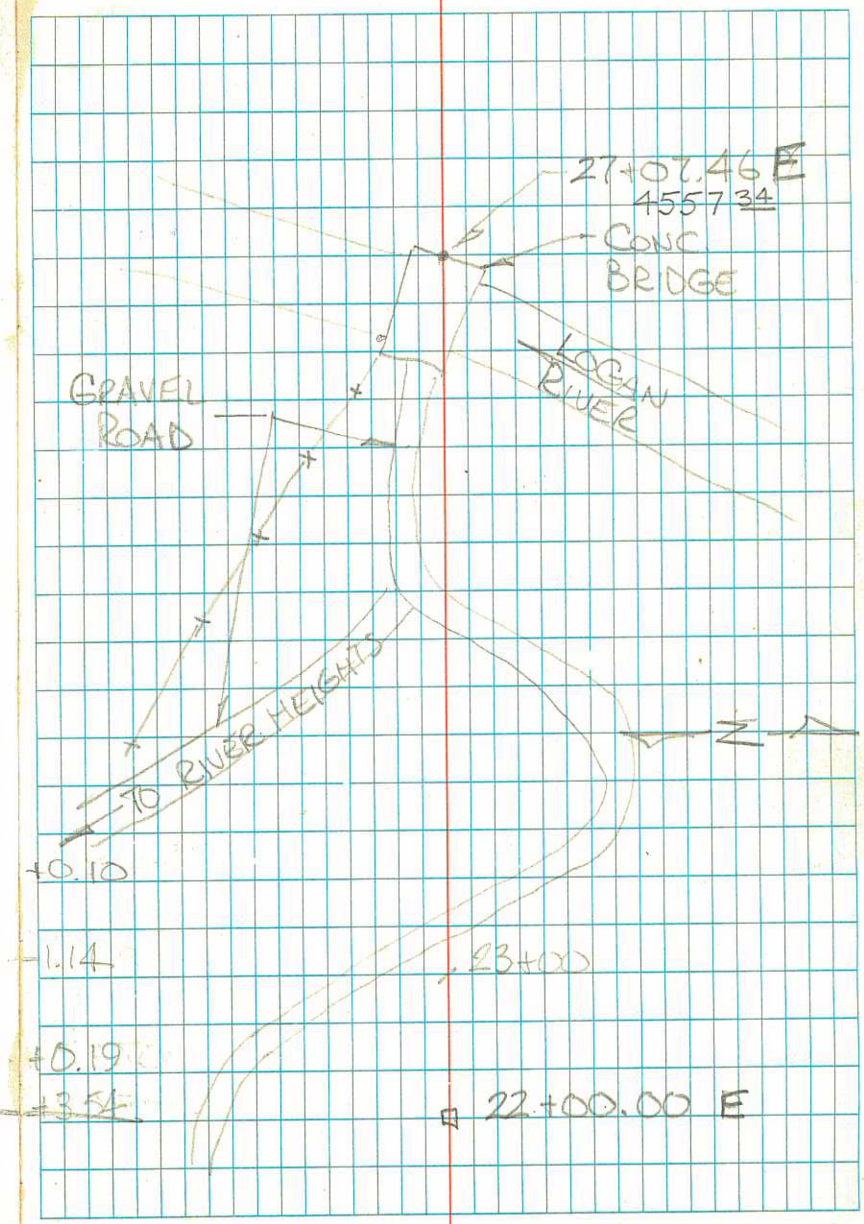
STA	to STA	SLP DIST	VERT	∠	HOR DIST
22+00	J	248.48	82°17'	10"	246.23
21+00	I	NO POINT			
19+00	H	236.07	81°14'	00"	233.31
4+99.87	21+00	1600.33	91°57'	00"	1599.40
17+00	G	258.61	82°06'	00"	256.16
4+99.87	19+00	1400.00	92°21'	45"	1398.81
15+00	F	275.62	84°36'	15"	274.40
4+99.87	17+00	1200.62	92°43'	00"	1199.27
13+00	E	279.30	83°01'	30"	277.23
4+99.87	15+00	1000.83	92°32'	00"	999.85
11+00	D	246.38	82°09'	10"	244.07
4+99.87	13+00	801.53	92°57'	15"	800.46
9+00	C	216.41	83°01'	50"	214.81
4+99.87	11+00	600.54	93°58'	10"	599.10
7+00	B	114.29	89°52'	30"	114.29
	9+00	399.24	94°39'	55"	397.92
	A	266.20	82°31'	00"	263.93
4+99.87	7+00	201.86	94°32'	20"	201.23
		PPM 70		10:30	AM

E-LINE

T's NOTES - WILLIAMS 9/20/76
9-WARD PPM: 55 8:30 AM



STA to	STA	SLP DIST	VERT	Δ	HOR DIST.	
27+07.46	26+00	107.36	90°07'40"		107.36	+0.10
27+07.46	24+00	308.63	89°11'00"		308.60	+1.14
27+07.46	23+60	410.96	82°19'00"		407.27	+0.19
~~27+07.46~~	~~23+00~~	~~467.33~~	~~82°35'00"~~		~~463.92~~	~~+3.54~~



LATT	LONG	VERT ∠		
470N	700E	89° 21' 00"		4647 94
422N	700E	89° 20' 55"	TOE	4650 00
491N	700E	88° 00' 45"		4663 95
700N	700E	87° 16' 30"	TOE	4673 23
654N	700E	86° 55' 55"		4676 33
648N	700E	87° 14' 00"		4672 99
600N	700E	87° 11' 15"		4673 01
500N	700E	87° 58' 50"		4664 28
4+14N	600E	87° 43' 50"	PROP	4671 07
492N	600E	87° 04' 00"	EDGE of	4679 00
700N	600E	86° 44' 05"	TOE	4684 66
664N	600E	87° 00' 00"		4680 80
657N	600E	87° 15' 00"	+3°	4674 58
600N	600E	87° 10' 00"		4678 12
500N	600E	87° 32' 30"		4673 18
733N	500E	86° 11' 40"	TOE	4698 55
700N	500E	86° 18' 05"		4696 43
660N	500E	86° 25' 00"		4694 21
600N	500E	87° 08' 25"		4683 40
588N	500E	87° 11' 30"		4682 60
579N	500E	87° 08' 10"	+5°	4678 34
553N	500E	87° 23' 10"		4679 73
535N	500E	86° 47' 50"		4687 93
527N	500E	87° 00' 30"		4684 96
500N	500E	87° 10' 05"	PROP	4682 70

VERTICLE ANGLES TO STATIONS

X & NOTES - WILLIAMS

Φ - WARD

9-24-76 HI = 5.43

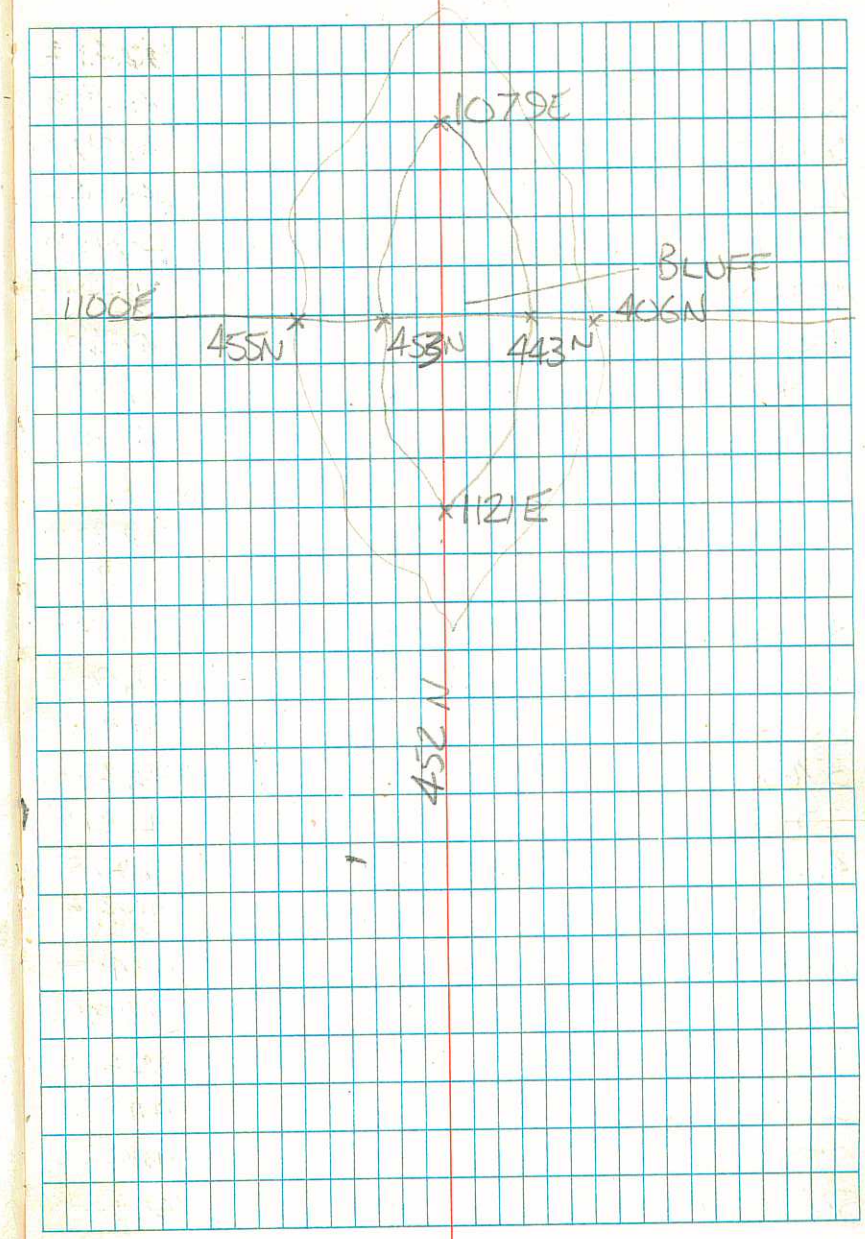
THE INSTRUMENT WAS SET UP ON STA 13+00 E ASS. ELEV. 100 00

5+00 N TRUE EL. 4643 12

NO WATER IS IN THE PROVIDENCE-LOGAN CANAL BETWEEN OCT & MAY 1ST

LATT	LONG	VERT ∠		
400N	900E	89°55'02"		4643 7
723N	900E	87°41'58"	PROP. BOUND	4661 5
709N	900E	88°30'00"	TOE	4654 9
700N	900E	88°42'00"		4653 3
686N	900E	88°41'45"		4653 2
672N	900E	89°12'00"		4649 2
600N	900E	89°18'00"		4648 2
568N	900E	89°07'35"		4643 32
561N	900E	88°28'55"		4653 86
553N	900E	88°32'45"		4653 37
550N	900E	88°49'30"		4651 39
500N	900E	89°24'10"		4647 29
276N	800E	89°40'55"	TOE	4646 17
300N	800E	89°38'35"		4646 48
350N	800E	89°38'35"		4646 38
360N	800E	89°12'10"		4650 35
400N	800E	88°17'30"		4658 33
432N	800E	87°49'05"		4662 37
415N	800E	87°48'55"		4662 47
718N	800E	87°14'50"	PROP	4669 35
700N	800E	88°01'50"	TOE	4661 64
600N	800E	88°25'00"		4657 22
572N	800E	88°27'10"		4656 77
568N	800E	87°54'30"		4661 51
500N	800E	88°24'00"		4657 09

LAT'T	LONG	VERT Δ		
530N	1200E	94° 00' 40"		4635.8
*500N	1200E	94° 29' 10"		4635.3
311N	1100E	92° 19' 00"	TOE	4632.0
406N	1100E	91° 15' 05"	+4Q	4634.3
452N	1121E	89° 57' 15"		4643.3
443N	1100E	89° 27' 25"		4645.1
452N	1079E	89° 01' 55"		4646.9
453N		89° 35' 50"	BLUFF	4644.6
455N		91° 23' 10"		4638.2
703N		87° 45' 55"	EDGE OF PIT	4654.2
673N		90° 08' 55"		4642.4
600N		90° 22' 00"	+4°	4637.7
500N	1100E	91° 13' 00"		4638.9
300N		89° 01' 45"		4649.2
307N		89° 30' 00"		4646.2
344N		89° 19' 55"		4647.1
358N		90° 32' 10"	TOE	4640.0
400N		89° 58' 02"	+3°	4640.3
713N		87° 33' 30"	PIT BOUND.	4658.8
697N		88° 55' 00"	TOE	4649.9
600N		89° 07' 25"		4648.0
539N		89° 57' 55"		4643.3
500N	1000E	90° 04' 05"		4641.9
320N	900E	88° 34' 00"	+2°	4654.1
373N	900E	89° 57' 55"	TOE	4643.4



LATT	LONG	VERT ∠		
300N	↑	93° 21' 55"		4631.4
400N		94° 17' 30"		4635.6
409N		92° 25' 50"		4639.3
* 447N		SAME AS 489N, 1300E		4635.3
444N		92° 25' 50"		4640.70
489N		BOTTOM, SAME AS * 1200E		~~4635.3~~
491N		85° 40' 55"		4643.7
675N		87° 50' 30"		4649.7
618N		88° 16' 00"		4646.7
611N		89° 42' 10"		4643.7
600N	1300E	89° 38' 35"		4643.9
273N	↑	88° 52' 10"		4648.0
300N		89° 22' 05"		4645.6
312N		89° 41' 00"		4644.3
330N		92° 06' 05"	TOE	4635.9
376N		92° 01' 00"		4637.5
390N		94° 28' 10"		4631.5
400N		94° 41' 55"		4631.5
696N		88° 18' 25"	EDGE OF	4649.6
648N		90° 32' 00"	+ 4°	TO 4637.5
582N		} 1' LOWER THAN 600		4636.1
600N				4636.1
660N		90° 37' 35"	+ 4°	4637.1
551N		90° 14' 20"		4642.7
538N	1200E	91° 26' 25"		4640.4

LATT	LONG	VERT ∠		
500N	1700E	93°30'30"		4624 23
284N	↑	92°14'15"	TOE	4627 19
300N		92°40'00"		4626 08
400N		93°37'30"		4627 53
590N		98°53'05"	TOE	4615 46
500N	1600E	97°56'30"		4622 54
279N	↑	91°57'20"	TOE	4628 94
300N		92°24'05"		4628 10
400N		94°17'00"		4629 00
455N		98°25'05"		4629 83
476N		92°28'25"		4635 45
684N		87°08'15"	EDGE	4645 69
600N		86°59'58"		4641 73
525N	1500E	85°36'05"		4638 41
500N	1500E	91°54'00"		4636 49
300N	↓	93°16'30"	TOE	4630 3
426N		SAME AS 400N, 1400E		4630 8
400N		92°57'50"	+5°	4630 8
446N		91°17'15"		4640 6
663N		87°59'55"	EDGE OF PIT	4649 8
651N		89°51'05"	TOE	4643 6
600N		90°19'00"		4642 3
500N	1400E	91°13'50"		4641 0
291N	1300E	93°06'00"	TOE	4631 8

THE INSTRUMENT WAS SET UP ON 500N, 150OE. HI = 5 62

9340-100

LATT	LONG	VERT Δ		
467N	↑	91°48'10"		4623.86
623N		89°53'05"	E.P.	4637.33
600N		90°46'25"		4630.92
570N		91°23'10"		4626.66
563N		91°43'10"		4624.33
500N	1900E	91°51'00"		4623.57
300N	↑	91°28'00"	TOE	4627.26
400N		91°53'25"		4626.05
425N		91°51'10"		4626.49
440N		90°37'50"		4633.12
447N		90°41'00"		4632.86
455N		90°26'25"		4634.16
660N		90°00'00"	EDGE OF PIT	4636.49
600N		91°55'10"	TOE	4625.89
593N		92°01'00"		4625.43
590N		92°23'10"		4623.44
500N	1800E	92°42'00"		4622.34
300N	↑	92°32'10"	TOE	4623.96
367N		92°55'05"		4624.52
378N		91°49'25"		4629.03
400N		92°05'00"		4628.36
438N		92°30'20"		4627.33
446N		94°00'50"		4621.95
615N		92°24'10"	TOE	4626.81
600N	1700E	92°45'58"		4625.69

9340-100

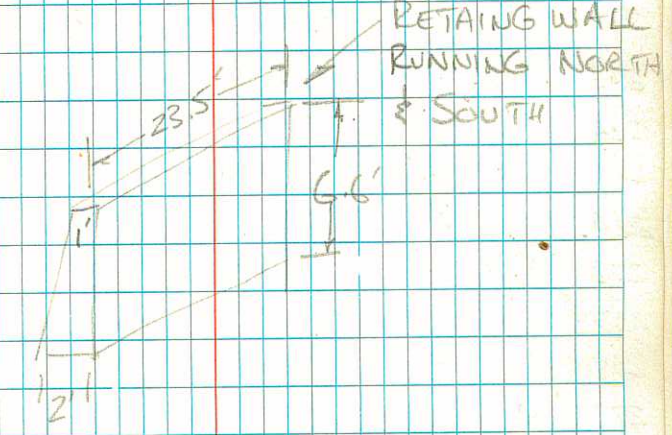
LATT	LONG	VERT ∠		
485	↑	90°56'00"	ROD 3	4609.0
600N		96°50'50"		4600.3
573N		97°38'30"		4602.5
532N	2300E	102°11'10"		4605.4
500N	2300E			4612.28
319N	↑	4' LOWER THAN 400N	TOE	4619.80
400N		1' LOWER THAN 422N		4623.80
422N		9' LOWER THAN 442N		4658.80
442N		SAME AS 500N		4624.80
600N		5' HIGHER THAN 554N		4642.09
554N		89°57'05"		4637.09
533N		SAME AS 500N; TOE		4624.80
500N	2200E	90°57'25"		4624.80
320N	↑	3' LOWER THAN 400N	TOE 2100E	4620.27
400N		91°15'00"		4623.22
602N	↓	88°47'10"	E.P.	4649.39
500N	2100E	90°57'55"	TOE	4626.38
331N	↑	1' HIGHER THAN 321N		4621.80 1900E
630N		88°51'25"	E.P.	4646.80
600N		89°48'00"		4638.27
536N		91°16'00"	TOE	4625.41
500N	2000E	91°49'55"		4620.50
321N	1900E	91°47'45"	TOE	4622.75
458N	1900E	90°58'15"		4629.67

INSTRUMENT WAS SET UP ON 500N, 2300E HT = 4.80

3' DIAMETER METAL PIPE SET VERTICALLY 458N, 2100E MARKED — "AIR-HOLE"

LARGE PILE OF CRUSHED GRAVEL NOT INCLUDED

LATT	LONG	VERT ∠		
531 N	2600E	91°29'00"		4556 87
381 N	2600E	FENCE LINE	BEARING N W	
420N	2600E	91°30'50"		4556 42
500N	2600E	91°17'55"		4557 58
542 N	↑	87°20'10"		4567 16
534N		89°51'58"		4562 36
		→ SAME EL. TO PREV COR.		
423 N		91°25'10"		4558 88
465N		91°17'00"		4559 74
500N	2500E	90°16'50"		4561 62
576 N	2400E	SAME AS 571 N	NORTH RD	4576 33
571 N	2400E	78°40'25"		4576 33
557N	2400E	78°03'05"	SOUTH EDGE RD.	4574 17
356N	2400E	75°00'35"	+6°	4600 67
377 N	2400E	74°59'05"		4595 10
403.2N	2400E	75°27'55"		4587 21
476.5N	2400E	NORTH END	CONC. RETAINING WALL	
500N	2400E			4562 11
500N	SLP DIST = 50.5	117°55'55"	℄ RD.	
500N	SLP DIST = 20.4	117°21'00"	℄ COR	
329 N		93°14'00"	TOE	4602 2
400 N		95°13'00"		4603 1
474 N	2300E	99°32'00"		4607 9



INSTRUMENT WAS SET UP ON
500N, 2400E ; HI = 5.44

4588 ℄

S. P. 4602 9

LATT	LONG	VERT. ∠		
~~[illegible]~~	~~1700E~~	~~89°[illegible]~~		
740N	600E	84°11'55"		4660 6
763.93N	500E	84°54'00"		4716 0
	2300E	89°06'55"	PIT BOUND	
	2200E	89°00'00"		
	2100E	88°57'10"		
	2000E	88°44'05"		
	1900E	88°24'55"		
	1800E	88°08'50"		
243.84 N	1700E	87°52'00"		4660 8
234.72 N	1600E	87°38'00"		4659 7
225.60 N	1500E	86°29'10"		4664 0
224.19 N	1400E	83°08'10"		4678 4
222.77 N	1300E	82°44'00"		4678 5
239.35 N	1200E	84°08'00"		4671 8
255.93N	1100E	84°25'25"		4673 9
270.56 N	1000E	85°23'00"		4673 6
285.19N	900E	86°00'00"		4674 9
335.45 N	800E	88°04'50"	PIT BOUND.	4660 8
385.71N	700E	87°50'50"	PIT BOUND.	4666 1

THE INSTRUMENT WAS SET UP ON 500N, 1300E. 540

4643 12

LATT	LONG	VERT ∠		
669 N	1700E	89°48'00"	PIT BOUND.	
656N	1700E	90°33'10"		
644N	1700E	90°37'00"		
687N	1600E	89°41'30"	EDGE	PIT
669 N	1600E	90°10'10"	+4°	TOE
621 N	1600E	90°37'15"		

STA	to STA	SLP DIST	VERT ∠	HOR DIST
26+00E	A	279.12	80°39'00"	275.41
		HIGH ROD = 8.14		
26+00E	B	322.93	81°54'45"	319.72
HI = 5.43		HIGH ROD = 8.14		

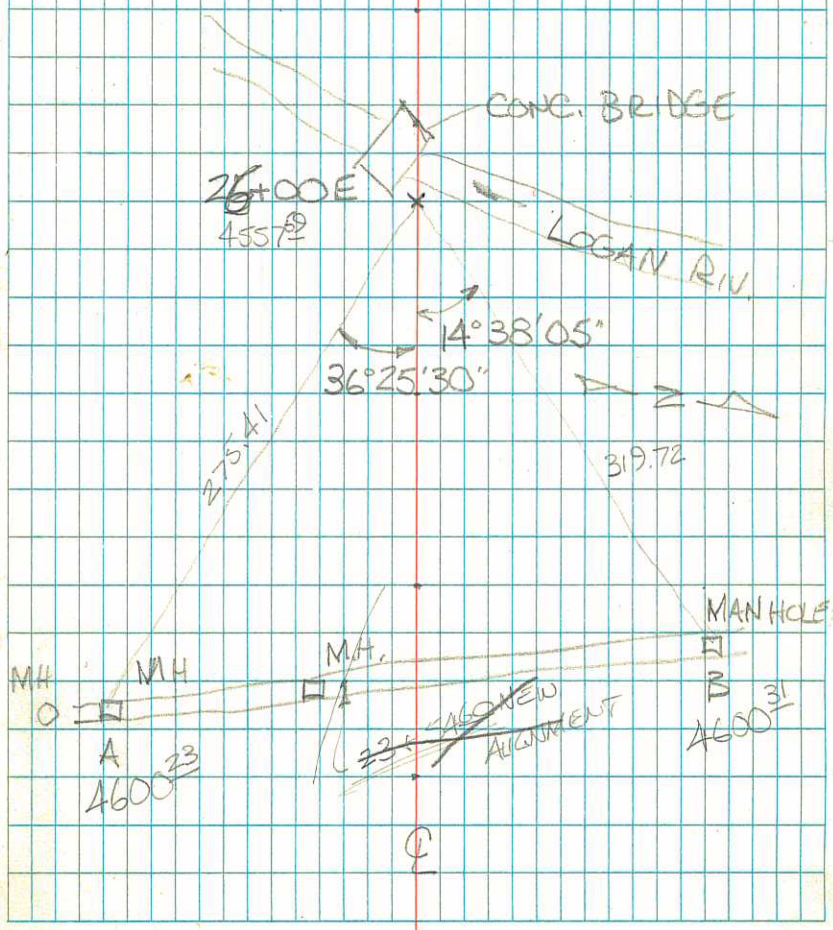
PROVIDENCE - LOGAN

CANAL TIES

T's NOTES - WILLIAMS 9/28/76

Φ - WARD Warm, SUNNY

PPM: 65°

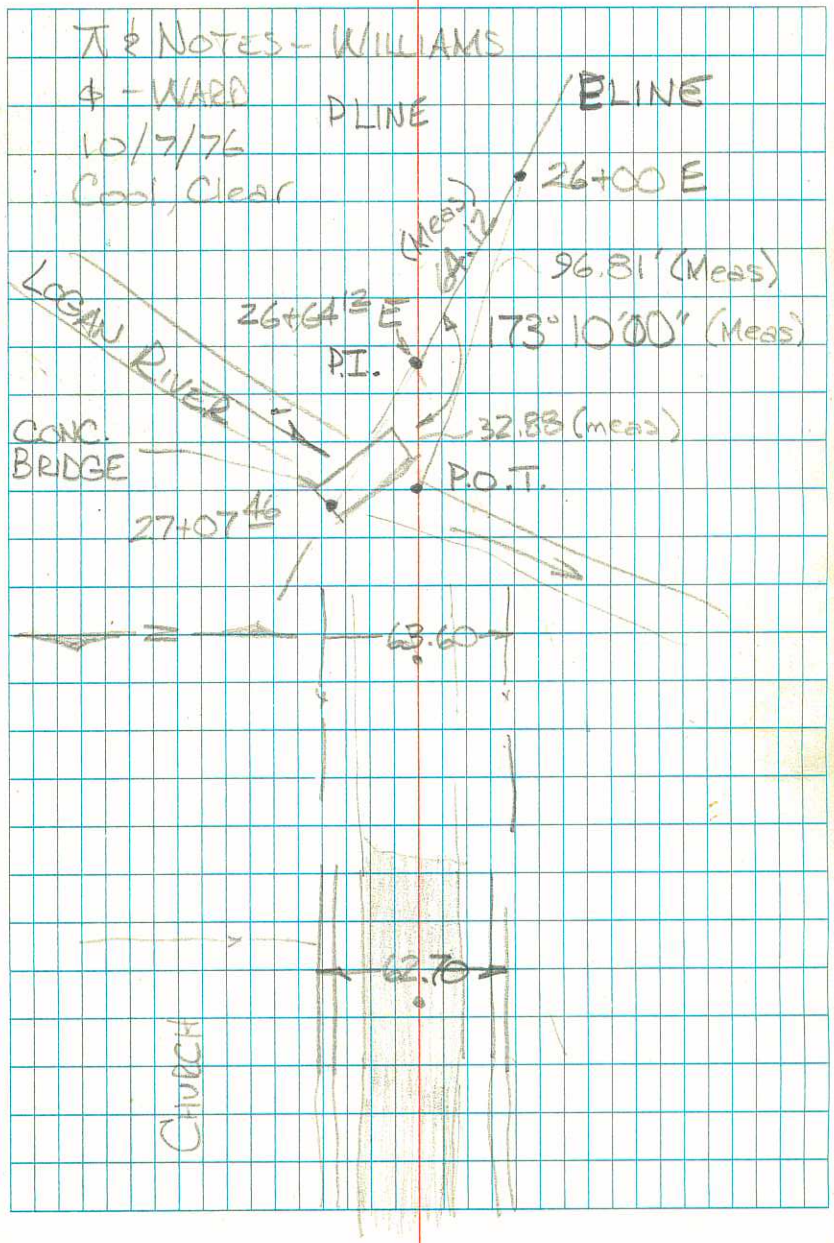


ELEV. TIES.

T-WARD
$ $ NOTES - WILLIAMS
10/4/76
Cool, Cloudy

			7 23	4557 59	500 N 2600 E
8 45	45/4 82			4556 37	BM 2" ø PIPE

T & NOTES - WILLIAMS
℄ - WARD
10/7/76
Cool, Clear



9340-100

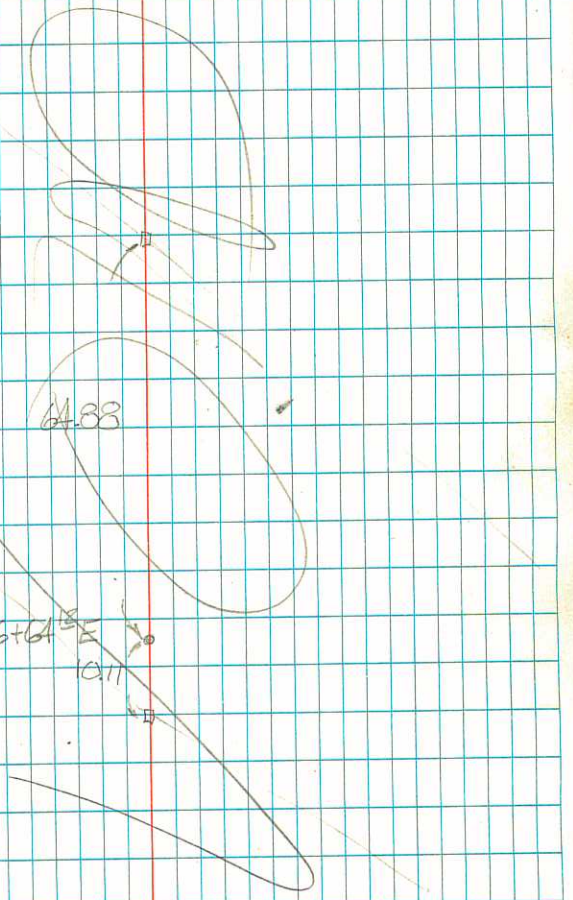
SITE WORK FOR BRIDGE

T & NOTES - WILLIAMS

$ - WARD

10/12/76

COOL, CLEAR



9340-100

NEW ALIGNMENT

N - LINE

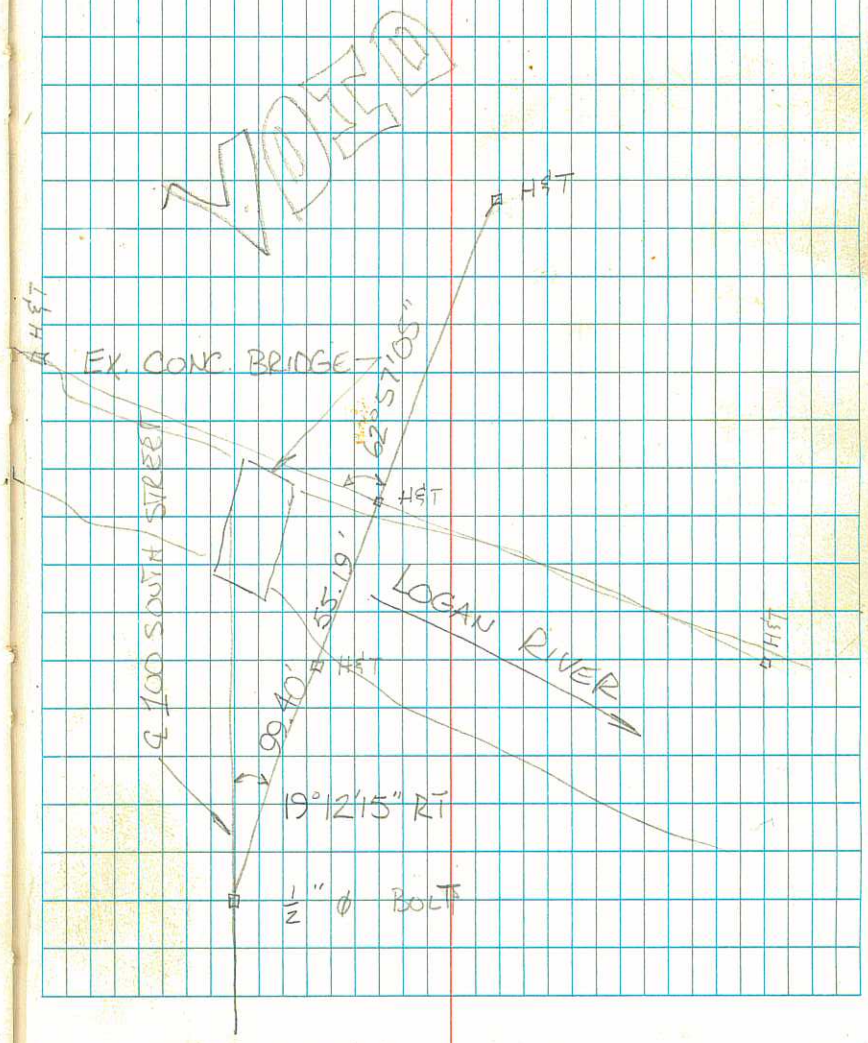
T & T NOTES - WILLIAMS

Φ - WARD

CH. - SPAULDING

11/5/76

Clear, Cool

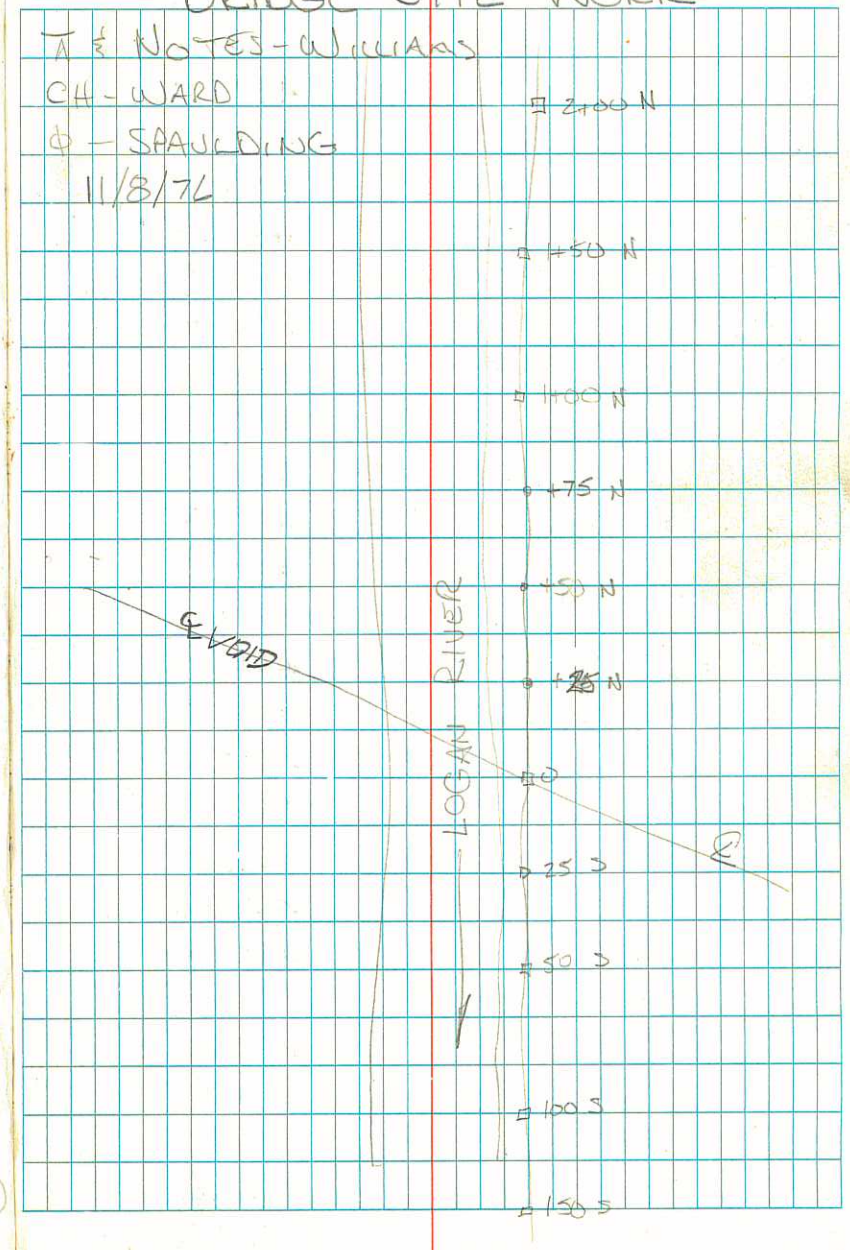


BRIDGE SITE WORK

LONG	LATT	VERT ∠	EL	
	4W	91°03'05"	4550.73	
50S	0	91°10'25"	4550.63	
	Then 2:1 7' high			
	54W	93°04'55"	4547.69	
	43W	93°36'55"	4547.48	
	38W	93°51'00"	4547.42	
	30W	93°53'00"	4544.56	
	19W	94°03'55"	4544.42	
	13W	93°12'00"	4546.01	W.S
	5W	SAME EL	4550.40	
100S	0	90°43'00"	4550.40	5' Vert 2:1 to top
	62W	92°29'55"	4544.97	W.S
	59W	92°48'00"	4544.22	/
	52W	92°49'03"	4544.30	
	40W	93°07'57"	4543.68	
	31W	93°08'00"	4543.80	
	22W	93°18'55"	4543.54	
	18W	92°32'05"	4545.40	W.S
	~~22W~~	~~92°24'30"~~		~~W.S.~~
	17W	90°47'10"	4549.72	
140S	0W	90°29'30"	4550.45	

HI = 5.39 @ 0,0 (EL = 4551.65)

TAPE NOTES - WILLIAMS
CH - WARD
ϕ - SPAULDING
11/8/76



LATT	LONG	VERT-A	EL	
	20'W	14° 32' 15"	4542 47 ~~4628.78~~	
	9'W	130° 02' 05"	4544.09	
	9'W	122° 32' 10"	4545.90	WS.
0	3'W	90° 00' 00"	4551.65	
	0	90° 54' 50"	4551.25	
	5W	89° 49' 00"	4551.73	
	11W	100° 11' 35"	4546.74	
	17W	105° 27' 05"	4543.29	
	22W	105° 10' 00"	4542.62	
	26W	103° 06' 30"	4543.25	
	31W	101° 54' 50"	4543.25	
	34W	100° 13' 00"	4545.52	
	37W	99° 21' 50"	4544.29	
	37W	97° 07' 10"	4546.07	WS
	47W	86° 01' 10"	4555.35	
25S	58W	86° 35' 30"	4555.41	& ROAD
	72W	88° 19' 30"	4554.21	FENCE
	55W	89° 01' 05"	4552.92	
	44W	94° 24' 00"	4546.53	WS
	44W	95° 29' 55"	4545.24	
	39W	95° 57' 50"	4545.03	
	35W	97° 05' 30"	4544.06	
	27W	97° 10' 55"	4544.49	
	14W	97° 45' 30"	4544.58	
50S	10W	95° 49' 55"	4546.44	WS

LAT	LONG	VERT ∠	EL	
	60 W	91°23'25"	4555.4	
	36 W	90°20'10"	4556.7	TOP OF BK
	37 W	105 41°30"	4546.5	
	30 W	-13 1	4543.6	
	24 W	-13 2	4543.5	
	19 W	-13 2	4543.5	
	9 W	-10 5	4546 3	WS
50 N	50 E	89°32'00"	4557.28	
	15 W	WS 3 8	4542.4	
	24 W	WS - 3 7	4542.5	
	26 W	WS - 3 7	4542.5	
	30 W	WS - 3	4543.2	
	36 W	103°01'00"	4546.2	WS
	9 W	111°21'40"	4546.2	WS
	3 E	98°26'30"	4553.1	
	50 E	94°14'00"	4552.4	ROD 5 34
25 N	0	103°07'00"	4550.7	ROD 5 34
50 N	0	84°01'55"	4556.88	
	60 W	85°34'55"	4556.29	
	48 W	94°24'30"	4547.95	
	36 W	98°19'30"	4546.38	WS
	34 W	103°01'20"	4543.79	
0	29 W	105°34'10"	4543.57	
0	24 W	←		

SET UP ON (50 N, 0) HI = 4 97
(EL = 4556.88)

LATT	LONG	VERT ∠		
	43 W	94°06'55"	4552.1	
	34 W	98°38'50"	4547.7	W.S.
	27 W	100°22'00"	4546.5	
	22 W	100°55'05"	4546.3	
	14 W	101°31'50"	4546.3	
	6 W	102°39'45"	4545.6	
	4 W	100°57'00"	4547.2	W S
	2 O	96°29'20"	4551.2	
	15 E	89°37'45"	4557.2	
100 N	50 E	89°30'40"	4557.5	
	83 W	91°48'15"	4554.1	N.S. FENCE LINE
	54 W	92°29'20"	4554.3	
	43 W	92°37'50"	4554.6	
	41 W	94°13'55"	4553.3	
	40 W	97°03'15"	4551.0	
	32 W	98°06'00"	4546.2	10° ROD
	31 W	WS - 2 4	4543.7	
	25 W	WS - 2 6	4543.5	
	10 W	WS - 1 9	4545.1	
	20 W	WS - 2 3	4543.8	
	9 W	98°06'45"	4546.2	12° ROD WS.
	OE	95°16'35"	4554.6	
	4 E	89°31'15"	4557.1	
75 N	50 E	89°12'40"	4557.6	
50 N	9 W	90°02'55"	4556.8	TOP OF BRIDGE

LATT	LONG	VERT ∠		
	62 W	91°02'00"	4554.0	
4548.1	56 W	SAME EL. AS	22W.	W. S.
	49 W	94°14'05"	4545.2	
	43 W	94°13'05"	4545.4	
	31 W	93°57'10"	4546.3	
	22 W	93°18'55"	4548.1	W. S.
	14 W	92°04'40"	4551.4	
200 N	0	92°03'00"	4551.5	
	64	91°38'00"	4553.5	
	48 W	91°31'00"	4553.9	
	40 W	93°40'35"	4550.0	
	35 W	94°49'55"	4547.2	W. S
	32 W	95°49'05"	4546.2	
	27 W	96°11'55"	4545.6	
	21 W	96°21'50"	4545.5	
	15 W	96°10'00"	4546.0	
	5 W	95°48'35"	4546.7	
	1 W	95°39'10"	4547.0	IN WATER
	0	95°09'00"	4547.9	ON BANK
~~4547.2~~	~~1E~~	~~95°06'00"~~	~~4548.0~~	~~W.S~~
	25 E	90°07'00"	4556.7	
150 N	50 E	90°03'00"	4556.8	
	59 W	92°09'55"	4554.0	
100 N	44 W	91°42'10"	4554.9	

LAT?	LONG	V			
			5^{68}	4556^{88}	50N, 0W
	6^{19}	4562^{56}		4556^{37}	BM EL AT PROJECT
	5E	101 32' 30"		4552.9	
	90E	91° 48' 00"		4554.0	
31N	80E	93° 19' 40"		4552.1	
	82E	90° 46' 00"		4555.8	
40N	5E	95° 11' 10"		4555.9	
200N	75W	90° 45' 00"		4554.7	

9340-100

TIE OF SURVEY TO BM

53A

STA to STA	SLP DIST	VERT ∠	HOR DIST	℄ FROM BASE LINE

CURVE DATA

CURVE 1:

Δ = 45°19'55" RT
T = 103.00'
R = 246.64'
L = 195.14'

CURVE 2

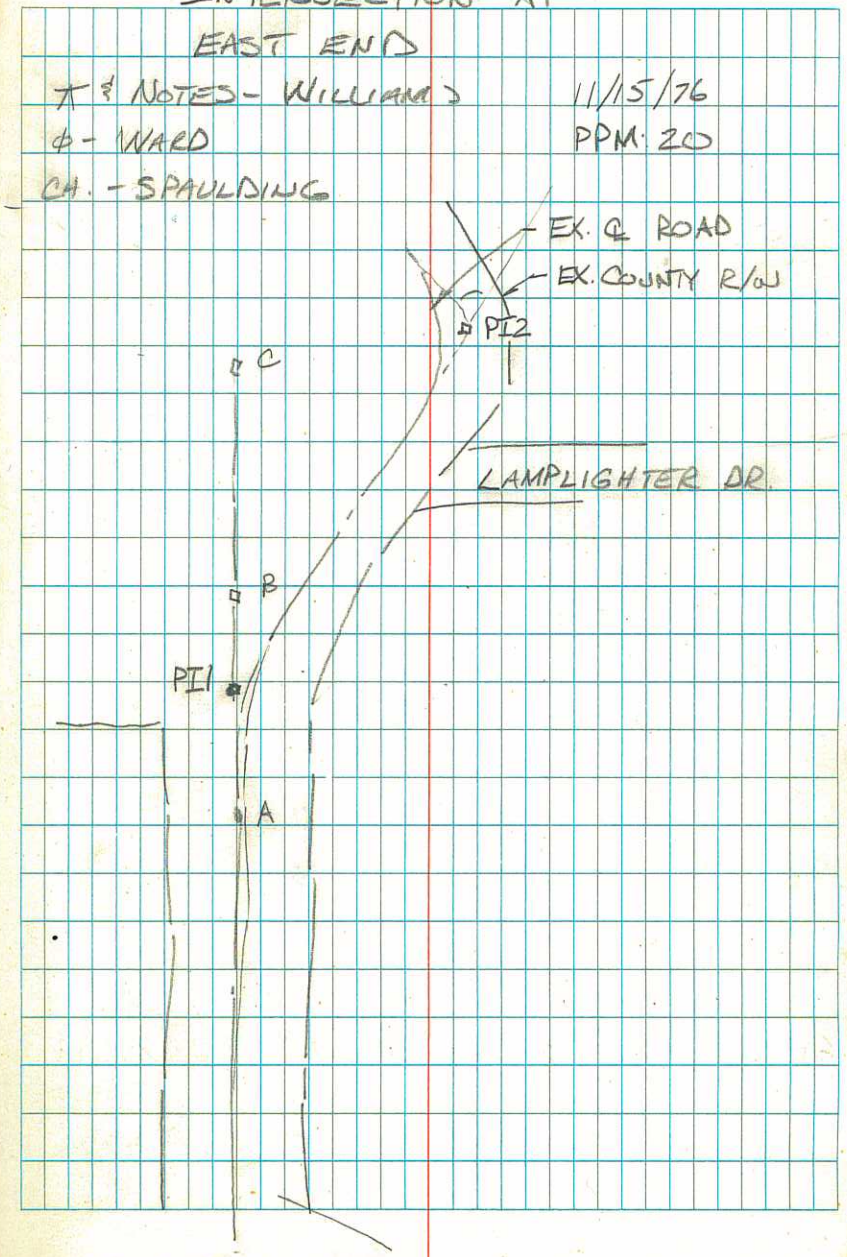
Δ = 26°14'00" LT
T = 73.00'
R = 313.29'
L = 143.44'
D = 8°22'25"

PI1 to PI2	376.67	85°08'10"	375.31	
A to PI1	50.81	LEVEL		
A to C	521.09	85°49'20"		
A to B	145.27	86°16'00"		

9340-100

INTERSECTION AT EAST END

℄ & NOTES - WILLIAMS 11/15/76
ϕ - WARD PPM: 20
CH. - SPAULDING

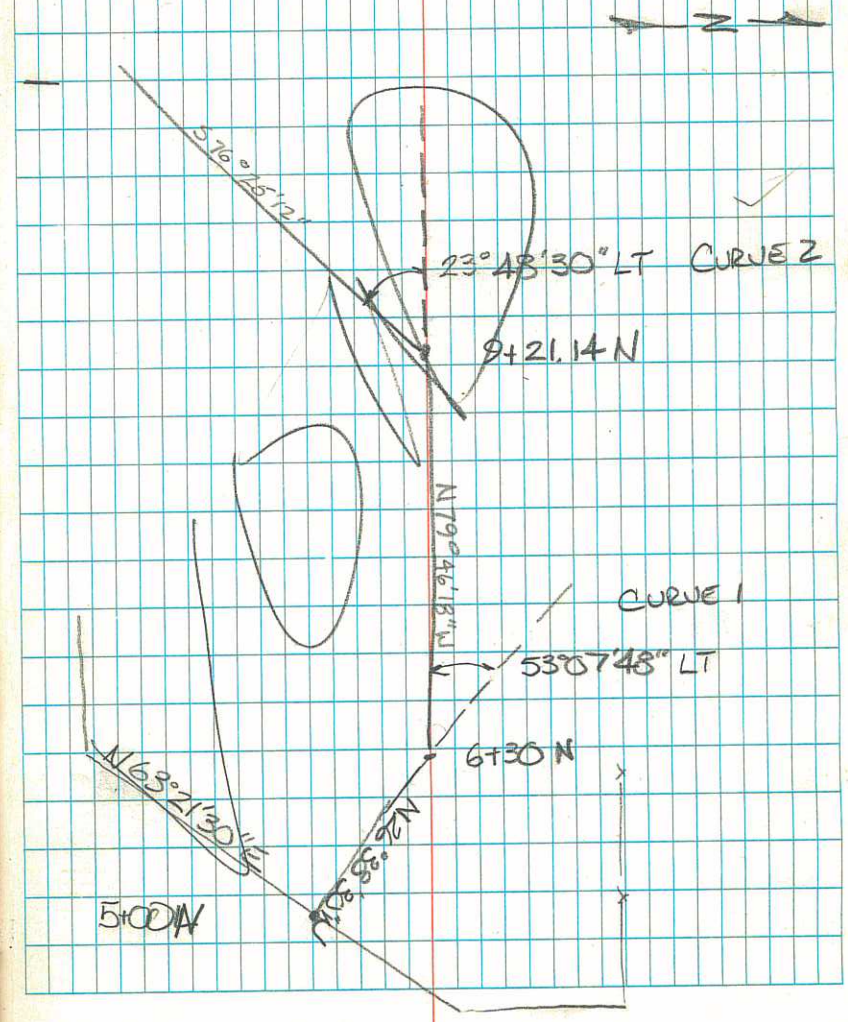


STA	to STA	SLP DIST	VERT ∠		HOR DIST	
6+30.00	9+21.14	292.14	94°44'00"		291.14	
5+00 N	6+30.00	130.84	92°21'30"		130.73	-.73

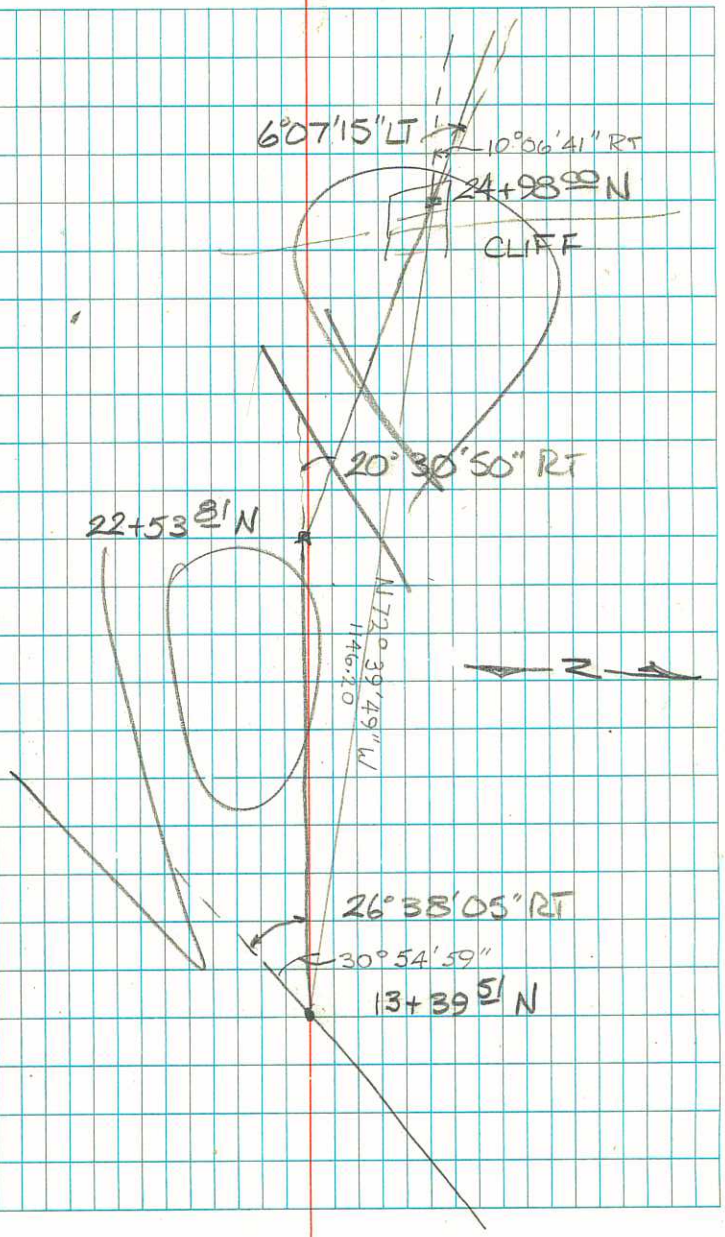
N-LINE

N & NOTES - WILLIAMS
∅ - WARD
CH. - SPAULDING

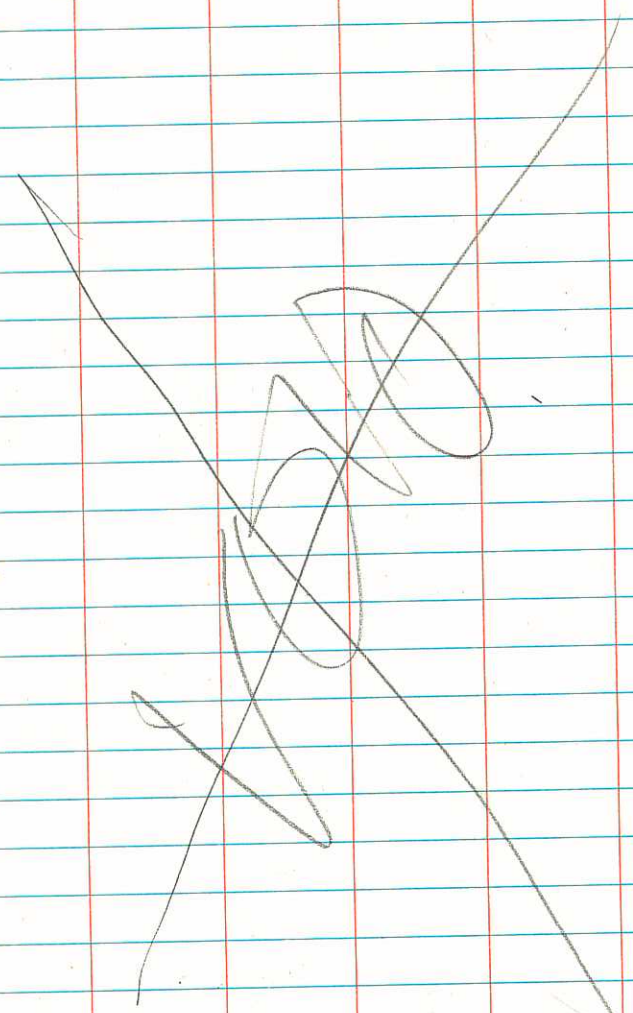
11/16/76
COOL, CLOUDY
PPM: 35

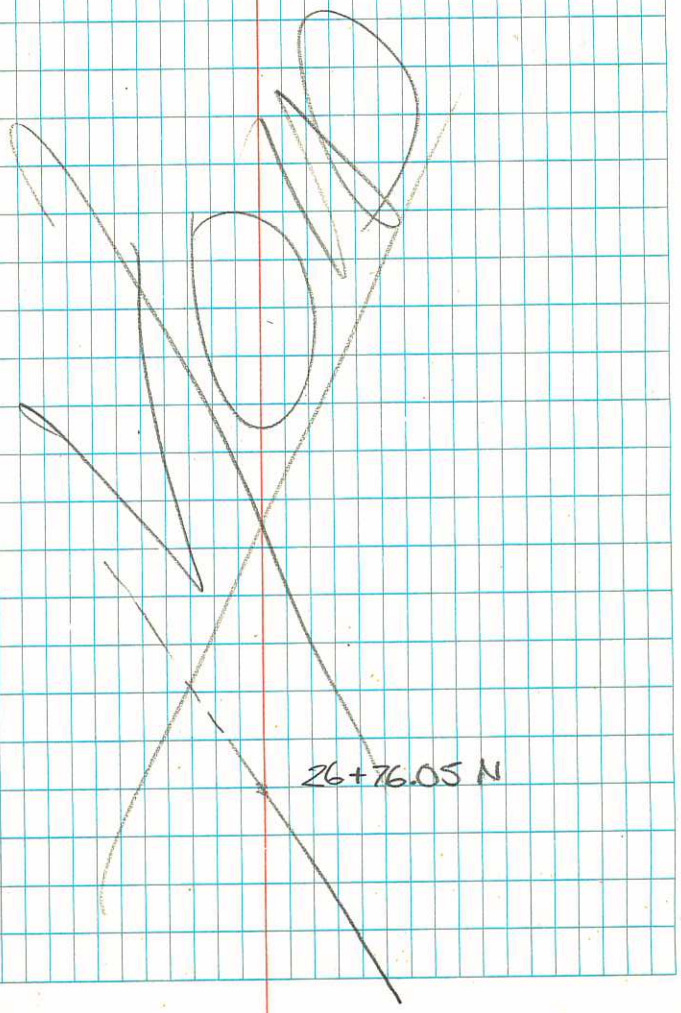


STA to STA	SLP DIST	VERT Δ	HOR. DIST
24+98.00 26+76.05	183.41	103°53'30"	178.05
22+53.81 24+98.00	244.41	92°24'30"	244.19
13+39.51 22+53.81	914.49	91°09'10"	914.30
9+21.14 13+39.51	418.64	92°03'30"	418.37



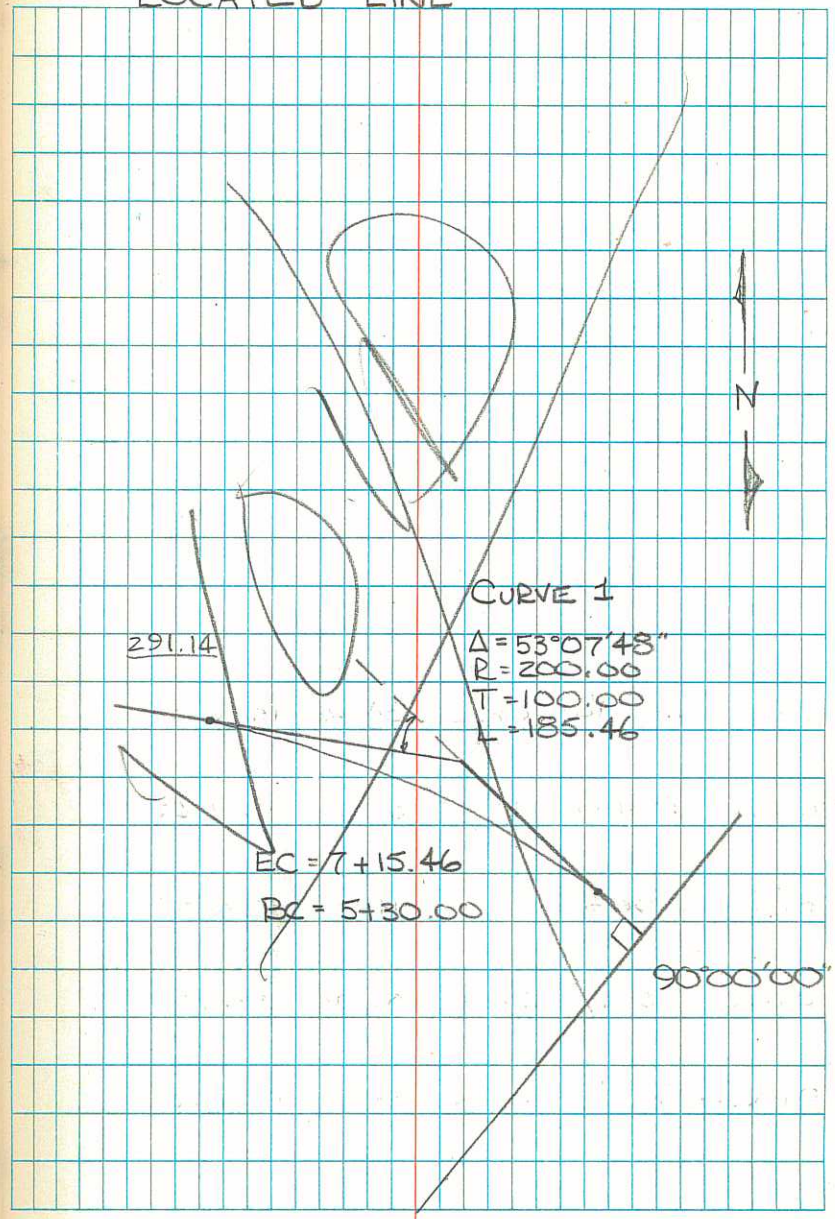
STA	to STA	SLP DIST	VERT Δ	Hor. DIST



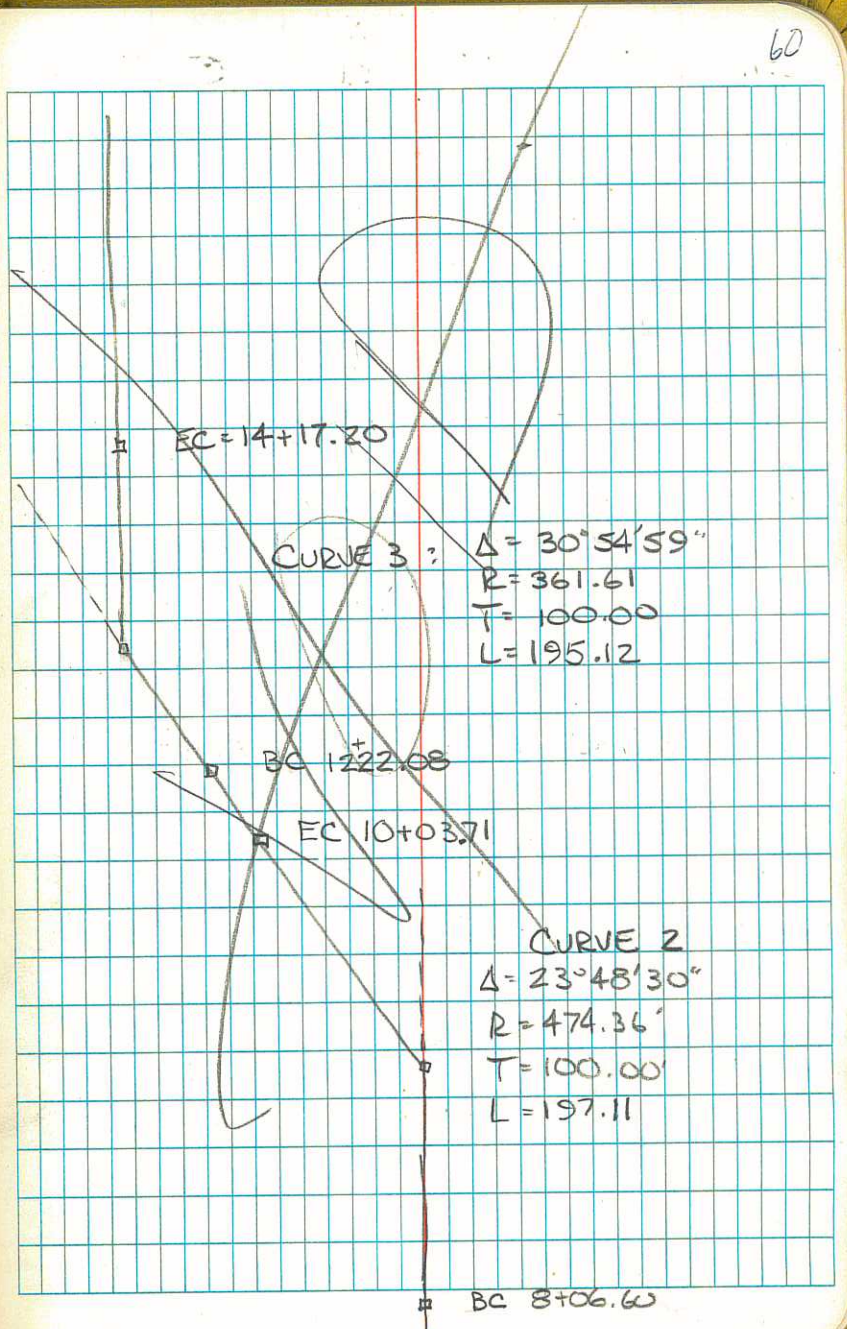


STA	Δ/2	LC'	PI Dist	Θ
7+15.46	EC 26°33'55"	178.89	100.00	126°52'12"
7+00	24°21'03"	164.93	84.56	126°27'55"
6+50	17°11'19"	118.21	37.25	110°18'33"
6+00	10°01'36"	69.64'	33.68'	21°06'08"
5+50	2°51'53"	19.99'	80.04'	0°42'55"
5+30 BC	0°00'00"	0.00	100.00	0°00'00"

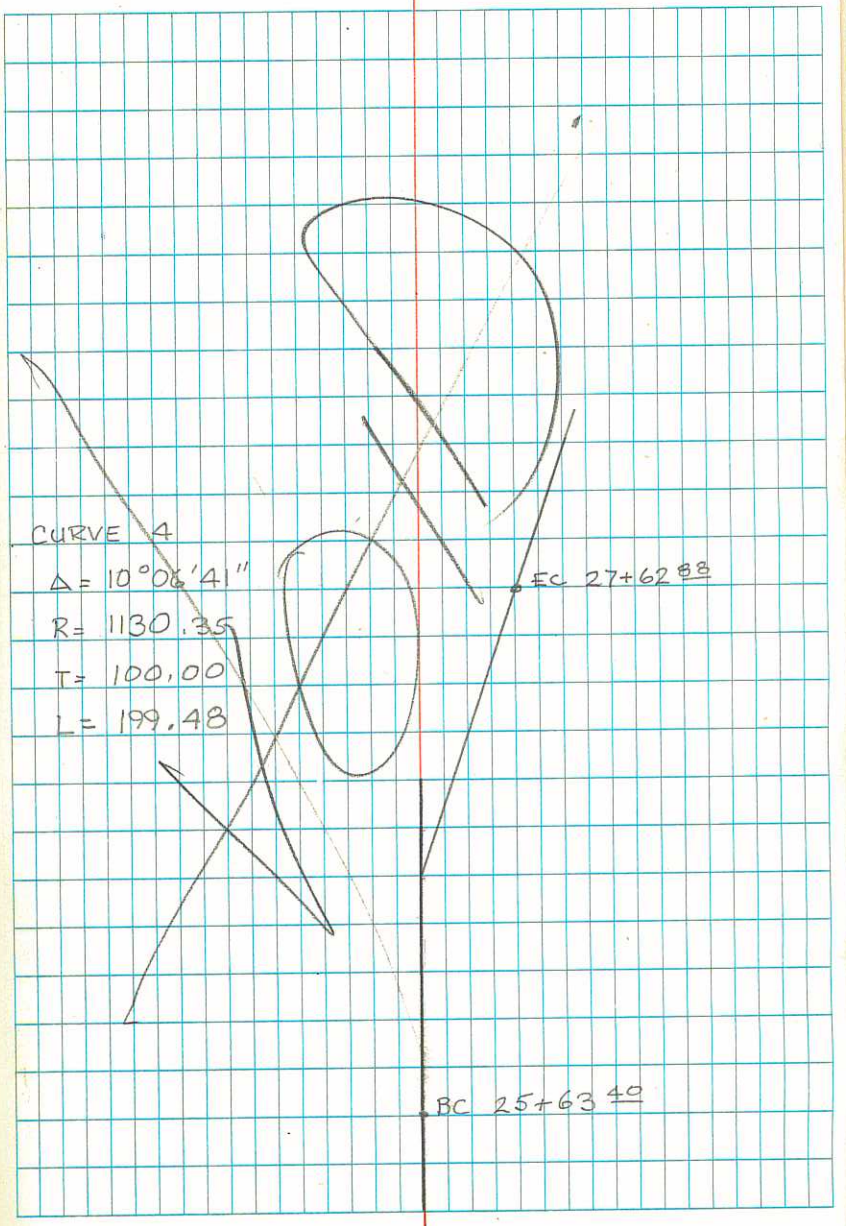
LOCATED LINE



STA	Δ/2	LC'	PI DIST.	Θ
14+17.20 EC	15°27'28"	192.76	100.00	149°05'01"
14+00	14°05'43"	176.13	82.80	148°48'02"
13+50	10°08'03"	127.25	33.76	138°27'20"
13+00	6°10'23"	77.77	24.17	20°14'20"
12+50	2°12'43"	27.91	72.12	0°51'21"
12+22.08 BC	0°00'00"	0.00	100.00	0°00'00"
10+03.71 EC	11°54'14"	195.70	100.00	156°11'30"
10+00	11°40'48"	192.06	96.29	156°10'59"
9+50	8°39'37"	142.85	46.50	152°26'45"
9+00	5°38'26"	93.25	11.66	51°50'21"
8+50	2°37'16"	43.38	56.70	2°00'19"
8+06.60 BC	0°00'00"	0.00	100.00	0°00'00"



STA	$\frac{\Delta}{2}$	LC'	PI DIST.	⊙
27+62.88 EC	5°03'21"	199.22	100.00	169°53'19"
27+50	4°43'45"	186.39	87.12	169°50'25"
27+00	3°27'43"	136.52	37.19	167°11'39"
26+50	2°11'41"	86.58	13.89	13°48'53"
26+00	0°55'39"	36.60	63.41	0°32'07"
25+63.40 BC	00°00'00"	0.00	100.00	0°00'00"



214.81

114.29

100.52

100.52

20104

5026 0

1005200

10004.27 04

111.81

223 62

2 2 3 6 2

2 ⟌ 5'00'04.27'04

4

42 ⟌ 100

84

448 ⟌ 1604

1329

233

4466 ⟌ 27527

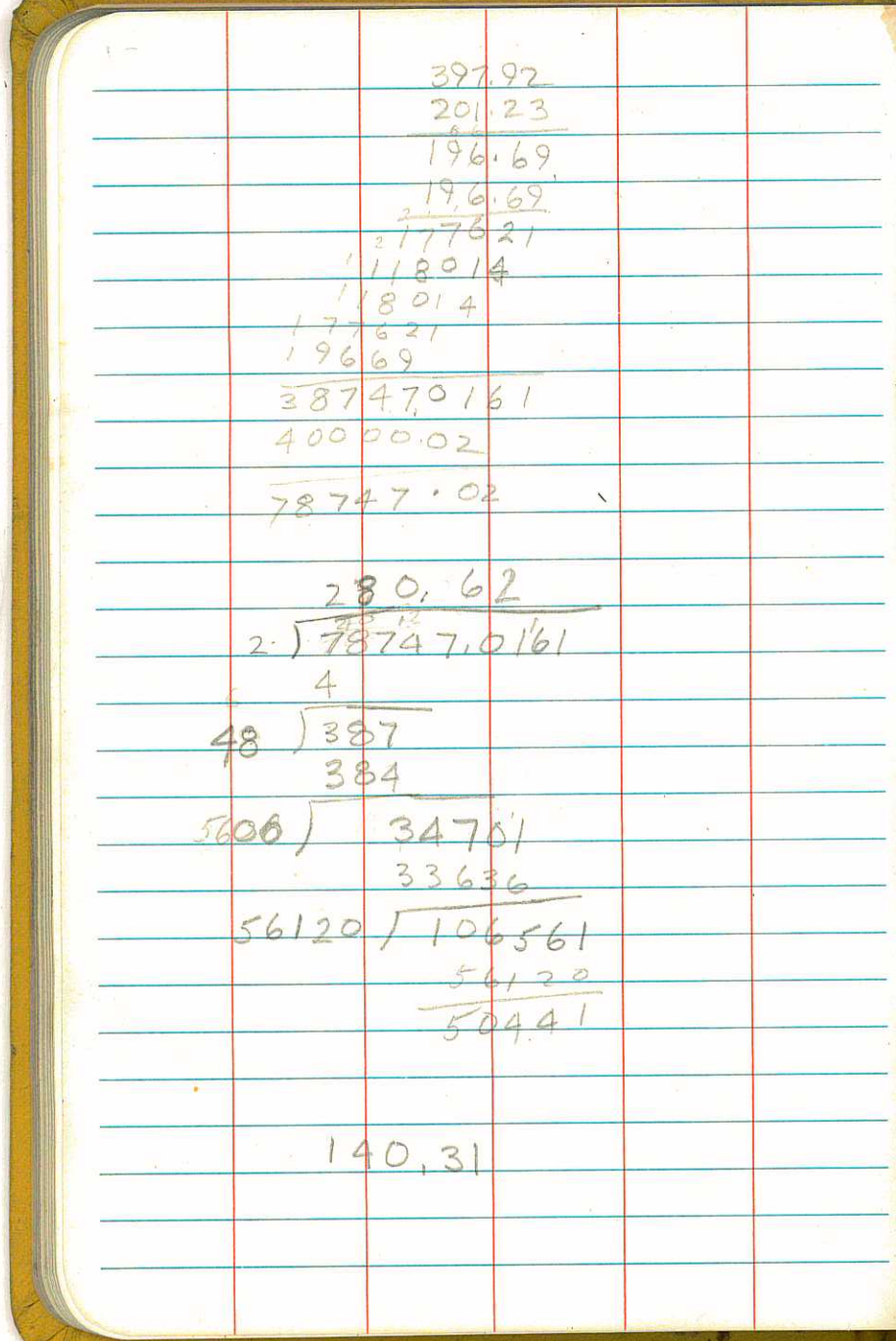
26796

44720 ⟌ 73104

44720

28384

111.81



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TABLE X. RODS IN FEET, 10THS AND 100THS OF FEET

Rods	Feet	Rods	Feet	Rods	Feet	Rods	Feet	Rods	Feet
1	16.50	21	346.50	41	676.50	61	1006.50	81	1336.50
2	33.00	22	363.00	42	693.00	62	1023.00	82	1353.00
3	49.50	23	379.50	43	709.50	63	1039.50	83	1369.50
4	66.00	24	396.00	44	726.00	64	1056.00	84	1386.00
5	82.50	25	412.50	45	742.50	65	1072.50	85	1402.50
6	99.00	26	429.00	46	759.00	66	1089.00	86	1419.00
7	115.50	27	445.50	47	775.50	67	1105.50	87	1435.50
8	132.00	28	462.00	48	792.00	68	1122.00	88	1452.00
9	148.50	29	478.50	49	808.50	69	1138.50	89	1468.50
10	165.00	30	495.00	50	825.00	70	1155.00	90	1485.00
11	181.50	31	511.50	51	841.50	71	1171.50	91	1501.50
12	198.00	32	528.00	52	858.00	72	1188.00	92	1518.00
13	214.50	33	544.50	53	874.50	73	1204.50	93	1534.50
14	231.00	34	561.00	54	891.00	74	1221.00	94	1551.00
15	247.50	35	577.50	55	907.50	75	1237.50	95	1567.50
16	264.00	36	594.00	56	924.00	76	1254.00	96	1584.00
17	280.50	37	610.50	57	940.50	77	1270.50	97	1600.50
18	297.00	38	627.00	58	957.00	78	1287.00	98	1617.00
19	313.50	39	643.50	59	973.50	79	1303.50	99	1633.50
20	330.00	40	660.00	60	990.00	80	1320.00	100	1650.00

TABLE XI. LINKS IN FEET, 10THS AND 100THS OF FEET

Links	Feet	Links	Feet	Links	Feet	Links	Feet	Links	Feet	Links	Feet
1	0.66	18	11.88	35	23.10	52	34.32	69	45.54	86	56.76
2	1.32	19	12.54	36	23.76	53	34.98	70	46.20	87	57.42
3	1.98	20	13.20	37	24.42	54	35.64	71	46.86	88	58.08
4	2.64	21	13.86	38	25.08	55	36.30	72	47.52	89	58.74
5	3.30	22	14.52	39	25.74	56	36.96	73	48.18	90	59.40
6	3.96	23	15.18	40	26.40	57	37.62	74	48.84	91	60.06
7	4.62	24	15.84	41	27.06	58	38.28	75	49.50	92	60.72
8	5.28	25	16.50	42	27.72	59	38.94	76	50.16	93	61.38
9	5.94	26	17.16	43	28.38	60	39.60	77	50.82	94	62.04
10	6.60	27	17.82	44	29.04	61	40.26	78	51.48	95	62.70
11	7.26	28	18.48	45	29.70	62	40.92	79	52.14	96	63.36
12	7.92	29	19.14	46	30.36	63	41.58	80	52.80	97	64.02
13	8.58	30	19.80	47	31.02	64	42.24	81	53.46	98	64.68
14	9.24	31	20.46	48	31.68	65	42.90	82	54.12	99	65.34
15	9.90	32	21.12	49	32.34	66	43.56	83	54.78	100	66.00
16	10.56	33	21.78	50	33.00	67	44.22	84	55.44	101	66.66
17	11.22	34	22.44	51	33.66	68	44.88	85	56.10	102	67.32

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114290000
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101.05

306.19 91°45' 306.05

300.78 94°33'40"
B60.88
300.95

256.67 91°59'00" 256.52'

941.13 89°49'30" 941.13'

277.23
274.40
2.83
2.83
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226.40
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80.089

16°03'40" RT
℄ 3417.20
LEVEL

150.14

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40008

40168

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