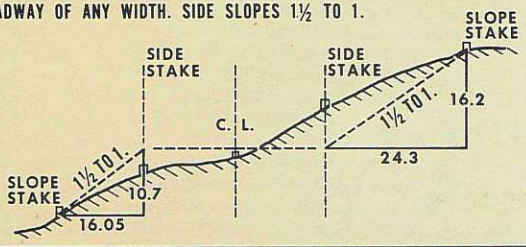
BRIDGES #2

CACHE COUNTY
BRIDGE IMPROVEMENTS
BOOK #2

D = .00000485 SR

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 Engineering Dept

Address _____

_____

Telephone _____

INDEX

15 AMALGA BRIDGE

55 slope stakes

THIS BOOK CONTAINS ONLY AMALGA BRIDGE (CR341(2)) NOTES
SEE PROJECT CR341(2) NOTES IN OTHER BOOKS
ALSO SEE CACHE CO BRIDGE IMPROVE- BOOK #1 pg. 60-61

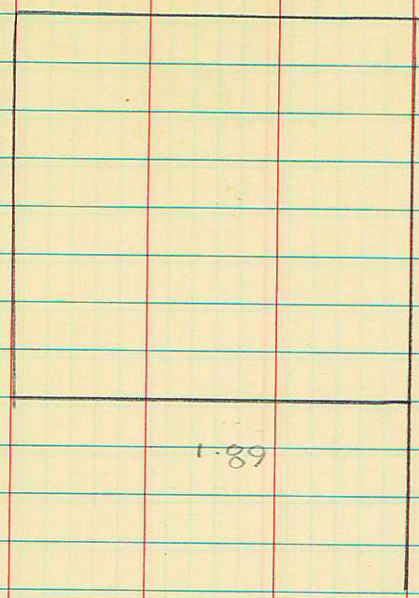
JAN. 7, 1976

COLD CLEAR
PATCHY FOG

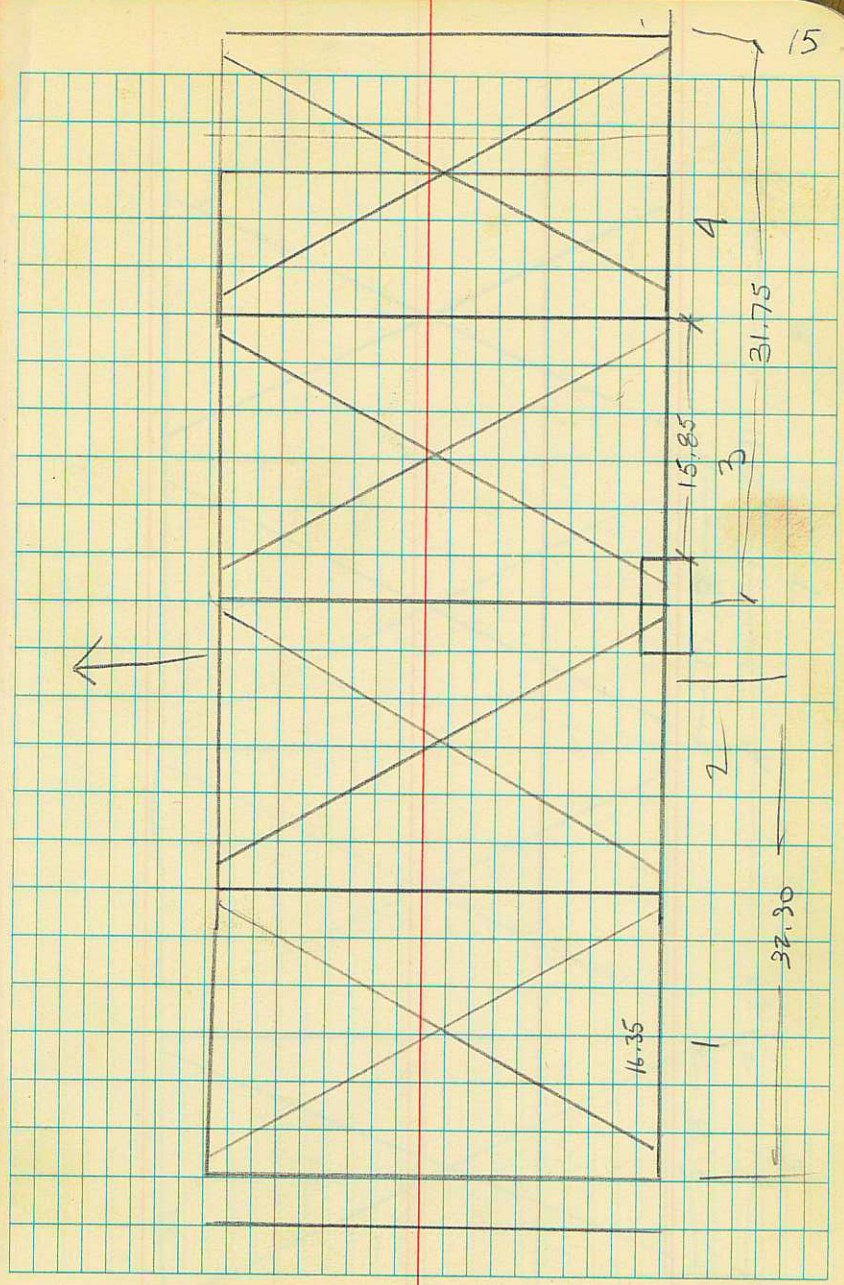
HAULED DIRT FROM LEACH LINES. HAUL BORROW FROM NORTH LOGAN PIT. BEGAN TO PLACE PIPE FOR DRIVEWAYS AT VALLEY VIEW HIGHWAY.

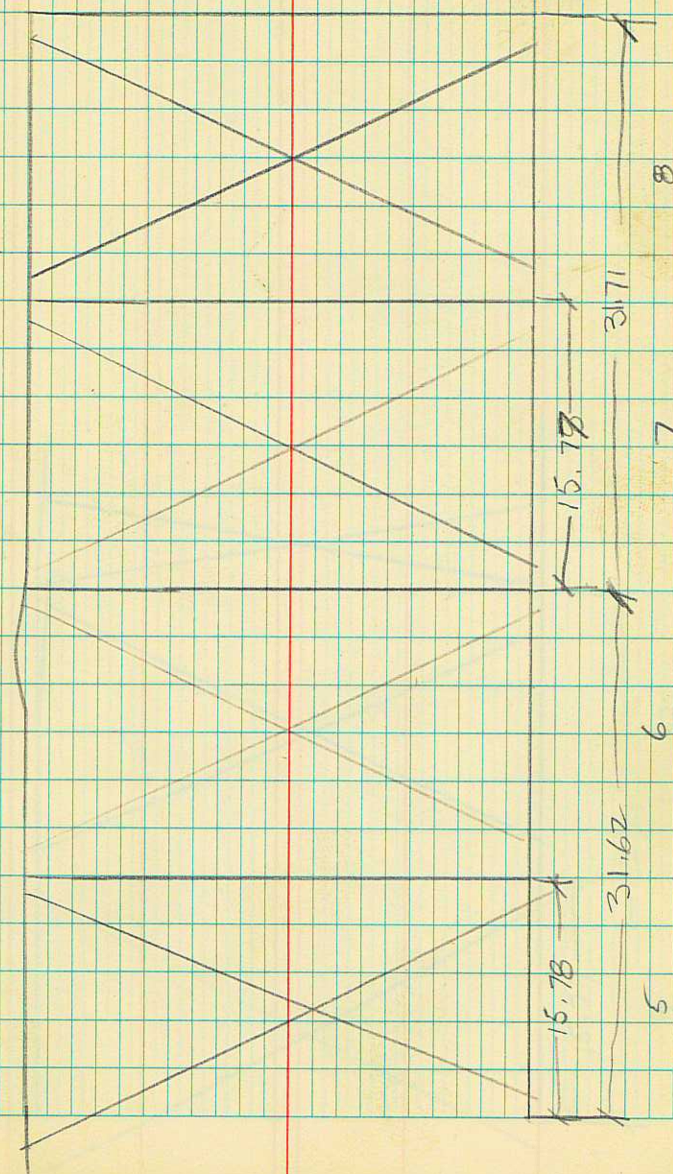
BACK HOE & OPERATOR
3 DUMP TRUCKS AND DRIVERS
1 LOADER & OPERATOR

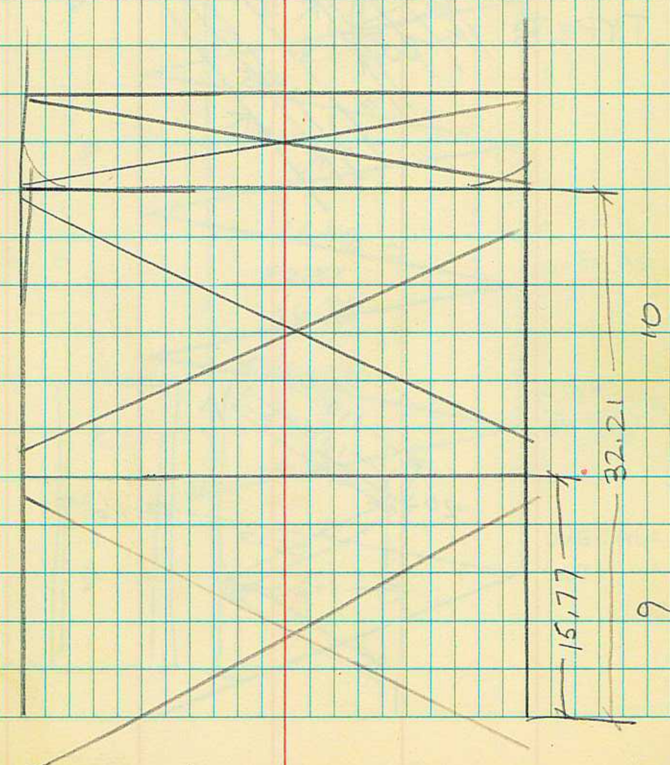
Rustan B Ward



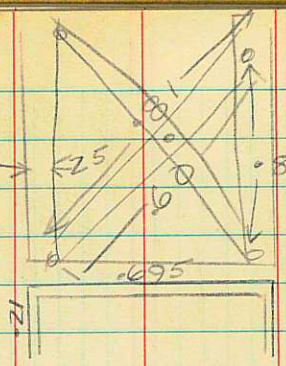
AMALGA BRIDGE
EXIST. STRUCTURE
SEE PROJECT CR341(2) BOOKS
FOR CONSTRUCTION NOTES




8
31.71
15.78
7
6
31.62
15.78
5


10
32.21
15.77
9

TYPE A



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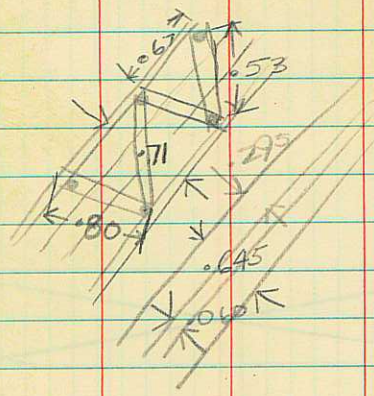

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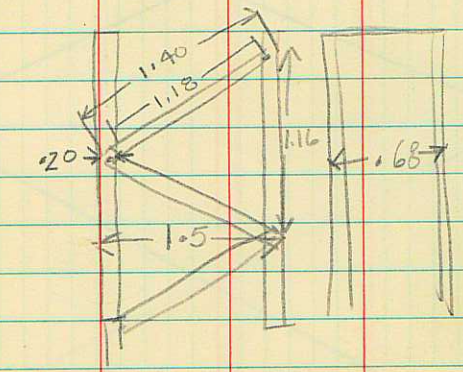
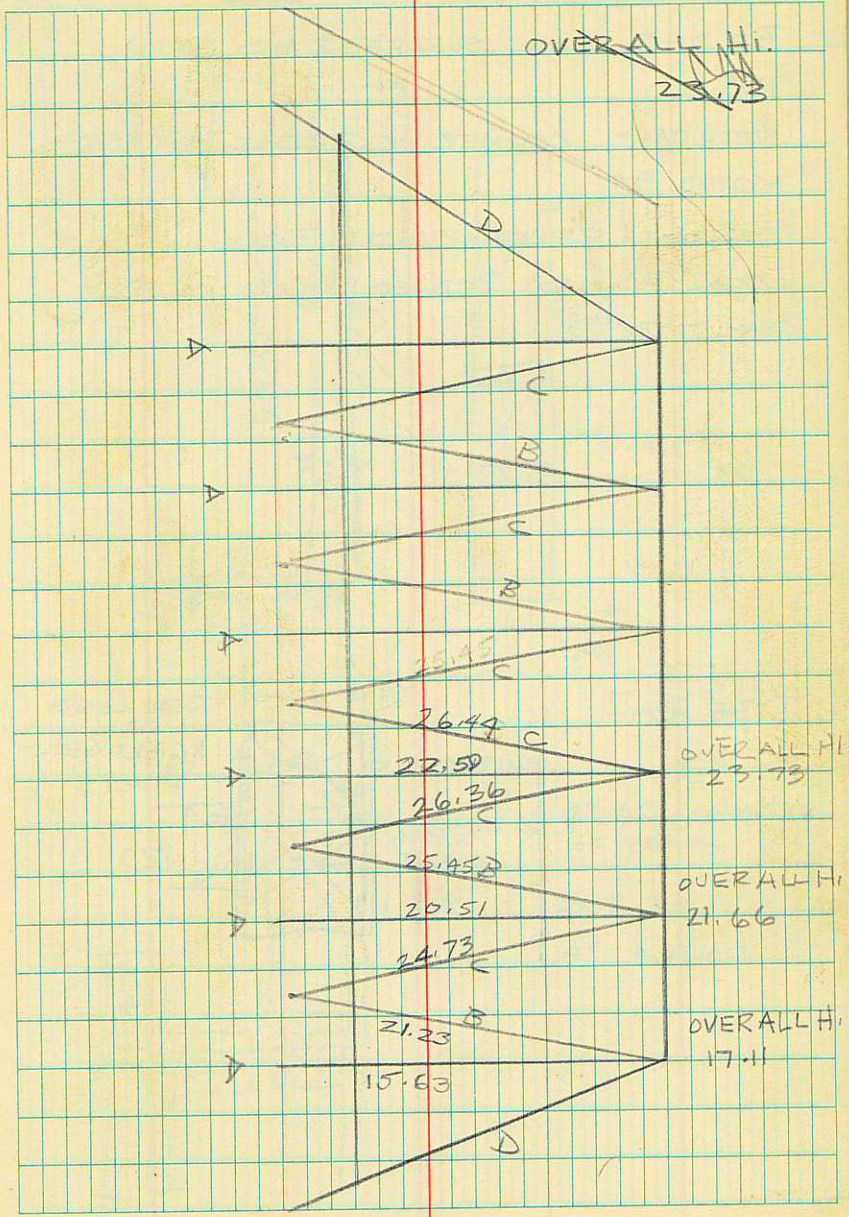
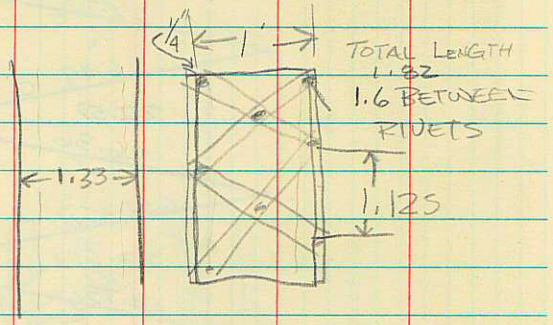
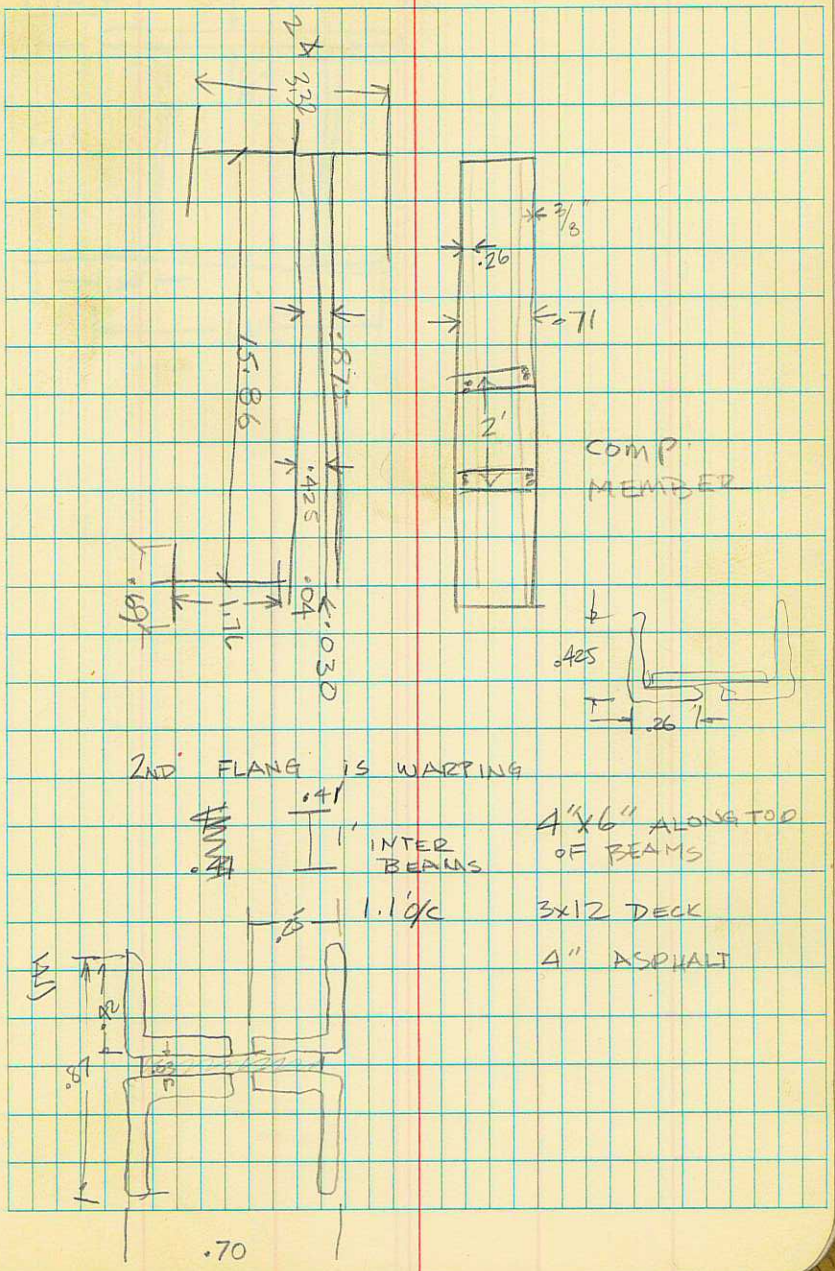




NORTH WEST CORNER OF ~~NORTH~~
BRIDGE HAS SHEARED AND MOVED
10"
NORTH EAST CORNER OF BRIDGE SHEARED
MOVED 9"
SOUTH EAST CORNER RUSTED BADLY
LOCAL BUCKLING BETWEEN RIVETS ON FRONT
BEAM TYPE D

TYPE D





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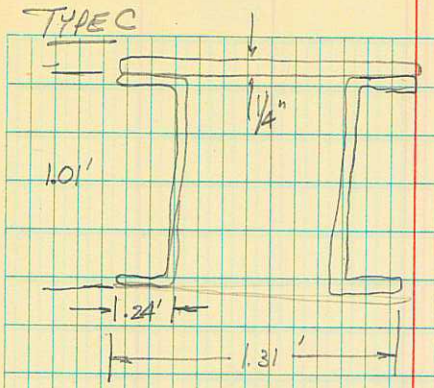


AMALGA BRIDGE
℄ PROFILE 12-21-78
P. WARD
A. HUDSON

STA	+	HI	−	ELEV
+570	162+20 ~~+50~~		0 0	22.0
+500	161+50		3 1	18.9
+400	160+50		5 5	16.5
+300	159+50		6 2	15.8
+200	158+50		5 7	16.30
+100	157+50		4 2	17.10
	4 5			4417.5

3 1 3 2 7 1
℄ 1 1 2 3
SHLD

BM NORTH END OF BRIDGE ON RD ℄

STA	+	HI	−	ELEV
~~+600~~	~~162+52~~	~~148+54~~	7 6	15.1
+500	~~161+50~~	~~149+54~~	7 4	15.3
+400	~~160+52~~	150+54	6 9	15.8
+300	~~159+50~~	151+54	6 4	16.3
+200	~~158+50~~	152+54	5 6	17.10
+100	~~157+50~~	153+51	5 1	17.6
		154+54		
	4 8			4417.~~23~~ 8

BM SOUTH END OF BRIDGE ON RD ℄

ST

CROSS SECTIONS NORTH SIDE OF BRIDGE

28 DEC 78

MANDY & KEN

ALEX

161
4+50 N

160
3+50 N

VOID

159
2+50 N

158
1+50 N

3^{6}

3^{1} ~~20.6~~ ~~21.00~~ 44 17 ^{95}

+
+
+
+
+
+

~~13.4~~ 13.0	~~17.0~~ 16.7	~~18.8~~ 18.4	~~19.1~~ 18.7	~~18.5~~ 18.1	~~14.6~~ 14.2	
7^{6}	3^{9}	2^{2}	1^{9}	2^{5}	6^{4}	
21	18	12		13	27	

11.4 ~~11.8~~	16.1 ~~16.5~~	16.6 ~~17.0~~	16.2 ~~16.6~~	12.1 ~~12.5~~	11.9 ~~12.3~~
9^{2}	4^{5}	4^{0}	4^{4}	8^{5}	8^{1}
25	13		12	24	28

VOID

11.9 ~~12.3~~	15.9 ~~16.3~~	16.2 ~~16.6~~	15.9 ~~16.3~~	11.6 ~~12.0~~	11.2 ~~11.6~~
8^{1}	4^{1}	4^{4}	4^{1}	9^{0}	9^{4}
26	12		12	23	24

12.1 ~~12.5~~	12.2 ~~12.6~~	16.7 ~~17.1~~	17.0 ~~17.4~~	16.6 ~~17.0~~	14.0 ~~14.4~~
8^{5}	8^{4}	3^{9}	3^{6}	4^{0}	6^{6}
30	26	13		11	32
RW					RW

STA.	+	HI	—	ELEV.
3+00	159+47.30			
2+50	158+97.30			
2+00	158+47.30			
1+73	℄ OF DRIVEWAY ON EAST			
1+50	157+97.30			
BRIDGE	158+47.30 ~~157+~~			
	361		21.11	

HUDSON 1-2-79

WARD CLOUDY - 5

10.8 11.1 14.7 15.4 15.8 15.4 14.1 10.9 10.9 12.5

10³ 10⁰ 6¼ 5 1 5 3 5 1 7⁰ 10³ 10⅞ 8⅝

31 27 17 14 13 17 24 27 31

10.8 11.1 11.9 15.3 15.6 15.8 15.5 15.0 10.8 10.6

10³ 10⁰ 9½ 5⅞ 5⅝ 5 3 5⅝ 6 1 10³ 10⅝

31 28 25 17 15 11 14 25 27

11.5 11.5 12.2 15.8 16.0 16.7 15.9 11.0 10.7 12.11 12.4

9⅝ 9⅝ 8⅞ 5 3 5 1 4⅞ 5 3 10¼ 10½ 9⅝ 8 7

31 27 24 17 14 13 24 26 30 34

12.7 11.9 11.0 16.4 16.6 16.5 16.5 11.6 10.8 12.4

8¼ 9½ 5 1 4 7 4 5 4⅝ 4⅝ 9⅝ 10³ 8 7

31 24 15 13 10 13 24 26 29

N

	161+97.30			
5+50	DRIVEWAY ON EAST			
TURN	6 53	25.57	2 07	19.04
5+00	161+47.3			
4+90	ONE LANE BRIDGE SIGN	15' LT OF ℄		
4+50	160+97.3			
	160+47.30			
4+00	℄ DRIVEWAY ON WEST			
3+50	159+97.30			

10.07 12.4 11.2 19.4 20.2 20.5 20.1 21.2 23.0

15 5/31 13 3/25 8 4/20 6 2/16 5 4/10 5 1/ 5 5/12 4 4/34 2 6/65

GAS PIPE SIGN

11.0 11.1 TURN 12.1 16.2 17.8 18.4 18.7 18.1 16.7 14.4 13.5 15.3

10'/33 10°/29 9°/24 4 9/19 3 3/15 2 7/12 2 4/ 3°/14 4 4/19 6 1/26 7 6/28 5 8/32

11.8 14.8 16.1 16.9 17.3 16.8 15.2 12.0

9 3/24 6 3/20 5°/17 4 2/13 3 8/ 4 3/14 5 9/20 9°/28

12.5 15.6 16.0 16.4 16.1 15.1 11.4 11.0 12.2

8°/32 5 5/17 5 1/12 4 7/ 5°/13 6°/17 9 7/25 10'/28 8 3/31

10.5 10.7 15.1 15.6 16.0 15.4 14.0 11.7 11.5 11.7

10 1/31 10 4/27 6°/17 5 5/14 5 1/ 5 7/13 7 1/16 9 4/21 9 6/25 9 4/27

N

6+00 162+47.3

~~8~~. 10.0	12.0	14.0	18.2	20.9	22.3	22.5	22.8	22.5	21.4	17.8	18.1
$15^{\underline{6}}$	$13^{\underline{6}}$	$11^{\underline{6}}$	$7^{\underline{4}}$	$4^{\underline{7}}$	$3^{\underline{3}}$	$3^{\underline{1}}$	$2^{\underline{8}}$	$3^{\underline{1}}$	$4^{\underline{2}}$	$7^{\underline{8}}$	$7^{\underline{5}}$
31	27	25	20	17	14	11		12	17	25	31

6 APRIL 79 — AMAGA BRIDGE

HUDSON

WARD

	TEMP.	SLOPE GR¢	STAKES NORTH SIDE SHLD
156+47.3		2⁰	3⁷
157+00		GR¢ 2⁵	3⁶
158+00	3¹		
153+75	3²	1⁶	2⁰/18
	3⁹	1⁶	2⁸/22⁵

F 3⁰

F 6 4 — w/ 6:1 SHLDR

32 4

9 6

8 1

12 ½ w/o SHLD

F 5⁷

7 6

11 4 — NO. 6:1

29 4

7 3 — YES

11 0 — 6:1

33 8

754.82

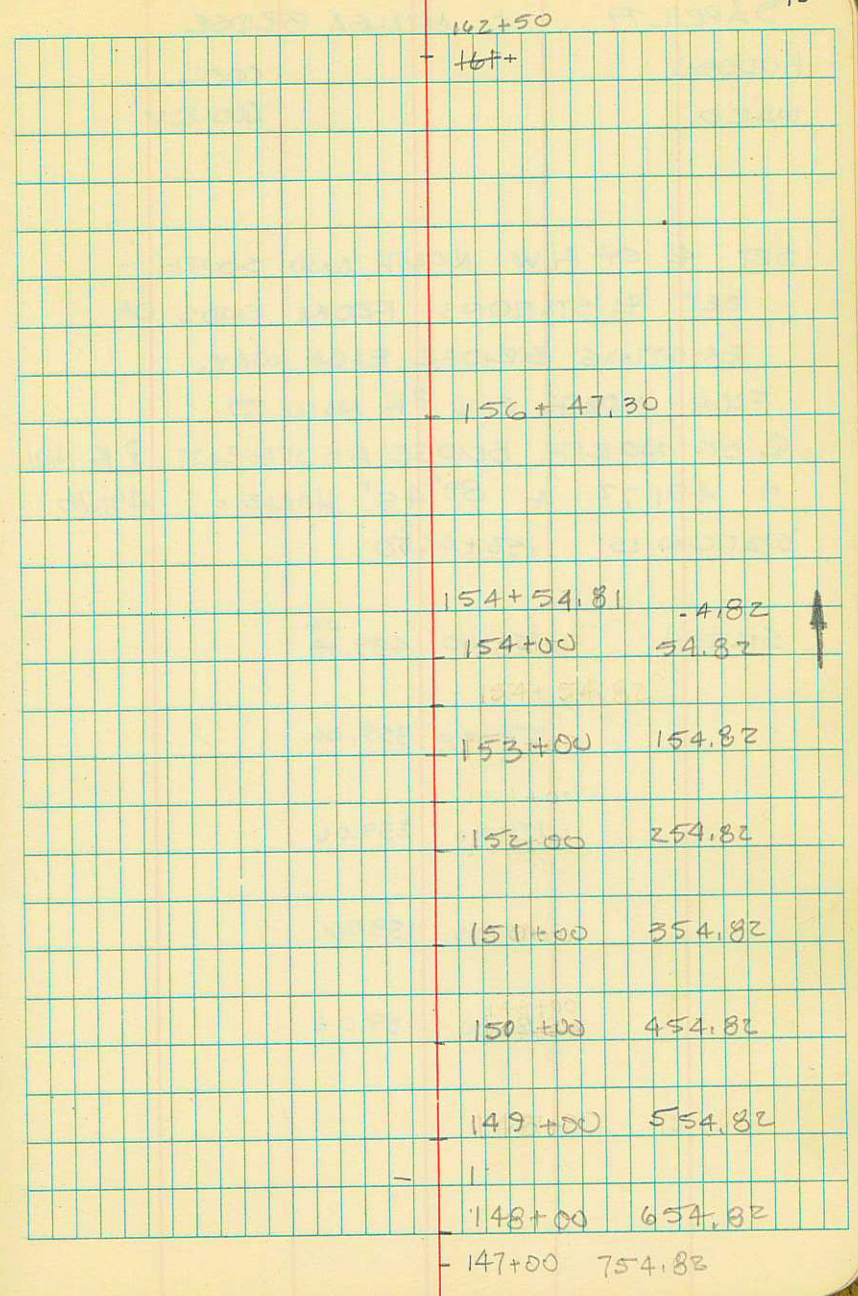
9 APRIL 79 — SETTING ℄ & STATIONING

HUDSON-WARD - — AMALGA BRIDGE.

SET UP ON PK NAIL ON SOUTH END OF BRIDGE BS ON PK NAIL ON NORTH END AND SET STATION 147+00 FROM STATION 154+ 54.82.

SET UP ON STATION 147+00 AND SET STATIONS TO HS 162+50

SET AT POINT 749.42' ℄ SOUTH FROM SOUTH END OF BRIDGE. PUT IN ANGLE POINT TURNED ∠ OF (0° 17' 15" (R)) SET STATIONING FROM THIS POINT TO BRIDGE.



9 APR 79 ℄ ANALGA BRIDGE

HUDSON COOL

WARD CLOUDY

SET ℄ OF R/W NORTH AND SOUTH -
SET ℄ STATIONS FROM ENDS OF
EXISTING BRIDGE EACH WAY.
FROM NORTH END PK NAIL TO
℄ OF NORTH BRIDGE ABUTMENT PK NAIL
IS 491.77 ∠ 89°45' HORIZ = 491.76
STATION IS 156+47.30

STATION	157+00	439.06
	158+00	339.06
	159+00	239.06
	160+00	139.06
	161+00	39.06

AMALGA BRIDGE

SETTING BM — 30 APRIL

HUDSON P.C. — WARM, CLEAR

WARD ⊼ — N i 2

BM BROUGHT DOWN FROM USGS BY WILLIAMS & WARD NAIL IN POWER POLE TO SOUTH OF BRIDGE 4415.94 (MISC SURVEY 5/20/76 P 41)

STATION	B.S.	HI	FS		ELEV
BM AT ~~ON~~ BASE OF 9TH POST EAST ON PRIVATE DRIVE			7^{15}	~~7^{15}~~	13.06
BM - RR SPIKE IN P.P NORTH OF BRIDGE			3^{64}		16.57
			~~3^{64}~~		~~16.57~~
BM IN FENCE POST ON N.E SIDE - NAIL 200' N OF B.			5^{81}		14.40
TP NORTH	2^{79}	20.21	~~4^{41}~~	4^{41}	17.42
NEW BM IN NEXT P.P SOUTH			8^{59}		13.24
SO END BRIDGE ℄			3^{85}		17.98
BM	5^{89}	21.83			4415.94

9TH POST EAST OF ROAD ON PRIVATE DRIVE 2" PIPE ON NORTH SIDE OF POST 4413.06

FIRST POWER POLE NORTH OF BRIDGE - RR SPIKE 4416.57

14.404 AS IN MISC SURVEY 5/20/76 P 41

NAIL IN FENCE POST ON ~~N~~ EAST SIDE OF ROAD 4414.40

IN SECOND POWER POLE FROM SOUTH END RR SPIKE 4413.24

	B.S.	HI	FS		
NEW B.M. IN SEC. P. POLE SOUTH			8 80		13.23
OLD B.M. IN P. POLE SO OF BRIDGE		22.03	6 10		15.93
TP ON NORTH POST OF EXISTING G.R.	2 88	20.21	1 05	19.15	

13.24

15.94

Sta	+	HI	−	Grade Elevation	Grade rod
150+50		20^{0}	4^{0} 16^{0}	4417.65	2^{5} 2^{3} 2^{5} / 11 0 11
		SUB-BASE ROD		8.72	8.92 SHLD
150 —				16.60	3^{6} 3^{4} 3^{6}
		SUB-BASE ROD		9.77	9.97 SHLD
149+50		20^{0}	4^{3} 15^{5}	15.79	4^{4} 4^{2} 4^{4}
		SUB BASE ROD		10.58	10.78 SHLD
149 —			4^{2} / 15^{3}	15.22	
148+50		19.95	4^{8} 15^{3}	4414.90	11 0 11
TP		19.95			
BM	+4.28	15.67	5.40	15.67	
ON SOUTH END OF PROJECT RR.S. ON TP	7.83	21.07		4413.24	

RP	Lt	℄	Rt	RP
	4^{5} F 2^{0} 18^{5}	2^{3} F 1^{2}	5^{2} F 2^{7} 16^{4}	
	4^{9} F 1^{3} 13^{6}	4^{3} F 0^{9}	5^{3} F 1^{7} 14^{4}	
	F 0^{7} 13^{8}	0^{3}	F 0^{9} 13^{9}	

SUB-BASE
BM 4413.24
HI + 12.38 = 25.62

Sta	+	HI	-	Grade Elevat	Grade Rod
					0^8 0^5 0^8
153+50		22^2		4421.72	17 0 17
		SUB-BASE ROD		4.65	4.99 SHLD
					0^9 0^6 0^9
153~		22^2	4^7	21.60	15.7 15.7
		SUB-BASE ROD		4.77	5.09 SHLD
					1^3 1^0 1^3
152+50		22^2	4^7 17^3	21.22	14.2 14.2
		SUB-BASE ROD		5.15	5.43 SHLD
BM					
					1^9 1^6 1^9
152~		22^2	5^3 16.9	20.60	12.7 12.7
		SUB-BASE ROD		5.77	6.03 SHLD
					2^6 2^4 2^6
151+50		22^2	5^2 16^5	19.19	11.2 11.2
		SUB-BASE ROD		6.58	6.78
TP	5^{98}	21^8	3^{78}	16	
					1^4 1^2 1^4
161~		20	3 16^2	4418.80	11 0 11
		SUB-BASE ROD		7.57	7.77 SHLD

RP	Lt	℄	Rt	RP
	F 11^0 / 33^5 / $1\frac{1}{2}:1$	F 3^9	F 11^7 / 34^3 $1\frac{1}{2}:1$	
	F 11^0 / 32^3 / $1\frac{1}{2}:1$	F 4^1	F 10^8 / 31^9 / $1\frac{1}{2}:1$	F 12^0 / 33^7 / $1\frac{1}{2}:1$
F 9.9 / 29' / $1\frac{1}{2}:1$	~~F 14 / 29 / $1\frac{1}{2}:1$~~	F 3^9	F 10^3 / 29^7 / $1\frac{1}{2}:1$	F 12^0 / 32^0 / $1\frac{1}{2}:1$
2:1	F 10^9 / 32^7	4^2 / F 3^5 / 5^2	F 10^9 / 32^4 / $1\frac{3}{4}:1$	
	6^7 / F 4^1 / 19^4 / 2:1	5^1 / F 3^3 / 2:1	6^6 F 4^0 / 19^2	
	4^6 / F 3^2 / 17^4 / 2:1	1^2 / F 2^9 / 2:1	4^8 / F 3^4 / 17^8	

Sta	+	HI	−	Elev Grade	Grade Rod
					2.3 2.0 2.3
157+50		22.4	5.1	20.42	16.2 0 16.2
		SUB-BASE ROD 3.03			3.35 SHLD
					1.6 1.9
157 ~		22.4	4.7	20.84	17 0 17
		SUB-BASE ROD ~~5.65~~ 2.61			2.95 SHLD
156+50		22.4	4.7	21.00	2.7 2.4 2.7
		SUB-BASE ROD ~~5.47~~			2.3 SHLD
					1.4 1.3
156+23		22.4		21.07	17 0 17
		SUB-BASE ROD		~~5.47~~	SHLD
BM		5.78 22.4		16.57	
Bridge		HI NORTH SIDE			
		BM EL ~~4417.42~~ 14.40 ROD 8.30 HI			~~25.72~~ 22.70
BM			6.20	15.99	0.7 1.0
154+43		22.2	4.2	21.52	17 0 17
					0.9 0.4 0.9 (6)
154 ~		22.2	4.0	4421.63	17 0 17
		SUB-BASE ROD 4.74 3/4			5.08 SHLD

BP	At	℄	Bk	BP
9.8		F3.1		6.8
F7.5				F4.2 23.9 (+45)
26.5 1½:1				1½:1
F8.0		F3.1		F8.4
29.0				29.6
1½:1				1½:1
F6.9		F2.3		F8.9
27.3				30.3
1½:1				1½:1
		1.3		10.1
		F3.2		F9.4
				31.1
				1½:1
9.5				
F8.2		F3.5		
29.9 29.3				
1½:1				
F11.0		F3.4		F9.5
33.5				31.3
1½:1				1½:1

Sta	+	HI	−	Elev Grade	Grade Rod
					4.6 4.4 4.6
161		22.4	4.0	4417.99	11 0 11
		SUB-BASE ROD		5.46	5.68 SHLD
					5.1 4.9 5.1
160+50		22.4	5.7	17.43	
		SUB-BASE ROD		6.02	6.24 SHLD
			17.6	11.6	
160+00		22.4	6.1	17.28	5.1 5.3
		SUB-BASE ROD		6.17	6.39 SHLD
					5.1 4.9 5.1
159+50		22.4	6.4	17.51	11. 0 11
		SUB-BASE ROD		5.94	6.14 SHLD
BM		22.40	7.95		4.7 4.4 4.7
159+00 ~~158+50~~					~~4 4 4~~ ~~3 3 3~~
~~159~~		22.4	5.6	18.01	13.2 0 13.2
		SUB-BASE ROD		5.44	5.70 SHLD
					2.1 3.0
158+00		22.4	5.5	4419.71	14.7 0 14.7
		SUB-BASE ROD		3.74	4.04 SHLD

3.22

RP Lt ℄ Rt RP

F0.5 12.0 — F0.4 — F1.0 13.0 (5.6)

F1.9 13.2 — F 6.6 — 7.2 F2.1 15.2

6.6 F1.3 13.6 — F1.0 — 10.8 F5.5 22.9

7.1 F2.0 15.0 — F1.5 — 11.3 F6.2 23.4 2:1

~~11.0~~ 9.9 — 5.9 F2.50 — ~~11.8~~ 11.8

F7.3 27.8 2:1 — F5.2 23.4 — ~~F7.3~~ 27.3 2:1 — F7.1 27.4 2:1

10.6 F7.6 29.9 — F2.3 — 9.7 F6.7 28.9 2:1

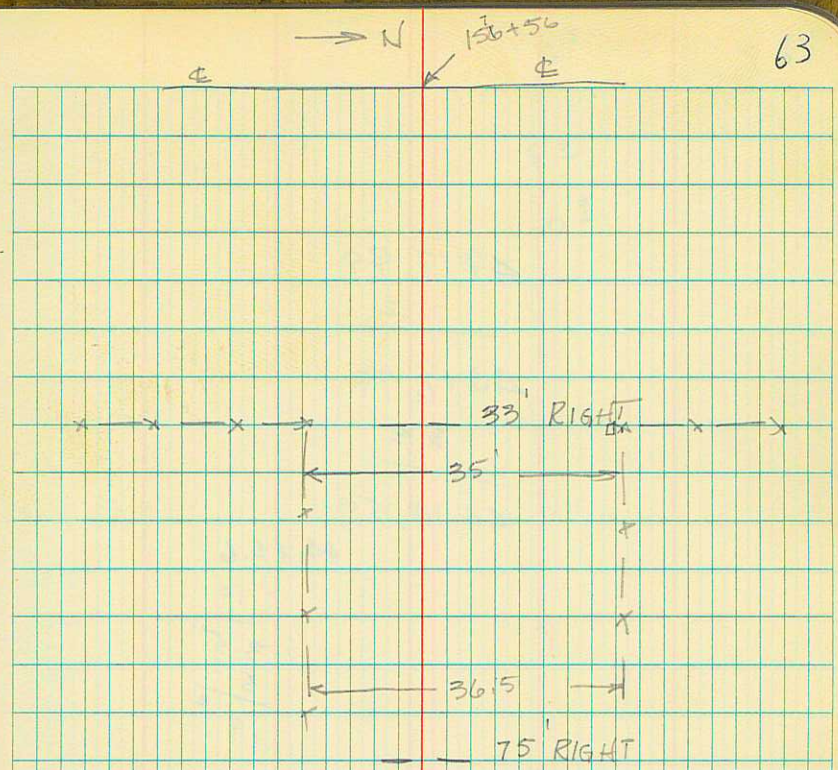
157+56	℄ OF APPROACH				
					$3^{9}\ 3^{6}\ 3^{9}$
158+50		22^{4}	5^{4}	18.77	14 0 14
				18.37	
	SUB-BASE ROD			4.68	4.90 SHLD
161+75	Join				
BM		22^{4}	7 6996	14 0^{4}	
161+50		22^{4}	3^{3}	4418.96	$3^{4}\ 3^{6}$ 11 0 11
	SUB-BASE ROD			4.49	4.71 SHLD

11^{9}
F 7^{1}
28^{2}
2:1

2^{3}
F 7^{8}

F 7^{1}
28^{2}
2:1

+ 75		$22\frac{1}{}$			
+					
+ 33			$5\frac{5}{}$	3	$3\frac{1}{}$
℄		$22\frac{1}{}$	5^{1}		



4417.99
- .2

4417.79
3 $\frac{2}{}$

4414.59
4414.6
- .9

13.5
5 $\frac{7}{}$
2

19

6^{7}

5^{8}

0^{9}

29 MAY 79 ANAKGA BRIDGE

HUDSON PC COOL, CLEAR

WARD T

SET INST. ON PK NAIL AT 148+05.45

F.S. ON PK NAIL AT 161+37 THEN

1. SET PK ON LINE ON SOUTH ABUT OF EXISTING BRIDGE. & MEAS. DISTANCE

2. SET ℄ STATION 154+00 & 153+00 WITH AT AUTO RANGER

3 SET PT 180'0" NORTH OF SO. ABUT NEW FOR NORTH ABUTMENT

4. SET PK ON LINE AT NEW ABUT SO.

① DISTANCE -

147+05.45 ~~148+00~~ - So. ABUT 749.36 89°49' 749.36

So. ABUT STAT = 154+54.81

④ NEW ABUT 154+43.00 = 11.81' SO OF OLD ABUT

DIST. FROM INST TO NEW ABUT. = 737.55 ✓

② DIST. FROM INST TO 154+00.00 =

154+54.81 - 154+00.00 = 54.81'

749.36 - 54.81 = 694.55

MEASURED 694.56 89°48' = 694.56

FOR STA 153+00.00 NEED 594.55

MEAS. 594.55

179.95 89.975

BRIDGE ABUTMENTS CONT.

(3) SET POINT ON LINE 180.00' NORTH OF NEW SO ABUTMENT.

SO ABUT. = 154 + 43.00

NO ABUT. = 156 + 23.00

180.00'

DIST. FROM INST TO SO ABUT. = 737.55

180.00

DIST FROM INST TO NORTH ABUT = 917.55

II

SET INST ON 161+33.09 F5 ON 147+05.45

TAKE DISTANCE AT 154+43.00 AND 156+23.00

695.88 90° 06' 695.88

180.00

TO NORTH ABUT. SHOULD READ = 515.88 ✓

TO STATION 157+00.00 SHOULD READ 438.88

TO STATION 158+00 MEAS. SHOULD READ 338.88

338.88 90° 22'

BRIDGE ABUTMENT RPS

CENTER PIER

~~NORTH~~ SIDE

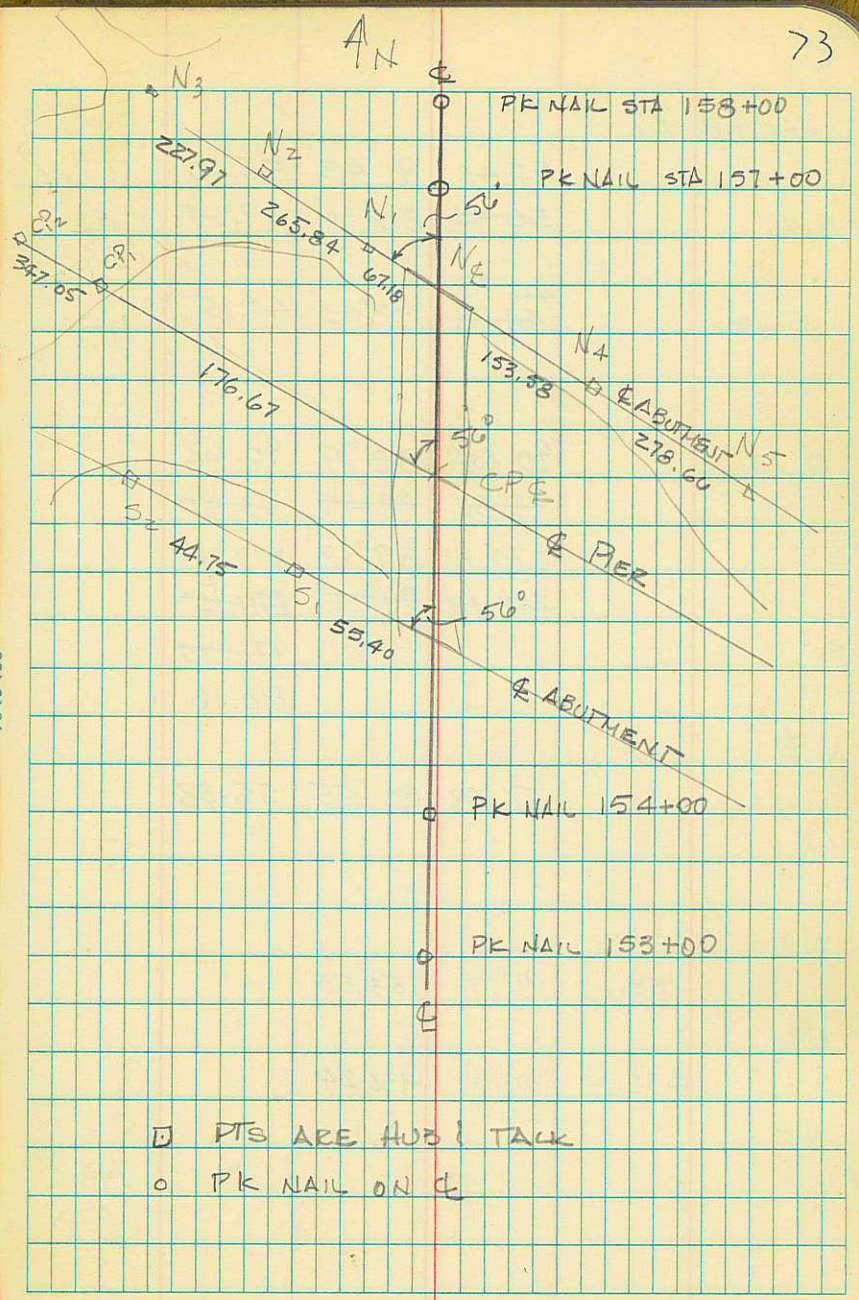
INST ON ~~A_1~~	CP_1			
TO ~~A_1~~ $\mathcal{L}$	$CP_{\mathcal{L}}$	176.83	87°35'	176.67
TO ~~N_2~~	CP_2	347.05	89°43'	347.05

NORTH SIDE

INST ON N_1			
TO N_3	493.81	89°47'	493.81
TO N_2	265.85	89°37	265.84
TO N_6	109.54	88°11	109.49
TO $N_{\mathcal{L}}$	67.66	83°11	67.18

FROM N_6 TO CP_1 = 90.02 TAPED

FROM $CP_{\mathcal{L}}$ TO $N_{\mathcal{L}}$ = ~~89.~~ 90.03 TAPED



INST ON	S_1				
		55.43	91 43	55.40	
S ℄		~~50.34~~	80°31'	49.65	17.52
		~~44.78~~			
SOUTH 2		44.78	92°03'	44.75	
		90.68	88°19'	90.62	
N_7		~~93.32~~	~~88°41'~~	~~93.30~~	
PT		270.80	89°19'	270.78	
		~~270.17~~	~~89°25'~~	~~270.15~~	
S_1				~~176.85~~	
				180.16	
N ℄					
		56.08	80°55	55.38	
N_7					
N4					
	153.62	91°17'	153.58		
N ℄					
	432.24	90°10'	432.24		
N5					

30 MAY 79

HUDSON PC | COOL, P. CLOUDY

WARD K

BRIDGE R.P. ELEVATIONS

S_2			6 28	~~6~~ 7 12.09		
TP	5 17	18.37	4 43	13.20		
S_1			4 43	13.20		
~~7~~						
BM	1 69	17.63		15.94		RR SPIKE IN FIRST P.P. SOUTH
/						
CP_1			4 79	13.63		
N_2			6 81	11.61		
N_6			5 08	13.34		
N_1			5 44	12.98		
BM	1 85	18.42		16.57		RR SPIKE IN P.P. NORTH OF BRIDGE

TYING LINE TO MERIDIAN LINE

30 MAY 79

HUDSON PC.

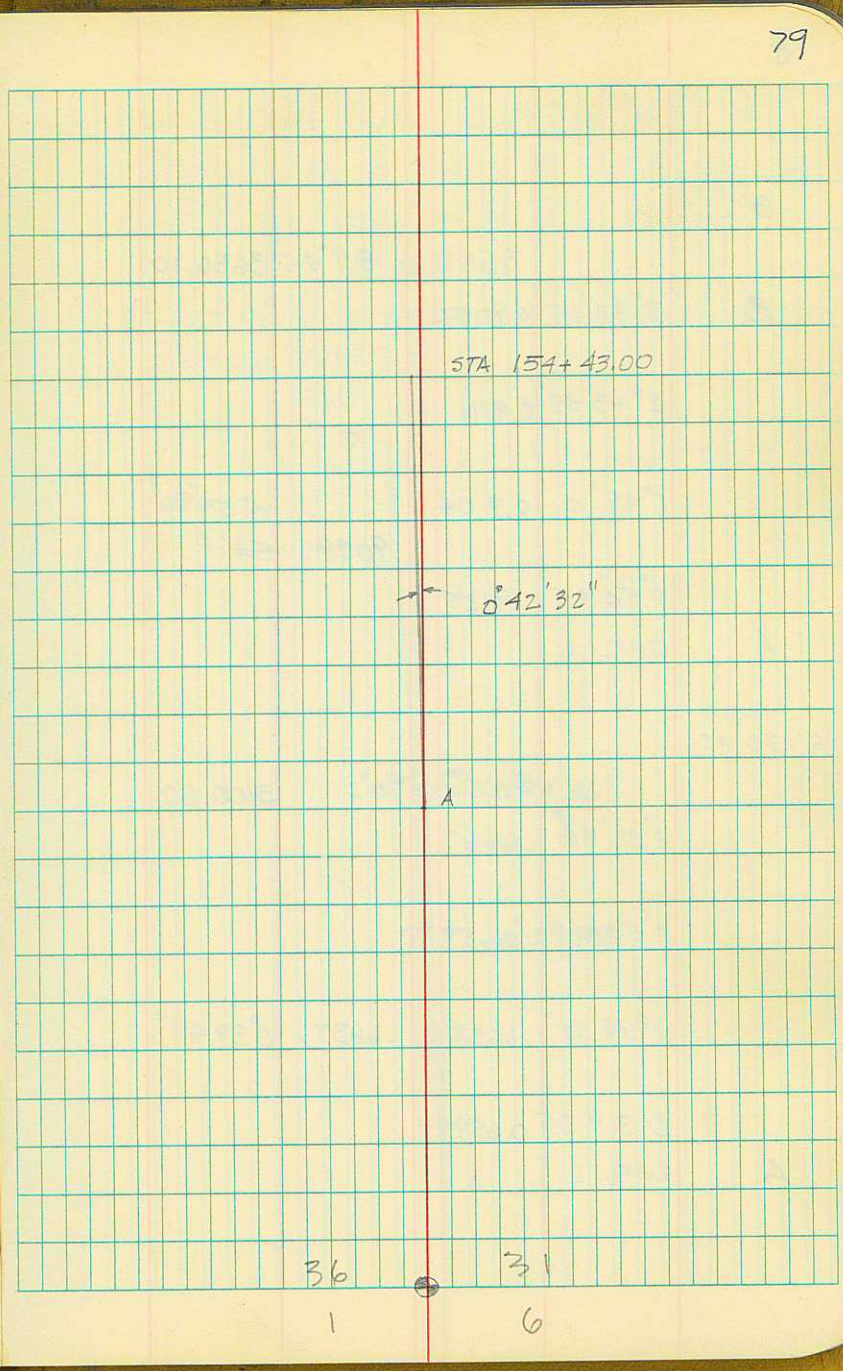
WARD T

RAN LINE NORTH FROM TOWNSHIP CORNER TO COR A

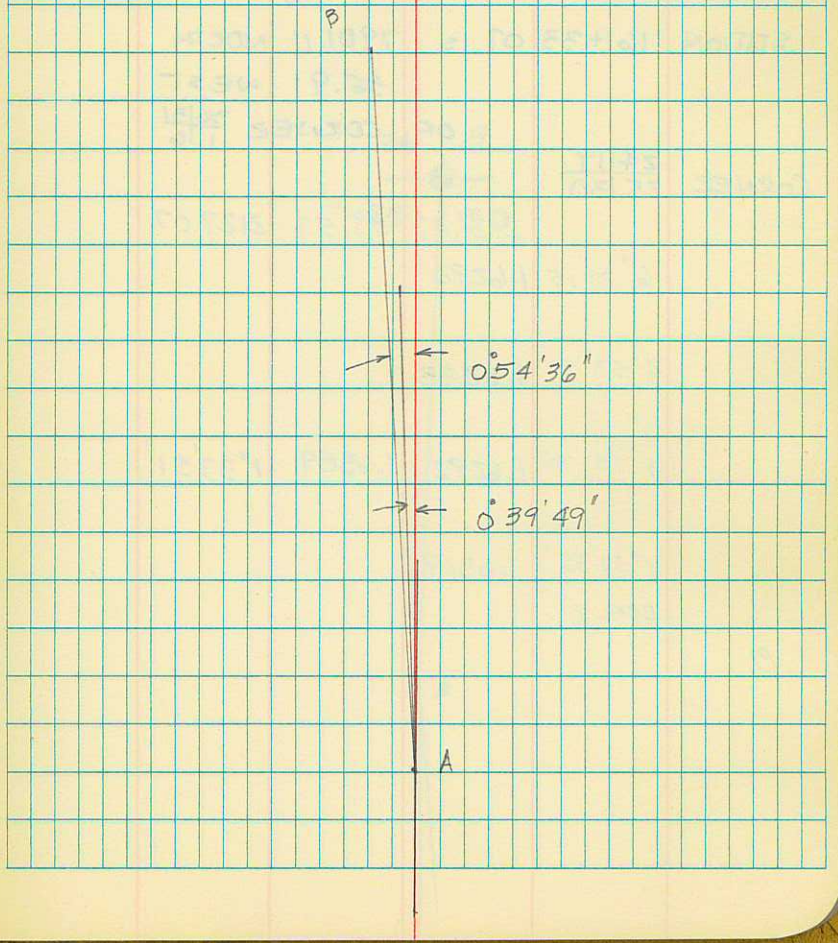
STA 154+43.00

	2404.64	90°28'	2404.64
2 50 10	.7056		
2°07'50"	.7125		
		.7088 =	0°42'32"
1°25'05"	.7090		
0 42 30	.7083		
A			
A			
	4800.72	90°00'	4800.72

TWNSHIP CORNER DEFL. LEFT



B				
		3686.10	89°55'	3686.10
B	3°38'15"	0.9056		
	2°43'55"	0.9111		
	1°49'15"	0.9104		0°54'36"
			.9099	~~54~~
	0°54'45"	.9125		
A	DEFL. L			
161+33.07				
		3100.66	90°21	3100.60
	2°39'38"	.6667		
	1°59'30"	.6653		
	1°19'35"	.6632	.6637	0°39'49"
	0 39 35	0.6597		
A	DEFL. L.			



CORNER 24/19 25/30 IS 10613.31 FT N AND 31.78' WEST OF 36/31 1/6

STATION 154+43.00 IS 7205.17 NORTH 29.75 WEST OF CORNER 36/31 1/6

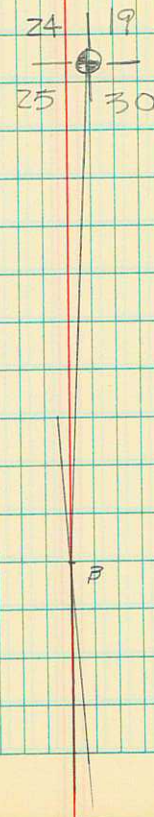
STATION 161+33.07 IS 7901.11 NORTH 35.91 WEST OF CORNER 36/31 1/6

CORNER 24/19 25/30		2121.07	89°57	2127.07
	6°31'15"	1.6292		
	4°53'30"	1.6333		
	3°15'30"	1.6292	1.6309	1°37'51"
	1°37'55"	1.6319		
	DEFL R			
B				

IF BEARING OF LINE COR 36/31 1/6 TO A IS N0°00'E

THE LINE FROM COR 36/31 1/6 TO 24/19 25/30 IS N0°10'18" W

LINE FROM 154+43.00 TO 161+33.07 IS N0°30'26" W 695.98



179 59 20

55 59 20

124 00 00 59

55 59 30

55 59 40

00°00'

NORTH

ABUT

179 59 40

123 59 40

56 00

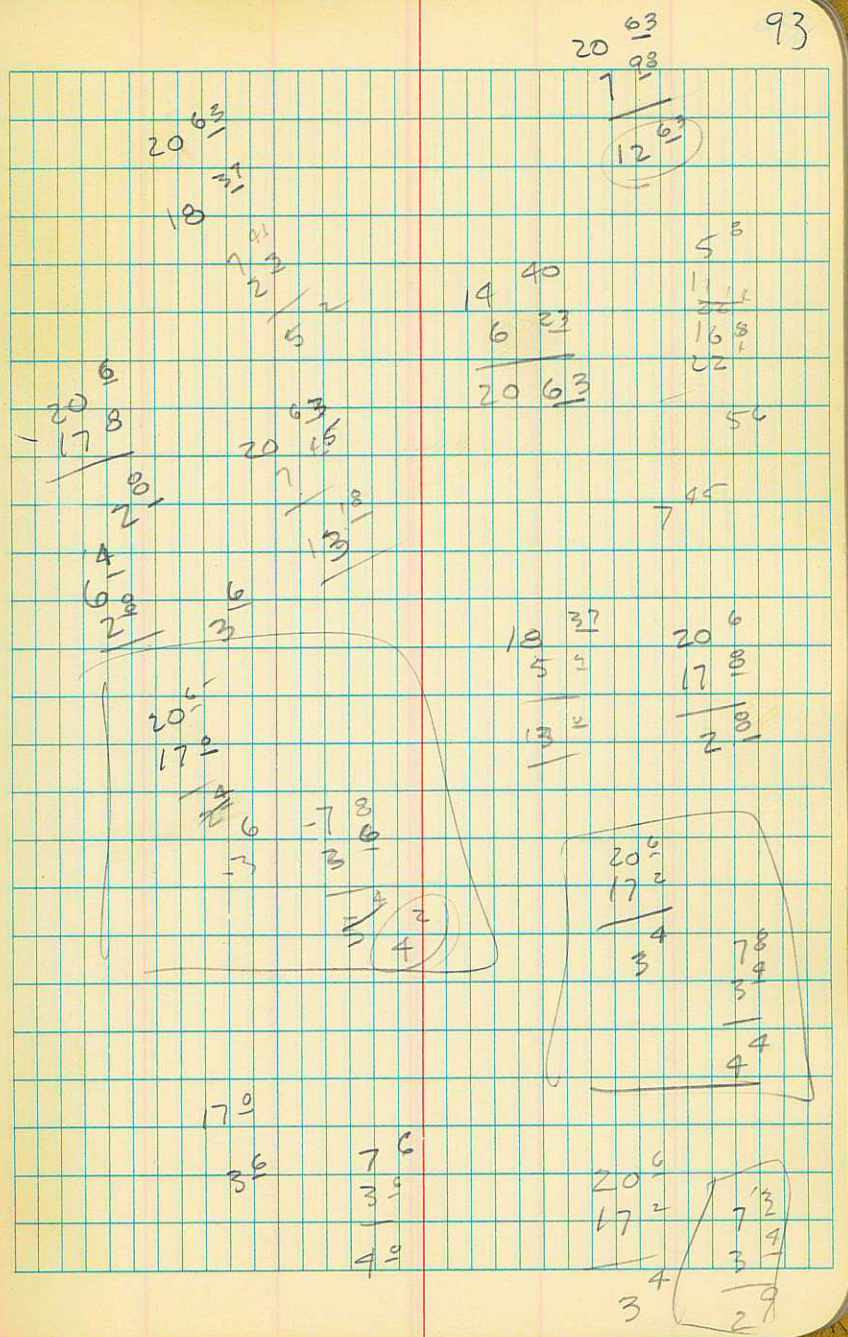
SOUTH ABUT

S_1			
	179 59 45		
		55 59 30	
	124 00 15		
	55 59 45		
S℄			
S_2			
	180 00 00		
		56 00 00	
	124 00 00		56 00 00
	56 00 00		
S℄			

PIER

	1795956	
CP1		56 60 40
	1235910	
	560015	
		15
~~00 00~~ 0	00 0000	
CP2		

	6 23		
BM		20 63	44 14.40



25.72
20.25
5.47

25.72
20.09
5.63

22.70
18.21
4.49

14.40
8.30
22 70

22.70
20.09
2.61
34
2.95

22.70
18.96
3.74

22.70
~~20.42~~
19.67
3.03

22.76
~~16.53~~
6.17

22.70
18.02
4.68

22.70
17.26
5.44

22.70
16.68
6.02

22.70
16.76
5.94

22.70
17.24
5.46

	℄ ELEV	℄ SUB-EL	2%	SHLD EL 14.3
156+50	~~21.00~~ ~~20.84~~	20.25		
157+00	~~20.84~~ ~~20.42~~	20.09		
157+50	20.42	19.67		
158+00	19.71	18.96		
158+50	18.77	18.02		
159+00	18.01	17.26		
159+50	17.51	16.76		
160+00	17.28	16.53		
160+50	17.43	16.68		
161+00	17.99	17.24		
161+50	18.96	18.21		

HI 25.72

18.80
.75
18.05

17.65
.75
16.90

25.62
16.90
8.72

19.79
.75
19.04

25.62
19.04
6.58

25.62
18.05
7.57

16
2
32

20.60
.75
19.85

25.62
19.85
5.77

14 oz = 28
17 oz = 34

13 oz = 26

21.22
.75
20.47

25.62
20.47
5.15

21.66
.75
20.85

25.62
20.85
4.77

21.72
.75
20.97

25.62
20.97
4.65

21.63
.75
20.88

25.62
20.88
4.74

151

⊞ 73.75

N →

29.72 ⊕ 24.80

18°

5^{9}
4^{6}
1^{0}

7^{2}
5^{1}
2^{1}
4^{2}
11
15^{2}

6^{9}
5^{3}
1^{3}
2^{6}
11
13^{6}

6^{9}
5^{3}
1^{6}
3^{2}
11
14^{2}

32 3
16 5
15 8

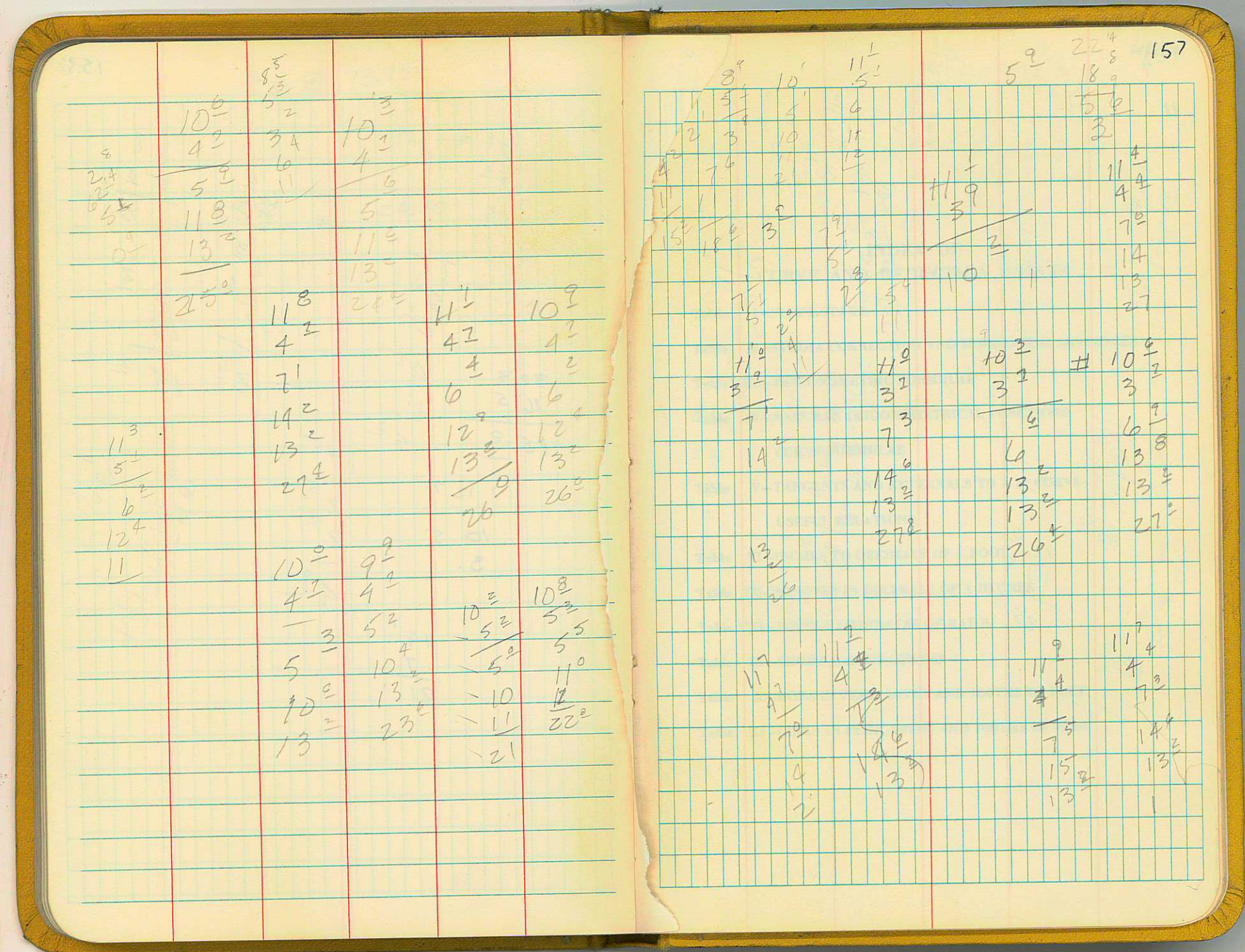
17 5
2 5
2 4
2
4 2

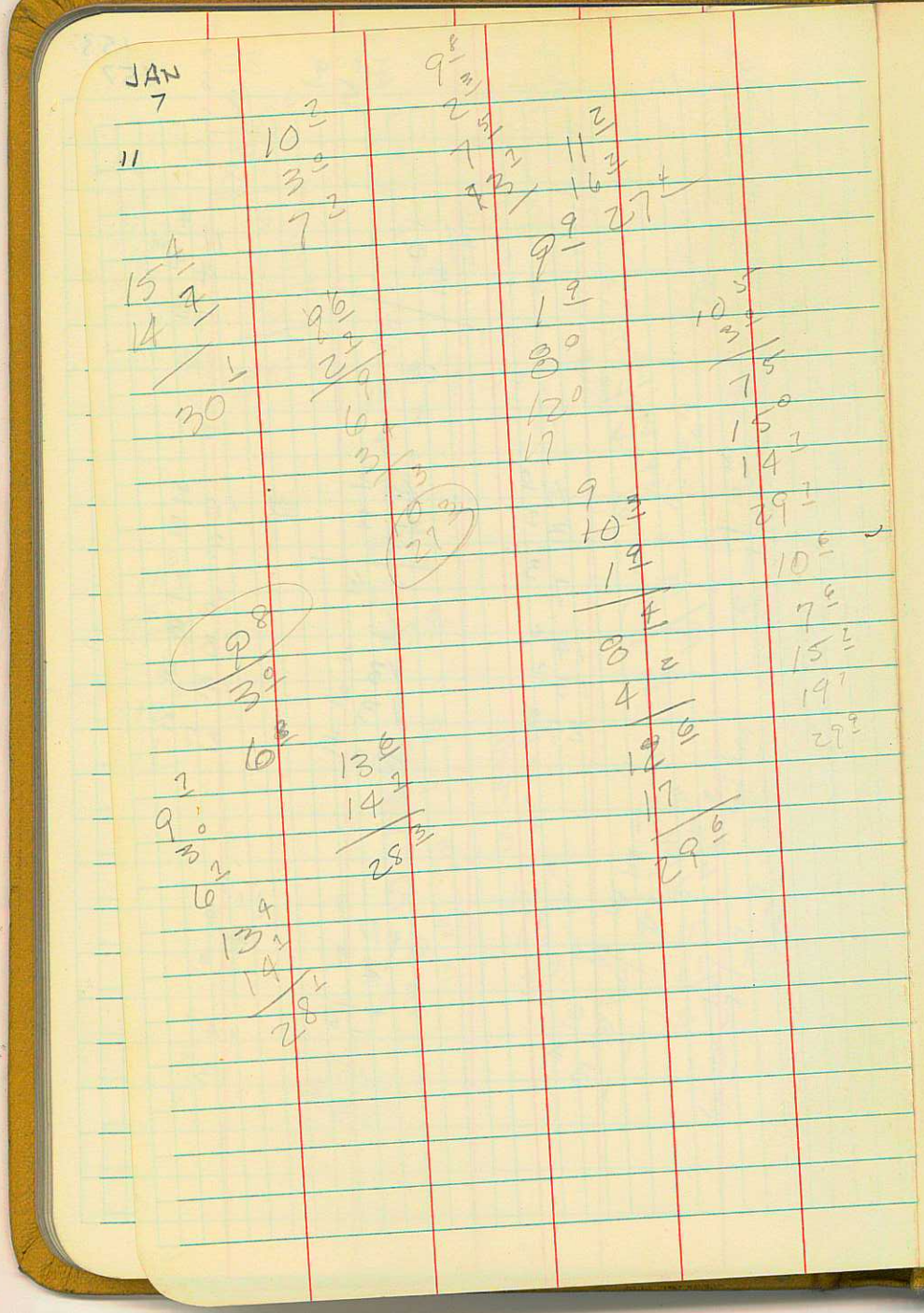
6 2
5 1
1 1
2 1
11 1
13 1

6 1
5 1
1

12 7
10 .5
5.

14 1
7
21 1





INDEX OF
CURVE AND REDUCTION TABLES

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

749.42
- 54.81
694.61

22.03
6.10
15.93

20.21
3.64
16.57

22.03
8.80
13.23

17.42
2.79
20.21

19.15
2.88
22.03

20.21
7.15
13.06

20.21
5.81
14.40

1361.80 90 05

ANDREWS

21.83
8.59
13.24

872.71 90°08' #1

1113.58 90°08' #2

1352.97 90°10' #3

21.83
4.41
17.42

276.85 AT 22ND

15.94
5.89
21.83

42.7
52.7
95.4

90.02 89.93

89.93
179.95

89.8

3.85
17.98

21.83

975

1318.88 - 89°38'