

1
9
5
7

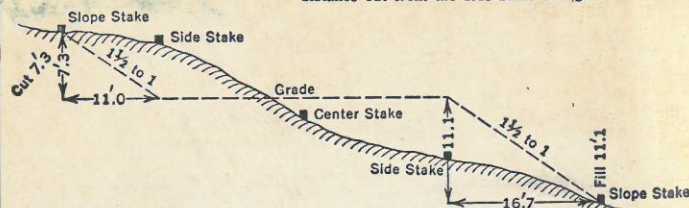
1957
COUNTY

HARDEE
HIGHLANDS
MANATEE
OKEECHOBEE
PASCO
SARASOTA

16

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING Roadway of any Width. Side Slopes $1\frac{1}{2}$ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	Distance out from Side or Shoulder Stake										Cut or Fill
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

The paper in this book No. 373A
is made of 50% high grade rag stock
with a WATER RESISTING surface sizing.

Fla. Geological Survey

Elevations of Water Wells

Index:

Page 1	Elev. on W-2702, Dale City	PS
" 2	Elev. on W-2199, Jessamine	PS
" 3	Elev. on W-2922, Zephyr hills	PS
" 4	Elev. on W-3357, Hudson	PS
" 5	Elev. on W-3570, Port Richey	PS
" 6	Elev. on W's 1836, 3305 & 3806	PS
" 7	Elev. on W-2140 New Port Richey	PS
" 8	Elev. on W-2278 St. Armands Ke	sa
" 9	" " W-2279 City of Sarasota	sa
" 10	" " W-2318 City of Sarasota	sa
" 11	" " W-2319 City of Sarasota	sa
" 12	" " W-4083 City of Sarasota	sa
" 13	" " W-2996 Med. Arts Bldg	sa
" 14	" " W-3782	sa
" 15	" " W-4242	sa
" 16	" " W-3817	sa
" 17	" " W-2730	sa

INDEX CON.

Page No Well No. LOCATION

18 Elev. on W-4157 Sa

19 " " W-4200 Sa

20 " " W-2993 Sa

21 " " W-4198 Sa

22 " " W-4014 Sa

23 " " W-³³¹⁴3315 Mn

24 " " W-4155 Mn

25 " " W-1489 Mn

26 " " W-3171 Mn

27 " " W 2172 Mn

28 " " W 4199 Mn

29 " " W 3394 Mn

30 " " W 1823 Mn

31 " " W 3818 Mn

32 " " W 1002 Mn

33 " " W 2445 Mn

34 " " W 4006 Hd

35 " " W 4186 Hd

36 " " W 3546 Hd

37 Elev. on W-3559 Hd

38 " " W-2839 Hi

39 " " W-911 Hi

40 " " W-2851 Hi

41 " " W-2859 Hi

42 " " W-1464 Hi

43 " " W-2857 oe

44

45

1) Elev. on W-2707
Dade City, Fla.

Sta. BS HI FS Elev

TBM#4 6.17 71.04 64.87

T.P. 1 10.44 70.09 11.39 59.65

T.P. 2 11.90 81.50 .49 69.60

T.P. 3 9.62 91.01 .11 81.39

T.P. 4 8.48 97.97 1.52 89.49

T.P. 5 11.96 109.77 .16 97.81

T.P. 6 11.51 ~~121.00~~ ~~121.28~~ .28 109.49

T.P. 7 .35 ~~114.28~~ ~~114.56~~ 7.07 ~~113.93~~ ~~114.21~~

T.P. 8 6.02 ~~115.45~~ ~~115.73~~ 4.85 ~~109.71~~ ~~111.59~~

T.P. 9 3.93 ~~115.52~~ ~~115.80~~ 3.86 ~~111.87~~ ~~114.21~~

W-2707 1.31 ~~114.49~~

$\Sigma BS = 80.38$

$\Sigma FS = 31.04$

49.34

c.k.

49.34

~~49.62~~

June 7, 1957

cloudy

J.P. Kilbourn A

D.A. Whitehead

TBM#4 - Spike in 12 in. oak corner
of S. Howard & W. 20th Dade City

W-2707
0

Withacoochee Elec. Co-Op.

↑ Hy 91
on Hy 52
21 st
5+

W. Howard st

520th st

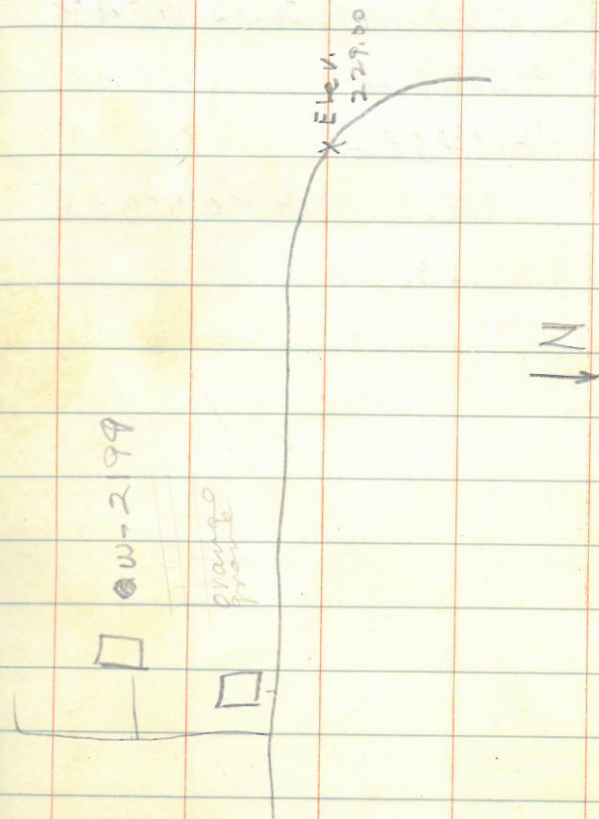
X TBM#4

Elev-64.87

2) Elev. on W-2199 June 7, 1957 J.P. Kilbourn
 North of Dade City, Cloudy, D.H. Whitehead
 Jessamine, Fla

Sta.	B.S.	HI	F.S.	Elev.
Profile Elev.	4.93	233.93		229.00
T.P. 1	11.66	245.33	.26	233.67
T.P. 2	.23	243.41	2.15	243.18
T.P. 3	7.51	243.04	7.88	235.53
T.P. 4	11.00	253.14	.90	242.14
W-2199			2.16	250.98
$\Sigma BS = 35.33$				
$\Sigma FS = 13.35$				
21.98 ck 21.98				

Center line of State Hy 41 in front
 of H.T. James House



3)

Elev. on W-2972

Zephyrhills, Fla

June 7, 1957

D.A. Whitehead A

cloudy

J.P. Kilbourn

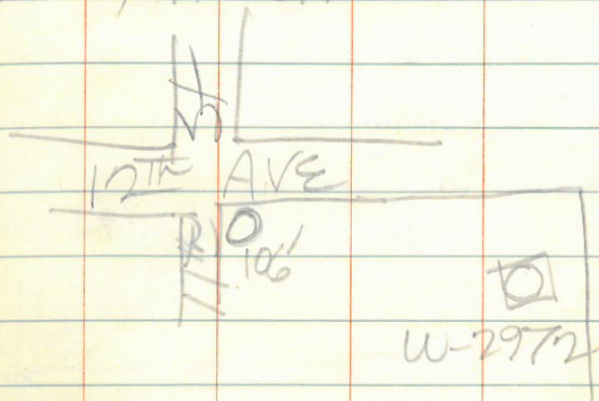
Sta	BS	HI	FS	Elev
Curb elev	3.95	109.95		106.00
			4.55	105.40
10-2972				.40

Elev 4.55

Elev 3.95

 $.40 = .40$

106' Elev. from City Manager
Zephyrhills. (City Plat.)
106' Elev at corner of 12th
Ave & 11th St.



4)

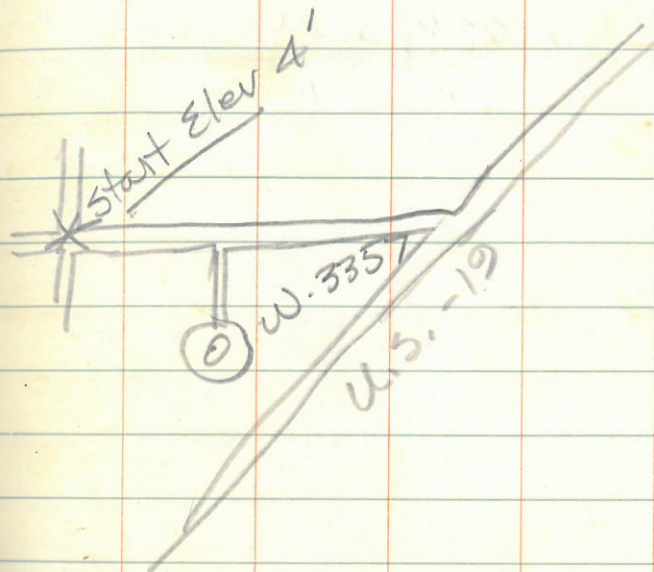
Elev on W-3357
Hudson, FLA.

STA.	BS	HI	FS	ELEV.
CENTER of Intersec.	7.82	11.82		4'
TP 1	5.39	12.57	4.64	7.18
Well			4.58	7.99
		12.21		
EB3		13.21		
EF3		9.22		
		3.99	CK	3.99

JUNE 7 1957
CLOUDY/RAIN

D.A. WHITEHEAD T
J.P. KILBOURN

4' ELEV. from Rd. intersection
Hudson, Fla.



5)

Elev. on W-3570

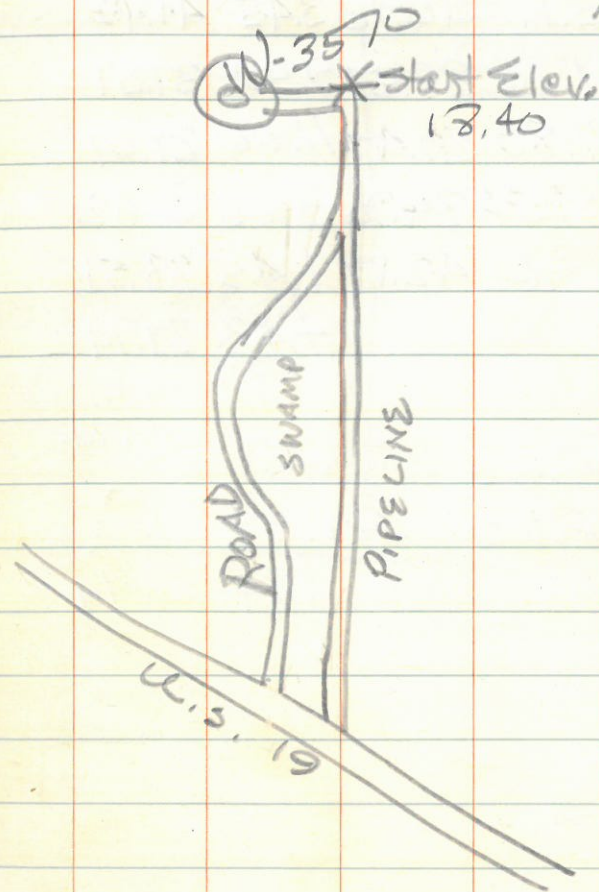
Port Richey, Fla.

Sta.	BS	H.I	FS	Elev.
Pipeline Profile	5.96	24.36		18.40
W-3570			3.33	21.03

$$\Sigma BS = 5.96$$

$$\Sigma FS = 3.33$$

$$2.63 \text{ ck } 2.63$$

June 8
CloudyJ.P. Kilbourn A
D.A. Whitehead18.40 ft. elev. from pipeline
profile. City of Port Richey

6) Elev. on W's - 1836, 3805 & 06
New Port Richey, Fla.

June 10 1957
Cloudy Bright

D.A. WHITEHEAD &
J.P. KILBOURN

STA.	BS	HI	FS	Elev
RD. INTER-SECTION	8.24	45.24		37.0'
T.P. 1	5.11	46.90	3.45	41.79
T.P. 2	1.16	38.67	9.39	37.51
T.P. 3	1.80	29.47	11.00	27.67
T.P. 4	8.54	34.96	3.05	26.42
T.P. 5	8.66	42.17	1.45	33.51
W-1836 3805 3806			4.43	37.74

EB5 33.51

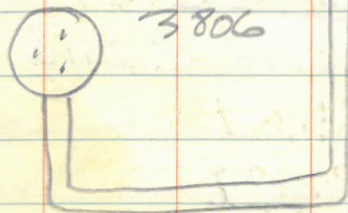
EFS -32.77

.74 = .74

1st Elev. taken from Rd. intersection. All wells at same location.

INFO FROM
City Hall

W-1836, 3805 &
3806



7) Elev. on W-2140
New Port Richey

Sta.	BS	HI	FS	Elev.
uscfgs B.M.	3.55	31.55		28.00
TP-1	3.91	29.98	5.48	26.07
TP-2	6.01	30.68	5.31	24.67
W-2140			5.86	24.82

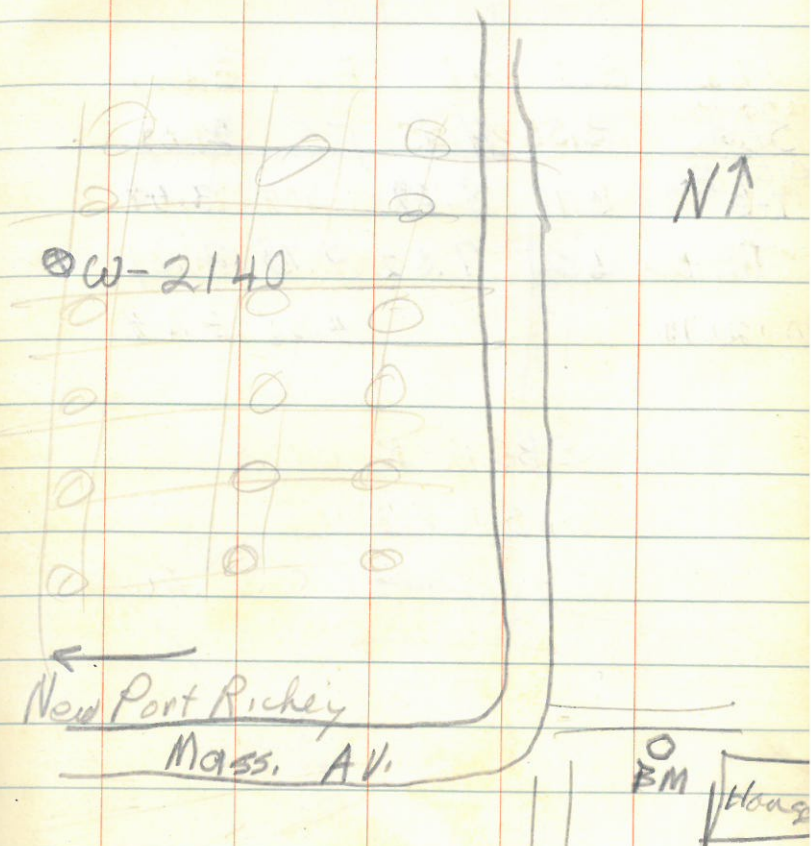
$$\Sigma F.S. = 16.65$$

$$\Sigma B.S. = 13.47$$

$$3.18 \text{ ck } 3.18$$

June 10, 1957
Bright

J.P. Kilbourn T
DA. Whitehead



8)

W-2278

St. Armandis Key
Sarasota

Sta.	B.S.	H.I.	F.S.	Elev.
City BM I-3	5.11	8.59		3.48
T.P. 1	5.21	7.82	5.98	2.61
W-2278			4.28	3.54

Σ B.S. 10.32

Σ F.S. 10.26

.06

CK

.06

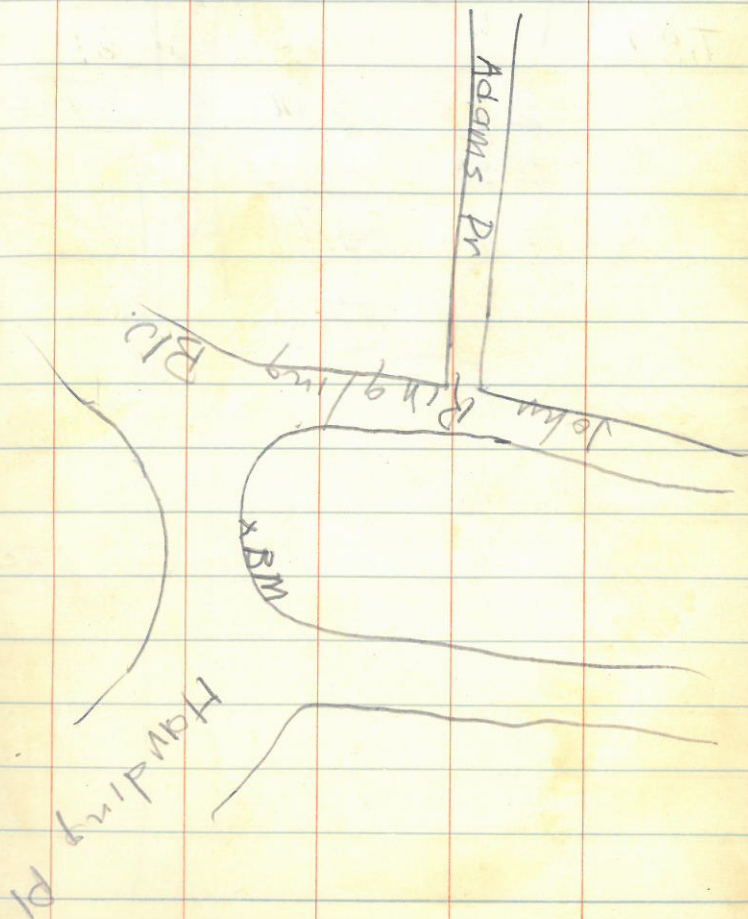
June 11

Fair & Bright

J.P. Kilbourn T

D.A. Whitehead

N ↑

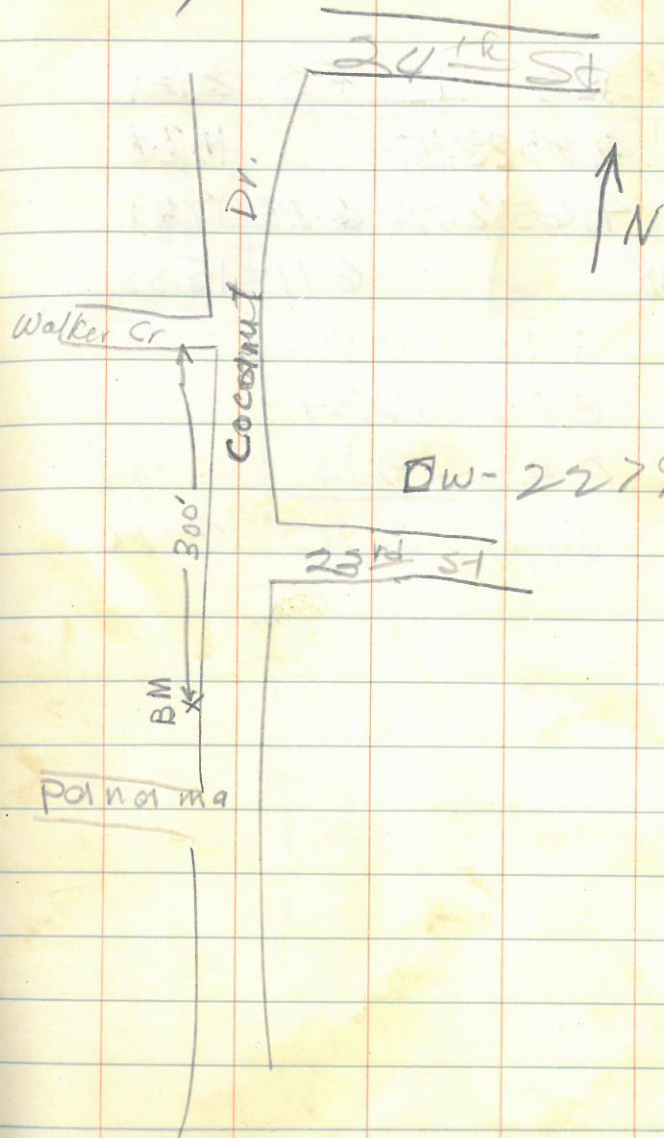


9)

W-2279

City of Sarasota #2

Sta.	BS	HI	FS	Elev
City BM				
E-2	4.43	15.77		11.34
W-2279			6.14	9.63

 $\Sigma FS = 6.14$ $\Sigma BS = 4.43$ 1.71 $\checkmark$ 1.7111 June 57
SunnyJ.P. KILBOURN &
DA WHITEHEAD

10)

W-2318

City of Sarasota #1

11 June 57

Sunny & Bright

J. A. WHITEHEAD

J. P. KILBOURN

Sta. BS HI FS ELEV

City BM 4.49 23.54 19.05

T.P.-1 4.65 21.96 6.23 17.31

W-2318 6.11 15.85

EFS 12.34 19.05

EBS 9.14 15.85

Diff 3.20 3.20

W-2318

2 P.M.



Railroad

11

W-2319

City of SARASOTA #3

Sta.	BS	HI	FS	Elev.
City BM B-40	3.54	13.30		9.76
			5.77	7.53

IFS	5.77	9.76
EBS	3.54	7.53
	<u>2.23</u>	= 2.23

11 June 57

SUNNY

S. A. Whitehead
J. P. KilbournC. L. THOMPSON & SONS
DRILLERS

WHITTAKER DAYTON

W-2319

BMH

17

W-4083

Sarasota, City of

Sta	BS	HI	FS	Elev
City BM-#9	2.65	12.83		10.18
T.P. 1	5.69	11.35	7.17	5.66
T.P. 2	5.01	10.70	5.66	5.69
W-4083			5.76	4.94

$$\Sigma F.S. = 18.59$$

$$\Sigma BS = 13.55$$

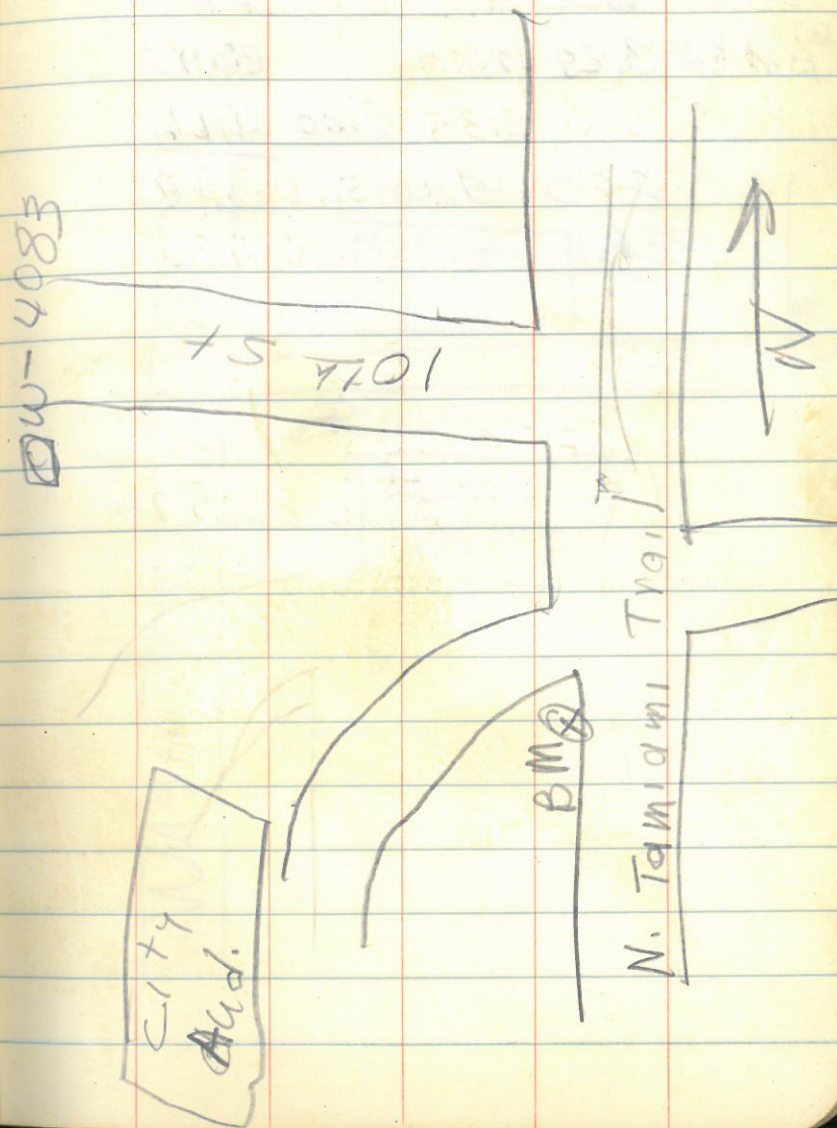
$$5.24 \text{ OK } 5.24$$

June 11, 1957

Fair & Bright

J. P. Kibourn A

DA. Whitehead



13/

W-2996

Sarasota

11 June 57

SUNNY

DA WHITEHEAD

V.P. KILGOURN

Sta	BS	HI	FS	Elev
City BM K.9	3.24	24.19		20.95

		5.00	19.19
--	--	------	-------

ΣFS	5.00	1.76
-----	------	------

ΣBS	3.24
-----	------

$$1.76 = 1.76$$

WASHINGTON BLVD

MEDICAL ARTS BLDG

W-2996

O

ARLINGTON ST

MEM HOSPITAL

14/ W-3782
SARASOTA

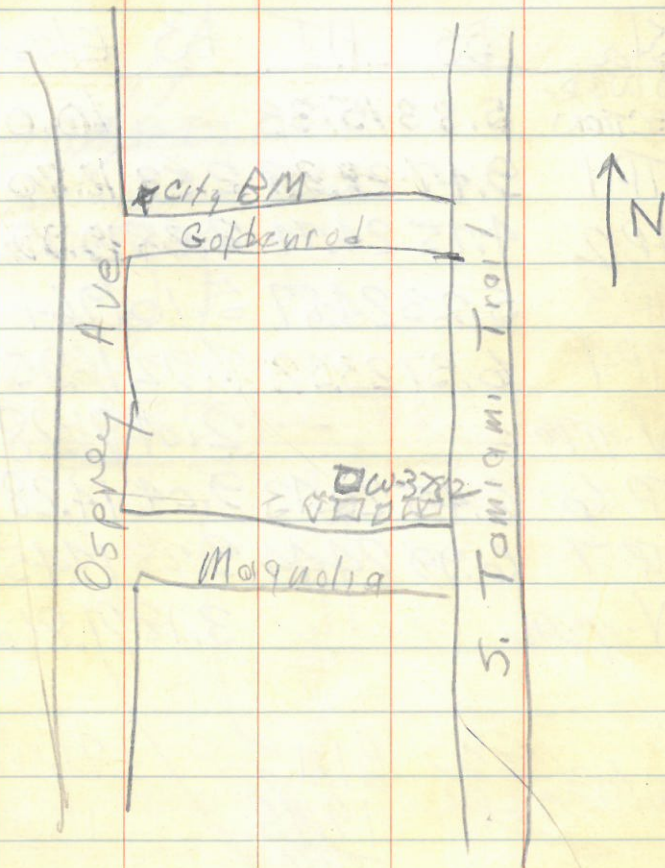
Sta	BS.	HI	F.S.	Elev
City BM	4.27	27.56 27.99		23.29 23.72
T.P. 1	5.27	27.78 27.21	5.85	22.51 21.94
W-3782			4.10	23.63 23.11

$$\Sigma BS = 9.54$$

$$\Sigma FS = 9.15$$

$$.39 \text{ or } .39$$

11 June 57 J.P. Kilbourn T.
Fair & Bright D.A. Whitehead



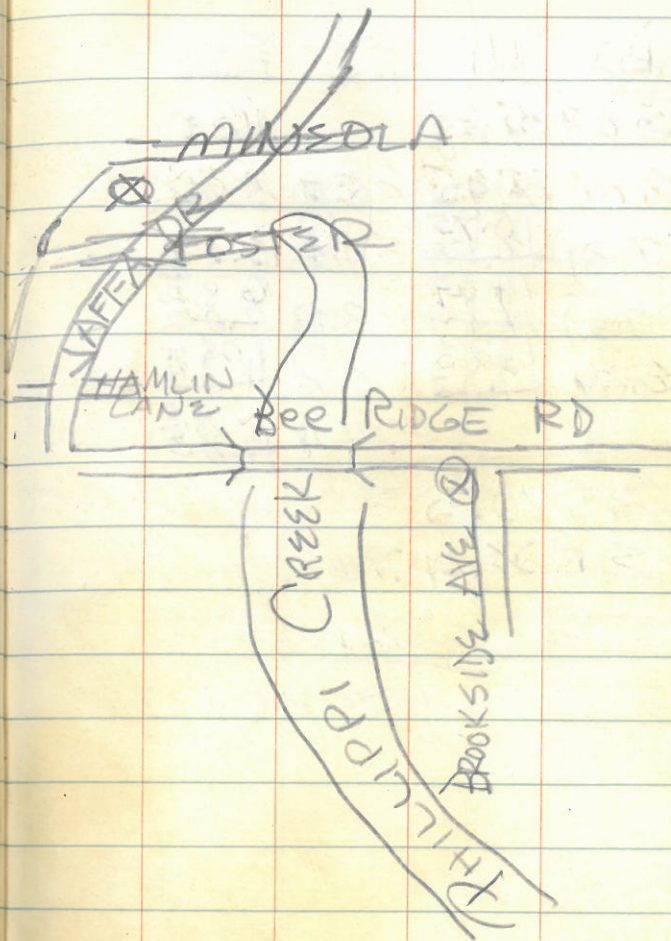
15) W-4196 & 4242
South Gate - Sarasota

Sta	BS	HI	FS	Elev
RD INTER-SECTION	5.83	15.33		10.0
TP 1	9.47	22.27	2.53	12.80
TP 2	4.75	24.74	2.28	19.99
TP 3	5.23	24.87	5.10	19.64
TP 4	6.37	23.32	7.92	16.95
W-4196			2.04	21.28
TP 6	6.45	20.13	9.04	14.28
TP 7	6.99	24.44	3.28	17.45
W-4242			3.18	21.26

W-4196 EBS 31.15 21.28
EFS 19.81 10.00
11.28 = 11.28

W-4242 EBS 44.59 21.26
W-4242 EFS 33.33 10.00
11.26 = 11.26

12 June 57 J.A. WHITEHEAD &
SUNNY & BRIGHT V.P. KILBOURN



16)

W-3817

Sarasota

Sta.	B.S.	H.I.	F.S.	Elev
USCEGS B.M.	2.25	13.58		11.33
T.P. 1	3.84	8.92	8.50	5.08
T.P. 2	6.39	10.75 14.29	4.56	4.37 6.82
T.P. 3	7.47	14.19 16.83	3.93	7.02 10.84
T.P. 4	5.99	17.03	3.45	11.04 12.65
W-3817			4.18	12.85

$$\Sigma B.S. = 25.94$$

$$\Sigma F.S. = 24.62$$

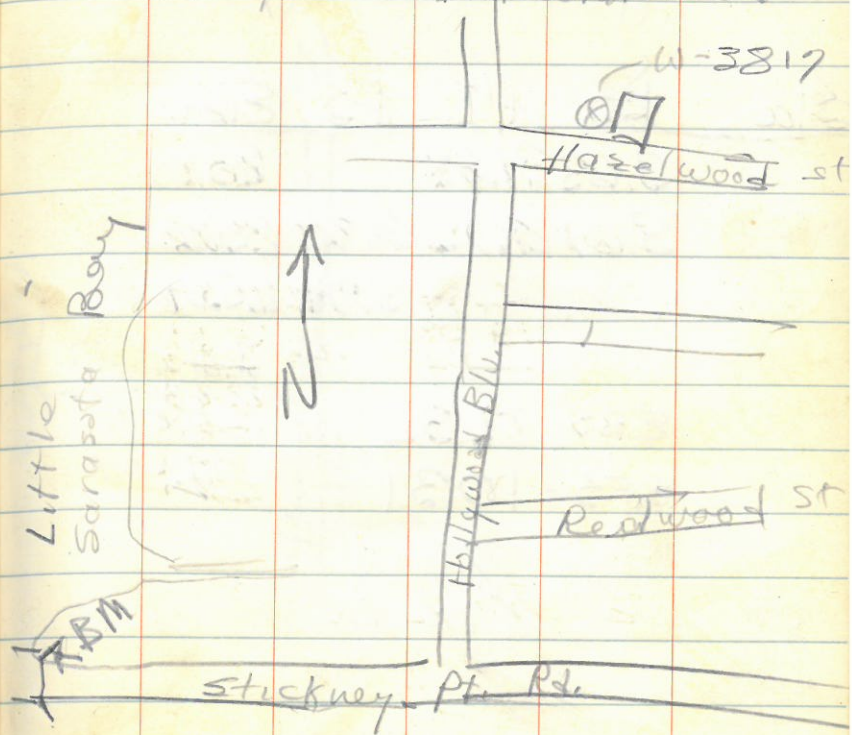
$$1.32 \text{ ck } 1.32$$

June 12, 1957

Fair & Bright

J.P. Kilbourn T

D.A. Whitehead



17)

W-2730

Phillippi Shores School, Sarasota

Sta	BS	HI	FS	ELEV
	3.63	31.63		28.0
	3.69	28.95	6.37	25.26
			3.94	25.01

$$EBS = 17.32$$

$$EFS = 10.31$$

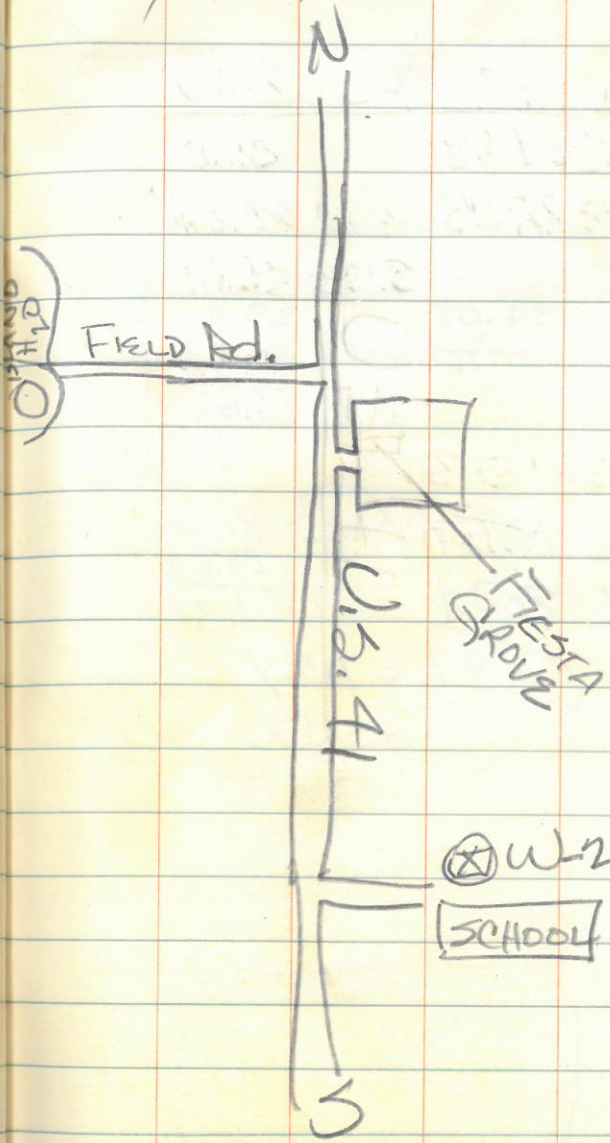
$$2.99$$

$$\begin{array}{r} 28.00 \\ 25.01 \\ \hline 2.99 \end{array}$$

$$\begin{array}{r} 10.31 \\ 7.32 \\ \hline 2.99 \end{array}$$

12 June 57
Sunny & Bright

J.A. WHITEHEAD &
J.P. KILBOURN



(18)

W-4157
Sandusota, Fla

Sta	BS	HI	FS	Elev
27 th & Lockwood Intersection	4.44	35.44		31.00
T.P. 1	5.13	35.97	4.60	30.84
T.P. 2	5.33	36.35	4.95	31.02
		34.08		29.41
T.P. 3	4.67	35.08	6.94	30.41
				29.63
W-4157			4.45	30.63

EBS 19.57 31.00
 EFS 20.94 29.63
 1.37
 1.37 = 1.37

June 13, 1957
Fair & brightJ.P. Kilbourn T.
D.A. WhiteheadDe Soto RdMyrtle St.

⊗ W-4157

Lockwood Ridge Rd

Gable Rd27th St

X 31.00

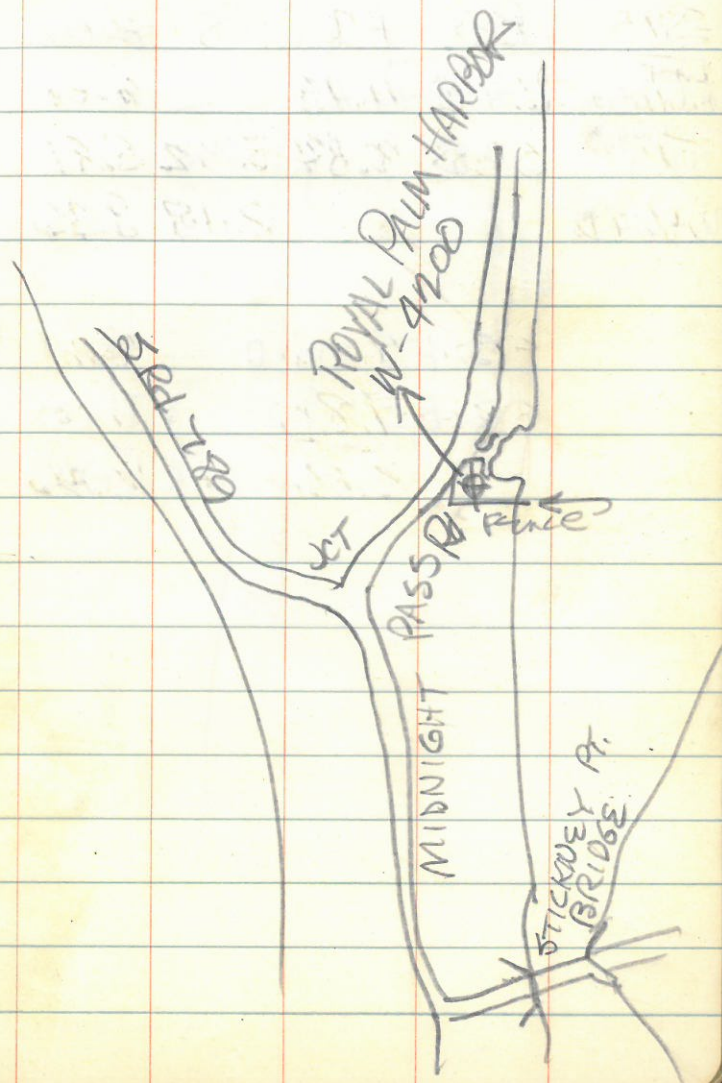
W-4200
ROYAL PALM HARBOR
SARASOTA

13 June 57
Fair & Sunny

DA. WHITEHEAD T.
J. P. KILBOURN

STA	Bs	HI	FS	Elev
ROAD INTERSEC.	5.13	11.13		6.00
TP. 1	5.03	10.84	5.32	5.81
W-4200			2.48	8.36

EBS	10.16		8.36
EF2	-1.80		-6.00
	2.36	=	2.36



20)

W-2993
Siesta Key
Sarasota

Sta	BS	HI	FS	Elev
Intersection	4.43	10.43		6.00
Midnight Pass Rd	4.85	9.46	5.82	4.61
TP 1			4.48	4.98
W-2993				

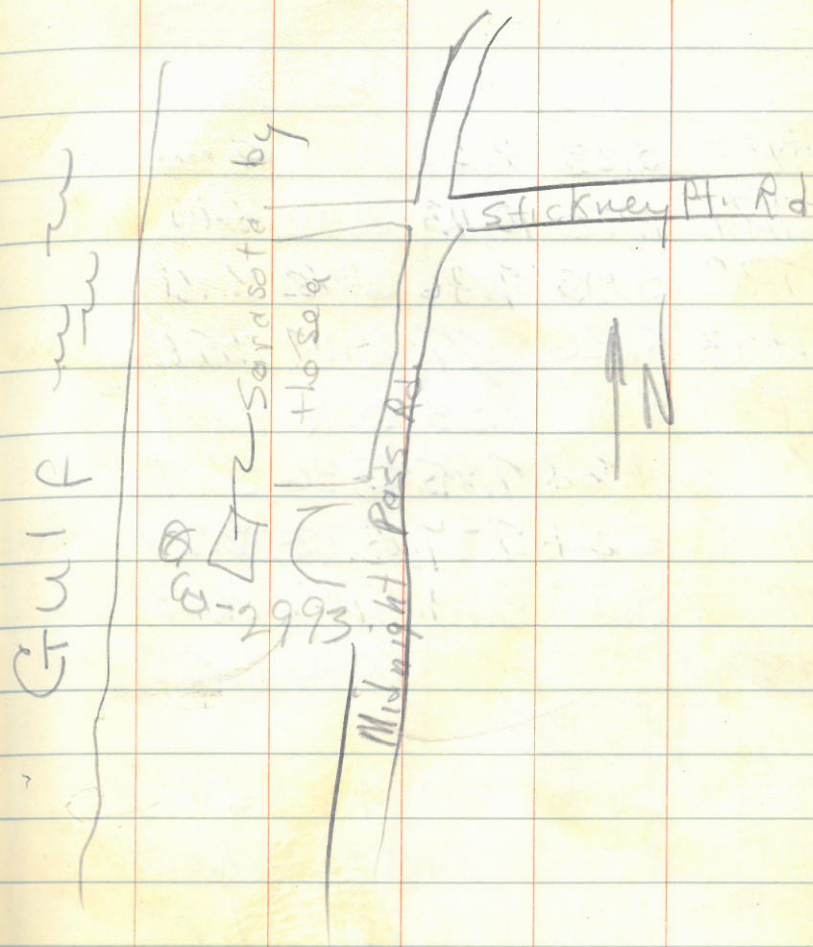
$$\Sigma FS = 10.30$$

$$\Sigma BS = 9.28$$

$$1.02 \text{ ck } 1.02$$

June 13, 1957
Fair & Bright

J. P. Kilbourn &
D. A. Whitehead



21)

W-4198
SIESTA KEY, SARASOTA

Sta	B _s	HI	FS	Elev
City PBM	5.39	9.39		4.00
TP-1	1.70	10.17	0.92	8.47
TP-2	5.93	9.38	6.12	3.45
TP-3	5.26	8.47	6.17	3.21
TP-4	5.46	8.53	5.40	3.07
TP-5	4.68	7.85	5.36	3.17
TP-6	5.64	7.87	5.62	2.23
TP-7	5.78	9.19	4.46	3.43
W-4198			3.94	5.25

$$EBS = 39.84 \quad 5.25$$

$$EFS = -38.59 - 4.00$$

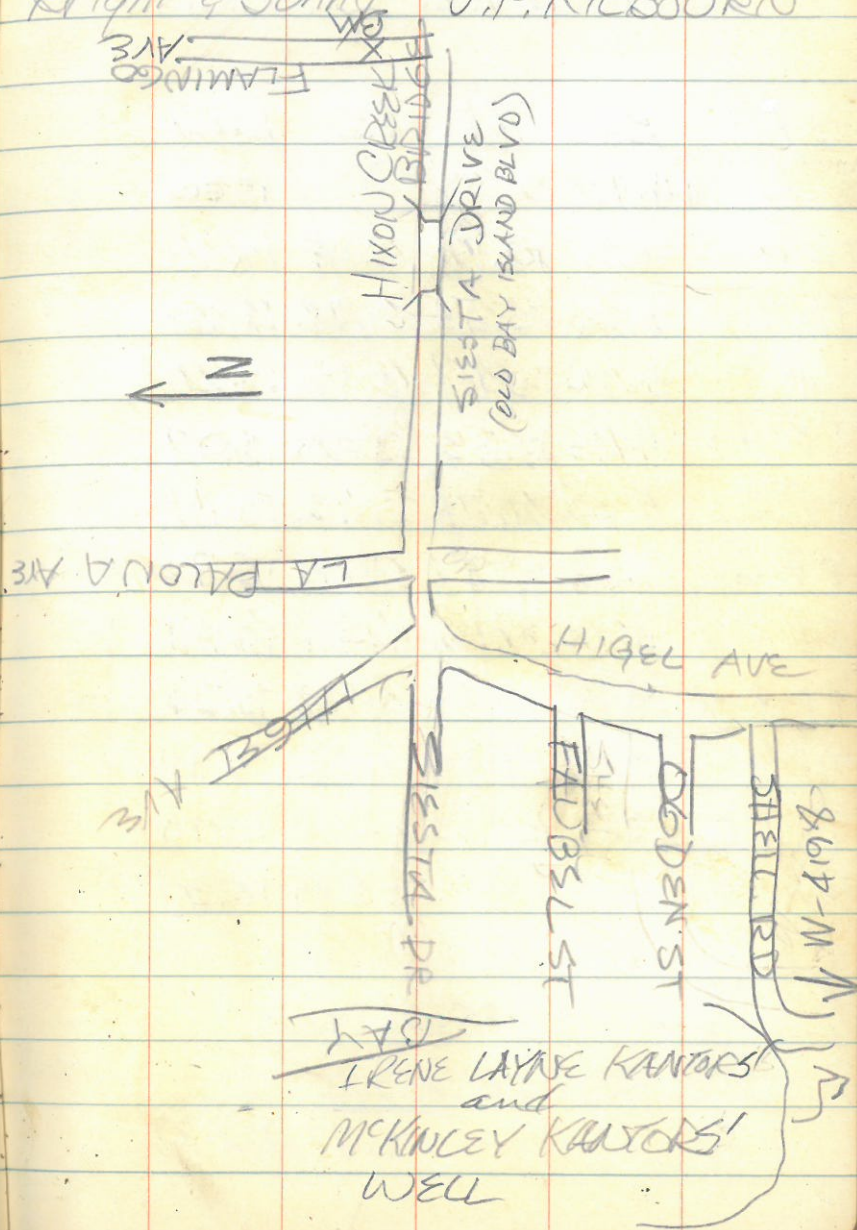
$$1.25 = 1.25$$

14 June 57

Bright & Sunny

D.A. WHITEHEAD &

J.P. KILBOURN



22)

W-4014

Venice Subdivision

June 17, 1957

Fair & Bright

J.P. Kilbourn T

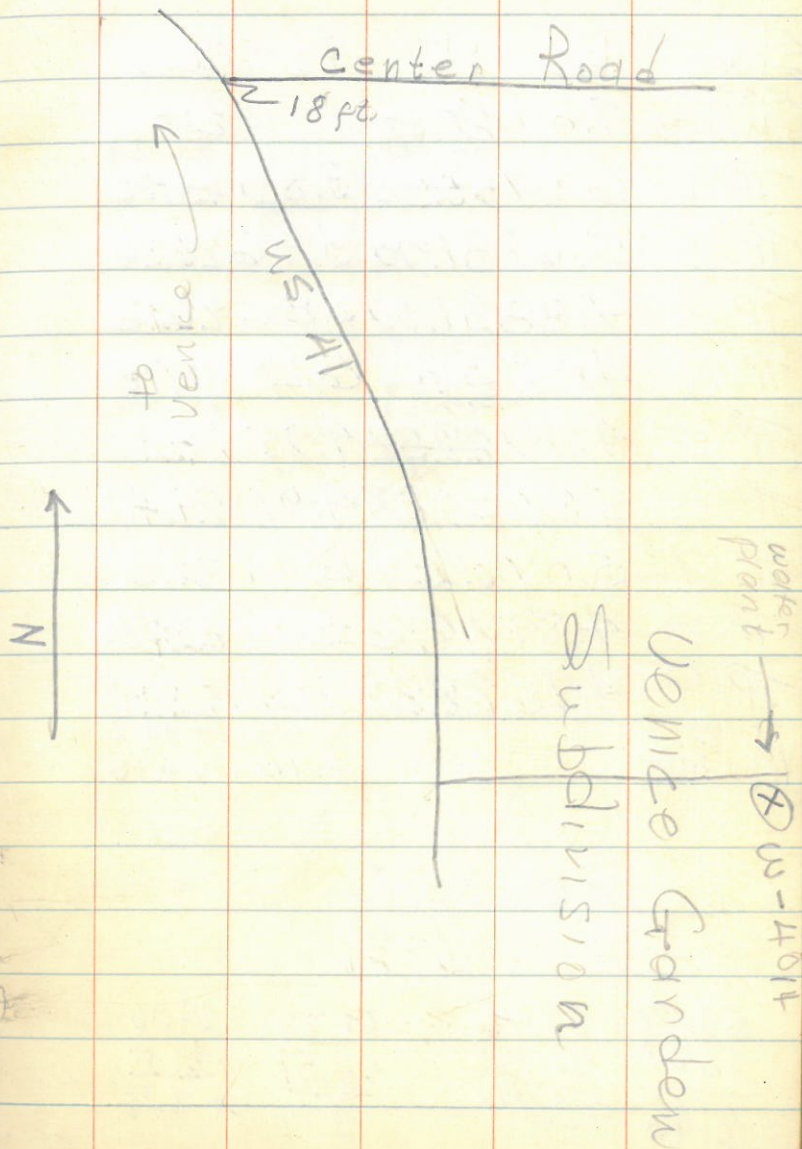
D.A. Whitehead

Sta	BS	HI	FS	Elev.
Intersection of Center Rd. 41	4.72	22.72		18.00
TP 1	4.88	22.51	5.09	17.63
TP 2	5.46	23.53	4.44	18.07
TP 3	5.20	23.67	5.06	18.47
TP 4	4.94	23.33	5.28	18.39
TP 5	4.52	20.73	7.12	16.21
TP 6	4.68	20.42	4.99	15.74
TP 7	5.00	20.21	5.21	15.21
TP 8	4.65	19.89	4.97	15.24
TP 9	4.25	19.39	4.75	15.14
TP 10	5.02	21.12	3.29	16.10
W-4014			5.89	15.23

$$\Sigma FS = 56.09$$

$$\Sigma BS = 53.32$$

$$2.77 \text{ ck } 2.77$$



23)

W-3314 & 3315

St Josephs School, Bradenton

18 June 57

BRIGHT & Sunny

J.A. WHITEHEAD

J.P. KILBOURN

Sta Bs HI FS Elev

U.S.S. 7.07 28.07 21.00
 B.M. J-92 30.31 24.24

TP 1 6.07 30.32 3.83 24.25

TP 2 5.63 31.98 3.96 26.35

TP 3 4.88 31.00 5.86 26.12

TP 4 4.75 29.48 6.28 24.72

TP 5 4.79 29.32 4.95 24.53

TP 6 5.87 30.27 4.91 24.40

TP 7 5.07 29.27 6.07 24.20

TP 8 4.84 28.32 5.79 23.48

TP 9 4.76 28.26 4.82 23.50

W-3314 4.80 23.48
 W-3315 4.10 24.16

EBS 53.13

EFS 51.27

EFS 50.51

53.13 23.46 53.73 24.16
 51.27 21.00 50.51 21.00
 2.46 = 2.46 3.16 = 3.16

W-3314 & 3315

ST. JOSEPHS
SCHOOL & CONVENT

20th ST

CORTER ROAD

Wells within a few
 feet of each other.

24)

W-4155
Bradenton BeachJune 19
Fair & BrightJ.P. Kilbourn A
D.A. Whitehead

Sta	BS	HI	FS	Elev
SRD B.M.	4.57	10.28		5.71
TP 1	5.50	10.65	5.13	5.15
TP 2	5.47	10.89	5.53	5.42
TP 3	4.64	9.58	5.95	4.94
W-4155			4.49	5.09

$$\Sigma FS = 20.80$$

$$\Sigma BS = 20.18$$

62 CK 62

Sta	BS	HI	FS	Elev
USCGS B.M.	4.50	9.96		5.46
W-4155			4.71	5.25

4.71

4.50

.21

.21

21

Gulf

N

Gulf Dr.

USCGS
B.M.Sinc. Sta.
Ber.Cortez
Bridgeold
Cortez
Bridge

W-4155

B.M.



25

W-1489

Brookenton Beach

19 JUNE 57

SUNNY & BFG

J.P. KILBOURN A

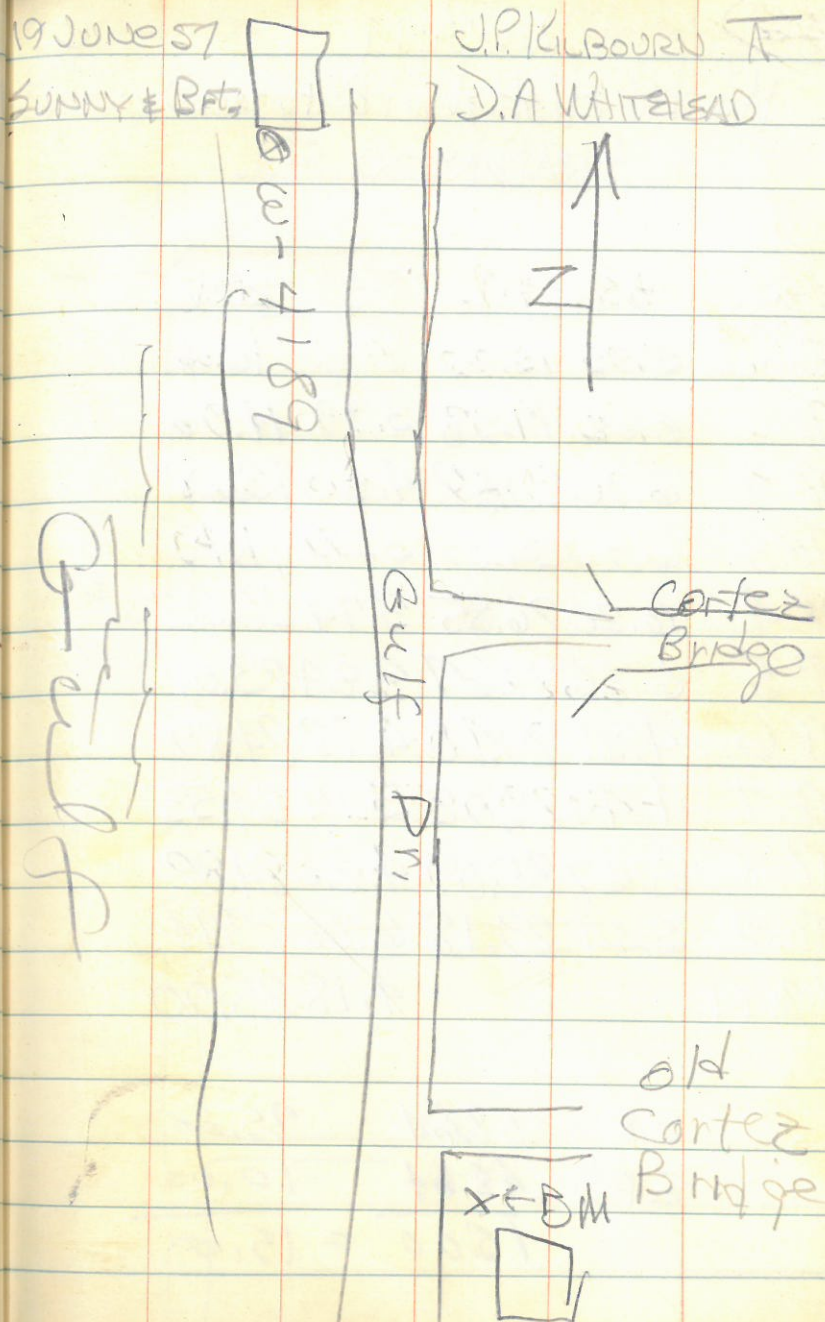
J.A. WATKINS

Sta	BS	HI	FS	Elev
USCGS BM	4.50	9.96		5.46
TP 1	4.57	10.22	4.31	5.65
TP 2	4.75	9.79	5.18	5.04
TP 3	5.06	10.22	4.63	5.16
W			3.89	6.53

$$\Sigma BS = 18.88$$

$$\Sigma FS = 18.01$$

$$87 \text{ CK } 87$$



26

W-3171

West Coast Market Assoc
BRADENTON, FLA.

19 June 1957

Sunny & Bright

J.A. Whitehead T

J.P. Kilbourn

Sta.	Bs.	HI	FS	ELEV
RD. INTER-SECTION	5.95	15.95		10.00
TP 1	6.02	17.98	3.99	11.96
TP 2	6.90	20.58	4.30	13.68
TP 3	6.90	24.39	3.09	17.49
TP 4	6.20	26.85	3.74	20.65
TP 5	6.66	29.67	3.84	23.01
TP 6	4.81	29.10	4.78	24.89
TP 7	4.49	29.02	5.17	24.53
TP 8	5.27	30.09	4.20	24.82
TP 9	5.44	29.18	6.35	23.14
W-3171			4.18	25.00

$$\Sigma BS = 58.64 \quad 25.00$$

$$\Sigma FS = 43.64 \quad 10.00$$

$$15.00 = 15.00$$

27)

W-3172
Palma Solar

June 19, 1957

J.P. Kilbourn T

Fair & Bright

D.A. Whitehead

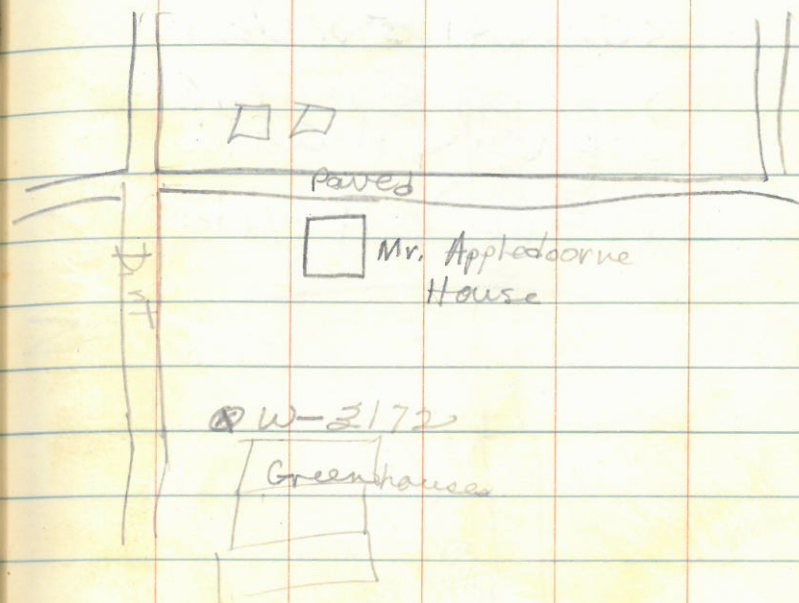
Sta	BS	HI	FS	Elev
Intersection	4.72	9.72		5.00
TP 1	5.98	10.41	5.21	4.51
TP 2	4.84	9.29	5.96	4.45
TP 3	4.95	9.20	5.04	4.25
W-3172			4.59	4.61

$$\Sigma FS = 20.80$$

$$\Sigma BS = 20.41$$

$$39 - 139$$

N ↑



28

W-4199

Palma Sola Toll Plaza
Manatee Ave. West

Elev. 6.63'

from S.R.D.

Bench mark
at Well site

Buena 57

TRAVERSE NOT NECESS.

N

4199

W

W

W

W

W

W

W

W

W

W

MANATEE AVE TO BRADEN →

NEW BRIDGES

NEW

S

Pencil Island

29)

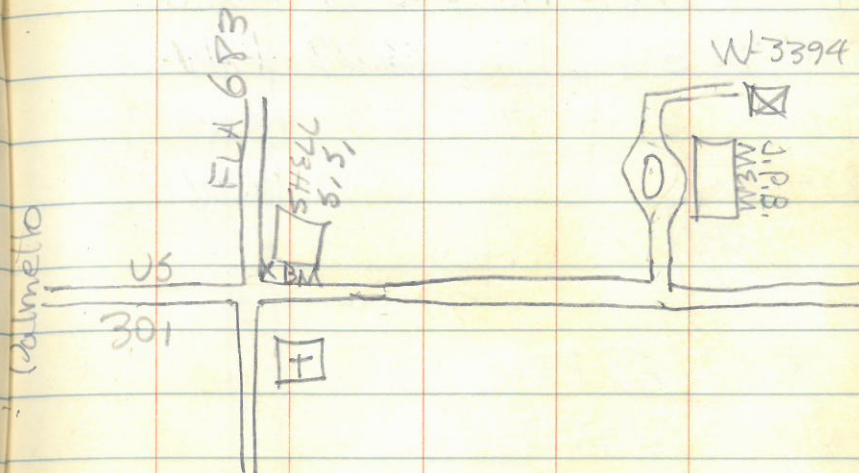
W-3394

Judah P. Benjamin Mem.

June 19, 1957
Sunny & BrightD.A. Whitehead
J.P. Kilbourn

Sta	BS	HI	FS	ELEV
SPOT WHERE US BM WAS SUPPOSED TO BE	5.20	10.20		5.00
TP-1	6.50	10.80	5.90	4.30
W-3394			3.09	7.71

EBS	11.70		7.71
EFs	8.99		5.00
	2.71	ck	2.71



Started traverse from
where BM was supposed
to be as shown on
Ellenton Quadrangle

30

W-1823

Palmetto, Fla.

Sta.	BS	HI	FS	Elev
City Street Profile	5.11	18.11		13.00
TP 1	4.67	17.17	5.61	12.50
TP 2	5.62	17.02	5.77	11.40
TP 3	5.06	17.49	4.59	12.43
W-1823			5.10	12.39

$$\Sigma FS = 21.07$$

$$\Sigma BS = 20.46$$

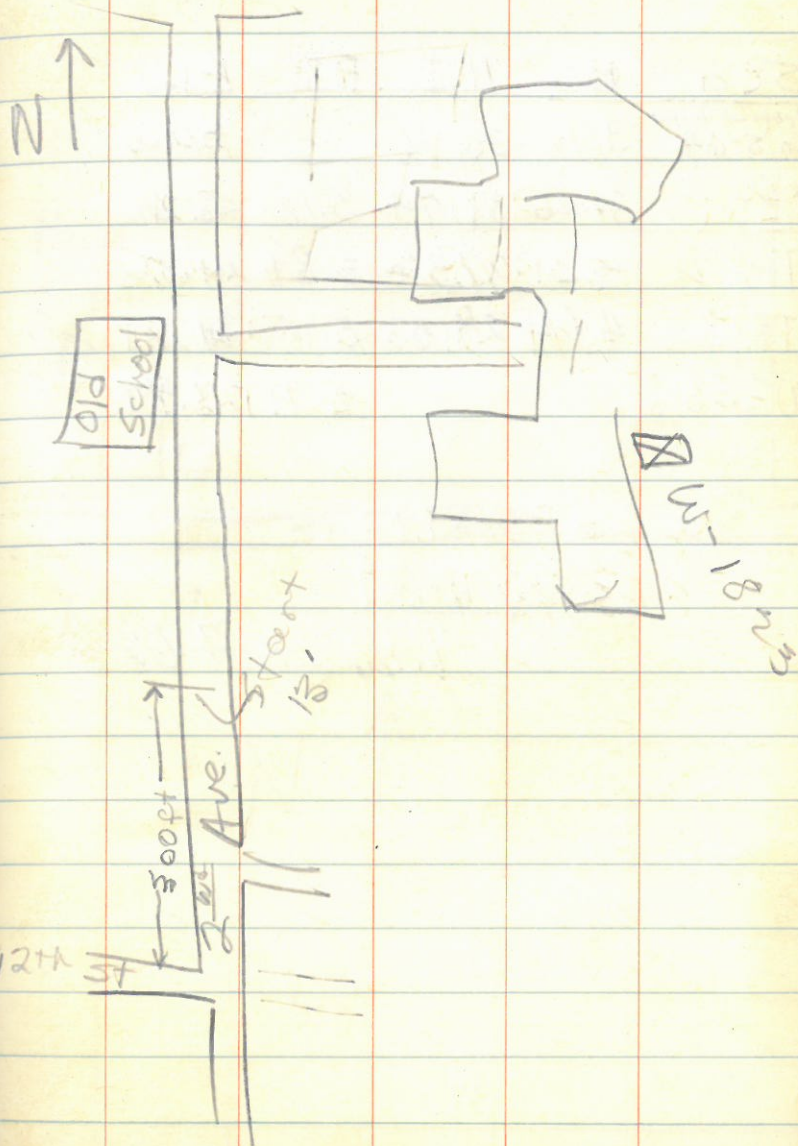
$$.61 \text{ CK } .61$$

June 20, 1957

Fair & Bright

J.P. Kilbourn &

D.A. Whitehead



31)

W-3818

6 mi East of Bradenton

June 20, 1957

Cloudy

J.P. Kilbourn T

D.A. Whitehead

Sta	BS	HI	FS	Elev
Profile Elev on S-64	3.46	33.46		30.00
TP 1	3.46	31.74	5.18	28.28
TP 2	2.51	27.36	6.89	24.85
TP 3	4.84	29.05	3.15	24.21
W-3818			6.71	22.34

$$\Sigma FS = 21.93$$

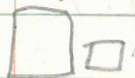
$$\Sigma BS = 14.27$$

$$7.66 \text{ CK } 7.66$$

Rear of

Sew

Drain

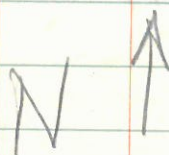


W-3818

Stall Rd

State 64

Bradenton 6 Mi



32/ W-1002
 Now owned by Charles Bissell
 IVEY & WATKINS TRAILER PARK
 BRADENTON BCH.

21 June 57
 Cloudy Bright

L.A. Whitehead T
 J.P. Kilbourn

Sta	Bs	HI	Fs	ELEV
USCGS B.M.	4.33	9.79		5.46
	5.88	10.63	5.04	4.75
	4.49	9.09	6.03	4.60
			5.34	3.15

EBs 1470 5.46

EFs 1641 375

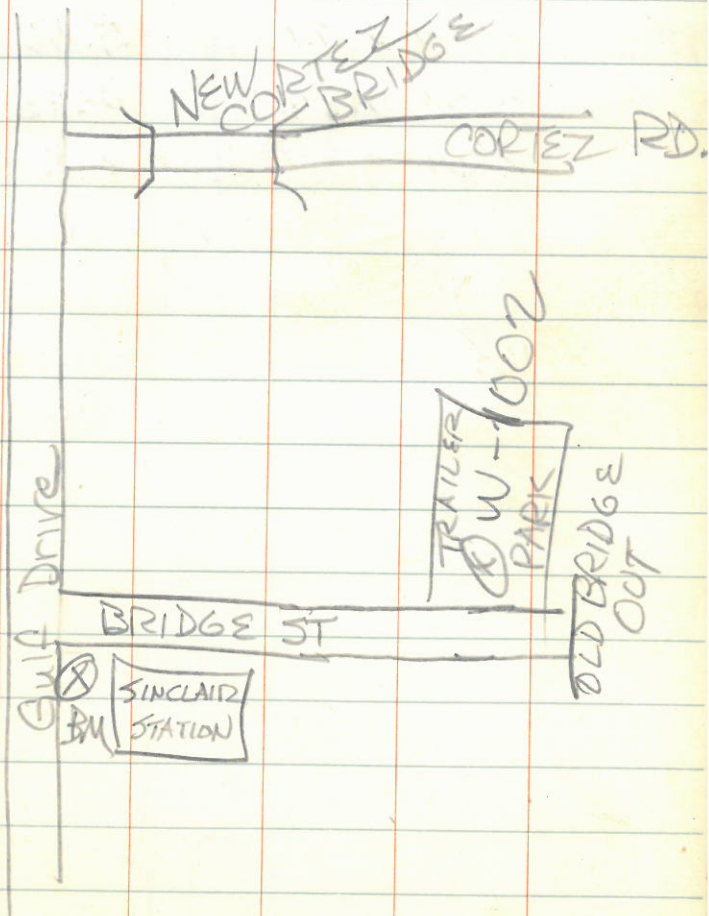
$1.71 = 1.71$

1641

1470

171

W-1002



33

W-2445
Si. of BradentonJune 21, 1957
Fair & BrightJ.P. Kilbourn
D.A. WhiteheadSta. BS #1 FS E100
Contour line on US 41 4.99 24.99 20.00

W-2445

5.47 19.52

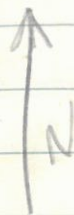
.48

5.47

4.99

48

= .48



Contour



W-2445

US 41

Bokos Creek

34

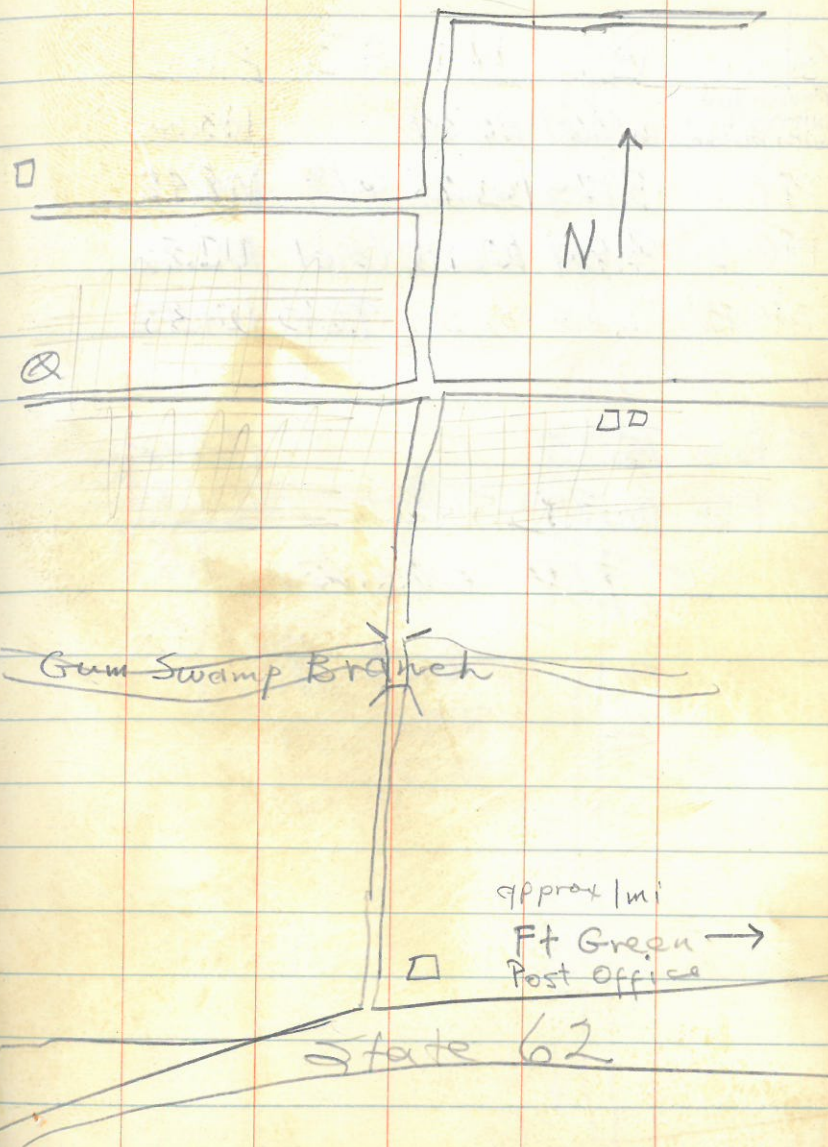
W-4006
Ft. GreenJune 24, 1957
Fairly BrightJ. P. Kilbourn T
D. A. Whitehead

Sta.	BS	HI	FS	Elev
Road Intersection	5.23	123.23		118.00
TP 1	4.14	122.70	4.67	118.56
TP 2	4.60	122.12	5.18	117.52
TP 3	7.92	128.22	1.82	120.30
W-4006			4.98	123.24

$$\Sigma BS = 21.89$$

$$\Sigma FS = 16.65$$

$$5.24 \checkmark 5.24$$

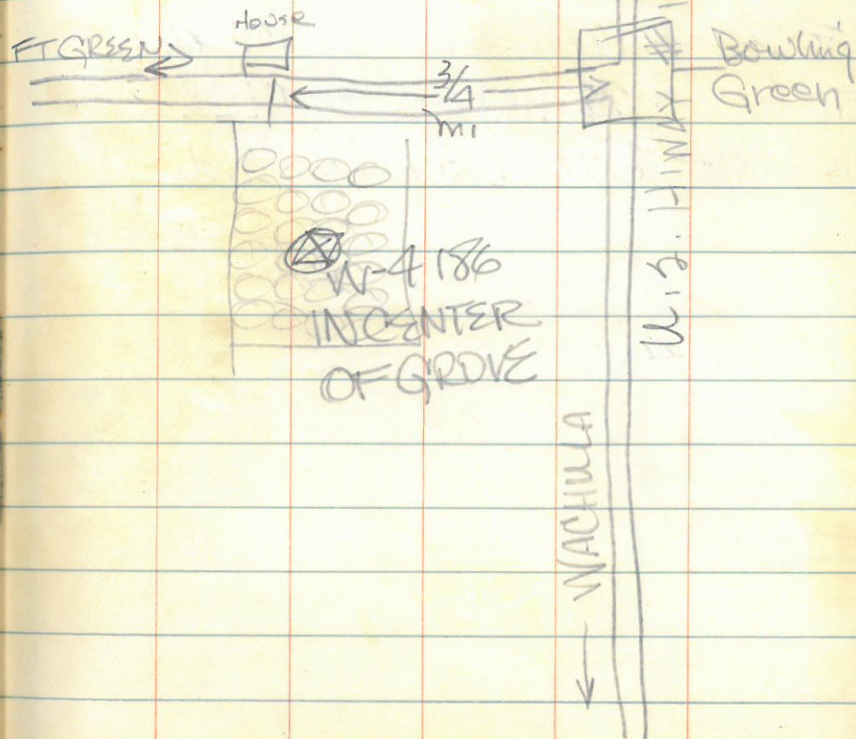


35/

W-4186
Bowling Green24 June 1957
Sunny, but CloudyJ.A. Whitehead &
J.P. Kilbourn

Sta.	BS	HI	FS	Elev.
Power line intersection with Ft. Green Rd	1.67	110.67		103.00
TP 1	3.79	108.27	6.19	104.48
TP 2	3.84	106.10	6.01	102.26
W-4186			4.68	101.42

Σ BS 15.30 103.00
 Σ FS 16.88 101.42
 1.58 checks 1.58



36)

W-3546

Wachula

June 24, 1957

Fair & Bright

J. P. Kilbourn T

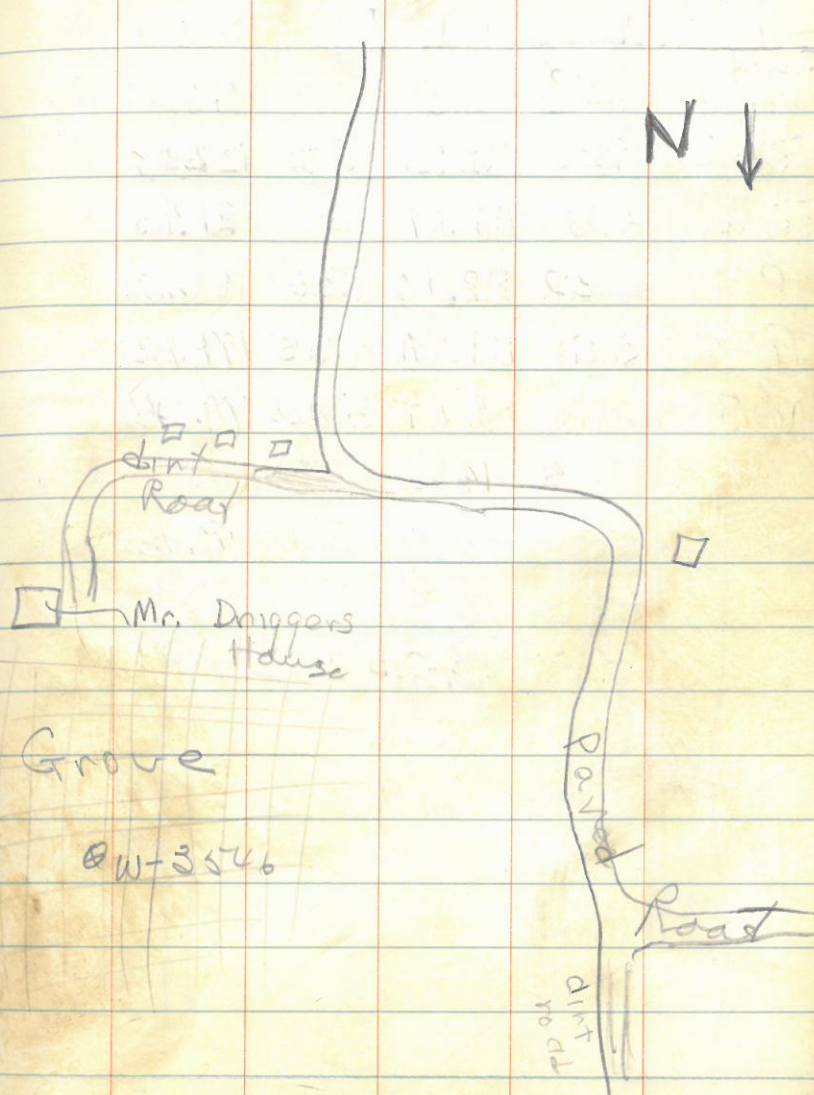
D.A. Whitehead

Sta.	BS	HI	FS	Elev.
Road Intersection	7.59	125.59		118.00
TP 1	5.84	128.43	3.00	122.59
TP 2	4.56	126.04	6.95	121.48
TP 3	.52	118.17	8.39	117.65
TP 4	2.18	111.90	8.45	109.72
TP 5	6.16	115.24	2.82	109.08
TP 6	4.78	114.12	5.91	109.34
W-3546			5.06	109.06

$$\Sigma FS = 40.57$$

$$\Sigma BS = \underline{31.63}$$

$$8.94 \text{ cK } 8.94$$



31/ W - 3559

Rev. L. G. Gebb (Metho.) LAKE LAND

Well 2 mi. S. of WACHULA on

U.S. 17

25 June 57
Cloudy Bright

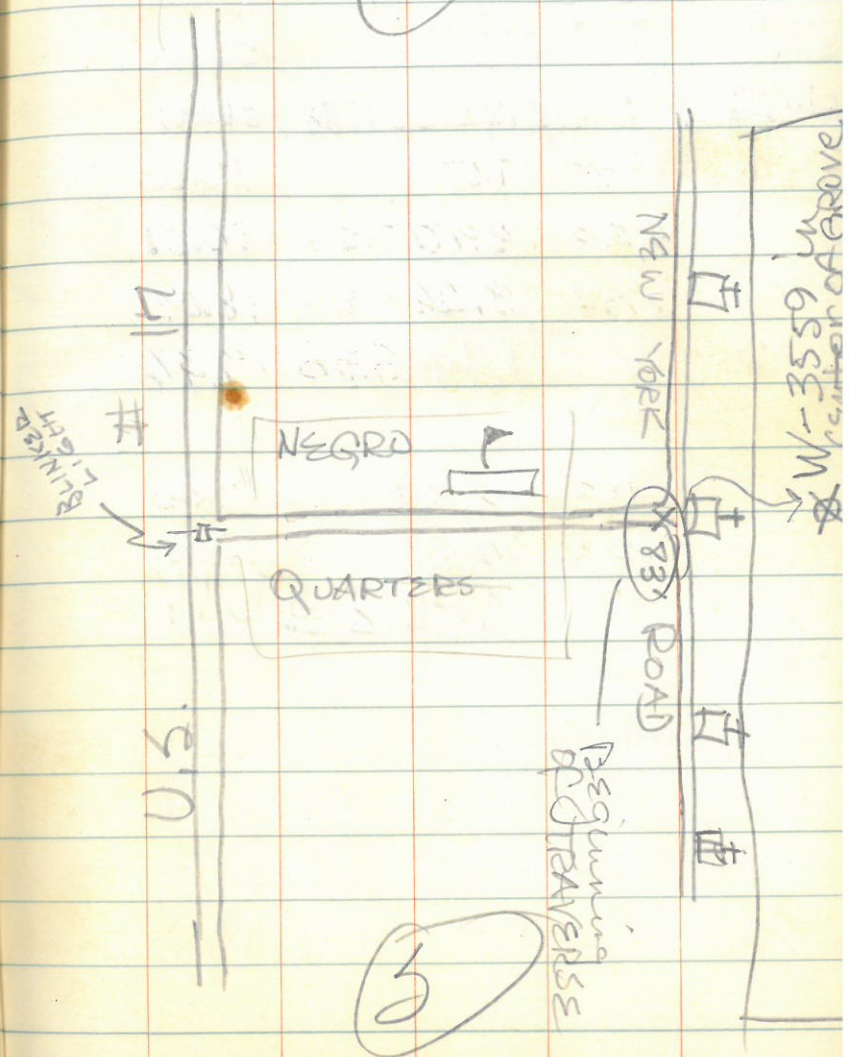
D. A. Whitehead T

J. P. Kilbourn

WACHULA (N)

Sta	BS	HI	FS	Elev.
Rd inter- section	4.57	87.57		83.00
TP-1	2.89	82.90	7.56	80.01
TP-2	5.31	83.36	4.85	78.05
W-3559			3.90	79.46

ΣBS 12.77 83.00
 ΣFS 16.31 79.46
3.54 check 3.54



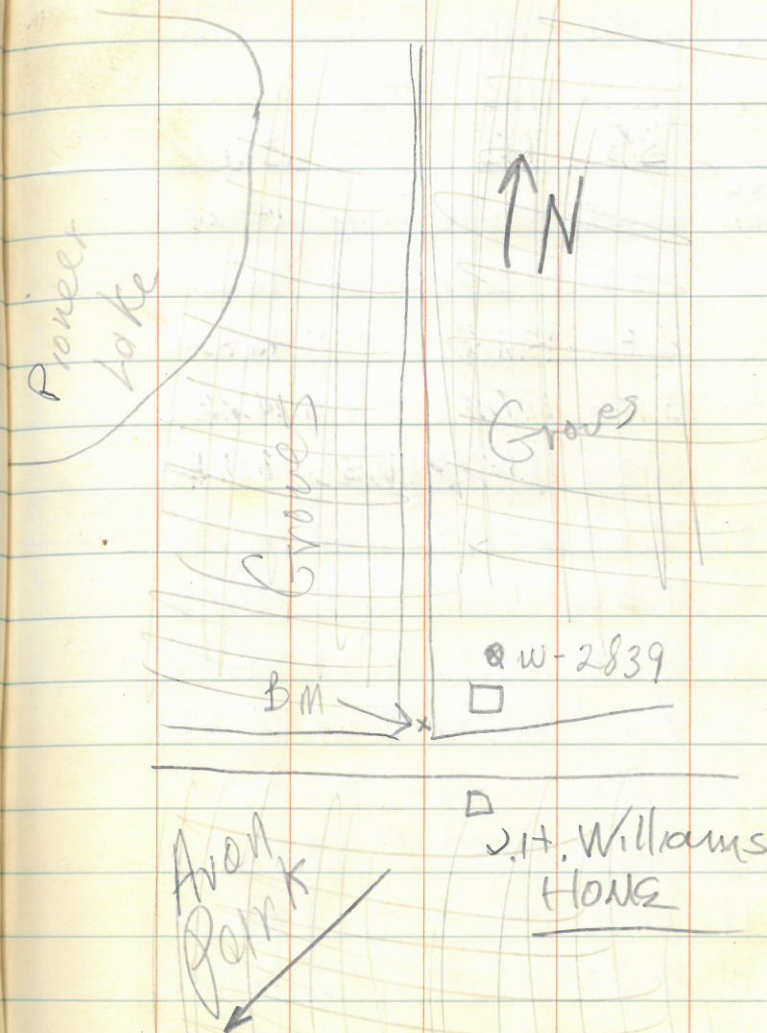
38

W-2839

J. H. Williams, Box 115 Avon Park

Sta	BS	HI	FS	ELEV
U.S. ARMY B.M.	4.74	160.74		156.00
W-2839		5.88	154.86	

EFs	5.88	156.00
Σ BS	4.74	154.86
1.14	closure	1.14

25 June 1957
Cloudy BrightJ. P. Kilbourn &
J. A. Whitehead

339

W-911

Di Giorgio, Alpine Grove, W#3. Now owned
by Minote Maid. For INFO CONTACT
J.H. Williams.

Sta BS HI FS ELEV

RD INTER-
SECTION 8.65 164.65 156.00

TP-1 9.80 172.57 1.88 162.77

TP-2 2.88 171.67 3.78 168.79

TP-3 8.06 170.43 9.30 162.37

TP-4 0.34 169.18 1.59 168.84

TP-5 7.63 169.14 7.67 161.51

TP-6 1.22 167.38 2.98 166.16

TP-7 6.04 164.37 9.05 158.33

TP-8 4.55 166.38 2.54 161.83

TP-9 7.40 165.82 7.96 158.42

TP-10 0.59 156.59 9.82 156.00

TP-11 2.10 148.84 9.85 146.74

TP-12 4.85 152.47 1.22 147.62

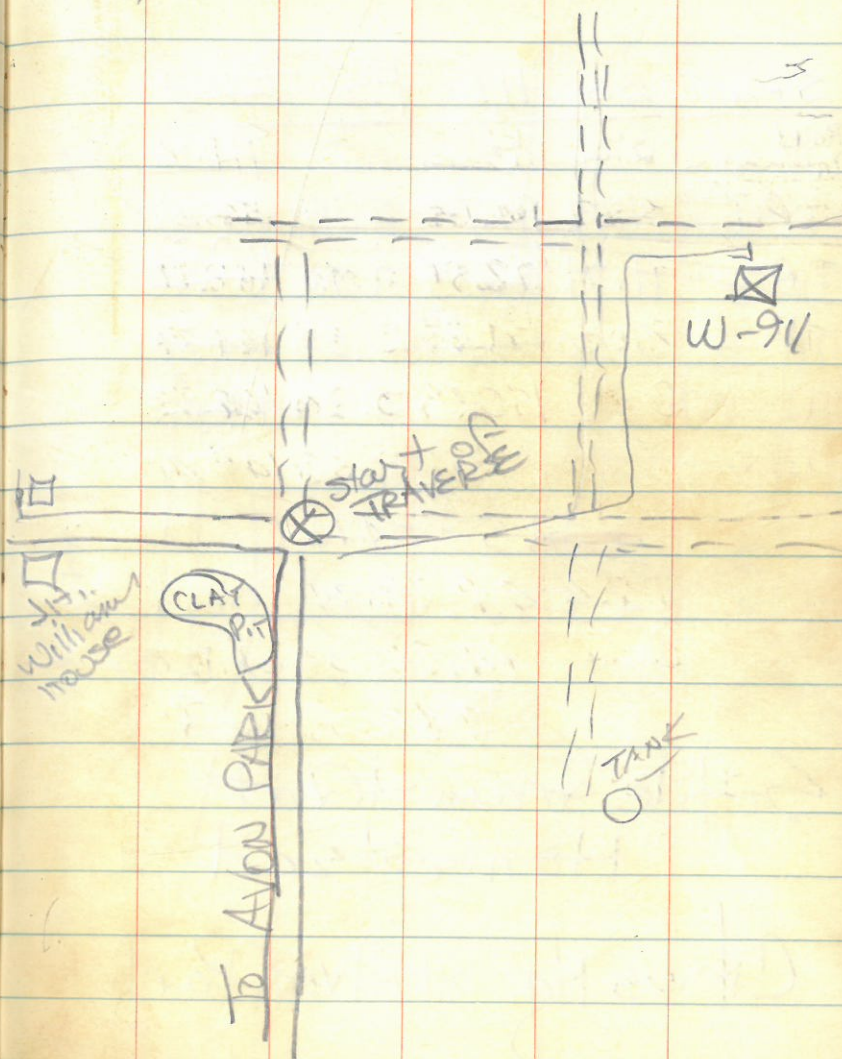
W-911 5.97 146.50

ΣFS 73.61 156.00

ΣBS 64.11 146.50

9.50 cts 9.50

25 June 57 J.A. Whitehead &
Cloudy, Bright J.P. Kilbourn



340

W-2851
Avon Park

June 26, 1957

Fair $\frac{1}{2}$ Bright

J.P. Kilbourn A

D.A. Whitehead

Sta	BS	HI	FS	Elev
Road Intersection	2.46	113.46		111.00
TP 1	4.47	112.74	5.19	108.27
TP 2	11.71	122.155 123.35	1.90	110.84 111.84
TP 3	5.50	127.82 128.82	.23	252.32 149.32
W-2851			4.52	123.30 124.30

$$\Sigma BS = 24.14$$

$$\Sigma FS = 11.84$$

$$12.30 \text{ at } 12.30$$

Soffile main HQ at
Homestead

Citrus Hq. at Avon Park



3 A1

W-2859

Mrs. Ben Conner

26 June 57

D.A. Whitehead

Cloudy Bright

J.P. Kilbourn

Sta B5 HT FS ELEV

RD INTER-
SECTION 1.89 143.89 142.00

TP-1 7.61 146.94 4.56 139.33

TP-2 3.06 144.77 5.23 141.71

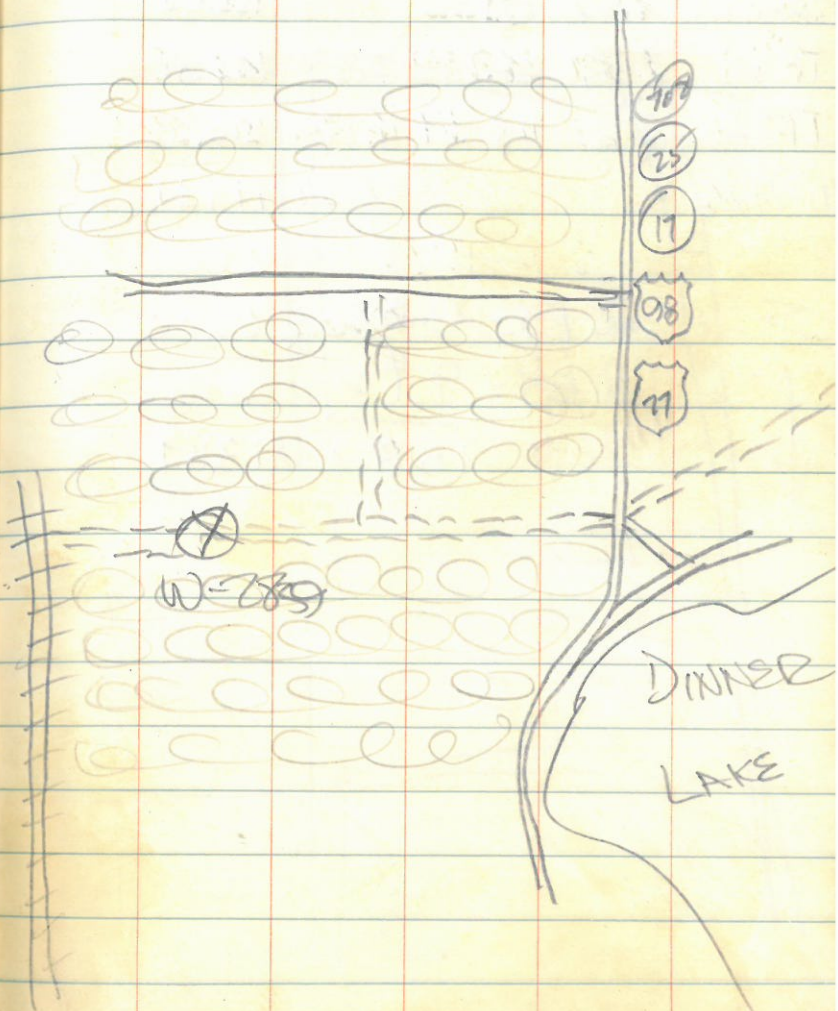
TP-3 9.15 150.08 3.84 140.93

W-2859 0.68 149.40

EBS 21.71 149.40

EFS 14.31 142.00

7.40 checks 7.40



3 ~~AN~~ W-1464
L. Maxcy, Inc., Frostproof

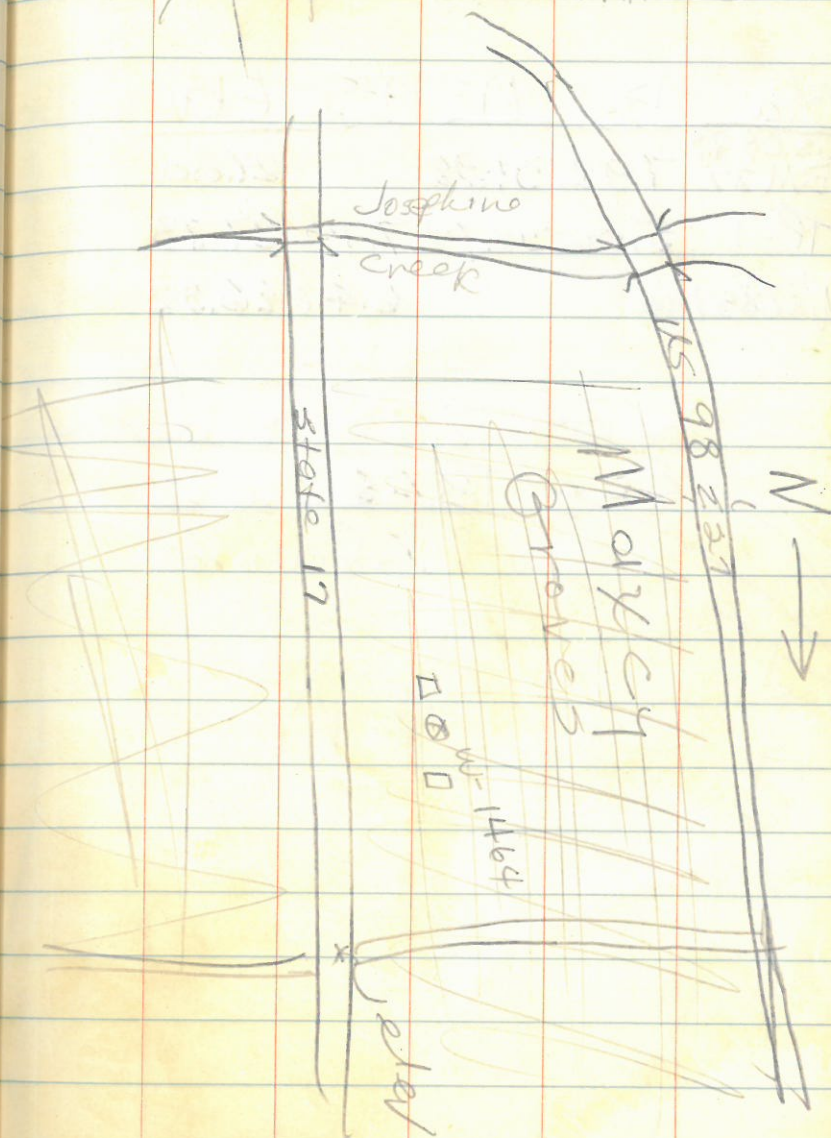
26 June 57 J.P. Kilbourn &
Cloudy Bright D.A. Whitehead

Sta	BS	HI	FS	ELEV
Road Intersection	3.46	131.46		128.00
TP 1	2.37	126.18	7.65	123.81
TP 2	3.63	118.69	11.12	115.06
W-1464			4.58	114.11

$$\Sigma FS = 23.35$$

$$\Sigma BS = 9.46$$

$$1389 \text{ ckl } 389$$



43

W-2857

Parker Bros., Arcadia, Fla.

26 June 57

D.A. Whitehead

Cloudy, Bright

J.P. Kilbourn

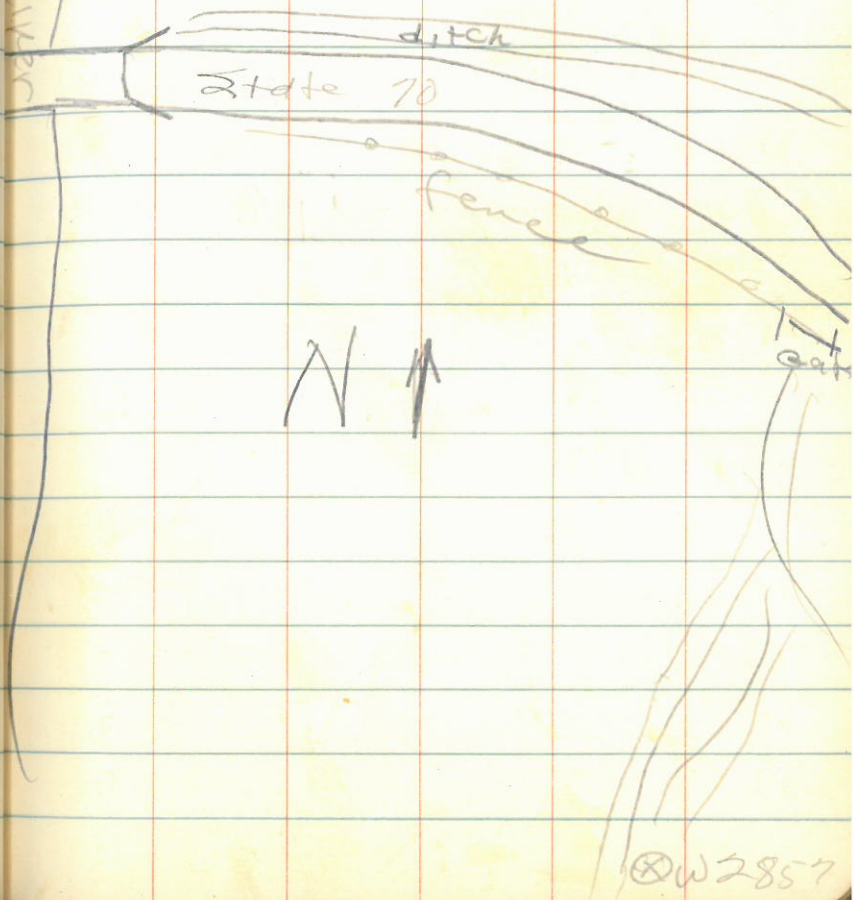
Sta	Bs	HI	FS	Elev
US.C&GS BM 27	7.92	34.92		27.00
TP-1	5.06	32.79	7.19	27.73
W-2857			6.47	26.32

ΣBS 12.98 27.00

ΣFS 13.66 26.32

.68 checks .68

Kissimmee River



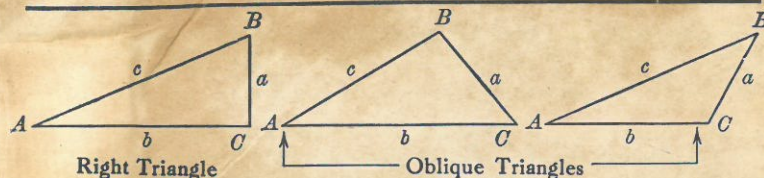
ABM 26

W-2857

9.96 5.46

4.50 4.71 5.25

TRIGONOMETRIC FORMULÆ



Solution of Right Triangles

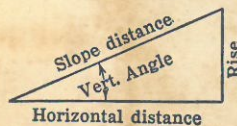
For Angle A. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{b}$, $\operatorname{cosec} = \frac{c}{a}$

Given a, b	Required A, B, c	$\tan A = \frac{a}{b} = \cot B, c = \sqrt{a^2 + b^2} = a \sqrt{1 + \frac{b^2}{a^2}}$
a, c	A, B, b	$\sin A = \frac{a}{c} = \cos B, b = \sqrt{(c+a)(c-a)} = c \sqrt{1 - \frac{a^2}{c^2}}$
A, a	B, b, c	$B = 90^\circ - A, b = a \cot A, c = \frac{a}{\sin A}$
A, b	B, a, c	$B = 90^\circ - A, a = b \tan A, c = \frac{b}{\cos A}$
A, c	B, a, b	$B = 90^\circ - A, a = c \sin A, b = c \cos A$

Solution of Oblique Triangles

Given A, B, a	Required b, c, C	$b = \frac{a \sin B}{\sin A}, C = 180^\circ - (A + B), c = \frac{a \sin C}{\sin A}$
A, a, b	B, c, C	$\sin B = \frac{b \sin A}{a}, C = 180^\circ - (A + B), c = \frac{a \sin C}{\sin A}$
a, b, C	A, B, c	$A + B = 180^\circ - C, \tan \frac{1}{2}(A - B) = \frac{(a - b) \tan \frac{1}{2}(A + B)}{a + b},$ $c = \frac{a \sin C}{\sin A}$
a, b, c	A, B, C	$s = \frac{a + b + c}{2}, \sin \frac{1}{2}A = \sqrt{\frac{(s - b)(s - c)}{bc}},$ $\sin \frac{1}{2}B = \sqrt{\frac{(s - a)(s - c)}{ac}}, C = 180^\circ - (A + B)$
a, b, c	Area	$s = \frac{a + b + c}{2}, \text{area} = \sqrt{s(s - a)(s - b)(s - c)}$
A, b, c	Area	$\text{area} = \frac{b c \sin A}{2}$
A, B, C, a	Area	$\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$

REDUCTION TO HORIZONTAL



Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle = $5^\circ 10'$. From Table, Page IX. $\cos 5^\circ 10' = .9959$. Horizontal distance = $319.4 \times .9959 = 318.09$ ft. Horizontal distance also = Slope distance minus slope distance times (1 - cosine of vertical angle) With the same figures as in the preceding example, the following result is obtained. $\cos 5^\circ 10' = .9959$. $1 - .9959 = .0041$. $319.4 \times .0041 = 1.31$. $319.4 - 1.31 = 318.09$ ft. When the rise is known, the horizontal distance is approximately:—the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance = $302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$ ft.