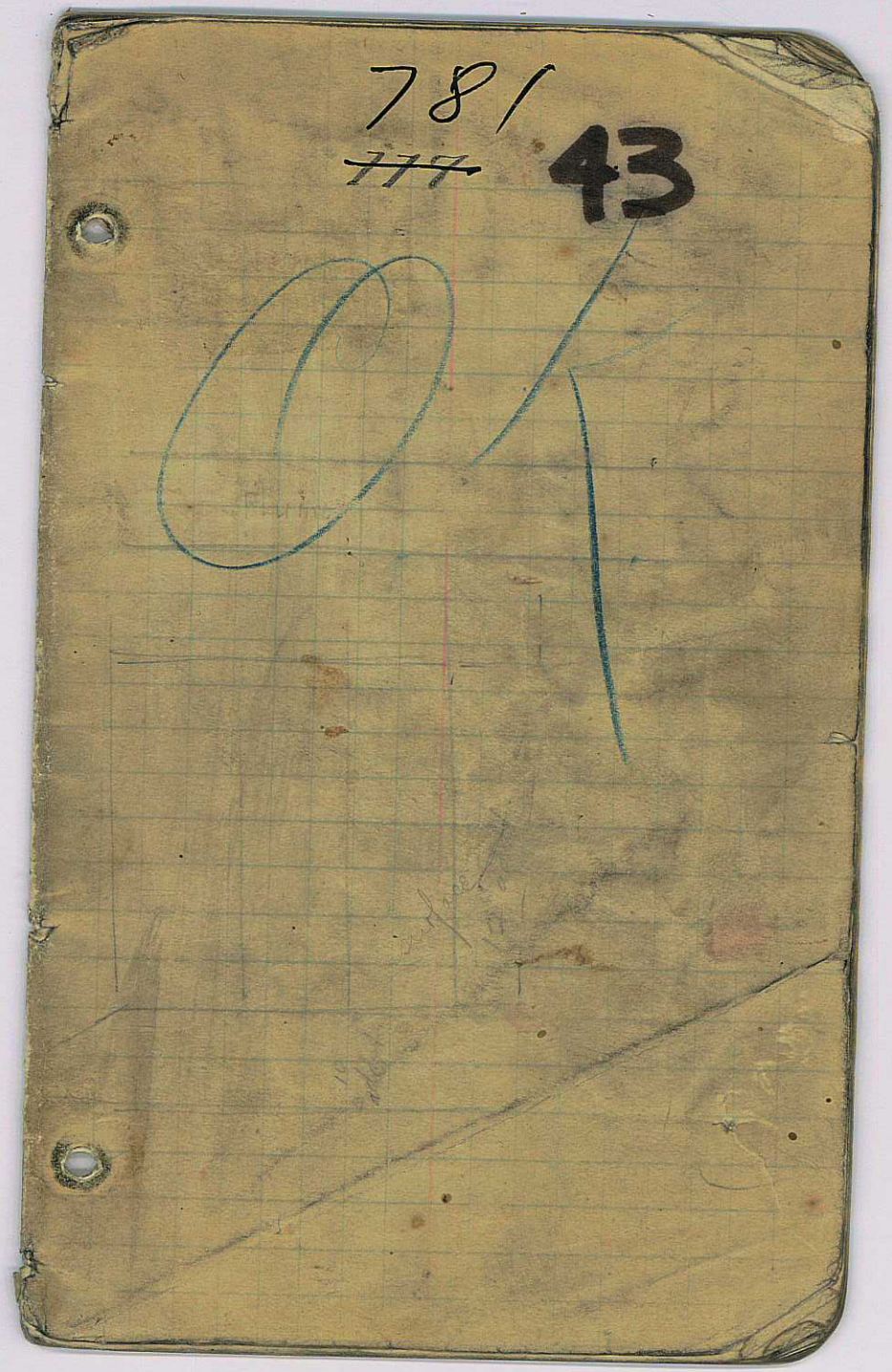

781
~~777~~
43
OK

Sept 12-04

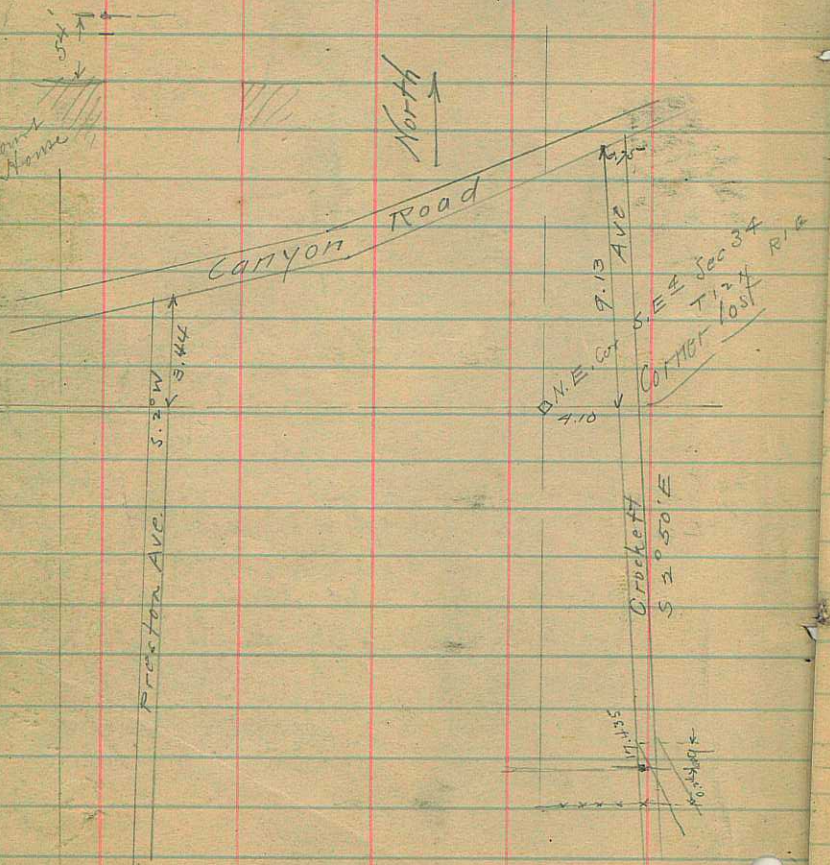
1 Reload

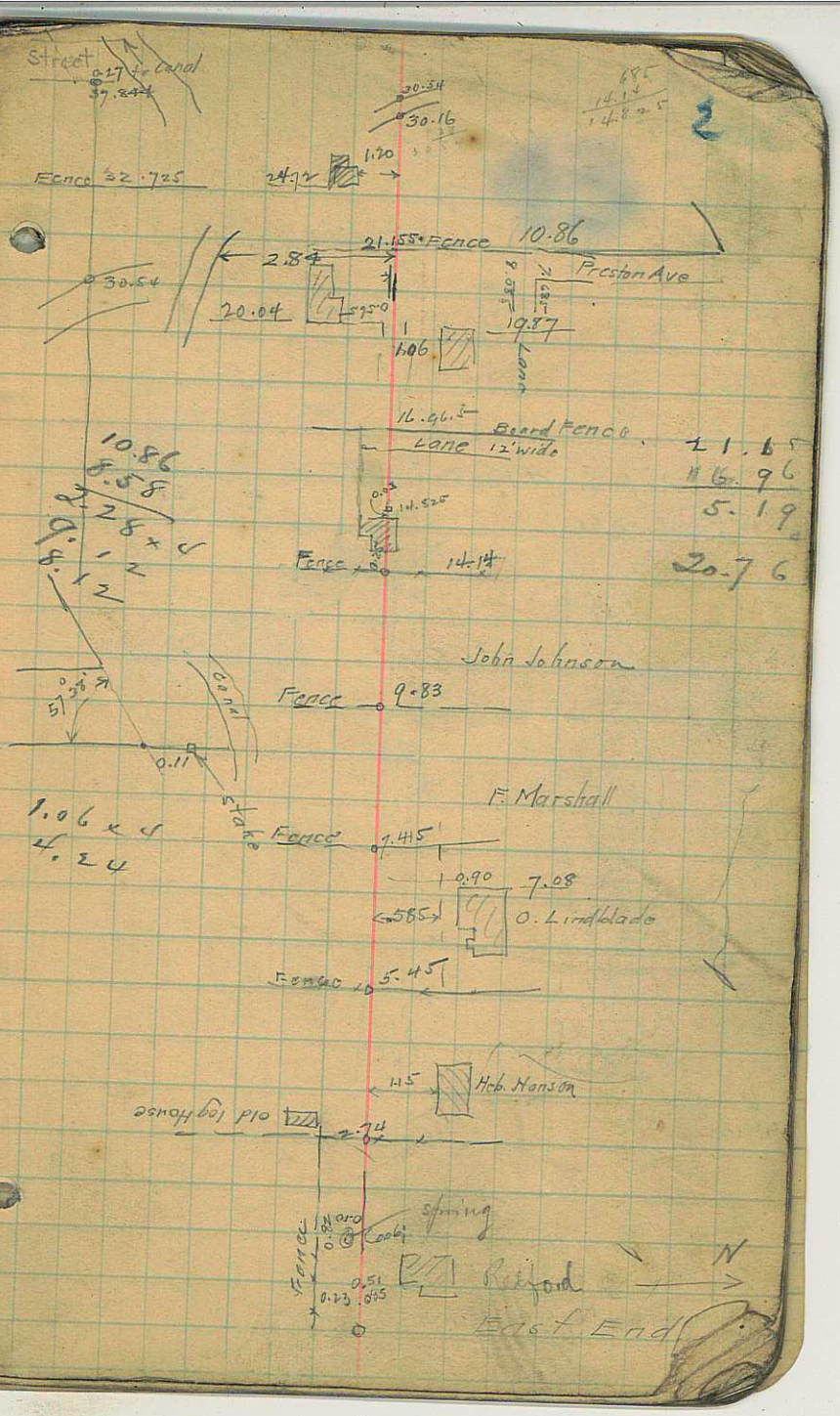
North Str.

Continued from Canyon Road East

Main + 2nd North

line 54' north from Cor. N. Fence lines & links north of cr. line.





3

Grade for Jos E. Wilson on N side B.I. Plat B Sign. C.E. for Erica) Sept 28/04

Sta.	BB.	Ele.	G.I
0+10		498.900	
		493.56	
0	2.135	498.845	500.980
0+10	2.080		
0+50	.356		
	2.036		
1	.445		
	2.581		
1+50	.445		
	3.326		
2	.445		
	3.771		
2+50	.445		
	4.216		
3	.445		
	4.661		
3+50	.445		
	5.106		
4	.445		
	5.551		
4+50	.445		
	5.996		
5	.445		
	6.441		
5+50	.445		
	6.886		
6	.445		
	7.331		

Our N. side of Camp

500.980
498.90
2.08

4.09
3.95
.14

498.8
2.135
500.980

Remarks

4

established grade on N side B.I. = 00.89 o/o

on grade

on " NW cor. sd. Blk.

on stone cup. NE. cor. Bl. Plat B

on grade.

.00.89
40
.35.60
2.1890
.1445

8.35
4.25

(27.2')

Final Grade for Gut on W side B. 14

No	RR on gr.	RR on ground	Remarks
0	5.060	NW cor. B.14	Elev = 602
	.164		
27+2	4.896	4.92	.602
			27.2
0+52.2	.150		1204
	4.746		4214
0+77.2	.15		1204
	4.596	4.90	163744
	.15		
1+02.2	4.446	4.83	
	.15		
1+27.2	4.296	4.81	
	.15		
1+52.2	4.146	4.53	
	.15		
1+77.2	3.996	4.48	
	.16		
2+02.2	3.836	4.43	
	.15		
2+27.2	3.686	4.61	
	.15		
2+52.2	3.536	4.63	
	.15		
2+77.2	3.386	4.50	
	.15		
3+02.2	3.236		

2.28
6.50
8.78

12.00
8.78
3.22

99.80
49.90
4
45.90

99.80
49.5
4
25.50
8.66
36.84

.26 .26

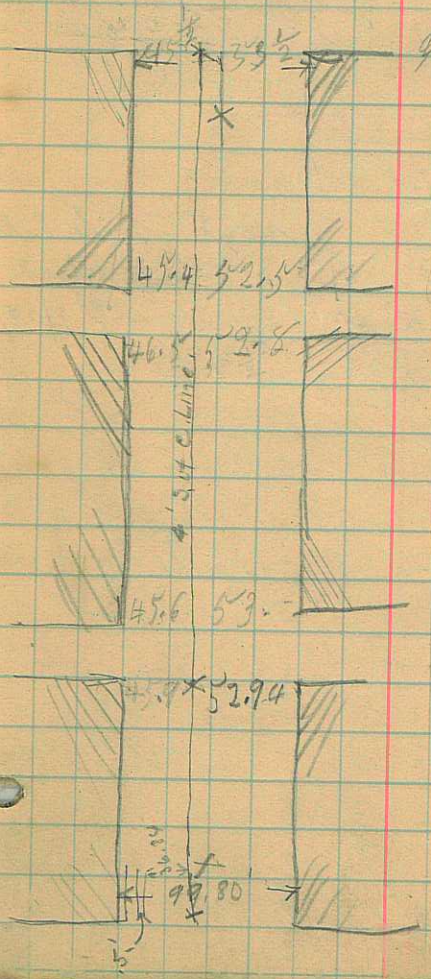
W

99.80
49.90

6

2.16
6
8.16
5.616
45.5
5
31.5
4.990

3.58
3.39
.19
12
.38
1.9
2.28



52.8
16.5
(99.3
49.6

45.6
5.3
(98.6
49.3

45.90
52.94
(98.84
49.42
4

7

Circle Block opps. 4th Ward Church

Nail on S.E. Cor. of Bk = 100.00

Elev. Top of P.K. Nail Box post = 103.304

B.S.	F.S.	
3.944	7.425	100.000
1.338	4.355	6.498
5.28 =	11.780	93.502

Dif = 6.498

sent in to City Office 1/15/06

Elev. N.E. Corner of Block 93.502 Nail in Post

Fall is from S to North = 1.08%

Opt 1 - 6% Grade for John Quagle

sent in to City Office 1/15/06

Elev. on Cen. at J. Quagles sr. on West edge = 100.36 (Rdg = 3.40)

Elev. on S.E. Cor. of Block on Nail = 100.00

Elev on N.E. " " " 97.39 (Rdg = 3.71, d = 4.32)

Fall from S to North = 2.61 ft = 0.435%

Dist " S.E. Cor to S. Line = 155'

in 178' fall = 0.77' From S. " to Gate 23'

8

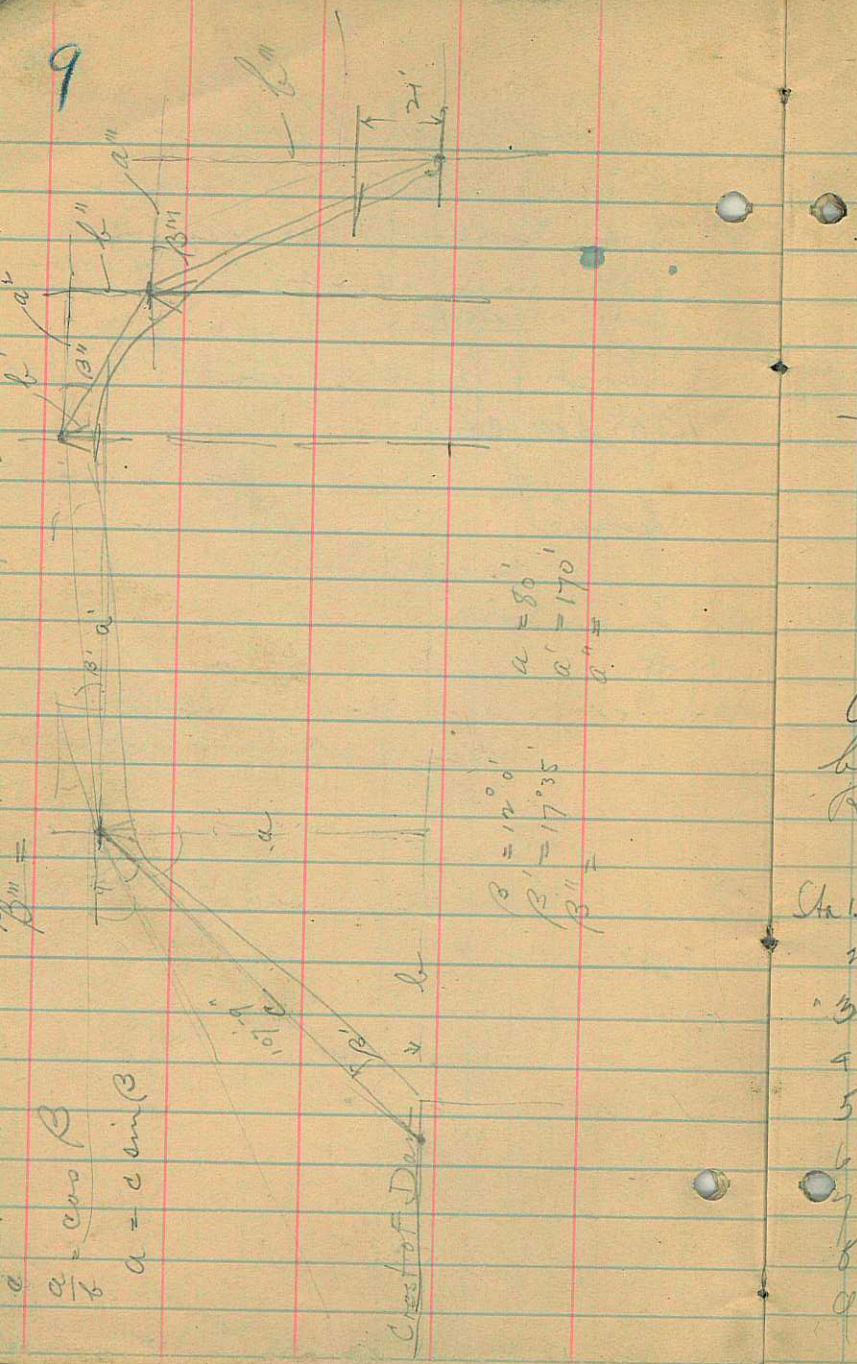
Last Chance Canal

Flume 16' wide 4'-3" water rate approx 8' pr sec. summit to be increas about 1/3 (on upper end) approx. 450 sq. ft.

East Bundy Canal to Carry 150 sq. ft.

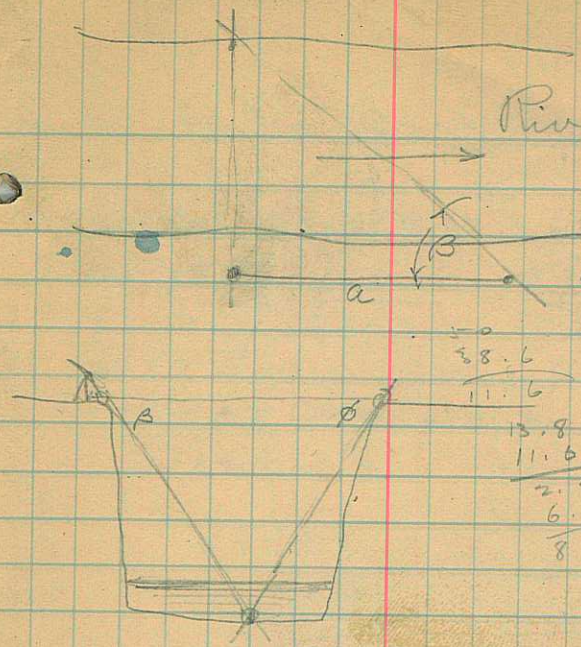
Tunnel

9



10

River Crossing



B =

a =

Crest of Present Dam is 17-6 below Stake 700. West (in Ravine.

Ravine

Sta 1.00 - Bottom of ravine on grade

2.00 " " "

3.00 " Cut "

4 " Cut 13'

5 " 8'-3"

6 " 6

7 " 5'-9

8 " " "

9 " " "

B of Ravine is Cut Grade

First line up 107.5 ft 36°35'

up

107.5 × 0.5965

6450
9675
53750
64.07

107.5 × .8030

3225
8600
86.3225

68.0 Angle – 17°45

68 × 0.2207

476
136
136
150076

68 × 0.9753

78024
58518
663204

Dist. = 396.0 Angle 1°30'

396 × 0.0262

792
2376
792
10375.2

396 × 0.9997

2772
3564
3564
3958812

Down

Dist. Angle

80 12°

80 × 0.2079

16.632

0.9781 × 80

78.248

170 × 17°35

.3311 × 170

21147
30217
51357.0

.9533 × 170

66731
9533
162061.0

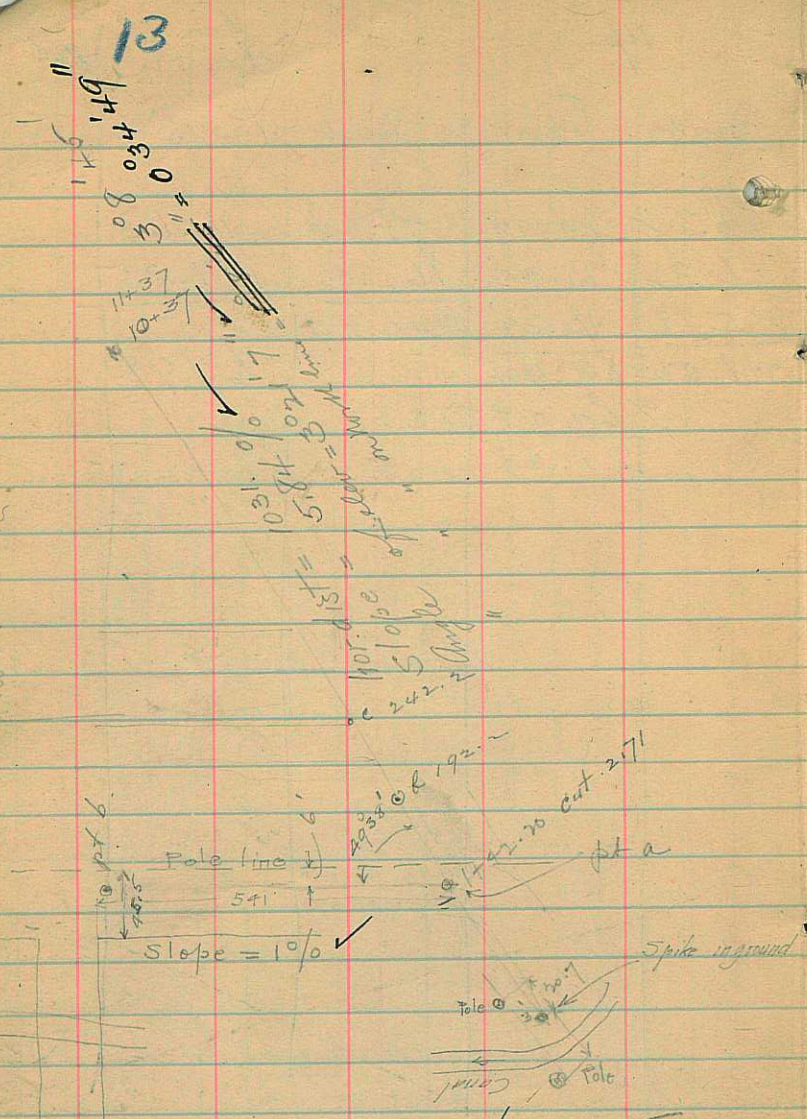
up

Dist	Elev
86.32	64.07
66.32	15.00
395.88	10.37
548.52	89.44
	67.98
	21.46

down 12

Dist	Elev.
78.24	16.63
161.06	151.35
240.30	
	67.98

13



Cut at pt. a = 1.6 ft or approx 20"

if using ∠ of elevation on long line use 3°21'7"

From long line using ∠ of elevation going North = ~~1°8'45"~~ 0°34'49"

17

Long Line

B.S.	F.S.	Interm. Elev.
12.115	7.22	3.160
10.30	0.00	
11.43	0.00	
11.99	0.10	
11.02	0.34	
8.83	2.41	
65.68	5.05	

F.S. on pt a
Interm on nail in post

Dif. of Elev = 60.63
61.63
+ 5
66.63 ∠ corrected

Short Line

B.S.	F.S.	Interm. Elev.
5.84	8.04	
7.5	9.00	10.17
7.99	15.07	3.39

on Blocks Com. (Butler)
on Door Sill Transform. House

Dif. of Elev = 7.08
13.

Elevation on Spike

near Bridge assumed ~~500.00~~

Elev. B.M. nail in Pole = 508.51

" on point a = 508.29

" at every 50' from a = 511.21

" at 100' from a = 514.13

Slope E-W = 3°8'45" = 5.47%

" N-S = 4.37' in 541' = 0°28'

Elev. on BM = 100 on a = 107.78

" " pt b = 103.41 slope = 0.8%

15

Grant Hall

H. I

4.925

5.58 − 2.30 = 3.28

4.36 − 1.48 = 2.88

5.58 − 4.20 = 1.38

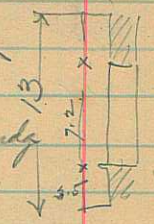
1.38 + 1.2 = 2.58

4.63 − 3.05 = 1.58

4.63 + 2.28 = 6.91

6.50 − .41

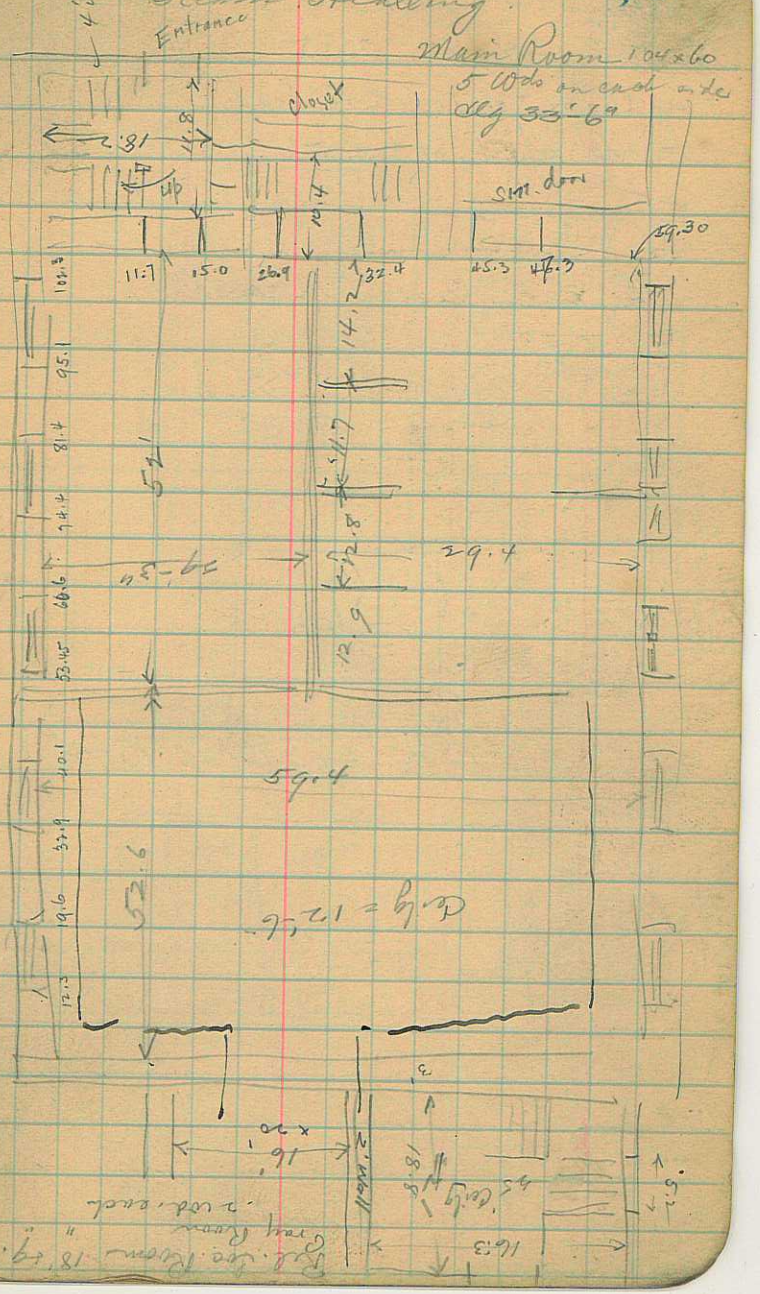
From Entr. Floor to Floor abov
Boiler R = 10'-0'. From this to
Plate 12'-2", 11'-2 to gallery Lindy



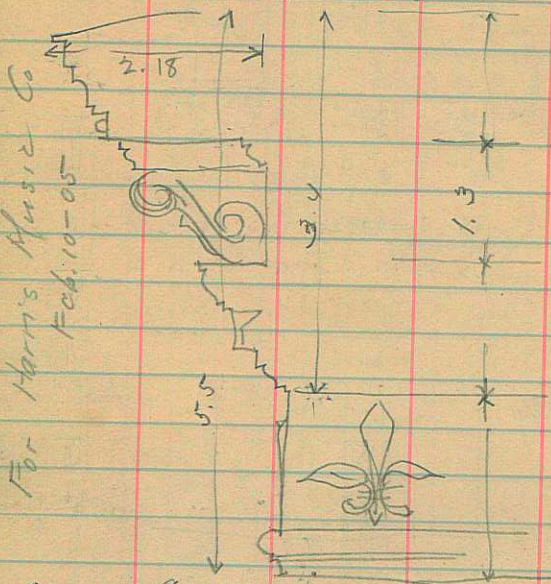
Tabernacle Jan 24 - 05

Steam Heating.

16

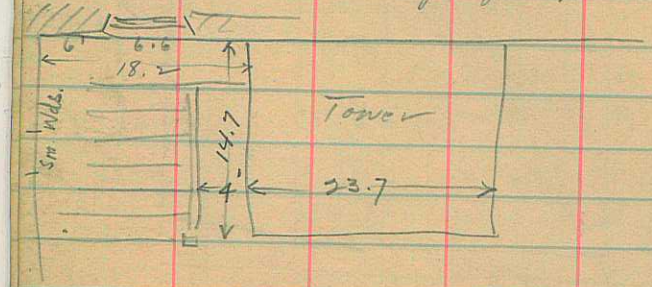


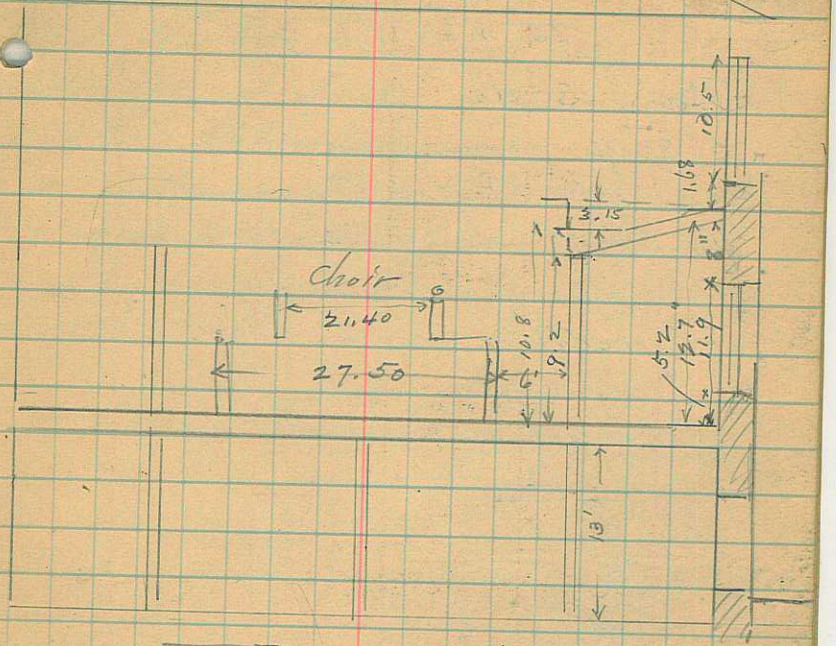
From top of Cap. (base of Bennis) to bottom of Cornice 3.9 + L of rod.
Bottom Cornice 2.55
Sill on top of Cornice
Winds short rod + 5"

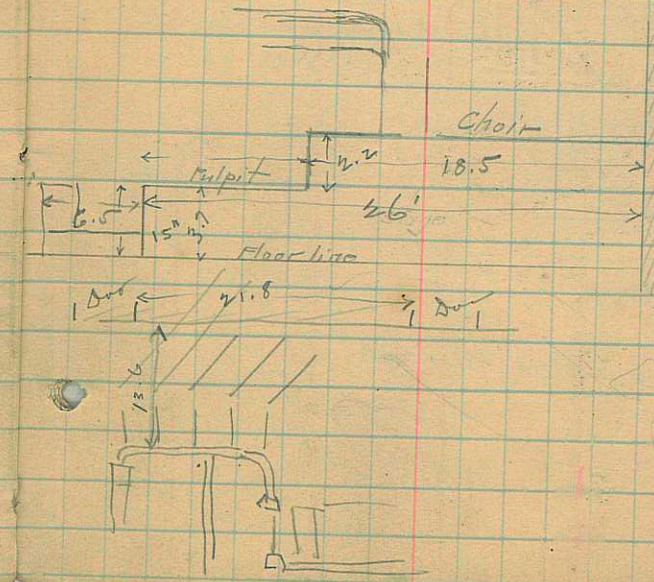


For Harris Mansion
Feb. 10-05

From Grade to Top of Cap 15'-5"





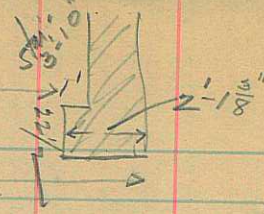


19

h = L of rod + 10 1/2"

20-8 3/8"

25.15 Ft.



Stair 3'-10"

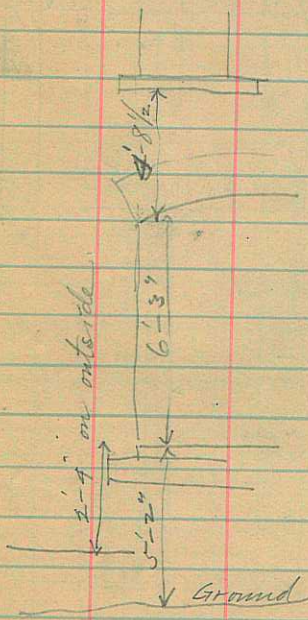
Floor 2 Steps above sidewalk

13'-3" betw. Floor & Beam

Stair is back 7'-10" From Bldg. line

10'-1" width of rock in Boil. Room

Tabernacle



6' 3 5/16

Apr. 7-05 Dif. of Elevations 20

John A. Hendrickson's on

Main Street

Difference betw. Riter's Door Sill and Earth line of Hendr. = 0.126' or 1 1/2"

Diff. betw. R. Door Sill and Store Entrance of Hendr = 0.457' or 5 1/2" 5 31/64"

Diff. on cem walk in Front of Doors = 2 5/8"

Floor in Hendricks betw Front & Rear is level.

Trees & Stumps (to be moved on Dist 6.)

1
1
1
1

1 1 1
2 1/2
1 1 1
1 1 1
1 1 1
2 2

Ditch Crossings

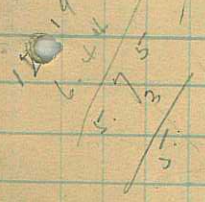
1 1 1 1 1 1 1 1 1 1 1

Cache County

Rdg

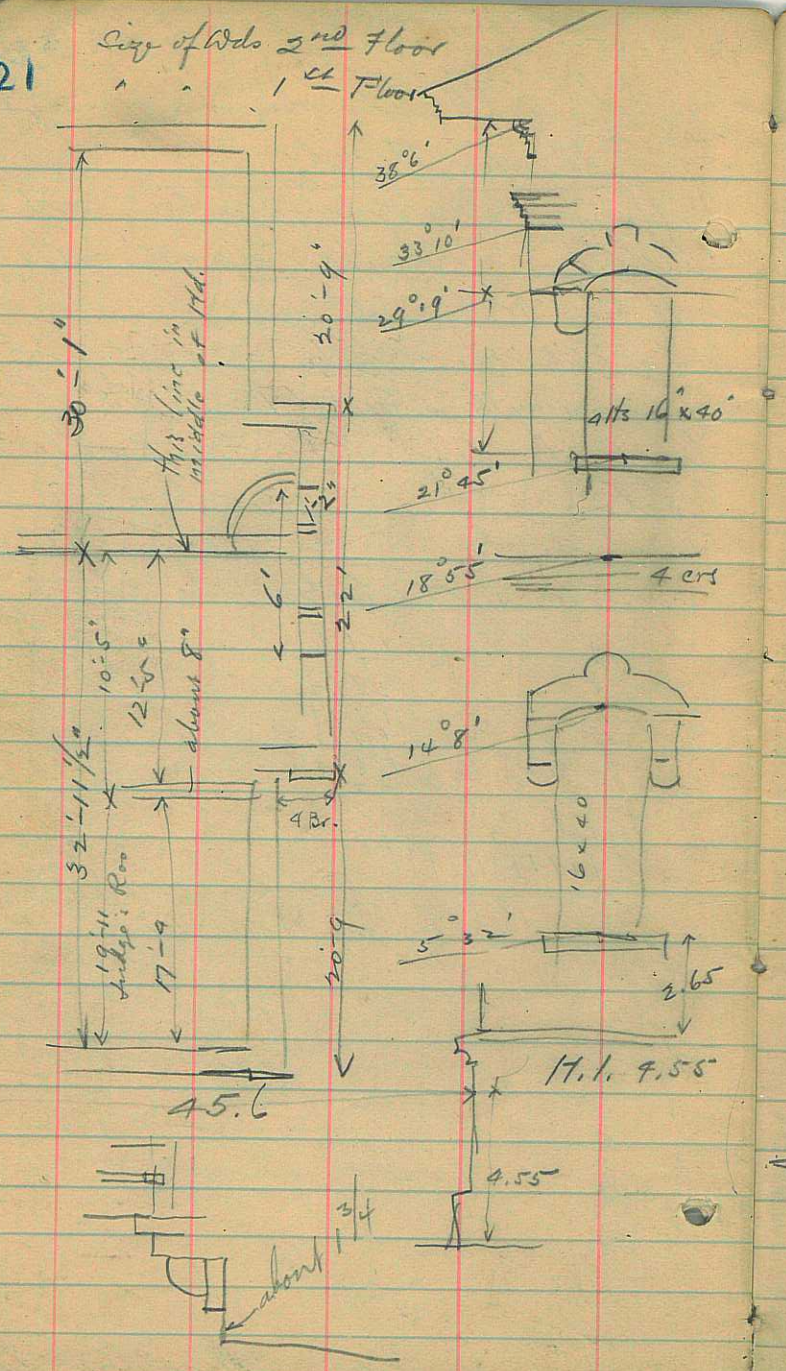
6.1

5.9



21

Size of Wds 2nd Floor
" " 1st Floor

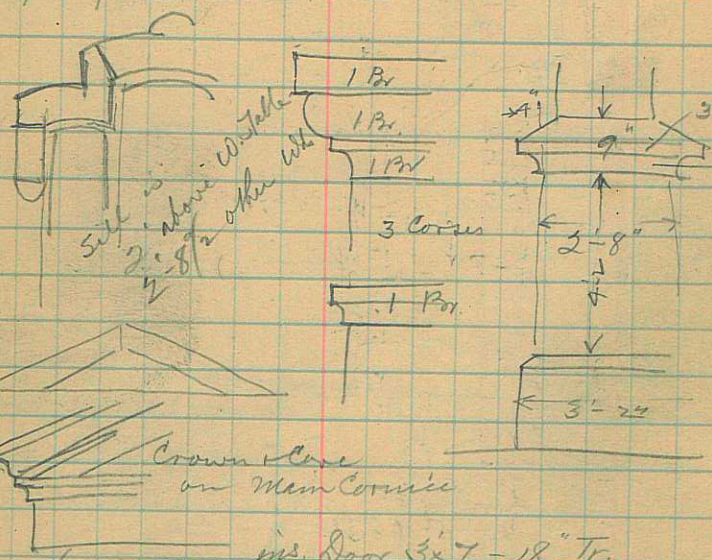


B.J. rm. Grade = 0.7

22

B. Telephone Co.
Center Str
May 22

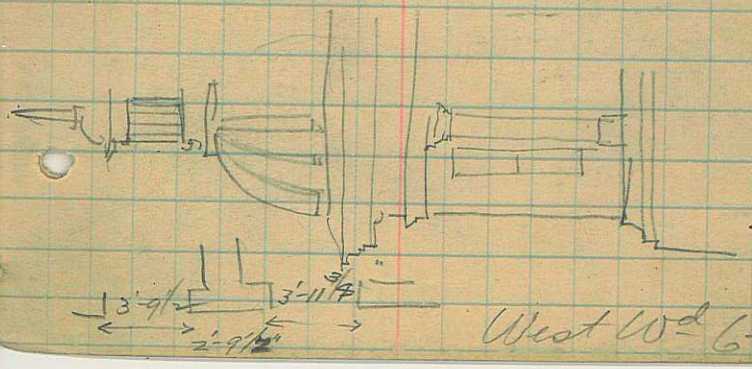
Com n.w. Cor of Bl. East 7 rods = 115.5'
to East line of Bldg = 2'.76 or 2'-9" from
Property line.



ins. Door 3'x7'-18" Tr.
8" Casing

13½" Base
3 members

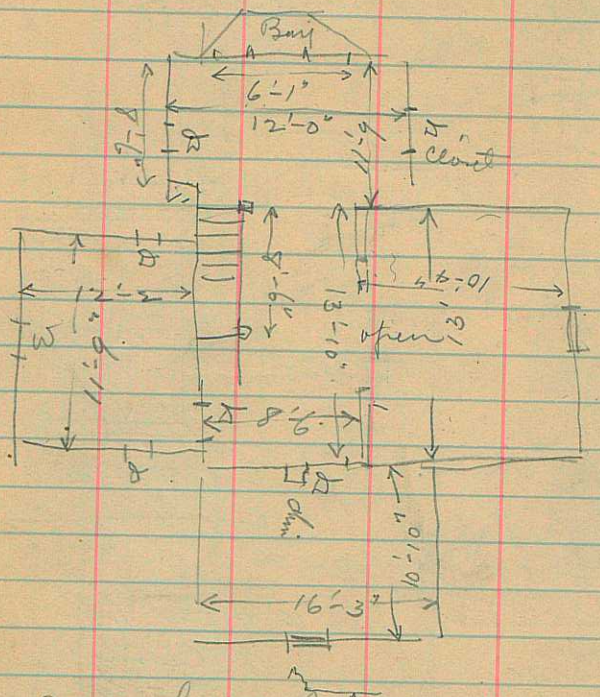
X Rear Wall = 14"



West Wall 6'-4¾"

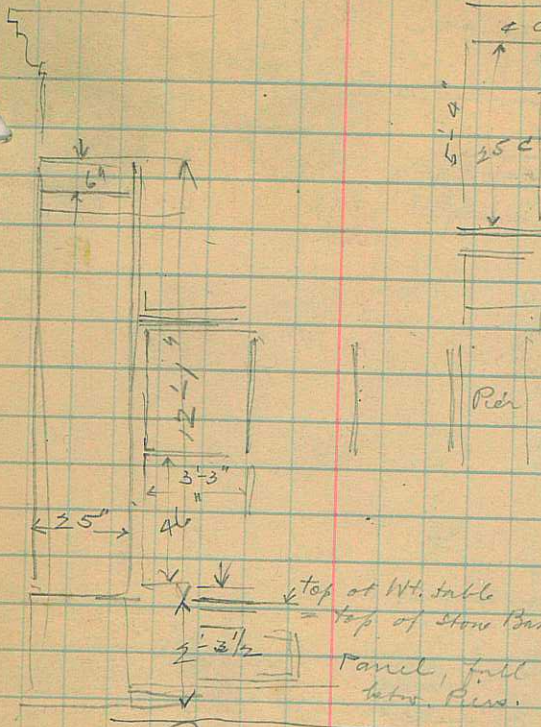
4.56' West from Bldg line

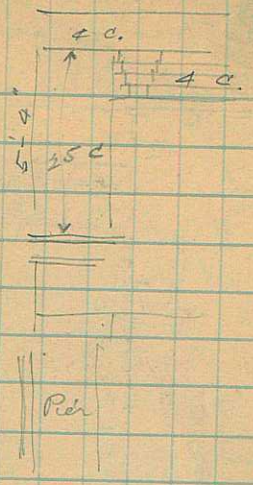
23 Thatcher Bldg.



Dist. betw. Standard Bldg & Thatcher Bldg - 25'-0 5/8" approx

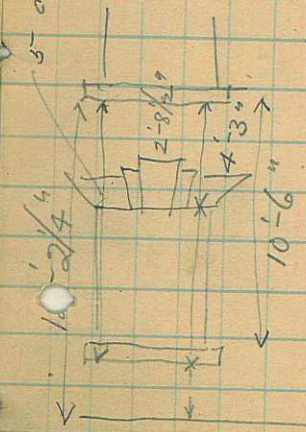


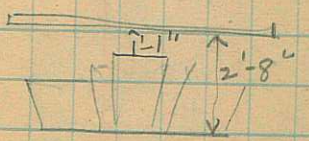




Robt Anderson

under. of Door Sill to Floor & Floor 10'-6"





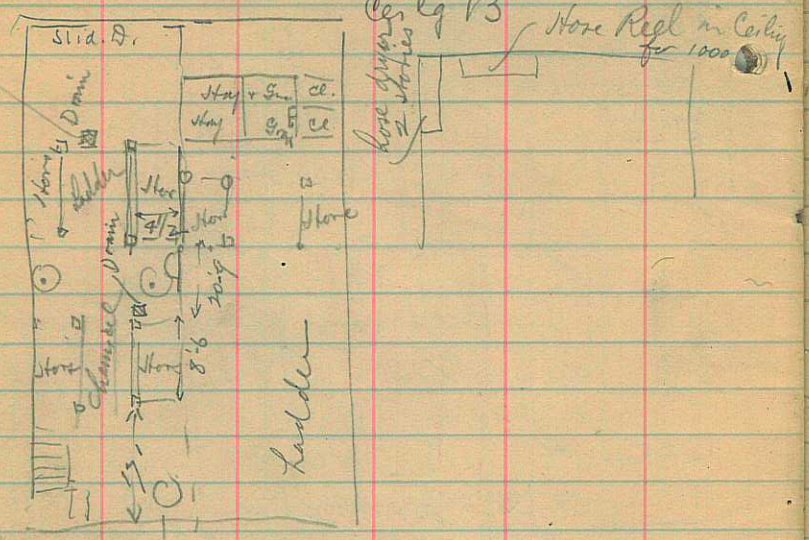
Door is 1 c lower than Grds

2nd Floor Door is 6'-5 1/2" betw. Bricks

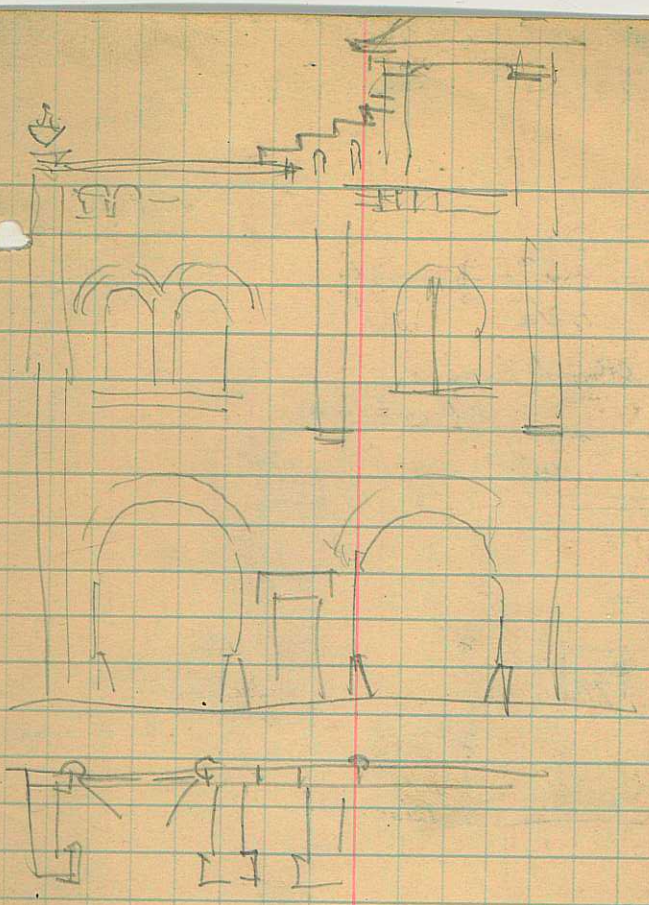
25

40 × 80 outside.

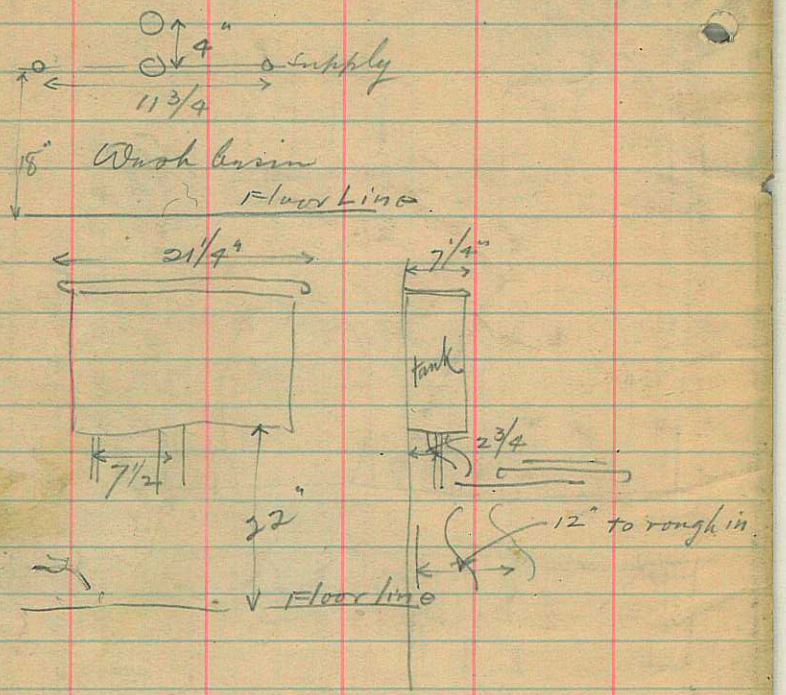
ins Doors are 9'-7"



26



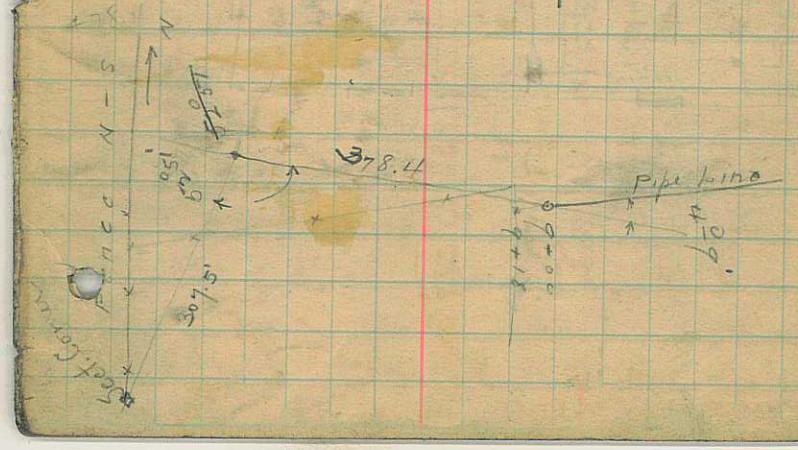
27 Fixture for Home



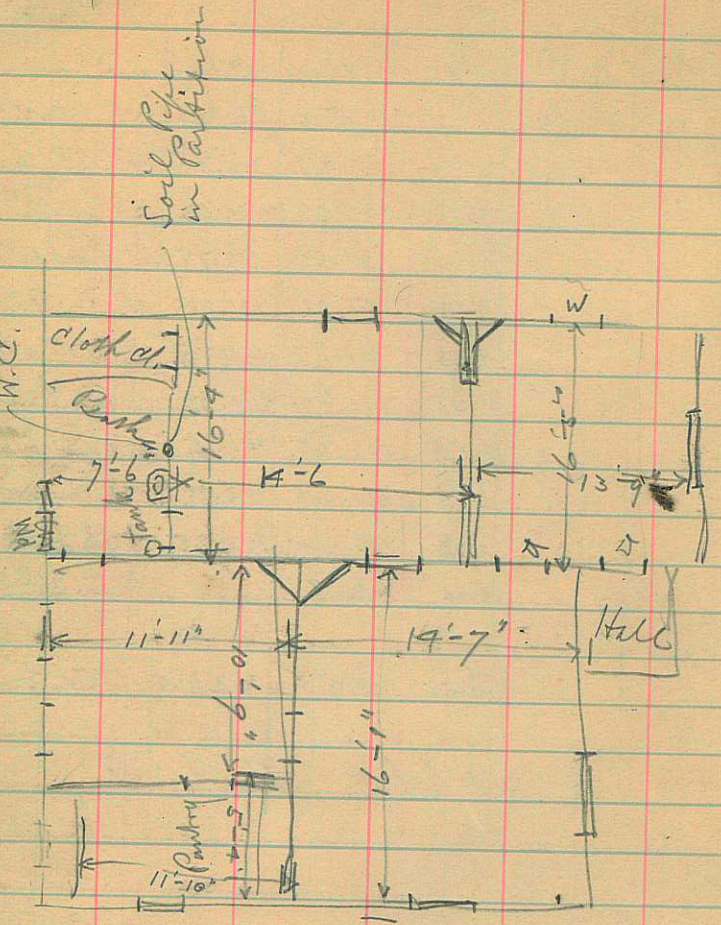
Main St. Grade Notes 2 P
as taken by Ed. Hanson

Sta.	+S.	H.I.	-S	Elev	Grade	
0	6.18	106.18		100.00	100.00	Corp Corner
1			6.24	99.98	100.25	Near S.E. Cor Corp
2			5.90	100.28	100.50	
3			5.61	100.57	100.75	At Brown + Co
4			5.17	101.01	101.00	at N.O.
5			4.83	101.35	101.25	+ F.B. Carlson's
6			4.58	101.60	101.50	+ Rehn Drug Co
7			4.13	102.05	101.75	+ Carl Johnsons
8			4.54	101.64	102.00	+ W. Lawrence
9			4.58	101.60	102.25	+ Parkins Corner
+75			4.00	102.18		Cent. 2nd St.
+10					102.50	
+50			4.25	101.93	102.625	Bank Corner

66 ft. between Stations



29


Soil pipe in Partition
W.C.
cloth cl.
Bath
7'-6"
16'-4"
14'-6"
W
13'-9"
Hall
11'-11"
14'-7"
Hall
16'-4"
Pantry
11'-10"

30

31 Smith & W. W. Nov 10—05

Service pipe S.P.

On 1st West & 1st North going North

3" Main to 29' fr fence, 2" main 27.6 fr fence

Meas. are taken fr. pipe line, 1st S.P. 249.6 to W; 2nd S.P. 378 to East; 3rd S.P 461.6 to W; Bl. line 691.3 S line of 2nd N; 763.6 to Pipe mm W.; to N. line of 2nd N 790; 27' to Bl. line W line 1st W.; S.P. on W. 1104; S.P on E 1357'; S.P on W 1401.5'; 1472 to S. line 3rd N; to 1½" P. mm. W. 1537; to N. line of Str. 1567;

3rd Bl. going N.

to W. line of 1st W 30'; S.P on W. 2036; S. line of Str. 2235. 4th N.; to 2" P mm W 2306.6; to N line of Str 2333. S.P to North from this Pt.

4th Bl. going W on 4th N.

27.3; to E lin. 2nd W. 693.0; to W line of Str. 788.4. 1453 to E. lin 3rd W; 1523 to 2" P. mm. S. 5th Bl. N; 1548 Pipe on this Bl. 1½"; 1761 Ctr. of R.R. Track; 1952 S.P on N.; S.P on S. 2022.5; at 2022.5 to ½ N. lin of Str. 26.6 line from here runs S.W.; to E lin 4th W 2209; to 1½" P. mm S on 4th W. 2280.4;

On 4th W. going S.

43.5 to S. line 4th N; to ent brow of hollow 130.; S.P on W 213; Valve 364; 500 end of hollow; S.P on W 631; to N. line 2nd Bl. Str 666.; to T 677; to N line 3rd N. 718; to Pipe mm E. 736.4; 1" Pipe from

1400

800 mi.

7757

32

this pt. S.; to S. line 3rd N 813.0; S.P. on W. 954; S.P on W 1433.5; Valve 1488; N line of 2nd North 1511.0; 1539.4 to 1½" Pipe mm. E; 1608 S.P. on W.; 1820 to S.P. on W; S.P on W 2165 (not finished); N. line 1st N 3280.6; 2295.4 to 2" Pipe on 1st North) Connection for service at this st.; on 1st North going East from W. line of Str. 4th W. to Pipe 26.3; to Ctr. of Main Track 266.6; 300' to W. line of Bl. at Depot; 386.4 S.P. on S; 751. W side of 3rd W; 7757 to 2" Pipe mmm. North on 3rd W and 1½ P. going South; 849 to E line of Str; 30.5 to N. line of 1st North S.P. 909.2 to N); 1482 S.P. on N; to W. line 2nd W. 1516; 1544 to Pipe on 2nd West; E line 2nd W 1612; S.P on N. 1690; 1749.5 S.P. on S; 1859 S.P on S; W. line 1st W. 2281.5; to Pipe on 1st W 2309.0 2377.2 to E. line of Str.; to N. line of 1st N. 29; S.P to 9.V.S 29 on N; to Valve on 3" Main 3003; 3036.5 to W. line Main Str.; to 6" Pipe 3071.5; ✓

2" Pipe from Griffith's North on Main

From Pipe on 1st N. to N. line of Str. 28.2; to Pole 169 (Total dist)

Afternoon

On 2nd N. going W from 1st W.

W. line of Str. 26.6; to N. line 2nd N. 26.8; S.P. 283 on S; 692 to E. lin 2nd W. Str.; 763.4 to Pipe on 2nd W; 791 to W. line of 2nd W. Str.; S.P. on N. 1562.5; 1455 to E side 3rd W.; 1527.8 to Pipe N+S; 1555 to W. s. of Str; to Ctr. of track 1948.3; S.P on N side 2064.5; to E side 4th W. 2217; to Pipe N+S 2284.3;

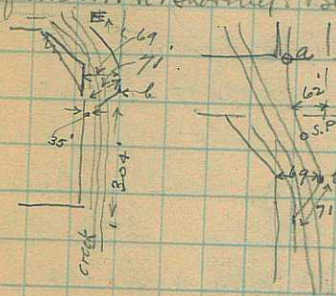
On 3rd North from 4th West North

From Pipe to Bl. line 72.6; S.P. on S 214.0; Ctr. of Track 433; S.P. to N 654.3; W. line of 3rd W. 734; to Pipe N+S 762; to N. line 3rd North 27; to E line 3rd W. 834; S.P. on N 1121; S.P. on N 1383.0 1495 W. side 2nd W.; to Pipe N+S 1524.7; to N E side of Str 1592.6; to W. side 1st West Str 2259; to Pipe 2288;

On 2nd W + 3rd North going South Start from Pipe line; S side of 3rd North 69.3; S.P. 262.5 on W; N side of 2nd North 757.5; to Pipe 784.5; to S. side of Str. 851; S.P. 916 to W; S.P. on W 1051; S.P. on E 1056.8; N side of 1st North 1515; to Pipe E+W. 1542; to S side of Str 1611; S.P. on W. 1675; S.P. on W. 1946.6; S.P. on West 2112.6 not put in yet; to turn 2178 (going S.W along creek; to W line of Str 27; 64 ft from S.E. Cr of Block; to turn going W. 2409; 21 ft. to fence on north; 2622 to S.P. on N.; 2715 to S.P. on N.; S.P. on N. 2804; 2906 to E line 3rd W.; 2946 to Pipe mm. north; to N. line of Str 28; Going north on 3rd West starting with 0; to N. line of Str. 28 ft; S.P. on W. 549.2; to N S side 686 1st North; to Pipe line 755.6; 784 to N. line of Str.; S.P. on W 1153.6; to S. line 2nd North 1474; to Pipe 1513.7; to North line of Str. 1541.; from West line of Str 263; 1655 S.P. on W; S.P. on W 2029.6; 2137 S.P. on E;

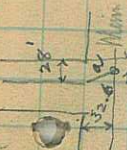
2229 to S line 3rd N.; 2301 to Pipe; to N line of 3rd N. 2339; 26.4 to W. line of Str; 28 to top of Hill; to S. line 4th N. 2998; to Pipe Conn Service pipe 2989 (not connected) to Pipe mm. E+W. 3061.

On Center Str going N. to Main (from Ctr. R. Thornley; Bl. across Creek)



from a to b = not taken
from b to S.P. 206'
from b to c 385'
" c to cross 31'

mesurm. where taken from line c, going E. c is W. line 2nd West (on Ctr Str); E side of 2nd West 100; 300 E side of creek; S.P. on N. 392, S.P. on N 739; W. side of 1st W. 759; 853. E. side of Str; 930 S.P. on S; S.P. on N. 969; S.P. on S 1246; W line Main St. 1516; to 6" Main 1548; to Valve 1532; line mm N.E. 6' | Main St.



From a S on Main St along 6" Main S. line Ctr. Str. 80; S.P. on W 110.5; S.P. on W 333; S.P. on W 447.5; S.P. on W 618; S.P on 667 E; 740 N line 1st South; 769 to Pipe mm. West;

Going West on 1st South from Main St.

Starting from Main line, W. line of Main St.
36; N side 1st South ; S.P on N 595;
E side 1st W 694.5; Pipe going S 764.6; W side
of Str. 794.5; S.P on N 917; 1086 S.P on N;
S.P. on S 1171; S.P on S 1340; E side of Str 1452;
(No Pipe run N & S on this line) 1546 W. side of Str.
to N. side of 1st S. 2960; S.P. on S 1706; E side of
3rd West 2207; to Pipe run N & S 2280.5; to
W side of Str. 2308.0; Ctr of Track 2975.0; to
Pipe run S. 3045; to Bl. line 3065.

Going South, beginning on Pipe line
N side of Str.; 36.3 to Pipe line on 1st South
S.P on W 333.5; 547 S.P on W; 760 N. S. de of
2nd South; 786 to Pipe;

Starting on 2nd South & 5th W. going
East, beg with 0 (about 90' E. from 5th West)
S.P. on end of this line; North S.P. 128 S; S.P. on N 259
S.P. on S 433.0; W. line 4th West 575; 613 to valve
apron; 631 Ctr. of Track; S.P on South 985; S.P
on North 998; to W side 3rd West 1334; to
Pipe 1360; E side of Str 1434; S.P. on S 1769;
S.P. on N. 1777; S.P on North 2023; W side of 2nd W
2086.5; to Pipe run S 2113; E side of Str. 2185.5;
S.P on North 2290.6; S.P. on North 2288.0; S.P on N
Inlet; S.P. on South 2737; West line 1st W 2811.6;

to Pipe 2870 run N & S, to E. line of Str. 2939
S.P. on North 3057.6; S.P. on S 3110; S.P. on N 3209;
W. line of Main St. 3596; to Pipe 3632.

On Main St. North
to N side of 2nd South Str. 27 ft; S.P. West 230
S.P. East 426; S.P. West 648; to S. line 1st South
689.5; to Pipe on 1st South 758;

5th P.M.

On 3rd West going S from 1st South
Main is 33 ft from N side of 1st S. Str. 68 ft. from
S side; (Starting from P line run E & W) 26.5 ft to W S
of 3rd W; 155.8 S.P. on East; 166.5 S.P on West;
S.P on West 418.5; 699 to Valve; 727 N side of 2nd South
755 to Main run E & W on 2nd South; 823 to S side
of Street; S.P. on West 1403; 1483 N side of Str;
1511.5 to Pipe run East (not shown on Plat 1½"); 1½" Pipe
1583 to S side of Str; S.P on W 1673; 2246 N side of
Str; 2275 to Pipe run E; 27 ft to W side 3 West;
Going West start fr Bl. line; 2367 S.P. North;
2577.5 to end of line on 4th South S.P. on this end; (1½" Pipe)

Going East, start at T on 4th S. & 3rd West;
to Bl. line; 463 S.P on S; 575 to Ditch; 36
to Bl. line on North; 611 T; 734 to Bl. line W side 3rd W;

457 to Pipe run. north on 2nd W;

Going North on 2nd West starting on Pipe line, 3# Block line; 222 S.P on West; 458 S.P on East; 701 to Bl. line on 3rd South; 773 to Pipe on 3rd South.

(Going West for 1 Bl. on 3rd South, Bl. line 26.5; S.P. 141 on N; S.P 436 on N.; 473 S.P. on S; 684 Bl. line 3rd W; 751 to Pipe;))

26 ft. to W side of 2nd W; 802.5 to N. line 3rd South; S.P. 1301 on W; 1460 Bl. line; 1532 to Pipe on 2nd S.; 1560.5 to Bl. line;
Note: Pipe going N. 1 Bl. out

On 1st West going S from 1st S; Starting on Pipe line, Bl. line 69; S.P on W 160.5; S.P on E 399; S.P on W 584; Valve 713; 28.4 to W side of Str. from valve; 732 to Bl. line; 759 to Pipe run E & W; 830 to Bl. line; S.P on East 1352; S.P. on W 1425.5; 1491.5 to Bl. line; 1594 to Bl. line on S.; to Bl. line N. side of 4th south 2256; to Pipe 2284.6;

Going East on 4th South from 2nd West to Main, from Pipe to Bl. line 76; 33 to N line 4th S.; W line 1st West 737; to Pipe 764; E line of Str. 833; S.P on N 894; S.P. on N 1096; to W. side of Main 1486; to Pipe 1526;

Going N. on Main from 4th South. start from Pipe line, to Bl line 28; 219.6 S P on E; S.P on East 6725; 690 to Bl. line; 788 Bl. line; S.P. on West 835.5; S.P. on East 955; 1171 S.P on West; Bl. line 1448; Pipe line on 2nd S 1523;

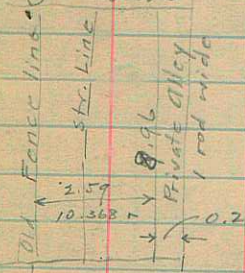
(Valve on 2nd South Pipe line 2.8 ft. E of Bl. line)

Going E. from Main on 4th South. start at Pipe line, 96 Bl. line on E. Valve 107.5; S.P. on S 179; Bl. line 1st E 455 W side; 781.6 to Pipe line on 1st East; (Going N. on 1st East) 28 ft. S.P on W 79; S.P on W 400; S.P on W 480; 644 S.P on W; to Bl. line 693; to Pipe run E 763 on 3rd S; Valve 902.5; Bl. line 989.0; S.P. on W 994.5; S.P. on W 1073; 1384.8 S.P on W; 1369 S.P on East; Bl. line 1453; Bl line 1544; 1645.5 S.P on W; S.P on East 1749; Creek 1941.2 S. Bank 10 ft wide; S.P. on East 2107.5; S.P on W 2180

66. 8
5 28

7718 to Bl. line 1st South; 2302 to Bl. line; 7307 S.P. on East.; 3665 S.P. on East; S.P. on W 2687; 7973 Bl. line on Ctr. Str; to Pipe. mm. E. 3049. also service pipe on this end to ~~St~~ lot on N.W.
3074 to Bl. line; 26 ft to W line 1st E.

3rd South

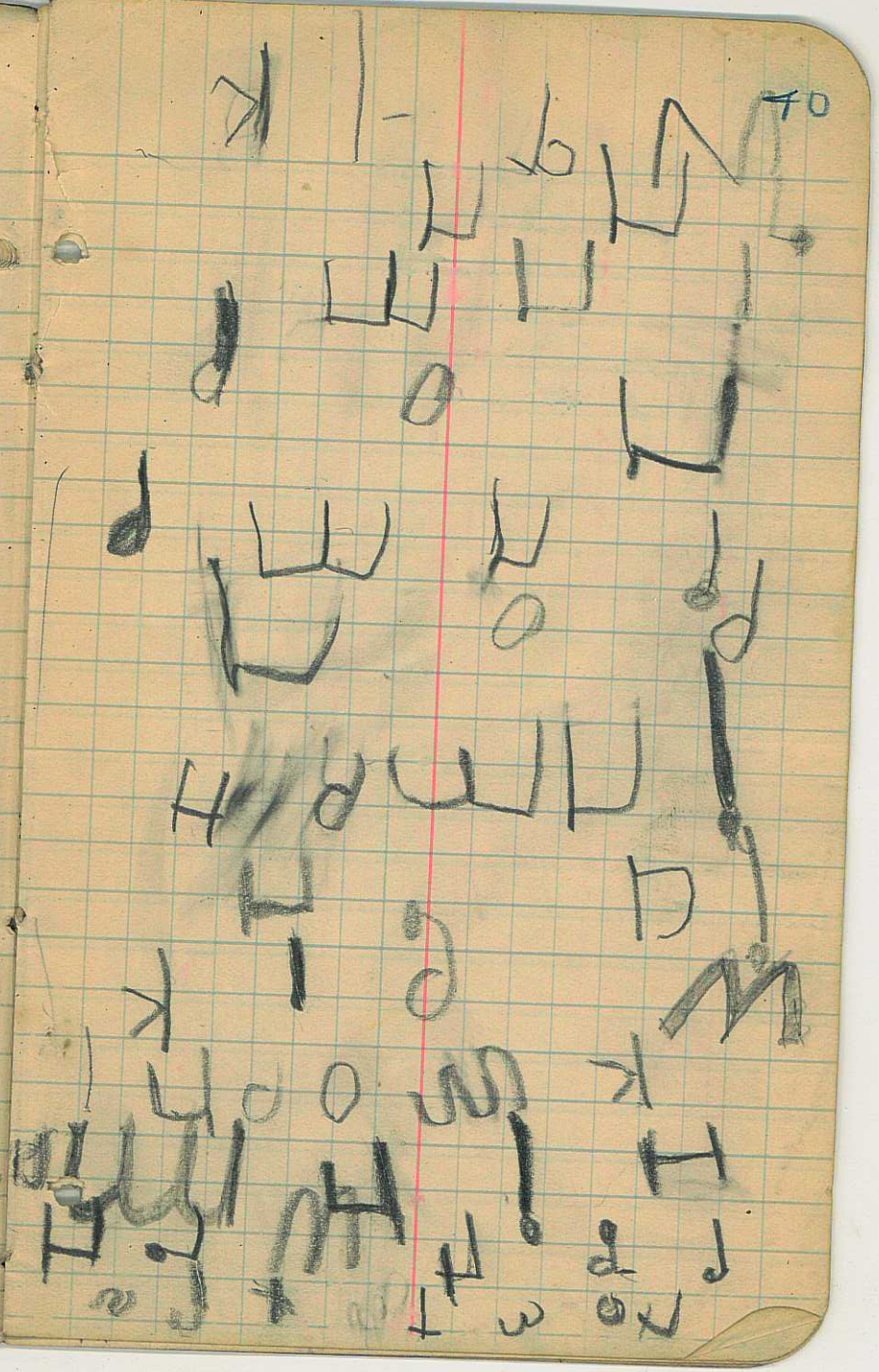


Dec. 13-05

2.742 ×
25
2.59 = 4
10.368
9.96

Street for Log City
Continuation of 3rd East
betw. 2nd + 3rd South.
Beg. 0.25 chs East of Bl. 15 Pl. D.
Logan City Survey + run. thence South
8.96 chs South to 3rd South Str. thence
East 0.75 chs. thence north 8.96 chs
to 2nd South St. thence west 0.75 chs
to beg. cont. 0.672 acres.

40



41

19

45

Dec. 1—1905

Buckhorn Fork Plant

Sta.	Angle R.	Angle L.	Bearing	Angle of Elev Depr −	Elev +
0			N 77° 49' W	4 11'	
287.5		20° 36'	S 81° 32' W		36'
126.4	49'		S 82° 10' W	level	
163.5		35° 29'	S 76° 40' W	1° 51	
417.6	8° 5'		S 84° 35' W	1° 56	
195.0		2° 23	S 82° 30' W		2° 12'
77.0	8° 6'		N 89° 20' W	2° 41'	
197.6		28° 22	S 62° 10' W	1° 16	
209.0	38° 11'		N 79° 40' W		1° 18'
151.0	59° 56'		N 21° 56' W		2° 13'
169.2		51° 32'	N 73° 00' W		0° 6'
164.8		14° 29'	N 87° 29' W	3° 03'	
483.4	13° 17'		N 74° 20' W	3° 06	
245.7		40° 39	S 65° 05' W		1° 03'
241.6	40° 33'		N 74° 22' W	1° 10'	
585.3		19° 47'	S 86° - W		9'
555.1	18° 45'		N 75° 15' W	2° 30'	
444.1		24° 58'	S 79° 45' W	1° 06'	
299.0		22° 46'	S 55° - W	1° 08'	
297.2	26° 35'		S 81° 30' W		45'
158.8	34° 3'		N 60° 35' W	1° 43'	

46

Fall	rise
Sta 0. about 50's of Cliffs on bank of	
13.65 Canal Bet.	
	1.31
13.44 Canal turns into River	
6.57	
	2.95
9.25	
4.60	
	3.47
	6.42
	0.33
25.62	
11.62	
	3.89
11.70	
	1.11
29.68	
4.31	
5.65	
	2.06
13.96	3 3
140.05	21.54

47

Dist.	Angle R.	Angle L.	Bearing	— Angle	+
465.4	32°54		N32°—W	1°-39'	
391.7	14°56'		N16°40'W		3°46'
329.3		58°	N74°10'W	10°	
840.0	4°56'		N69°30'W	1°20'	
898.0	2°55'		N66°30W	1°37'	
915.0				1°13'	
448.0		37°14	S76°30'W	32'	
236.9	6°46'		S83°—W	39'	
734.9	39°42'		N57°-10W		6'
794.4		23°48'	N81°—W	5°29'	

401 approx

to Section Corner From 794.4

558.3	1°51'		N55°35'W	
476.8		36°33'	S88°00W	North of Bridge
103.7		69°35'	S18°35'W	S " "
271.3	72°03'		N89°30W	S of intake (20')
464.0		0°59'	S89°35'W	
162.0	106°35'		N15°40'E	to Sect. Corner

334.5		81°33'	N81°33W	27'	
175.8	16°27'		N65°—W	58'	11.65
265.5		35°32'	S85°30W		24'
247.2		52°46	S30°05'W		11°29'
632	49°35		S77°35'W	25'	
85.80	69°51'		N39°30W	11°30'	

measured on slope to stake

140.05 21.54

14. I. Stad. Rlg.

		Fall	Rise
		10.96	31.40
			42.94
5.05	9.28	18.63	
5.15	9.44	25.62	
5.155	8.395	13.61	
5.20	6.39	2.13	
		8.08	
		219.08	
5.03	8.715	38.09	0.8
5.066	9.038	Dec. 2nd 05' (33°48' Last turn from road)	

total Fall = 232.3

9.038 5.066 3.972 9.44 9.18

5.15 5.155 5.59 24.59

8.715 8.395 3.240 0.8 6.48

6.39 5.20 1.19 2.38

219.08 42.94 176.14 Fall to 6.4

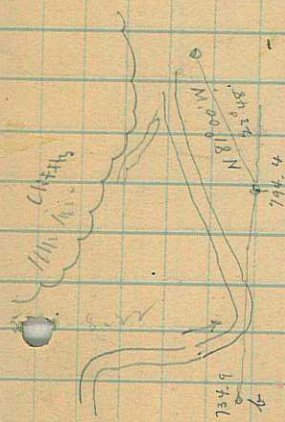
Dist incl 6 885.5

B.M. from Bridge to Bk. Line 206.7

Str. Crossing 67.3

" " 80.2

Gaff 151.8 up to Bridge



	Rdg		
Coop. Cn	5.3~~4~~2		
Elevs. on Sill	5.117		
on Cement	5.308		
S. E. Coop	5.330		
At Sams	4.670		
" U.C.	4.345		
" J.B. Carlon	4.115		
" Knott Tree	3.976		on Floor of Store
"	6.06	T.P.	" " " - 6.232
Riters	5.782		on Sill
Johnsons	5.5~~2~~9		
Removing of Station	5.32		
Corner of St.	4.788		

Elev.	Elev. Henson's Notes
100.000	100.00
100.225	← → on cast iron sill
100.034	
100.012	100.25
100.672	100.75
100.997	101.00
101.227	101.25
101.366	
101.198	
101.476	101.50
101.709	101.75
101.938	102.00
102.699	102.25

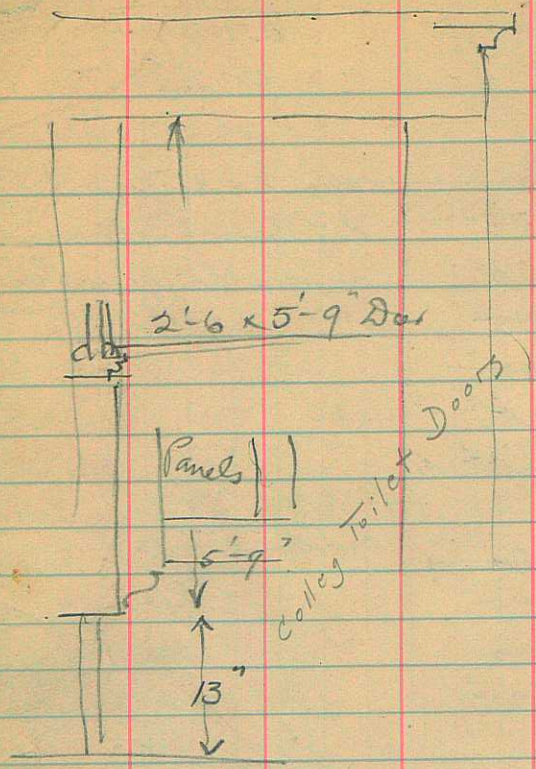
~~101.375~~
101.198
0.177
or 2.125

50

dif. betw Sill and cement = 0.191' = $2\frac{9}{32}$" nearly

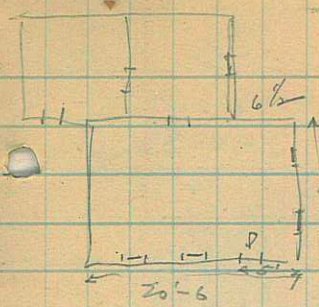
101.375 average betw Cardons & Riter's

51

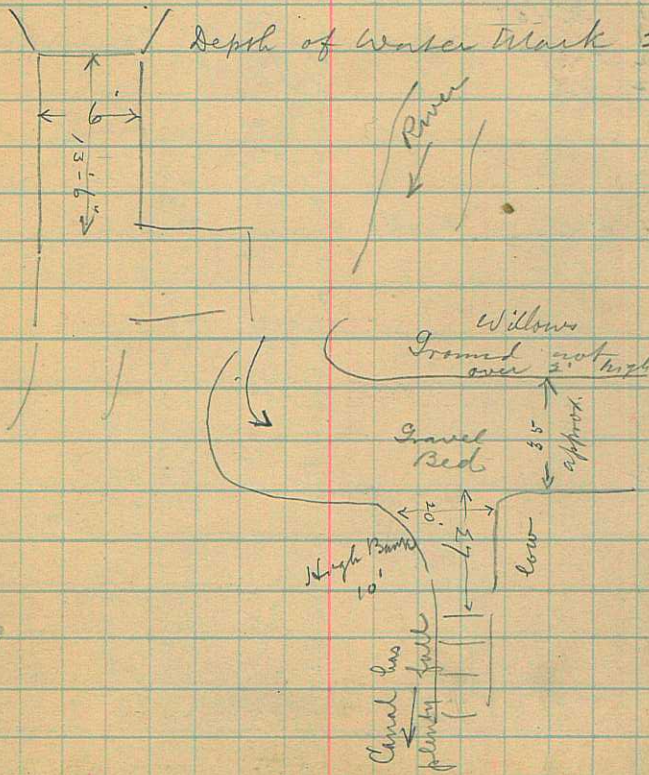


Jos. Knowles, Feb. 23-06

52



Flume & Waste Gate April 4-06
Whitney Canal



53

Levels at Whitney Canal continued April 18/06

Sta	BS	FS	Int	Ele	HI
61			7.97	74.34	
TP		8.302		74.013	
TP	5.690				79.70
62			8.75	70.95	
63			8.75	70.95	
64			8.90	70.80	
64			5.75	73.95	
65			8.76	70.94	
66			9.65	70.65	
BM 66			0.215	79.488	
67			9.25	70.450	
67			5.20	74.50	
68			9.65	70.05	
69			9.20	70.40	
69			6.50	73.20	
TP 70		6.377	9.34	70.326	
TP 70	3.487		6.3	73.326	76.813
71			6.85	69.96	
72			4.20	72.61	
72			7.10	69.71	
73			6.75	70.06	
74			4.65	72.16	
74			7.10	69.71	
75			7.45	69.36	
76			7.20	69.51	
TP 76		4.640		72.173	
76	4.592				76.765
77			7.35	69.41	
78			7.15	69.61	
78			4.00	72.76	
79			7.75	69.01	
80			5.00	71.76	
80			7.75	69.01	
81			8.00	68.76	
82			4.75	72.01	
82			7.75	69.01	
TP 82+88		4.945		71.820	
TP	4.877				76.697
83			7.55	69.14	
84			7.65	69.04	
84			5.35	71.34	
85			8.20	68.49	
86			8.05	68.64	
86			4.92	71.77	
BM 87			11.203	65.494	
87			7.50	69.19	
88			7.65	69.04	
88			5.58	71.11	

56

Sta	BS	FS	Int	Ele	HI	Notes
						on bank
						on bank
						" "
						12'
						on bank
						12
						on bed canal
						on N bank on Hub
						bed canal
						12'
						bank "
						canal bed
						on bank
						in C bed
						10'
						on canal bank
						canal bed
						" bank
						" bed
						10'
						canal bank
						" bed
						C " bed
						9'
						on canal bank
						bed
						11'
						8'
						bank
						10'
						11'
						on bank
						" "
						12
						on bank
						bed
						12
						Bank
						on Hub at cor post about 80's of canal
						16'
						bank

Levels Con

57

Sta	BS.	FS	im	Ele	HI	
89			8.10	68.59	76.697	
90			8.22	68.47		bed creek on bank
TP 90		2.662		74.035		
TP 90	1.327				75.362	
91			7.45	67.61		bed
91			4.20	71.16		bank
92			7.60	67.76		bed
93			7.85	67.51		
93			5.00	70.36		bank
94			7.80	67.56		
95			7.25	68.11		
95			3.80	71.56		bank
96			7.70	67.66		bed
97			7.81	67.55		
97			1.30	74.06		bank
98			3.35	72.01		mouth of big hollow. the bank of canal
~~98~~			~~8.60~~			
99			8.60	66.76		left canal
100			5.70	69.66		
100			8.88	66.44		at spill
101			9.20	66.16		
102			9.40	65.96		bank
102			6.85	68.51		
103			9.70	65.66		
104			10.00	65.36		
104			5.40	69.96		
105			10.30	65.06		
TP		6.659		68.705		
TP	4.524				73.229	
106			7.91	65.31		
107			8.20	65.02		
108			5.75	67.47		on bank
108			8.25	64.97		
109			8.40	64.82		
BM 109+68			5.640	67.589		
↑ 110			8.90	64.32		to fence stub. 10' S. by blazed pole
111			9.20	64.02		at bridge
112			5.5	68.22		at point stake were placed on W bank
112			9.40	63.82		on bank
113			9.40	63.82		
114			9.36	63.86		
↓ TP		5.773		67.456		
TP	5.167				72.623	
115			8.90	63.72		mid bank
115			4.70	67.92		
116			9.00	63.62		
117			9.10	63.52		at this pt we went on S. bank
117			5.40	67.22		

58

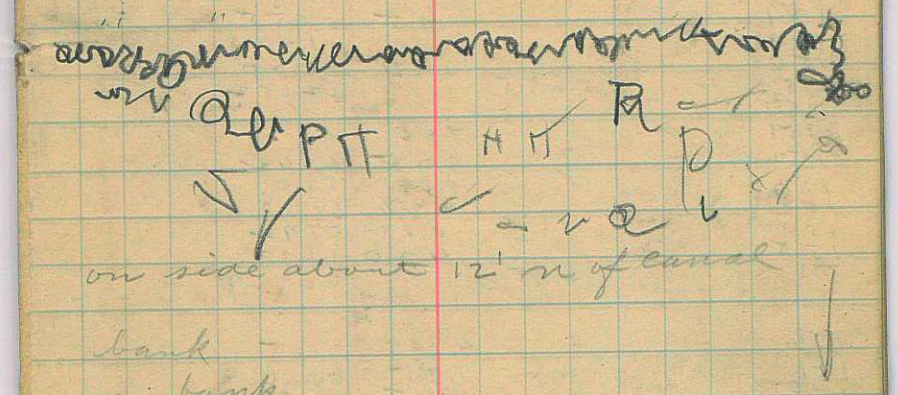
12'

39 con.

Sta	BS	FS	Inst	Ele	HI
118			9.25	63.37	72.622
119			9.25	63.37	
119			5.85	66.77	
120			9.20	63.42	
121			9.50	63.12	
TP 121		5.867		66.756	
121	5.046				71.802
122			8.50	63.30	
123			5.10	66.70	
123			8.60	63.20	
124			5.40	66.40	
124			8.70	63.10	
125			5.45	66.45	
125			9.05	62.75	
126			9.26	62.54	
127			9.55	62.25	
127			6.40	65.40	
13PM 127			1.09	70.711	≠
128			9.20	62.10	
129			10.10	61.70	
129			6.20	65.60	
TP 130		~~6.647~~	10.20	61.60	
TP 130		6.646		65.156	
TP 130	4.892				70.048
131			8.40	61.64	
132			4.75	65.29	
132			8.55	61.49	
133			8.52	61.52	
134			5.20	64.84	
134			8.87	61.22	
135			8.85	61.19	
TP 136		9.046	≠	61.002	
136	7.529			≠	68.531
136			4.20	64.33	
137			7.75	60.78	
138			4.70	63.83	
138			8.10	60.43	
139			8.45	60.08	
140			5.40	63.13	
140			8.60	59.93	
141			8.75	59.78	
142			8.95	59.58	
TP 142		5.262		63.269	
142	5.038				68.307
143			8.75	59.55	
144			5.00	63.30	
144			9.18	59.12	

on bank

" "



on side about 12' n of canal

bank

on bank

bed canal

on bank

Con

Sta	BS.	FS	Inst	Ele	HI	
145			9.42	58.188	68.307	
146			9.40	58.90		
147			9.75	58.55		
147			4.80	63.50		
148			9.75	58.55		
149			9.75	58.55		
149			6.90	61.40		
150			10.80	58.30		
TP 150		5.655		62.652		
150	3.427				66.079	
151			7.80	58.27		
152			4.65	61.42		on bank
153			8.00	58.07		
154			4.20	61.87		bed
154			8.15	57.92		
155			4.20	61.87		
TP		3.35		62.729		
TP	2.828				65.557	
156			4.40	61.05		
156			7.75	57.80		on bank
157			7.75	57.80		
158			4.50	61.05		
158			8.45	57.10		
159			8.91	56.64		
160			5.50	60.05		
160			9.30	56.25		
161			9.50	56.05		
162			5.40	60.15		
162			9.60	55.95		
163			7.83	5572		
164			9.83	55.72		
TP 164		5.572		59.985		on bank
164	3.500				63.485	
165			7.900	55.58		
166			4.15	59.33		
166			8.20	55.28		
167			8.25	55.23		
168			4.80	58.68		
168			8.70	54.78		
169			8.88	54.60		
170			5.60	57.88		
170			8.60	54.88		
170+60						to Sta of fast Dun
+c	0.823	2.772		60.713		
					61.536	
		2.287		59.249		on bank in hollow

63

Cross section on Whitney canal

Sta				Ele	H I
160.				56.25	
100.				64,584	
97				65,000	
BM near 86				65,494	
TBM					

April 20 cross section and 97

	BS.	I = S	Inv	Ele	H I
BM	10.837				76.331
TP	5,553	5.887		70.444	75.997
97		8.30	10.9970	65.0000	75.0970
			.1389		
96			10.8581		
			.1389		
95			10.7192		
			.1389		
94			10.5803		
			.1389		
93			10.4414		
			.1389		
92			10.3025	65.695	
92		4.56 = on bank		71,435	
92	4.817		10.5570		76.254
			.1389		
91			10.4181		
			.1389		
90			10.2792		
			.1389		
89			10.1403		
			.1389		
88			10.0014		
			.1389		
87			9.8625		
87	7.211	6.823	10.250	69.431	76.640
			.1389		
86			10.1111		

6.494 + 10.837 = 76.331 − 5.887 = 70.444

70.444 + 5.553 = 75.997 − 5.887 = 70.110

10.99 − 8.30 = 2.69

64

Grade from sta 160 to 46 = 0.1389

D = 3.68

e = 66.80

area = 36 nearly

7 feet bed

Q = 132.48 cu ft per sec.

slope 1 to 1

RR cent	Left cut	Left fill	center cut	Right fill	Right cut	RR bank	RR bank	5.75 − 4.99 = .76
				full bank				
8.30		✓	2.69	.76	3.79 (2.69 + 3.68 = 6.37)	4.99	5.75	
8.22	~~4.50~~	✓	2.63	.85		4.85	5.70	
7.80	4.7	✓	2.92	.5		4.72		
8.08	6.00	✓	2.50			4.58		
8.10	4.90		2.34	1.16		5.60	6.50	
7.97	4.40		2.33	.46	4.00	4.30	4.76	on bank
8.24	4.3	✓	2.18	.6		4.41		
7.74	3.28	✓	2.54 (3.25)	✓		4.28	5.70	
7.54		✓	2.60			4.14		
	2.9		2.96		2.9			
6.23			3.039			3.86	5.85	
7.70	2.66		2.41		2.66	4.11		

65

Sta	BS	FS	HI	Ele	HI
86			10.1111		76.642
			.1389		
85			9.9722		
			.1389		
84			9.8333		
			.1389		
83		7.254	9.6944	69.388	
83	7.200		9.6404		76.588
			.1389		
82			9.5015		
			.1389		
81			9.3626		
			.1384		
80		7.517	9.2237	69.071	
80	8.157		9.8637		77.228
			.1389		
79			9.7248		
			.1389		
78			9.5859		
			.1389		
77			9.4470		
			.1389		
76			1.3081		
76		7.800		69.428	
76	7.517				76.945
76			9.0251	67.82	
			.1389		
75			8.8862		
			.1389		
74			8.7473	68.20	
			.1389		
73			8.6084	68.335	
X	5.752	4.20		72.745	78.495
72			10.0236	68.4725	
			.1389		
71			9.8841	68.61	
			.1389		
70			9.7452		
			.1389		
69			9.6063		

7.2000
2.4404
9.6404 Left

Right 65.0000
10.997
75997
4562
1.435

66

R	cut	RR cut	center RR	Center cut	RR cut	Bank gr	Bank R	fill bank
	✓							
	✓							
			7.51	2.32	2.73 3.1	3.83	5.60	1.57
	✓	2.69	7.254	2.4404	2.94	3.69	~~5.40~~	1.9
	✓	2.80	7.52	1.98 2.00	2.7	3.50		
		6.56	7.76	1.60	2.50	3.36		1.50
		5.30	7.600	1.7067	3.10	3.72		1.8
			8.19	1.53	✓	3.72		1.5
			7.76	1.82	2.14	3.58		
		8.64	7.90	1.54		3.54	4.85	1.4
				1.5081				
			7.6	1.73				
	X							
	X		7.65	1.73	3.88	2.88	4.60	1.88
	X		7.40	1.34		2.74	4.95	2.22
		7.40	6.75	1.85		2.60		2.3
		10.00	8.80	1.22	3.3	4.07	5.80	1.7
	X		8.50	1.40	3.58	3.88		
	9		8.30	1.45		4.44		
	2.37					3.60		

67

Cross section con

Sta	BS	FS	HI	Elev
69				9.6063
				1389
68				9.4674
				1387
67		8011		9.3285
				70.484
67	10.386			11.7035
				1389
				11.5646
66				11.5640
				0.1389
65				11.4251
				0.1389
64				11.2862
				1389
63				11.1473
				1389
62				11.0084
				1389
61				10.8695
TP 61		9.5690		71.301
61	11.540			12.8405
				0.1389
60				12.7016
				.1389
59				12.5627
				1389
58				12.4238
				1389
57				12.2849
				1389
56				12.1460 70.695
				1389
55				12.0071
TP 55		10.021		72.82
55	9.163			11.1491 81.983
				1389
54				11.0102 70.973
54				
53		9.620		79.363

con Mary 4/06
on page 6

Left

RR	Cut	center RR	Cut	Bank	RR	fill
	211.8 8.56	8.50		5.46		
		8.05			3.46	
out 11.5	1.05 8.25	8.011	1.3175	5.23	3.32	4.00 .7
407	7.46	10.20	1.36	7.01 3.76	5.56	6.60
7.82	4.32	9.75	1.67	2.57 4.07		
12.8	9.56	10.1		7.13 3.88	5.28	7.00 1.7
12.01	8.76	9.90	1.25	5.04	5.14	5.92 .8
11.45	8.20	9.90	1.10	5.50 5.25	5	5.82 .82
12.01	8.86	TP 9.569	1.3005		4.86	
10.60	7.46	11.20	1.50	2.55 4.30	6.70	7.7 1'
13.00	10.68	12.25		7.81 4.56	6.56	8. 1.5 to
11	7.89	10.90	1.52	8.47 5.02	6.42	6.70 .5'
	173	10.15			6.75	6.28 .5
	9 5.44	10.50	1.64	2.00 3.69	6.85	6.14 .71
	2.05 4.50	10.02	1.9861	2.25 4.35	5.4	6. cut 6
	2.4	8.45	2.56	2.6	5	5.2 .2

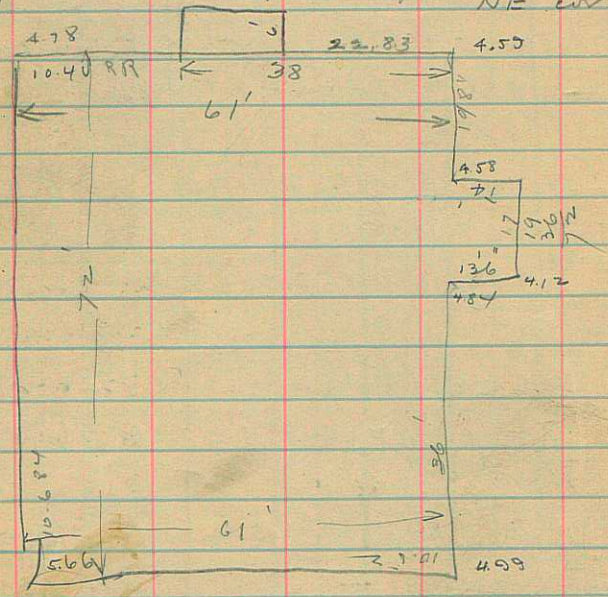
con M bank

69

Cross section
Highbank

Sta	BS	FS	HI	Elev
Bm66	9.386			79.488
				88.874
71			68.61	
71		7.00		
		2.760	86.114	
	2.626		88.74	
74		8.	68.20	
75		7.30	68.06	
76			67.82	

Montepelier April 24/06



70

9.72
8.50
1.22

Grain Cond
cut 13.26 cut 15'

cut on left bank 12.54 cut 15.6
" " " 13.38 16.3 cut
" " " 14.22 = 17'

Pavilion

BS	FS	HI	Elev
4.59		100	104.59
	4.58		
	4.12		
	4.74		
	4.99		
	5.66		
4.78		99.81	99.81
			101.22
1.41			
	10.40		
	10.684		
	10.52		
	9.803		

1413 yds.
32.25 yds
2533
1470.58

104.59	100.50		
4.78	8.50		
99.81	91.50		
1.41			
101.22			
101.22	101.22		
91.50	9.80		
9.72	91.42		

NW cor.
SW cor
SE cor
NE cor

71

Sur at Montpelier

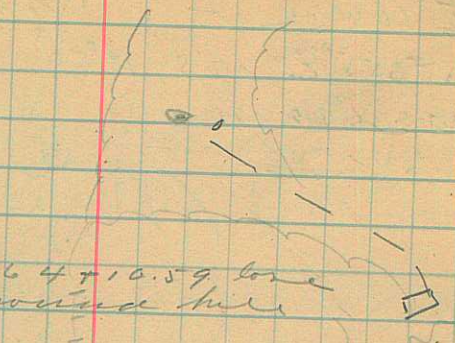
ch. water works

Sta	Course mag	Angle R.	#s
3.21 ch	S 85° 40' E	50° 56'	
4.36	N 43° 10' E	20° 12'	
5.74 to 7	N 23° 05' E	67° 59'	
7.41	S 88° 45' E	72° 07'	
9.64	N 18° E	44° 59'	
10.595	N 64° 05' E	45° 20'	
11.905	S 71° 30' E	33° 37'	
12.925	S 36° 50' E	23° 57'	
16.852	S 13° E	54° 10'	57.10
21.683	S 67° E	31° 09'	
25.477	N 81° 35' E	125° 54'	
28.062	N 44° 20' W	49° 35'	
30.57	N 5° 15' E	28° 15'	
33.65	N 33° 35' E	10° 25'	
35.82	N 44° E	40° 58'	
37.16	N 85° 05' E	51° 04'	
41.17	S 43° 45' E	16° 02'	
45.105	S 59° 55' E	54° 46'	
48.437	N 65° 15' E	19° 37'	
49.555	N 85° E	17° 39'	
51.22	S 77° 30' E	9° 48'	
57.16	S 87° 15' E	10° 04'	
58.013	S 77° 15' E	22° 05'	
59.455	S 55° E	18° 55'	
	S 36° 10' E		

ang + 28'

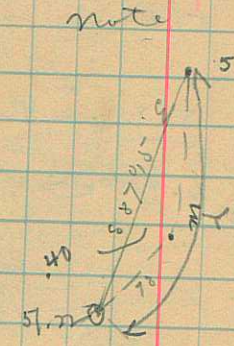
E 179 52'
90 00
85 40

72



blasting bet 9.64 & 10.59 on contour of rock cut

Ex. ie. from sta 11.905 to 12.92 bears S 36° 50' E



Spirit 26/06 Conn

Angles

ch Sta	Course	∠	R
59+55	S 55° 0' E		18° 5' 0"
63.367	S 36° 10' E		

M. y.

Sta	B.S.	F.S.	I.M.	Ele	H.I.
0	6.15			100.000	106.15
BM			3.54	on nail in tel post (103.61) about 6 chains from sta 0	
TP		2.50		103.65	
TP	7.97				111.62
			5.13	on cor. cement at Peters (106.49)	
		2.26		109.36	
	6.63				115.99
			3.13	on Dr. Souter's pavement (112.86) (114.70)	
	10.33	1.290			125.03
			6.400	on stone with cross at (118.63) NE cor.	
		1.580			
	9.67			(123.45)	133.12
			5.42	on cor. front SW cor. 17	
		0.400		(127.70) (132.72)	
	7.19				139.91
			6.89	on rock door sill up 12 Bunyon office in Rear BR	
				(133.02)	
		2.14		137.77	
	11.95				149.72
				on hub center of intersection	
				148.81	
BM			0.91	on top of tie post about 80' W of NE cor. B 11	

con see page X

4.16
5
3.36
2
7 2

from this a big low hollow leaves south middistly in passable without a large siphon from sta (63.367) - 8° 680 low pt of hollow.
grade cut on E side S 49° 30' E about 3200 feet

Line meas. on S side Washington
Beg. in line with E side depot E
E. 25 to E side st. bear N
5.50 to W " Ave. run N 7 E
4.07 to E " " " N 7 E
11.56 to W " " " " "
12.32 to E " " " " "
17.53 to W side of Ave run N 7 E.
18.70 to E " " " "
24.27 to W " " " "
25.00 to E " " " "
34.72 to W " " " "
35.47 to E " " " "
44.38 to W " side Ave. run N 8 E
45.19 to E " " " "
at this pt I go on N side of Washington

13-20

E45.19
N1.47
E50.60
E52.13
E62.49
E63.07
N.12
N10.84
N12.31
N2.64
N3.85
E2.85
12 20
13.70
E2395
25
E31.405

3 leads

at this pt. St 1.47 wide

W side of ave run N + S.
to W line of Blk 17 Plat "A"
to E line of " " " "
to approx line for main pipe
to S line of Blk 17.
to as line with N line Blk 17
to S line of Blk 18 Plat "A"
to N " " " "
to pt 50 S of S line Blk 10.
to W line " B. 10
" E " " "
to W " " 5 B. "A"
to E line B. 5.
to E " of St. N + S.
to stake on bank of creek E of Grant St

Notes

Grade from ~~#6~~ to 36
= 0.39%
~~Ele pt drop at #6~~
= 74.74
Ele on drop at 36 =
81.80
from 81.80 at 36 to
Sta 4 = .35

Sta	BS.	FS	Im	Ele	HI
56				70.695	
Bm	3.13			79.363	82.493
56				~~71.493~~	
54				71.493	

3.99
2
.798

79.363
313
82493
71.493
11.000

70.695
798
71.493
11

81.983
11.010
70.973

Sta	BS.	FS	Im	Ele	HI
56				70.695	
Bm	3.13			79.363	82.493
56				~~71.493~~	
54				71.493	

79

Levels at Monument

Sta	BS	FS	HI	Elev	HI
Bm	11.95				149.72
Bm			.91	148.81	
TP		0.15		149.57	
TP	10.06	0.18		159.45	159.63
	12.05	1.65		169.85	171.50
	5.67	3.37		172.15	175.52

on hub center of intersection at SW cor 10. ... tie post about 80' W of NE cor Bll.

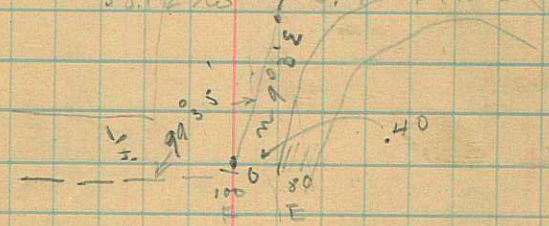
on top of stake near creek on bank E of Pilot mill.

Sta	Curve	L	R	−	+
23.17	N9°03'E		72°20		19'
16.30	N82°30'E	00	0 0		30'
28.537	" "				35'
29.047	" "		12°27		1°10'
38.12	S86°E				04'
46.575	S86 E		19°18'		1°52'
48.42	S66 30E				2°02
57.00	" "			-55	
60.00	" "			-14	
62.395	" "	6°33'		-06'	
70.628	S73°E		82°28	-24	
71.595	S9°30W	75°54			+46'
76.545	S66°30E		11°27'		+36'
77.40	S54°49E				+31
78.25	" "				

cur on page a

Elev
172.15
172.99
181.042 ste stake
to foot of leve
198.11 on top of leve
198.80 from sta 29.04 to bears S86°E
216.92 " 38.12 to 46.575 +1°52
221.25
219.47
215.68
217.05 note from sta 62.395 a straight
220.47 line must be run to 71.595

to Curb
live Curb
Example from sta 76.54 to +31'



80

38.12
74
45

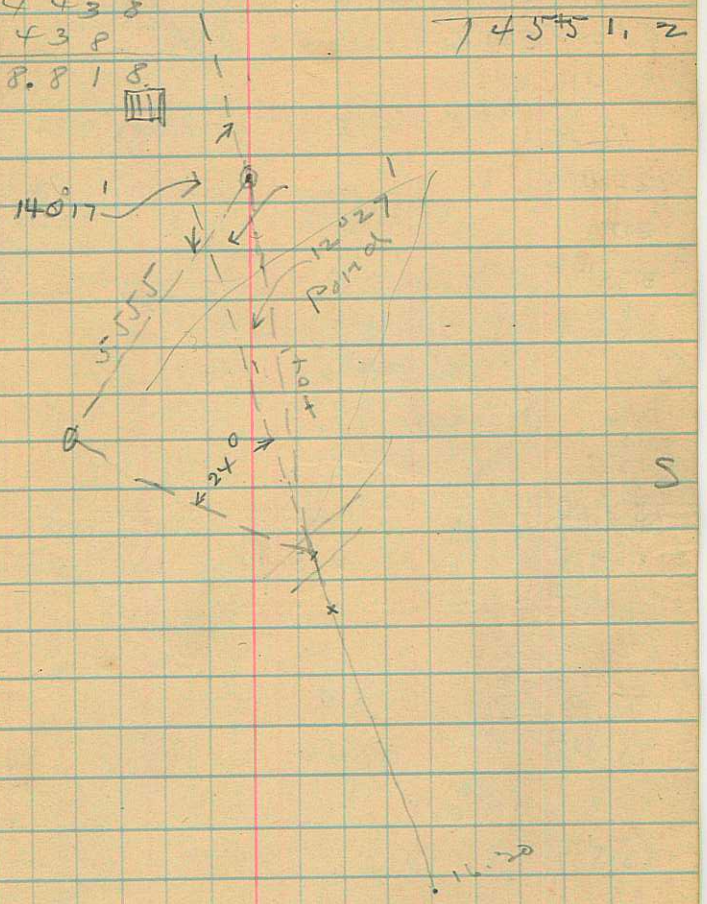
28.137
40
28.537
51
29.047

81

38.12
29.047
9.073
54438
54438
398.818

E

13952.4
598.8
14551.2



83 a

ch. Sta	Course	angles L	angles R	ang —	ang +
86.32	S 54°49' E	27°36			+31
100.245	S 82°30' E	0 0	0 0		.30
100.41	" "				
115.21	" "	0 0	0 0		.39
120.475	" "				
130	"				35
133.975		0 0	0 0		35
136	"				
⊗ 137.48	" "	22°01			41
140.	N 75°20 E				
150					
154.67					50
154.735		0 0	0 0		50
160					
170					
177.19		0 0	0 0		45
178.238		27°22			1°35
180	N 48°05 E				
185.584		0 0	0 0		1°22
187				107	
190					
197.719			11°30		24
200.143	N 59°30 E				7°20

from 137.48 to 76.54

137.48 387.
3 37
120.43
17.01 to 400

17.960
82 30
9 73 0

154.33
137
17.3

84

226.29 from this sta I placed a hub 40 S. ends is about 80 ft N.

243.31 from sta 86.30 to 100.245 + 30 ft to true run N & S.

245 from sta 100.245 to 115.21 + 39 ft

to pt 5' west of sec. div Rup 40 S
from sta 115.21 to 133.975 + 35 ft

257.99 from this sta I set 40 to Creek
" " " 50 N to Creek

260.76 from 133.97 to 137.48 + 41 at pt 60 in N of 137.48 a hub

to fence Run N & S

277.26 to stake

296.66

298.58

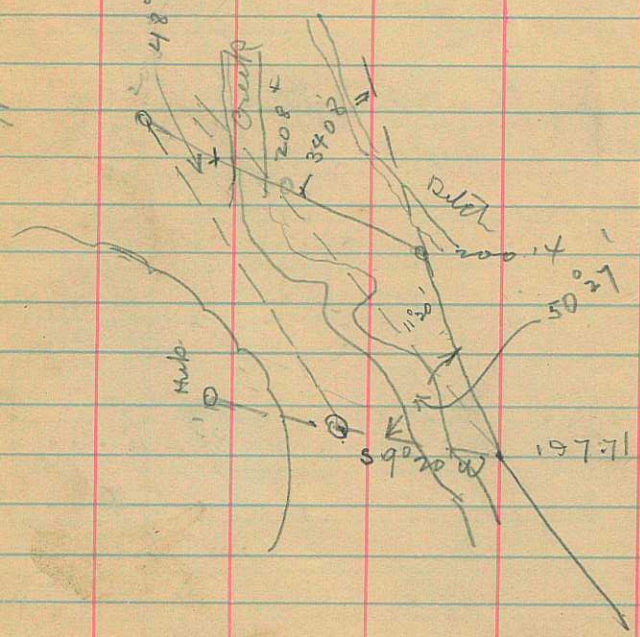
310.14

313.3

336.06

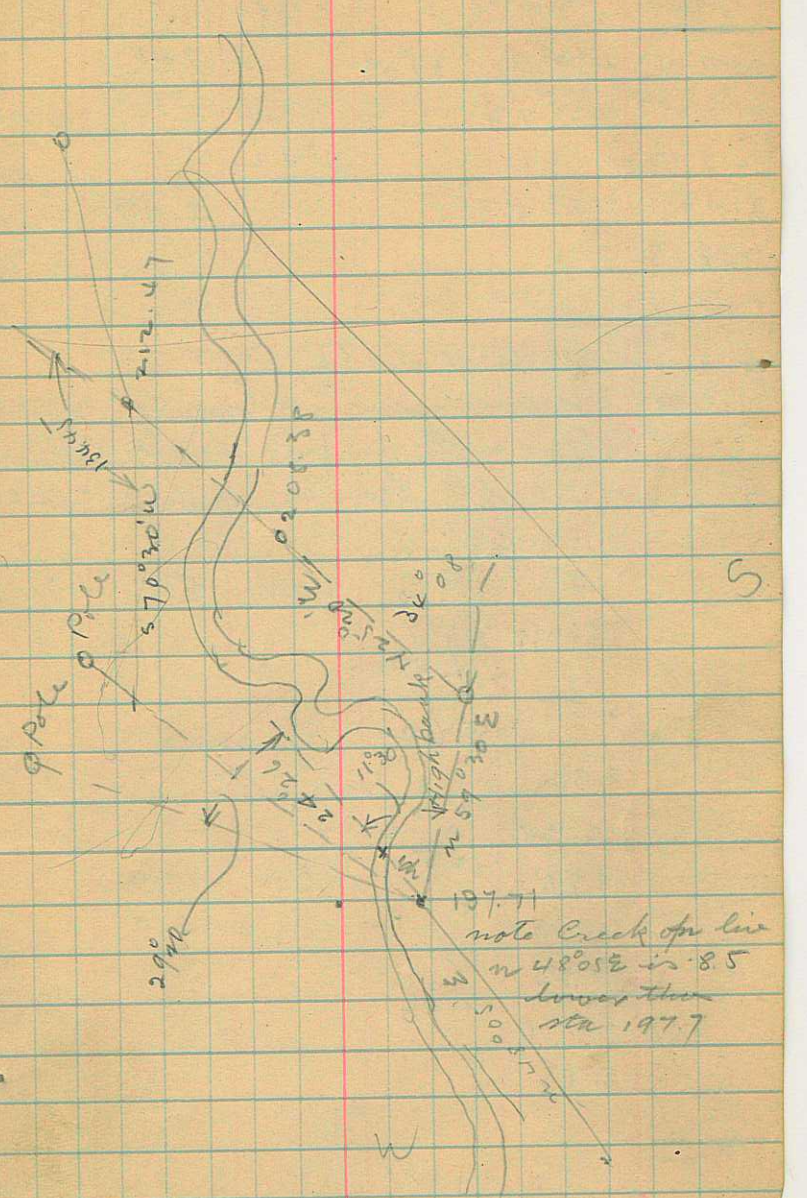
(see sketch)

85



86

13.
4.5
6.2



S.

87

Sta	chs	angles L	R	+	−
220.143	N59°30E	34°08		7°20	
208.887	N25°30E				0°2
212.47	" "		3°42		
219.881	N29°E			2.59	
221.18	" "				1°26

getting late so I measure along appr line of pipe and turn direct levels from 220.18

BS	FS	Inst	Elev	HI
0.10				
	11.00			
5.55				
	5.62			
8.80				
	0.37			
12.30				
	.25			
8.70				
	5.10			
4.29				
	6.70			
6.40				
	2.86			
10.70				
	0.29			
5.18				
		1.27		
	11.20			

Off = 18.53

4 7 3
358.61
1 8 5 3
377.14
9 9 3
387.07

81.20
1.27
19.93

88

+E

Ele

note sta 208. 387 and 212.47 sta are level

358.74	
335.74	
362.24	
358.61	

new start with pins at 220.18 40 chains from 220.18 to intake approx

358.61 going up

Hence total fall from Depot to intake = 277.14
lbs. per □ inch = 118.11
length approx from Grist mill 26118 ins = 16,222'

387.07 Iron rivet near mound of stone near intake

377.14 W.O at intake

Sur. from Sta 208.37

From Sta 208.38 Bal to 208.38

Sta	Course	← angle R	—	+	
208.38					335.74
209.59	S 2°5' W	135°54		40°	335.74
210	N 46°05' E				
212.31	" "	32°16		37'	343.75
214.86	N 78°30' E	40°11'		1°13'	347.32
217.802	N 38°20' E	20°07		0°04'	347.54
219.94	N 18°05' E	16°32		22'	348.45
220.00	N 34°45' E		1°48		
220.697	N 34°45' E	34°27	1°48'		346.89
221.878	N 69°10' E	13°36'	00	00	346.89
226.582	N 55°30' E	47°15		49'	351.32
228.616	N 7°15' E	33°24	-1°12'		348.50
229.95	N 40°35' E	22°58'		1°10'	350.29
230	N 63°40' E				
231.95	N 63°40' E	51°12		41'	351.86
234.213	N 12°20' E	5°15'		01'	351.90
236.485	N 17°30' E	48°32		35'	352.43
237.92	N 31° W	35°16	55'		351.91
238.598	N 4°20' E	49°50		04'	352.94
240	N 54°50' E				
241.30	N 54°50' E	16°24		1°16'	353.99
245.743	N 38°20' E	16°19'		23'	354.96
248.60	N 54°30' E	43°45		2°30'	266.48
250.27	N 10°50' E	40°07	1°34		
253.30	N 5°10' E			4°40'	

on rocky point

3.66
343.75
2225

from 208.38, S 2°5' W to 209.59 +4.18

from 214.86 to +0.04'

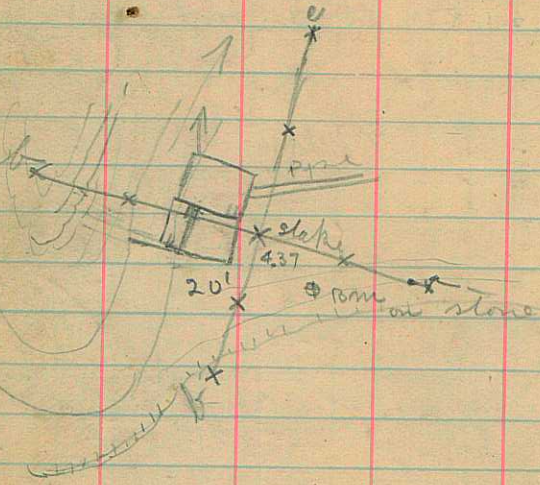
from sta 221.878 to 226.582 + 49 N 55°30' E

Sta 238.598 is .20 SW of mlste. end of old power race

This sta can be .25 ch further N on bank near mine

Sta	course	angle L	angle R	−	+
	2 53 30 N51°10'E		34°29		
	255.19 N86°E	114°31		4°59	
	X N28°W		113°25		4°00
	2.79 N85°15'E	31°21		1°47	
	3.822 N54°E	28°16			1°20
	6.77 N27°E		43°30		2°00
	9.437 N70°30'E				2°30

S



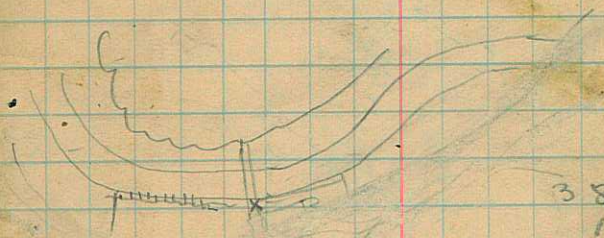
387.47
0.46
389.47
1.80
367.67
3.07
369.74

3697
7
3702.70
2.59
3705.29
5.17

Rock near mound of stone
bg from 6.77

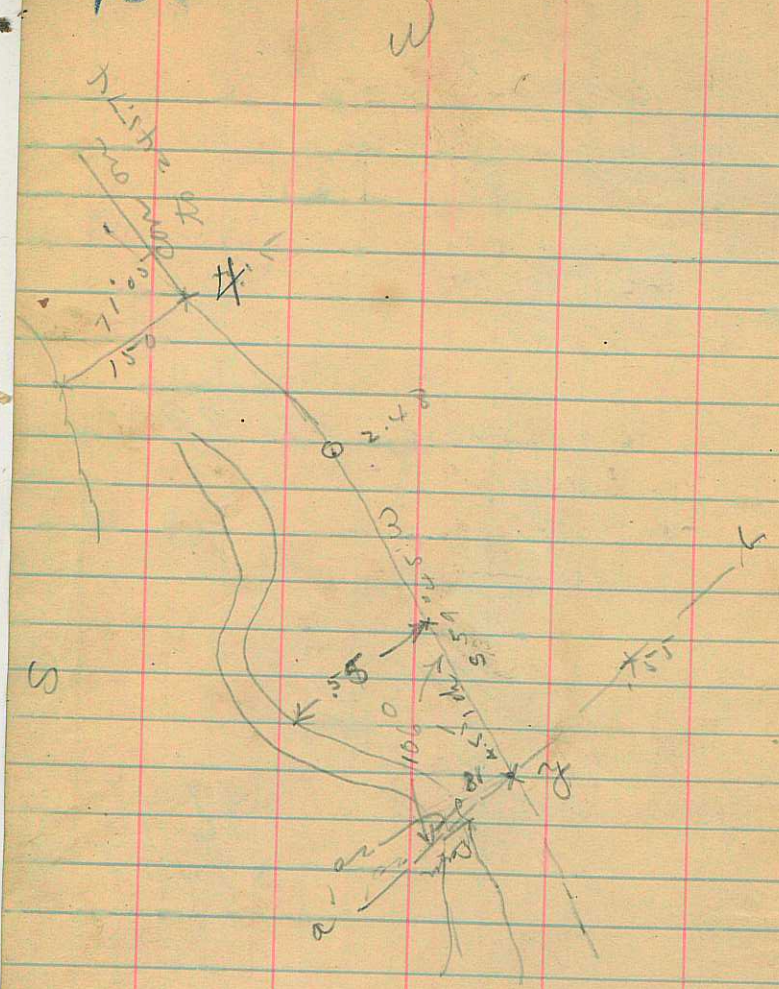
in road opp 3.82 from ℄
2.60 from ℄
1.60 " ℄

Ele at Sour 370.99



387.07
16.96
370.11

95

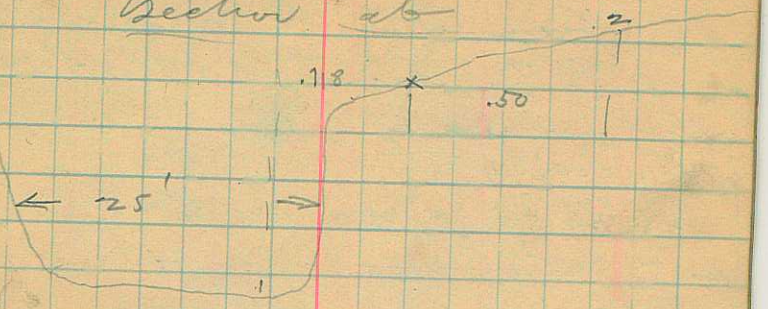


94

106
90
1.6

1.5

Section ab



HI = 455
RR bed rock 15.5
RR at 2 = 055

see over

97

from sta 7 on dead
arm plane
chain S 59° 45' W

Dist	Course	am/dR	−	+
1ch	S59°45'W		3°27	
2.48	S59°45'W	34°30	2°22	
4.15	S25°15'W	7°05'	23'	
	S45°30'E			1°55

from sta 137.48 D
check measure

Sta	BS	FS	Elev	HI

98

27476

on same line
that is from sta 2.48 - 2°22'
from this pt. S45°30'E to
26317 sta 2+8.60 near mine 1.50 ch

99

bar for a under

Sta	BS	FS	HI	Elev	Notes
	6.16				
	2.79	9.98			
	8.95	9.58			
		19.56			
		8.95			
		0.61	10.88		on bed
			11.37		
			11.50		
			12.50		

cup cruddy

Sta	BS	FS	HI	Elev	Notes
Bm	3.13		82.493	79.363	
54			11.520		
			1.389	70.973	
53			11.381		
			1.389		
52			11.2422		
			1.389		
51			11.1033		
			1.389		
50			10.9644		
			1.389		
49		8.603	10.8255	73.890	ground
49	10.037		12.2595		83.927
			1.389		
48			12.1206		
			1.389		
47			11.9817		
			1.389		
46			11.8428		
			1.389		
45			11.7039		
			1.389		
44			11.5650	72.362	
x		5.018		78.909	
	8.04				86.949
			15.584		
			1.389		
43			15.4451		

con over

10.88
1.30
9.58
9.98
19.56
8.95
10.61

6.16
2.79
8.95

10.88
11.37
10.88
.59

100

12.50
10.88
1.62

82.493
70.973
11.520

in bed of trail
in ground
at foot bridge at house
at 5 large bridge in st.

	L.C	L RR	cent C.	center RR	RR	RR C	pr	RR
	4.23	7.15	1.18	10.30	8.30	3.68		
	7.49	3.75	1.52	9.72			5.24	5.70
	5.10	6.05	2.00	9.10	8.60	2.50		
	5.61	5.35	1.71	9.25	6.40	4.60	4.96	5.50
			2.225	8.603				
	4.80				6.25	6.00		
X			2.27	9.85	8.10	4.15		7
X			2.30	9.68	6.50	5.50		
	6.79	5.05		9.05			5.84	5.85
X			2.00	9.72	5.70	6.00		
X			2.06	9.50	4.35	7.00		4.15
				11.50				

101

87.26
1.65
75.61

Sta	BS.	FS	Int	Ele	HI
43				72.50	
BM tub	8.733			78.534	87.26
43					
43				1.1.39	75.87
x		1.02		86.24	
	11.23			86.24	97.47
44					
45				72.36 gr	
				72.23	
(mean 46 to 50)	5.935	3.89		93.58	99.51
46 to 50				72.09	
47				71.95	
48				71.81	

78

78.534
8.733
87.267

102

	LC	LRR	Cent RR cut	Center RR cut	RR	RC
on gr.						
			11.50			
			3.60	3.26		
on drop						
	(20.8 / 16.40)					
	20.2 E					
	9.60	91.82				
		3.85				
	9.25		RR	out		
	2.7	96.50	3.40			
2335	28.4					
	24.35	95.30	4.20	28.4		
	22					
	18.30	90.10	9.40	22		

8726
1.02
86.24
11.23
97.47

Note.
when $n = .027$

$$\left[\frac{1.2}{61}\right]^{\frac{1}{2}}$$

$p = 14$
$r = 1.928$
$\log r = 0.14255$
$\log e = 1.87380$
$v = 5.35$
$Q = 146.4$
when $n = .025$

103

Sta	BS	FS	HI	Elev	HI
Bm	10.846			78.534	89.380
36		7.580		81.800	
36	9.364		9.364		91.164
35			.350		
			9.014		
34			.350		
			8.664		
33			.350		
			8.314		
x		8.606		82.558	
x	11.814				94.372
			on gr	on gr	
32			11.172	83.20	
			.350		
31			10.822		~~94.37~~
			.350		
30			10.472		
			.350		
29			10.122		
			.350		
~~28~~			9.772		
x		3.353		91.019	
x	6.523				97.542
			1.734	95.800	
Bm		Left off here			

Sta	BS	FS	HI	Elev	HI
Bm	11.784			65.494	77.278
				gr	
91			11.6420	65.836	
			.1389		
92			11.7809		
x		8.987		68.291	
	8.233				76.524
93			10.968	65.556	
			1389		
x94			11.1069		
			1389		
x95			11.2458		
			1389		
96			11.3847		
			1389		
97			11.5236		
Bm 98		5.763		70.761	

78.534
10.846
89.380
81.800
7.580

9.60
9.01
.59

104

Lout	LC	LR	cut RR	cut	RR	R.C.	R.O.		
on drop								5	
7.5	4.50	4.50	9.60	F 0.6				4.00	5.00
			9.20	F .5					
		8.10	8.85	F.5	8.10	.2		3.3	3.6
5.4	1.77	9.40	11.45	F .8	8.30	2.97	5.8	6.17	6.17
5.6	2.52	8.00	11.70	F .9	8.25	2.57	6		
5.7	2.12	8.85	11.65	F 1.2	7.00	3.57	5.75		
6.3	3.02	7.10	10.52	F .4	9.25	0.87	5.1	5.12	
near post near									
			9.48	2.16	1.22	10.42			
			9.42	2.36	.42	11.32			
			8.78	2.18	0.2	10.76			
			8.78	2.33					
			8.80	2.44					
			9.20	2.20	-1	11.48	15		
			8.90	2.62	4.45	7.32			
on stake	no. 98								

105

Sta	B.S.	F.S.	Int	Elev	H.I.
near Hub Bm	1.101			95.995	97.096
28			12.496	84.600	
			.350		
27			12.146		
x	7.877	8.866	.350	88.230	
x			11.796		96.107
26			10.80	85.300	
			.35		
25			10.45		
x		8.314		87.793	
x	8.610				96.403
24			10.400	86.00	
			35		
23			10.050		
x	5.952	4.15		92.253	
x					98.203
22			11.503	86.700	
			350		
21			11.153		
			350		
20			10.803		
			350		
19			10.453		
			350		
18			10.103		
			350		
17			9.753		
			35		
TP 16		7.906	9.403	90.297	
	12.02				102.317
			5.52		
16			13.517	88.80	
			350		
15			13.167		
			350		
14			12.817		
			35		
13			12.467		
			35		
12		10.218	12.117	92.099	
Bm Stake	11.654				103.753
12					

106

Sta	B.S.	F.S.	H.I.	Comp Rise	Comp Cut	Rise	Fall	Grade	Rise Grade
6	4.84	7.65	10.25	2.04		9.90	2.60		6.49 8
9.4	6.24	5.90	X	X		6.75	5.40	8.4	
			9.40			5.26	5.54	7.7	
8	5.30	5.15	9.00			8.30	2.15	5.4	5.4 5.35
13	10.1	.3	9.00	1.40		8.50	1.9	4.9	
10	7.75	2.30	8.80			4.50	5.5		
			10.38	1.12		6.70	4.80	7	
11.7	8.33	2.82	10.10	1.00		9.30	1.85		
	mile pins		20.51	bia					
3	1.3	9.10	9.85	.95					
5.2	2.75	7.70		1.30					
			8.90	1.2		8.70	1.40	4	
11.1	1.59	6.16	8.70	1.05		8.80	1	3.5	
			7.906	1.497					
on bm.									
4.4	1.9	12.60				12.3	1.2	4	
2.5	1.56	11.25	11.80	1					
4.1	1.60	10.85	11.72			10.25	2.2	4.50	
			10.95	1.20					

107

Sta	BS	FS	HI	Elev	HT
12	11.654		13.553	90.20	103.753
			350		
11			13.203		
			350		
10			12.853		
			350		
9			12.503		
		4.805		98.848	
	5.145				103.993
8			12.393	91.60	
			350		
7			12.043		
			350		
6			11.693	92.30	
		5.584		98.409	
	5.164				103.17
			(MD 3.32.100)		
5			10.920	92.65	
			35		
4			10.570		
app			35		
3+20			10.220		

108

Sta	Left	C	L	R	Rt	Cant E.	RR	RE	Bank	Lft	Rt
	7.50	5.15	8.40	~~+60~~	1.60	11.20	2.35				
	12.5	10.50	2.70	11.95	1.25						
	11.7	8.55	4.30	10.95	1.9		1.9				
	10.5	7.4	5.10	10.95	1.45	10.25	2.25	4.6			
		2.30	10.10	11.40	1'	10.62	1.77	5'			
	6'	1.74	10.30	10.85	1.19						
	6.5	1.94	9.75	10.95	1.7	10.50	1.19	7			
				10.00	.92						
			9.45								
			8.75	8.82	1.40	9	1.2				

109 may. 8/06

Sta	BS.	FS	Imi	Ele	HI
Bm	10.280			65.494	75.774
		4.722		71.052	
	4.054				75.106
on 98 Stake				70.904	
100					
101					
102					
103					
104					
		9.869			
x	8.711				
105					
106					
107					
108					
109					
110					
		9.867			
	8.636				
110					
111					
112					
113					
114					

4.202

10.522 64.584
1389
10.6609
1389
10.7998
1389
10.9387
1389
11.0776

65.237
nearly 73.948
10.059 63.890
1389
10.1979
1389
10.3368
1389
10.4757
1389
10.6146
1389 64.081
10.7535 63.195 ft
check on Bm to .001
5.22.8

72.717

9.522
1389
9.6609
1389
9.7998
1389
9.9387
1389
10.0776

65.494
10.280
75.774

75106
4.20
90 110

LO	LC	LR	Cen Cut	Center RR	RR	BC	RO	to 91	GR
6	2.37	8.15	2.07	8.45	00	10.52	12.5	1.52	Fl' 5.50
6.3	2.66	8	1.4	9.30	2	8.66	11.2		
5.5	2.29	8.50	1.14	9.65	5.31	5.48	8.7	4.79	6.80
6.00	253	8.40	1.53	9.40	1.60	9.33			
7.3	4.57	6.50	1.05	10.02	3.10	7.97	11.2		
8.4	5.66	4.50	1.16	8.90	X	X			
5.5	1.94	8.25	1.54	8.65	8.30	1.9			
8	4.43	5.90	1.53	8.80	7.68	2.65	7	4.33	5.5
5	1.65	8.82	1.57	8.90	8.55	1.9	5		
5.8		9.20	.8	9.82	8.60	2	5.7		
			0.8865	9.867 ms					
6.4	3.17	6.85			4.78	4.74	8.1		
4.76	1.50	8.15	6.5	9.20	4.75	4.91	8.16		
4.5	1.25	8.55	0.6	9.20	4.42	5.48	8.6		
4.79	1.54	8.40	X	X	5.35	4.59	7.84		
4.99	1.54	8.53	X	X	5.14	4.93	8.18		

111

Sta	BS.	FS	Im	Elev	HI
114			10.0776		72.717
			1389		
115			10.2165		
			1389		
116			10.3554		
x		4.360		68.357	
	4.765				73.122
				gr	
117			10.8990	62.223	
			1389		
118			11.0379		
			1389		
119			11.1768		
			1389		
120			11.3157		
			1389		
121			11.4546		
			1389		
122			11.5935	61.529	
x		6.738		66.384	
	7.490				73.874
122			12.3450		
			1389		
123			12.4839		
			1389		
124			12.6228		
			1389		
125			12.7617		
			1389		
126			12.9006		
			1389		
127			13.0395		
			1389		
128			13.1784		
			1389		
129			13.3173		
			1389		
130			13.4562		
x		5.533		68.341	
	4.498				73.839
130			12.5600	gr 60.279	

BM check and Elev. o.k.

112

Lo	Lc	Lr	Cen. Cut	Center RR	RR	Rc	Ro	Gr	HR
5.87	1.62	8.60	X	X	4.72	5.50	8.75		
5.20	1.95	8.40	X	X	4.60	5.75	9.00		
5.16	1.9	8.98	1.49	9.50	4.85	6.05	9.30		
5	1.8	9.20	1.60	9.45	5.00	5.83	9.58		
5.17	1.92	9.25	1.77	9.40	5.40	5.77	9.02		
5.41	2.16	9.15	1.81	9.50	8.70	2.61	6.1		
5.37	2.12	9.33	1.9	9.55	4.50	6.95	10.1		
5.84	2.09	9.50	2.21	9.38	X	7.34			
on stake on bank									
~~5.48~~	~~2.48~~	~~10.00~~							
5.48	2.48	10.00	1.86	10.62					
5.22	2.22	10.40	2.02	10.60	1.07	11.55	12.5		
5.11	2.11	10.65	1.76	10.70	1.70	11.06	13.8		
5.55	2.55	10.35	1.65	11.25	3.25	9.65	12.65		
5.29	2.29	10.75	1.82	11.22	6.62	6.42	9.42		
5.17	2.17	11.00	1.65	11.52	4.70	8.47	11.47		
5.30	2.31	11.02	1.70	11.62	5.52	7.80	10.8		
5.15	2.15	11.30	1.65	11.80	5.75	7.70	10.7		

Sta	BS.	FS	HPC	Ele	HI
131			12.5600	60.279	72.839
			1389		
132			12.6989		
			1389		
133			12.8378		
			1389		
134			12.9767		
x		7.817		65.022	
x	6.657				71.679
				qr	
135			11.9570	59.72 ✓	
			1389		
136			12.0959		
			1389		
137			12.2348		
			1389		
138			12.3737		
			1389		
139			12.5126		
			1389		
140			12.6515		
			1389		
141			12.7904		
x	5.443	7.681		63.998	
					69.441
142			10.6910	58.750 ✓	
			1389		
143			10.8299		
			1389		
144			10.9688		
BM	5.019	5.547		63.894	
					68.913
				qr	
145			10.5790	58.334 ✓	
			1389		
146			10.7179		
			1389		
147			10.8568		
			1389		
148			10.9957		
			1389		
149			11.1346		
			1389		
150			11.2735		

L.O.	L.C.	L.R.	Cent. Cut.	Cut to RR	R.R.	R.C.	R.O.
5.11	2.11	10.45	1.56	11.00	5.20	7.36	10.30
5.19	2.19	10.50	1.64	11.00	2.50	10.19	13.00
5.21	2.21	10.62	1.83	11.00	1.05	11.78	14.00
5	1.97	11.00	1.72 ✓	11.25	2.30	10.67	13.67
5.5	2.55	9.40	1.85	10.10	1.00	10.95	13.8
4.9	1.89	10.20	1.	10.40	1.7	10.40	13.40
5.10	2.15	10.08	1.51	10.72	4.72	7.52	10.52 ✓
4.8	1.8	10.58	1.30	11.08	3.51	8.86	11.86
5.21	2.21	10.30	1.13	11.38	2.90	7.61	11.8
5	2.07	10.58	1.35	11.30	4.10	8.55	11.5
4.4	1.40	11.40	1.20	11.60	7.50	5.39	8.3
4.50	1.49	9.10	1.20	9.50	9.20	1.50	4.50
4.5	1.50	9.32 ✓		9.57	9.10	1.73	5.00
4.74	1.74	9.2 ✓	1.11	9.85	7.12	3.24	6.1
		9.00					
4.60	1.58	9.50	.78	9.80			
4.6	1.6 ✓	9.10	1.0 ✓	9.70	4.78	5.94	8.94
	1.33	9.5 ✓	0.83	10.02 ✓	3.68	7.17	10.35
				6½ red			
4.8	1.8	9.20	1.00	10.00	5.52	5.47	9
4.60	1.53	9.80	1.17	9.96	4.1 ✓	7.61	10.01
4.80	1.77	9.50	1.05	10.2 ✓	4.30	6.97	9.97

115

sta	BS	FS	HI	Ele
150				
151		4.457	68.913	64.456
	5.192			
152			69.648	
153				
154				
155		3.1860		
	2.292		66.462	
156			68.854	
157				
158				
159				
160				
160 BM				
	4.762	8.550	60.304	
				65.066

11.2735 / .1389 / 11.4124

12.2860 / 1389 / 12.4249 / 1389 / 12.5638 / 1389 / 12.7027 — 57.362

12.0488 / 1389 / 12.1869 / 1389 / 12.3258 / 1389 / 12.4647 / 1389 / 12.6036 — 56.806

2.114

Note from sta 160 to 169 or 170. = .1833 of a 10 foot bed
5 foot bank Q = 144,
v = 3.70 c = 64.160
H-O 3 foot deep

sta	BS	FS	HI	Ele
161				
162				
163				
164				
165				

8.941 / 125 / 9.066 / 125 / 9.191 / 125 / 9.316 / 125 / 9.441

9.0000 / 1833 / 9.1833 / 1833 / 9.3666 / 1833 / 9.5499 / 1833 / 9.7332 — 56.0667

116

sta	BS	FS	HI	Ele	LO	LC	LR	cen cut	center RR	RR	RC	RO	bgr	bR
165		9.441 .125 9.566 .125 9.691 7.8180 .2610 8.0790 .1250 8.2040 .1250 8.3290 .125 8.4540 .05 8.504	9.7332 .1833 9.9165 .1833 10.0998 7.8186 7.6498 8.4878 .1833 8.6711 .1833 8.8544 .1833 9.0377 .98 9.117 6.950	65.066 above 55.636 56.504				.16			8.26			
166						.9 1.27	8.64	0.51 .2610	9.40 TP	130	8.61	134		
167				63.454	6	.9 1.31	8.78	0.66	9.430					
~~167~~											7.48			
167										0.6	7.88	12.8		
168					6	.6 1.07	7.60	.10 .57	8.10					
169					6	.45 1.07	7.88	.07 .66	8.25	350	4.83 5.35	10.35		
170					6.28	.7 1.28	7.75	.15	8.30	5.50	2.95 3.83	8.53		
170+60					6.5	1.20 1.81	7.30	.42 1.09	8.02					
BM		1.602												

on stake about 50' S of 170+60 near pine post

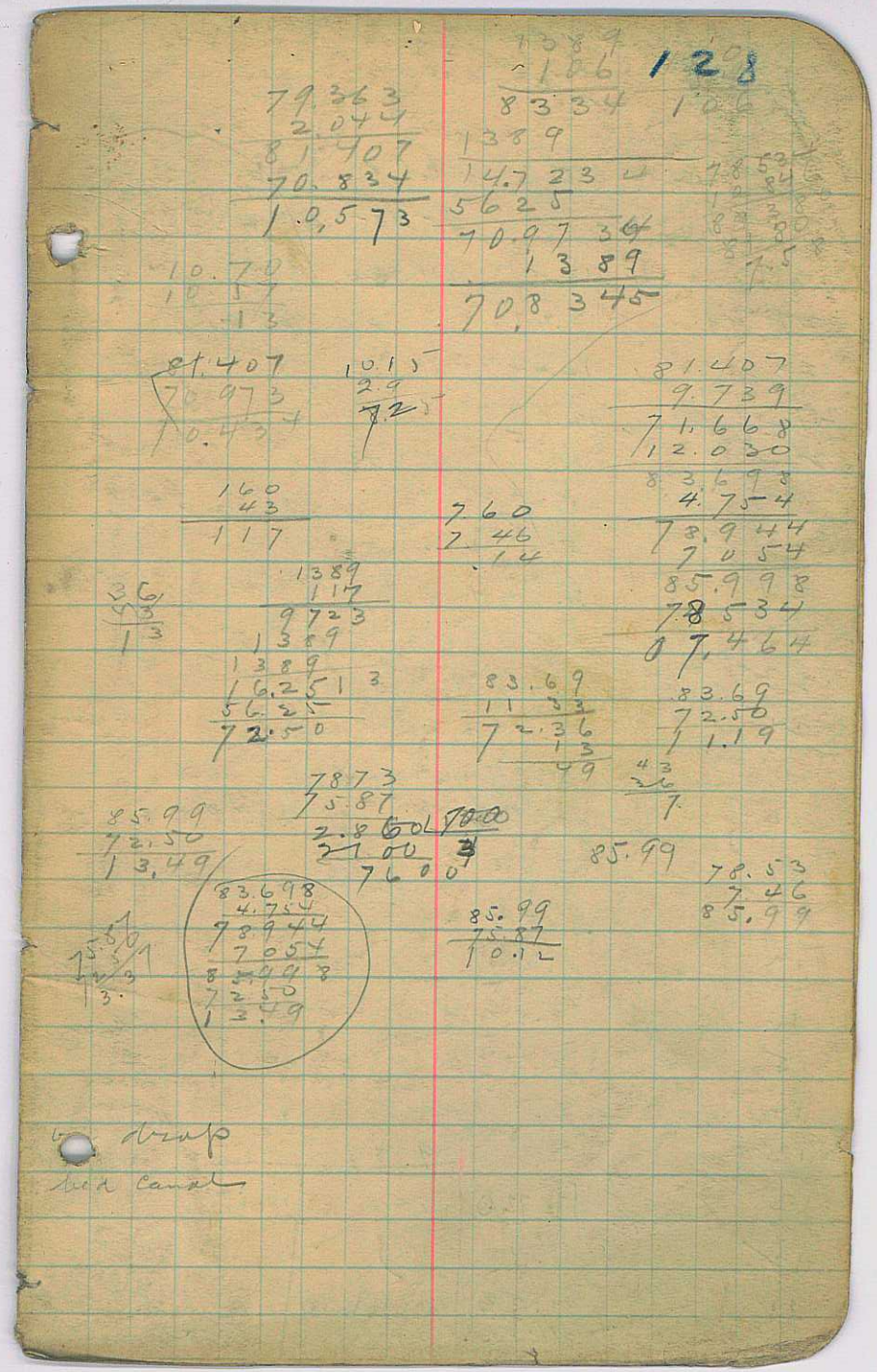
Sta	BS	FS	Inst	Ele	HT
~~87~~	~~11.677~~			~~66.398~~ 66.398	
	11.677			65.404	77.170
87			10.7810		
			1389		
86			10.6421		
			1389		
85			10.5032		
			1389		
84			10.3643		
			1389		
83			10.2254		
			1389		
TP 82			10.0865	67.085	
82			11.0370		78.122
			1389		
81			10.8981		
			1389		
80			10.7592		
			1389		
79			10.6203		
			1389		
78			10.4814		
			1389		
77			10.3425		
			1389		
TP 76			10.2036	68.919	
76			9.5660		78.485
			1389		
75			9.4271		
			1389		
74			9.2882		
			1389		
73			9.1493		
			1389		
72			9.0104		
			1389		
71			8.8715		
			1389		
70			8.7326		
			1389		
TP 69			8.5937	69.892	
69					

121

No	BS	FS	HI	Elv	H.I.
69			11.9320	69892	81.524
			1389		
68			11.7931		
			1389		
67			11.6542		
			1389		
66			11.5153		
			1389		
65			11.3764		
			1389		
64			11.2375		
			1389		
63			11.0986		
			1389		
62			10.9597		
			1389		
TP 61			10.8208		
61			11.8820		
			1389		
60			11.7431		
			1389		
59			11.6042		
			1389		
58			11.4653		
			1389		
57			11.3264		
			1389		
56			11.1875		
			1389		
TP 55			11.0486		

Check Level

127 BM	3.708			70.712	74.420
	2.572	7.052		67.368	69.940
	5.386	6.620		63.32	68.706
BM 141			4.673		
		6.500		62.200	
	8.071	5.384		64.887	70.271
					72.626
Usrain	7.731	5.880		66.746	74.626
	2.196	4.245		64.697	68.942
	6.459				71.156
	2.693	9.357		61.799	



129

95.995
1.053
97.048

Sta	BS	FS	Elv	HI
	1.053		95.995	97.048
28		12.448	84.600	
		.170		
27 +50		12.278		
28		12.447		
		.35		
27		12.097		
		.35		
26 TP		11.747	85.308	
26		5.624		90.932
		.35		
25		5.274		
		.35		
24		4.924		
		.35		
23		4.574		
		.35		
22		4.224		
		.35		
21		3.874		
		.35		
TP 20		3.524	87.408	
20		10.290		97.698
		.35		
19		9.94		
		.35		
18		9.59		
		.35		
17		9.24		
		.35		
16		8.89		
		.35		
15		8.54		
		.35		
14		8.19		
		.35		
TP 13		7.84	89.858	
13		11.720		101.578
		.35		
12		11.37		
		.35		
11		11.02		
10		.35		
		10.67		
		1.120	100.378	

12.27
9.86
6.1

97.04
84.60
12.44
8.86
2.58

12.09
10.45
1.65

12.09
9.41
2.68

97.048
11.74
85.308
5.624

90.932
3.524
87.408
10.290

97.698

87.408
10.290
97.698
7.240
89.858
11.720
101.578
1.20
100.378

3.6
2.8
.8

130

97.048
84.600
12.448

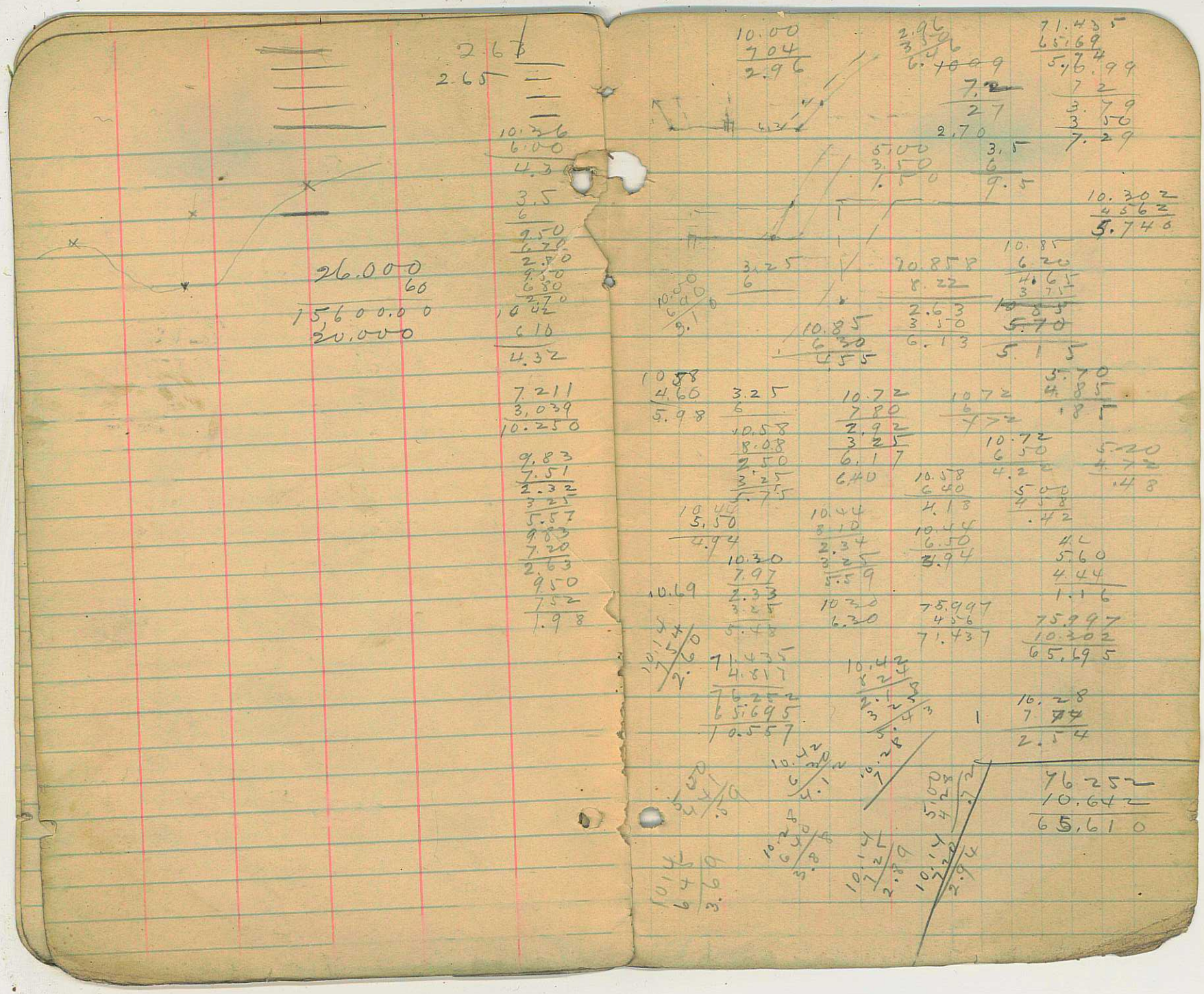
2.80
.8
2.80
1.80
84.60

94.37
9.77
84.60

97.69
96.532
1.16

85.308
5.624
90.932

200+92	cross.
201+34.7	to W side St.
208+18.8	to E " St.
208+91	to Cross
209+20	to W. side of St.



10.000 | 26
3845

384.6
26
23076
7692
9999.6

2 | 384.6
192.3
576.9

3 | 97200
324
648.00

10.037
2.2225
12.2595

2.41
3.50
5.91

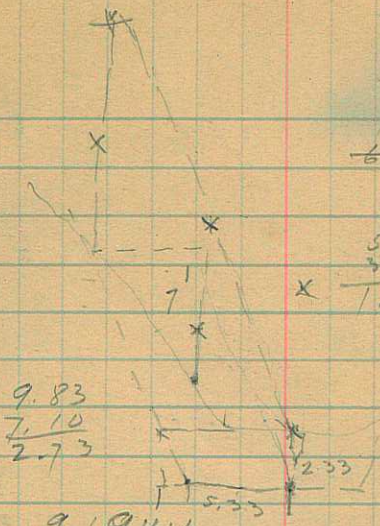
10.11
2.05
2.66

6.18
4.11
2.07
9.69
0.75
2.94
9.69
2.00
2.69

76.54

13738
8232
45506
45

220
40
260 | 80
240 3
20



9.83
7.10
2.73

9.6944
7.2540
2.4404
3.25
5.69

4.77
2.33
7.10
3.5
232
325
559

5.40
3.83
1.57

3.25
6

5.60
3.69
1.91

2.6 6/10
2.6 1/2
2.65
2.78 2.80
2 7 3/4

