

2045

187

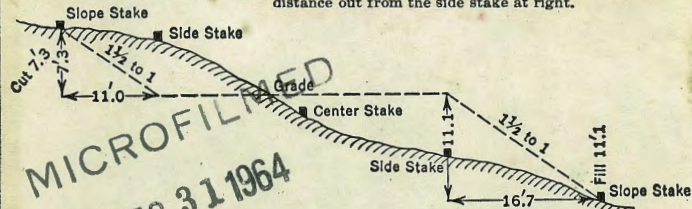
187

187

SW

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING
 Roadway of any Width. Side Slopes 1 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.



No 2045

Distance out from Side or Shoulder Stake

Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
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

28.80
 15.71
 52.1
 10.2 x 1
 0.5 x 2
 15.71
 329.80
 x 7.31

The paper in this book No. 360A
 is made of 50% high grade rag stock
 with a WATER RESISTING surface sizing.

Supernatant Overflow	
Locate 8" Super Natent. & 3" Water	1
Final check 12" Aerator drain. C.L. #2	2
Locate & check 5" Sludge and ^{8"} gas Line	3
" " 4" Water to Adm. Bldg.	4
" " 8" Grit Line to C.L. #2	5
check stack for Plumb	6
check 36" Influent & Venturi, P. 29 ²⁹ C.L. #2	7
Locate Airducts & Elect. Cond. S of Adm. Bldg	8
" 2 1/2" Steam. C.L. #1 to Barker Room	9
Elec Conduit	17 - 10
Elev Main Pumps	11
Ventilator Pit. at Stack	12
Air Exhaust	13
Elev. Stack	14
Steam Line 2 1/2"	15
Proposed Catwalks	16
Electrifier #1 baffles	18
Back Flow Unit	20 - 19
Floating Clarifier #2	21
Sludge	22
1 1/2" Pipe Sump Pump Digester Control	23
6" Sludge from Digester Control to #3 Dig	24
8" ^{Water} Line	25
Elev Stop on Main Column Dig #4	26
Elec Conduit from Elect Units	27
Level Sludge Storage Floor	28

Location 12x12 Support Columns	
Main Bldg	30
Elev Pump Bases	31
Establish BMs on Dig 4-5-6	32
Locate Green House	33
Loc Pull Box + Elec Condt SE of Sludge Storage	34
Loc 6" Gas Line Sludge Pump Bld	35
Loc MH F & 6" Tile drain	36
Loc 3" Gas Line	37
Loc Catwalk Cl #2 to dig #5	38
" " M Bldg to dig #1	39
Loc Box Easterly Tank Elut #1	40
Loc 8" Gas Line scep 66-2032	41
1" Air Line N of Sludge Pump Bldg	42
Water Lines CL #1	43
1 1/2" Water Lines N of CL #2	44
8" Sludge SPB to Sludge Cont	45
6" CI to NW cor Main Bldg	45
8" Valves on 8" Wash Line	46
Elec Conduit SPB to Ad Bldg	47
Water Line 53 54 57 69 77 52 51 50 49	48
Elec Conduit	55
Check on Stack	56
8" Wash water	58
6" Flu	59

6" Gas 5 to 6	60
4" Condensate	61
36" CI Main Bldg to Cl #1	62
3" Water Line	63
Elec Conduit	64
4" 6" x 8" CI Add to M Bldg	65
8" CI Lines	66
3 1/2" Water Lines 5 - SPB.	67a
1 1/2" Propane Line	67
Sewer Outfall	68-70
{ also 5' from condensate tank Hot Elec #1 & #3 Elec Conduit + 4" Power Duct }	71-72
Grit Line Finished	73
Slab Heat Exch Bldg	74
8" Sludge	75
1" Air Line	76
2 1/2" Water Pipe	77

DATE
/ /

Location of 8" Super Naticent
+ 3" water

Super Naticent
Overflow dig. #6 #5

Top #6 dig. 2032-32 2823

Top of Corbels 1999-75 1425

Top of Super Naticent overflow 21.62

(#5 Super Naticent Overflow also 21.62)
10-28-49

Begg Sherman Crawford 11/35/49
0:74 12:74 12:00 PM

0+00 See sketch

31.8 Top Pipe 45° Bend

34.1 Top Valve Stem 5.16 7.58

36 6.91

54.8 Aline 7.00 6.74

62.0 45° Bend 7.02 5.74

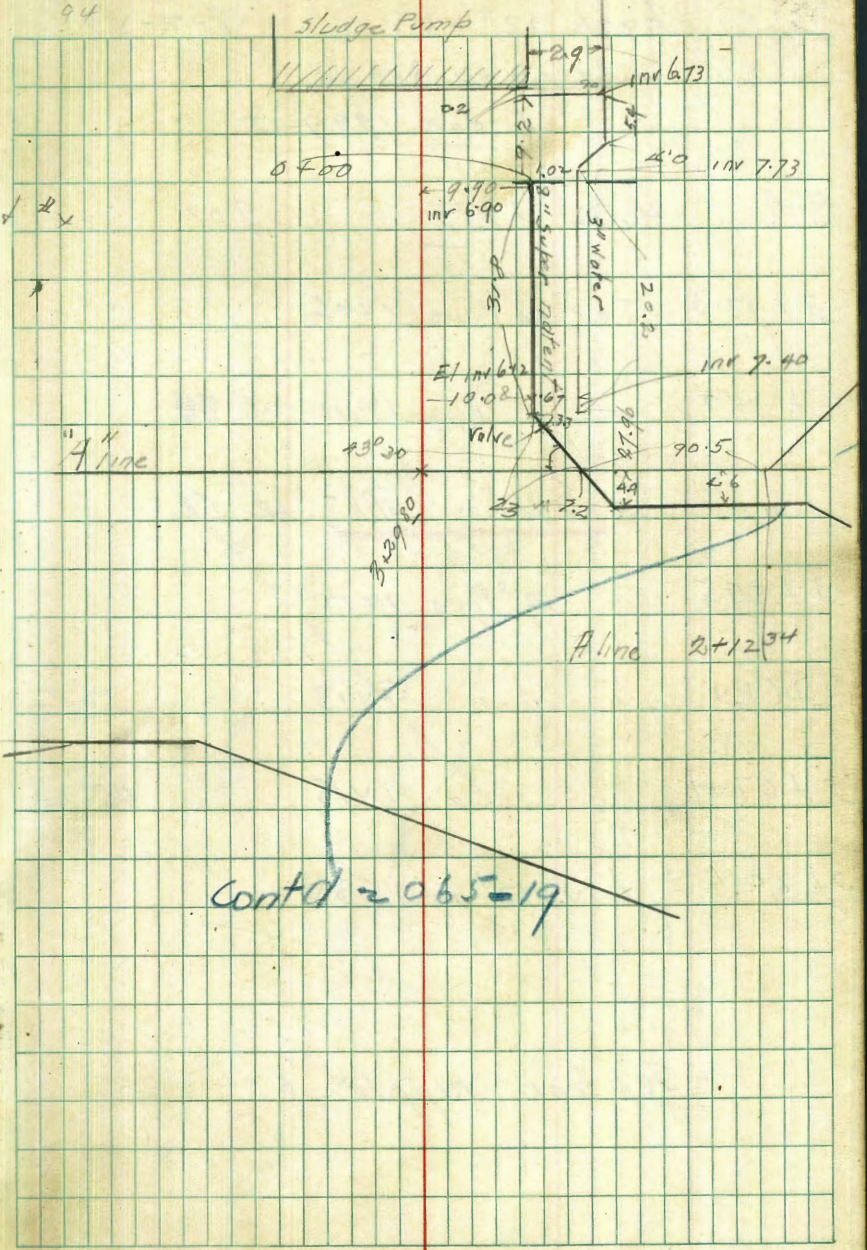
81 7.35

99 7.65

1+17 7.97 4.77

1+25 7.97 2.00 6.00
11/25/49

408
94



Cont'd 2065-19

check 12" vcp 8-2-29

Aerator drain

From 1999-51

B.M. 4.72 13.73 9.01

3+42.3 Top 12" Pipe 14.06

3+54.3 " " 14.11 -0.38

" Syphon 11.15 12.58

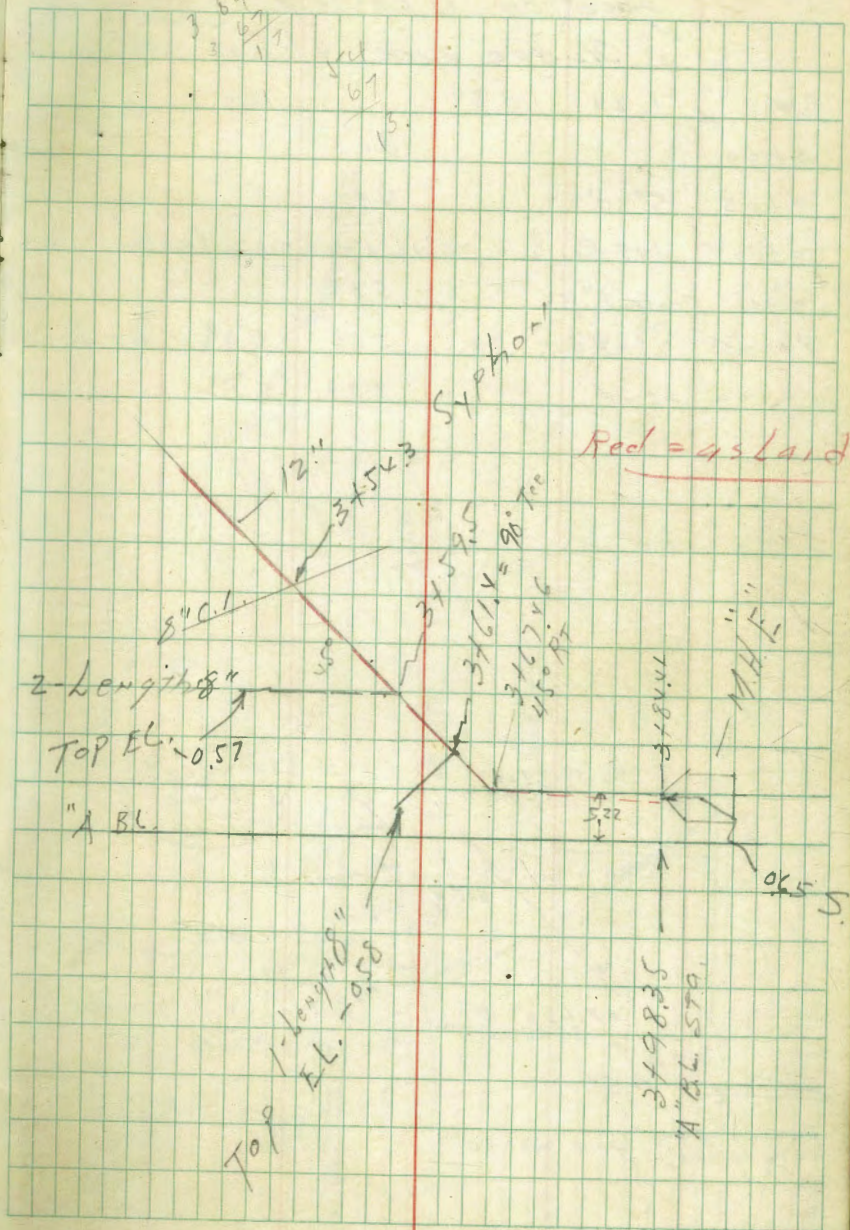
3+59.5 " 12" Pipe 14.12

3+61.4 " " " 14.13 " Tee "

3+67.4 " " " 14.15 45° Lt

3+80.1 Inv. 12" " 15.35

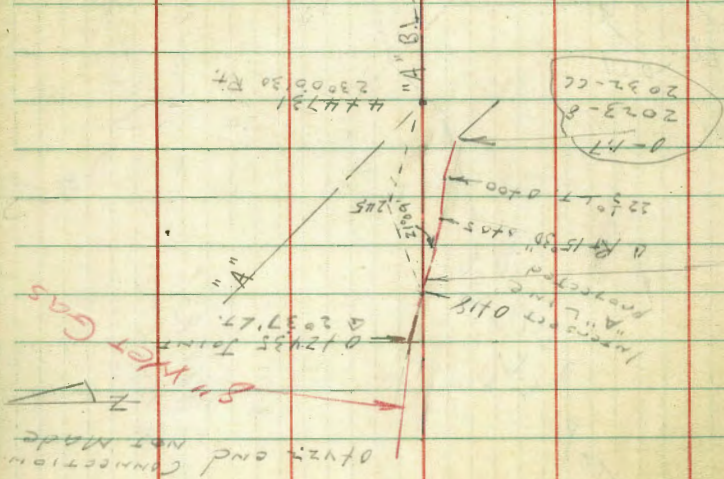
Syphon nipple 6"



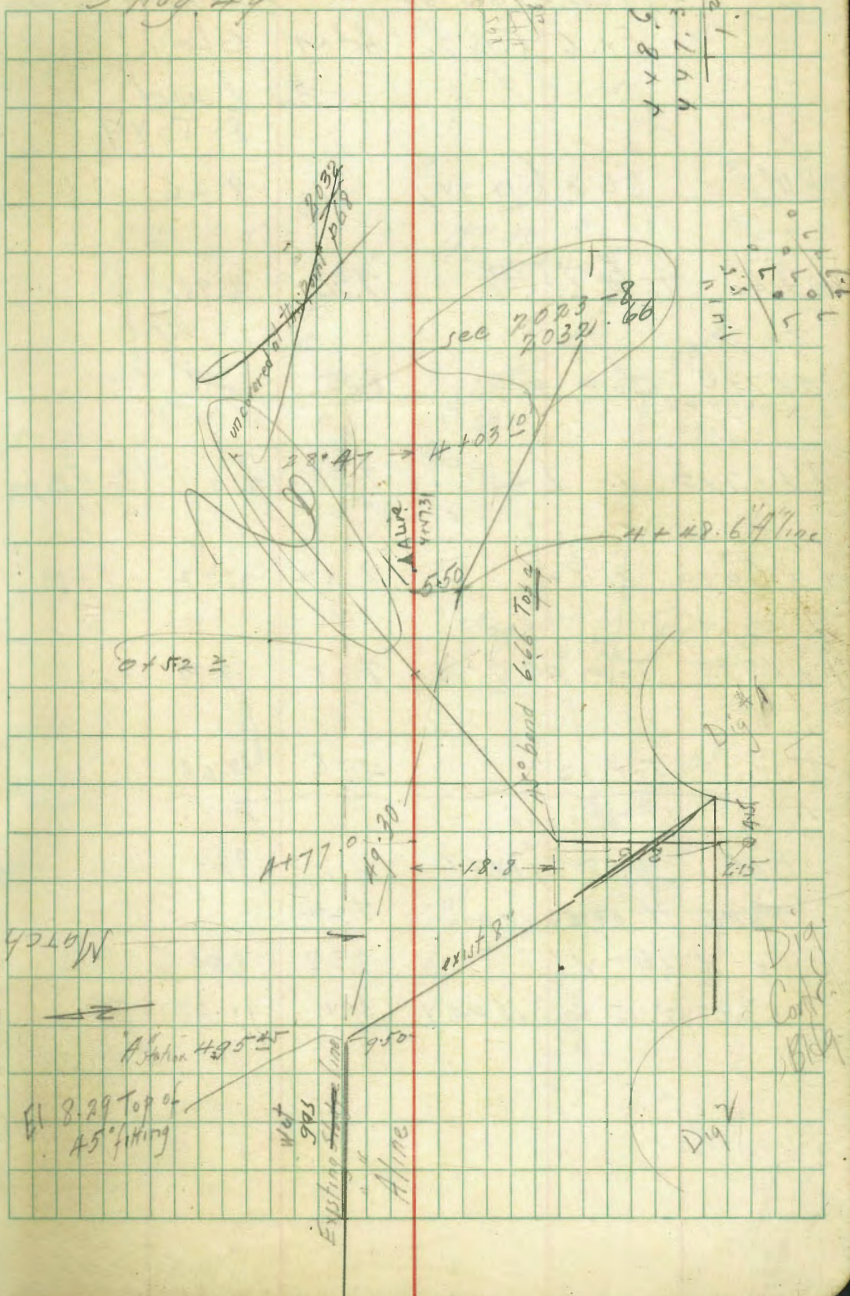
8-10-49

Location of Existing
Sludge Line & 8" Gas Line

BM	1.84	13.84	12.00	Top Pipe
0+00			6.07	
0+05	15°30' RT		6.04	
0+08.35	1.15 Rt	1/2" Valve Existing, Limit to S.P.B.		
0+18	Cross "A" BL		5.79	
0+24.35	2°37' LT		5.66	4.18 9T JOINT
0+22.2	End		5.36	



B099
3 Aug 49



Location of 4" Water Line

Ex. 6" C.I. to Adm. Bldg.

As Laid

8-5-49

B.M. 568 (1894)

9.26

0+00 ^{Existing} Top 6" C.I.

7.96 6.98

0+73.6 Top 4"

8.05 6.89

1+47.45 A LT

7.58 9.36 Top Pipe

1+60.10 A R+

7.22 2.72 Top

1+65.95 Top 4"

7.15 7.79 at
Riser

" Top 2"

4.26 10.28

6" Water

B.M. 4.95 1421

920

Top 6" Y at EX MAIN

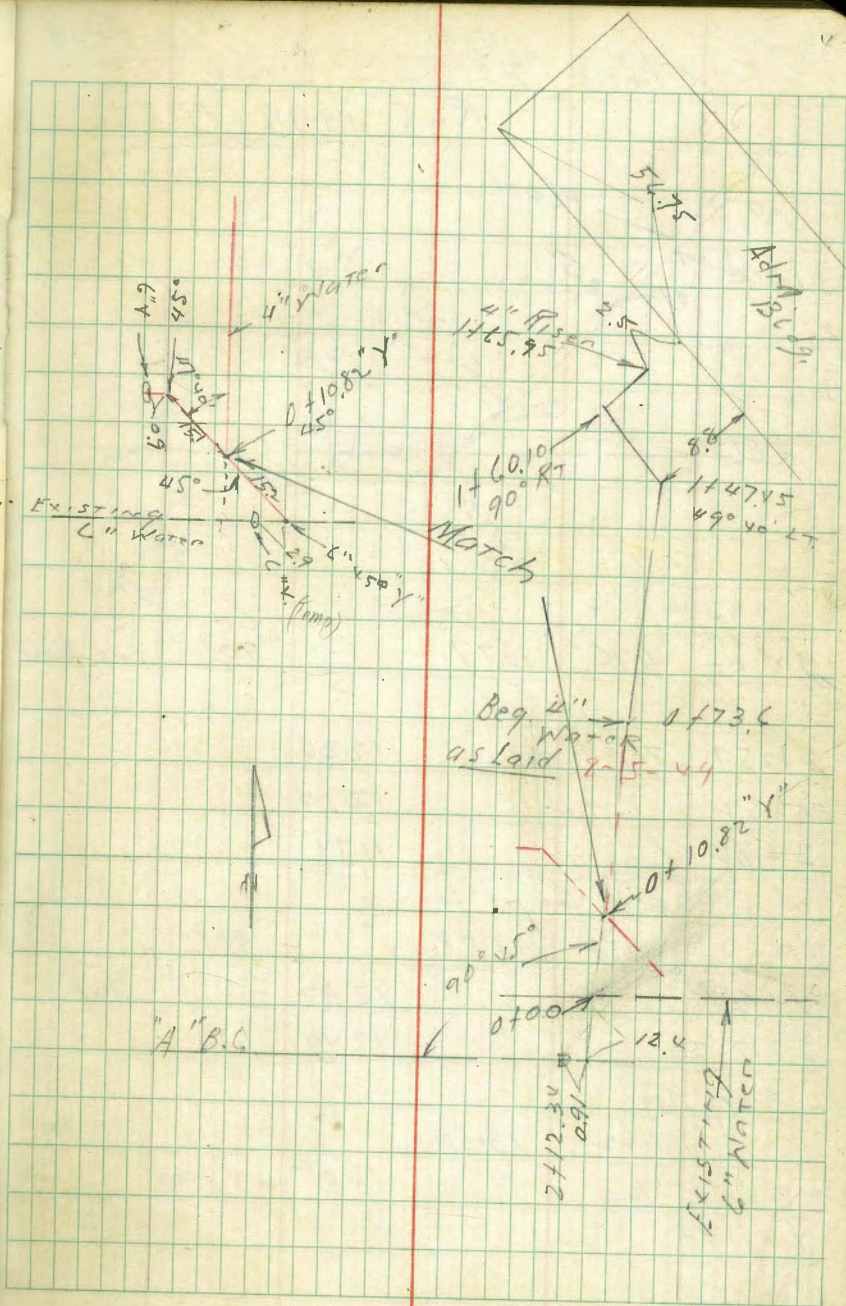
7.22

" 6" x 4" Y

7.35 6.86

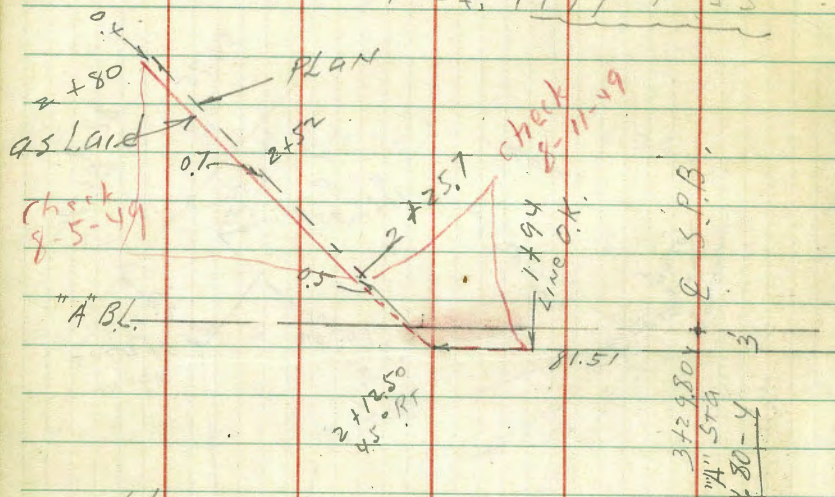
" 6" x 4" 15' West of 4" Y

314 11.07 top



v.c.P.
Check 8" Grit Line 8-5-49

Ref. 1999 P 55



BM	476	1377	901	Eng Point
----	-----	------	-----	-----------

2+257	TOP Pipe	1236	
2+52	" "	1210	
2+80	" "	1174	

Check Grit Line 8-11-49

BM	457	1358	901	
1+94		1292		Top 8"
2+12.5		1240	115	"

Begg 8/21/49
1.62 13062 10 BM

Top at 45° Bend 1635 - 2.73
1+119.4

Check track for PLUM 16

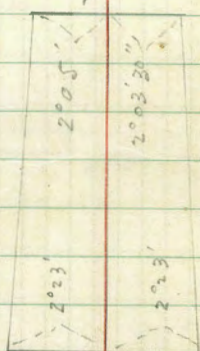
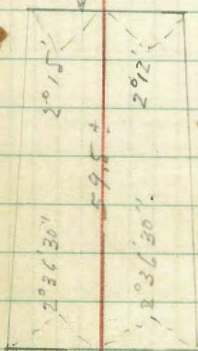
See p 14

8-5-49.

" " 56

South lean 015

West lean 008



~~TEL~~
~~74~~
69

173 E

185 S

173	173
00027	300
1311	692
1380	292
15	519
	59.515

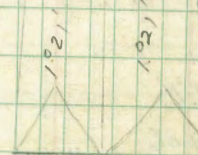
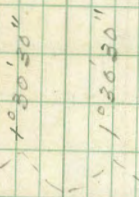
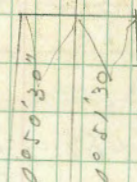
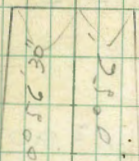
00040
740
08100

Check track

8-19-49

South lean 005

East lean 010



296 east

325 South

Fwd 57' LT
56' LT
0° 56' 30"

Fwd 0° 49' 07"
52' LT
0° 50' 30"

Rev. 55' R
57' R
0° 56' R

Ret. 52' RT
51' RT
0° 51' 30"
0° 01' RT

296
00015
00040

325
0003
0975

8-8-49 Check Venturi Pit and
 36" C.I. Influent Line
 Main Bldg to cb #2
 From 1999-45

BM.	1.89	13.89	12.00
FLOOR drain		13.24	
1+51.91 Inv. Ex. 36"		12.29	+1.60 1.67
W. Cor. Floor		13.04	
N " "		13.05	
E " "		13.04	
S " "		13.09	
1+27.71 "		13.04	
1+39.06 "		13.06	

Main
3.08 = Top to Inv.

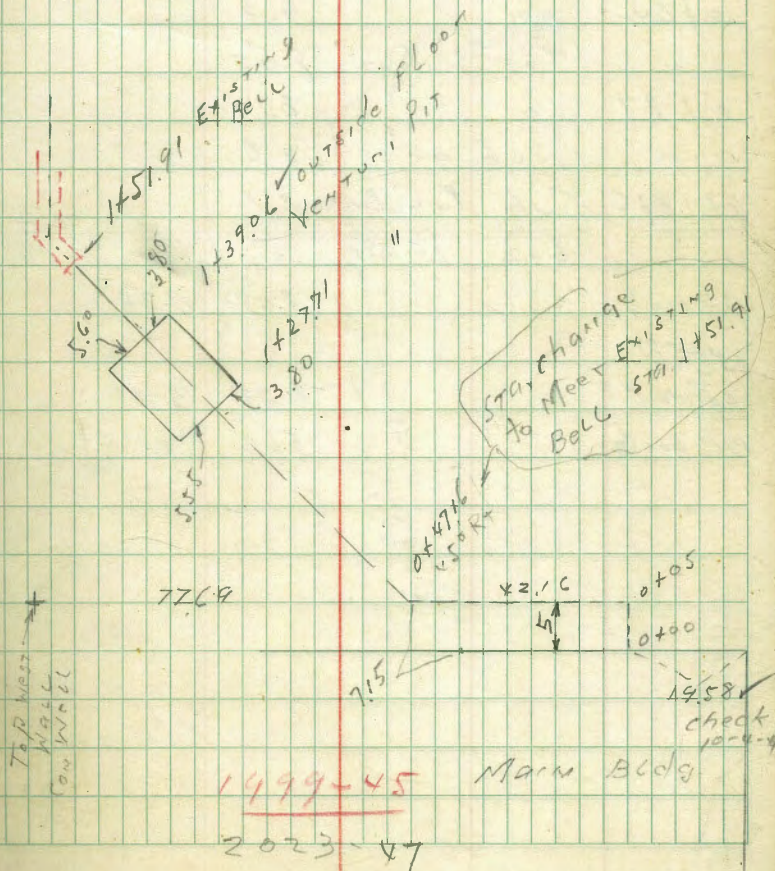
check 36" Influent 8-12-49

BM.	1.74	13.74	12.00
0+95.4 End Ex. Bell		8.97	4.77 Top Pipe
1+10.4 " Bell		8.89	4.85 "
1+27.4 " Bell		8.64	5.10 "
1+27.71 outside Box			2.02 Inv "
1+34.93 Flange Venturi			
1+39.06 Bell outside Box		8.70	5.04 Inv "

check 36" Influent 8-15-49

BM.	1.69	13.69	12.00
0+79.4		12.04	1.65

cont'd p 29

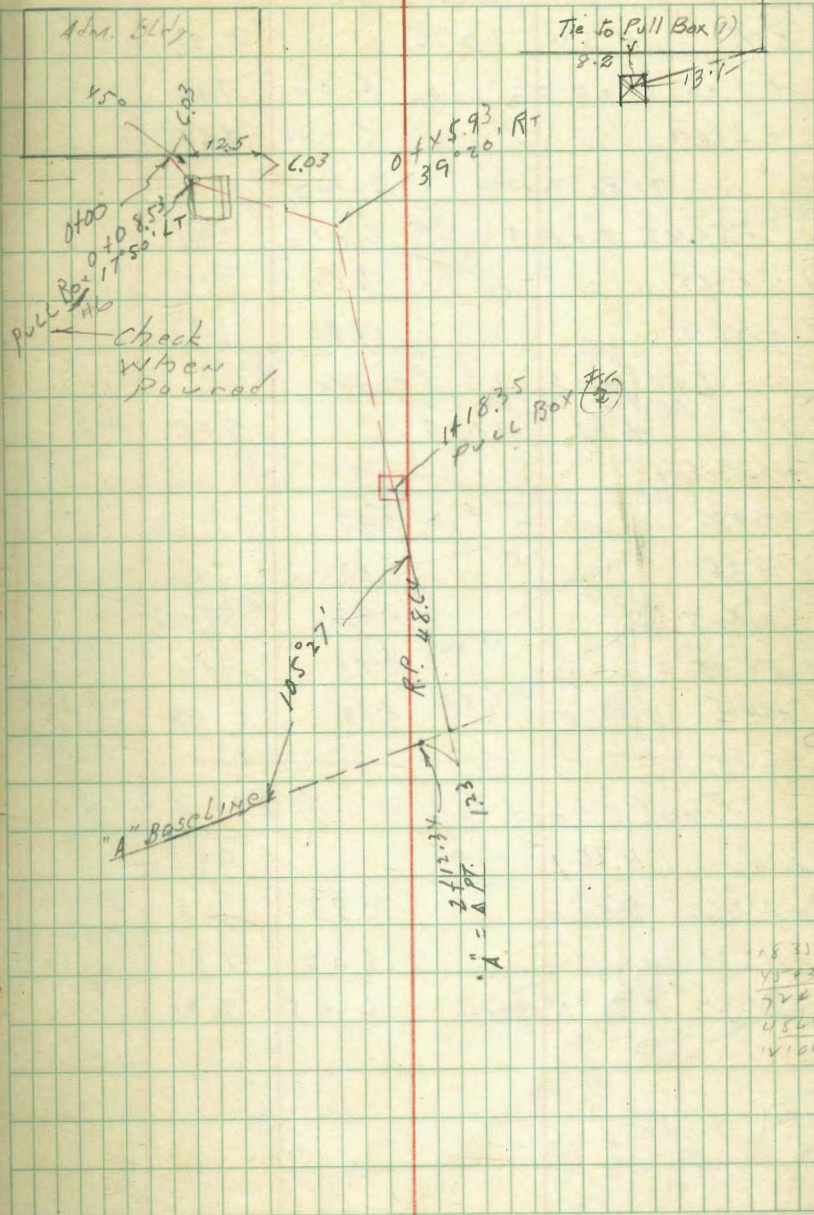


1999-45 Main Bldg
 2023-47

Location of Air ducts below

8-9-49 Elect. conduit
Adm. Bldg. S Ely to Pull Box

BM.	6.00	15.26	9.26	
070853	Top 3" duct	5.86		
"	Sub. gr. Box	7.15		
074593	Top 3" duct	8.4		
"	Sub. gr.	8.9		
0764	" "	9.3		
"	Top 3" duct	8.75		
0787	" "	8.10		
"	Sub. gr.	8.6		
<u>171835</u>	<u>Sub. Pull Box</u>	<u>8.7</u>		
	6.02	15.28	9.26	BH
Pull box 6		3.98	11.30	
074593	Top			
Conduit		8.23	7.08	
Pull box (g)		5.62	9.66	



15.31
11.30
3.21
4.86
11.06

Locate 2 1/2" Steam Line
 Boiler Room to cl. #1

Ld. C.T.
 3+30.5m

BM	4.50	13.76	9.26
0+100	Top 2 1/2" Line	6.00	7.76
0+367	" " "	6.22	7.64
"	71 R. Top	6.25	
+56.45	Top 2 1/2"	6.41	7.35
1+0465	" "	6.60	7.16
1+264	" "	6.83	6.93

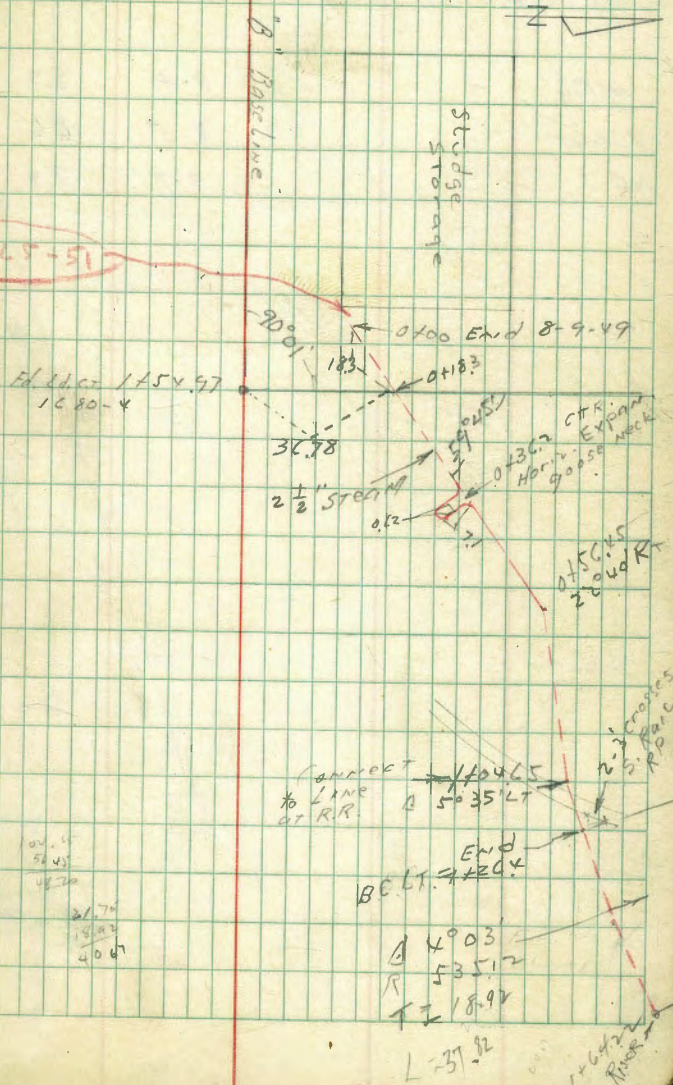
Recheck 2 1/2" Steam 8-11-49

BM	on top of Packing	4.60	13.86	9.26	BM
Top of Packing					
0+00		5.90	7.96		
0+36		6.30	7.56		
" E 67 ft.		6.42	7.44		
0.56.45		6.88	7.64		
1+0465	BC Lt	6.63	7.22		ON 2 1/2" Lead Pipe

Final Check 2 1/2" 8-18-49

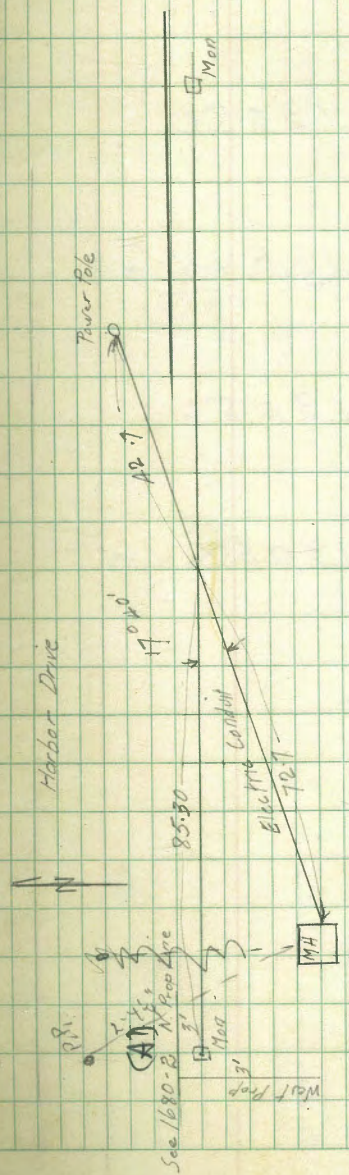
BM	4.70	13.96	9.26	
1+04.65	Belt	6.93	7.03	TOP Packing
1+45.31		6.15	7.81	"
1+60.22	E.C. Riser	6.05	7.91	"

FD 2065-51



Location Electric Conduit E.M.# to Power Pole

Location	Electric Conduit	E.M.# to Power Pole
B.M. Venturi Pit N. of Sludge Pump	6.02 17-12	11-10
at Pole	8.4	8.7
L. Point	8.5	8.6
M.H.	9.7	7.4



8-16-49
Shaft Meas.
RT Δ drive to PUMPS

Eng. #1 = NLY 13,050

Eng. #2 13,044

Eng. #3 13,056

Eng. #4 = SLY 13,087

11
Elev. CTR Pump Manifolds

1.498 ← FL $\frac{1325}{-11305}$

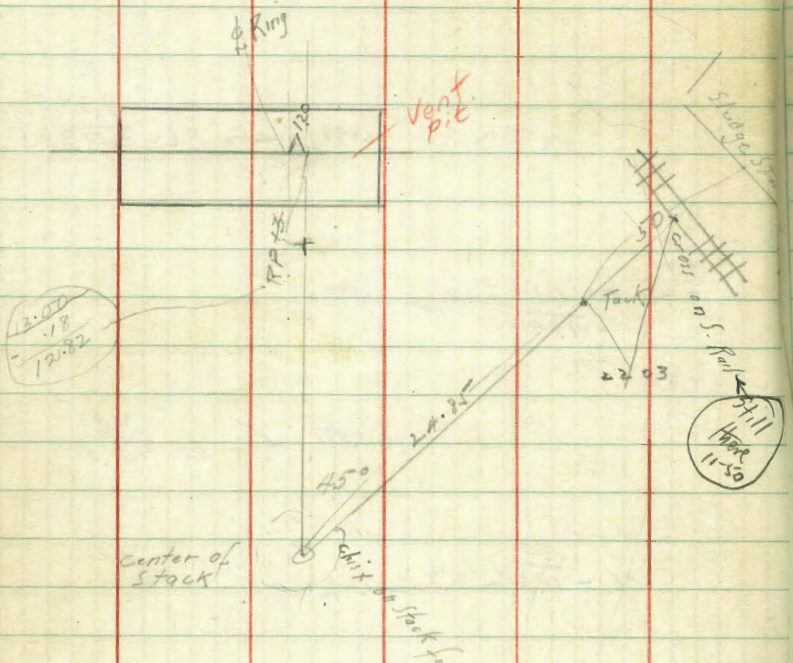
PM -13.00
3.02
9.98 π $\frac{131}{-1129}$ CTR → 1495.0

1.498 ← FL $\frac{133}{-1131}$

FL $\frac{133}{-1131}$ → 1.492

8-17 x 9,

Ventilator Pit AT STACK
FAN FOUNDATION BOGT LAYOUT



Elev top of Box to be 9.00

3.76	13.01	9.25
	4.01	9.00

Set BM chisel 28. on

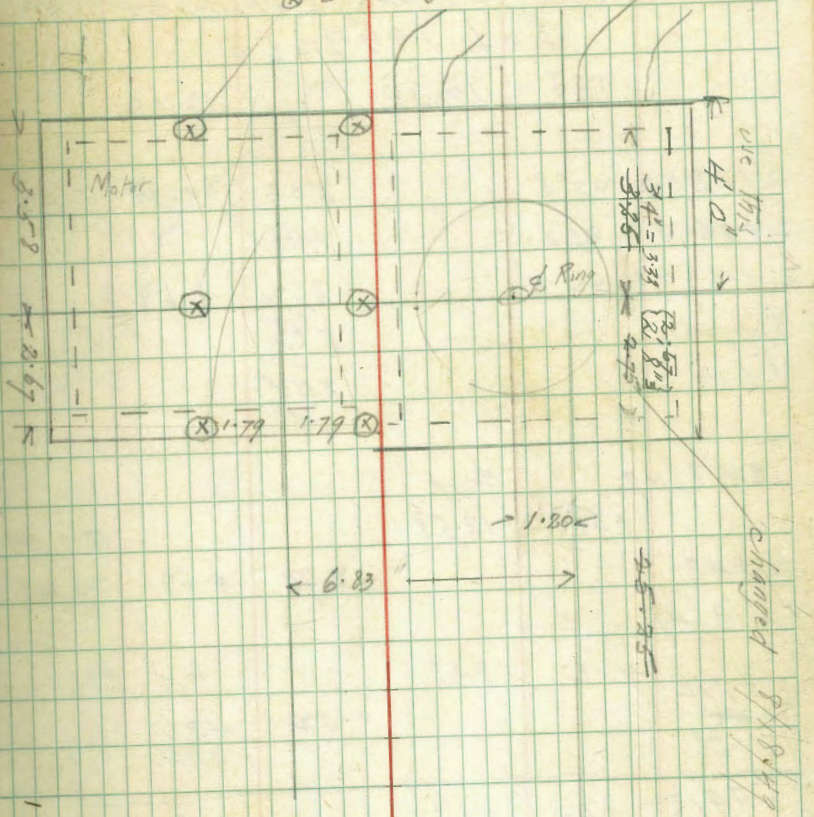
Base of Stack

1.5' SW of SW Cor
of Water Pit (Dust scrubber)

4.01 9.00

BM	4.124	13.374	9.25	BM set for Morgan
	x 38	8.994	9.00	
			0.006	

⊗ = 6 bolts



checked for EL,

Low

Check 12" ^{VCP} Air Exhaust
Ref. 1999-58

8-18-49

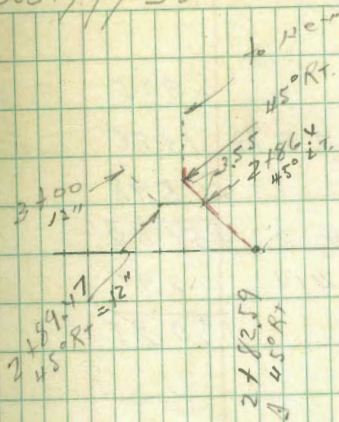
Sec 1999-58

ELCTR
TANK
01/1/82

13

1.30 13.30 12.00

2+82.59	45°R	8.00	5-30	Top 24"
2+86.4	45°L	7.98		" "
2+89.7	45°R	8.62	4.68	" 12"
3+00		8.61		
3+10		8.65		



Red = 24" VIT.
as Laid

"4" Baseline

24/8/49

Begg

1.58

13.58

12.0 BM

3+43

8.90

4.68

Top 24"

26/8/49

Begg

4.12

13.38

8.18

9.26

2+21.5

Top 24"

27

8.52

4.86

2.80

2.38

42 hgs

1 79/60

1.62

13.62

12

8/30/49 Bigg

flow

27

11.28

2.34

8-19-49

check stack HEIGHT

B.M.	3.88	13.13	9.25
Elev. Mark on side	+ 0.73	13.86	
Meas. Mark to Top		145.98	
	Elev. Top	159.84	
Base of stack	414	8.99	
Length stack		150.85	

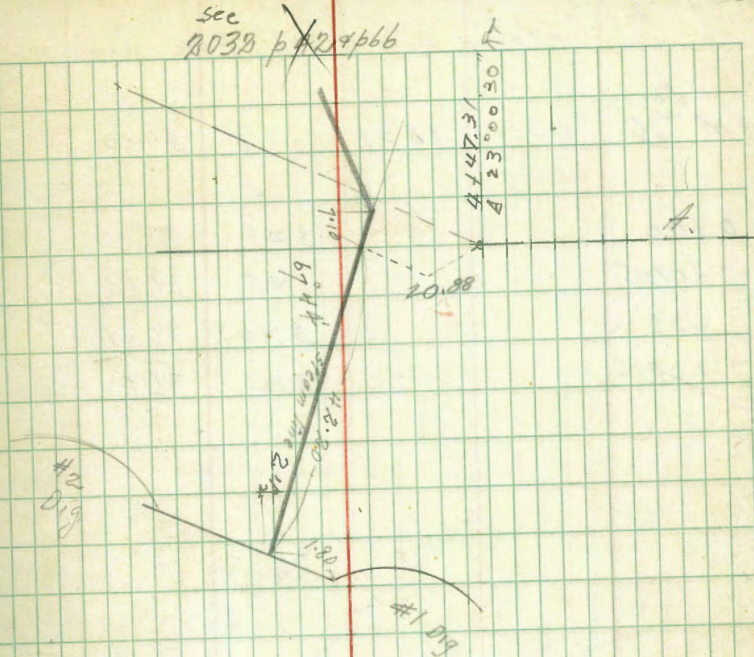
Locate 2 1/2" Steam Line TO

8/19/49

DIG CONT 13206

Top of Pipe R.97 170 wrapping 45 bend	<u>14.97</u>	12.00 BM
Pipe at "A" line	9.15	5.82
at Bldg.	9.13	5.79
		5.84

Sec
2038 p. 2966

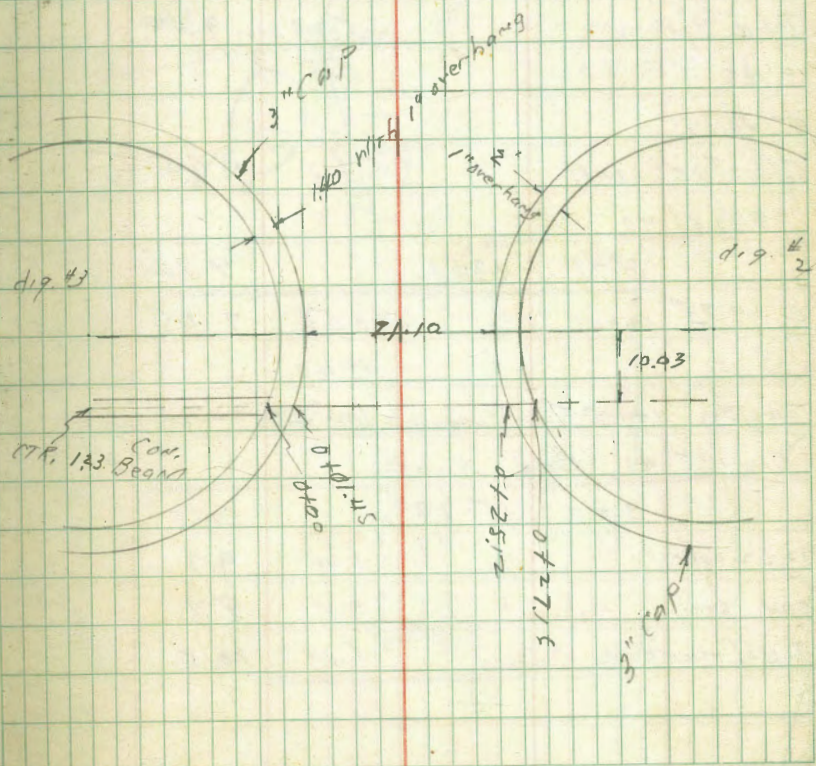


8-19-49.

Proposed car walk Bet. dig. 2-3

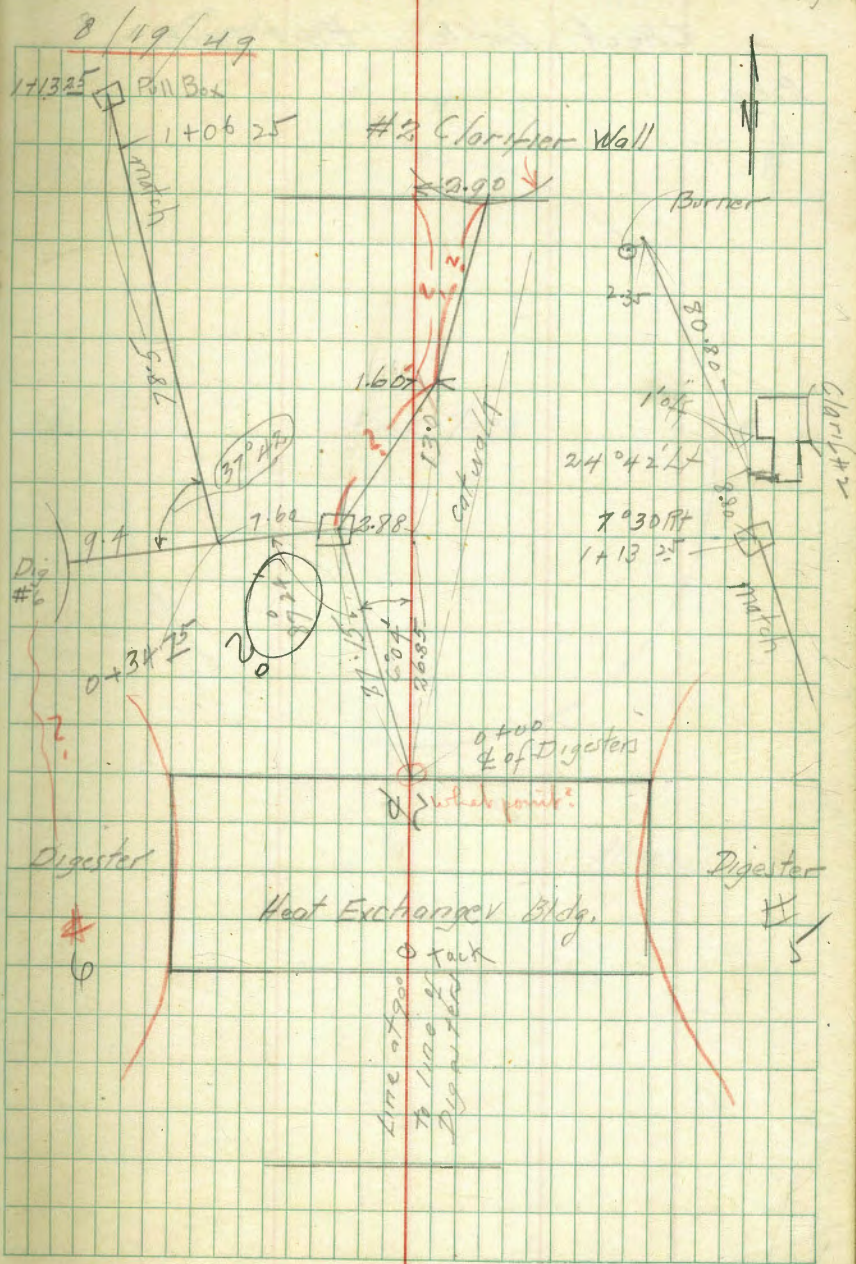
Bolt RM. #3	431	3831	3400
0+00		3.21	35.10
+01.45		3.45	34.86
+25.12		3.40	34.91
+27.16		3.16	35.15

16



Electrical
Conduit between Heat Exchange
Bldg & #2 Clarifier

	5.30	15.22	9.92	Tack in HE Bldg
0+00				
		7.6	7.6	
0+19 conduit		7.95		
Top of Box +40		5.90	9.22	
		6.0		
at wall of Clarifier condit		6.3	8.9	
<u>8/28/49</u>				
	3.71	13.63	9.92	
0 34 75 ⁺ condit		6.58	7.05	
		4.40		
Top Box 1+13 25		1.52	12.11	
<u>Sep 1st 49</u> Begg				
	3.77	15.88	12.11	
1+22 conc		6.4	9.5	
end conc station?		7.5	8.4	
Top of river conc station?		5.39	10.5	

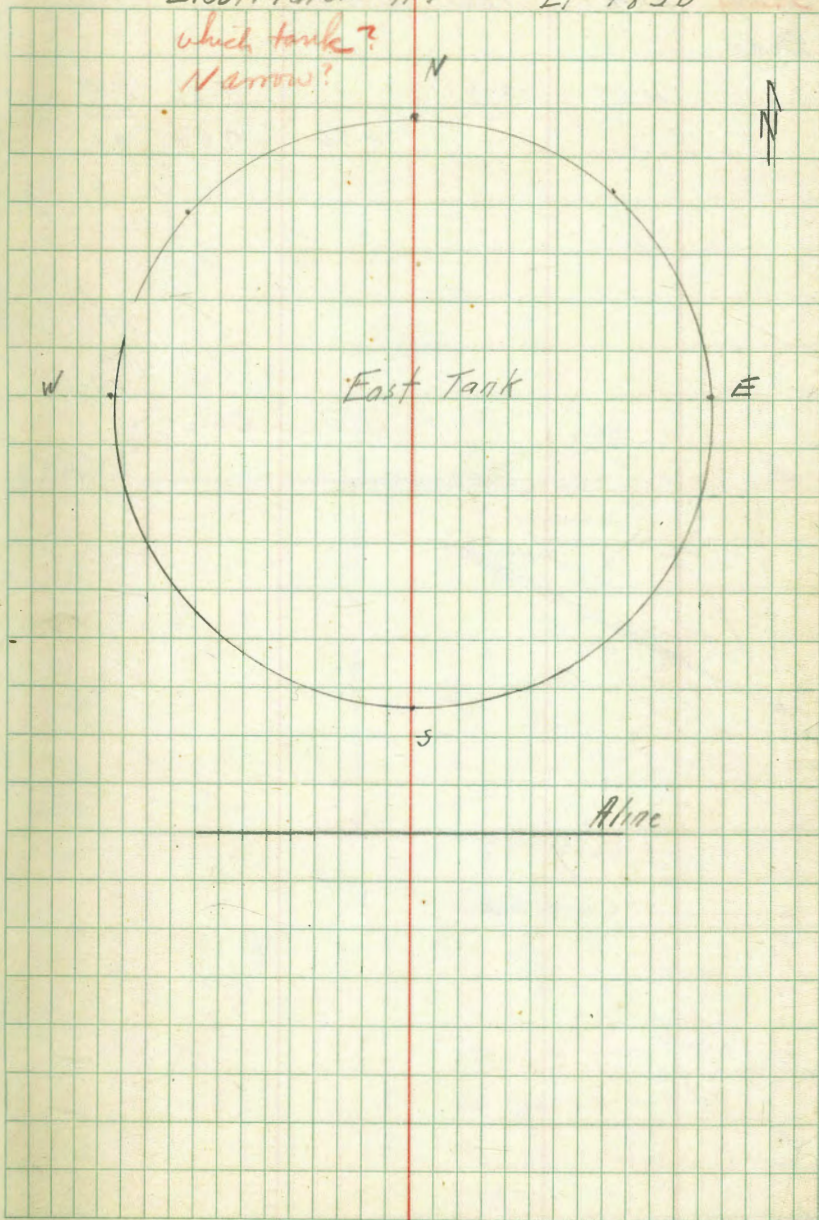


Check baffle East Tank

Begg

Unit design 18
Eleutriator #1 El 18:50

which tank?
Narrow?



8/26/49 Back Flow Unit

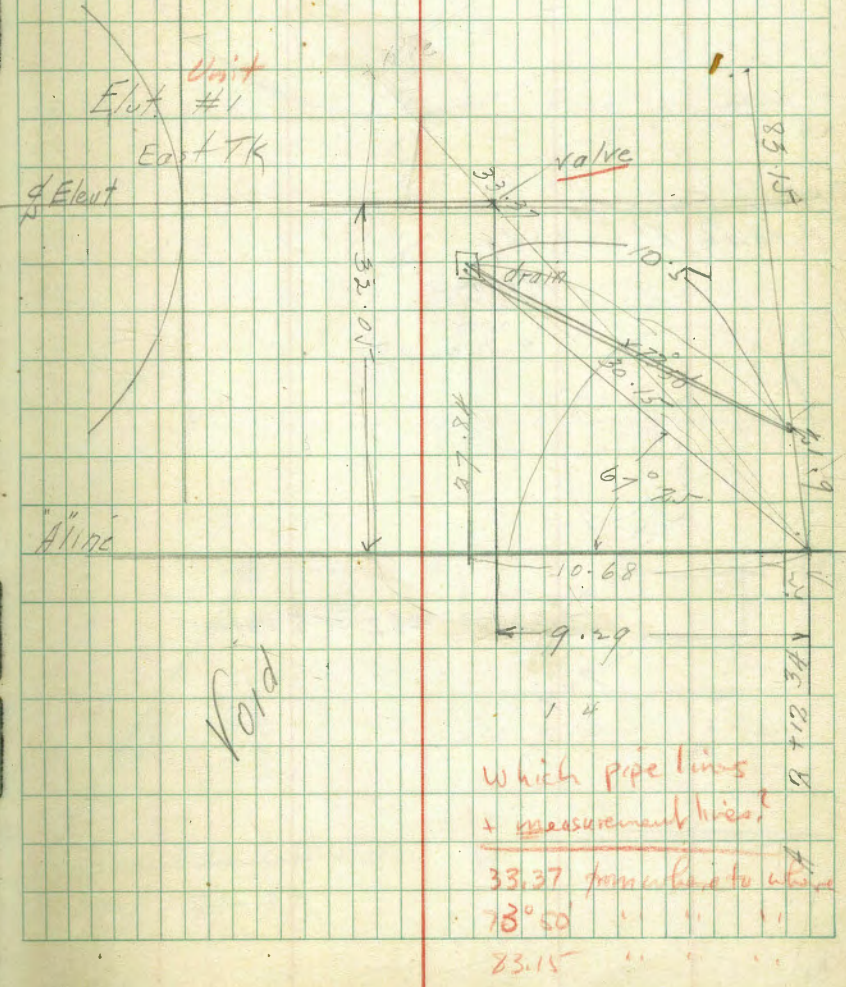
Begg

4.27	<u>13.53</u>	9.26	BM
		9.27	Plan
		9.23	

← Elevation what?

Back Flow Unit

19



Which pipe lines
+ measurement lines?
33.37 from valve to unit
70° 50 " " "
23.15 " " "

Back Flow Unit

Begg

DATE?

PARTY?

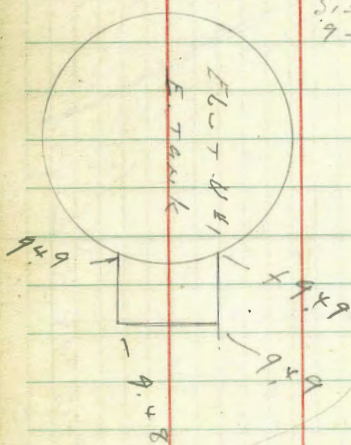
P19 continued or
connection?

Base Line

Elev. Fornas

E. Tank, E. Unit #1

Moore
Sherman
Sisson
9-20-89

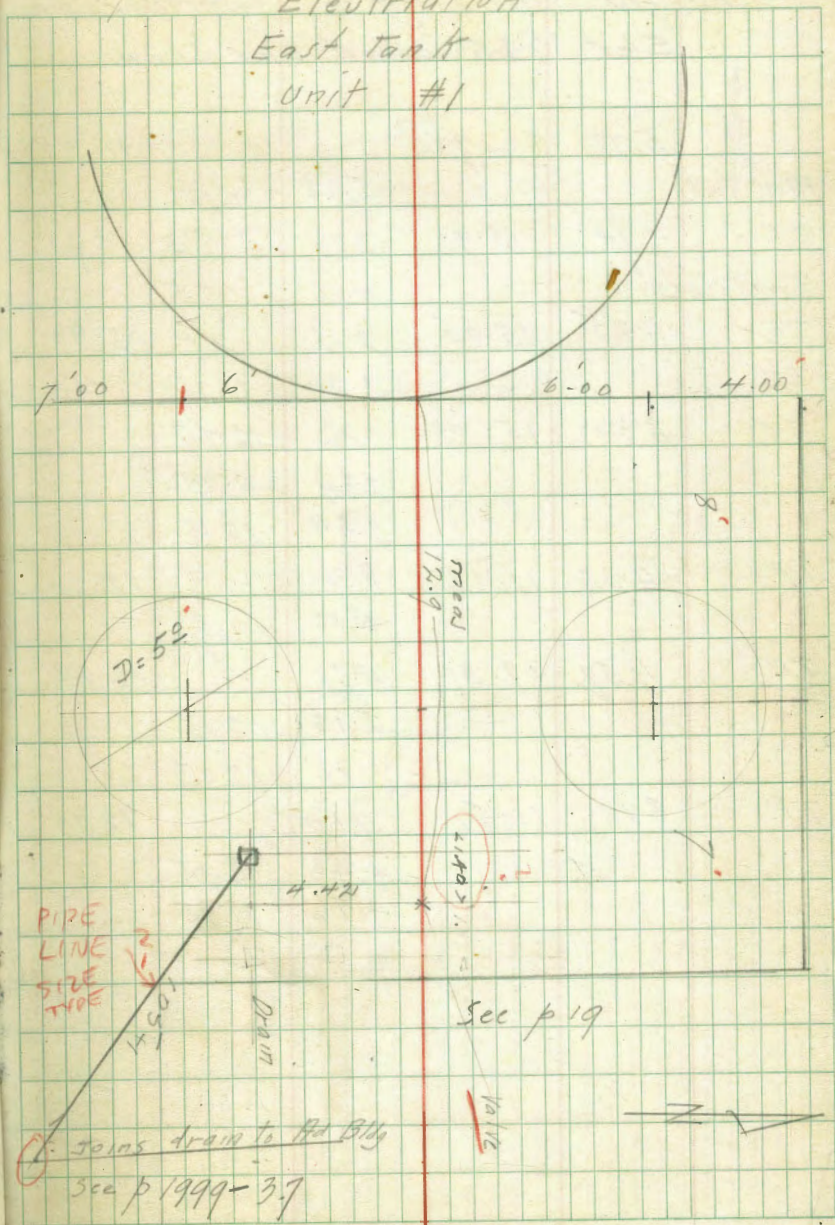


location?

Elevation

East Tank

Unit #1



PIPE
LINE
SIZE
TYPE

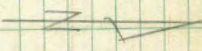
2
1/2
105H

Drain

See p 19

1/2"

joins drain to the Bly
See p 1999-37

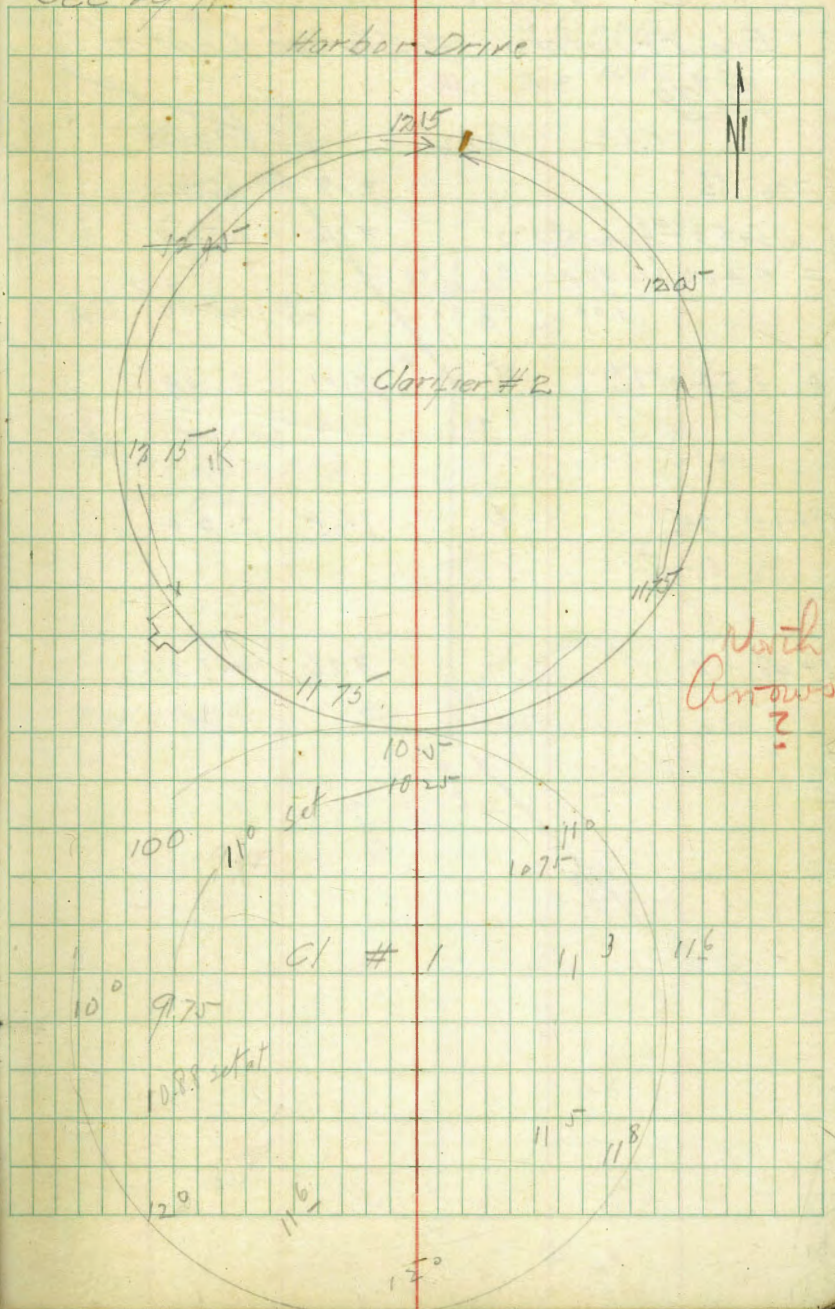


Elev for Painting #2 Clarifier
 Elev 0.35 Below elev shown.

	5.73	<u>16.83</u>			11.10 BM
Paint Marks			5.08	11.75	
T.P.	1.94	15.91	2.86	13.97	13.97
Paint Marks			4.16	11.75	
T.P.	2.25	15.05	3.11		12.80
P.M.			3.30	11.75	
T.P.	2.30	15.09	2.26	12.19	
			3.34	11.75	
			2.94	12.15	
T.P.	4.34	17.13	2.30	12.19	12.79
			5.00	12.13	
T.P.	4.57	17.31	4.39		12.74
			5.16	12.15	
			5.26	12.05	
T.P.	3.80	16.51	4.60		12.71
			4.46	12.05	
			4.76	11.75	

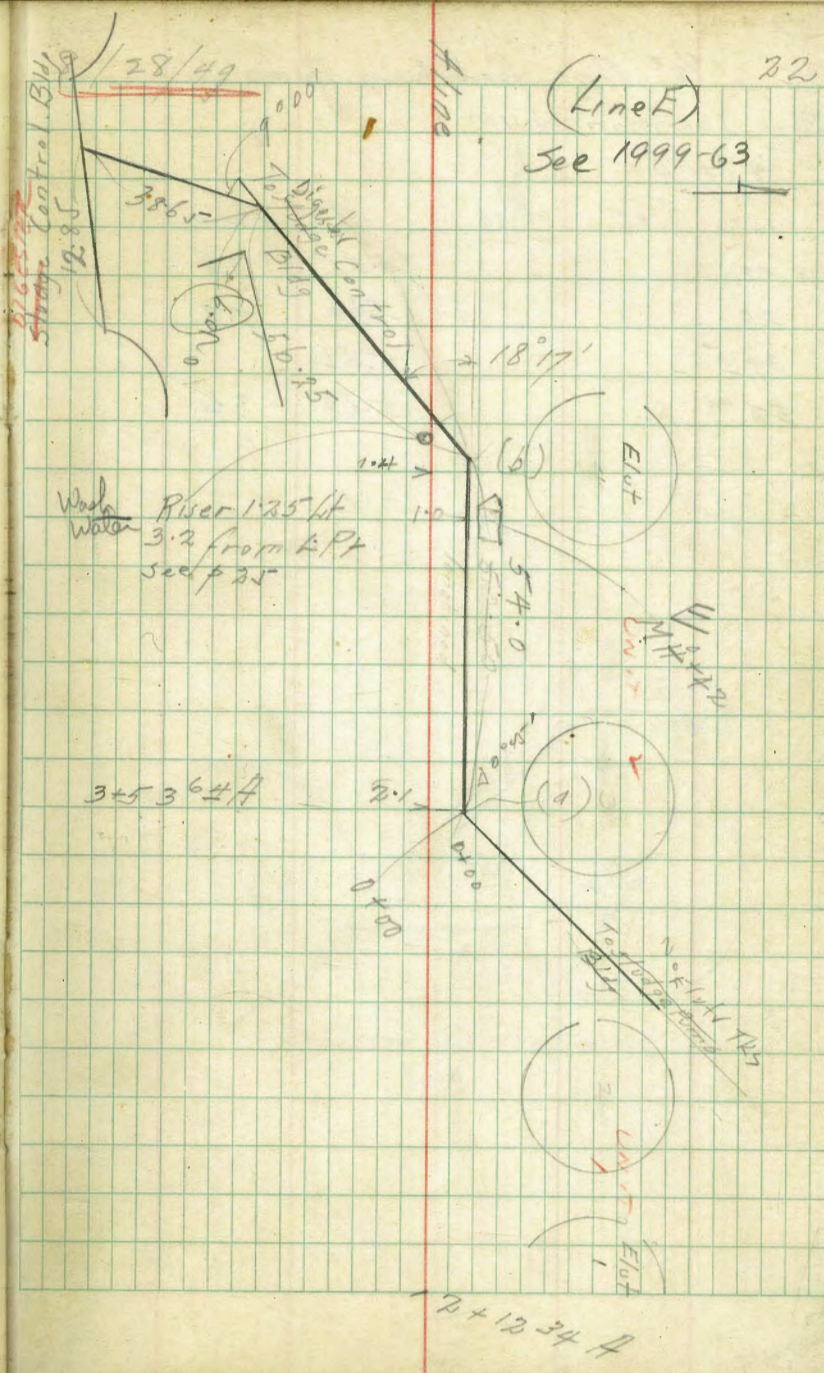
Sheet
 Sec 29 A

21



8" CI Sludge between
 Electriators & ~~Digestor~~ Sludge Control
 Bldg

1.62	13.62	12.00	
Top (b)	7.18	6.44	
{ " 3+53# Aline (a) } = 0+00 Sludge	8.34	5.28	
1.09	13.09	12.00	BM
0 + 54.0 (b)	6.61	6.39	
56.25			
1+10 25	6.05	7.04	
38.65			
1+48 90	3.76	9.33	



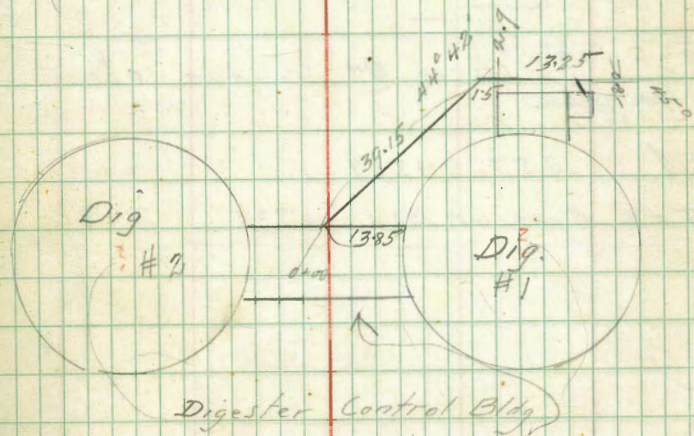
1 1/2" Pipe from Sump Pump Dig Contr Bldg

Begg Sherman & Sisson

9/7/49

	H1		
	1.36	<u>13.36</u>	12.0
0400		5.55	7.8
20		5.66	7.7
L 39 ¹⁵		5.66	
52 ⁴⁰		5.68	7.6

↑
N
↓



Recirc. D
 9/7/49 8" Sludge from Digester Control to #8
 Begg Sherman Sisson

3.49 15.49 12.00

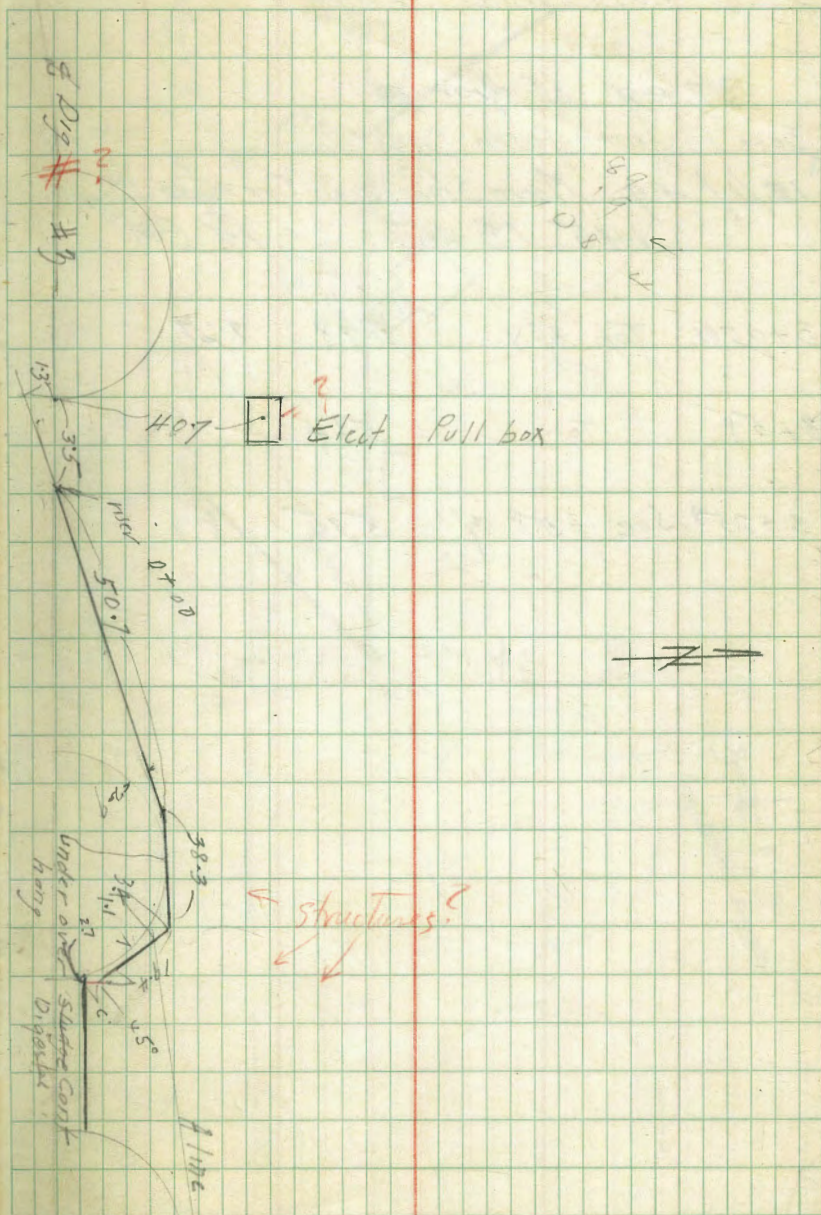
Top of Pipe

0+00	5.22	10.27
0+ 25	5.51	9.98
+50.7 L ← ②	5.62	9.87
+89 A ← ②	6.16	9.33
end 1+08.4 <u>9/8/49</u>	6.66	8.83

10-5-49 check at sludge above
 Moore
 Sherman
 Sisson

B.M.	3.57	15.57	12.00
Top Pipe at Bldg.	7.08	8.49	

24



CID
8" Wash Water Line

DATE ?

9/7/49 of drawing

Begg Sherman Sisson

10/1/49 Moore Sherman Crawford Begg

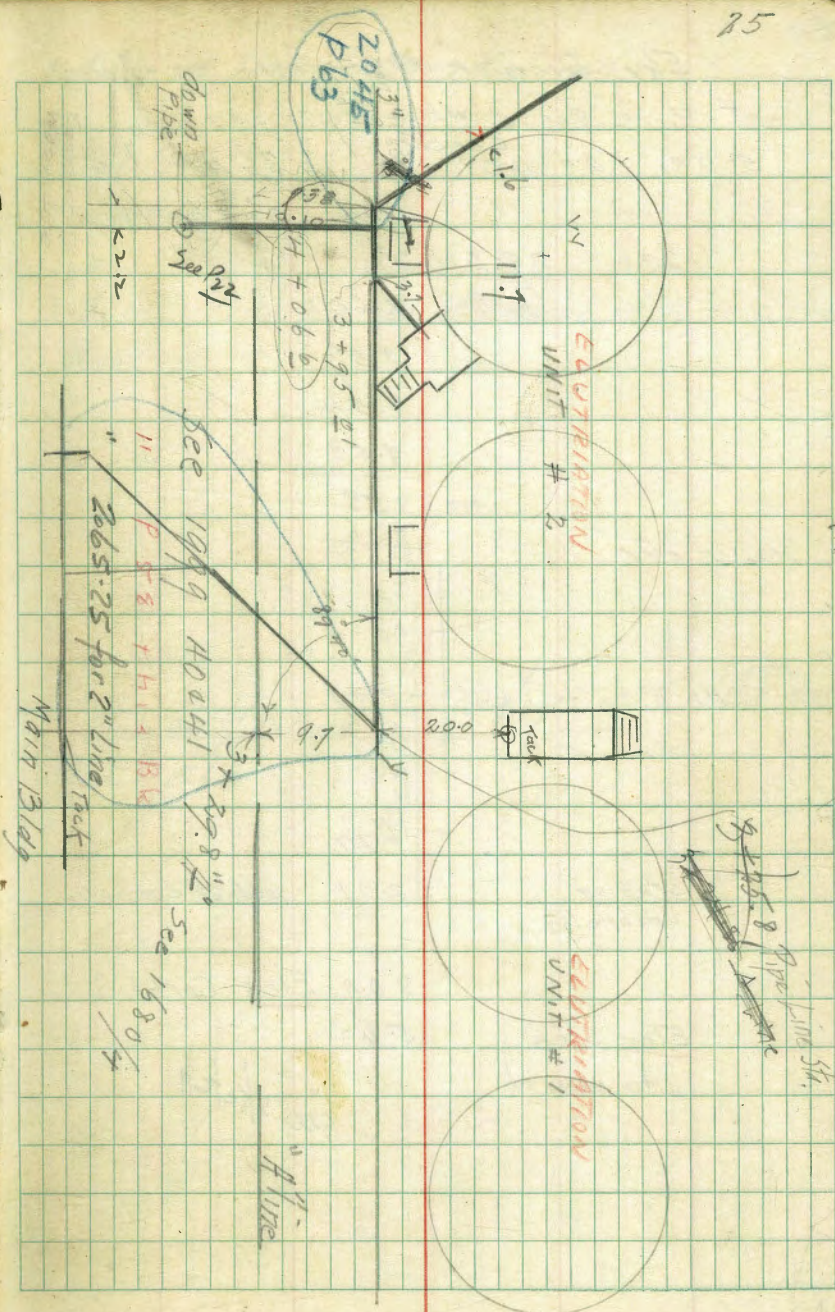
1.45 13 45

12 BM

3+9501 Top of Y 578 7.67 6.96

3+58 Tab 564

3+258 See p 58 Y 535 8.1



Elev Digester #4 taken on sheeting
at $\frac{1}{2}$ of dome while resting on
corbels

5921 37.40 26.48
5.54 26.86 TP

2.36 39.22

8.60

9.57

8.56

8.58

are 8.58

2.36
6.22

diff in elev

H1 below corbels = 9.07

+ 670

stop on
umbrella 2.37 below corbels

800 Elev Corbels

Elev stop 5.63

top inner col.

Sketch? see sketch

26
+ Elev of Stop on Main Column

chj
□ 59 (1#2)

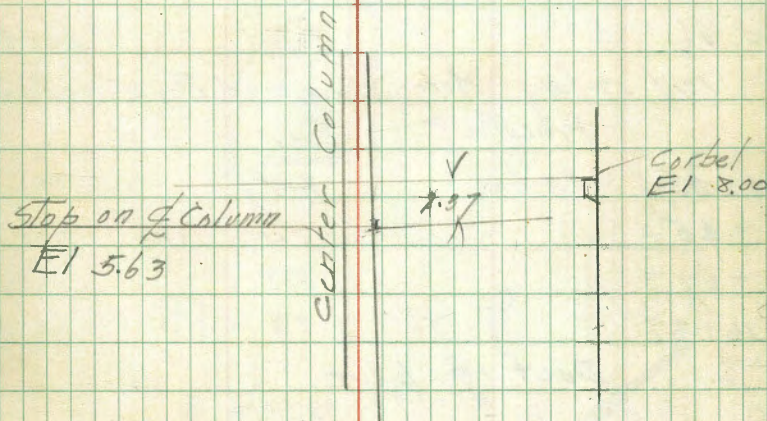
Top of Dome

N on outside rim rim of dome on L iron of frame

W

S

E



Elect Conduit from
SPB to Electrification Units
Man Hole F

9/14/49	1.00	13.00	12.00	
		4.00	9.00	
	2.63	12.73	11.10	BM.
0+00		5.05	8.7	Top of conc
0+18		5.6		Condt.
0 66		7.7		condt.

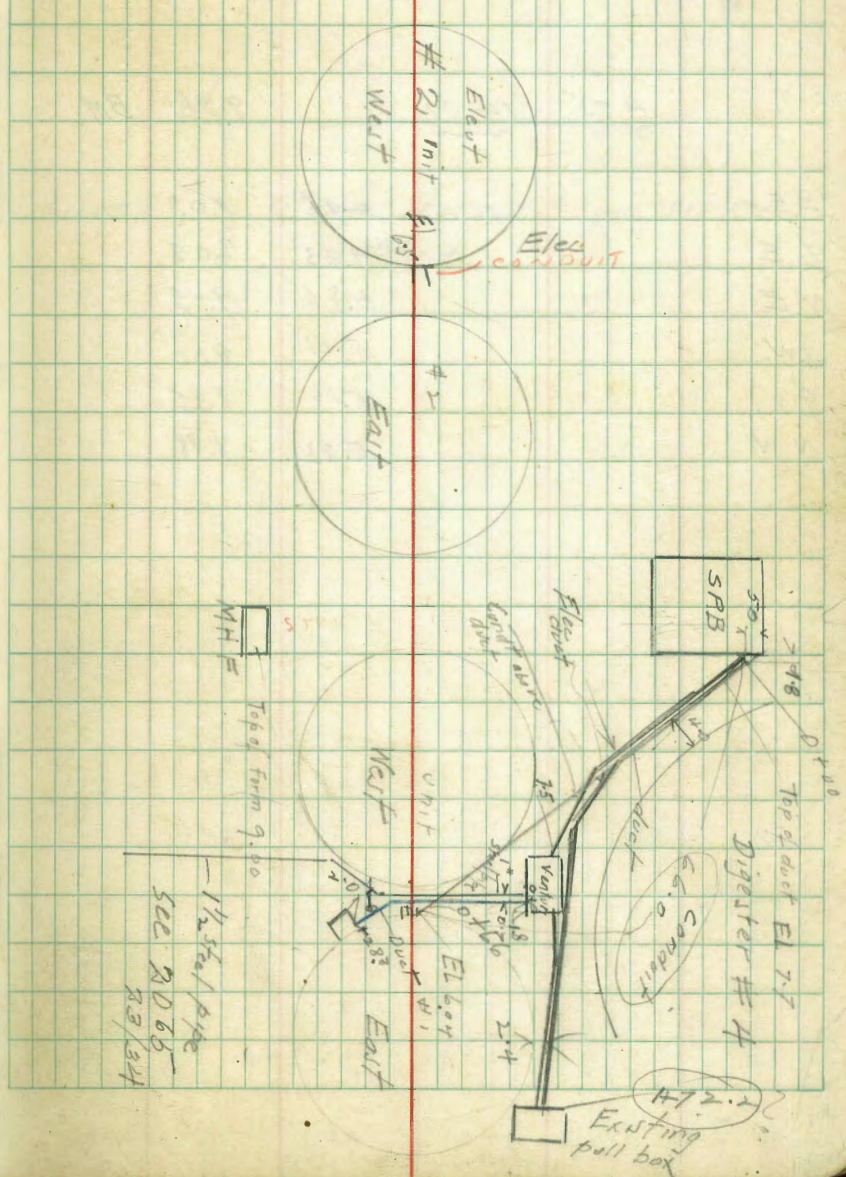
12/12/49 Moore Sherman Begg Crawford

	Fiberduct	Elev	
0+05	Venturi box	7.4	90.6
+450	"	7.2	100.2
+67		7.8	122.2
+172		7.8	122.2

Duct in blue

	#1 13.9	of Conc	
0		6.00	
0+265			
0+283	on duct	6.50	
	Steel pipe		
0+00			
0+189			see 70 65 / 34
0+209	T		
0 27.1	45° Bend		
36.7	T		

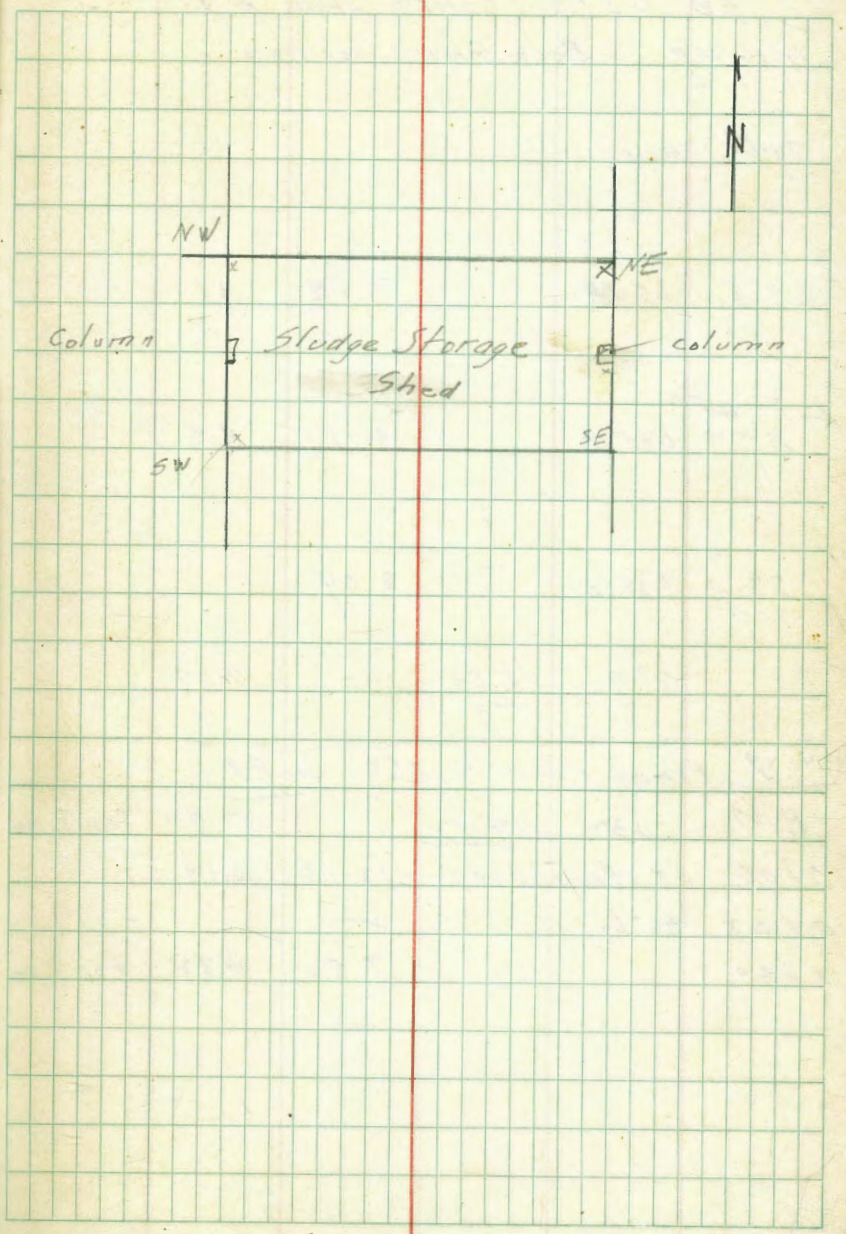
Electrification Units to SPB
Moore Sherman Crawford Begg 12/9/49



Levels Sludge Storage Shed Floor
 Moore
 Bagg 9/15/49
 Sisson
 Sherman

475 1401 9.36 BM

SE	4.98	9.03
SE	4.93	9.08
NE	4.86	9.15
SW	5.01	9.00
SW	5.06	8.95
NW	5.03	8.98



36" CIP cont'd from p 7

9/16/49 Begg Sisson Sherman

79.5 sec p 7

63.5 as laid 0.5 hts 8.07 4.6

L-PI-45°
A7.16 0.65 hts 8.01 4.9

88.4 0.25 hts 8.09

0.89 12.89 12.00

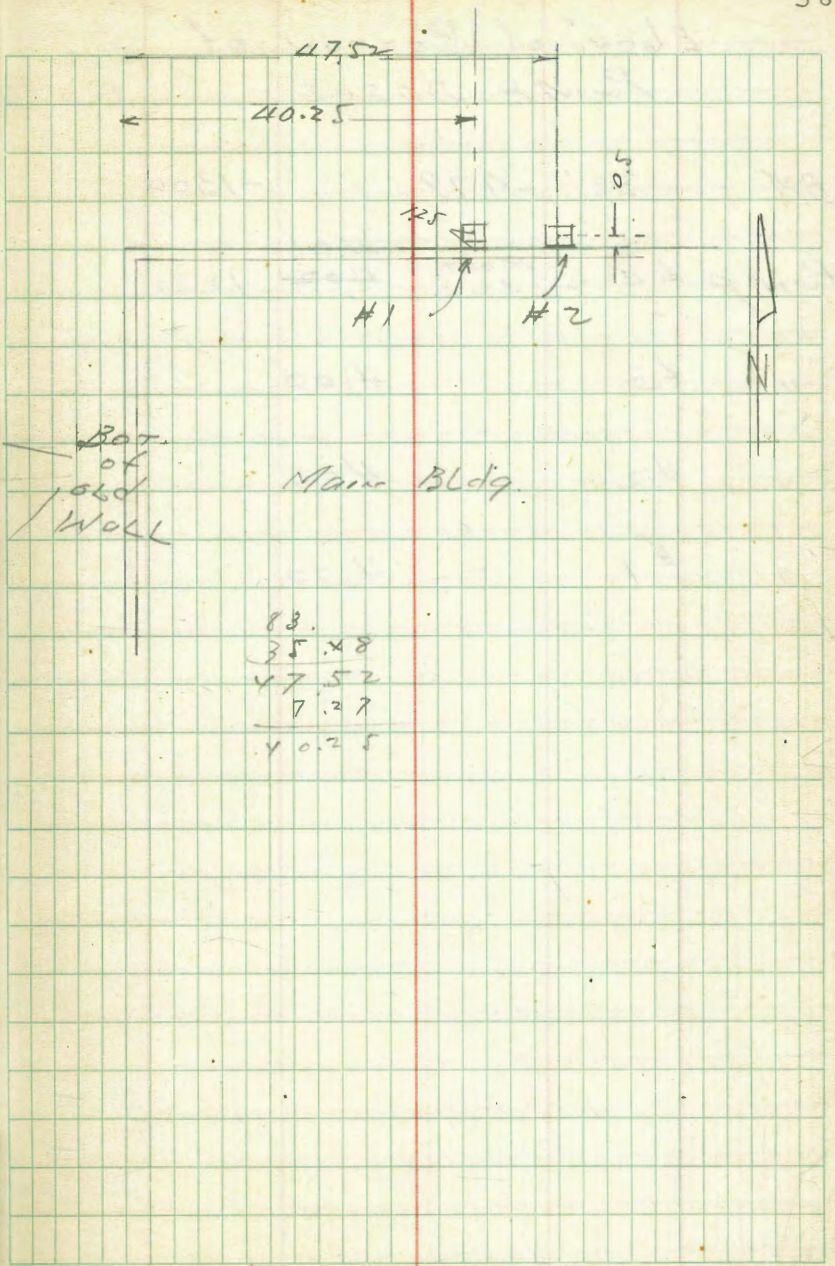
10-4-49 Final Check 36" Sec P.7

BM.	0.32	12.32	12.00	Top Pipe
0+00	at Main Bldg	12.13	0.19	
0+05	90° L	—		
0+20		7.50	4.82	Top Pipe

Location of 12"x12" Supporting
Columns below Floor
Main Bldg.

Moore
Shearman
Misson 9-19-29

B.M.	1.17	13.17	12.00	
#1 Col.	top 36"	11.90	127	Base
"	Top Col.	6.60	657	←
#2 "	Top 36"	11.83	134	Base
"	Top Col.	7.11	606	←



Elev. of Bottom of
PUMP Bases

Moore
Shepherd
2550N
9-19-79

B.M. 321 -9.79 -13.00

PUMP # 4 = MOST. 4.01
SLY. 4.02 -13.80

" #3 4.00

" #2 4.00

" #1 4.00

Establish B.M.^s on
dig. 4-5 and 6

B.M. C. 51 3302 26.51

Set B.M. 6d. Cop. nail 7.02 26.00

" " " " " "

" " " " " "

Moore
SHERMAN
5132621

9-19-49

chisel Sq. Top S. Side Ch. #2 K.B. 2032-72

N.W. side Overflow Box dig. #4

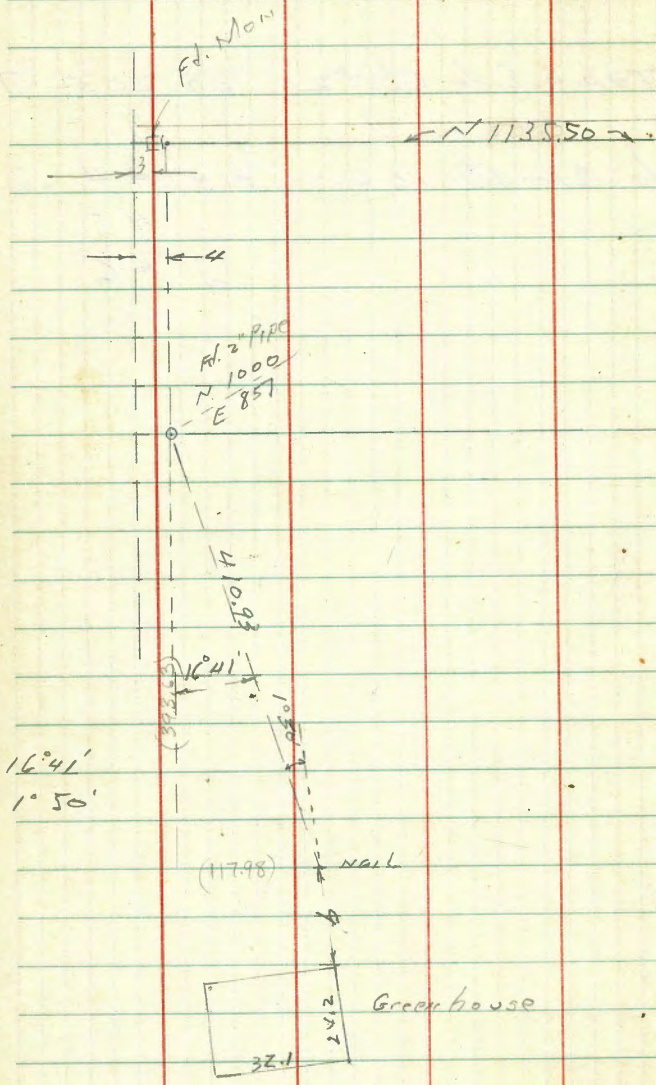
" " " " " #5

" " " " " #6

Moore
SHARMAN
SESSION
9-19-49

Locate Greenhouse

Pf 1680-2-32

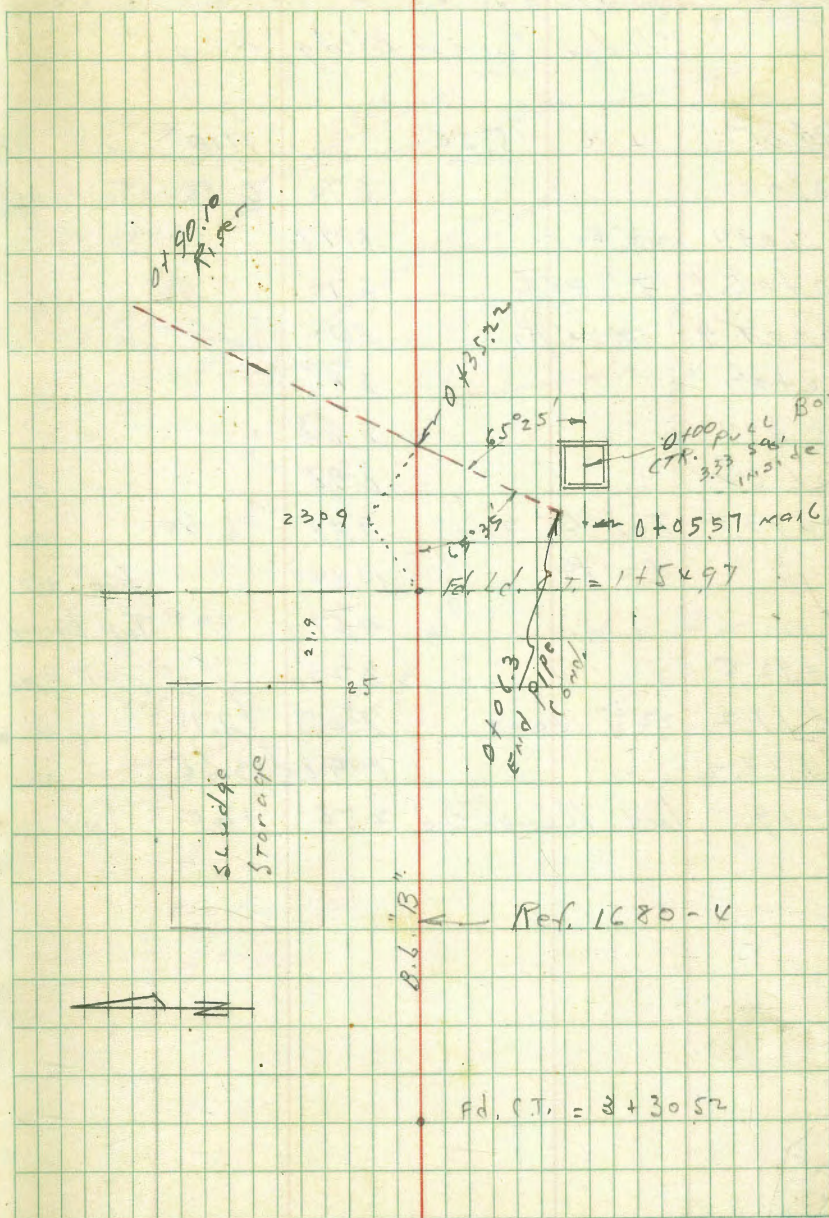


Location of Pull Box #2
and Electric Cond.
SE of Sludge Storage

Moore
Shannon
Sisson
9-21-49

B.M. 4.82 14.08 9.26

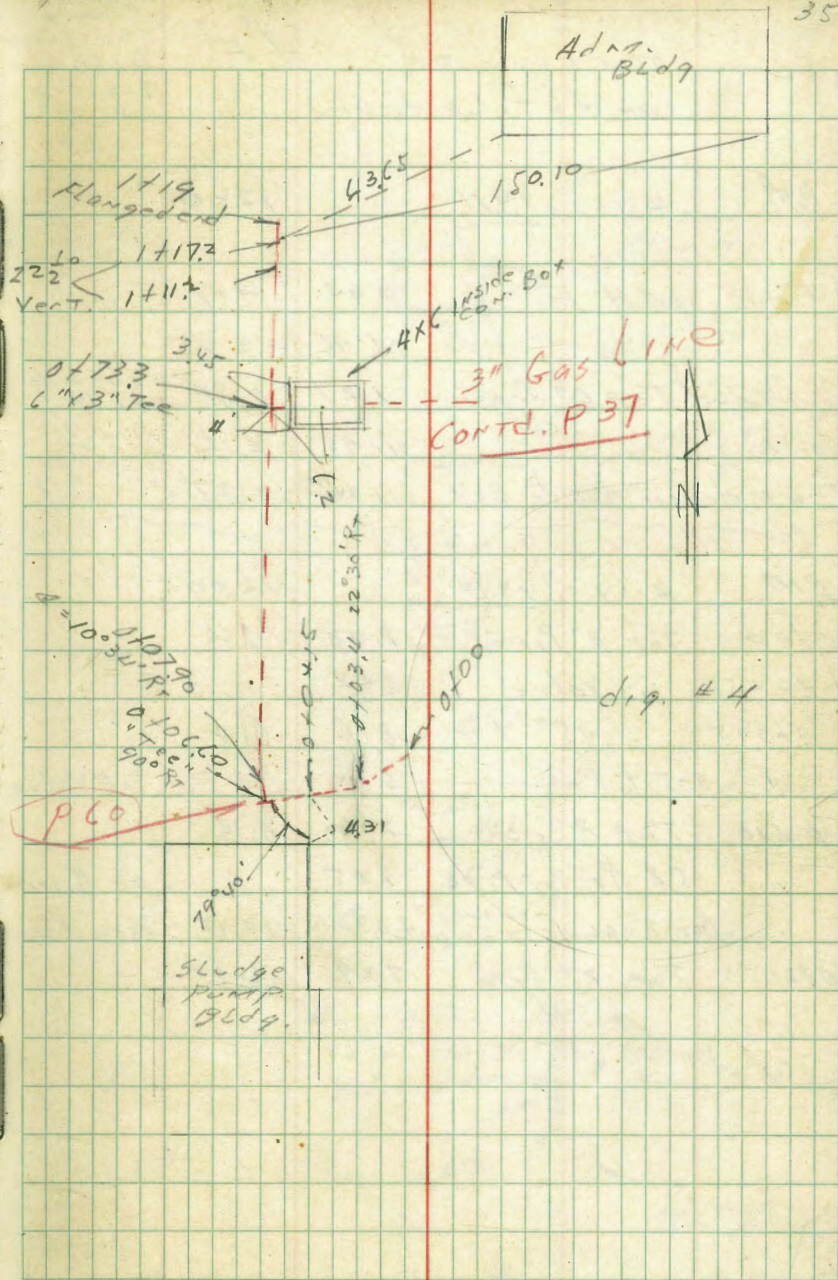
0+100	Pull Bot. Box	6.07	
"	Top "	4.91	9.11
0+063	on Pipe	6.86	
0+35.22	Top Cond.	7.02	7.06
0+60	" " END	7.4	
0+90.1	Cond.	7.47	6.61
"	Top Riser	6.35	



Moore
Sheridan
9550N
9-21-49

Location of 6" C.I. Gas Line
Sludge Pump Bldg, ~by

BM. BP	4.46	<u>15.56</u>	11.10	
0100			8.70	6.82 Top Pipe
+034	22 1/2° RT		8.77	" "
0106.6	"T" 90° RT		8.70	" "
0107.9	10° 34' RT		8.72	" "
0126			8.85	" "
0144			8.88	" "
0162			8.98	" "
0173.3	Top 4" Tee	9.04	6.54	" "
"	62° RT	11.44		Sub. 95
"	" "	4.57	7.99	Top form
0192.5		8.23		Top Pipe
1111.2	22 1/2° Vert.	7.85	7.71	" "
1117.2	" "	1.98	13.56	" "
1119	Inv. Hange end	2.56	13.00	Inv.



LOCATION of M.H. "F"
and 6" tile drain

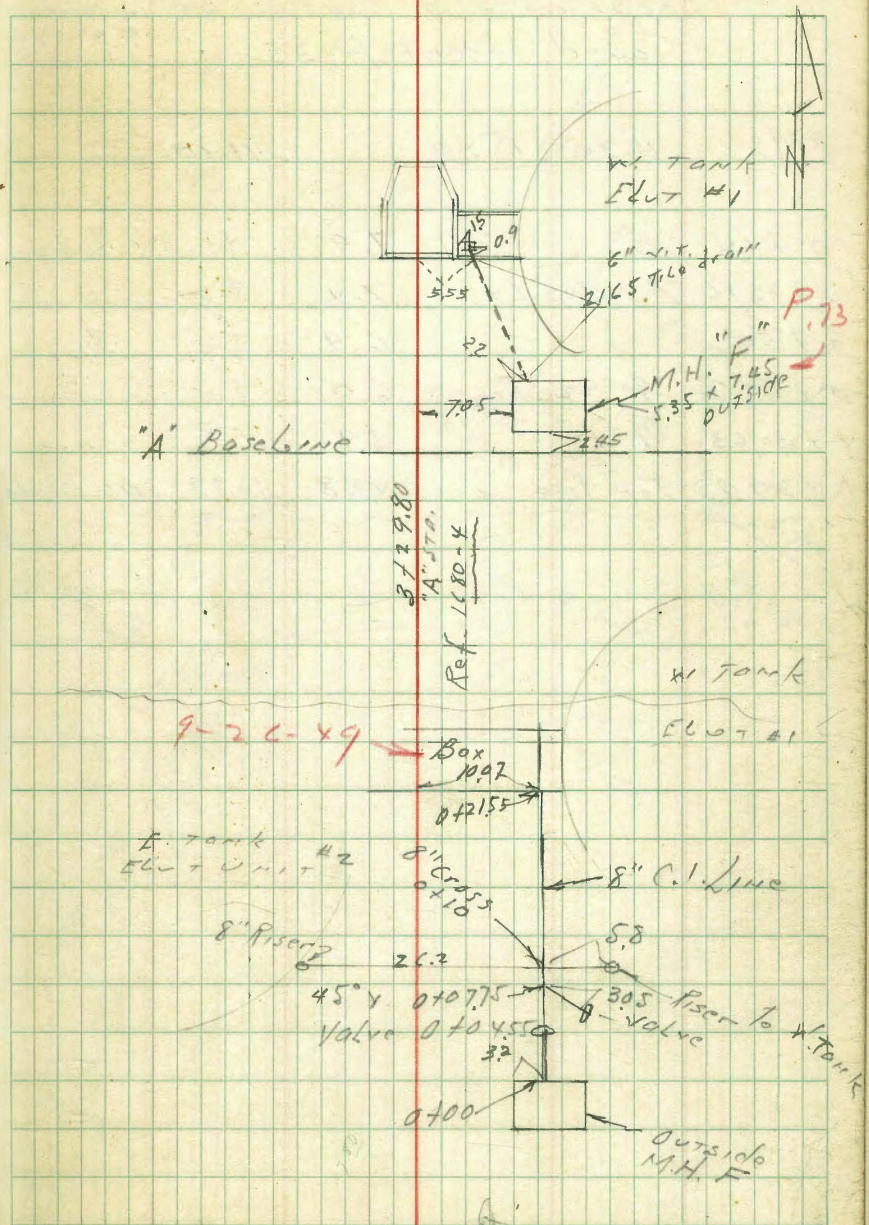
Moore
Sherman
Sisson
9-21-49

B.M.	2.11	<u>14.11</u>	12.00
Top M.H. "F"	4.94	9.17	
		16.96	-2.85
South end Top 6" drain	13.27	0.84	OUTSIDE of "F"
North " " "	11.95	2.16	1' S of OUTSIDE Box
Trap drain inside Box	11.74	2.37	

Moore 9-26-49

B.M.	2.14	<u>14.14</u>	12.00
0+00	Top 8" Pipe	8.48	5.66
0+04.55	" Valve	6.89	
+07.75	" 45° Y	8.16	6.10
"	30.5 to Rt	6.54	Top Valve
0+10	Top 8" Cross	8.00	6.14
"	5.8 Rt Top Pipe	8.05	at Riser
"	Bot. 8" as it enters TANK	+0.33	14.47 above Riser
0+21.55	Top 8" Pipe	7.29	6.85

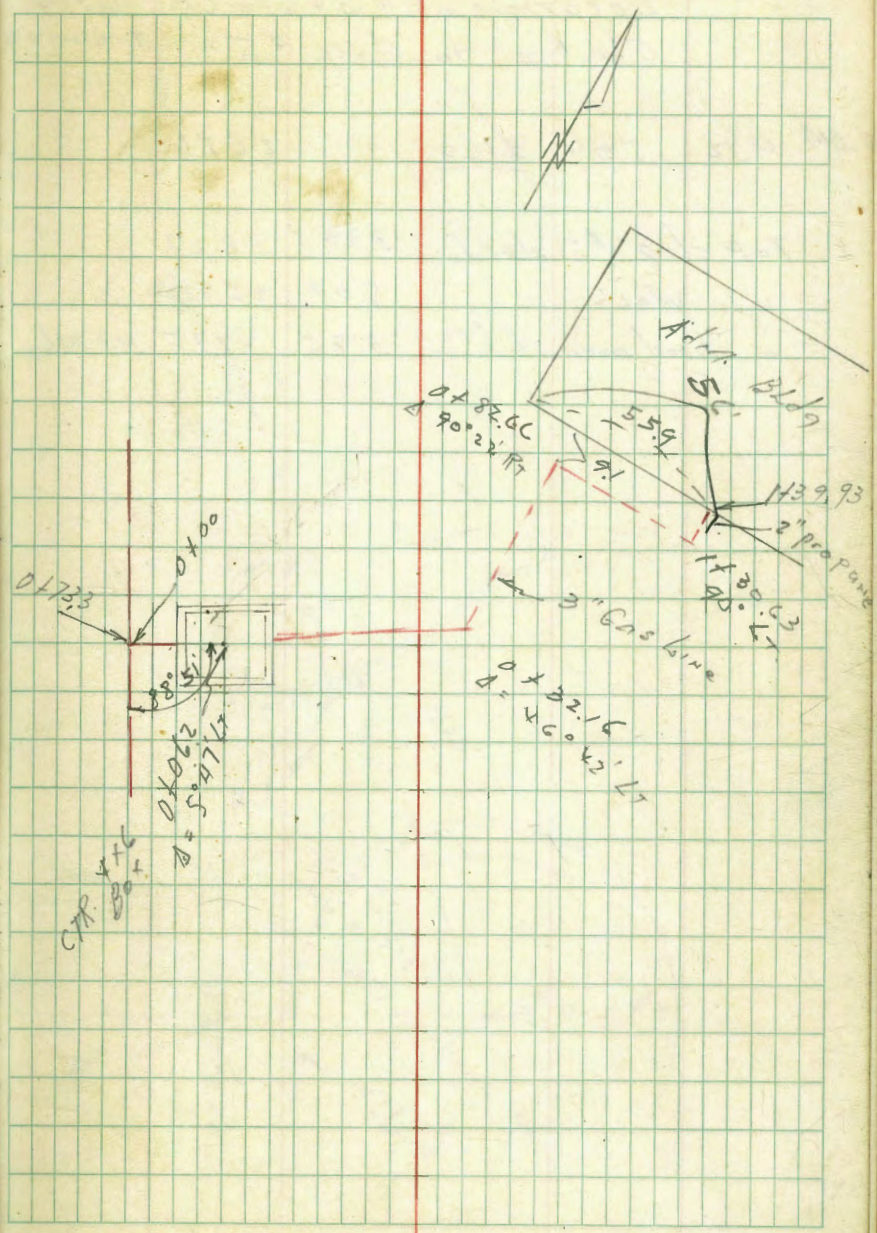
36



Location of 3" Gas Line
Cont'd. from P 35

Moore
Sherman
Sisson
9-22-49

BM.	4.30	15.40	11.10	
0+14		7.9	7.5	sub. gr.
0+32.16 Δ 46° 42' LT		7.4	9.0	"
0+50		6.9	8.5	"
0+82.66 90° 22' RT		6.0	9.4	"
1+30.63 90° LT		5.9	9.5	"
1+39.93 Top Pipe		4.68	10.72	at Bldg



Location of Catwalk
 Ch. #2 to dig. #5

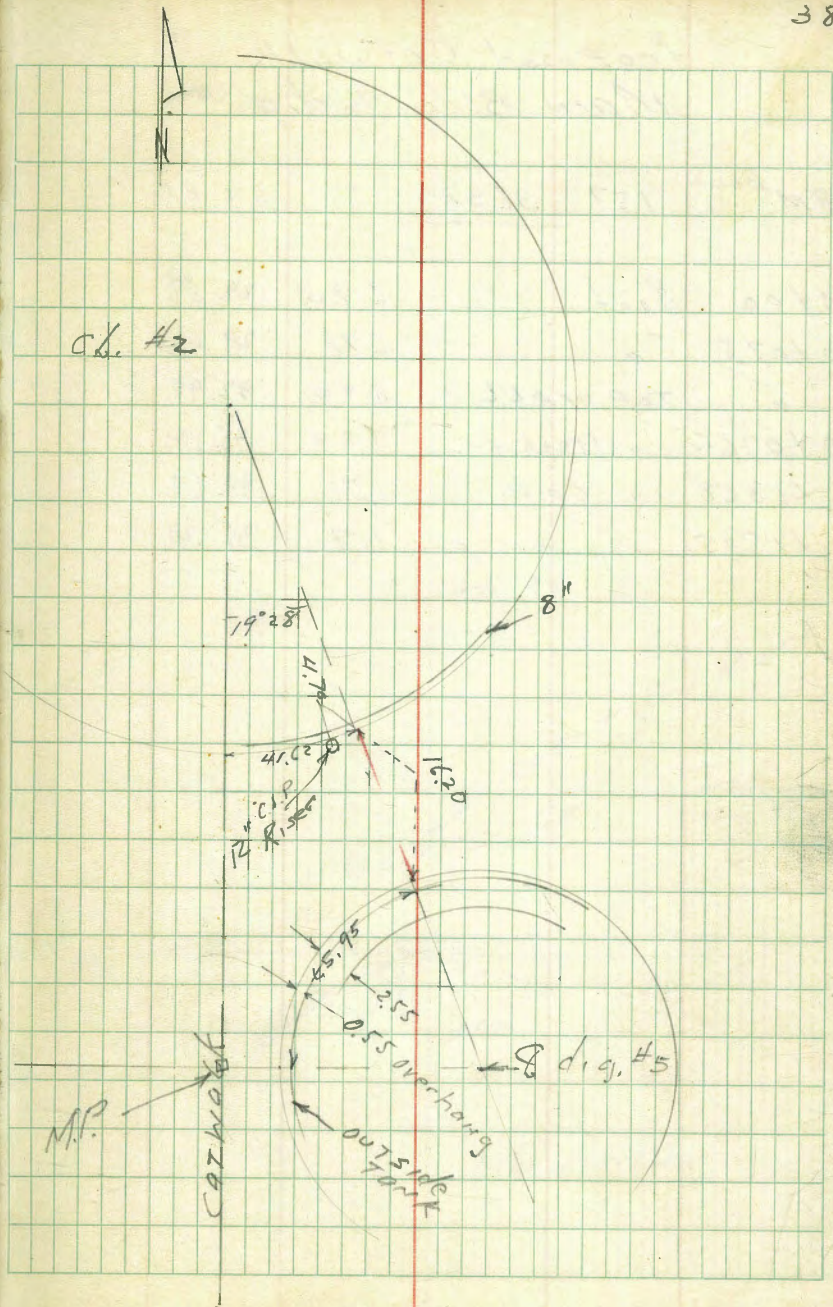
Moore
 Sherman
 Sisson
 9-22-49

Dist. P32 5.09 31.60 26.51

Top dig. #5 Wall 3.33 28.27

" Wall 5.09 26.51

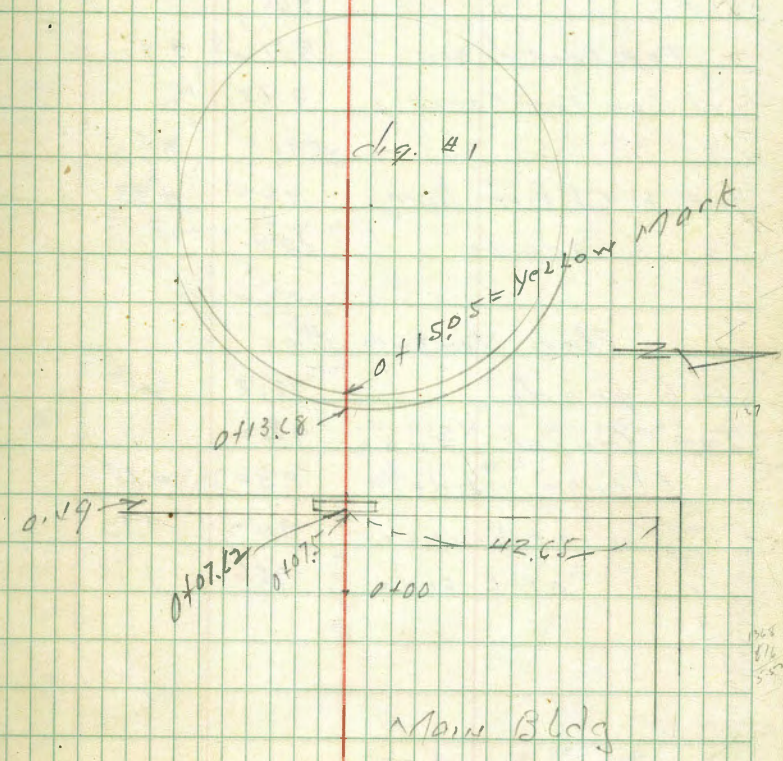
" hood over 12" Pipe Riser 3.85 27.75 47 NLY



Proposed Carwalk
Main Bldg. to dig. #1

BM Bolt	157	36.38	34.81
0+00	Roof	6.80	29.58
0+07.5	"	6.78	29.60
"	TOP WALL	3.40	32.98
0+076.4	" Steel fr.	1.24	35.14
0+136.8	" cap	1.51	34.87
0+150.5	" "	1.17	35.21

Moore
Sheena
Sisson
9-22-49



9-23-49

Moore
Sherman
Jirson

Locate Box, Fly tank
ELUT UNIT #1

Venturi Box

4.95 x 8.65 inside.

Levels on Box
ELY

B.M. 4.89 14.15 9.26

SE Cor Top Form 9.64 4.5

SW " " " 9.66

" Top Trap drain 9.72 4.4

NW Cor Top Form 9.65

NE " " " 9.65 4.5

Top 8" C.I. Pipe Risco. 9.22 4.93

Sub grade 10.2

Elev. Venturi Box

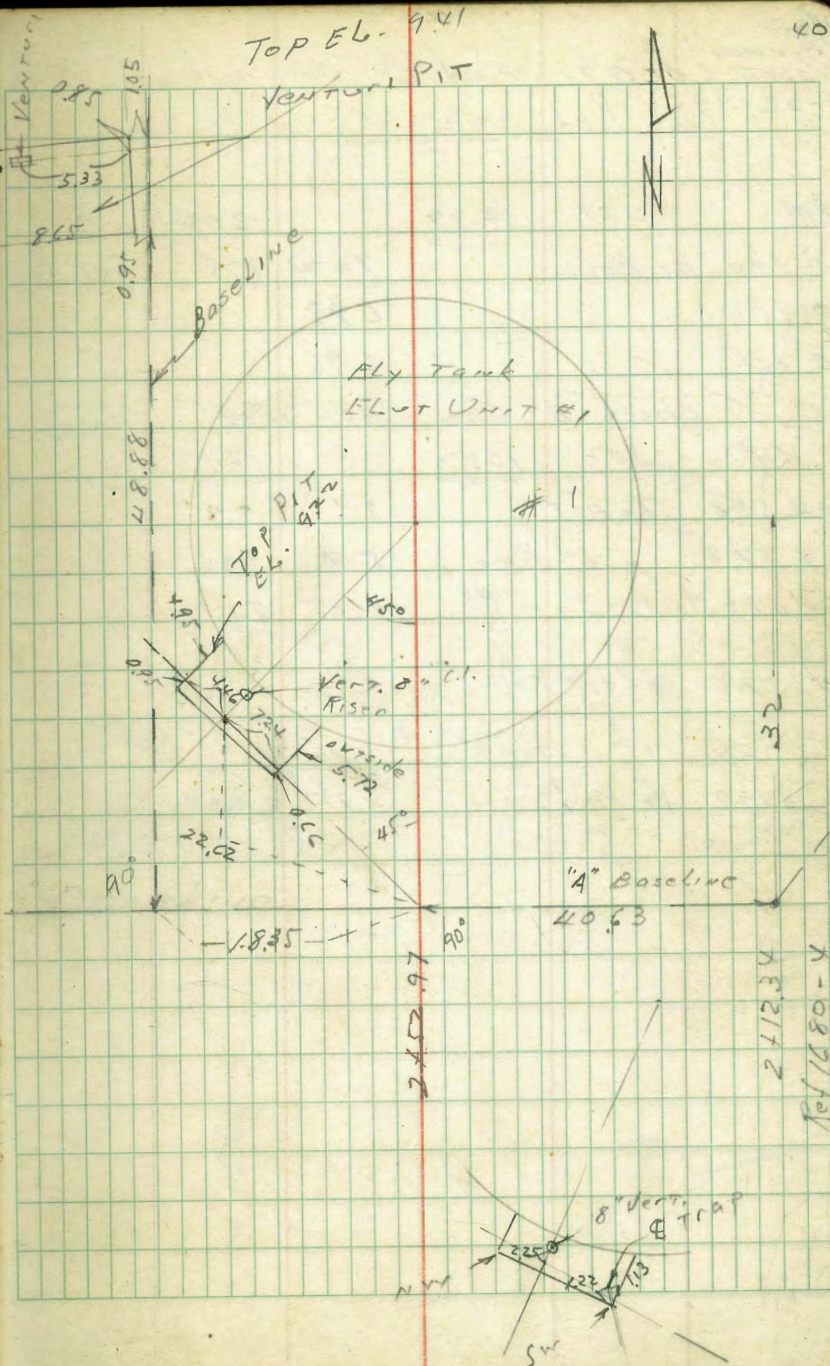
Sub grade 12.8

Top Center Venturi 9.42

" Flange Wide 9.30 4.85

" " at Venturi 9.42 4.93

" " at E side 9.56 4.59



32

"4" Baseline
40.63

2452.97

2712.34

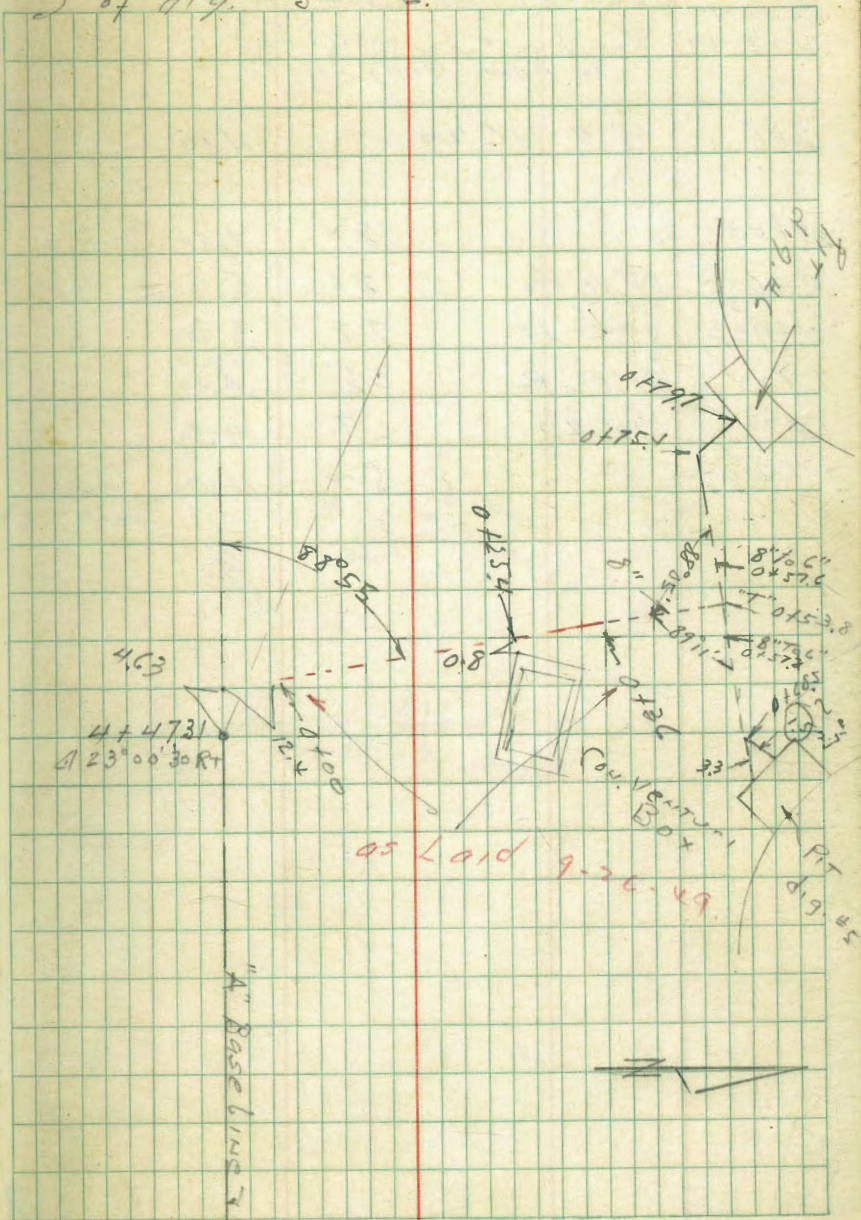
Ref 1680-4



Moore
SHERMAN
Sisson LOCATION of 8" gas line
9-26-49 Ref. 2032 - 66 1180-y

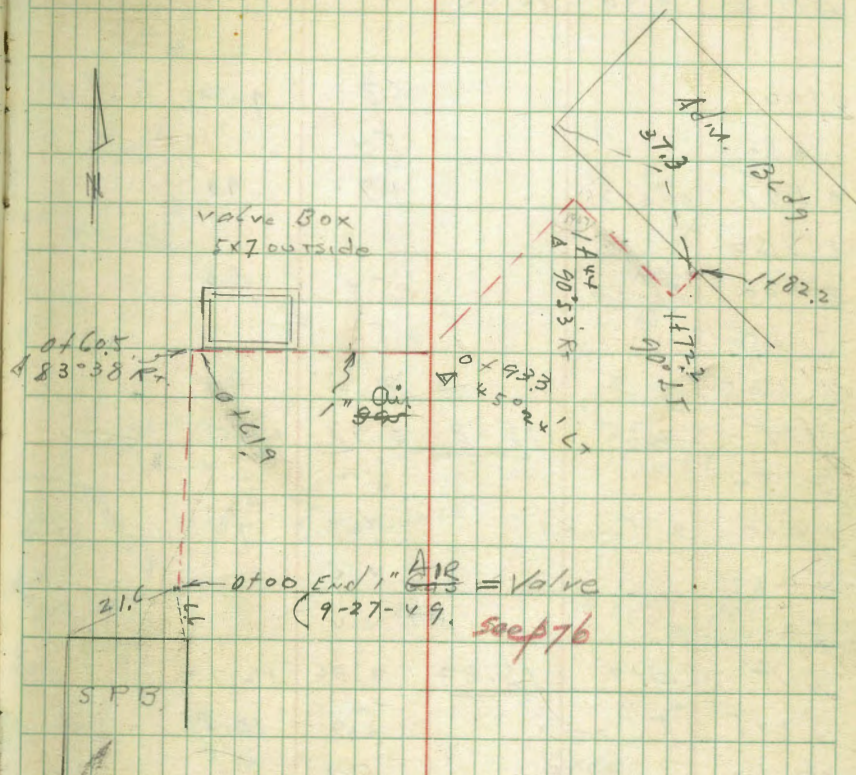
BM	2.77	14.77	12.00
04100 at Bell		7.02	7.75 TOP Pipe
0418 "		6.99	" "
0436 "		6.96	" "
~~~~~			
check 8" Gas		90-y-49	Final
BM	1.02	13.02	12.00
04538 Top "T"		5.17	7.9
04578 "6" Pipe		5.17	7.85
04685 to Pt. Top "Y"		4.85	8.17
~~~~~			
0457.6 to left top of "P" pipe		5.13	7.9
04754 45° to top pipe		4.96	
04797 at Pit Line 1		4.95	8.07

S of dig. #5-#6.



Moore
SHERMAN
21502
Locate 1" Air Line N of
9-27-49 Sludge Pump Bldg.
to Admin Bldg.

B.M.	510	16.20	11.10	
0100		8.4	7.80	Sub. 90
0160.5	83°38' R	8.1	8.1	"
0193.3	45°24' LT	7.8	8.40	"
1144	90°53' R	6.8	9.40	"
1172.2	90° LT	6.7	9.50	"
1182.2		5.2	11.00	TOP PIPE



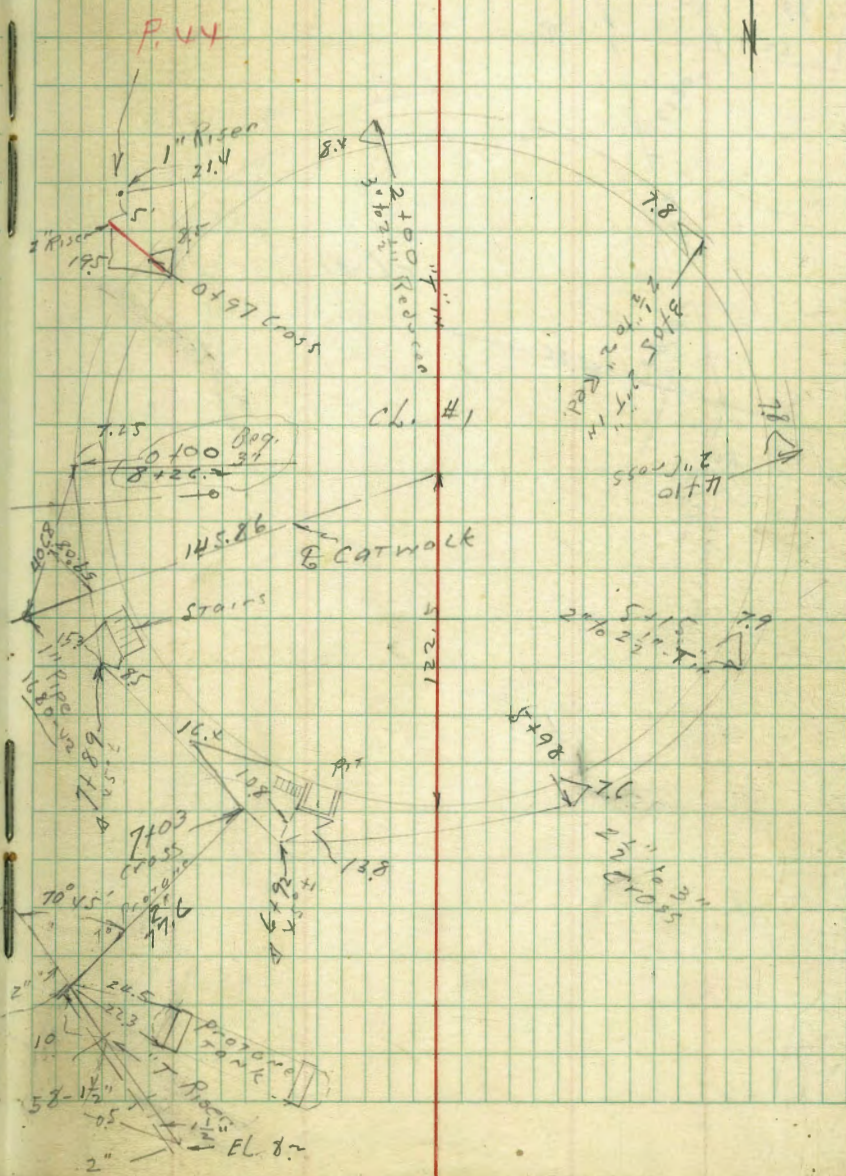
4-28-49

Moore
SHERMAN
SISSON

Location of Water Line
at Ch. #1

B.M.	V. No	13.66	9.26	
0+00		6.3	7.36	Sub. gr.
+50		5.4		
0+97	cross	4.7	9.0	
1+50		4.8		
2+00	"T" IN	5.4	8.3	
+50		5.1		
3+05	T	4.5	9.2	
T.P.	2.35	<u>15.08</u>	0.93	12.73
3+50		5.2		
4+10	2" Cross	4.9	7.2	
+50		4.6		
5+00		4.4		
T.P.	3.10	<u>15.82</u>	2.36	12.72
5+15	"T" IN	5.0	10.8	
5+50		5.1		
5+98	Cross	5.2	10.6	
6+50		5.6		
6+92	Δ 45° ±	5.8	10.0	
7+03	Cross	6.1	9.7	
T.P.	1.29	<u>14.11</u>	3.00	12.82
7+89	Δ 45° ±	6.4	8.7	
8+26.2	To 0+00			

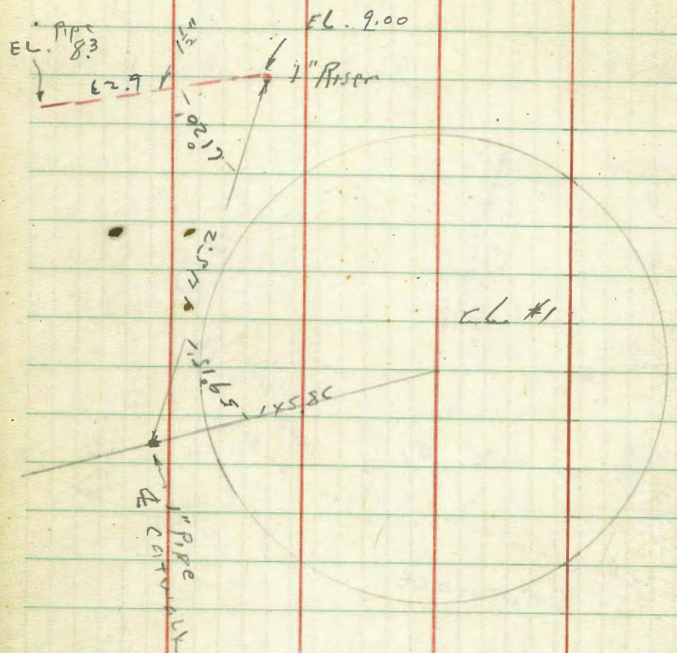
See 210529 for notes



Moore
Sherman
Sisson
10-4-49

Location 1 1/2" Waterline
N of CL #1

24

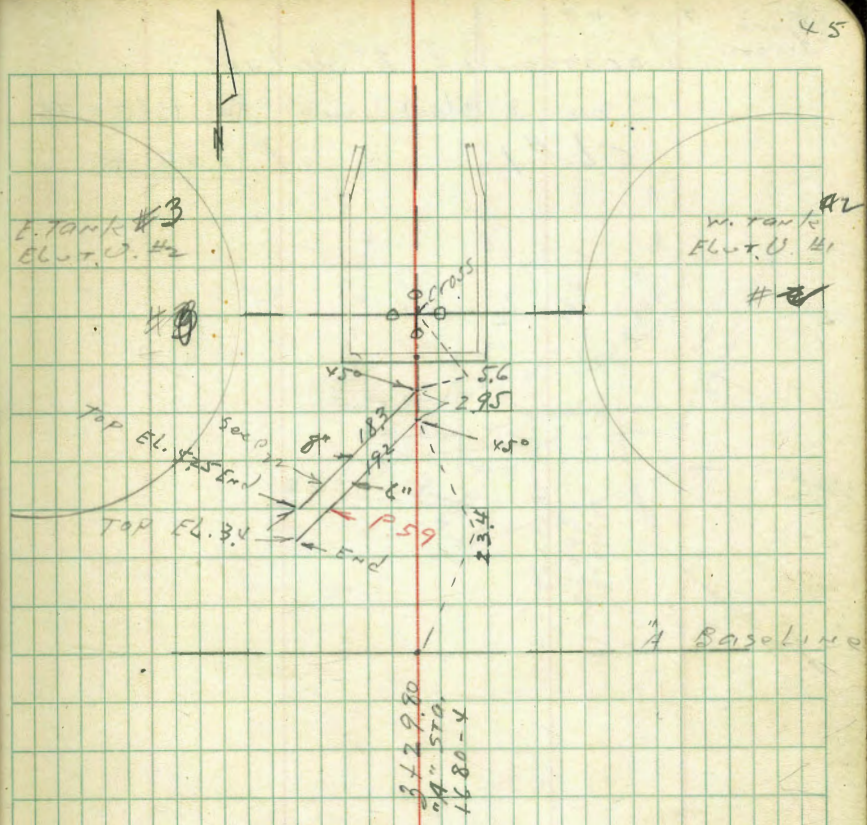


9-28-49

Moore
Shannon
Sisson

Location of 8" C.I. line
S.P.B. to Sludge Control Bldg.
and
6" C.I. to NW Cor Main Bldg

B.M.	1.78	1378	1200
Top 6" at Outside Box	10.75	3.03	
" 6" 45° Δ	10.70	3.08	
" 6" end pipe	10.38	<u>3.40</u>	
" 8" at 45° Δ	8.70	5.08	
" 8" end pipe	8.52	5.26	
" 8" Cross in Box	8.75	<u>5.03</u>	Inv 4.32

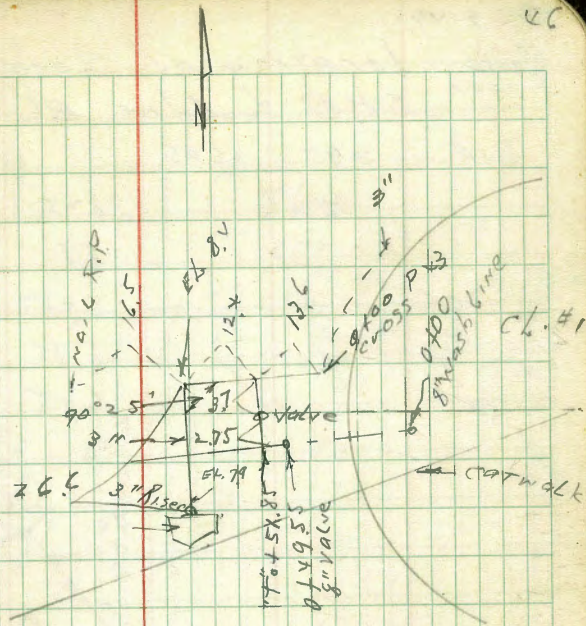


Moore
Sisson

9-29-49

Location of 8" Valves
on 8" Washline Ref. 1680-46
Cl. #1

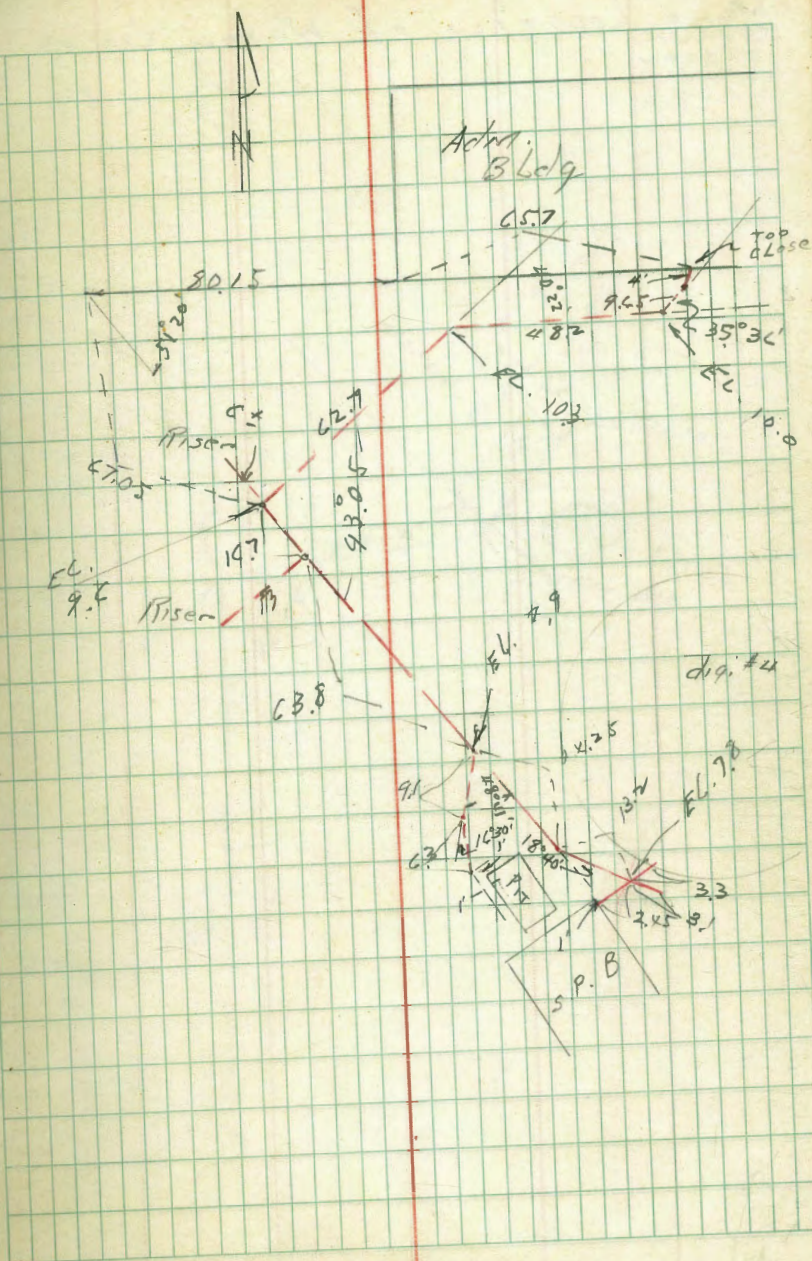
P. 43 this BK



9-29-49

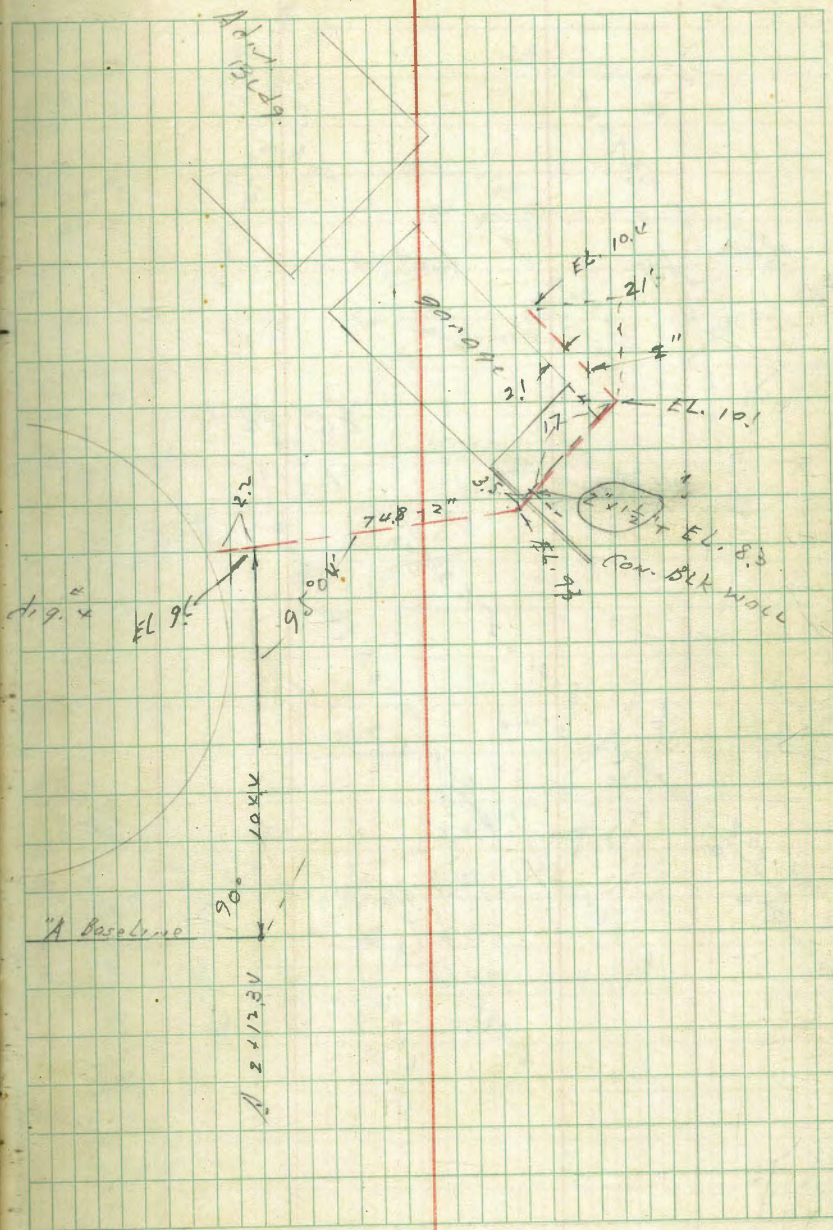
MOOSE LOCATION of Electric Cond.
SISSON S.P.B. to Adm. Bldg

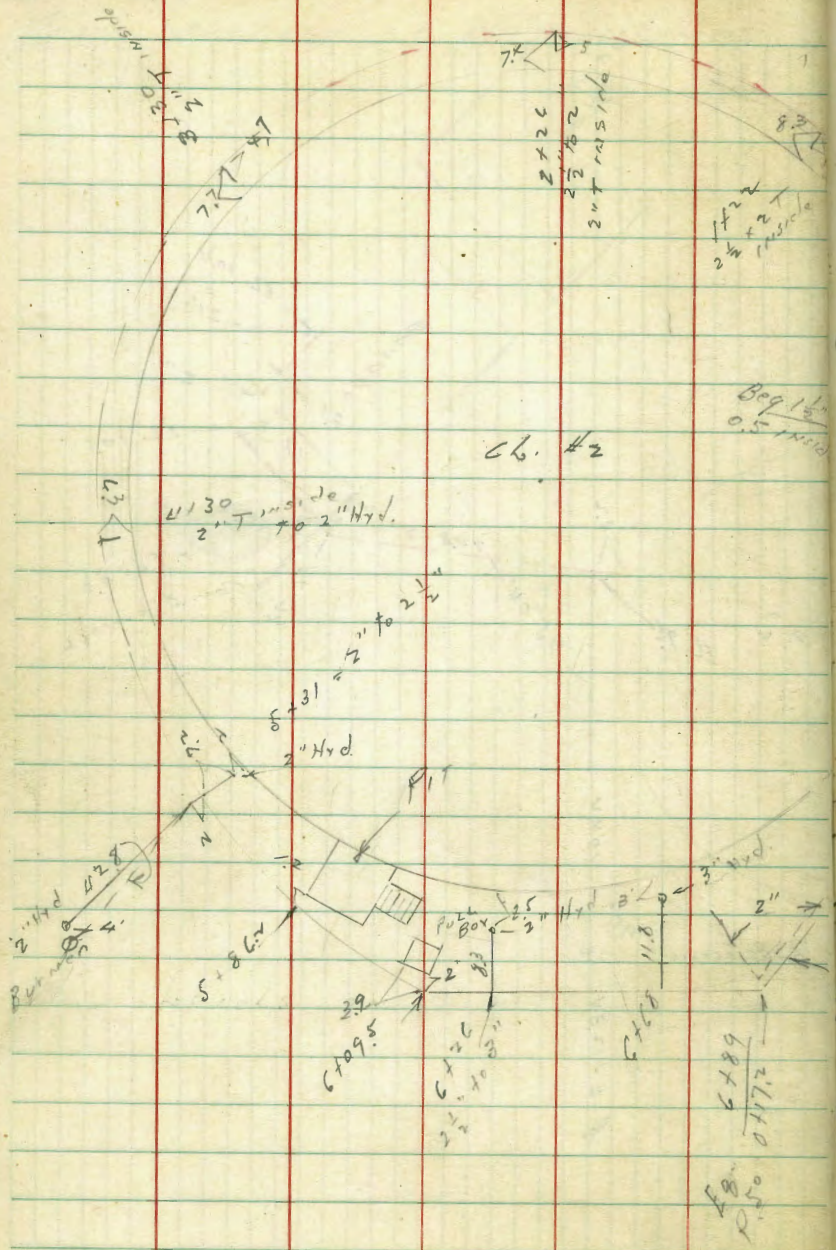
B.M.	495	1605	1110
	806	825	78
		81	79
		6x5	96
		5.75	10.3
		605	10.0



10-3-49

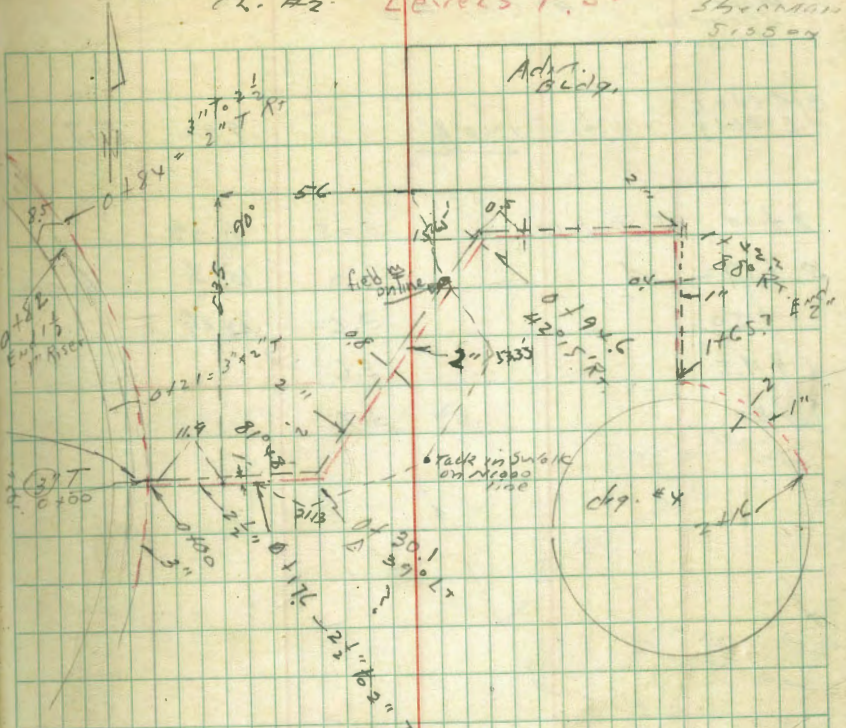
Moore Location of Water Lines
SHERIDAN
S1550N





Location of 2" Water Lines
 CL. #2 Levels P. 54

10-3-49
 M. J. ...
 513504



	0.08	17.15		11.10	B.M.
Back	0100	6.8		10.35	
Same	1130	7.3		9.85	
Grade	01946	6.5		10.65	
	11425	6.6			
	11657	BC	7.2	9.95	
	2116		7.4		

3" Continues
 and
 5' of
 2" W.L.

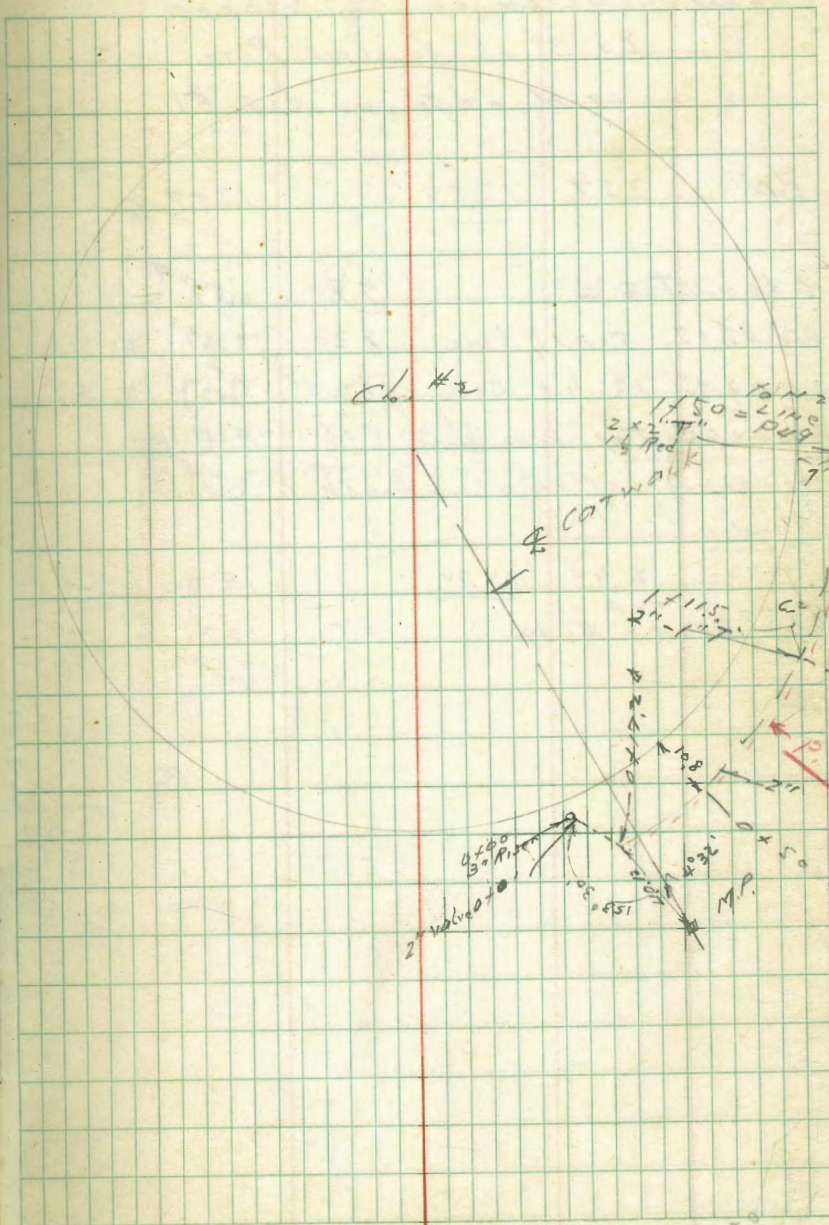
P. 50

4 64
 35.73
 1 27 27

10-4-49 Location of 2" Water Line
 near
 Specimen
 51550X
 at Ch. #2

B.M. 60.7
 H.E. Bldg 416 1408 9.92 P.17

0+00	Top Pipe	3.05	11.85	
0+17.2	A	3.2	10.88	Sub. gr
0+50		3.6	10.48	" "
1+11.5		3.6		" "
1+50		3.7		" "



10-5-49
Moore
Sherman
Sisson

LOCATION of 1 1/2" Water
Ex 3" w/ to Con. Pit
at N edge of dig. #1

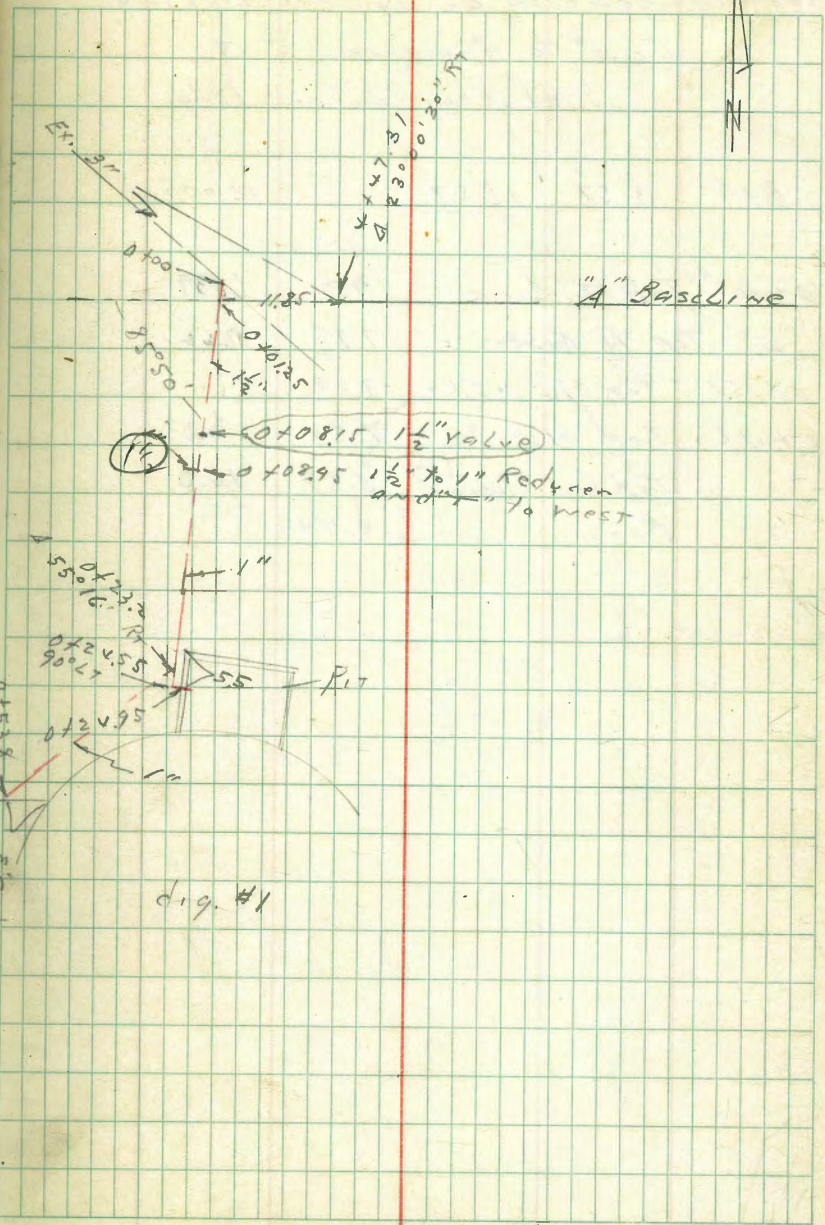
BM	3.57	15.57	12.00
0+00	TOP 3"	(9.7)	6.07 ?
0+08.15	TOP 1 1/2" line	8.30	7.27 at Valve
0+08.95	1 1/2" to 1" Red.	8.20	7.37 "7" to west
0+24.55	TOP Pipe Box	6.16	9.41

10-10-49 Final check 1" Water

Moore
Hardin
Sherman
Sisson

	2.94	14.94	12.00
0+53.8	TOP 1"	47	10.2

10-10-49
 SLUDGE
 COMMITTEE
 dig. #1



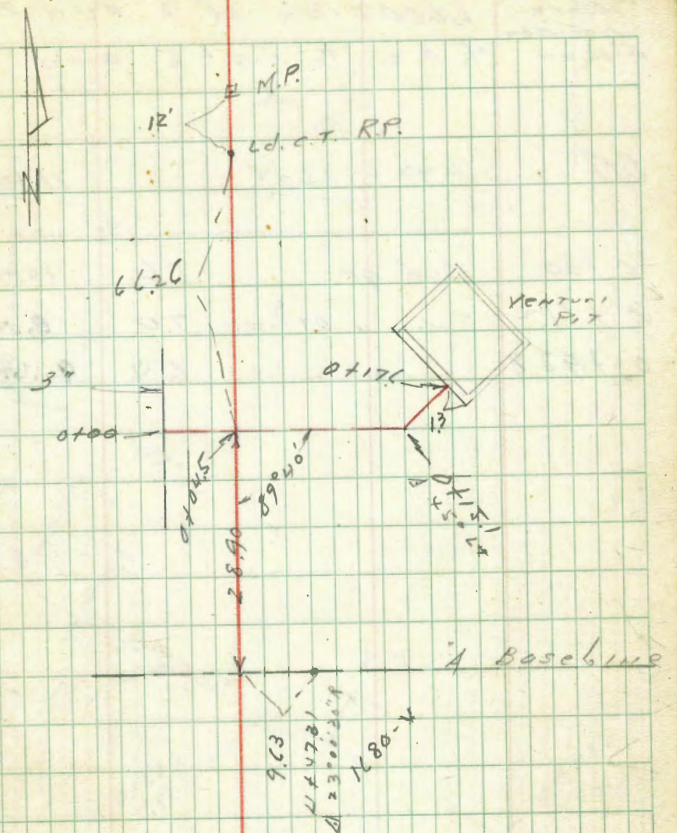
10-5-49

Moore
Shannon
Sysson

Location of 3/4" Water Line

Ex 3" to Venturi PIT
S. of Heat Central Bldg.

BM.	3.57	15.57	12.00
0+00	Top 3" line	9.2	6.37
"	Top 3/4" Riser	7.95	7.62
0+15.1	Top 3/4" 45° Lt.	7.53	
0+17.6	Top 3/4"	7.50	8.07
"	Top Con. Venturi Box	5.57	10.0
"	Bot. " "	14.74	



10-5-49

Moore
Sheridan
Sisson

LOCATION of 1" and 2" W.
ch. #2 to dig #5 and S.P. Bldg.

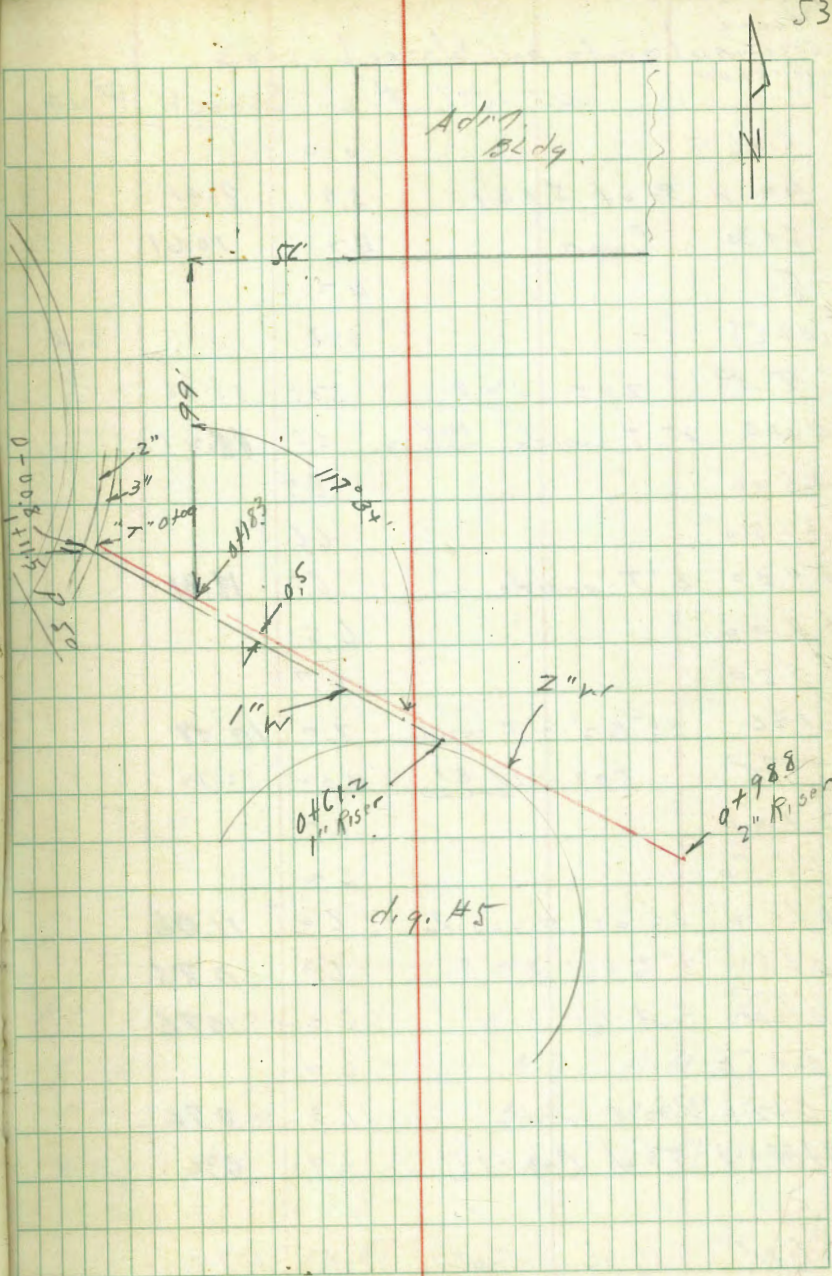
BM. 4.92 16.07 11.10

0 + 100 Sub gr. 5.6 10.4 ✓

0 + 112 " " AT Riser 7.0 9.0 ✓

0 + 98.8 " " " 6.4 9.6 ✓

C.V. #2



10-6-49
Moore
Sherman Levels on Water Lines
51550
AT Ch. #2 Sketch P49

5+65			4.2	
44.8	Rt of 5+31		5.9	8.91
5+31	Cross		4.7	10.61
5			4.2	
4+65			3.8	Sub
T.P.	205	14.81	505	12.76
4+30	2" T inside	END 10-6-49	6.6	12.21
4+00			6.5	
3+50			6.6	
3+30	2" T inside		6.5	10.31
3+00			6.5	
2+50			6.7	
2+26	2 1/2" to 2" T inside		7.0	10.81
T.P.	507	17.81	432	12.74
2+00			6.7	
1+50			6.2	
1+22	2 1/2" x 2" T inside		6.0	11.06
0+84	3" to 2 1/2" 2" T Rt		6.3	10.86
0+81	end 1 1/2"		6.3	10.80
0+50			6.2	
0+21	3 1/2" T inside		6.3	10.76
0+00	3" T of Beg. 1 1/2"		6.7	10.36 Sub.
B.M.	596	17.06	1110	

6+89 = 0+17.2	3.5	11.31	approx TOP P1
6+68	3.7	11.11	Sub
6+26	4.0	10.81	Sub
6+09	4.3	10.51	Sub

14.81

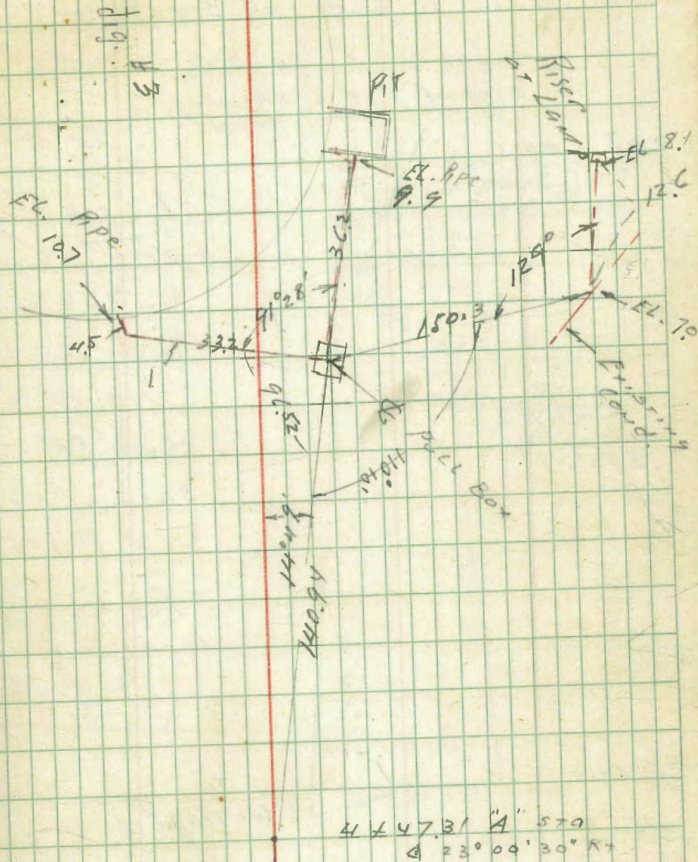
10-C-49

Map showing location of Elec. Cond.^s
Sherman
Sisson and Pull Box at Dig. 43

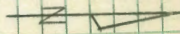
B.M. 3.47 15.47 12.00

Bot. Pull Box 5.20

Top " " 3.97 11.50



4\"



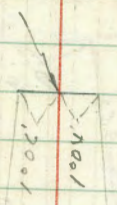
Moore Final Check on stack
 5299
 10-7-49
 Lissner

See P. C + IX

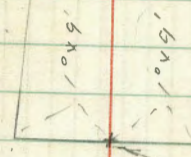
Stadia 251 N E. Elev. of stack

Sight on South
 edge of Crp. Lightning
 Rod

0.07 Lead
 To South

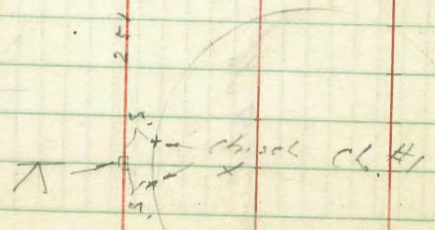


251
 00029
 2259
 5027
 .07279



El. 14.0
 El. 9.0

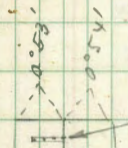
Set chisel X



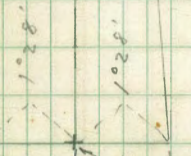
N and S
 checked
 for PLUMB
 11-7-49
 Fwd. and Rev.
 no change
 check BM on
 Base of stack
 see P. IV
 Following
 quake of
 11-4-49

N S Elev
 Stadia 309'

0.04 Lead
 to East



309
 00014
 1736
 309
 50436



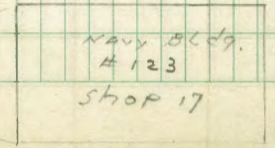
El. 14.0

Set City
 disk

1082
 142

Edge of E. Bolt,
 (of 4 Bolts) on
 Horiz clamp
 on Conductor to
 Lightning Rod
 clamp 2'
 below top

11-7-49
 checked for E/W
 No change



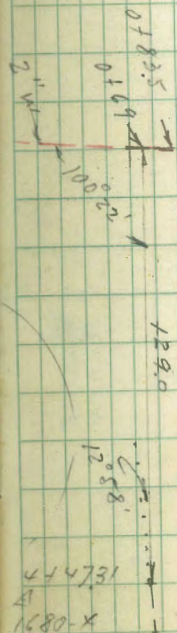
Moore
Hardin
Sperman
Siss locate 2" water

Betw dig #2 + #3 to dig #6

BM	342	1542	12.00
0+00		5.3	sub. gr.
0+72		5.3	" "
0+81		7.8	" "
0+83.5	Present end	8.0	" "

dig. #3

2" Riscer
0+00
dig. #2



dig. #6

"A" Baseline

10-11-49

Moore check 6" c.l. wash water
 Hardin
 Sherman
 Sisson Ex. Main Bldg. to 8" Wash line

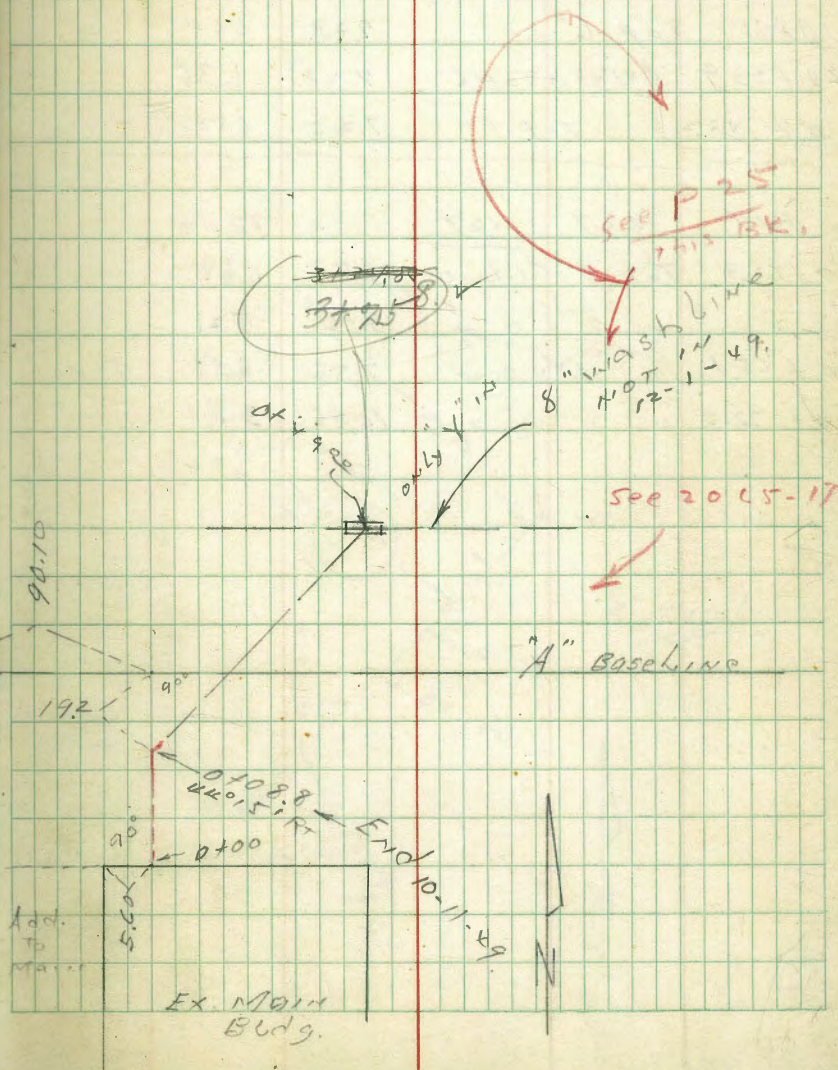
1999-40

BM	1.75	13.75	12.00
0+00		5x8	8.27 TOP PIPE
0+025	$\sqrt{22\frac{1}{2}^\circ}$	5x8	" "
0+07	"	7.20	8.35 " "
0+088	45° RT.	7.20	" "

CS-M check 10' worth 6" wash line
 12-1-49.

BM	1.45	13.45	12.00
0+303	TOP UNION	6.50	6.95
0+49	45° Y TOP	5.35	8.10

check 8" Wash
 2065-17-



10-14-49

Moore
Harden
Shannon
Disson
check C" CI Elev - C.I. line
"B" as laid - Ref. 1999-62

BM 1.83 13.83 1200

0+100 Top 6" 9.23 6.60

0+239 4x3 1/2" Top 6" 7.28 6.35

0+432 Top 6" 7.25 6.58

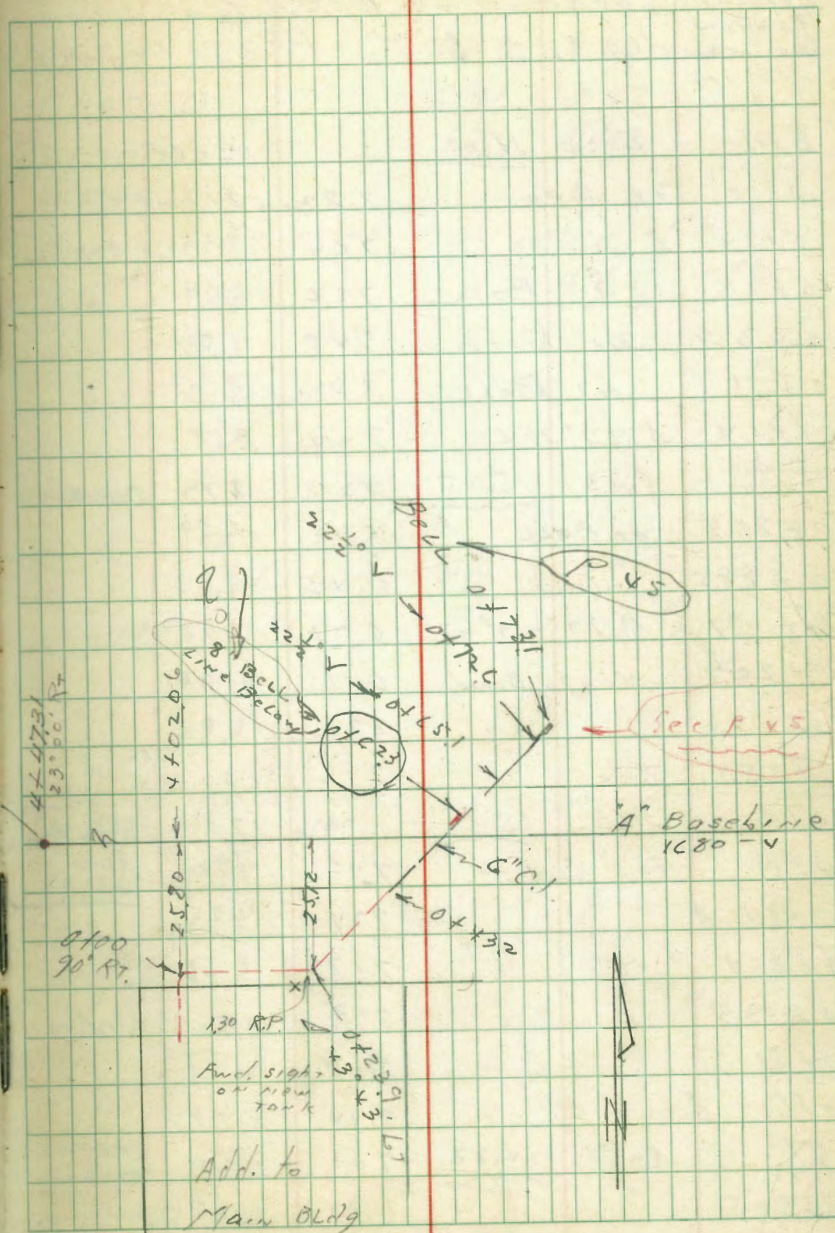
BM 227 1427 1200

0+623 Top 6" C.I. Line 7.58 6.69

" " 8" " " 9.06 5.71

0+651 " 22 1/2" V. Bend 7.56 6.91 TOP

0+726 " " " " 10.86 3.41



10-14-49
23.50

10-18-49

Moore location of 6" C.I. Gas Line
 Handin Shearman dig. #5 to 6" T" P.35 0+06.6
 Sisson

B.M.	4.00	16.00		12.00	
0+00	Top Pipe		7.82	8.18	
0+14	Δ x 4' x 0' LT		7.64	8.36	Top Pipe
0+33.1	GT Bell		7.50	8.44	" "
0+43.3	3/4" Riser		7.49	8.51	" "
0+51	GT Bell		7.44	8.56	" "
0+61.4	Δ 47° 30' LT		7.42	8.58	" "
T.P.	6.33	15.05	7.28	8.72	Top Bell
0+80.5	GT Bell		6.40	8.59	" "
0+88.5	" "		6.43	8.62	" "
1+07	Δ 39° ~ 9' RT		6.07	8.98	" "
1+20.7	Vent. Bend		6.11	8.94	" "
1+23.4	" "		8.20	6.85	" "
1+25.4	Toe		8.16	6.89	8.36 P.35
B.M.	3.63	15.63		12.00	After Mod Rain 10-19-49
0+00	Top 6" Pipe		7.40	8.17	
0+14	" "		7.28	8.35	
0+33.1	" "		7.17	8.46	
0+43.3	" "		7.13	8.50	GT Riser
0+51	" "		7.12	8.51	
0+61.4	" "		7.14	8.49	
T.P.	6.26	14.88	7.01	8.67	SAME T.P. Top Bell
0+80.5			6.31	8.57	

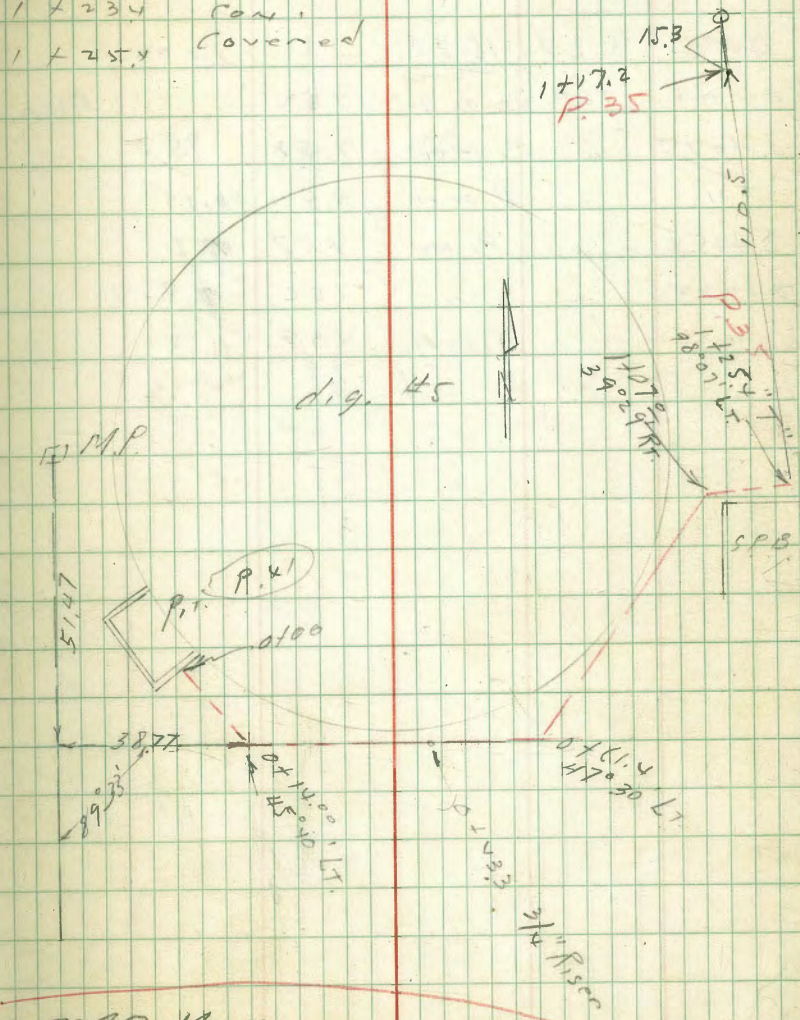
Contd
 next
 page

14.88

60

0+88.5	6.28	8.60
1+07 Δ	5.91	8.97
1+20.7	5.94	8.94
1+23.4	Con.	
1+25.4	Covered	

Burner



10-21-49 Moore

3rd

Sta. 0+61.4 L. = elev. - 8.59

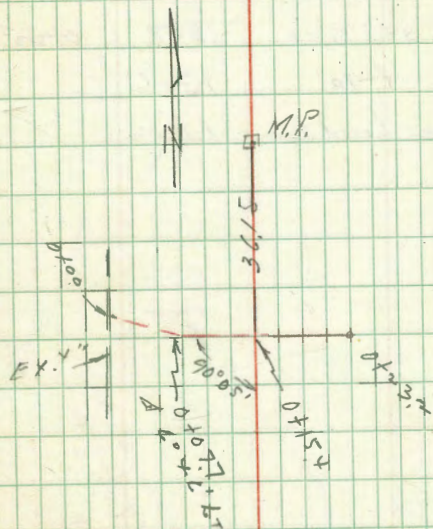
10-18-49

Moore Location of 4" Condensation
 Handin Return line
 Sherman
 Sisson

S. of W. E. Fisher Bldg.

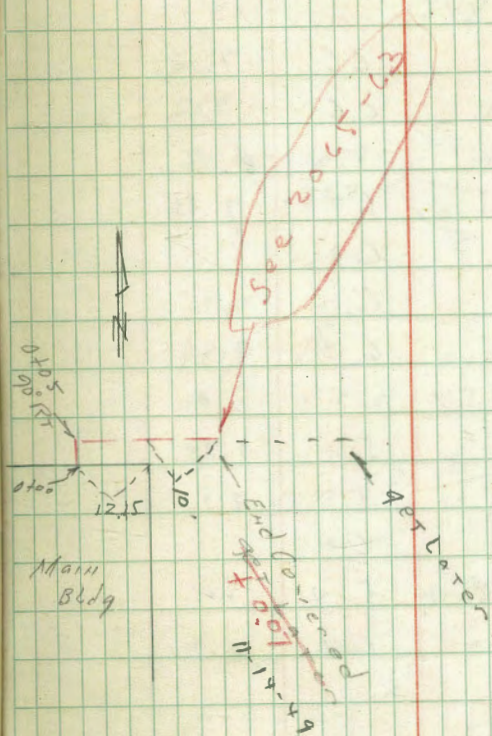
Between dig #5 and #6

B.M.	3.37	15.37		1200
0+00	Top Vent.	90°	7.52	Riser
0+07.7	"	PIPE	7.58	7.8
"	"	Riser	4.42	10.75
0+15.4	"	PIPE	7.57	7.8
0+23.2	"	"	7.52	7.9
"	"	Riser	4.09	11.3



10-18-49 Location of 30" CI Line
 Moore Main Bldg. to CL #1
 Hardin
 Sherrigan
 Sisson

BM	127	13.27	12.00
0+00	TOP 30" PIPE	13.07	0.20
0+05	" of 90°	13.06	
0+10.6	" at head joint	13.13	f. Flange



10-19-19 Location of 3" Water Line
 Moore S of dig. #5 and #6
 Handin
 Shearman
 Sisson

BM	216	1416	12.00	
0+00		6.6	7.52	sub.
0+21.2	3"x2"	6.6	7.52	TOP Pipe
"	36.8 ft	5.2	9.96	"
"	35' ft	6.24	7.92	"
0+50		6.3		"
0+84.5	"	6.2	7.92	"
1+24	"T" M	6.3	9.86	"
TP	1.67	1359	2.24	11.92
1+24	7" x 5"	5.8	7.79	"
1+55.7	3"x2" T	5.7	7.9	"
1+90		6.0		"
1+95	cross with 8" CI	5.14	8.45	"
2+31.9	end 2" Riser	6.7	6.9	"

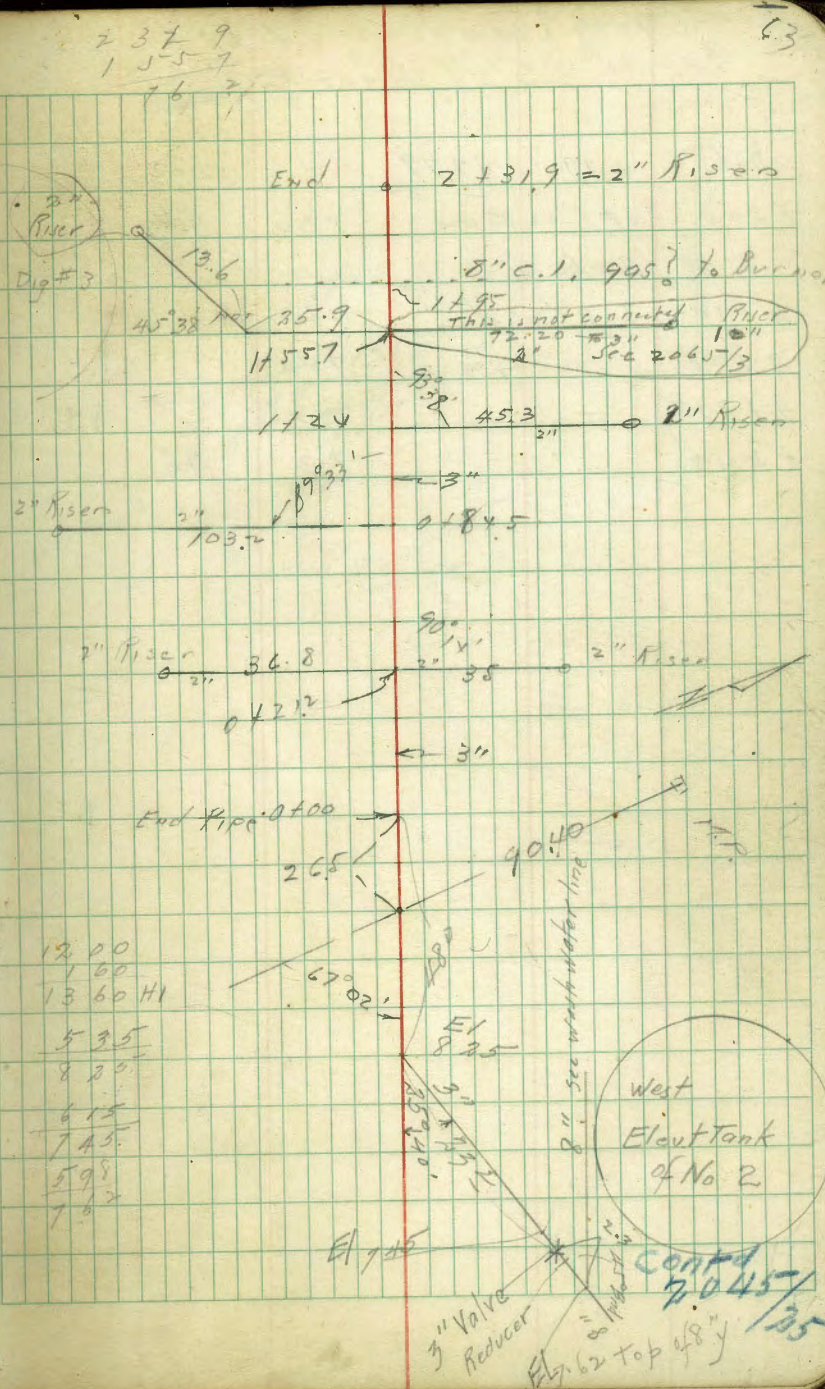
Begg 11/4/19

Sherman 2.06 14.06 12.00

Sisson

1+55.7 see above
 = 0+00

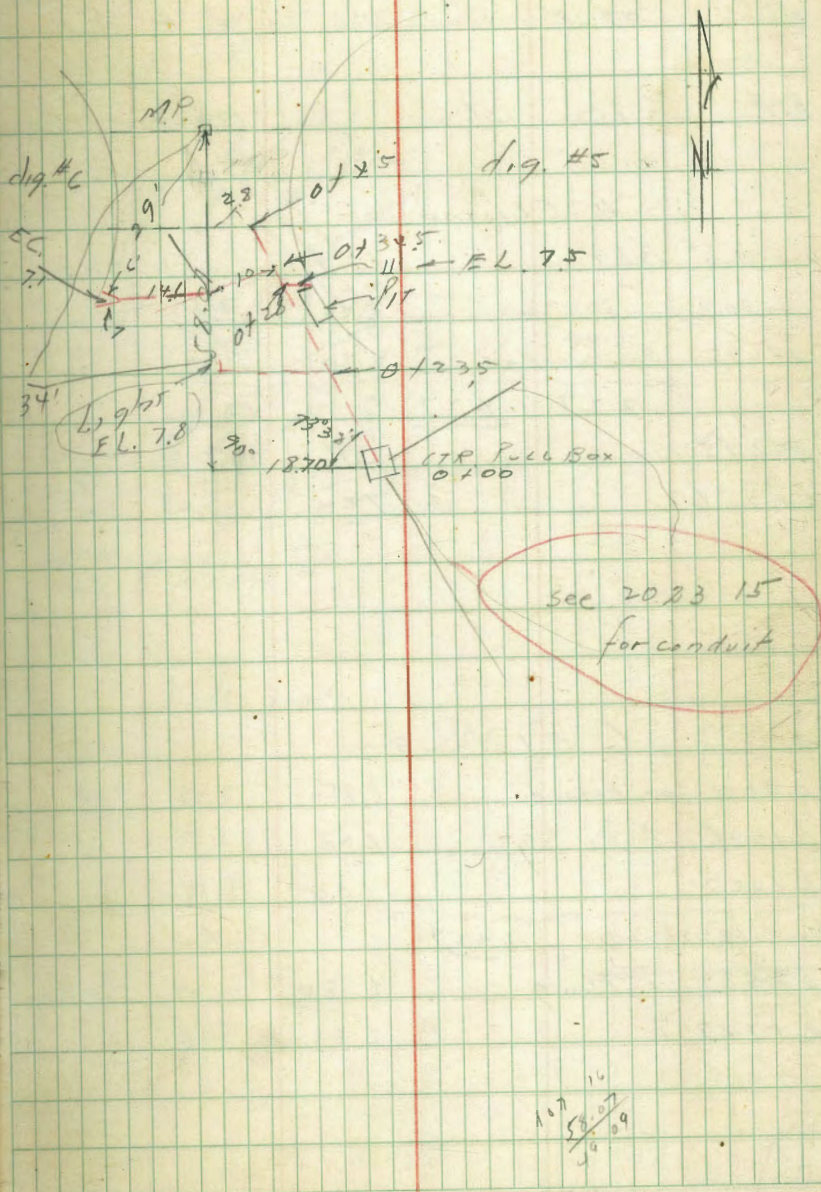
0+85.9	45° L.	6.71	7.35
0+95	Riser	3.91	10.15
0+72.20	Branch to north	5.90	9.16



12.00
 1.60
 13.60 HI
 5.35
 8.30
 6.15
 7.45
 5.95
 7.62

10-3-49 Location of Elect Cond.
 Moore S of Heat ~~Control~~ Bldg.
 EXCHANGER.

BID	279	14.79	1200
0+00	Top Pull Box	5.30	9.5
"	Sub-	7.0	
0+18	Top Cond.	7.6	
0+28	"	7.5	
0+34.5	"	7.3	
0+45		7.3	7.5



10-26-49 Locate 4" - 6" and 8" C.I. Lines

Moore at NW Cor. Add. to M. Bldg.
Hardin
312500

B.M. 1.62 13.62 12.00

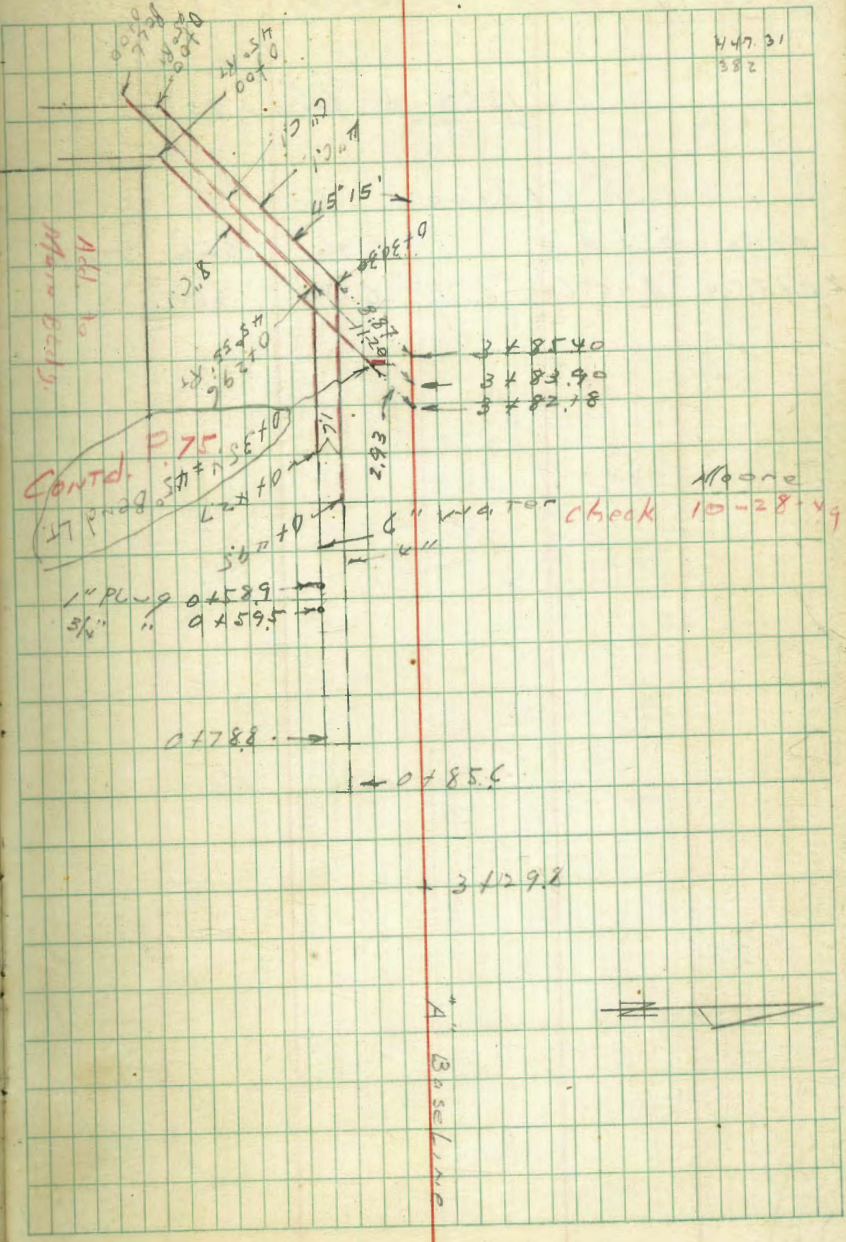
4" C.I. Line

0+00	old A	6.29		TOP
0+30.3	A R	6.24	7.38	
0+49.5	Present End	6.20	7.42	
<u>4" Line</u>		<u>2.27</u>	<u>14.27</u>	
10-28-49			12.00	
0+67.5		6.96	7.31	TOP
0+85.6		7.04	7.23	"

6" C.I. Line

0+00	at Bell	6.95	7.32	Top Pipe
0+29.6	A R	6.08	8.19	
0+42.7		6.09	8.18	
<u>check 10-28-49</u>		<u>1.27</u>	<u>6" Line</u>	
0+58.9	1" Plug	6.80	7.97	Top Pipe
0+78.8		6.81	7.46	

8" Cont'd. P. 66



Moore
10-26-49

8" C 1. Line

Sketch P. 65

1362 H.I. from P. 65

8" C 1 Line

2400 Old A 6.96 6.66 Top

2435.4 A 45° LT Present end 6.90 6.74

66

Location 1 1/2 Pipe

Bagg 10/31/49
 515507

BM	4.90	<u>14.15</u>	ELEV
0+00	= valve		+6.55
17+2	7.6	bottom	trench
30.7	8.1		+6.05
50	7.1		+5.05
81.8	6.7		+4.15
1+00	7.1		+7.05
1+53.2	7.6	6.5	+6.55

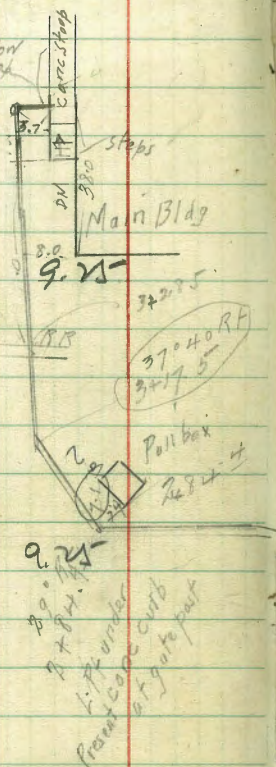
7.25 BM
 4.90
 14.15 HI
 9.25

9.25 BM
 3.78
 13.03 HI
 3.78 13.03

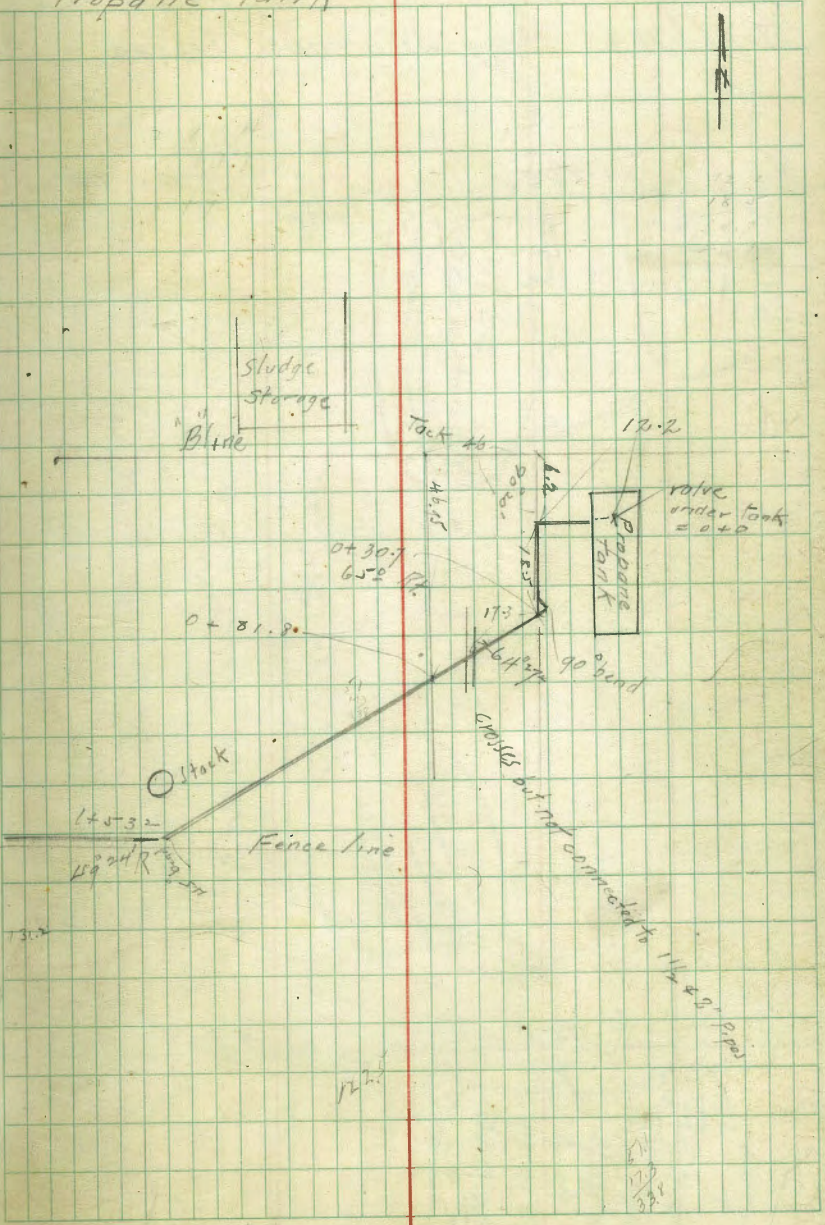
2+00	6.1	6.1	+6.93
2+50	6.3		+6.73
2+84.4	7.0		+6.03
3+17.5	7.7		+5.73

9.25 BM 3.88 13.13
 3.88
 13.13 HI

3+28.5	7.0		5.83
3+77.5	7.4		5.73

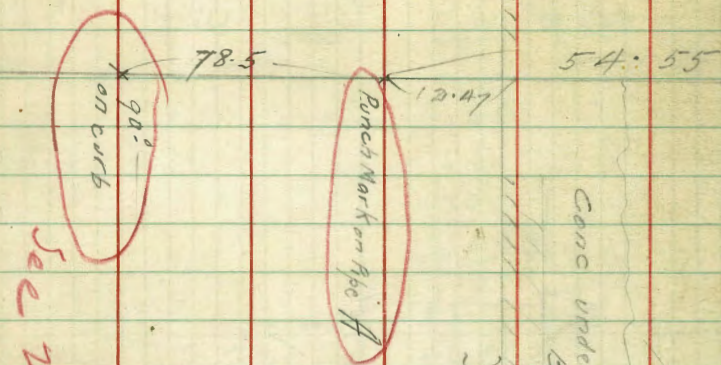


Propane Tank



20.4
 12.25
 153.2
 12.25
 153.2
 8.5
 71.4

Sewer Outfall see 2023 62/4
 11/1/49 Begg Sherman Sisson

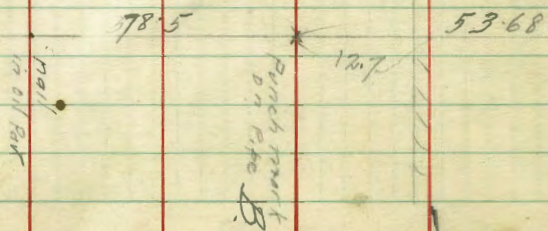


See 2023 62

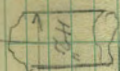
175

Sheet Piling

Came under water
 Batter towards new MH 5 1/2" x 28"



64

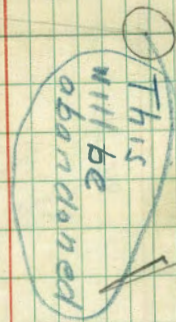


24

13.65
 19.35

Trench Sheet Piling

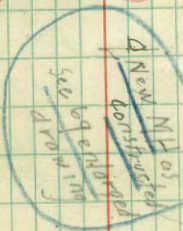
Existing
 MH



Guoy Wall
 Cleat

See 2065-10

2023-62/64



Proposed
 Position
 of new
 MH
 from
 drawings

1.03

175
 13.65
 19.35

175
 13.65
 19.35

175
 13.65
 19.35

11-1-49

Sawer Outfall

BM		10.42
		4.83
#1		15.25
		5.20
Top water		10.05
		12.25
Top 24" Pipe	-	2.20
Top water		10.05
		12.40
Top 42" Pipe	-	2.35
BM		10.42
		4.31
#1		14.73
Rin		5.16
	→ EI	9.57

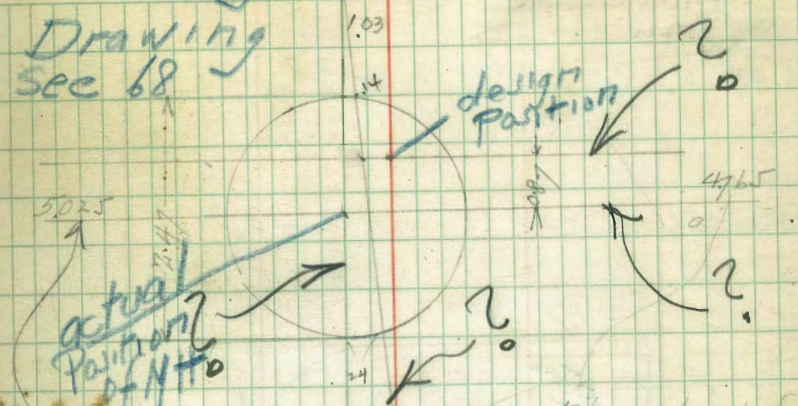
Begg
Sherman
2:15 PM

Enlarged

Sea Side
4.867

BAY ↑

69

Drawing
See 68

Rod Readings on

12' level rod resting
on iron ring top

Vert N.H. Pipe 4.939

4927

4967

147

0.83

ber Six feet

Land Side

5.025

7.60

2.60

12.3

10

No

+16

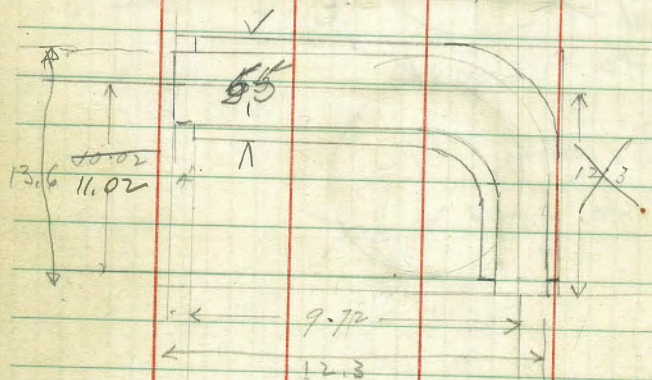
11-1-49

Sewer Outfall (cont'd)

66

Length of	13.6	12.3
Pipe #564	2.25	2.25
Blank	11.35	10.05
	33	33
	11.02	9.72

Should be 11.00 $9.7\frac{3}{16} =$
 9.64



Pipes as measured
 on ground -

- #① 15.96 inside
- ② 7.93 inside

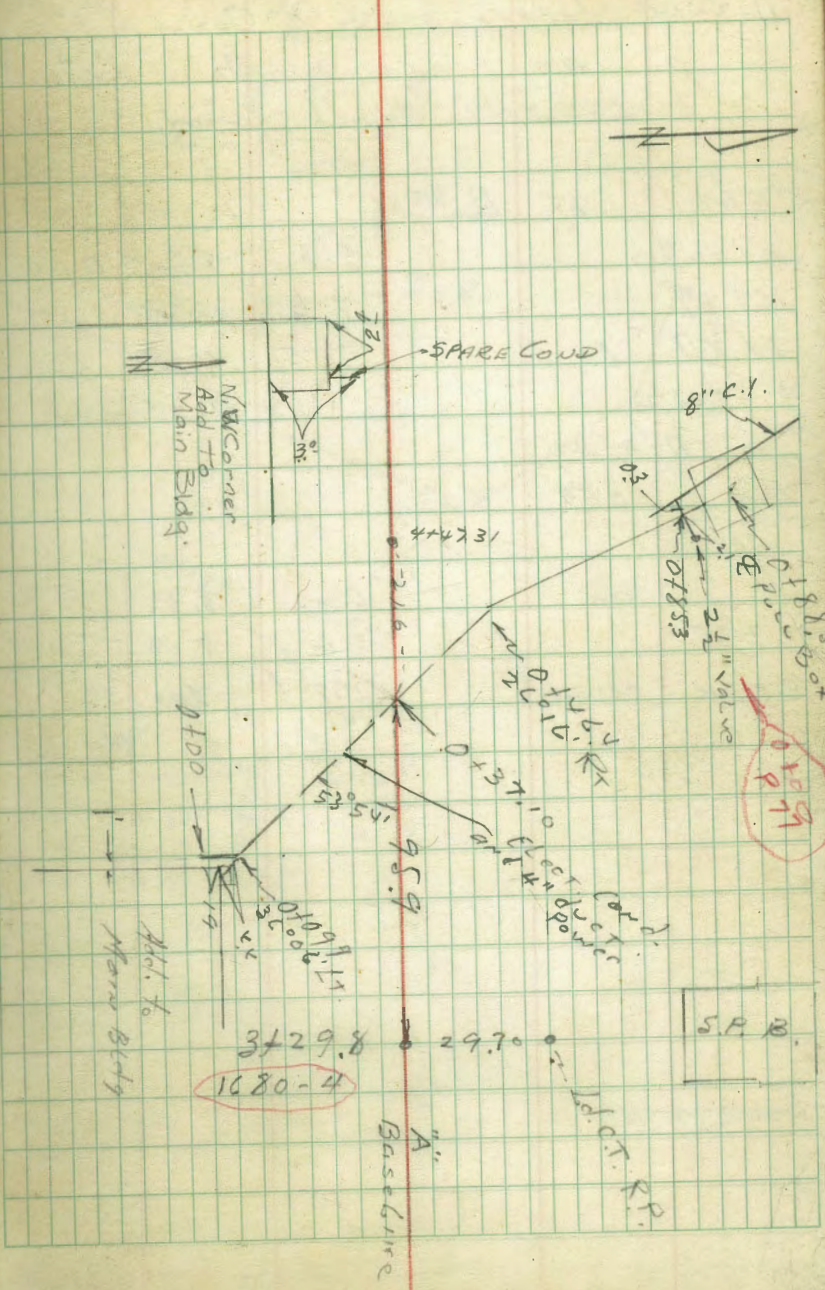
70

11-2-49

Moore Location of El. Cond

Sheeman and 4" Power Duct
at NW Cor Add to N.B.

BM	185	1385	1200	
0700		5.3	8.58	Top Cen.
0709.9	A 36° C' LT	5.4	8.45	"
0737.0	"A" B ₉	6.2	"	"
0746.4	A 26° 16' R	6.1	7.75	"
0785.3		6.2		Sub. gr.
"	2' Pt	5.03		Top valve
"	Top of 2 1/2" line	5.95	7.9	
"	0.3 Lt	7.04	6.8	Top P.C.I.
0788.5	Bot. Pull Box	5.56		
"	Top " "	4.36	9.5	



Moore
11-2-49

Location of E. Cond.

at NW Cor Add to IV B to
Levels on Black Cond.

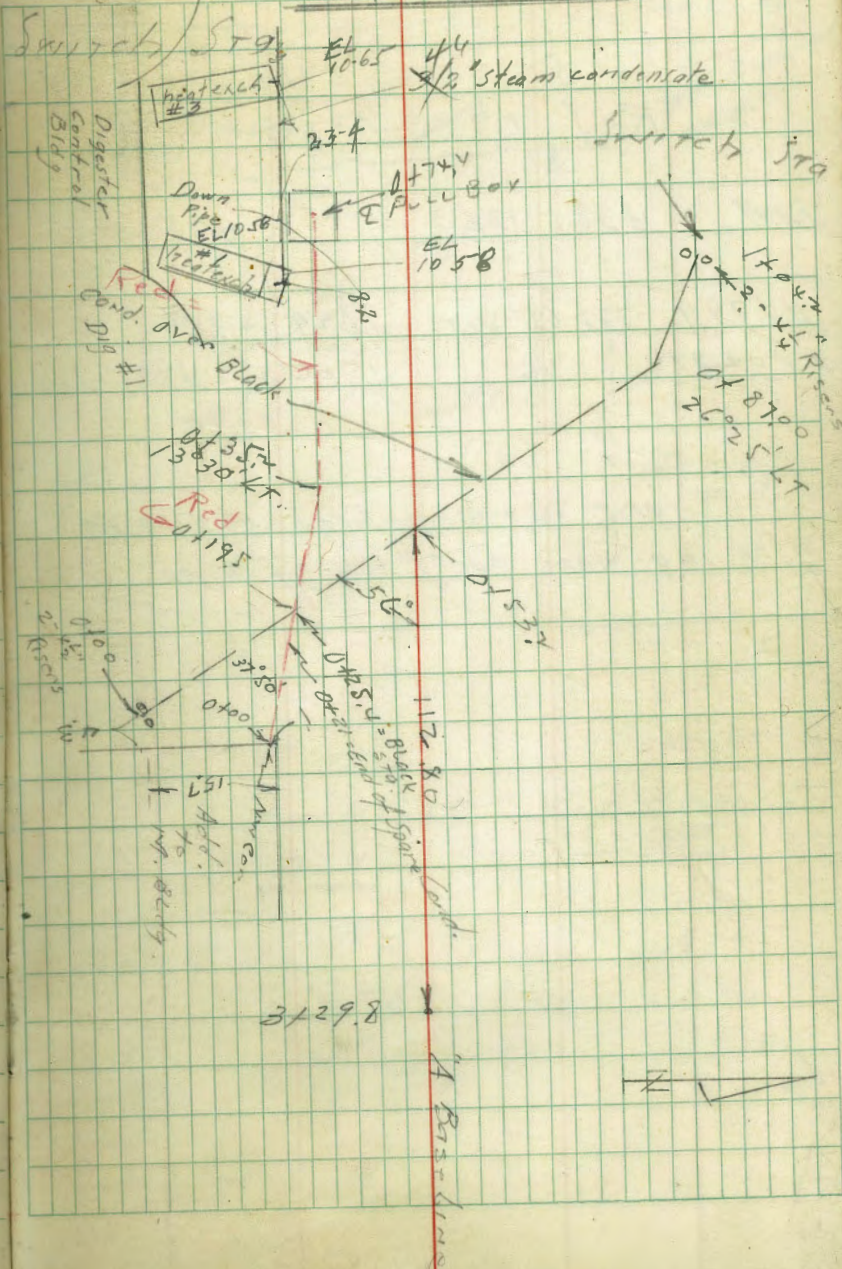
BM	1.85	13.85	1200
0+00		5.8	8.08 Top Cond.
0+49		7.6	6.25 "
0+87		7.5	6.38 "
1+00		2.5	9.85 "

11/4/49

Beag	353	1453	12
Sherman			
Jisson			
0	cone	6.2	8.33
0+35	"	6.4	5.13
0+74	ground	5.8	8.72

Dig #

Also Steam Condensate



Maore 11-3-49
 Begg
 Sherman Check 8" Vit Grit Line As Laid
 51550W

Ref. 1999.P55

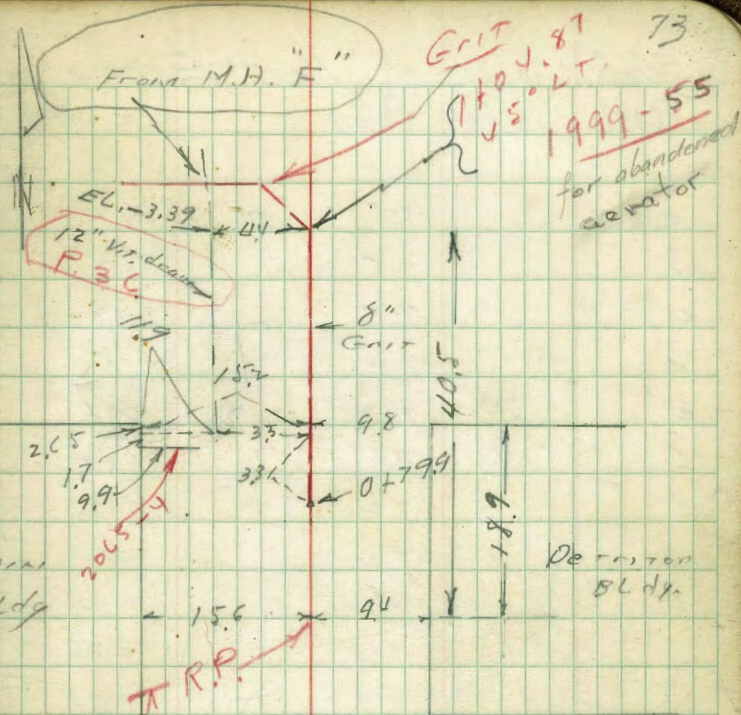
BIM. 338 12.63 9.25

01799 Top 8" Vit. 16.29 - 3.66

1104.87 " " 15.06 - 2.43

grit line completed at 5:30 PM

11/14/49 while party was off to job



11-3-49
 Check ² 12" Vit draw
 as laid
12.63

Top 12" Vit 16.02 - 3.39

" " " 90° A 16.43 - 3.80

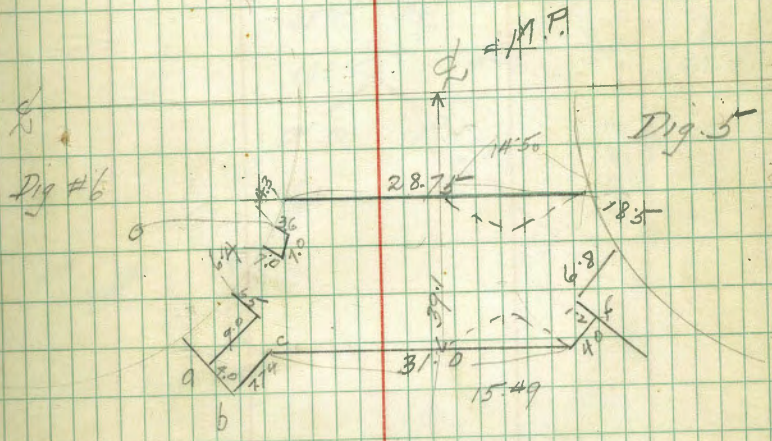
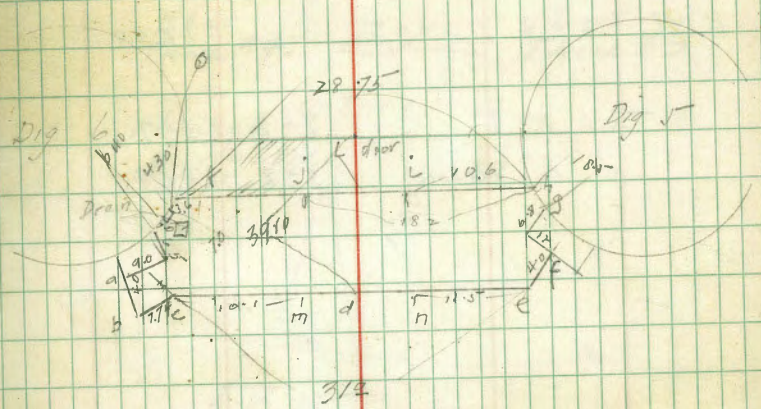
" " " M. AT BLDG. 18.42 - 5.79

So. SAME

Slab South of Heat Exchange Bldg

BIM	464	16.64	12.00
	dirt		on Form
a	7.5	7.18	9.46
b	7.5	7.20	.44
c	7.5	7.13	.51
d	7.4	7.06	.58
e	7.3	6.97	.67
f	7.3	6.97	.67
g	7.2	6.92	.72
h	7.2	6.90	.74
i	7.2	6.92	.72
j	7.2	6.92	.72
k	7.3	6.98	.66
door in place		6.76	9.88
drain	7.47	7.45	9.19
m	7.4	7.10	9.54
n	7.3	7.04	9.60
o	7.5	7.11	

Begg 11/4/49
Sherman
Sisson



11-4-49

Moore
13099
Shore M
81504 Location 8" C.I. Sludge Line
as laid 11-4-49

B.M. 205 1405 1200

Top 8" T 708 697

" 8" Valve 538 867

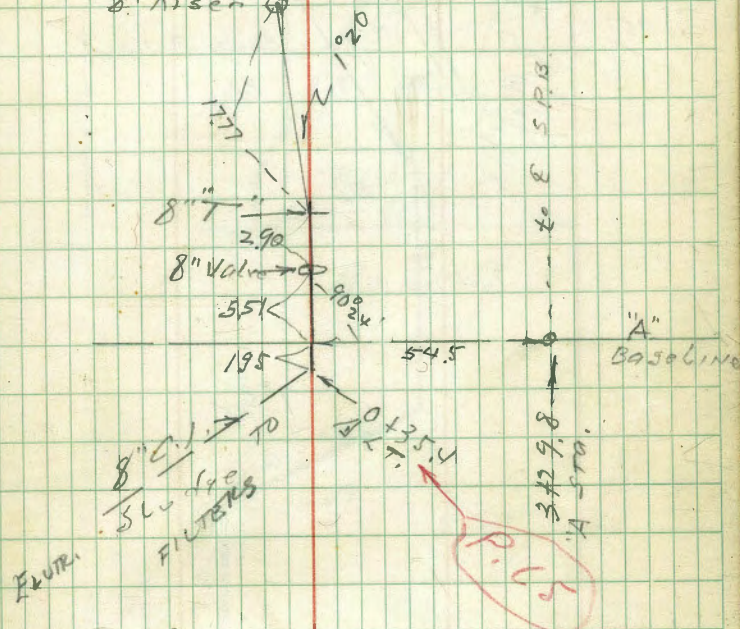
FLUT
TANK #4

FLUT
TANK #3

checked 11-7-49

EL. Hor. Pipe 724

8" Riser



24" 394 13.19 Air Exhaust Cont
 1+48 covered 925 from
 1+60 9.85 2065/8
 1+64 9.90
 1+68 9.92
 1+72 9.82 3.4
 end of entering
 existing 45° Bend. at base of stack

27"
 covered from 1+25 to 1+612
 1+61.7 9.64
 1+65.7 9.73
 1+69.8 9.70
 1+73.9 9.70
 1+77.0 9.70 +3.5
 enters 45° Bend into Sump at
 base of stack

Bigg Sherman & Crawford
 11/28/49
CURVE TABLES.

78

Published by KEUFFEL & ESSER CO.
HOW TO USE CURVE TABLES.

Table I. contains Tangents and Externals to a 1° curve. Tan. and Ext. to any other radius may be found nearly enough, by dividing the Tan. or Ext. opposite the given Central Angle by the given degree of curve.
 To find Deg. of Curve, having the Central Angle and Tangent: Divide Tan. opposite the given Central Angle by the given Tangent.
 To find Deg. of Curve, having the Central Angle and External: Divide Ext. opposite the given Central Angle by the given External.
 To find Nat. Tan. and Nat. Ex. Sec. for any angle by Table I.: Tan. or Ext. of twice the given angle divided by the radius of a 1° curve will be the Nat. Tan. or Nat. Ex. Sec.

EXAMPLE.

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

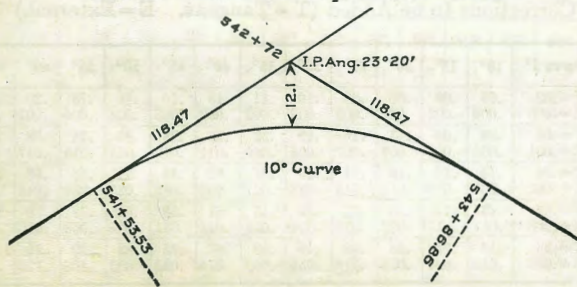
Ext. in Tab. I opposite 23° 20' = 120.87
 $120.87 \div 12 = 10.07$. Say a 10° Curve.

Tan. in Tab. I opp. 23° 20' = 1183.1
 $1183.1 \div 10 = 118.31$.

Correction for A. 23° 20' for a 10° Cur. = 0.16
 $118.31 + 0.16 = 118.47 =$ corrected Tangent.

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

2° 19½' = def. for sta.	542	I. P. = sta.	542+72
4° 49½' = " " "	+50	Tan. =	1 18.47
7° 19½' = " " "	543	B. C. = sta.	541+53.53
9° 49½' = " " "	+50	L. C. =	2 33.33
11° 40' = " " "	543+	E. C. = Sta.	543+86.86
	86.86		
$100 - 53.53 = 46.47 \times 3' (\text{def. for 1 ft. of } 10^\circ \text{ Cur.}) = 139.41' =$			
2° 19½' = def. for sta. 542.			
Def. for 50 ft. = 2° 30' for a 10° Curve.			
Def. for 36.86 ft. = 1° 50½' for a 10° Curve.			

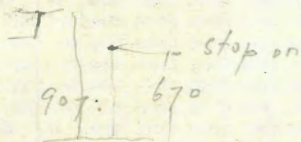


2110

86.
12.4
73.6 73.95

9.41
62

180
68 10
111 50

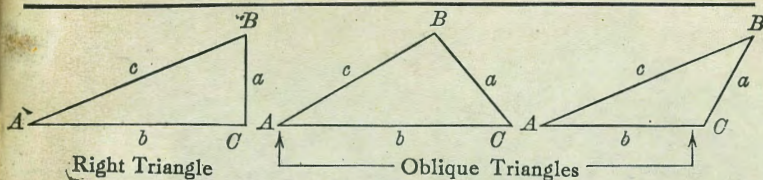


Grit 1999 17.

5767

Area { 2045 13 }
{ 1999 58 }
2.75
2.30

TRIGONOMETRIC FORMULÆ



Solution of Right Triangles

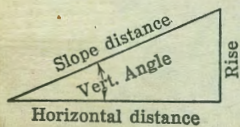
For Angle A. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{a}$, $\text{cosec} = \frac{c}{b}$

Given	Required	Formula
a, b	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	Required	Formula
A, B, a	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	$\text{area} = \frac{bc \sin A}{2}$
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. $\text{Cosine } 5^\circ 10' = .9959, 1 - .9959 = .0041, 319.4 \times .0041 = 1.31, 319.4 - 1.31 = 318.09$ 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.