

1680

SEWAGE DISPOSAL

PLANT  
ONLY



# EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and  
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning  
Roadway 16 feet wide. Side Slopes 1 on 1.  
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be  $30.6 + (20 - 16) \div 2$  or 2 ft. added to  $30.6 = 32.6$ . For slopes of 1 on  $1\frac{1}{2}$  see inside of back cover.

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# 1680

## CITY ENGINEER'S OFFICE

1000  
484  
14.84  
5.58  
9.26

17

29 16 45  
60 43 15

10

A9 33

04362

08724  
49.33

26.172  
26.172  
7.8516

34896  
4303549.2

This Field Book is manufactured of a High Grade 50% Rag Paper having a WATER RESISTING SURFACE, and is sewed with Bing Special Enamel Waterproof thread.

Made in U. S. A.



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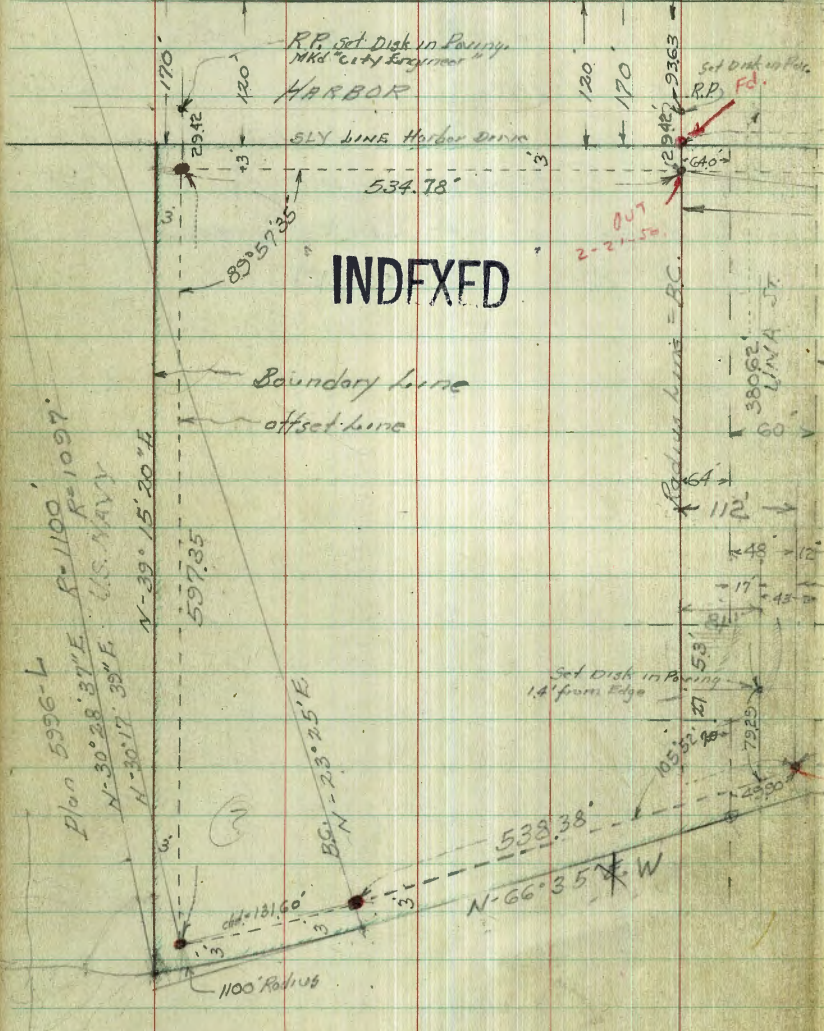


DISPOSABLE PLANT

Walker Hazard  
2-16-45

BOUNDARY LINE SURVEY LINE E

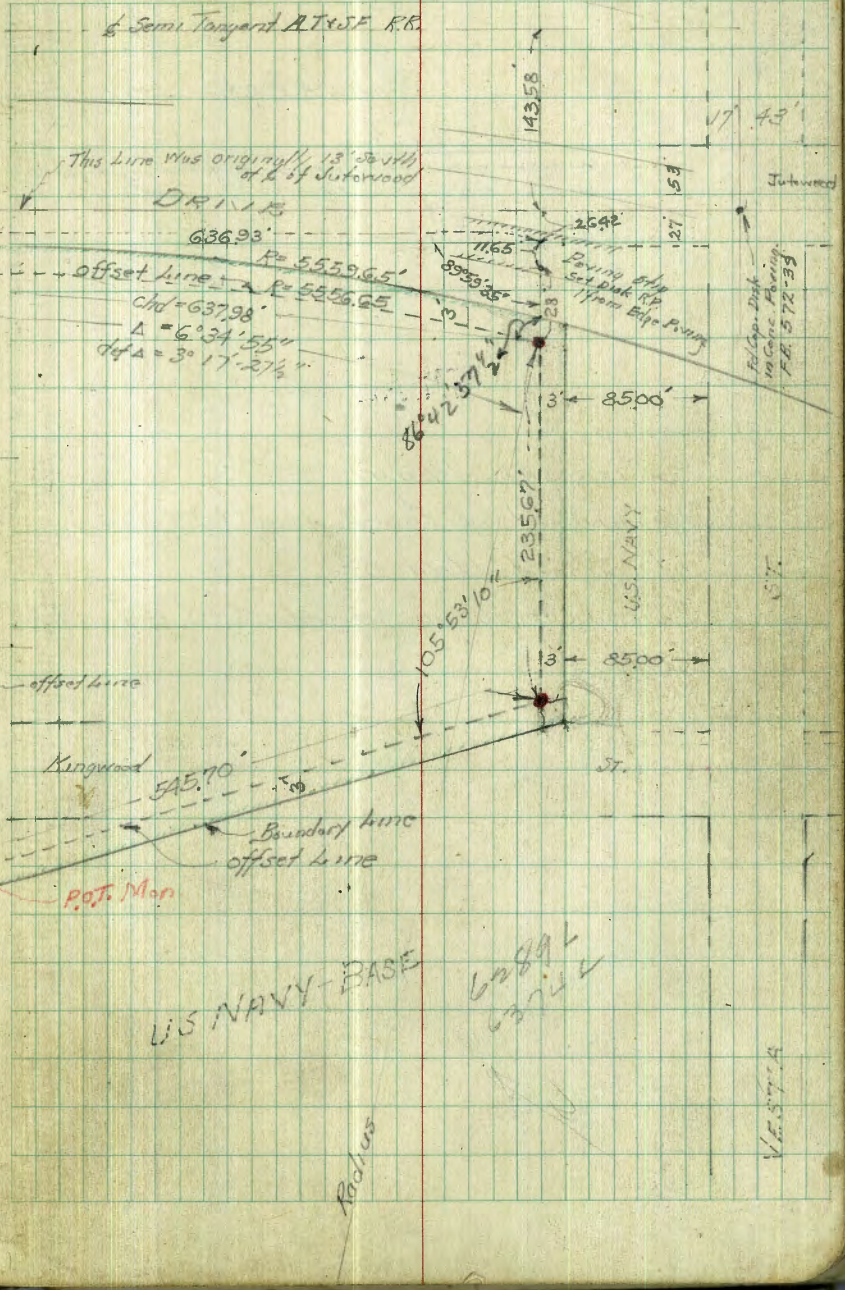
AT&SF R.R.  
Pd. Cap. Disk in Tie 2080' West of East end of Bridge (Chalk Creek) Conc. Core. Rd. Stone Mon.  
0.55  
Pd. Mon. P. 100' P. 100' P. 100' P. 100'  
0.05



INDEXED

• = Conc. Mon. Set.

Indexed  
c.s.K.



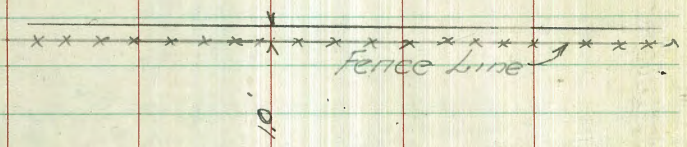
U.S. NAVY-BASE

Radius

V.L. 57714



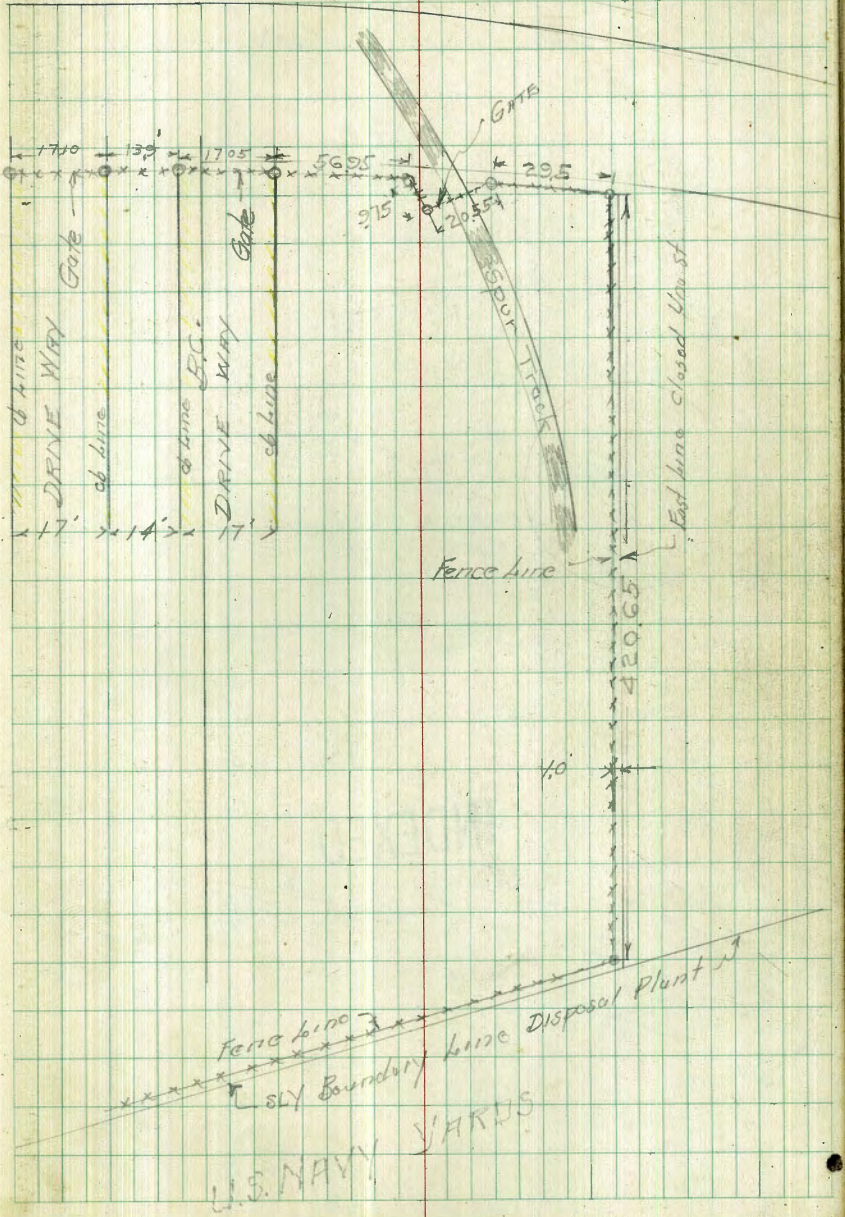
HARBOR DRIVE



Milker  
No 301d  
Herd  
3-14-45

DISPOSAL PLANT

Measurement of fence along EBY line  
of closed UVA of  
Distances shown are from top of Iron Posts





~DISPOSAL PLANT~

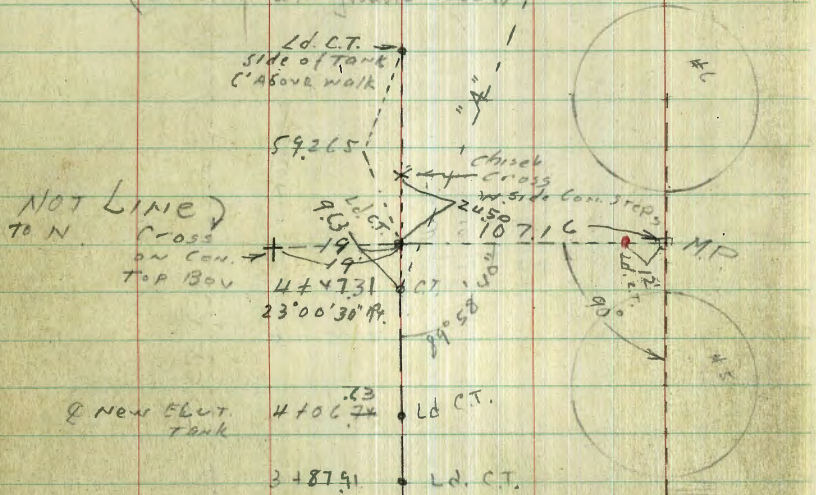
BASE LINES SURVEY

To determine relative locations  
of existing layout of Bldg. etc.

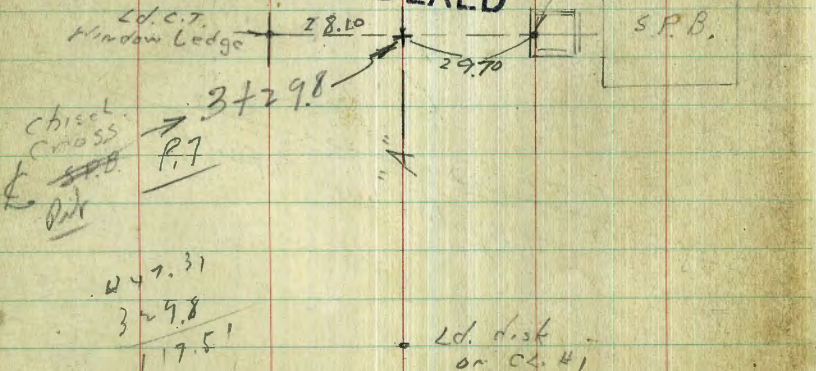
Walker  
Hazard  
Hudson  
2-21-95

• = Lead Pile. + Cop. Tacks Set in Pav

(all dim at ground level)



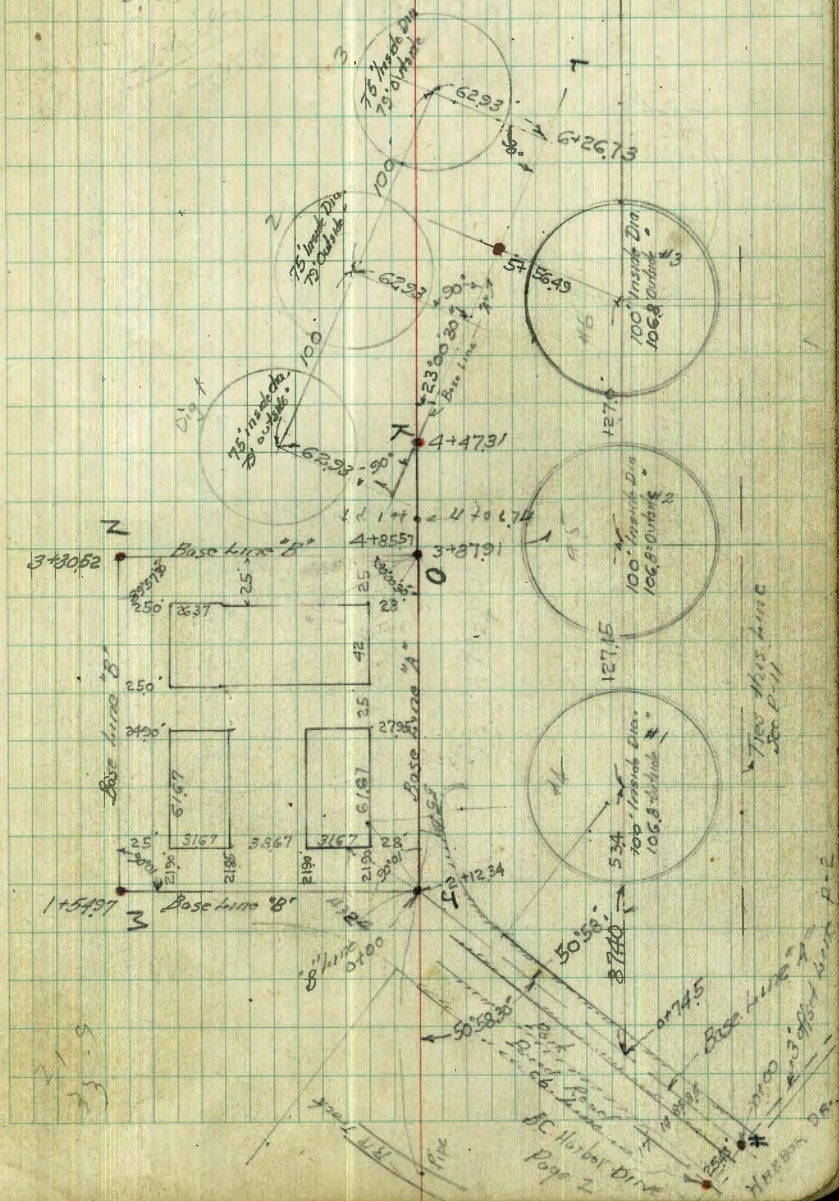
INDEXED



INDEXED  
C.S.R.

5926  
963  
6889

4  
6293  
395  
23.43

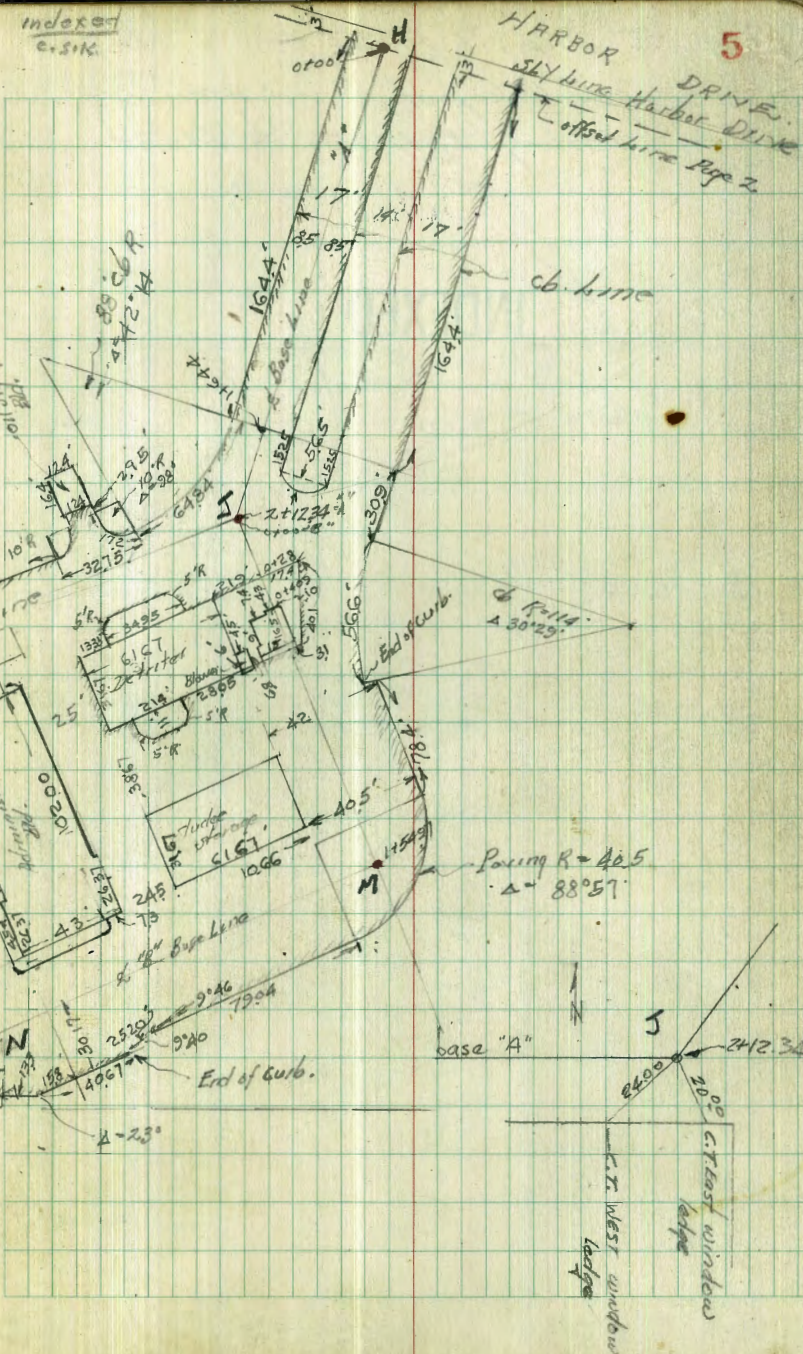
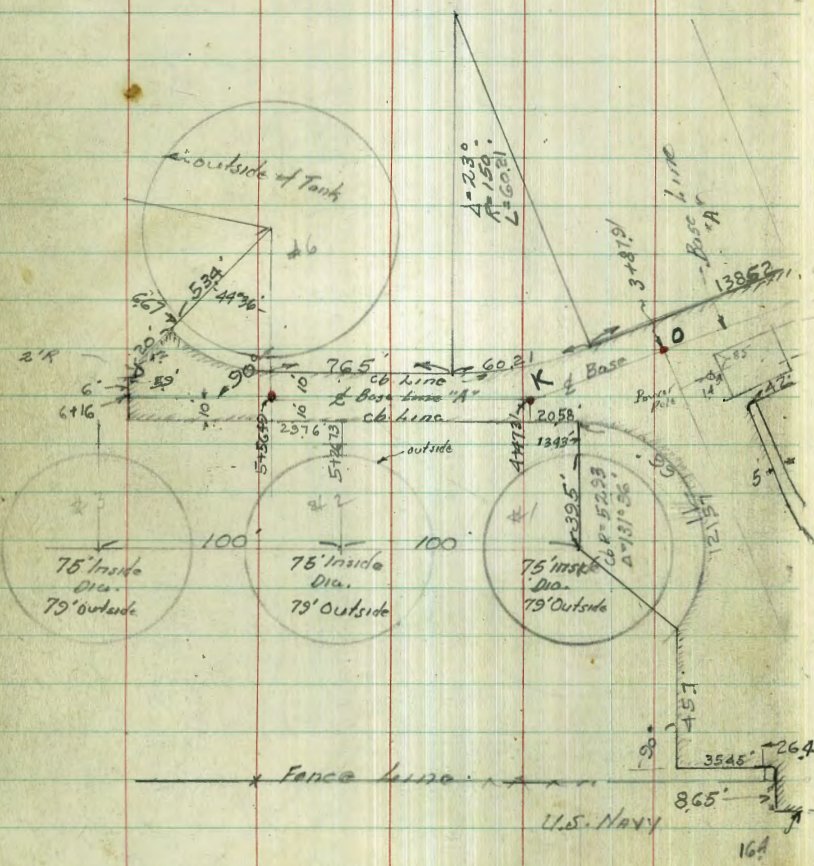




Mulhar  
Harvard  
Hardin  
2-21-68

- Disposal Plant -  
Location East Porch & Curbs

# INDEXED





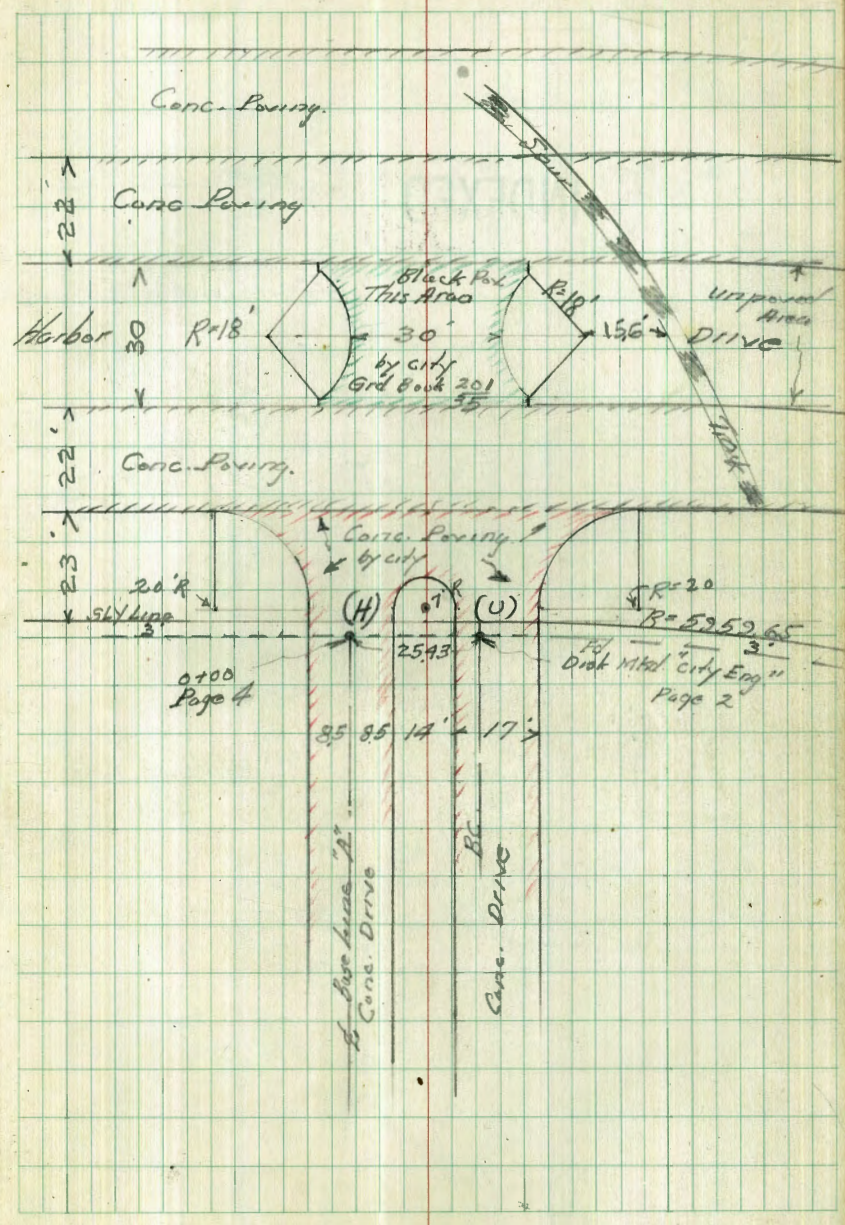
Walker  
2-21-65

Disposal Plant

Detail Layout Paved Area  
Easterly Entrance to Plant.

INDEXED

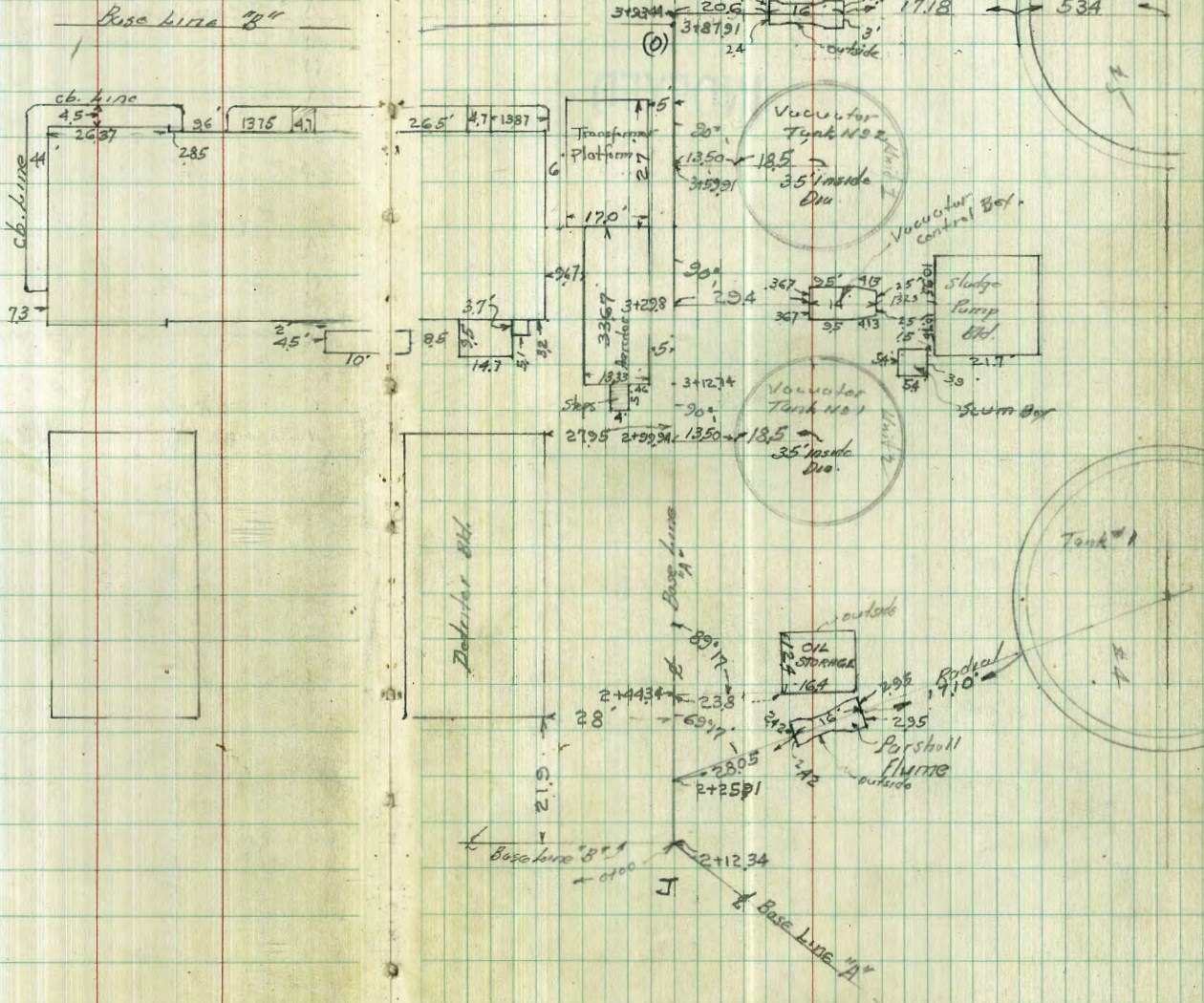
INDEXED  
C.S.K.





Disposal Plant.  
Location Existing.

INDEXED





Walter  
Higard  
Harden  
2-27-45

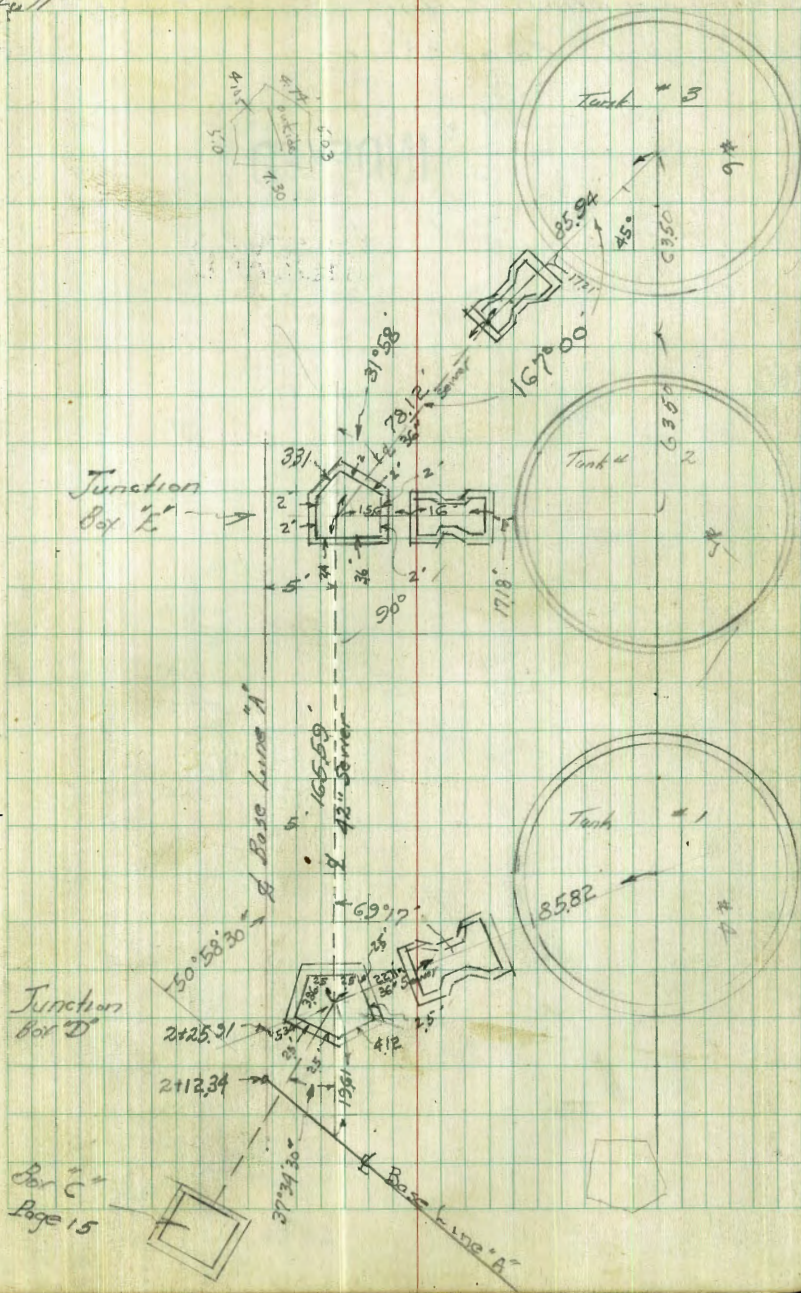
Disposal Plant

Location Existing 42" and 36" Sewer Out fall  
Between Junction Boxes and Parshall Flumes

INDEXED

Indexed  
disk

8

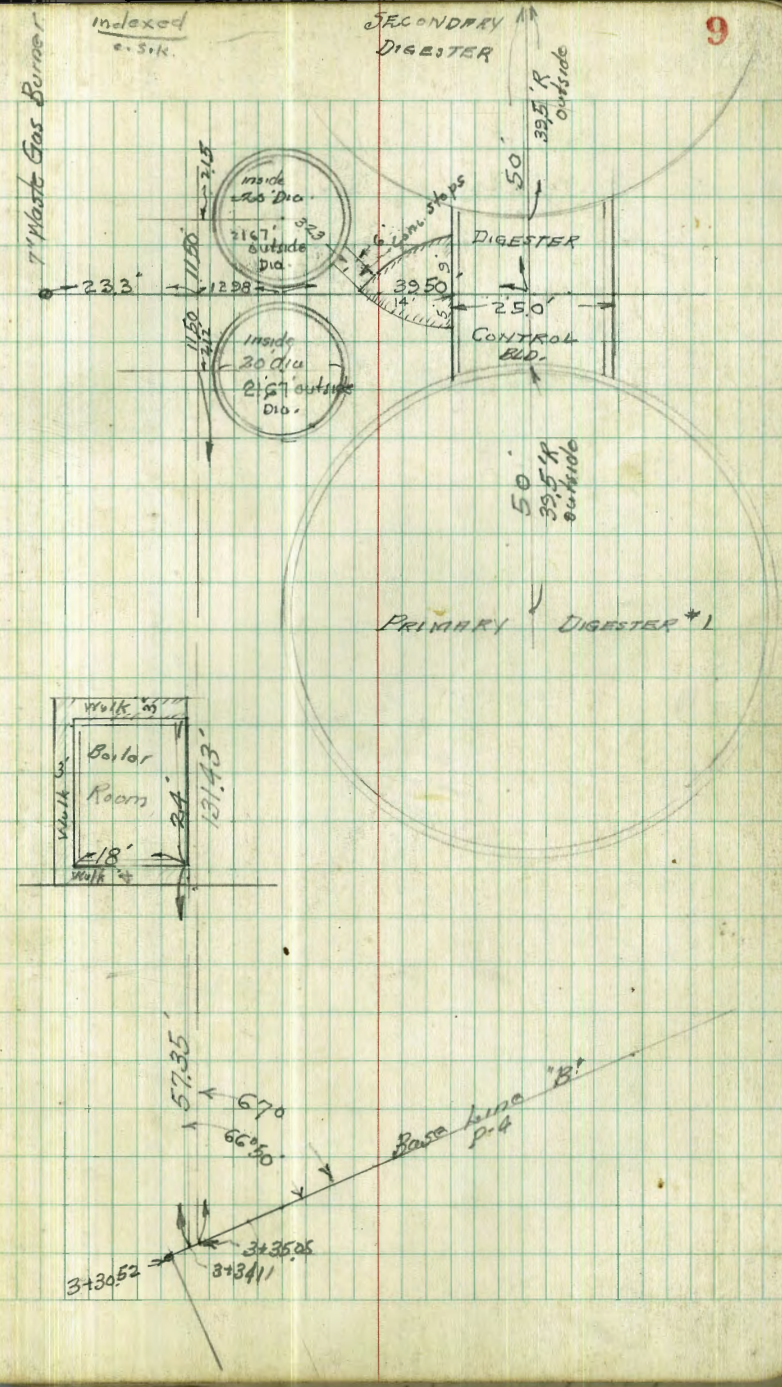




Walker  
Hazard  
Herdin  
2-26-45

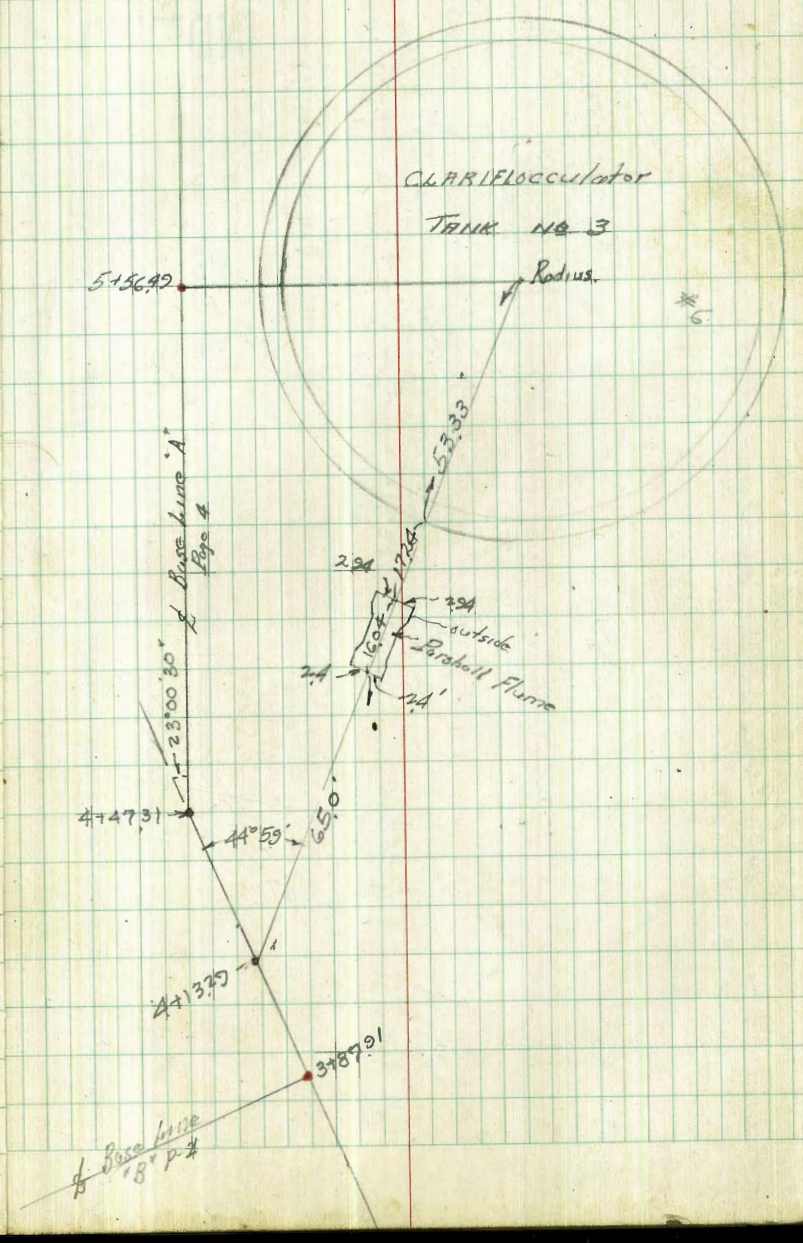
~ DISPOSAL PLANT ~  
Location Existing Sludge Tanks  
And Boiler Rooms

INDEXED

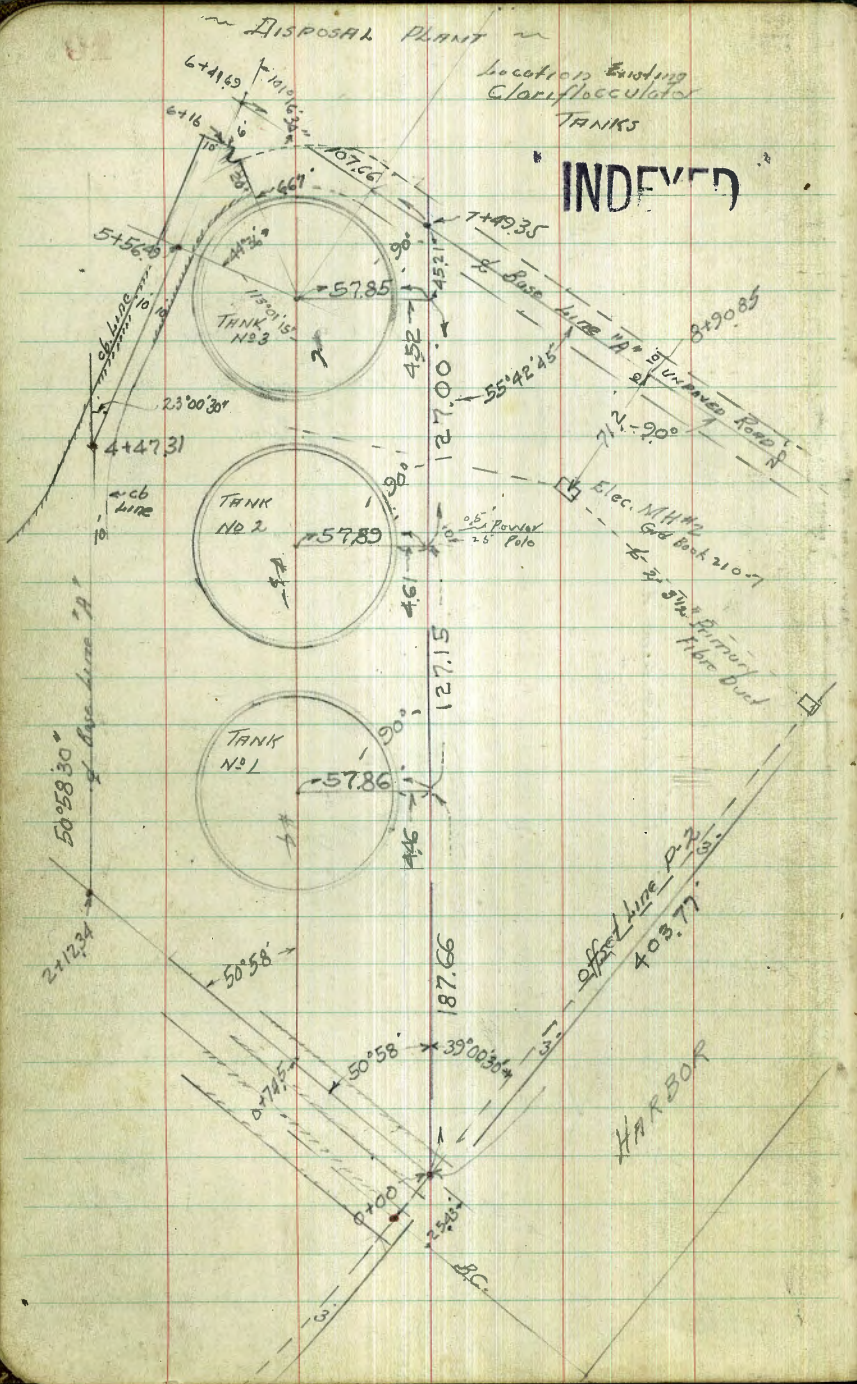




W  
H  
H  
2-20



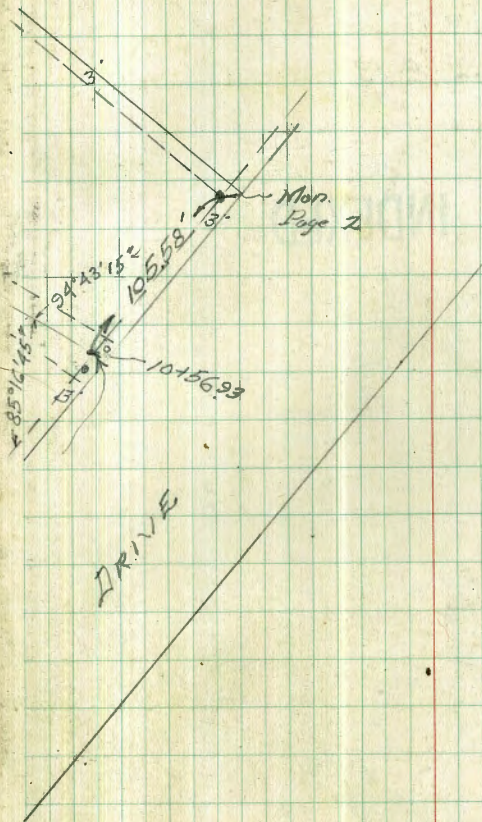




indexed  
c.s.N.

Base Line A,

11



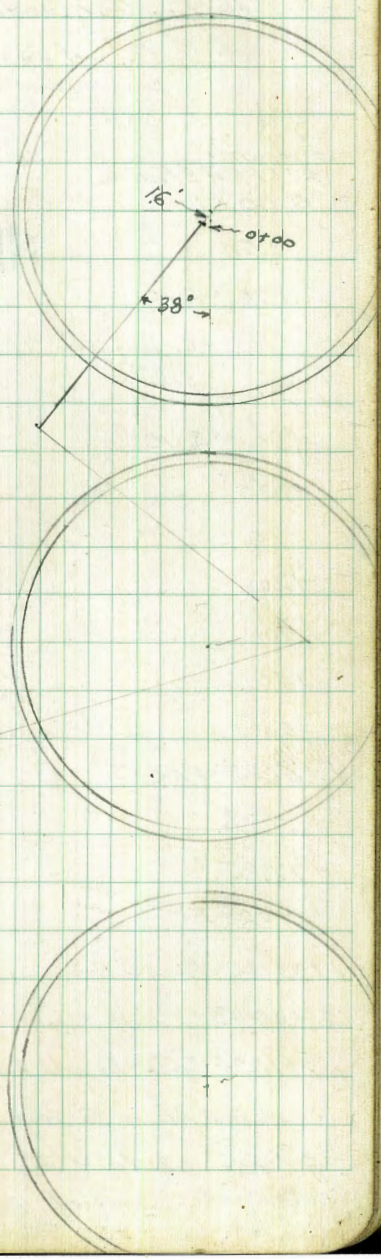


— DISPOSAL PLANT —

Location 36" SEWER INTAKE  
from Vacuum Control Box  
- To Clariflocculator Tank #3  
(Void)  
See P-13

INDEXED

indexed  
C.S.K.





Walker  
Hazard  
Hardin  
Feb. 26-1945

DISPOSAL PLANT  
Location 36" INTAKE SEWER  
from Clariflocculator Tank #3  
to Vacuum Control Box.

Copied from Grade Book 198  
per request Hurvey Cole  
Feb. 26-1945

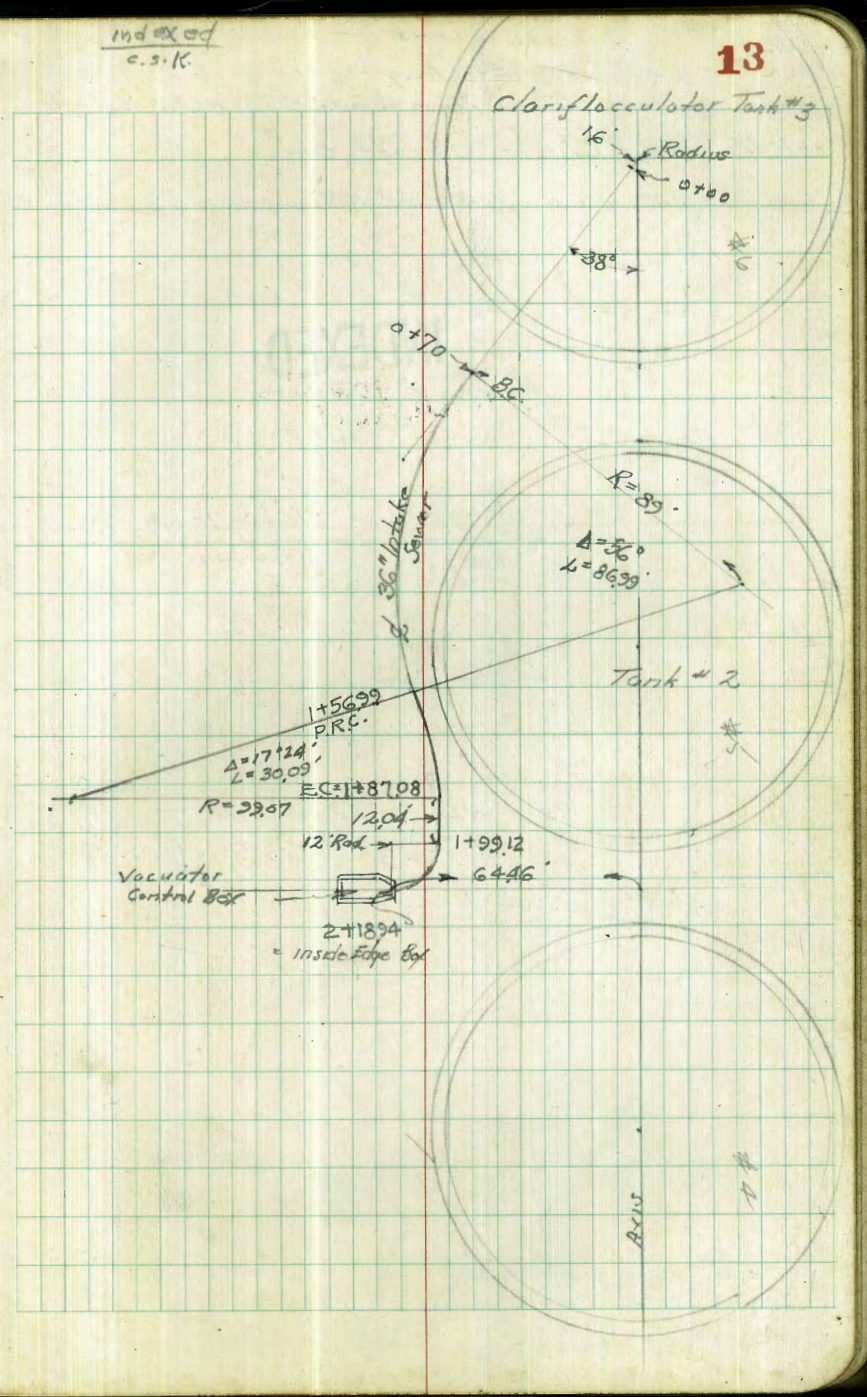
Stations	Flow Line Elev.
16' ELY of E Radius = 0+00	-18.81
750	-11.05
+55 = PVC 8th	-10.28
+70 = P.C. Horiz. Curve 8th	-8.53
780	-7.43
+90 = E.V.C.	-6.45
1+00	-5.60
+10	-4.75
+20	-3.89
+30	-3.04
+40	-2.19
750	-1.34
1+56.99 = P.R.C.	-0.73
+67.02	0.25
+77.05	0.96
+87.08 = E.C.	1.65
1+99.12 = P.C. 12' Radius	2.35
2+09.03 = Ctr 12' Curve	2.67
2+18.94 = E.C. = Inside Edge Vacuum Control Box	3.00

INDEXED

Note: Above Grades were taken from a paper profile as laid by Cole Dec. 4th 1941.  
Vacuum Control Box Floor is 0.5 above plan which was +250 and now +300

Indexed  
c.s.K.

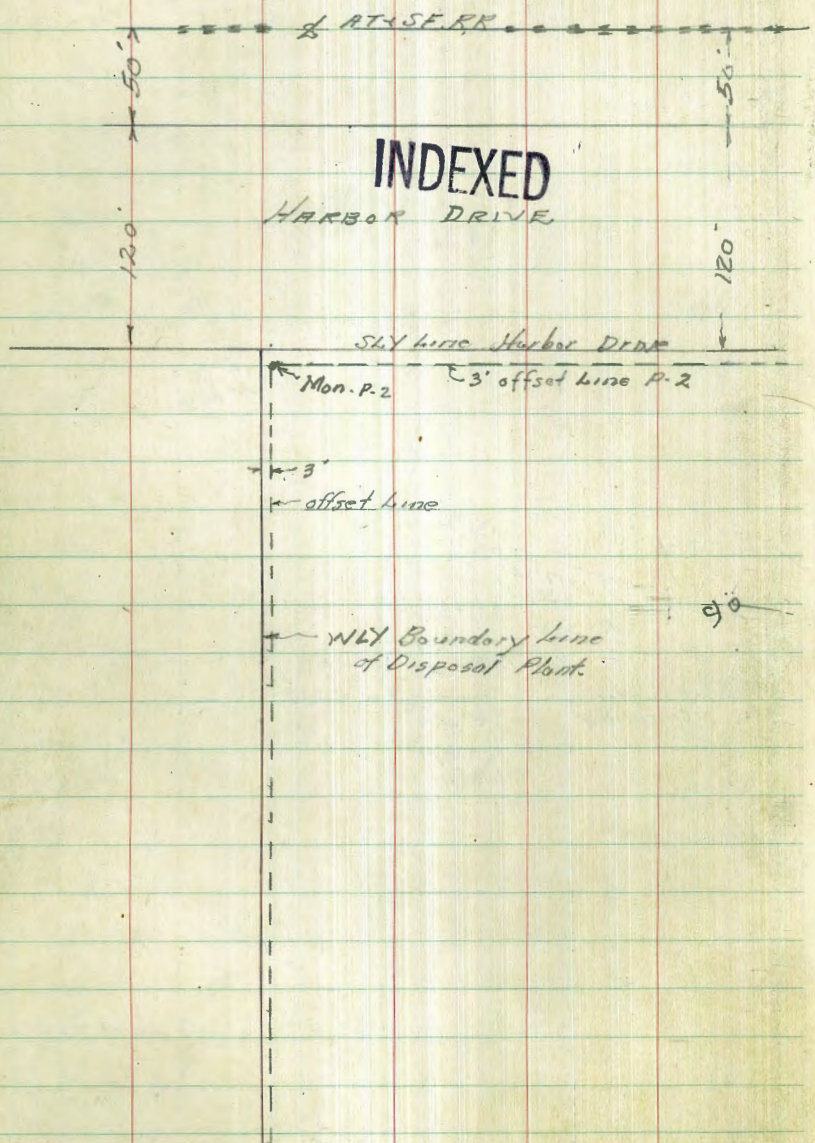
13





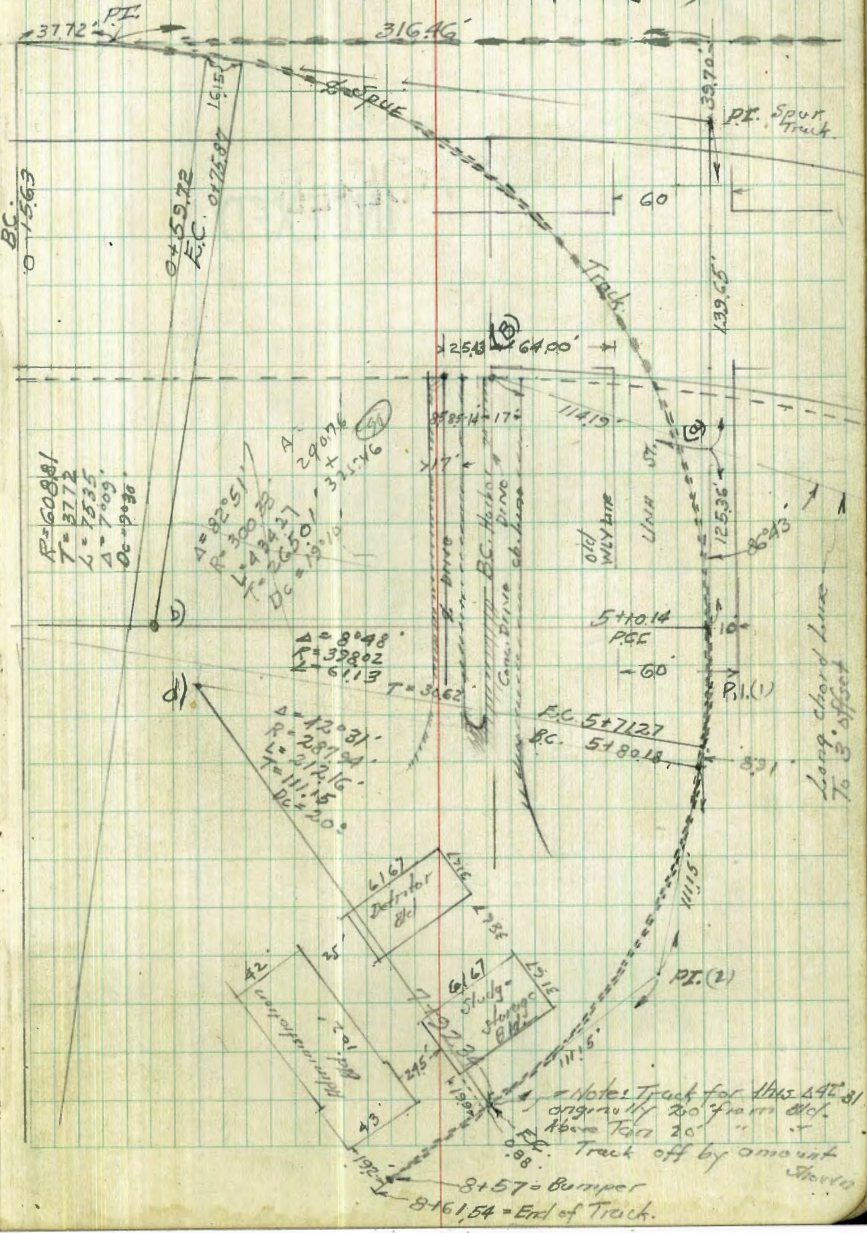
Walker  
Hazard  
Location  
2-27-46

DISPOSAL PLANT  
Location Existing Spur  
from Main line AT&SF TRACK  
to Sludge Storage Bld.



indexed  
a.s.k.

Feb 5-50  
(Radii not accurate  
for existing layout)





Walker  
Hazard  
Harbor  
2-28-45

DISPOSAL PLANT  
Location Existing Concrete Sewer: -A-B-C  
and "D"

INDEXED

$\Delta 3^{\circ}59'38''$   
 $R = 554.65$   
 $L = 387.15$

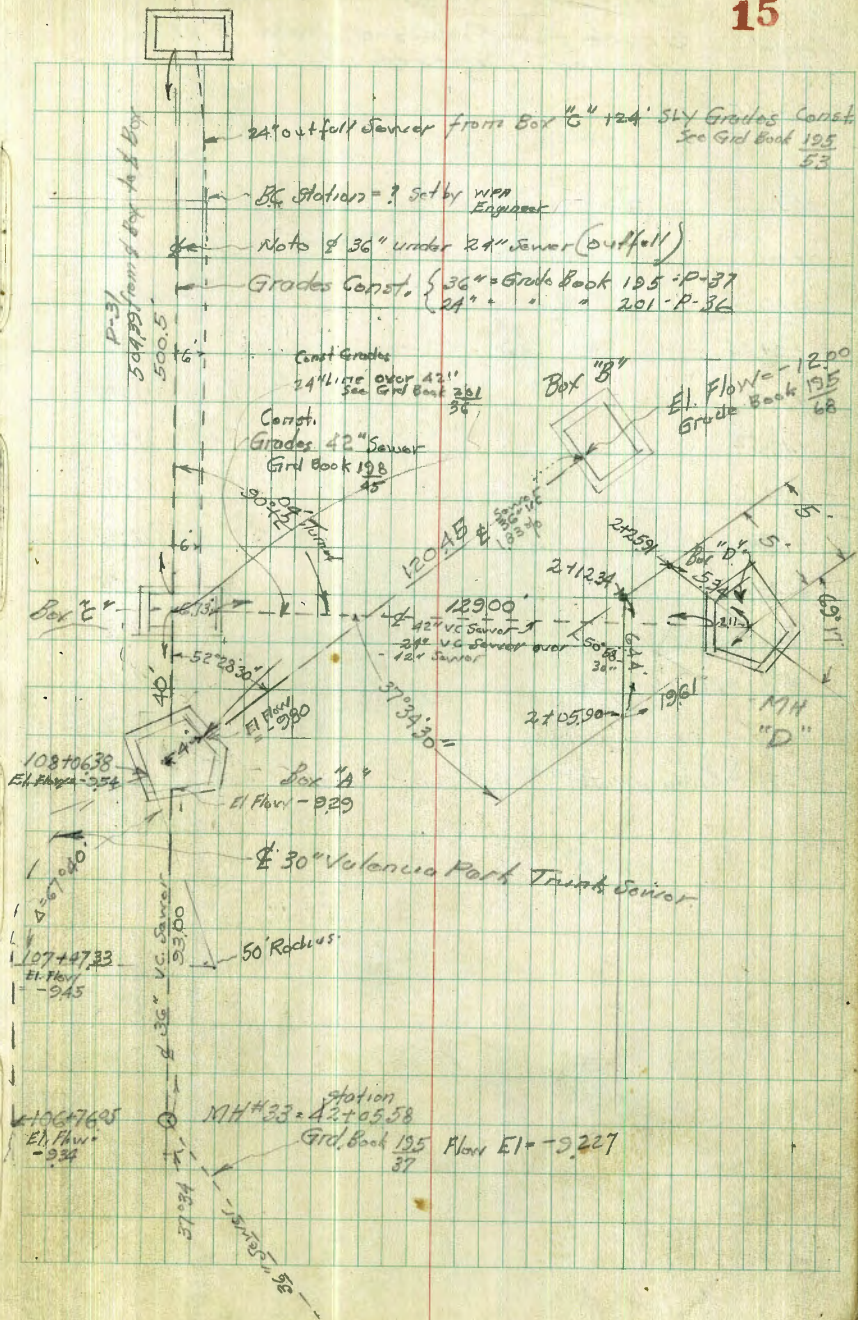
Valencia Trunk Sewer  
Notes: Copied from Grid Book 201  
58

$R = 50'$   
 $A = 91^{\circ}56'$   
 $105+9588$

30" VC Sewer  
S14 line Harbor Drive

CONT'D P. 31

15

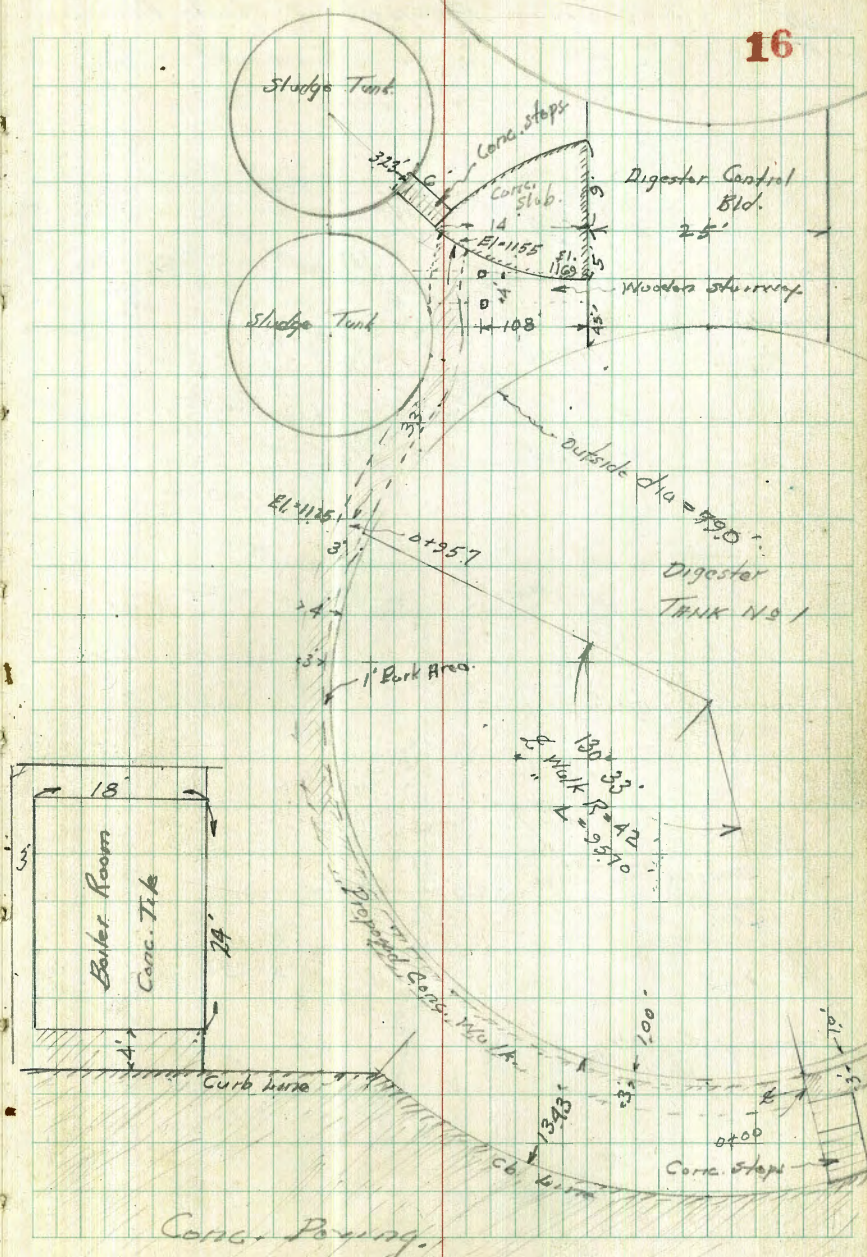




Walker  
Hogard  
Hardin  
2-28-15

DISPOSAL PLANT  
Grade for Proposed Walk 3' Wide  
Around Digester No. 1

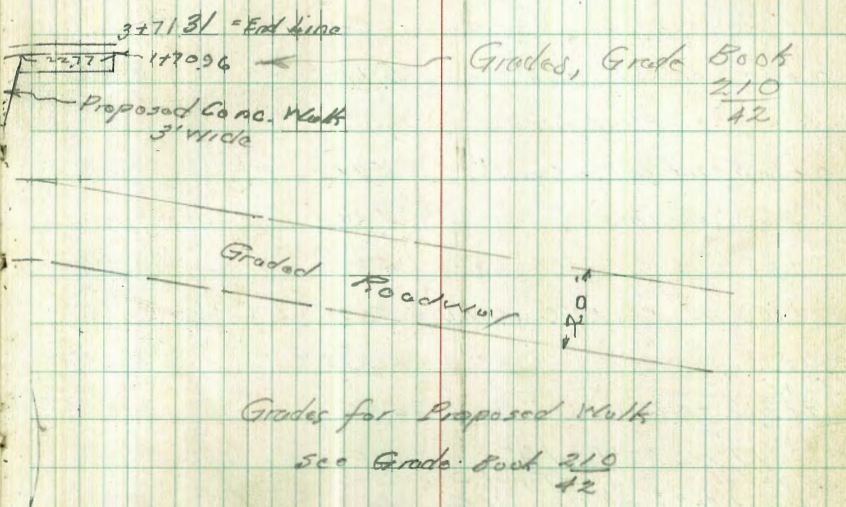
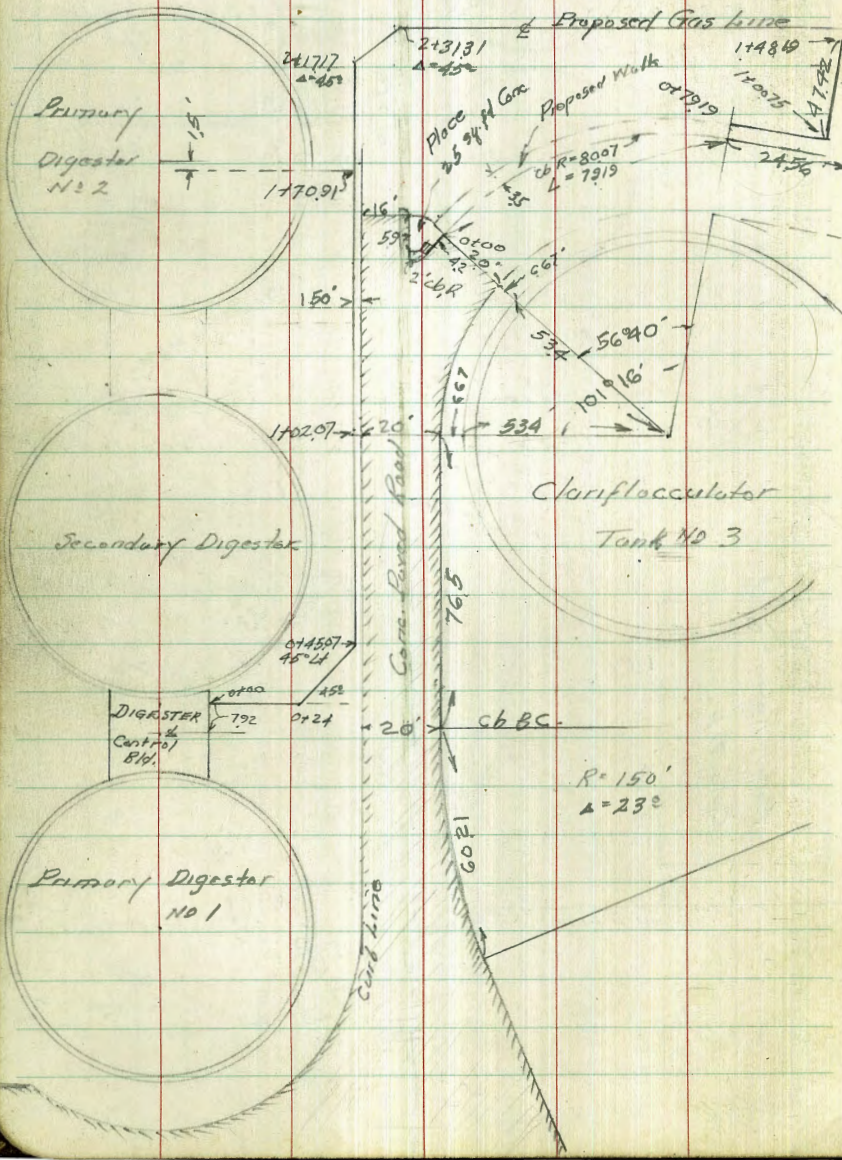
Station	Elev Walk
0+00	11.62
+10.63	11.58
+21.26	11.53
+31.89	11.49
+42.52	11.45
+53.15	11.41
+63.78	11.37
+74.41	11.33
+85.05	11.29
+95.7 = E.C.	11.25
1+15.7	11.44
+28.7 = Existing Walk	11.55





Walker  
Hogsett  
Hardin  
3-1-85

Disposal Plant  
Location Proposed Waste Gas Line  
And " " Curb And Walk  
Prelim. Profile Levels See Grade Book 210  
43





Walters  
Huggett  
Harden  
3-12-48

DISPOSAL PLANT  
PROFILE LEVELS - PROPOSED  
48" OUTFALL SEWER  
Location Page 20

	3.78	13.78	10.00	8.61
0+00 on Conc. slab	5.17			8.61
" " Floor line				
0+20.5 = Int. cb. on Conc. Pav	5.11			8.68
" " " cb.	4.87			8.91
7.50	4.8			8.98
776.3 Int. Edge 3' Conc. Walk	4.82			8.96
+79.3 " WLY " " "	4.81			8.97
783.12 = ALT 16° 47'	4.74			9.04
(2317 WLY) = Point "A"	4.59			9.19
379 WLY of Point "A" on Top of Side Walk	4.53			9.25
Point "A" at Purball Flume	3.77			10.01
3.97 WLY of Point "A" on Top of Purball Flume				
" " " " on Floor				
0+25.37 on cb	4.87			8.91
" " Gut.	5.18			8.60
1+00 on Conc. Paving	5.18			8.60
1+12.53 = Int. Base House	5.27			8.51
1+43.85 = Int. cb on Gut.	4.99			8.79
" " on cb	4.71			9.07
1+45	4.7			9.08
1+66	2.4			11.38
1+80.97 = ALT 56° 21'	2.31			11.47
2+01.07 = Int. 3' Conc. Walk	2.14			11.64
704.98 " SLY Edge	2.13			11.65

	13.78			
2+18.67 = POT.	11.62	2.16		
2+58 (SLY side)	11.68	2.1		
2+69	11.68	2.1		
788	9.38	5.4		
3+03.28 = POT Stake	7.12	6.66		
3+05.17 = POT Stake	6.96			
T.P. 364	10.60	6.82	6.96	
3+15.13 on cb.	4.62	5.28		
" " Gut Conc. Pav	4.16	6.44		
3+35.45 " " " "	4.11	6.49		
" on cb.	4.56	6.04		
3+41.65 on Spur Track	4.25	6.35		
3+56.15	4.52	6.08		
60 39.6 ft on Run Mt. Interceptor	6.31	4.29		
" " " Floor	2.29		11.59	
3.24	7.36			
378.3 ft on Run Mt. Interceptor				
" " " Floor	2.73		11.13	
3+92.62 = ALT 22° 53'	5.70	5.40	5.20	
4+30.89 = WLY Rail Spur	5.56	5.04		
786 SLY " "	5.57	5.03		
775	5.37	5.23		
4+81.7 on Pav at Platform	3.84	6.76		
781 on Deck	5.37	5.33		
5+07.28 " "	5.37	5.23		
5+07.28 on Paving	3.58	7.02		

POT = Axis  
Digester Tanks

inside  
Fence  
outside  
Fence

-11.56  
Grid 128  
8

-11.14  
Grid 128  
10



Cont. from p-18

10.60

5+40.17	int. cb.	on cb.	7.96	2.64
"	"	on Gutter	8.43	2.17
5+50	"	on Conc. Paving	8.44	2.16
6+21.49	"	11' 1" 00'	8.96	1.64
+25.24	Gut		8.97	1.63
TP	4.90	6.54	8.96	1.64
6+25.24	on cb.		4.49	2.05
6+39.84	N Rail Spur	Truck	5.27	1.27
6+47.79	"	on Rail	5.21	1.33
6+56.33	"	SLY Rail	5.21	1.33
6+67.52	"	on Paving at Bld	4.69	1.85
TP	4.67	6.25	4.96	1.58
7+37.02	SLY edge	Bld on Floor	3.78	2.47
+37.02	"	on Asphalt Paving	4.55	1.70
7+45.37	"	on N. edge Rolled cb	4.53	1.72
7+55.7	"	" " Paved Road	4.87	1.38
(7+53.7)	"	on Imp. old Base	4.05	2.20
7+66.49	POT.	on 1d Ply.	4.36	1.39
7+79.66	"	S cb. on Gutter	5.04	1.31
"	"	" " " cb.	4.54	1.71
+85	"	on Dirt	5.7	0.55
+85	"	on Wood Floor Bld #7	1.75	4.50
Elev. Ground under Bld =	Elev	0.00		
TP	4.51	5.79	5.00	1.75
TP	5.28	6.52	4.55	1.24

on 1d. Ply  
8+66.45

6.52

19




8+51.5	SLY Edge	Bld #7	6.6	-0.08
8+53	"	Grating, on Grating	7.24	-0.72
"	"	on Floor	9.94	-3.42
8+58	"	on Ground at Pav.	6.06	+0.46
"	"	" Pav.	5.49	+1.23
8+60	"	N Rail Spur	5.27	1.25
+66.49	"		5.28	1.24
+73.06	SLY Rail		5.34	1.18
+75	"	on Pav.	5.44	1.08
+67.5	"	on Valley Gut.	6.12	0.42
(+69)	"	11' Lt. Grating	6.17	0.35
"	"	on Floor	10.92	-3.90
8+88	"	on Pav. Valley Gut	6.10	0.42
9+00	"	on Pav.	5.45	1.07
+50	"	" "	5.54	0.98
10+00	"	" "	5.54	0.98
TP	5.03	6.23	5.32	1.20
+50	"	on Pav.	5.26	0.97
+77.7	"	N edge Inlet	5.65	0.58
"	"	on Floor	10.60	-4.37
16+00	"	on Pav.	5.25	0.98
+28	"	" "	5.05	1.18
+30	"	Gut.	5.39	0.82
+67.3	"	on N Rail	5.20	1.03
+72.87	"	" S "	5.20	1.03

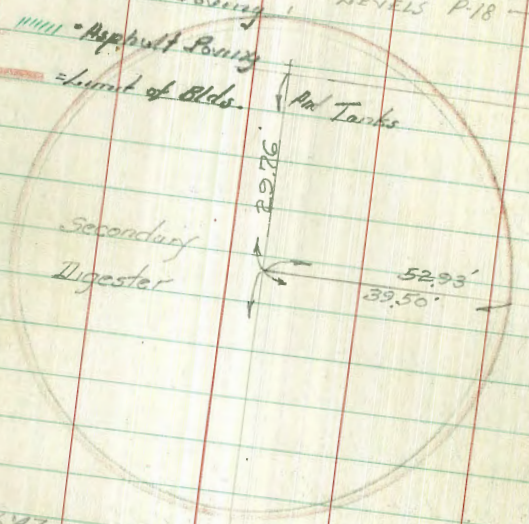
(Cont. p-35)

11+21.81  
on 1d.

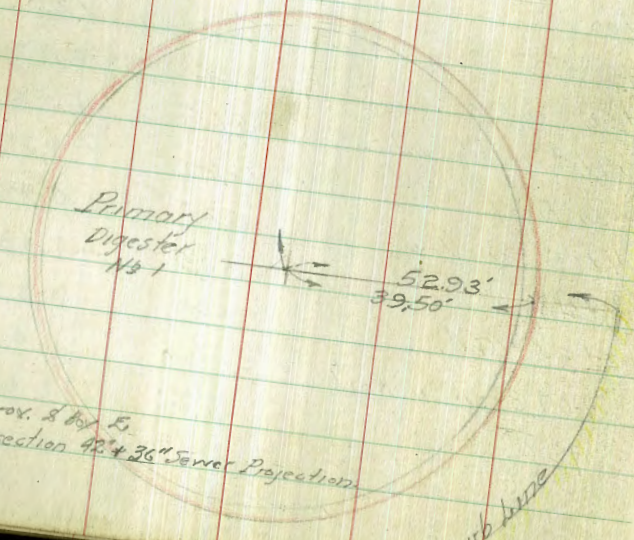


Hardin  
3-2-45  
LOCATION PROPOSED 48" Cutoff Sewer  
FROM TREATMENT PLANT  
THROUGH DESTROYER BASE TO BAY.

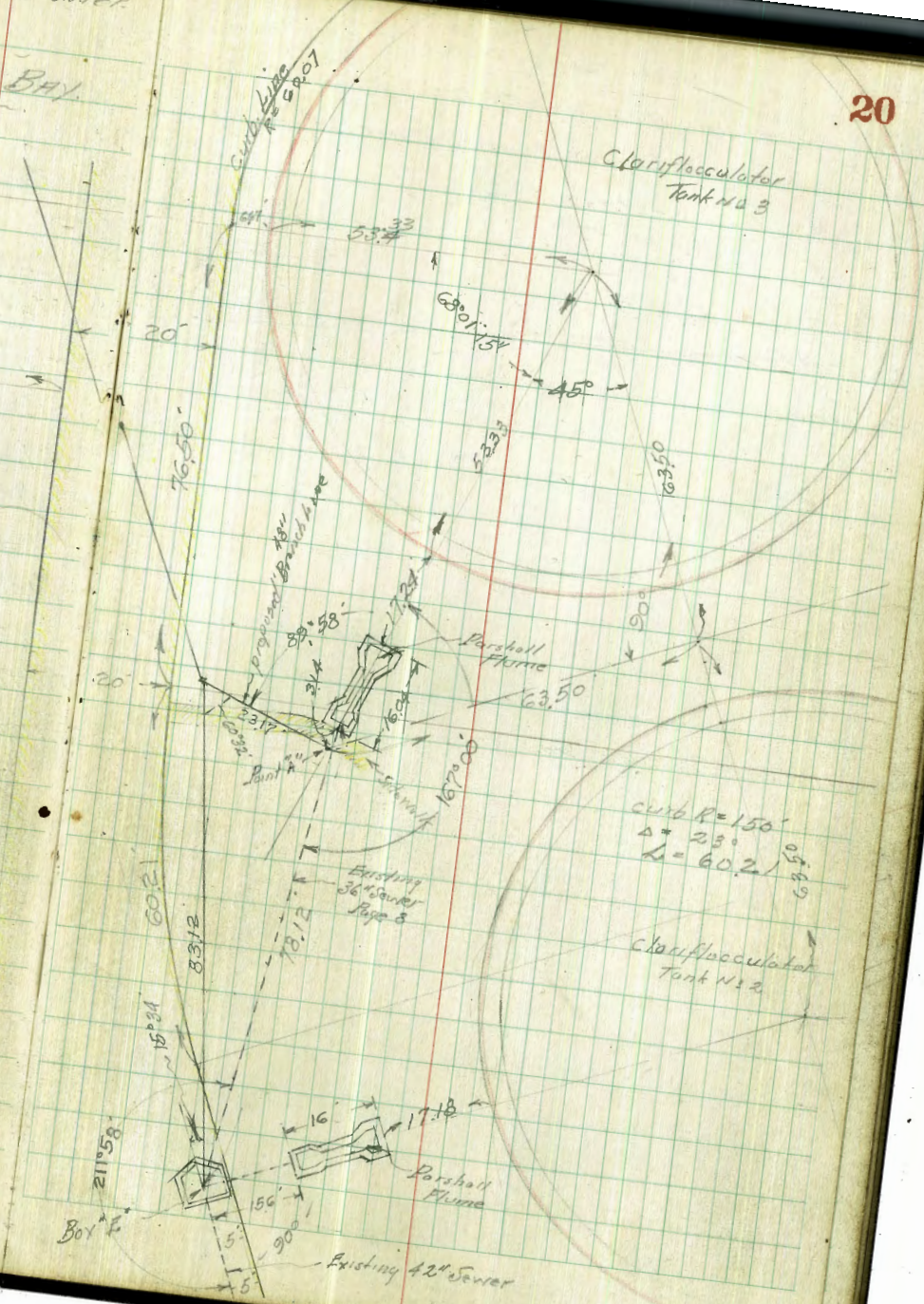
LEGEND:  
 - Conc. Paving  
 - Asphalt Paving  
 - Limit of Blks.  
 - LEVELS P-18 -  
 Ad Tanks



0+83.12  
 -247.1647  
 = Int. proposed 48" Branch  
 line to Parshall Flume



Approx. S Box 5  
 0+00 = Intersection 48" & 36" Sewer Projection



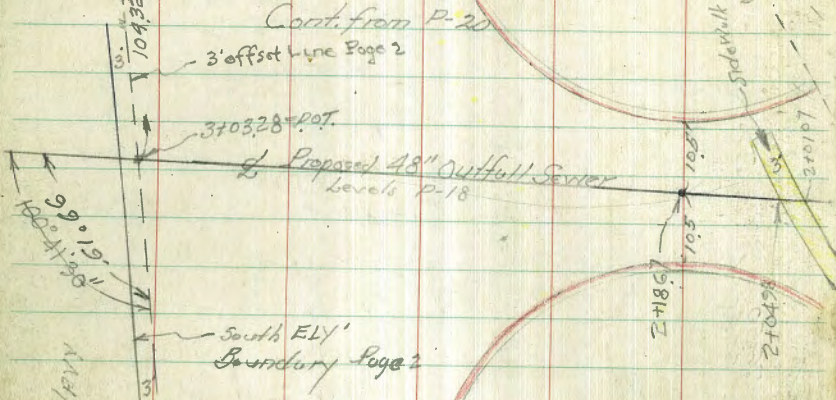
curb R=150'  
 $\Delta = 23^\circ$   
 $L = 60.2'$

Existing 42" Sewer



Walker Hazard  
 Hazard  
 3-2-15

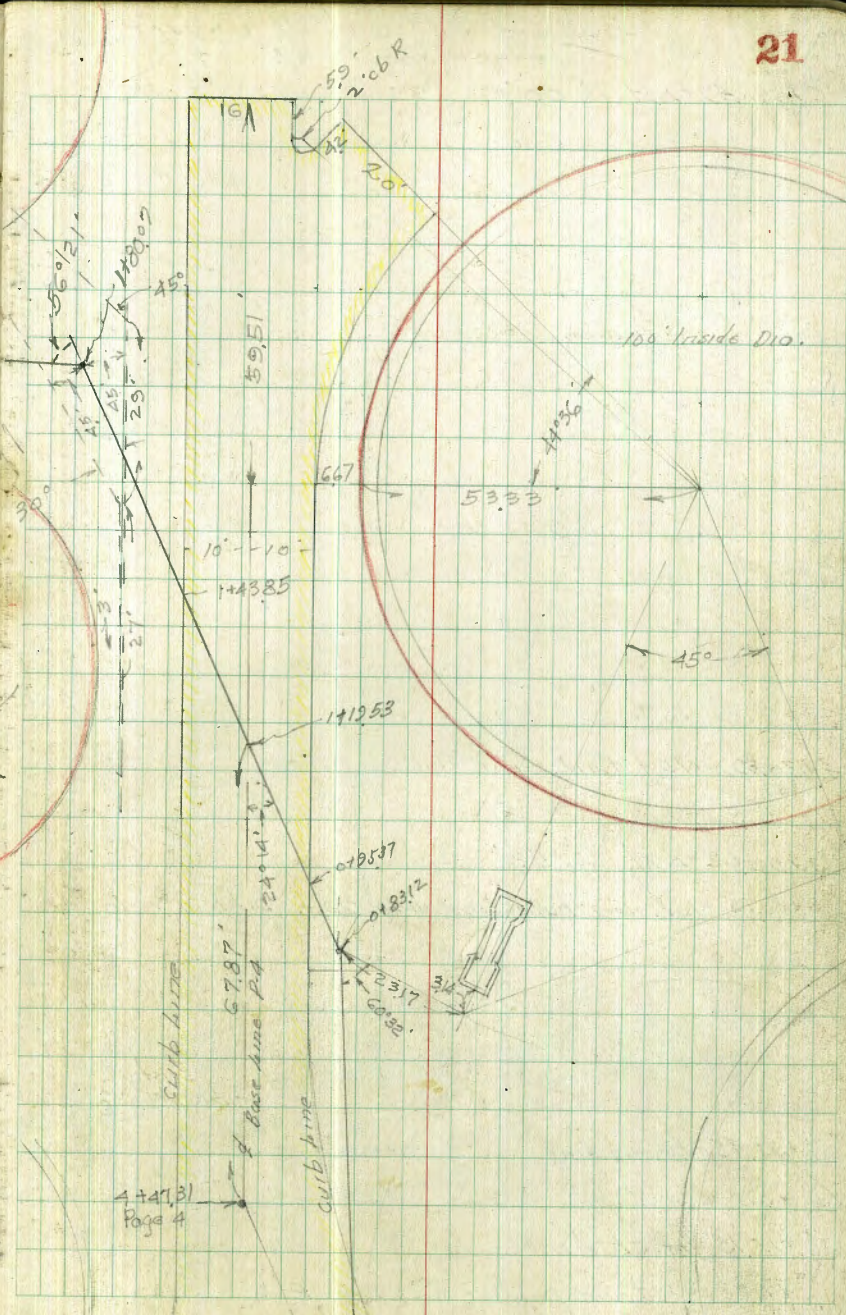
LOCATION, - PROPOSED 48" OUTFALL  
 SEWER - FLOOD TREATMENT PLANT  
 Through Destroyer Base to Bay



1419.53 POT. Int Base line P-2

0+83.12 = Δ 16° 47'

Location of these lines from Map scale of Distances





18" Outfall Sewer  
Cont. from p. 21

Bld. 124

width 694  
98

494

cb line

curb line

Bld 125

22

642743  
27 1900

4+30.82 = N.W. Rail Spur Track

3+92.62 = Δ Rt. 22° 53'

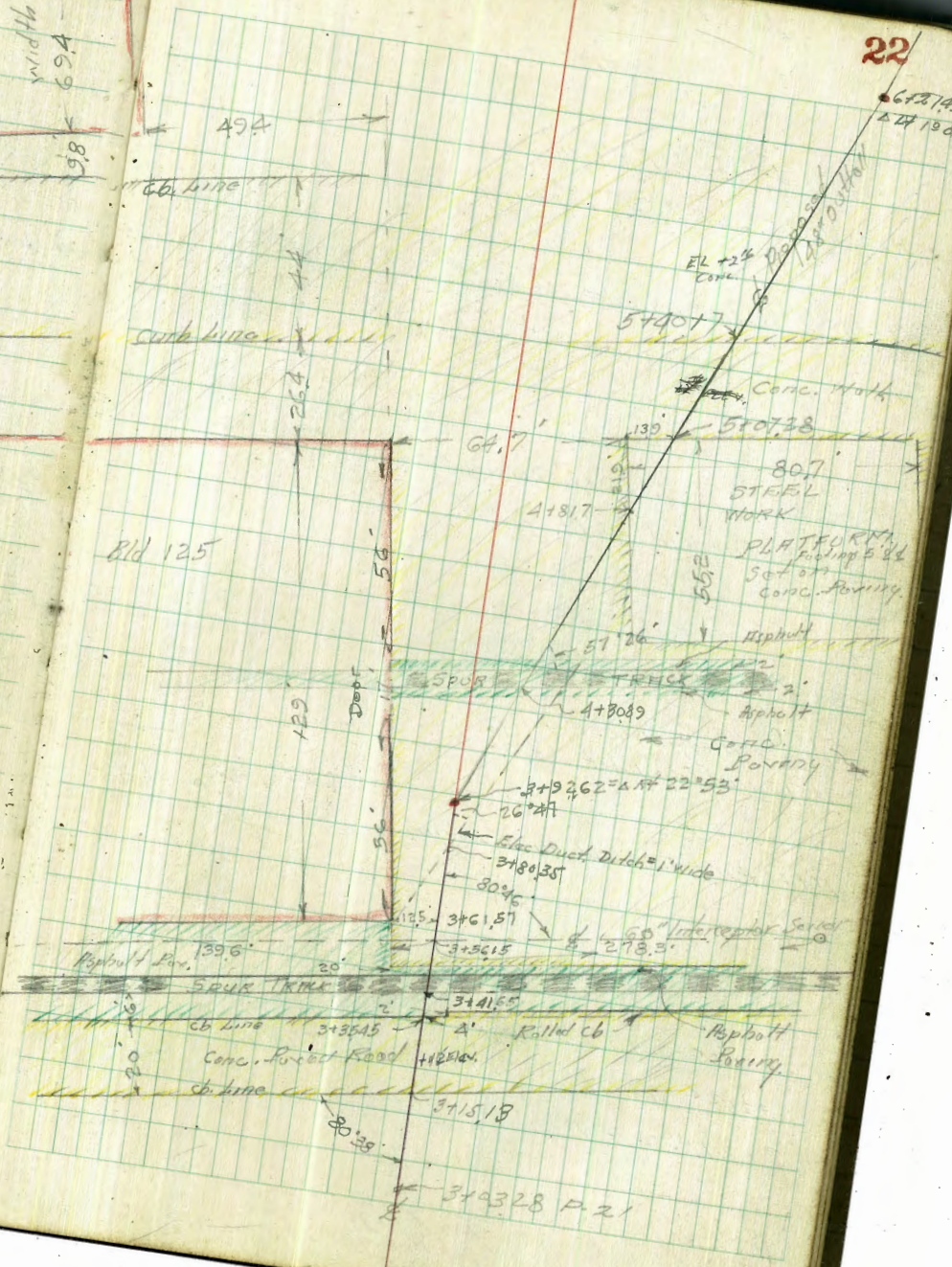
3+80.35 = Int. New Duct line under Const. Ditch 1' wide

3+35.45 = Int. cb line

Existing with  
subceptor Sewer

3+15.13 = Int. cb line

3+03.28 = P.O.T. = Int. Disposal Sewer line P. 21



3+92.62 = Δ Rt. 22° 53'

3+80.35  
30 3/4  
Elec Duct Ditch = 1' wide

3+61.57  
3+56.15  
60" wide repair section

3+41.55  
4' Rolled cb  
Asphalt  
Siding

3+15.13

3+03.28 P. 21

EL +2% CONC

5+90.77

5+07.38

80.7  
STEEL  
WORK

PLATEFORM  
5' x 4'  
Set on  
conc. footing

Asphalt

Asphalt

CONC.  
FOOTING

Asphalt Pav. 139.6

SPUR TRACK

cb line 3+35.45

conc. forest Road

cb line

125

Dept

56

20

80 3/4

18" Outfall Sewer

Conc. Work

2

Asphalt

60" wide repair section

Asphalt  
Siding

125

Dept

56

20

80 3/4

18" Outfall Sewer

Conc. Work

2

Asphalt

60" wide repair section

Asphalt  
Siding



Location Proposed Outfall Sewer

Cont. from p. 22

(11+25.9) 58' 47' RT = 1/2 Fire Hydrant

11+21.81 POT, set 1st Ply in Paving, on SLY. Lane Bldg.

10+78.6 1/2 Grating Inlet 46 RT - 1.9 x 2.25

(8+79.5) 11' Wt. = 1/2 16' x 22' Grating inlet (outside = 3' x 2.7')

8+82.6 Fire Hydrant 46 RT. = 1/2 Hydr.

8+77.3 = 5 Rail

8+68.25 = 11 Rail Spur

8+66.49 = POT, set 1st Ply

8+60 = 1st 11 Rail Spur  
8+58 = 11 edge Conc. Paving  
8+51.5 NLY Edge Inlet 2.4 x 3.6

(Base Line)  
0.3' West of  
curb face

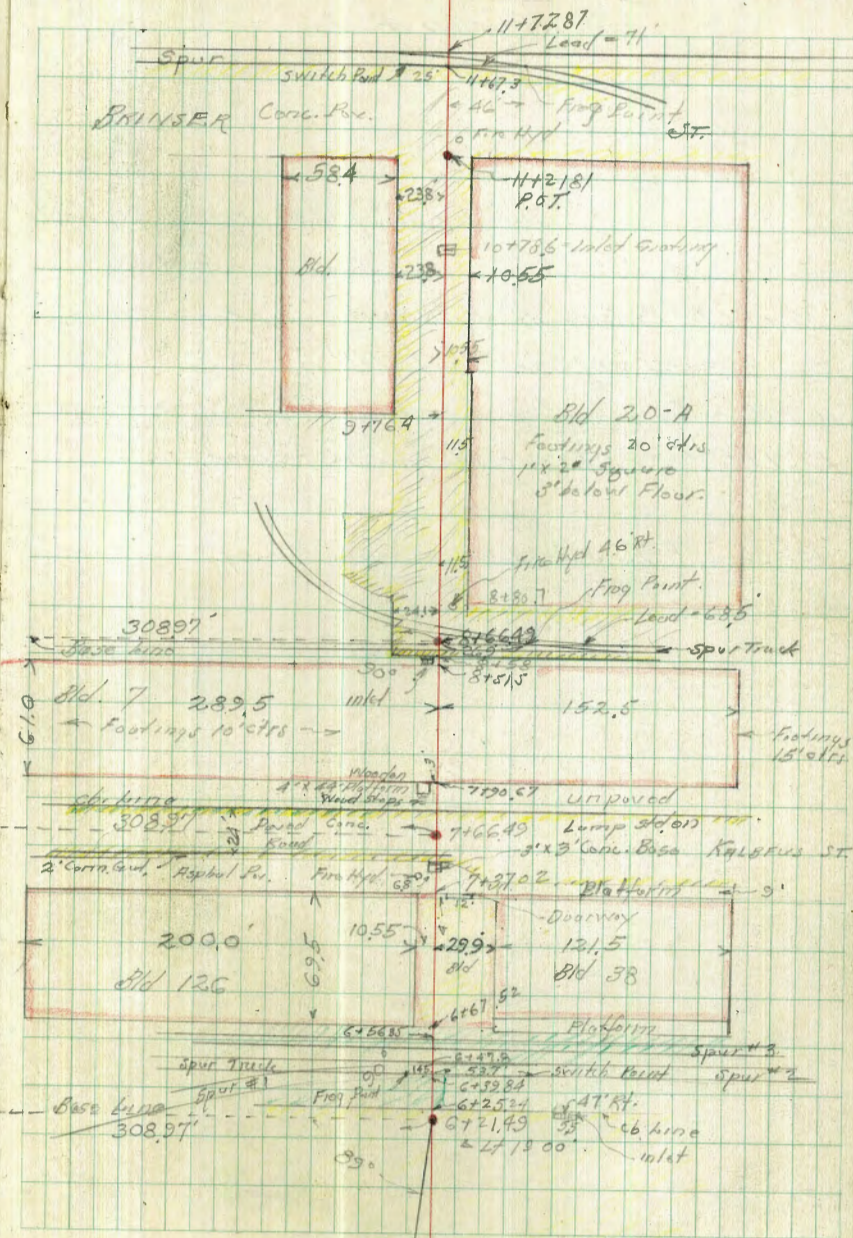
7+66.49 = POT, set 1st Ply in Paving

6+56.35 = SLY Tract Spur # 3

6+25.24 = 1st cb. 47' RT = Inlet 5.5 Grating

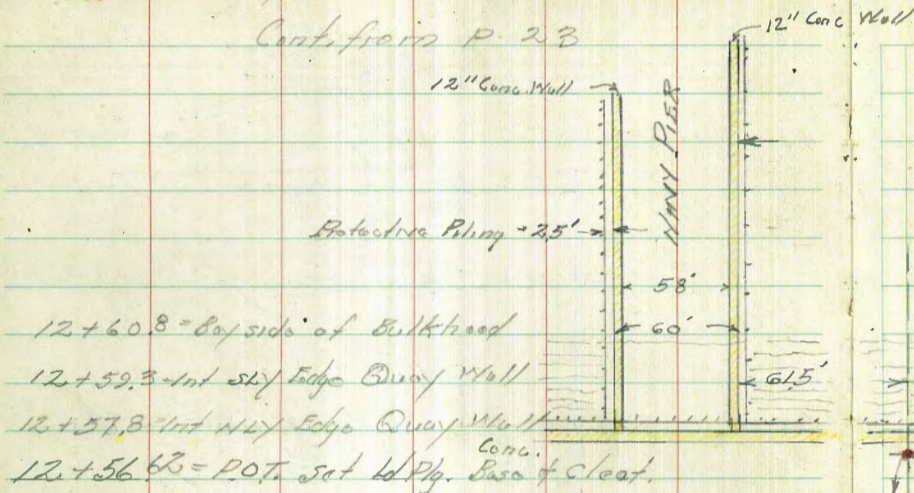
6+21.49 = 1st 1' 00'

= Lead Pins & Cap Tacks  
set in Conc. Paving or cb.





Proposed Outfall Sewer  
Cont. from P. 23



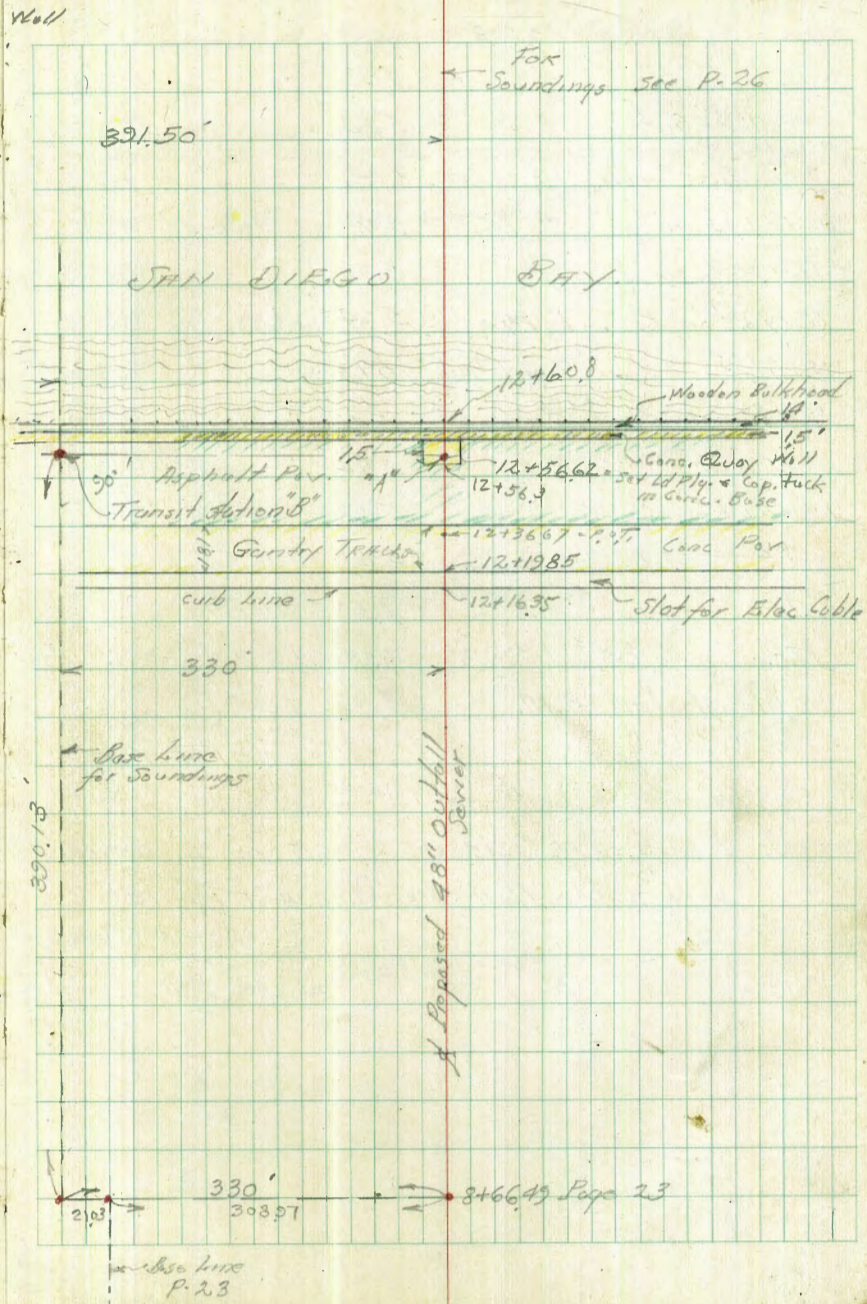
12+60.8 = Bay side of Bulkhead

12+59.3 = Int. St. Edge Quay Wall

12+57.8 = Int. Navy Edge Quay Wall

12+56.62 = P.O.T. set to Ply. Base of Cleat.

12+36.67 = P.O.T. set to Ply. in Conc. Pouring



SAN DIEGO BAY

For Soundings see P. 26

391.50'

12+60.8

Wooden Bulkhead

12+56.62  
12+56.3

Conc. Quay Wall  
set to Ply. & Cap. Truck  
in Conc. Base

Asphalt Pav.  
Transit Station

12+36.67 = P.O.T. Conc. Pav.

Gravity Tracks

12+19.85

curb line

12+16.35

Slot for Elec Cable

330'

Box Line for Soundings

390.13'

Proposed 48" Outfall Sewer

2.03'

330'  
303.97'

8+66.49 Page 23

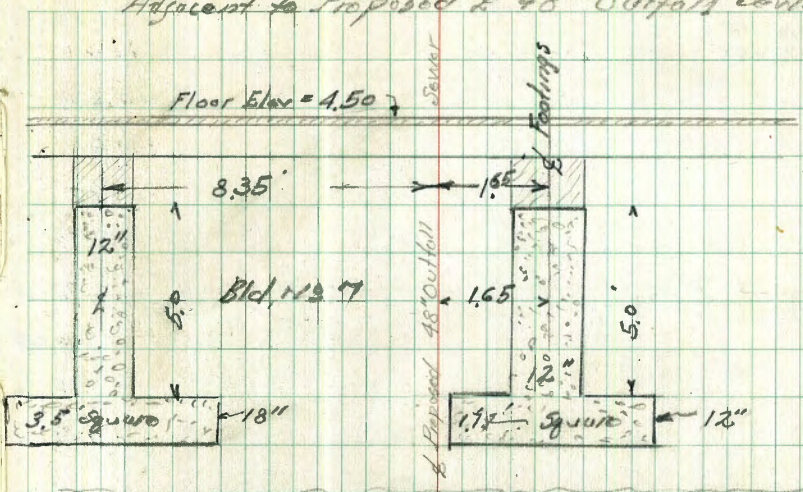
base line  
P. 23



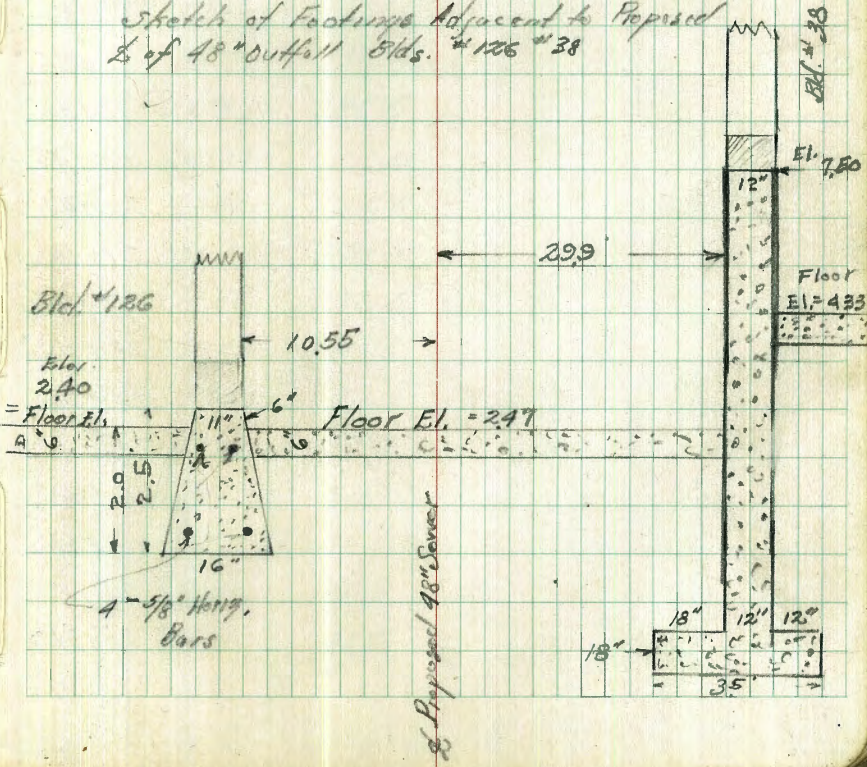
Sketch - Outer Wall footings 25

Adjacent to Proposed 48" Outfall Sewer

12+16.75 cb.	4.82	1.41	
46.35' Gut.	5.34	0.89	
12+18.10 = 2' Edge Cable slot on Conc.	8.04	-1.81	
12+19.85 on Rail	5.18	1.05	
12+20 on Parking	5.30	0.93	
12+26.47 on Pot. Ld. Pq.	5.74	0.99	
12+37.25 = 5' Rail Guntry Trk	5.17	1.06	
12+38 on Black Box	5.42	0.81	
+56 " " "	5.94	0.29	
12+56.62 on Ld. Pq.	5.58	0.65	
T.P. 4.83	6.37	4.69	1.54
T.P. 7.19	9.06	4.50	1.87
T.P. 6.85	13.83	2.08	6.98
cbks. starting 8.M.	3.82	10.01	
		10.00 - BM	
		0.01 E. 101	



Sketch of Footings Adjacent to Proposed 48" Outfall Sewer

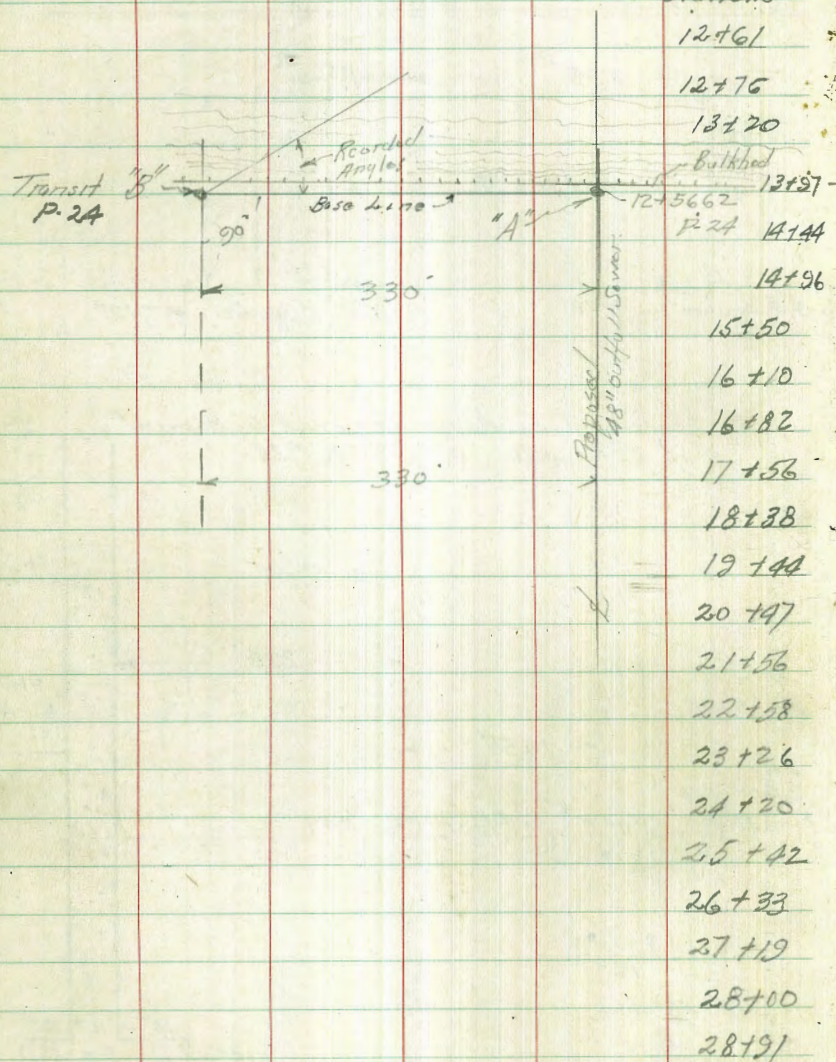


Elev. of Above Ld. Pq. (12+56.62) = 0.65 on Conc. Wall  
 " " Ld. Pq. & old outfall 9+08.9 Grade Book 197-15  
 = 9.65 - USGS Datum  
 = 9.01 city diff.  
 = 0.64 - Datum.



Walker  
Hazard  
Hinder  
3-26-45

SOUNDINGS for  
Proposed 48" OUTFALL SEWER  
Location P. 24



DESTROYER BASE.

N.P. Sounding	Angles from Bulkhead	Depth	U.S.G.S. Elev. Bottom	Bulkhead Tide El.	Tide
1		16.0	11.8	-4.8	10.58
1A		20.6	16.4		
2	18° 54'	37.0	32.8		
3	23° 00'	36.0	31.8		
4	29° 37'	36.0			
5	36° 00'	37.0			
6	41° 40'	36.0			
7	46° 57'	36.0			
8	52° 12'	36.0			
9	56° 31'	36.5	32.1		
10	60° 25'	36.5			
11	64° 21'	36.0			
12	67° 20'	36.0			
13	69° 51'	37.0			
14	71° 46'	36.0			
15	72° 51'	37.0			
16	74° 10'	37.0			
17	75° 36'	37.0			
18	76° 31'	37.0			
19	77° 17'	36.5			
20	78° 00'	37.0			
21	78° 36'	36.5		-5.4	11.20



Xsec Slough at  
1st Harbor Drive Bridge  
West of 32nd St.  
Moore  
Begg  
D. Jenson  
4-8-49  
No. 60196

of 51.1

01496

01477

0134

01256

011335

0100

T.P.	290	891	4.85	6.01
T.P.	283	10.86	6.65	8.03
T.P.	165	14.68	5.00	13.03
B.M. BP ON M.H.	553	18.03		12.50

at PLANT  
15' N of Clarifier #2

Base  
Line  
Rt 27

3.5	10.36	12.0	17.2	17.0
	17.4	20	30	50
	FL drain			
3.5	6.6	11.0	16.7	17.0
	15.4	18	30	50
	Top w/ing wall			
3.6	4.4	10.2	10.7	
	7.5	30	50	
3.6	4.8	12.5	15.1	
	2.5	40	50	
3.7	3.9	3.4	10.9	12.09
	5.0	5.5	10.50	11.0
	30	40	47.5	50
	FL drain curb			
3.6		4.7	5.4	3.46
		30		S. Rail
3.93	4.5	5.38		
PAV.	30	64.35		
891				Top S Rail RR Tr.



Cont'd P 30

2 + 40

2 + 20

2 + 00

1 + 85

1 + 70

1 + 51

1 + 45

1 + 31

1 + 24

1 + 18

1 + 00

+ 85

+ 70

0 + 0.8

BL

R

28

	16.7 <sup>-85</sup>	13.3 <sup>-45</sup>
	17.4 <sup>-85</sup>	55
	18.2 <sup>-83</sup>	12.6 <sup>-45</sup>
channel →	17.0 <sup>-81</sup>	55
	16.9 <sup>-81</sup>	16.0 <sup>-71</sup>
	14.7 <sup>-79</sup>	55
	16.5 <sup>-76</sup>	17.1 <sup>-55</sup>
	17.1 <sup>-82</sup>	55
	17.9 <sup>-80</sup>	17.8 <sup>-89</sup>
	17.7 <sup>-88</sup>	55
channel →	17.0 <sup>-84</sup>	17.0 <sup>-81</sup>
	17.0 <sup>-84</sup>	55
	17.0 <sup>-84</sup>	17.0 <sup>-91</sup>
	17.0 <sup>-84</sup>	55
	15.4 <sup>-65</sup>	17.1 <sup>-82</sup>
	15.4 <sup>-65</sup>	55
	20.5 <sup>-66</sup>	17.7 <sup>-82</sup>
TOP NE COR	12.4 <sup>-35</sup>	30
CON BRIDGE		55
HARBOR DR.		17.7 <sup>-82</sup>

8.91 ✓



Walker  
Hazard  
Hardin

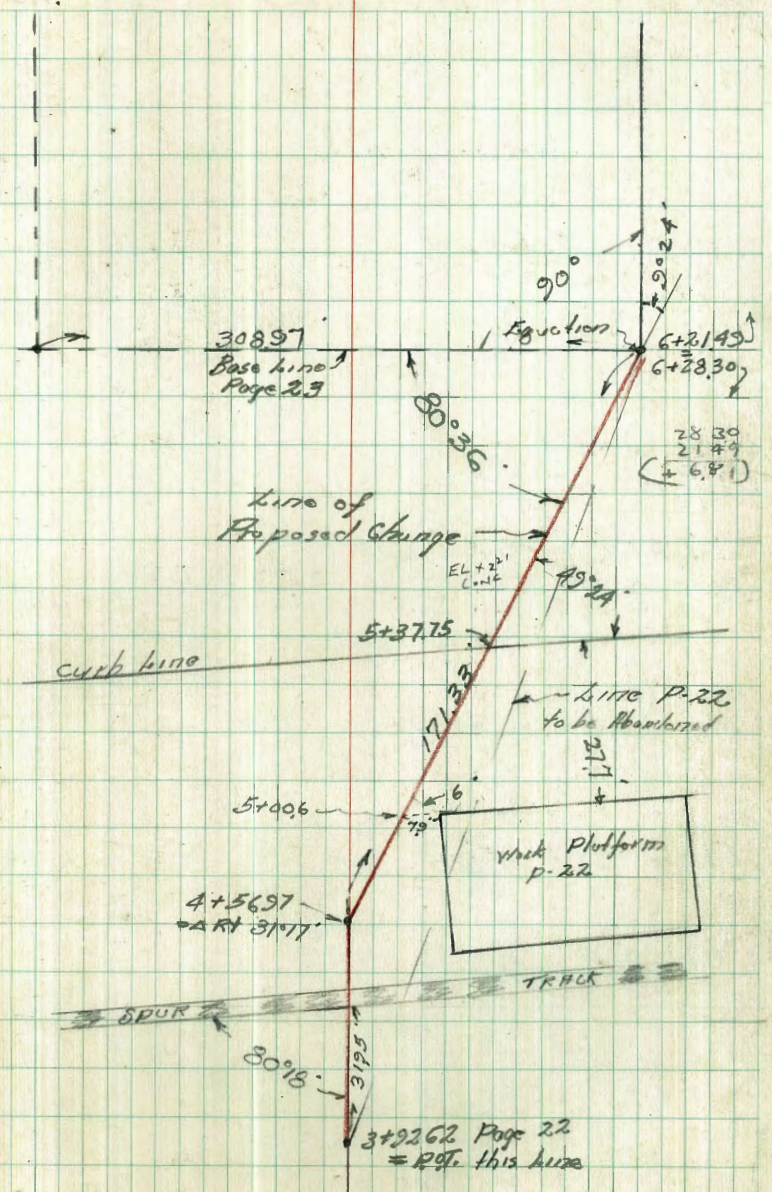
48" Outfall - Destroyer Base.

Proposed change in line =

3-21-45 (from 3+92.62 to 6+21.49 - P. 22-23)

Locals on Next Line	Rods	Elev.	B.M. #18
3.59 8.79		5.20	3+92.62
4+24.57 - N.Y. Rail Spur	3.18	5.61	
+50.97 - ART 31°17'	3.98	4.81	
5+00	5.19	3.60	
+36	6.06	2.73	
+37.75 = Gutter	6.58	2.21	
5+50	6.58	2.21	
6+00	6.86	1.93	
6+28.30 } $\Delta L 90^{\circ} 24'$ = 6+21.49 } Equation	7.14	1.65	
		1.64	P-19
		0.01	Error

Locals Cont  
P-19





Contd from p 28

Set B.M. on oval hd.  
Spike MKd PK. 267 624  
TOP WALK  
SE Cor. Con. Bridge

High Water Mark 11.0 - 2.1 6.9  
Tide  
table

3407.4 end RP Br

24839

2460

P.L.

Pt

30

	56	04	04	14	25
	34	9.1	9.0	10.3	6.6
		12	30	55	6.55
	6.09	13.6	6.15	12.3	9.0
Top	2.87	2	17.4	20	30
NE Cor					55
Con Bridge	15.8	6.1	Top	12.0	55
			wing		
			wall		

8.91



Walker  
Hague  
Hardin

NAVY  
PIER  
Page 24

61.5'

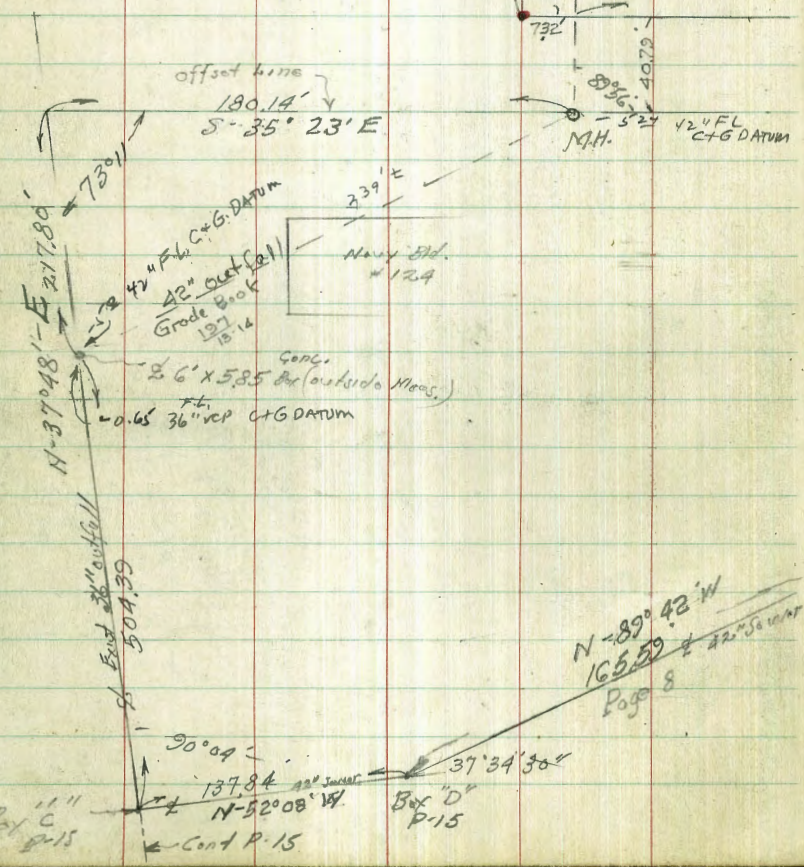
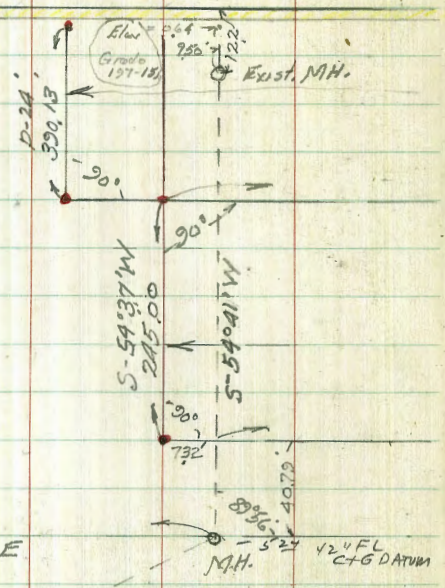
Existing outfall

3-22-45

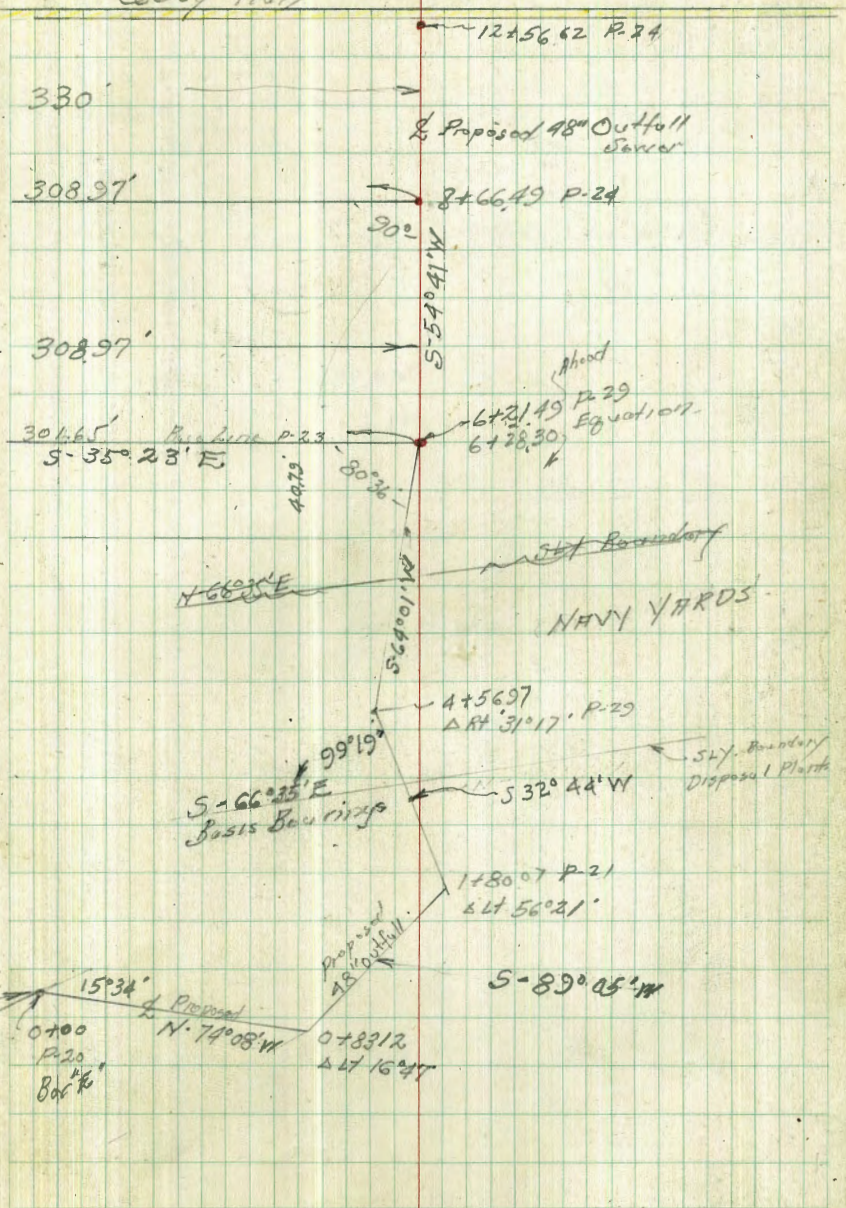
TRANSVERSE

to close Proposal 48"  
Outfall - Destroyer Base

Error Closure  
Northings = 0.04  
Eastings = 0.17



Quoy Wall



0+00  
P.20  
Back

11"  
Box C  
P.15

137.84  
N-52° 08' W  
Cont P.15

Box "D"  
P.15

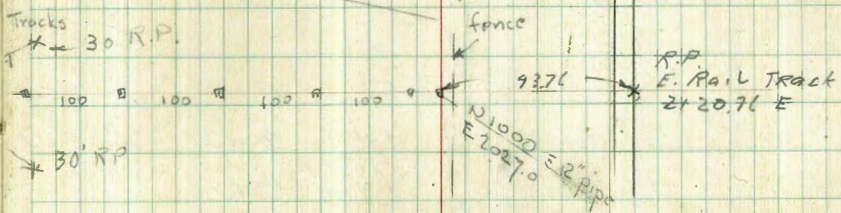
Page 8

Proposed  
48" outfall  
0+8312  
Δ Lt 16.47



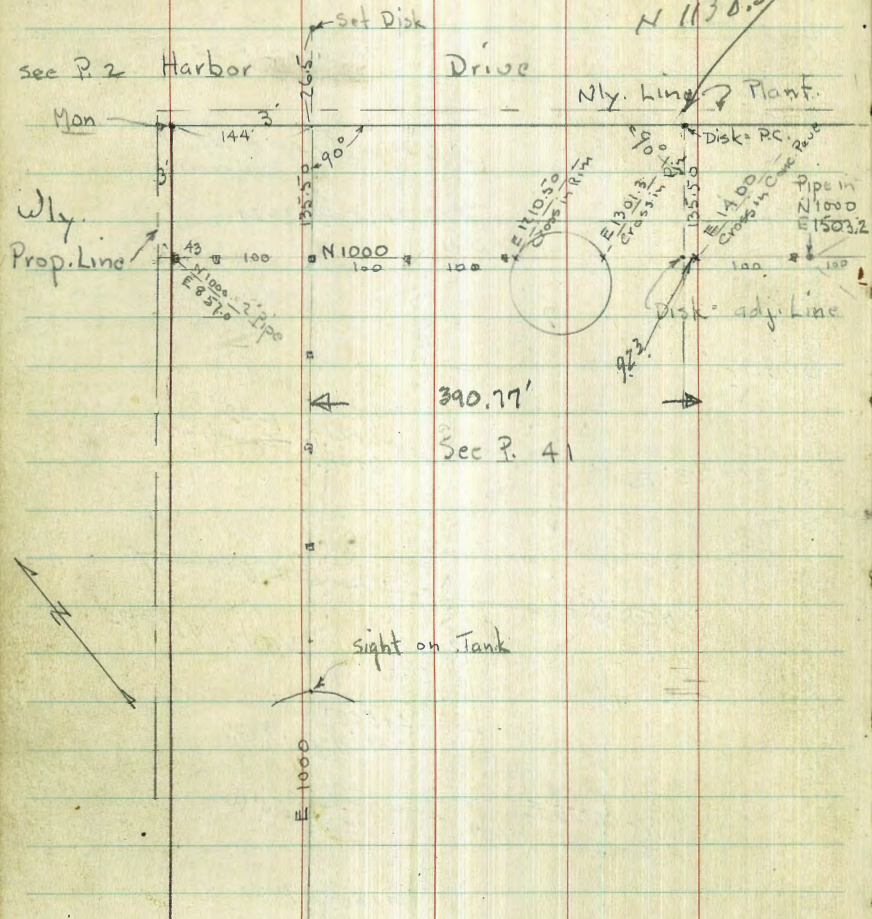
Layout of Coordinate System  
at Sewer Disposal Plant.

6-24-48  
7.D.



Sec P. 42

E 1390.77  
N 1138.50



390.77'  
Sec P. 41



Check Heraton slab  
CL. #1

B.M. 5.45 14.71 9.26

TOP 5.71 9.00

SUB 90 R to 107.25 P 6.71 8.00

" 114.25 to 122.5 P 7.04 7.67

B.M. 4.84 14.10 9.26

TOP 5.10 9.00

SUB 6.10 8.00

" 6.43 7.67

10-25-48  
1600  
1800  
Sherman  
Bunch

checked 2nd slab  
find forms 1/2 wide  
clip 0.018 Low  
OK connected

3rd slab  
checked 10-24-48  
find High  
or Low 1/2  
and corrected

Note!  
187 slab  
check on scratch paper  
OK

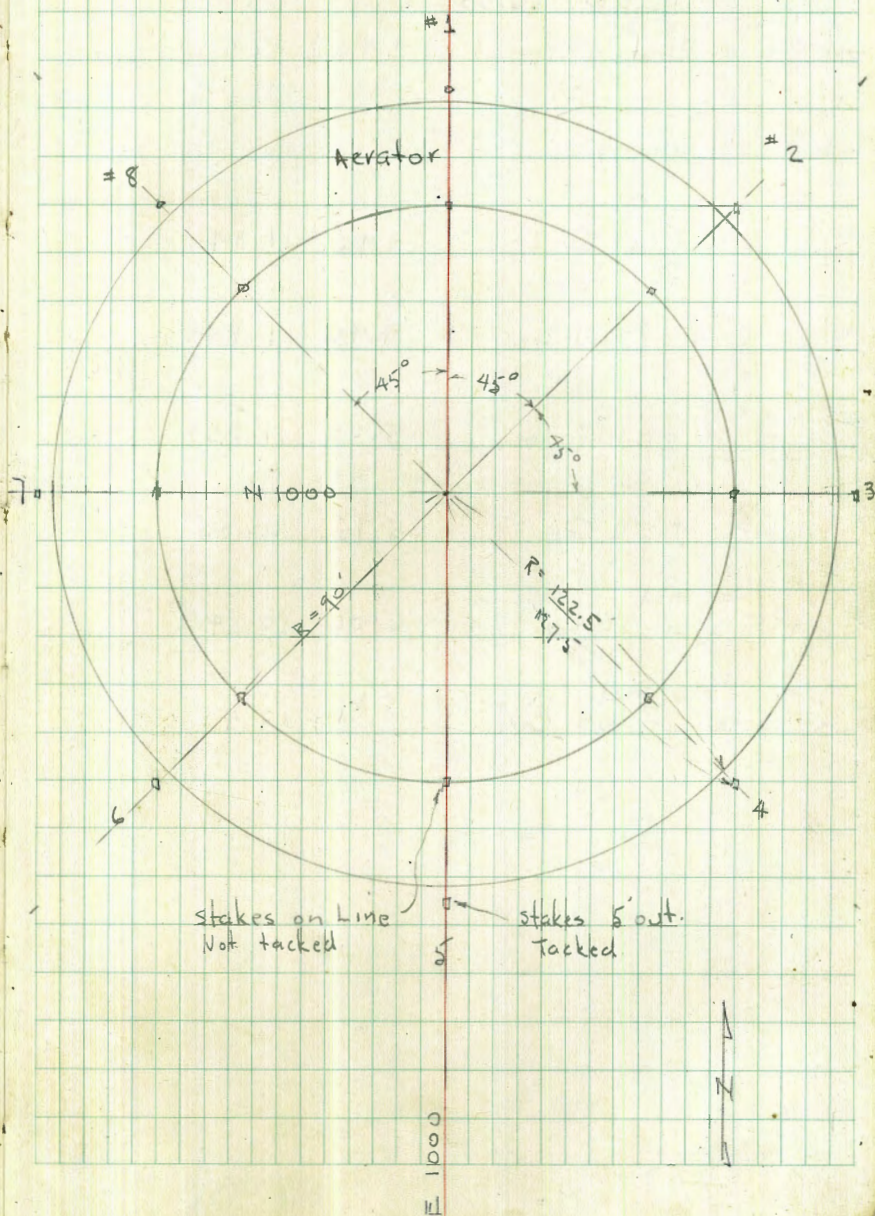


Elev. of Stakes - for Clarifier #2

No cuts needed - Just elev. on stake

B.M.	6.46	16.46	10.00	B.P. in Tank
Line # 1	4.29	12.17	4.17	12.29
2	4.85	11.61	4.43	12.03
3	5.56	10.90	5.56	10.90
4	5.82	10.64	6.42	10.04
5	6.09	10.37	6.47	9.99
6	5.71	10.75	5.96	10.50
7	4.92	11.54	4.97	11.49
8	4.41	12.05	4.11	12.35

Rough stakes - for #2 Clarifier 6-28-48





N. fence  $\frac{6.30}{\text{P.P.}}$  16.30 10.00  
 Set BM. on Elect. M.H. 3.80 12.50

Elev. of Stakes

# 1 = 5' S. of S.W. Cor. 4.96 11.34

# 2 = 5' N. of N.W. Cor. 4.46 11.84

# 3 = 5' N. of N.E. Cor. 5.25 11.05

# 4 = 5' S. of S.E. Cor. 5.75 10.58

<sup>Car shed</sup>  
 # 5 = 5' S. of S.E. Cor. 6.06 10.24

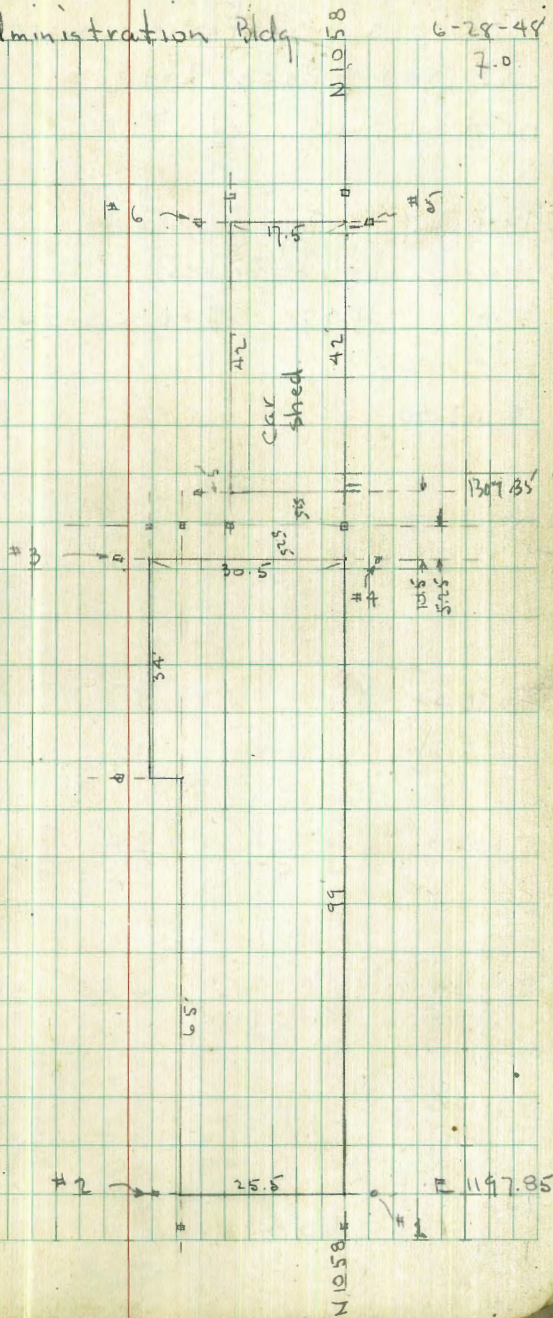
<sup>Car shed</sup>  
 # 6 = 5' N. of N.E. Cor. 5.89 10.41

Grades for Administration Bldg

6-28-48

7.0

stakes 5' off  
 except. Bet Bldgs  
 as shown





Cross Sections over area

N 1000 = Base Line

13+73.8 - Top cb.

13+56.7 = Topcb.

± on obs. + Drives

I.P. 4.97 14.41 6.56 9.44

E 1300

E 1200

E 1100

E 1000

E 900

N. 1000  
E 957

3.50

16.00

12.50

BP. in Elect. &  
MH.

Lt. = N.

± = N 1000

Rt. = S

36

4.58

4.58

14.41

5.0  
138

4.9  
160

6.0

6.2  
68

3.7  
138

3.8  
100

6.0

6.5  
100

3.6  
138

3.8  
100

5.1

6.3  
100

4.4  
200

3.5  
138

3.7  
100

4.7

5.8  
100

6.9  
200

6.9  
280

3.3  
138

3.6  
100

4.6

5.6  
100

7.1  
200

8.0  
300

3.0  
138

3.4  
100

4.6

5.9  
100

6.7  
200

7.9  
300

by fence

16.00



E 1900

E 1800

E 1700

E 1600

E 1500

14+04.8 = Top-east cb.

E 1400 = along Conc. Dr.

E 13+87.8 = Top cb.

4.2 117	4.1 100	3.6	5.3 50	6.0 100	6.8 173
------------	------------	-----	-----------	------------	------------

4.6 122	4.2 100	3.7	5.2 100	5.2 195	7.7 203 = Conc.
------------	------------	-----	------------	------------	-----------------------

4.6 130	4.4 100	4.5	5.0 100	5.6 200	5.9 233
------------	------------	-----	------------	------------	------------

5.1 140	5.0 100	5.0	5.2 100	4.8 200	5.2 270
------------	------------	-----	------------	------------	------------

4.9 138	4.7 100	4.9	5.2 100	5.3 200	5.6 290
------------	------------	-----	------------	------------	------------

4.62

4.37 138	4.48 100 on	4.96	5.39 100 Conc.
-------------	-------------------	------	----------------------

4.60

14.41



E 2027 = fence

E 2000

5.7  
1006.6  
50

6.6

6.9  
507.3  
1007.4  
1415.0  
1004.5  
50

4.9

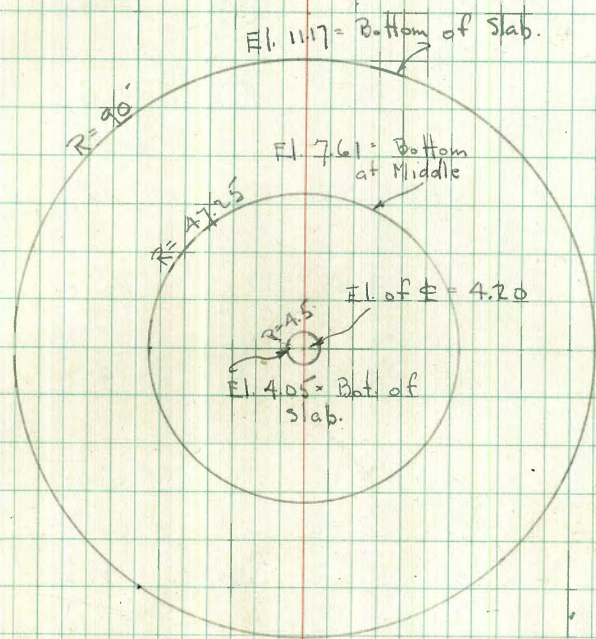
4.1  
506.5  
1007.4  
1451441



Grades to Bottom of Slab for Clarifier

# 2

39



R= 86  
76  
66  
56  
46  
36  
26



Rough Grades for Clarifier # 1

Eleu. of Stakes

B.M.	4.84	14.84		10.00	B.P. in tank
	4.64	13.90	5.58	9.26	Top of 1" pipe in S.E. Cor.
			9.0 Rad		127.5 Rad
Line # 1	4.4	9.5	4.8	9.1	
2	4.2	9.7	3.6	10.3	
3	3.8	10.1	3.7	10.2	
4	4.6	9.3	4.4	9.5	
5	5.0	8.9	4.9	9.0	
6	4.9	9.0	5.0	8.9	
7	5.0	8.9	4.5	9.4	
8	4.9	9.0	4.6	9.3	

Same as Page 34 -  $\Phi$  of tank = N 1000

40

E 1640

7-19-48 - 7.0.

Top of M.H. = "A"  
Exist. Mit. "A"

Grade for  $\Phi$  4" channel

Top of slab

0+00 =  $\Phi$

+22

0.67

+52

3.17

+82

5.67

+90 = Ang.

6.34

1+06

7.47

1+15 = FC.

7.67



# Fine Grade Lay out for Clarifiers

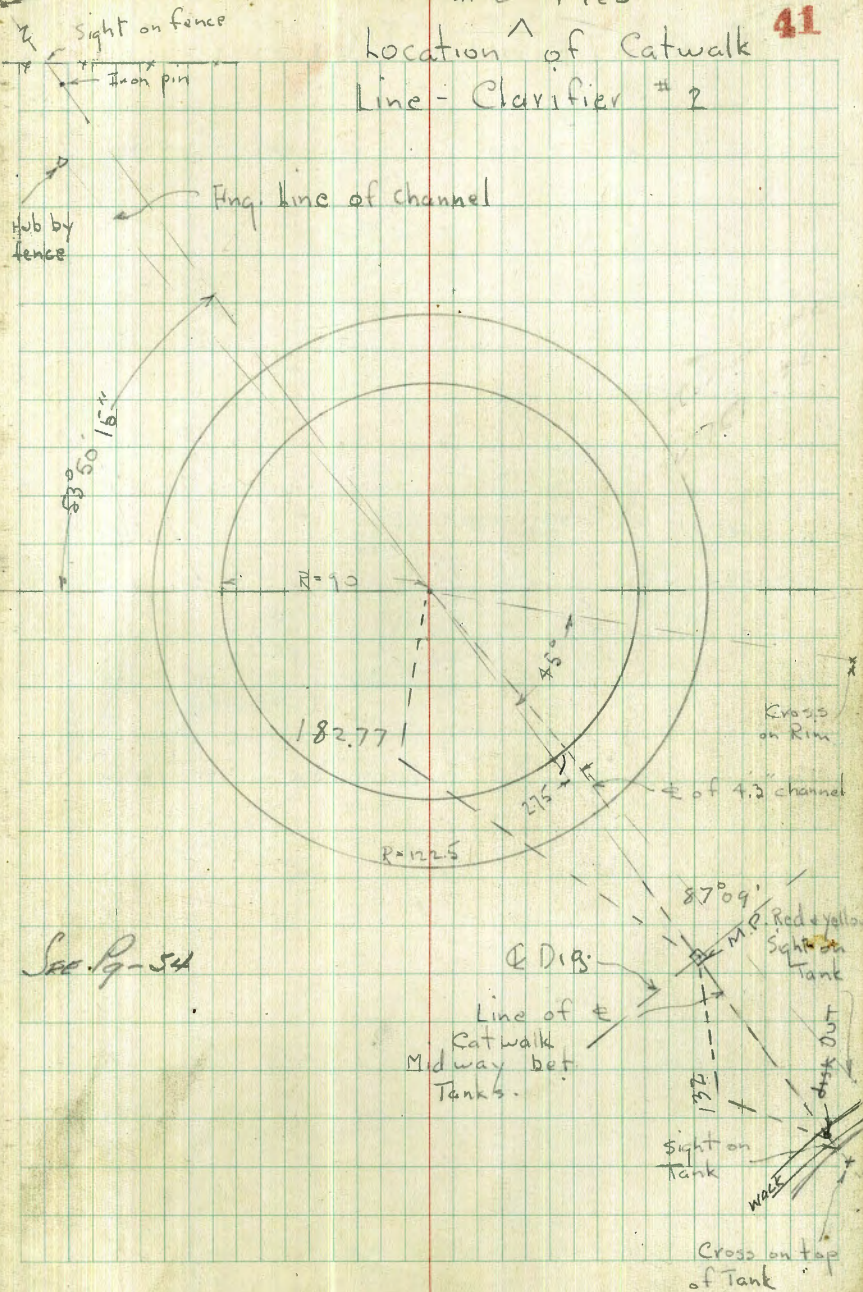
Rad.	Bottom of Slab. Elev.
4.50	4.05
26	5.84
36	6.67
46	7.50
56	8.33
66	9.16
76	10.00
86	10.83
90	8.00
107.25	8.00
114.25	7.67
122.50	7.67

Disk in Tie Bet. 3. Tracks

and Ties

41

Location of Catwalk  
Line-Clarifier # 2





Reference Lines - Clarifier # 1

3-14-50 = Set Ld. 4 disks

Moore  
Depp  
Stevenson

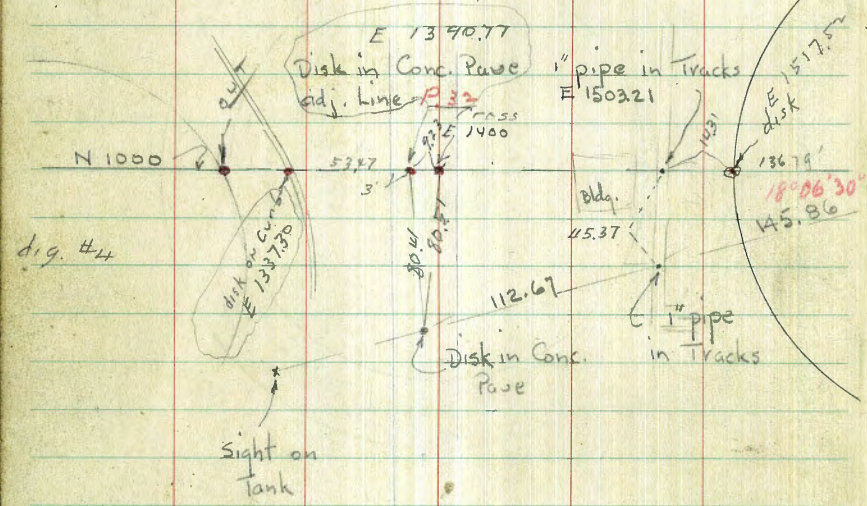
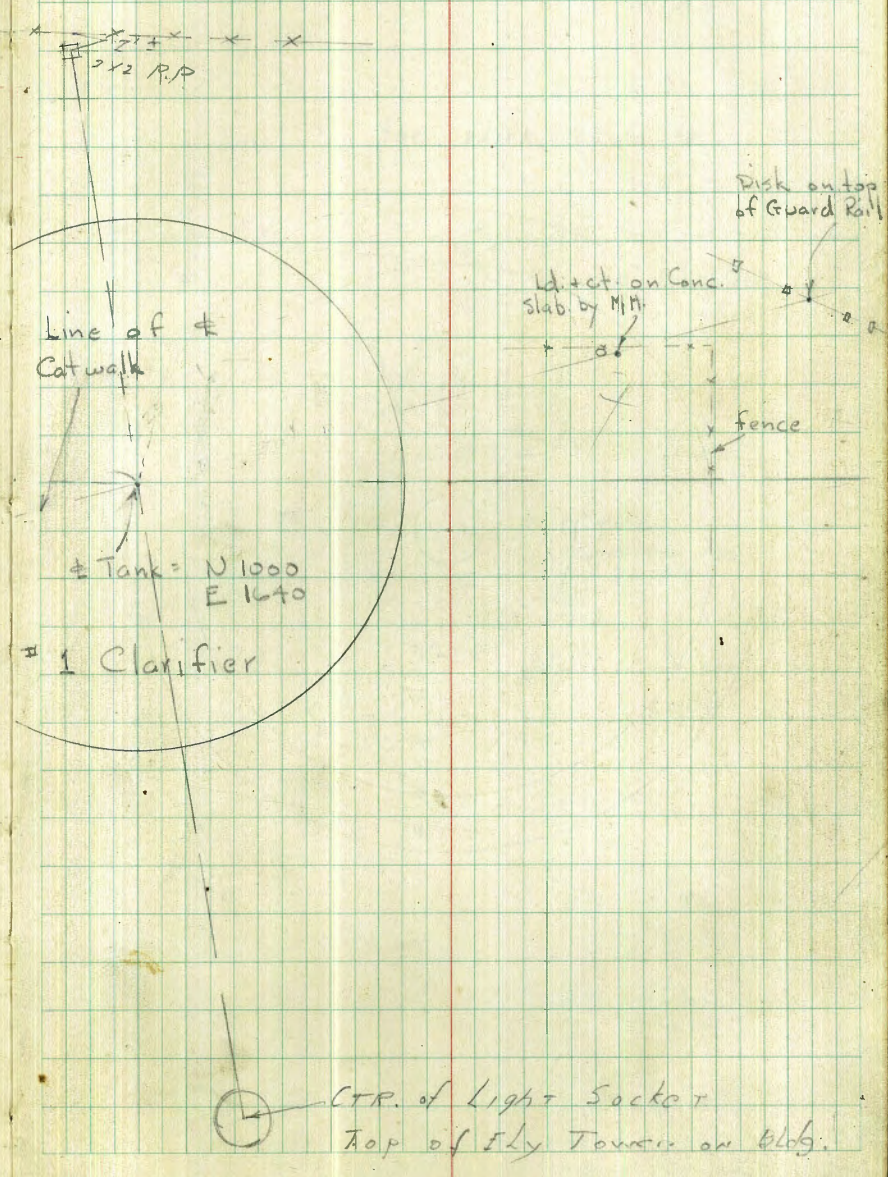


fig. #4



Line of Catwalk

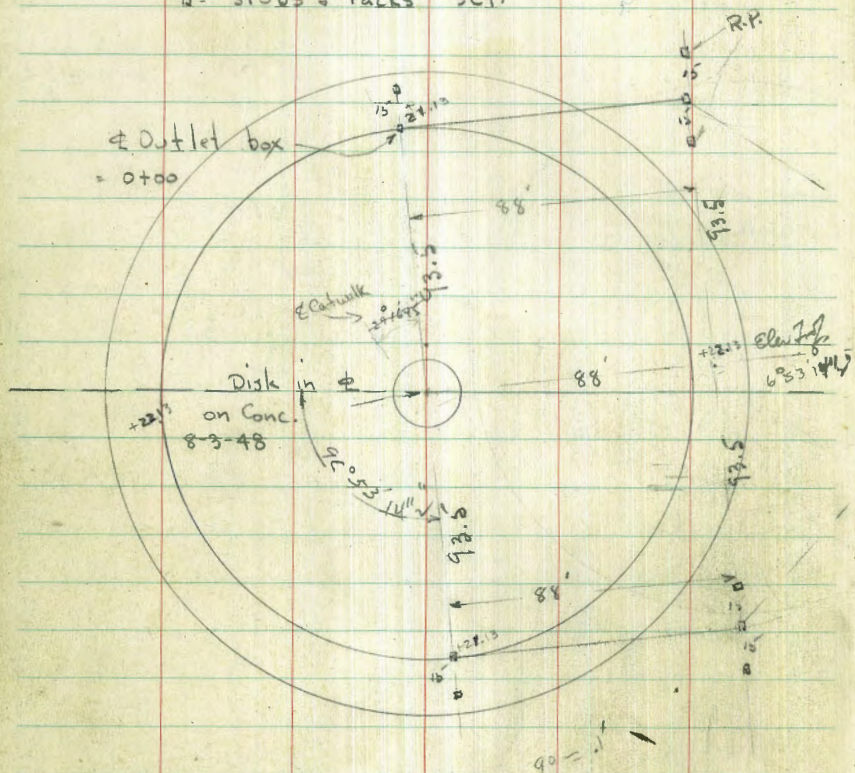
# Tank = N 1000  
E 1640  
# 1 Clarifier

CTR. of Light Socket  
Top of Fly Tower on Bldg.



# Line + Grades for Outlets. #2

n = stubs + tacks set.



## Grades - N. outlet

	Prop line	
0+00 = Outlet box	7.75	5.00 C 2.75
+26.27	7.86	5.00 C 2.86
+52.54	7.84	5.00 C 2.84
+65.66	8.11	4.67 C 3.44
+88 = P.I. of Ell.	12.30	4.67 C 7.63

Line to stub.

N ~~1031.24~~  
E ~~1325.70~~

Change See P-65

## Grades - S Outlet.

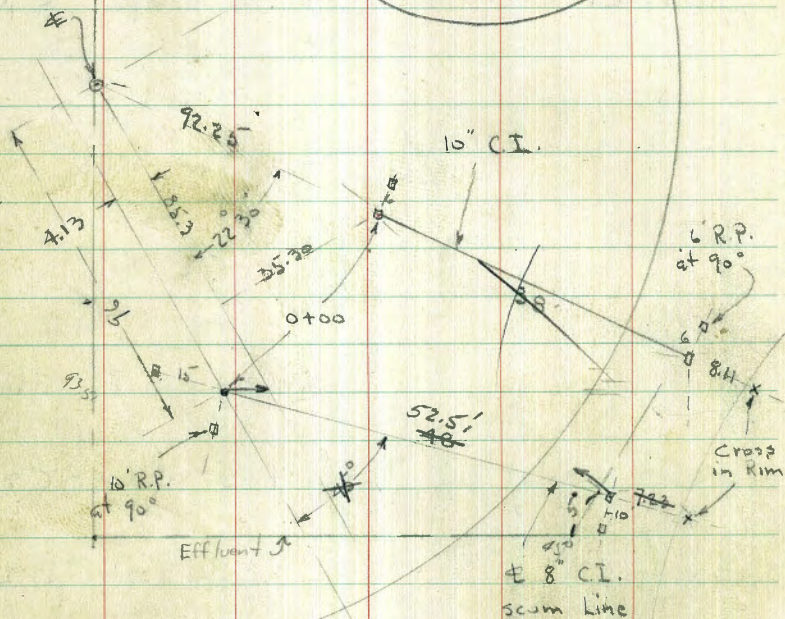
0+00 = Outlet Box	7.55	5.00	C 2.55
+35	7.60	5.00	C 2.60
+61.5	8.00	3.80	C 4.20
88 = P.I.	9.64	2.60	C 7.04
0+97 = Beg. 36" Pipe	2.20		



Grades + Line - 10" Water + 8" Scum Lines

Clarifier # 2

See P-55  
for Revision



10" Line

Inu. Grade

44

	El. stake		
0+00	8.44	6.50	C 1.96
	stakes 6' W.		
+28.08	8.89	6.50	C 2.39
+38 = E.II.	10.04	7.00	C 3.04

8" Line

0+00	8.24	5.00	C 3.24
+24	7.95	5.62	C 2.33
+48 = E.II	9.77	6.25	C 3.52



Grades - 8" C.I. Sludge Line

Clarifier #1 (12.73) 9.26 B.M.

Inv. to top pipe = 0.72

	Stake	Top of pipe	Inv. Grade	Comp
0+00 = at Sump				0.00
0+10.4 = end	11.74	0.99	0.23	0.76
+30	11.46	1.27	0.67	0.60
+60	10.60	2.13	1.34	0.79
+90	10.03	2.70	2.02	0.68
1+18 = end	9.34	3.39	2.64	0.75
1+20			2.70	

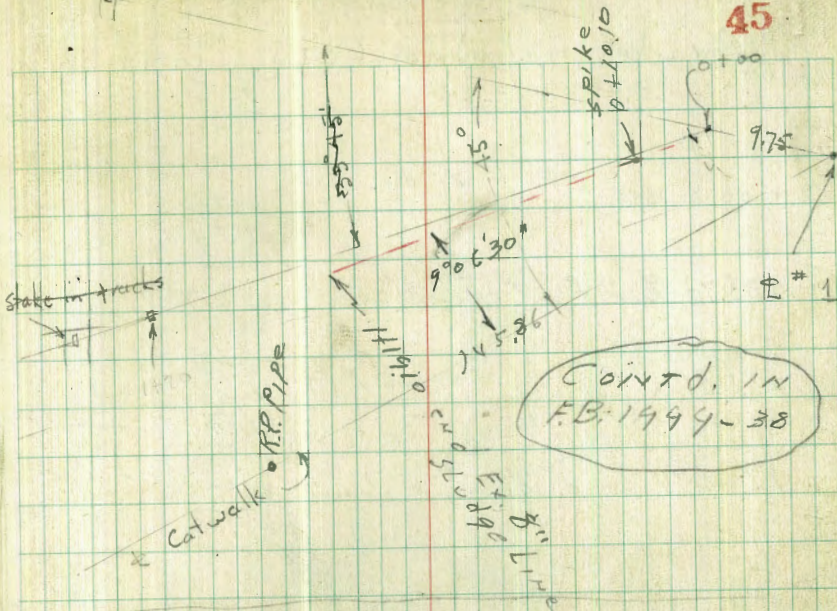
1+45 3.25

check 0+00 8" C.I. Sludge Line

B.M. 346 12.72 9.26

0+00 Inv. 8" 0.00 12.69 0.03 C 0.03

Stake in tracks



check Sludge Line 10-13-48

B.M.	486	14.12	9.26
1+19.05	✓	11.42	2.70 Inv.
1+37.10	end Bell	10.89	3.23 "



Wash  
 Grades - 8" Water (C.I.) Clarifier # 1  
 B.M. 3.94 13.20 9.26  
 inu. Grade

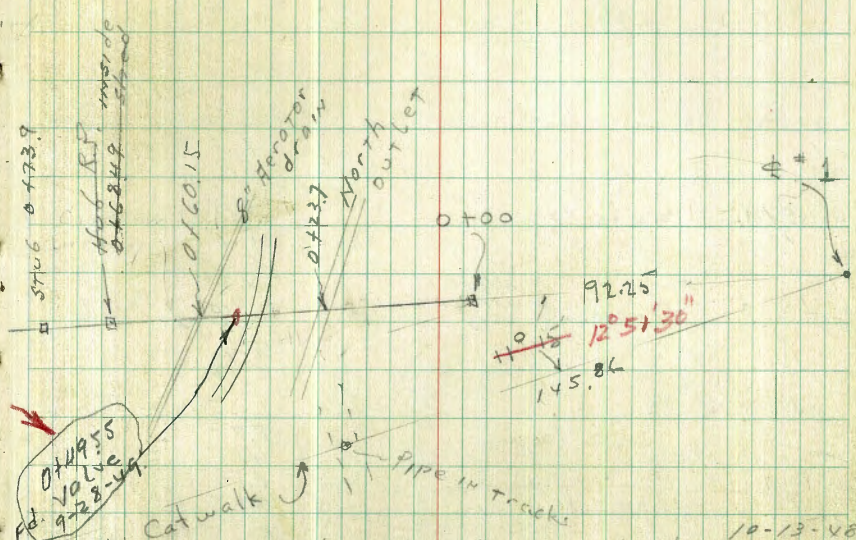
0+00 = Beg. offset 8' So. 3.27

+23.70 Int. & N. Box 3.27

0+53.61 3.27

0+60.15 Int. sec. Aerator drain 4.20 20V5-V6

9.93  
 3.71  
 C 6.22  
 9.93  
 5.20  
 C 4.73  
 4.03  
 9.77  
 3.75  
 C 5.42  
 4.20



check 8" Wash line 10-13-48

0+00	good Line	10.89	3.23	Inv.
0+20	E Pipe 0.05 M	10.93	3.19	"
0+38	" Line good	11.07	3.05	"
0+53.61	Bell end E Pipe 0.08 S X	10.16	3.96	"
B.M.	3.14	12.88	9.26	
0+00	Top Vert. Bell	2.30	10.58	
0+53.25	0.09 S of Line	8.95	3.93	
0+00	Top Vert. Pipe	4.00	8.88	

USE THIS  
 and check 10/19/48  
 P.69 ↑

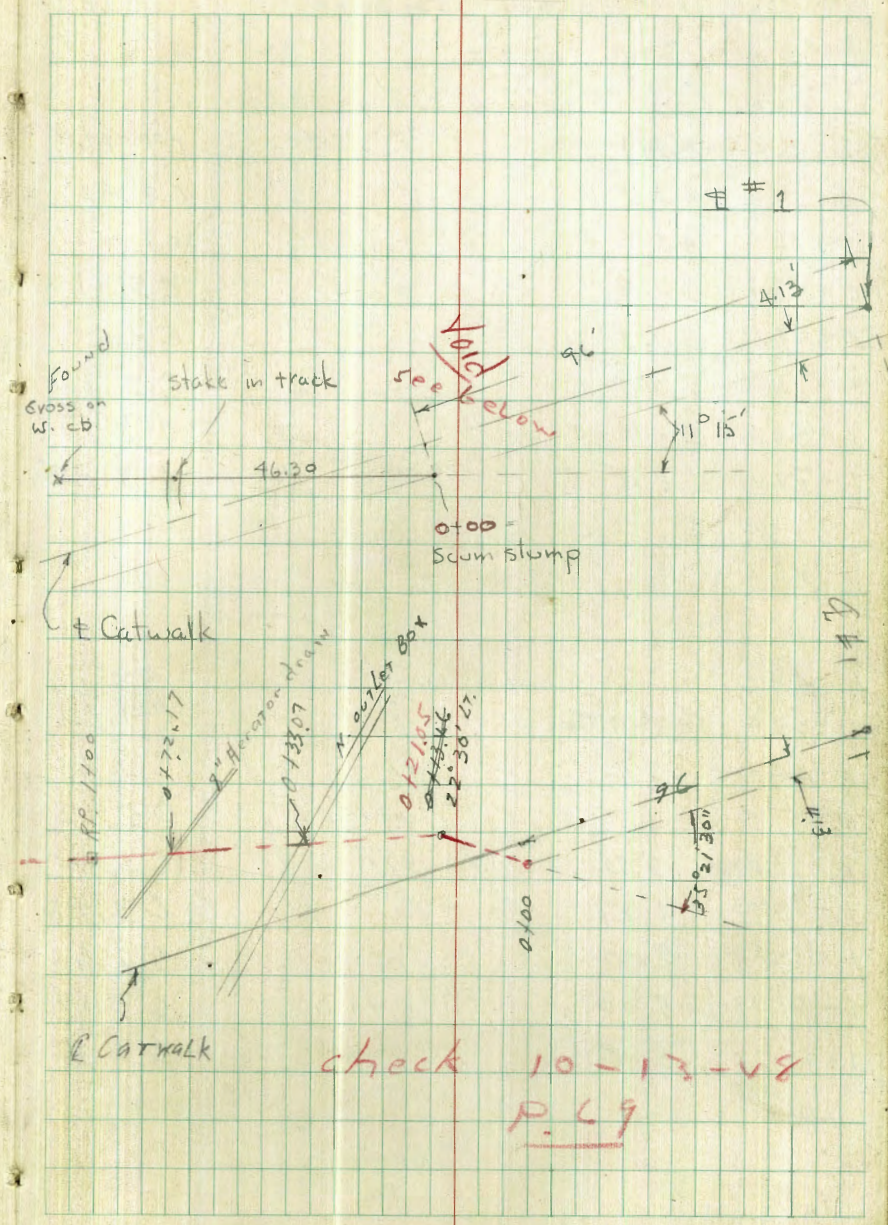


Grades - 8" CI Scum Line

BM	3.94	13.20	9.26
			1.44
0+00 - Beg. in Scum Slump			5.00
			8.20
			5.05
			C 3.15
0+21.05 Δ 22°30' LT			3.38
			9.83
			5.35
			C 4.44
0+33.07 1/4 sec. & <sup>North</sup> Outlet Box			2.46
			10.74
			4.70
			C 6.04
0+52.62			3.35
			9.85
			4.68
			C 5.17
0+72.17 1/4 sec. & "Generator drain"			4.25
			8.95
			3.49
			C 5.46

Cont'd 1999-930

\* CROSS ON WALK 1+96.31



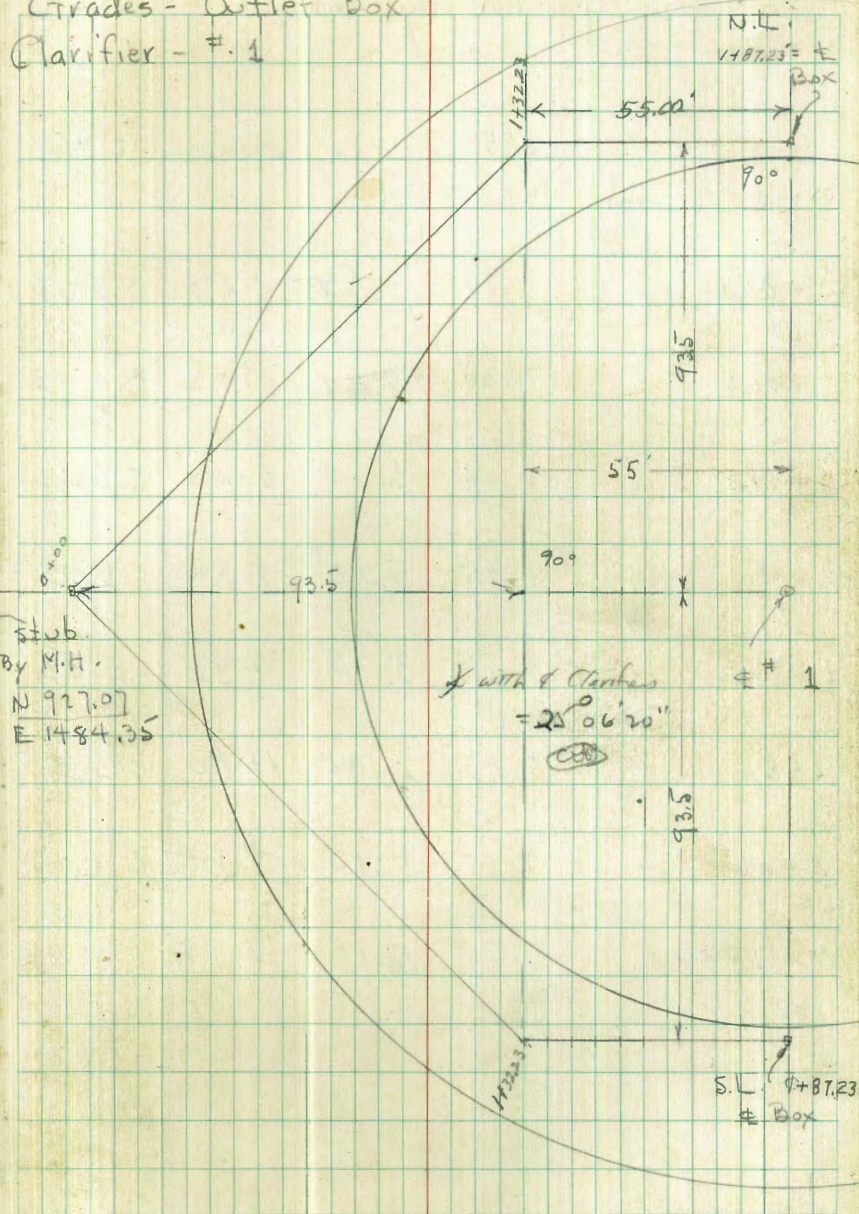
check 10-13-48  
P. 69



	Elev	Rod	Elev. Stake	Cut
B.M.	3.09	12.35	926	
N. Line		check	sub. gr. OK.	
0+00=	-0.191		9-27-28	C9.76
0+32=	4.67		8.35	C4.42
0+60=	4.67		8.35	C3.62
0+83.18=	5.00		8.02	C5.11
1+07.18=	5.00			C3.08
1+32.23=	5.00			C2.71
1+59.68=	5.00			C3.17
1+87.18=	5.00			C3.23

	Elev	Rod	Elev. Stake	Cut
B.M.	4.33	13.59	926	
S. Line				
0+00=	-0.91			C9.85
0+32=	3.75		981	C5.23
0+60=	3.75	OUT	981	C3.92
0+88.5=	3.75		981	C3.94
1+102.5=	4.37		922	C3.26
1+32.23=	5.00		859	C2.64
1+59.73=	5.00		859	C3.19
1+87.23=	5.00		859	C3.12

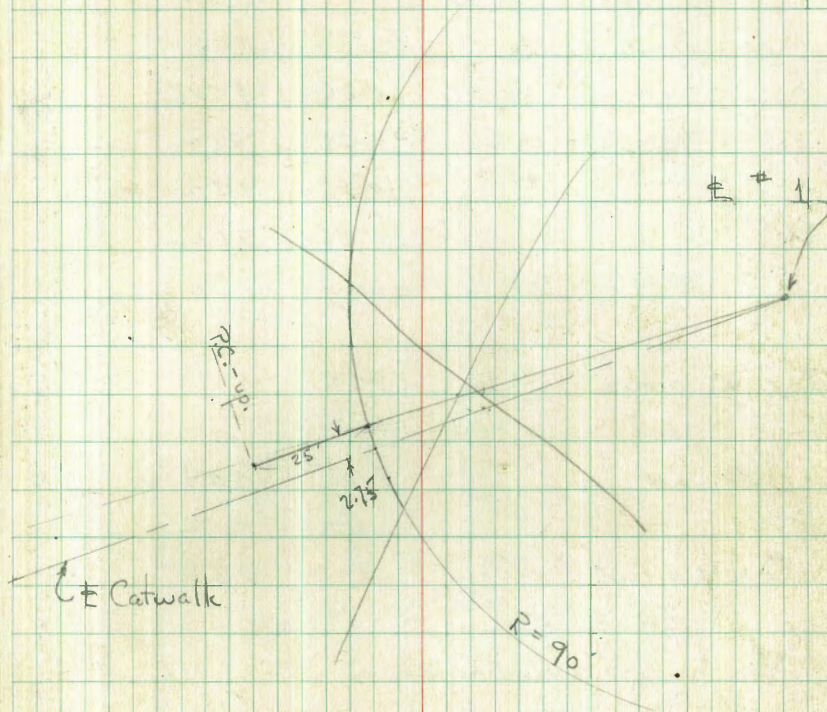
Grades - Outlet Box  
Clarifier - # 1





Grades Channel by Catwalk - CL # 1

	Elev	Rod	Elev Stake	C
0+00 = Tank	-1.33			
+06.5	-1.33	8.67	4.43	C 5.76
+06.5	0.00	8.67	4.43	C 4.43
+22	0.00	6.65	6.45	C 6.45
+43	1.75	5.56	7.54	C 5.79
+64	3.50	3.75	9.35	C 5.85
+85	5.25	2.30	10.80	C 5.55
1+06	7.00	4.93	8.17	C 1.17
1+15 = P.C.	7.00	5.11	7.99	C 0.99



See P-51



check grades Cl. #2

1.87 14.37

12.50

B.M.

Top outside form

N 4.86 9.51

E 4.85 9.52

S 4.85 9.52

W 4.86 9.51

Bot. 2" grout

9.66 4.71

Set form

8.95 5.42

Set form

lower edge  
Hopper  
SUMP

9.49 4.88

Cl. #2 check line & grade  
outlets N & S

50

B.M. 2.53 (15.03)

12.50

North Box

Dist Bot. Excav. 10.8 4.23

Bot. of Top of Box 6.28 8.75

South Box

Dist Bot. Excav. 10.9 4.13

Bot. of Top of Box 6.27 8.76

4.67

1.15

4.82

N of Tank

10.70

4.33

N. Box

93.5 CTR to E form

1.55 CTR to West inside of form

S. Box

1.54 CTR to West inside of form

93.5 CTR #2 to E Box form

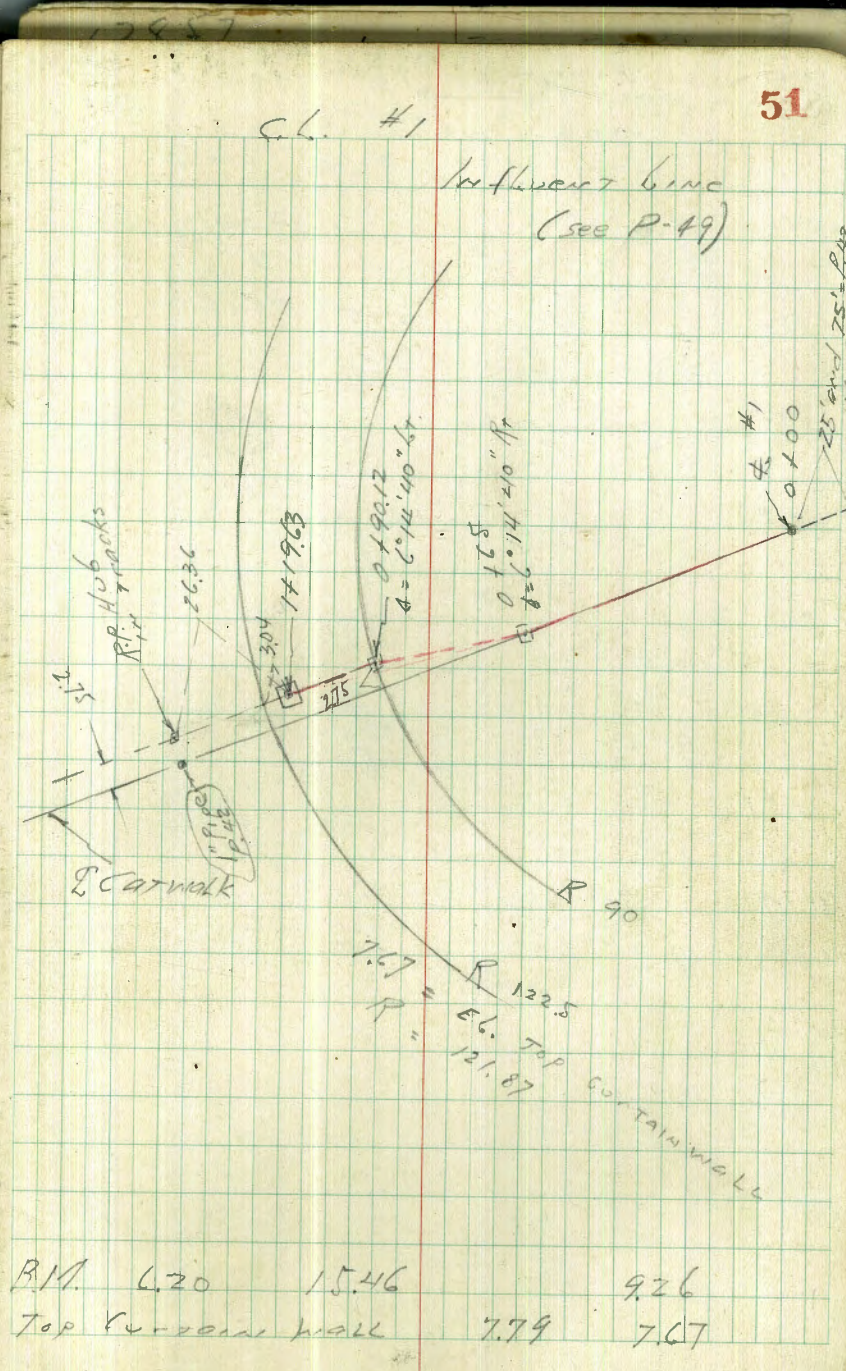
6.5 overall

Sketch P. 43



CL #1 8-25-48  
 Grades Sump Box

BM	448	13.74	9.26
Bot 2" Grout inside	9.03	4.71	✓
Set outside Bot form	8.32	5.42	✓
	8.86	4.88	✓



BM	620	15.46	9.26
Top Curtain Wall	7.79	7.67	



Grades From P. 48 data

South line

(14.58)

Inv.

0400	E.M.H.		- 0.91
			15.79
			5.63
432		3.75	C 9.86
		10.83	
		5.59	
		C 5.22	
760	New stake		3.75
	Set		10.83
			6.94
			C 3.89
7885		3.75	
		10.83	
		6.89	
		C 3.94	
1 + 1025			4.37
			10.21
			6.96
			C 3.25
1 + 3223	A	5.00	
		9.58	
		1.92	
		C 2.66	
1 + 5973			5.00
			9.58
			1.40
			C 3.18
1487.22	958	5.00	
	1022	9.58	
	0.64	6.42	
		C 3.11	

Clara 41 Check Grades 8-19-48

52

N side

B.M.

5372

(14.58)

936

0400	P.M.H.		- 0.91
			15.49
			5.72
4324			C 9.77
		4.07	
		9.91	
		5.49	
		C 4.42	
160			4.67
			9.91
			6.30
			C 3.61
18318	New stake		5.00
	Set		9.58
			4.57
			C 4.91
1 + 0718			5.00
			9.58
			6.55
			C 3.03
1 + 3223	A	5.00	
		9.58	
		10.21	
		C 0.68	
1 + 5962			5.00
			9.58
1 + 8718			5.00
			9.58
			10.24
			C 0.66

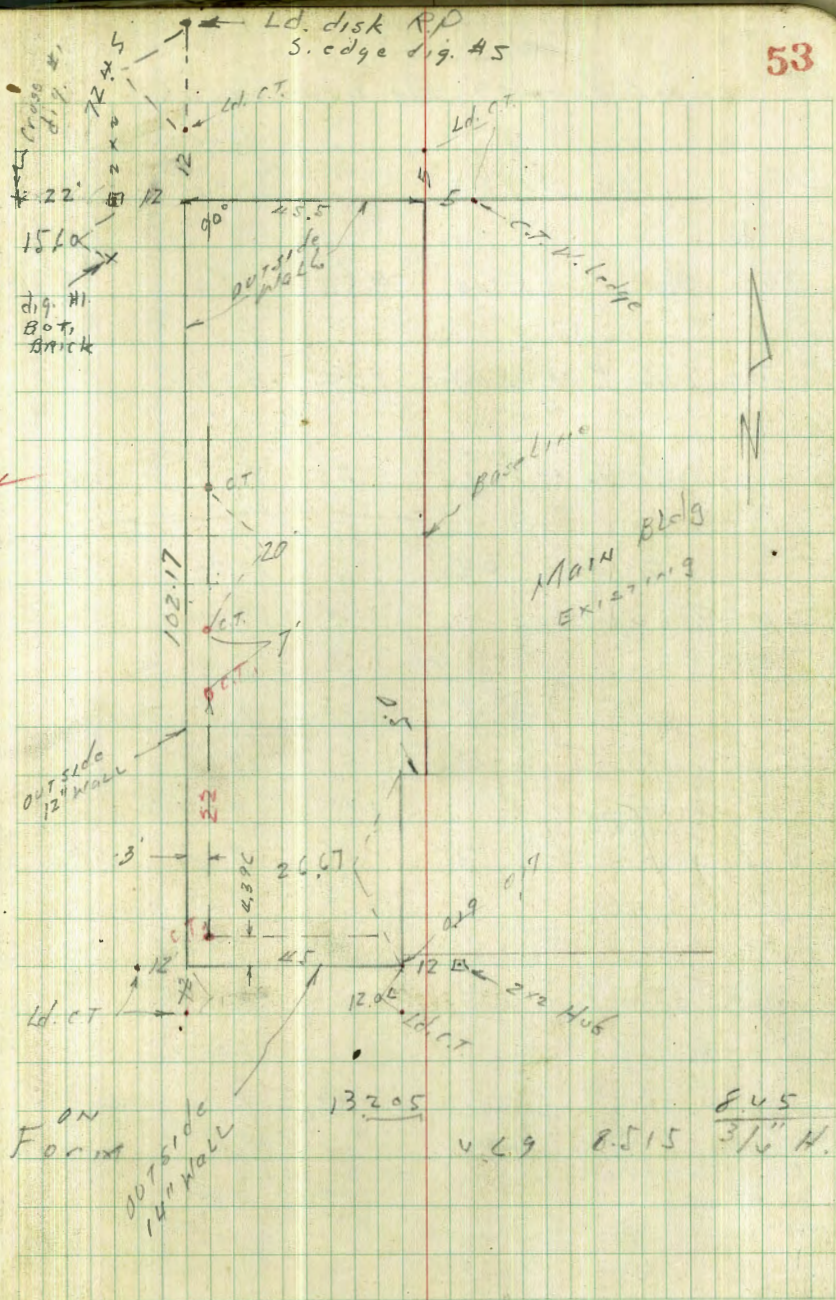


8-23-48  
Main  
Structure  
Bldg

Additions to Main Bldg.

BM B.P.				
Tank 42	3.66	13.66	10.00	
T.P.	3.01	3.01	13.66	8.00
Floor Sub. grade	4.68	-1.67	.03 to .05	Low
Wall " "	5.51	-2.50	" "	" "
Pit Sub. grs. cage mill	5.68	-2.67	1100	1100
Sump s. gr.	7.01	-4.0	0.72	Low
Col. fd. s. gr.	5.01	-2.0	.03 to .10	Low
Floor el.	4.01	-1.0		
Inv. 4" C.I. Pipe	5.08	-2.07		
" " "	5.18	-2.17		
Sub. gr. Col. 6 and 7	5.68	-2.67		
BM	4.11	4.11	0.00	
SE Cor floor	5.30	-1.19		
NE " "	5.17	-1.06		
NW " "	5.17	-1.06		
SW " "	5.18	-1.07		
S. end groove	5.33	-1.22		
Trap in "	5.39	-1.28		
CTR. " "	5.40	-1.29		
N. end " "	5.36	-1.25		
check BM in Hole				
BM	3.205	13.205	10.00	
check to BM chisel				0.82
				0.00
" Form 18	6.205	7.00		
" "	5.205	8.00		2.12

CORRECTION  
BM IN BASEMENT

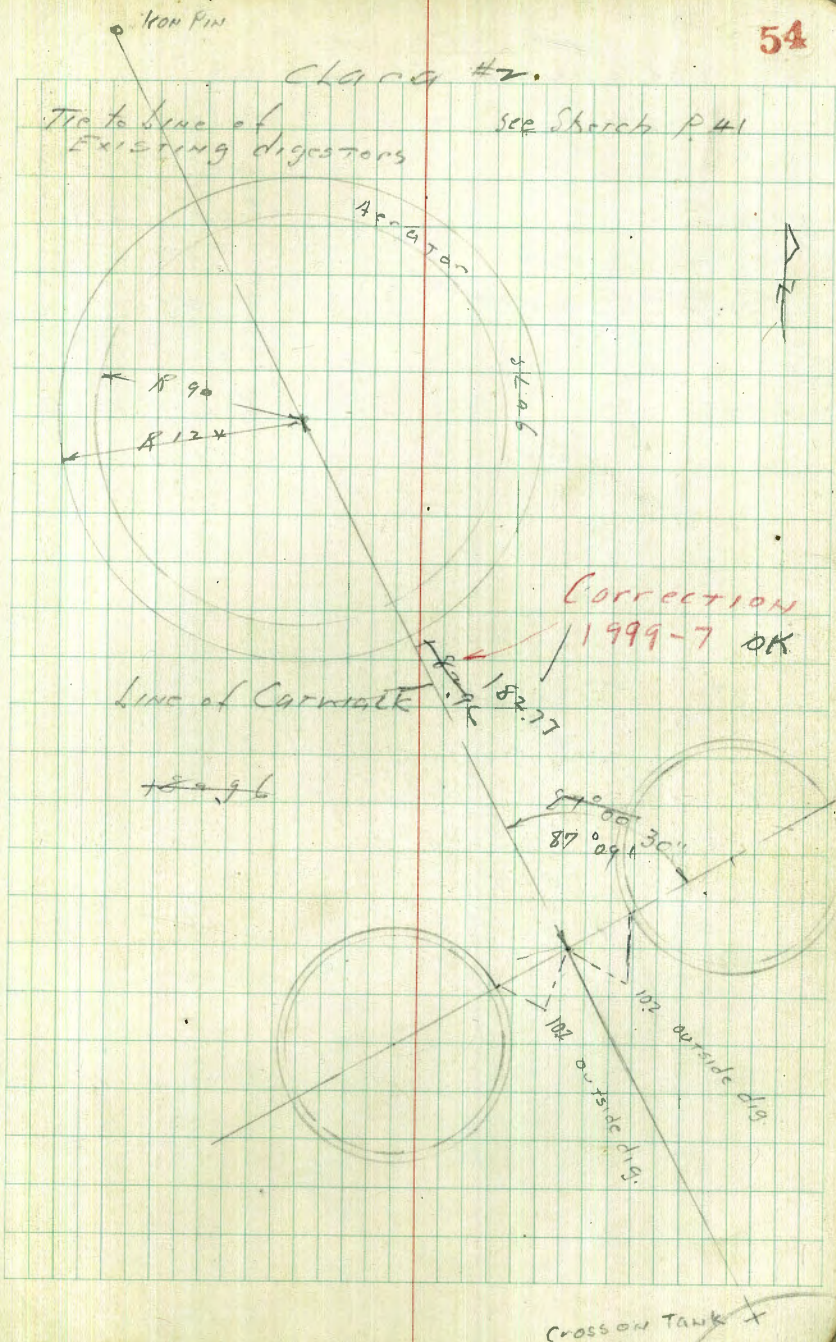




Moore B. 191  
Sherman, Sunch  
8-30-48.

check for 15 Aerator slab

			Elev.	
B.M.	102	(13.52)	12.50	
Top Aerator slab	4.52		9.00	
				OK
Sub grade R. 90 - R. 107.25	5.52		8.00	
Sub grade R. 114.25 to R. 124.0	5.85		7.67	
<hr/>				
	210	14.60	12.50	checked 9-7-48
Top Aerator	5.60		9.00	OK
	6.60		8.00	
	6.93		7.67	
B.M.	236	14.86	12.50	
Top Aerator	5.86		9.00	re-check 7-8-48
sub. grade	6.86		8.00	OK
" "	7.19		7.67	
B.M.	277	14.29	12.50	checked 7-16
Top Aerator	5.29		9.00	
Sub gr.	6.29		8.00	
" "	6.62		7.67	
<hr/>				
B.M.	272	15.22	12.50	checked 9-22-48
Top Aerator	6.22		9.00	
Sub gr.	7.22		8.00	
" "	7.55		7.67	
<hr/>				
Last slab				
	205	14.55	12.50	10-6-48
		5.55	9.00	
		6.55	8.00	checked
		6.88	7.67	OK.





8" SCUM LINE

270 15.20 12.50

INV. TOP 8" C.I.

0400 5.00 571 948

042625 5.70 641 829

04525 6.40 711 809

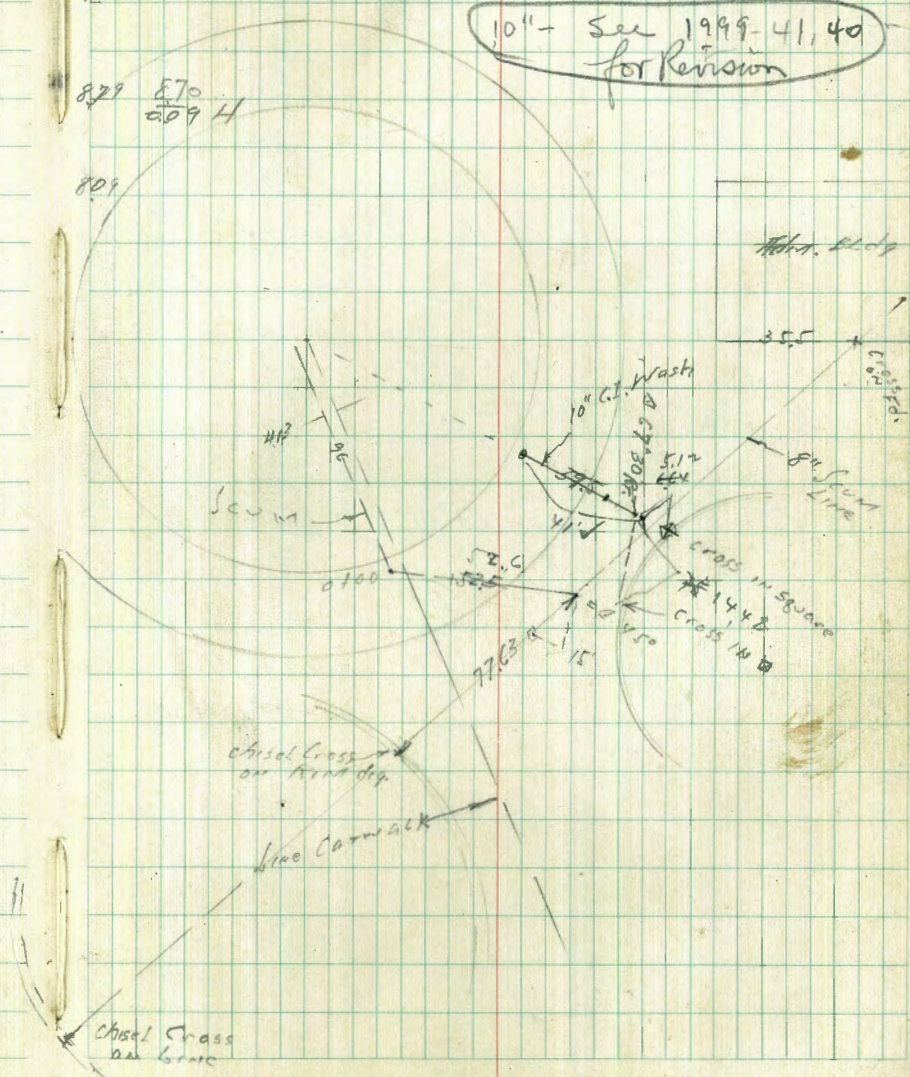
CL. #

TIES FOR RE-LOCATION OF 8" SCUM LINE

55

See P-44

10" - See 1999-41,40  
for Revision





Grades 8" ~~at~~ VCP

4.94

1420

926 B.M.

~~07100~~

~~- 5.83  
17.53  
5.19  
12.34~~

~~070317~~

~~070217 45° R.Y~~

~~- 5.29  
18.29  
5.29  
C 14.22~~

~~070646~~

~~070546 45° R~~

~~- 5.24  
19.24  
5.24  
C 14.12~~

1726.24

1.64%  
1.649%

~~- 4.89  
19.89  
5.23  
C 13.66~~

074702 45° R

~~- 4.54  
18.74  
5.29  
C 12.95~~

075012 45° R

~~- 4.49  
18.69  
5.66  
C 13.03~~

See P. 12

Check 8" viz as laid

10-5-48

B.M. 4.62 13.88

926

Viz. 0.74  
FL. 1/2 TOP

P.I. - 82

17.80

- 3.92

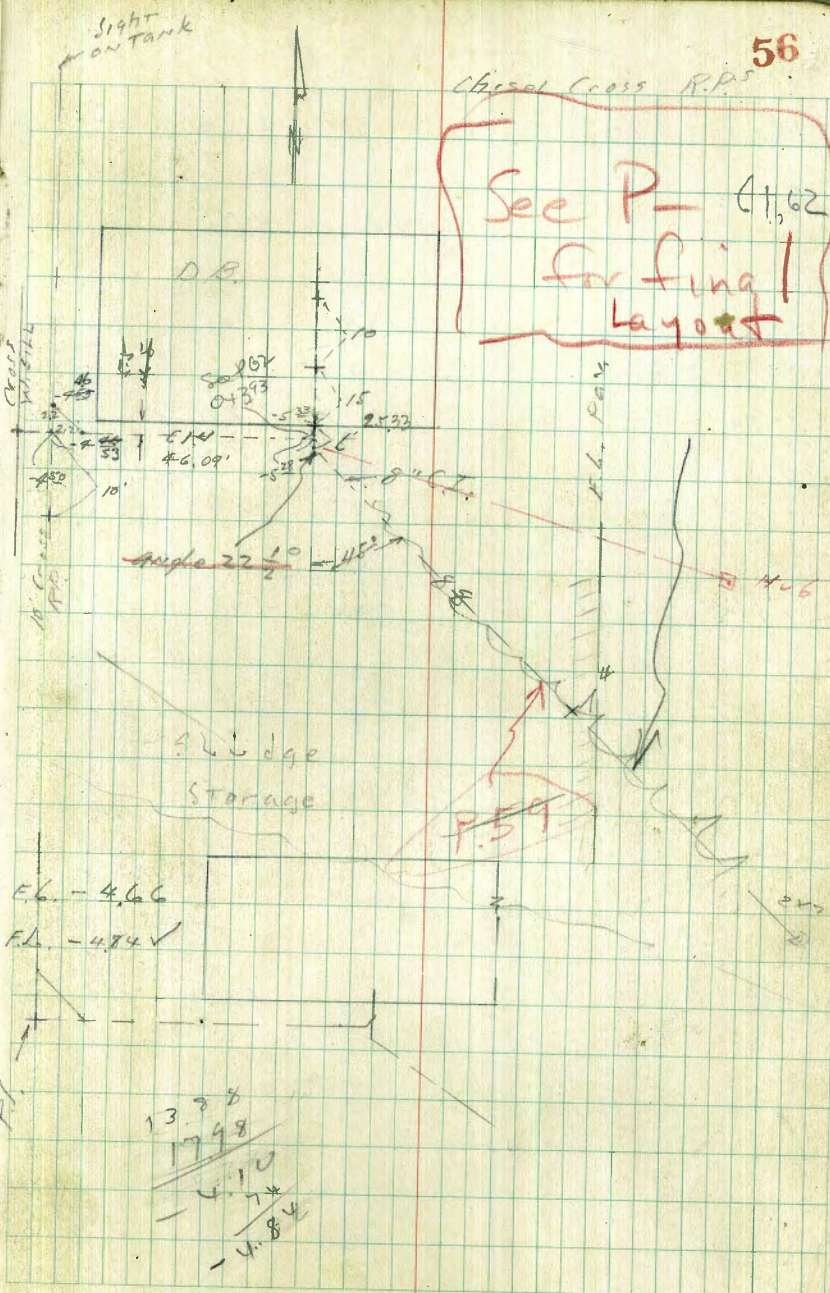
8"  
TOP VIZ.

P.I. - 43.4

17.98

- 4.10

" "





Check Con. Slab CL #2  
1" (.08333) to 1"

10-1-48

CL #2

57

BM. 1.02 13.52 12.50

0.100 2.81 4.71

1.158 7.49 6.03

1.254 6.69 6.83

1.355 .03 High 5.85 7.67

1.453 5.04 8.48

1.551 4.19 9.33

1.654 3.36 10.16

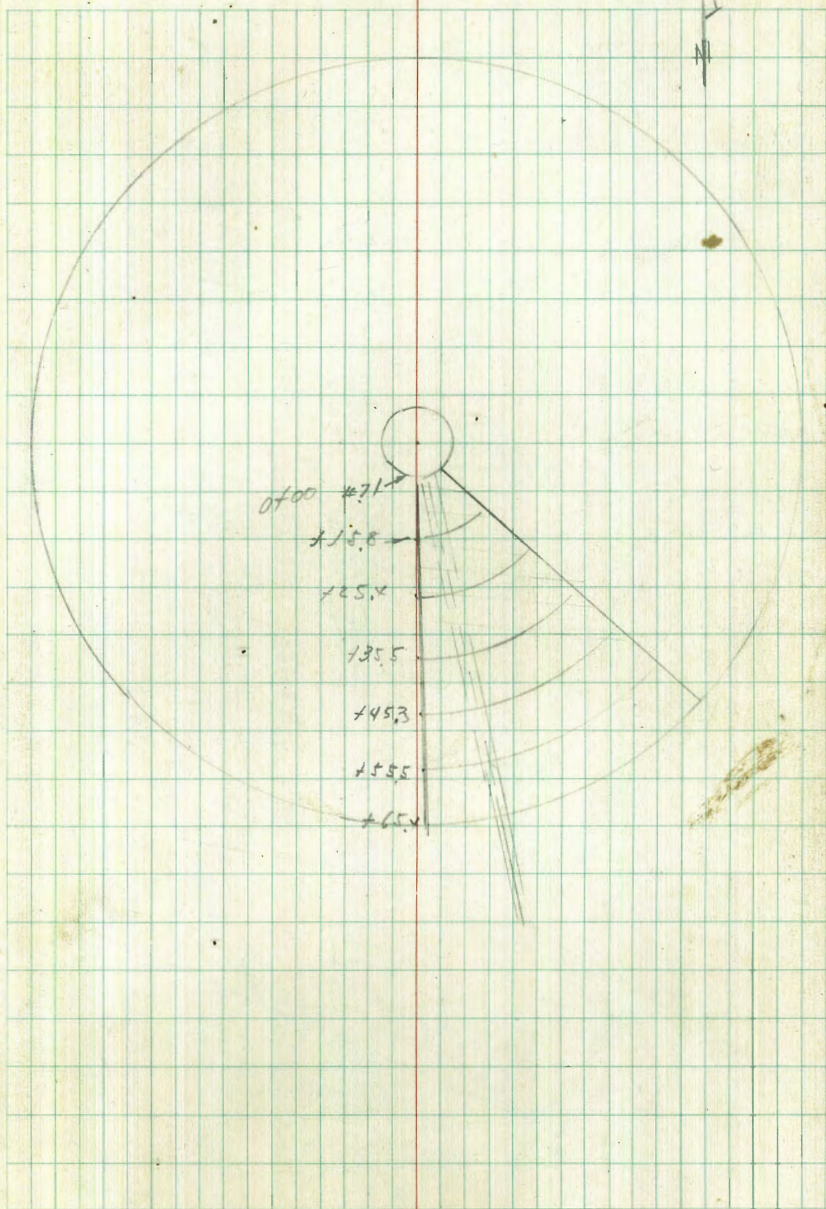
checked  
and slab OK  
9-7-48

BM. 2.00 14.50 12.50

checked  
OK 9-15

BM. 1.84 14.34 12.50

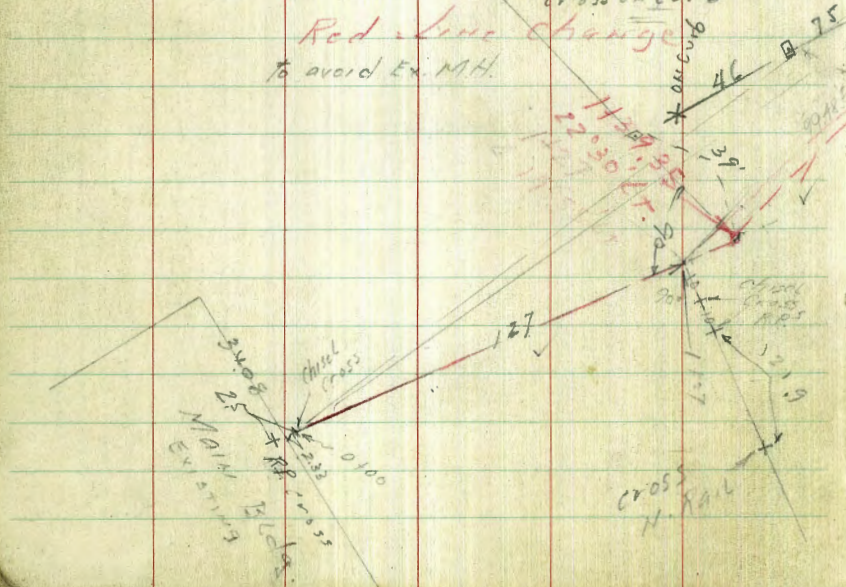
check 0.0 to 0.03 High  
on top of steel beams



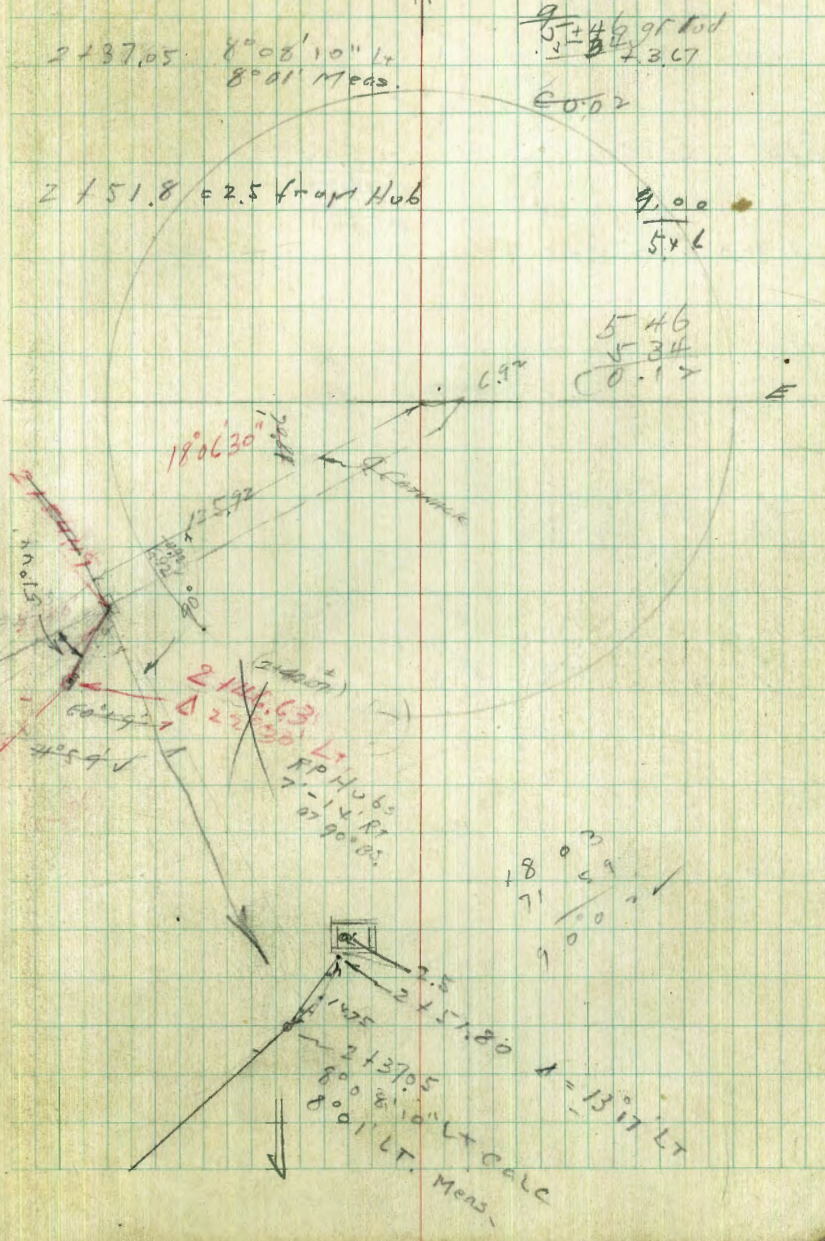


Layout for 20' x 10' Hub

BM	4.9x	14.20	9.26
0.100			1.367
0.125		3.67	10.53
0.150		10.53	5.35
0.175		5.35	0.578
1.100		3.67	10.53
1.127		10.53	5.35
1.154		5.35	0.578
1.180		3.67	10.53
1.207		10.53	5.35
1.234		5.35	0.578



140.11  
 $\frac{14.46}{3.67}$   
 107.9  
 118.48  
 $\frac{14.46 \times}{3.67}$   
 107.9  
 107.9 gr rod  
 $\frac{9.00}{5.35} + 3.67$   
 6.02





8" Line P.B. Bldg  
to C.L. #1

4.93 14.19

9.26 BM

**VOID**

0 + 100

- 5.33

0 + 105.5 A 45° LT

- 5.04

0.89  
1.50  
0.09

19.23

5.23

C 14.01

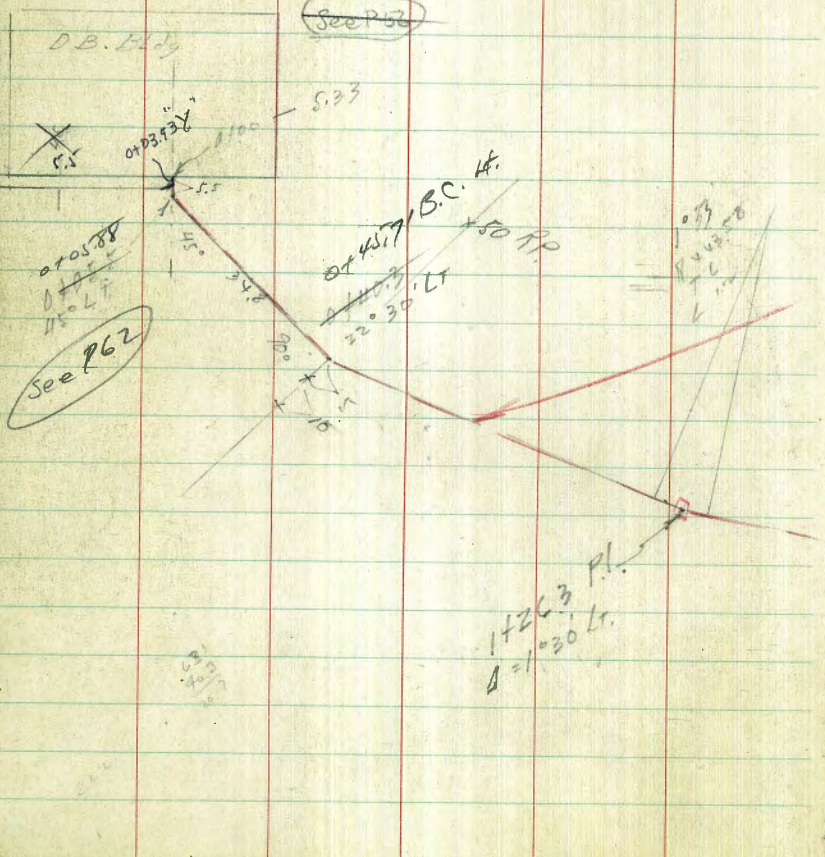
0 + 140.3 A 22° 30' LT

- 3.20

17.39

5.18

C 12.21



0 + 63 v

59

- 2.00  
16.19  
6.55  
C 10.64

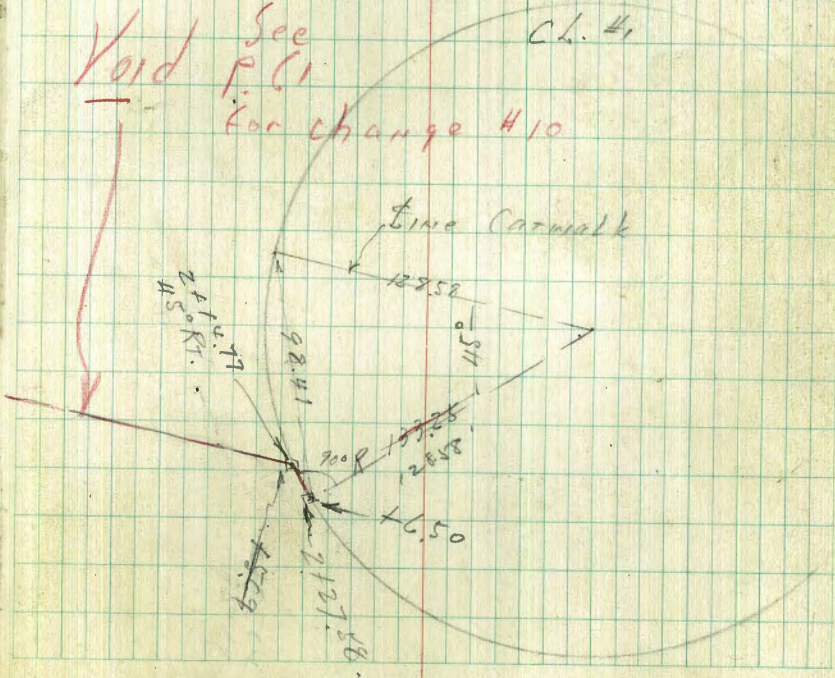
0 + 85.8 edge Pav.

- 0.79

15.98

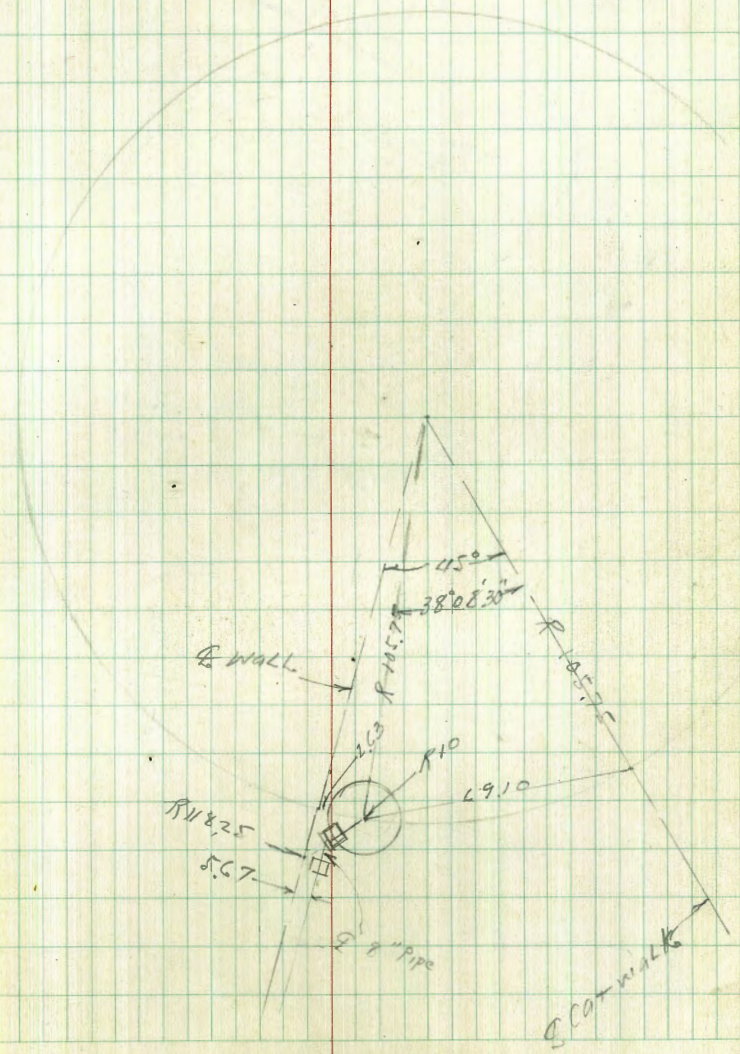
5.16  
C 9.82

Void See P. 61  
for change #10





	2.72	14.72	12.50
Detector Sub-gr.	7.97	+6.75	
	7.05	+7.67	
	6.72	+8.00	
8" Pipe Inset	8.22	+6.50	
	9.22	+5.50	
B.M.	1.75	14.25	12.50
	6.00	8.25	
	7.50	6.75	





8" VIT. drain line  
Det. Bldg to C.G. #1

Cut up 6"

**VOID**  
From 0+457.6 to 0+457.10

Sec Pg. 56

D. Bldg.

5.33  
0+00

Δ 58°32'  
P 75.13  
T 42.10

0+06.5  
5.88 (60 P61)

0+457.6

chip cut  
2-3' on wall

Δ 80°32'  
P 75.13  
T 63.54

C.I. 0.71 xl. h top  
Vir. 0.74

61

BM 481 - 1407

926

0+00	top 8" C.I.	17.74	1845	-438	0.95
0+06.5	" 8" VIT	17.44	1818	-411	0.91
0+457.1	" "	16.30	1704	-297	0.14

FINAL 1999 P17

crosses  
at  
wall

Carwalk

774, C.G. #1

2128.06 F.I.  
+5.75

8128.58

16.50

2+40.97



BM	5.01	14.27	9.20
0100			-5.33
01065			-5.02
014571 BCLT	4.858%		-3.11
			17.38
			5.21
			C12.77 ✓
016490 7.9'			-2.18
			16.45
			5.95
			C10.85 ✓
018409 14°32'			-2.5
			5.52
			5.53
			C9.79 ✓
01895 east edge pav. 1639'			-0.99
			15.26
			5.20
			C10.06 ✓
110328 21°57'			-0.31
112246 PRC 29°16'			+0.62
114886 10°04'			+1.90
117526 20°08'			+3.18
210166 30°12'			+4.46
212806 E.C. 40°16'			+5.75
214087			+6.50

1154 140.11 75 118.48

Check 8" V.C.P. drain  
at Detroit Bldg. 9-27-48 **62**  
as laid 2nd TIME

BM	4.55	18.81	9.20
a-2.85 end pipe in Bldg.			-5.32
0100		18.95	-5.14
010393 "Y" to West		18.68	-4.87
010588 45° A to LT		18.50	-4.69
014571 BCLT		16.71	-2.90

See 1999-17 ✓

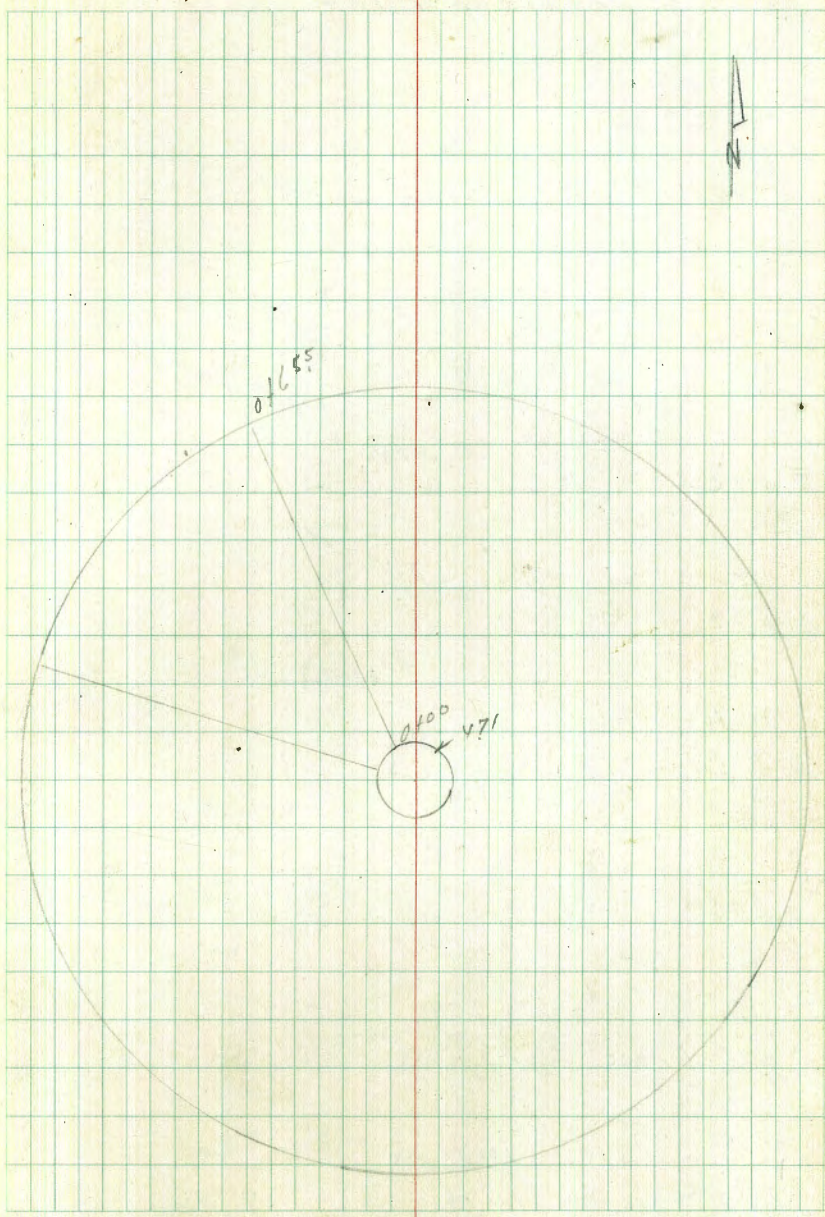


1" 0833 to 1"

check <sup>First</sup> Con. Slab CL #1

BMBP	5.80	1.506	9.26	
TOP MH				
0/00		10.35	4.71	
+15.5		9.06	6.00	
+25.5		8.23	6.83	
+35.5		7.32	7.67	
+45.5		6.56	8.50	
155.5		5.73	9.33	
+65.5		4.89	10.17	
BM	4.92	14.18	9.26	2nd slab. OKd 9-27. 0.02 - 0.01 High
BM	3.94	13.20	9.26	OKd 9-30 2 slabs
BM	3.51	12.77	9.26	OKd 10-X OK.
check 1/2 Last slab OK.				
BM	4.23	13.49	9.26	OK 10-7-48.
BM	4.18	13.44	9.26	10-11-48
"			9.26	

Checked 9.26.48  
0.02 - 0.01 High





Main Floor Elev.  
Detroit Bldg.

0+30.7

0+26.5

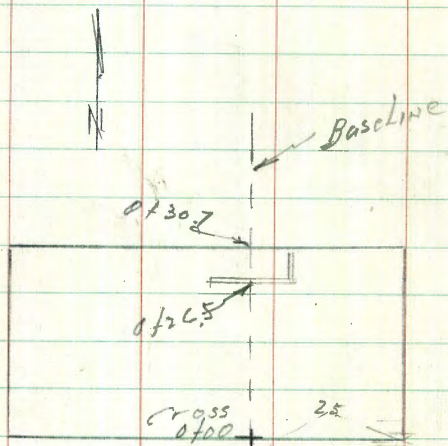
0+18

0+13.5

0+08.5

0+00 Cross So. Side Bldg.

T.P.	5.10	14.11	5.15	9.01
B.M. BP	4.90	14.10		9.26
M.H. "H"				



Baseline

R<sub>1</sub>

64

Reduced  
9/30/48  
~~C.S.B.~~

TOP CON. CORNING  
AT STAIRS. 9.42  
4.19

FLOOR  
TOP STAIRS 9.11  
5.00  
7

	9.06	9.05	9.07
	5.05	5.06	5.04
	4.6	1.7	2.5

9.10	9.11	9.09	9.06	9.08
5.01	5.00	5.02	5.05	5.03
7		1.0	1.7	2.5

9.11	9.12	9.11	9.12	9.14
5.00	4.99	5.00	4.99	4.97
7		1.0	1.7	2.5

9.10	9.11	9.15	9.14	8.91	8.91
5.01	5.00	4.96	4.97	5.20	5.20
7		1.0	1.7	2.2	2.5

FLOOR  
AT  
PARTITION 9.11  
5.03  
7

9.15	8.99	9.06	9.16	9.16
4.96	5.12	5.05	4.95	4.96
7		1.0	1.7	2.5

14.11

S.R. Cor.



South

Line & Grades for Outlot. Ch. 42

BM 270 1520 12.50

South outlot 2.49 INV

0+88 @ 45° 12.49 HI 2.60

06:40  
59  
54  
50  
46  
42  
38  
34  
30

0+97 Beg. 36" Pipe 10.55 2.52 2.20

1.94 12.48 13.00

5.52  
C 7.48

1+12 15 10.68

1+27.25 10.78 2.27 2.02

1.71 12.49 13.08

5.12  
C 8.06

1+57.50 10.94 2.01 1.85

1.55 13.19 13.35

4.73  
C 8.62

1+87.75 11.11 1.76 1.67

1.38 13.44 13.53

4.86  
C 8.58

2+18.02 In Lot to Box 11.01 1.50

1.28 13.70

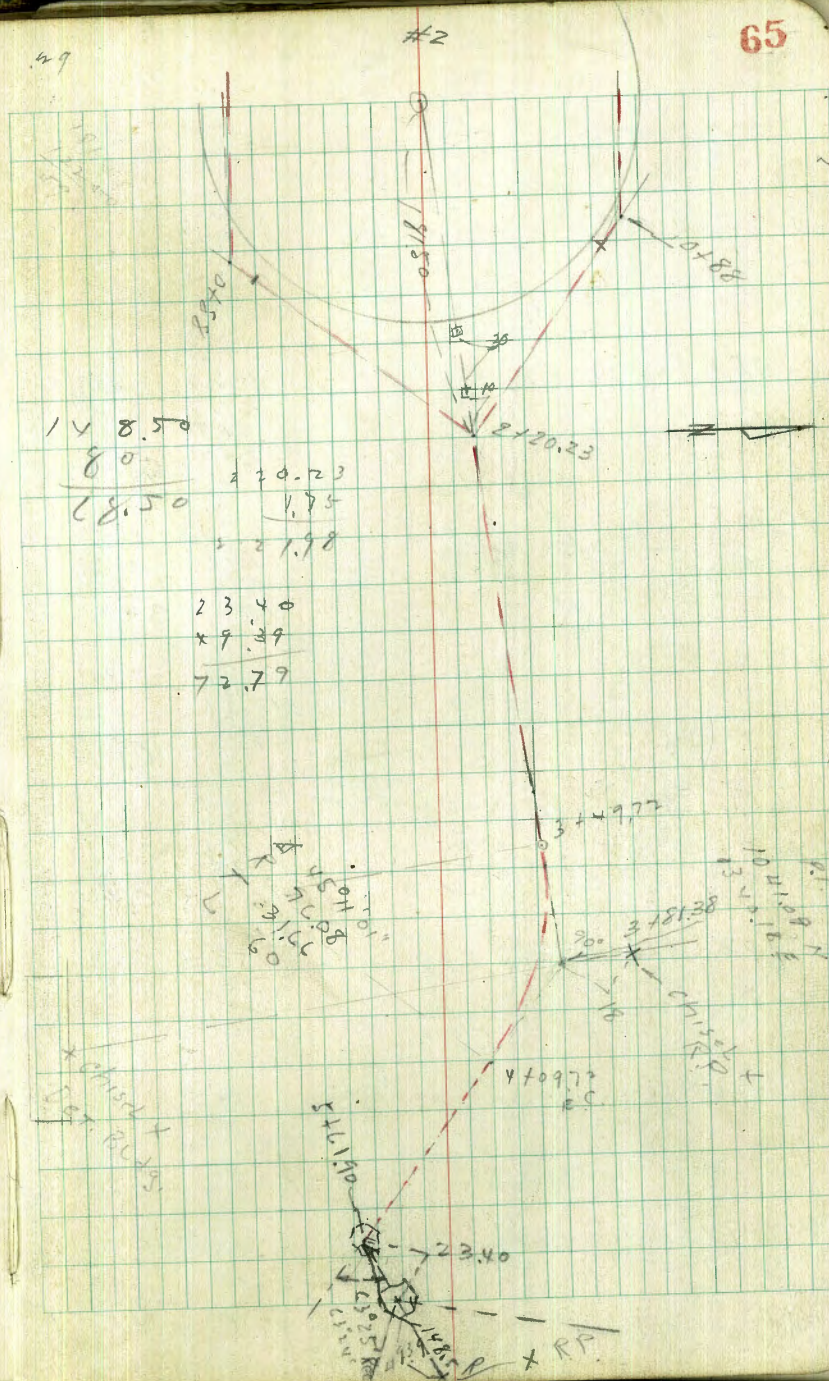
4.49  
C 9.21

check on Fl North 10.92

1.47 OK

2+20.23 @ Box 1.375

2+21.98 Outlot Beg. 42" Pipe 1.25





North outlay

		12.50		
		<u>3.48</u>		
BM	270	15.20	12.50	
		Inv.		
		+471		
0188	1x5"			
0197	Req. 36" pipe	471	4.49	4.71
			<u>10.71</u>	<u>10.49</u>
			2.89	2.89
			<u>7.82</u>	<u>7.60</u>
1+2725			3.74	3.91
			<u>11.46</u>	<u>11.29</u>
			3.42	2.48
			<u>7.98</u>	<u>7.91</u>
1+57.50			2.99	3.11
			<u>12.21</u>	<u>12.09</u>
			3.68	3.68
			<u>8.52</u>	<u>8.41</u>
1+87.75			2.25	2.31
			<u>12.19</u>	<u>12.89</u>
			3.76	3.76
			<u>9.19</u>	<u>9.13</u>
2+1802	Inlet Junc Box		1.50	
			<u>1.50</u>	
			4.24	
			<u>9.46</u>	
2+2023	E Box		1.375	
			<u>13.825</u>	
			4.24	
			<u>9.58</u>	
2+2198	Req. 42" pipe		1.25	1.25
			<u>14.38</u>	<u>13.95</u>
			4.96	4.24
			<u>9.72</u>	<u>9.71</u>
BM.	563 (15.63)		12.8-48	1000

Re stake  
in 8-48

New cuts  
12-8-48 66

2140	15.20 (15.63)	109	1.05	1.01
		<u>14.54</u>	<u>14.12</u>	<u>14.11</u>
		2.2198	4.93	4.37
		<u>7.807</u>	<u>9.61</u>	<u>9.74</u>
2+604		40	0.91	0.88
		<u>175</u>	<u>14.72</u>	<u>14.29</u>
		4.175	4.92	4.27
		<u>7.807</u>	<u>9.80</u>	<u>10.05</u>
2+80		59.77	0.73	0.73
			<u>14.90</u>	<u>14.77</u>
			5.70	4.40
			<u>9.20</u>	<u>10.11</u>
3+00			0.55	0.55
			<u>15.08</u>	<u>14.65</u>
			5.85	4.43
			<u>9.23</u>	<u>10.27</u>
3+20			0.38	0.30 + 0.38
			<u>15.25</u>	<u>14.80</u>
			5.56	4.39
			<u>9.69</u>	<u>10.43</u>
T.P.	3.70	14.51	4.39	10.61
3+49.72	B.C.T.		0.11	+ 0.02 + 0.11
			<u>15.52</u>	<u>14.49</u>
			4.85	4.23
			<u>10.67</u>	<u>10.24</u>
3+64.72	5°39'52"		-0.04	- 0.13 - 0.02
			<u>15.65</u>	<u>14.53</u>
			4.50	4.44
			<u>11.15</u>	<u>10.09</u>
3+79.72	11°17'44"		-0.16	- 0.28 - 0.16
			<u>15.79</u>	<u>14.79</u>
			4.63	4.13
			<u>11.18</u>	<u>10.66</u>
3+94.72	16°56'36"		-0.29	- 0.47 - 0.29
			<u>15.97</u>	<u>14.50</u>
			4.78	3.89
			<u>11.14</u>	<u>10.94</u>

12-6-48  
0.82  
0.82



1451

(15.63)

42" Con. Pipe

4+09.72 E.C. 22° 35' 30"

-0.42

-0.57

-0.42 ✓

16.0515.0814.934.136.983.95

C 9.92

C 11.10

C 10.95

4+30

x.99

14.25

-0.60

-0.60

16.235.83

C 10.40

4+65 %

-0.90

15.154.25

C 10.90

4+90

D. 877

-1.12

15.374.30

C 11.07

5+15

-1.34

15.594.30

C 11.29

5+61.90 8 MHC

-1.75

72-4-48

Location of Water Lines  
Along 42" Outlet Line

67.1

4.98

14.24

9.25

4+75.7 Int. C.C.I. Water 735

6.89 = top Pipe

5+35.2 " 2" 2" Water Lines 728

6.96 = top of flow con

6.50 flow 2" pipe

9.262.2011.46

-1.75

13.21

Location of Sewer Lines from Shop

2+75.3 26' Lt end 4" C.I. Sewer

3+12.2 22.1 Lt " " "

3+39.5 17.9 Lt " " "



10-13-48

1sec Pav. Main Bldg.

0+078

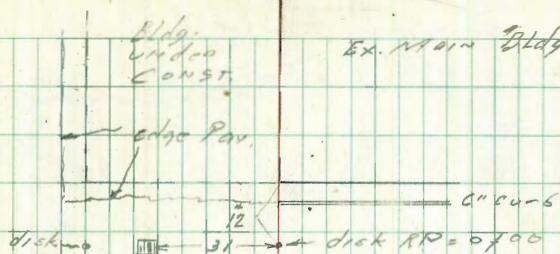
0+078 Line curb and edge Pav

0+100 Line of 12' disks RPP

T.P	48x	<u>12.89</u>	574	805
BM	379	1371		10.00

W Baseline

68



851  
430  
Top  
of  
disk

78x	783	790	811	822	822	840
5.04	5.12	4.99	4.78	4.67	4.67	4.27
45	31	18	7	Pav.	7	7
P	P	10	P		P	curb

783	811	784	784	789	791
5.06	5.12	5.05	5.05	5.00	4.98
45	31	18	7	Top	7
disk	Top			disk	
	9-970				

12.89



Sketch P. 47  
 check sound line (Plan)  
 as Laid 10-13-48

BM	489	<u>14.15</u>	9.26
0+00.10	as Laid	9.31	4.84 Inv.
0+21.05	22° 30' Lt	10.70	3.45 "
0+30.4		10.86	3.29 "
0+36		10.95	3.20 "
0+58.6	end 8" pipe as laid 900' line	10.04	4.11 "
BM	333	<u>12.59</u>	9.26
Top 8" Vertical Sound Pipe		3.71	8.88 ✓

check 24" C. 1. Pipe  
 sketch P. 58 **69**  
 as Laid - 10-15-48

BM	453	<u>13.79</u>	9.26
0+00	0.03 N	8.00	5.79 3.66 Top PIPE
+25	0.05 S	7.95	5.84 3.71 "
+50	0.10 S	7.95	5.84 3.71 "
+75	0.10 S	7.98	5.81 3.68 "
+90.5	Poll end 0.07 S	7.92	5.87 3.74 "
0+00	Top Vertical Bell	6.29	7.50 ✓



Floor Elev. Basement  
Main Bldg.  
as laid 10-15-48

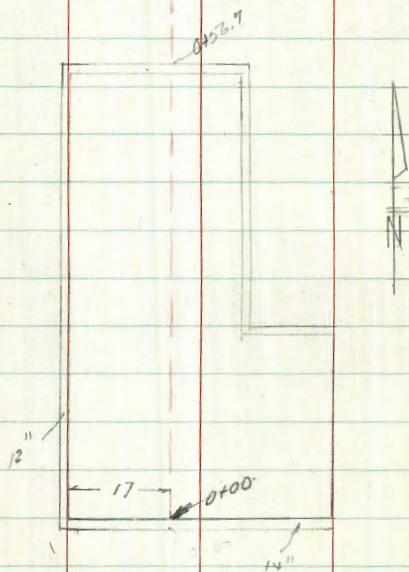
0+20.5 edge con

0+15.5

0+09

0+03

0+00



B.M. chrd  
line  
on W. wall  
Main Bldg.

4.03

4.03

0.00

81.

F.

70

Reduced 10/18/48  
(C.B.)

-1.00	-1.12	-1.16	-1.10	-1.01	-0.96
5.03	5.15	5.18	5.13	5.04	4.99
17	7.4		9	18	25.7

-0.99	-1.07	-1.11	-1.12	-1.01	-0.95
5.01	5.12	5.14	5.15	5.04	4.98
17	9		9	18	25.7

-0.97	-1.03	-1.07	-1.08	-1.06	-0.96
5.02	5.00	5.10	5.11	5.09	4.99
17	11.5	10.95	9	18	25.7

-0.98	-0.98	-0.97	-1.01	-1.03	-1.00
5.01	5.01	5.00	5.04	5.02	5.03
17	9		7	18	25.7

-0.96	-0.95	-0.95	-0.98	-0.98	-0.96
4.99	4.98	4.98	5.01	5.01	4.99
17	7		7	18	25.7

4.03



0756.7 H. end

0748.3

0728.6

0731.9

(17)  
add 2" to clip

0728.6

0723.6

4.03

128 54 140.11 118 48  
67 86 97 71

-106	-103	-257	-104	-100	-257	-099
5.09	5.06	4.4	5.05	5.03	4.4	5.02
CON.	FORM	dir	FORM	FORM	dir	FORM

-117	-172	-122	-247	-098
5.75	5.8	5.25	6.5	5.01
4	dir	7	18	18.6
CON		clip	dir	FORM

-116	-177	-135	-247	-101
5.19	5.8	5.30	6.5	5.00
2	dir	7	18	18.6
CON		clip	dir	FORM

-120	-120	-138	-124	-143	-124	-101
5.23	5.20	5.41	5.24	5.40	5.27	5.00
6	4.4	3.9	7.0	4.2	11.6	18.6
CON	7.0	clip	5.0	clip	clip	FORM
	drain					

-108	-119	-267	-108	-102
5.11	5.20	6.7	5.11	5.05
7	6	dir	7	10.8
CON	CON		CON	

-104	-115	-267	-109	-104	-096
5.07	5.18	6.7	5.12	5.05	4.99
7	7.4	dir	9	18	27.5
CON			CON	CON	CON

4.03



Xsec 20 x 80 Area S.E. of  
Sludge Storage Bldg  
for Tank  
10-19-48

0+40

Xsec Tank Site

0+20

0+00 South Line Tank

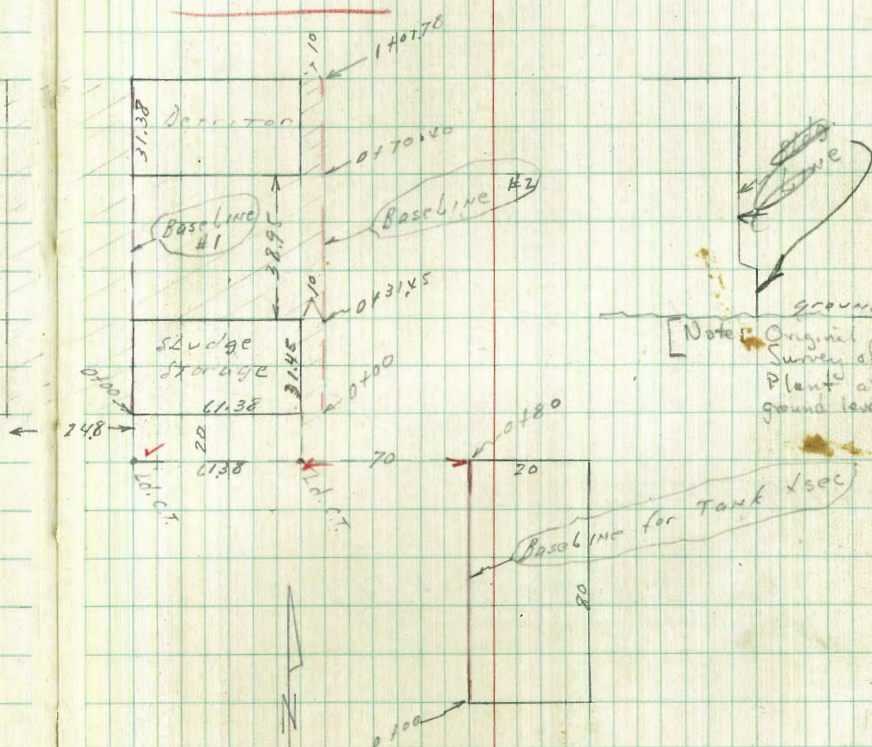
B.M.

v. 46 13.72

H.I.

9.26

Main Bldg.



Reduced  
10/19/48 CGB

Tank  
B.L.

Rt.

72

q1	q2	q2
40	$\frac{4.5}{10}$	$\frac{4.5}{20}$
q4	q4	q3
43	$\frac{4.3}{10}$	$\frac{4.1}{20}$
q6	q5	q5
41	$\frac{4.2}{10}$	$\frac{4.2}{20}$

See 2032-62 1372



1 sec on Ex. Paving  
 Ely side Sludge Storage  
 and Detriton

0+14

0+50.92

0+31.45

0+15.72

0+00 S.L. Sludge Storage

B.M. 4.16 13.92 9.26

0+80 H.L. Tank

1 sec Tank Size

0+160

13.72

LT

Baseline  
 #2

Rt

73

9 <sup>0</sup>	892	908	898	
4.9	5.00	4.84	4.94	← North edge Pav.
4C	31	10		
dir				

872	890	900	885
5.20	5.02	4.92	5.07
37	18	10	

882	910	903	912	898	877
5.10	4.82	4.89	4.80	4.94	5.15
45	22.5	22.5	10	55	5

← Floor  
 Elev. of Bldg.

896	872
4.96	5.20
10	

881	851
5.11	5.41
10	

13.92  
 H.I.

Tank  
 Baseline

R.T.

q <sup>1</sup>	q <sup>1</sup>	q <sup>0</sup>
4.6	4.6	4.7
	10	20

q <sup>0</sup>	q <sup>1</sup>	q <sup>1</sup>
4.7	4.6	4.6
	10	20

13.72  
 H.I.



4 sec Pav. BETWEEN  
Main Bldg and Sludge Storage

0 + 39

0 + 31.45

0 + 15.22

0 + 00 S.L. Sludge Storage

T.P. 4.33 13.52 4.73 9.19

1 + 01.78 South edge Cor. Pav.

0 + 86.09

0 + 70.4

13.92

17857

LT

Baseline #17

Rt. 74

876	856	832	862	867
4.76	4.96	5.20	4.90	4.85
24	16	7.7		10

871	854	833	874	899	907
4.55	4.97	5.19	4.78	4.53	4.50
24	10	7.7		10	10

RAMP to door SLUDGE STORAGE

894	847	825	854
4.58	5.05	5.27	4.98
24	10	7.7	

852	833	818	852
5.00	5.19	5.34	5.00
24	10	7.7	

SE COR. Main Bldg.

13.52

LT

Baseline #2

Rt. 74

891	901
4.96	4.91
10	CON

WE COR DETECTOR

90	9
4.9	5.0
10	DIRT

901	896	912	90
4.91	4.96	4.80	4.9
31	31	40	DIRT

FLOOR DETECTOR

SE COR. of DETECTOR Bldg

13.92



check to B.M.

5.03

9.25

$\frac{9.25}{.00}$

T.P.

4.94

14.25

4.18

9.34

0 + 01.78

0 + 93.5

0 + 86.09

0 + 78.9

0 + 70.4

0 + 60

0 + 50.92

13.52

Lr

Baseline  
#17

R+

75

887	872	849	882
$\frac{4.65}{24}$	$\frac{4.80}{16}$	$\frac{5.03}{7.7}$	4.70

889	870	847	880
$\frac{4.63}{21.3}$	$\frac{4.82}{15.5}$	$\frac{5.05}{7.7}$	4.72

869	859	872	905
$\frac{4.83}{15.5}$	$\frac{4.93}{13}$	$\frac{5.10}{7.7}$	4.47

on wood  
grating #

894	862	840	872
$\frac{4.60}{24}$	$\frac{4.90}{15.5}$	$\frac{5.12}{7.7}$	4.80

892	869	838	872
$\frac{4.60}{24}$	$\frac{4.83}{16}$	$\frac{5.14}{7.7}$	4.80

874	857	839	859
$\frac{4.78}{24}$	$\frac{4.95}{16}$	$\frac{5.13}{7.7}$	4.92

873	857	834	847	857
$\frac{4.78}{24}$	$\frac{4.95}{16}$	$\frac{5.18}{7.7}$	5.05	$\frac{4.95}{7.5}$

13.52



Check Basement Floor Elev.  
 Add. to Main Bldg.  
 Used Baseline on P. 70  
 0+00 = INSIDE 14" WALL

Lt

Bldg

Rt

76

0+52.36 37.0  
 0 2 1/2" gap

0+47.39 16.6  
 0 2 1/2" gap

← 57.7 ± 0+44.05 ±  
 (Spauld 44.17)  
 60' Plans

← 59.9 ± 0+34.73 Footing  
 (Spauld 34.83)  
 60' Plans

← 0+25.43 ± Footing

NW & NE = 0+30.105

0+76

SW Steve 0+21.48

427 ± 4450

428 ± 445

425 ± 449

0+25.86

SE. 0+21.46

← 0+00 →  
 14" WALL



0133.3

0132.75

0131.4

0131

0130.65 NW + NE TOP BOLTS

0128.13

0125.43 CTR FOOTING

SW TOP BOLT + SE BOLT

B11

4.06

4.06

0.00

Add 2" clips

-123

5.29

drain  
trap

-124

5.45

drain  
trap

-120

5.40

drain  
trap

-122

5.45

drain  
trap

-121

5.44

drain  
trap

-118

5.41

drain  
trap

-126

5.17

drain  
trap

-118

5.41

drain  
trap

clip

86

P

77

-117

5.35

drain  
trap

-107

5.30

drain  
trap

-102

5.25

drain  
trap

3.06  
4.27

3.06  
8.72

3.81  
4.25

-111

5.34

drain  
trap

3.20

8.74

5.0  
8.17

4.06

4.23 clips



0 + 49

0 + 47.30

0 + 45.5

0 + 44.5

0 + 43.2

0 + 41.7

0 + 38.7

0 + 34.73

-1<sup>004</sup>

5.27

CLIP

-1<sup>90</sup>

5.8

CLIP

-10<sup>70</sup>

4.70

10.0

10.0" Pipe

-152

5.75

CLIP

-22

6.3

5.7

dirt foot

-113

5.35

CLIP

-109

5.32

CLIP

-115

5.38

CLIP

-110

5.39

CLIP

-22

6.3

5.7

dirt footing

KOL

4230143



E inlet S wall 785  
+ 3.67

W inlet S wall 768  
+ 3.62

S inlet W wall 757  
+ 3.51

N inlet on W wall 74  
+ 3.35 inv.

0756.7

0752.36

0751

0750

2.5

4.6  
dirt

82  
- 0  
4.88  
3.7  
TOP 2" PIPE

-18  
5.9  
2  
dirt

-105  
5.28  
2  
clip

-106  
5.29  
73  
26.1

406

-423 clips



check Elec. M.H.S. 12-3-48

BIM 500 17.50 1250.

#2 ELECT. M.H. 1302 4.48 FORM

#3 " " 1206 5.44 COR

Inset 4' W of SE Cor.

760

+3.54

+4.16

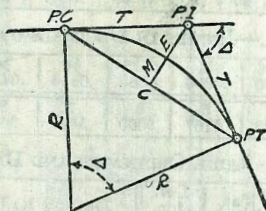
25 x 35 Inset Box  
at SE Cor

+0.10

V.06

# DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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## CURVE FORMULAS

Radius— $R = \frac{50}{\sin \frac{D}{2}}$  (1) Degree of Curve— $D$  and  $\sin \frac{D}{2} = \frac{50}{R}$  (2)

Tangent— $T = R \tan \frac{\Delta}{2}$  (3) Length of Curve— $L = 100 \frac{\Delta}{D}$  (4)

Middle ordinate— $M = R(1 - \cos \frac{\Delta}{2})$  (5)  $= R \text{vers } \frac{\Delta}{2}$  (6)

External— $E = T \tan \frac{\Delta}{4} = R \div \cos \frac{\Delta}{2} - R$  (8)  $= R \text{exsec } \frac{\Delta}{2}$  (9)

Long Chord— $C = 2R \sin \frac{\Delta}{2}$  (10)  $\Delta$ —Central Angle

## EXPLANATION AND USE OF TABLES

**Stations.**—Given P. I.—Sta. 161+60.35 to find Sta. of P. C. and P. T.  $\Delta = 62^\circ 10'$   $D = 8^\circ 20'$ . From Table IV for  $1^\circ$  curve  $T = 3454.1$  and  $\div 8\frac{1}{3} = 414.49$  ft. From Table V correction = .36 or  $T = 414.85$  ft. P. C.—Sta. P. I.— $T = 157 + 45.50$ . Also from (4)  $L = 746.00$  and P. T.—Sta. P. C. +  $L = 164 + 91.50$ .

**Offsets.**—Tangent offsets vary (approximately) directly with  $D$  and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft. = 7.27 ft. Distance =  $158 - \text{Sta. P. C.} = 54.50$ , hence offset =  $7.27 (54.50 \div 100)^2 = 2.16$  ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus  $(54.50)^2 \div (2 \times 688.26) = 2.16$  ft.

**Deflections.**—Deflection angle =  $\frac{1}{2} D$  for 100 ft.,  $\frac{1}{4} D$  for 50 ft., etc. For  $c$  ft. = (in minutes)  $.3 \times C \times D^\circ$  or = defl. for 1 ft. from Table III  $\times C$ . For Sta. 158 of above curve =  $.3 \times 54.5 \times 8\frac{1}{3} = 136.2'$  or  $2^\circ 16.2'$ , or =  $2.50 \times 54.5 = 136.2'$  from Table III. For Sta. 159 deflection angle =  $2^\circ 16.2' + 8^\circ 20' \div 2 = 6^\circ 26.2'$ , etc.

**Externals.**—May be found in similar manner to tangents. Thus  $E$  for curve above is 115.37. For from Table IV for  $1^\circ$  curve  $E = 960.6$  for  $8^\circ 20' = 960.6 \div 8\frac{1}{3} = 115.27$  and from Table V correction = .10 or  $E = 115.37$  ft. Or suppose  $\Delta = 32^\circ$  and  $E$  is measured and found to be 42 ft. What is  $D$ ? From Table IV  $E = 230.9$  and  $\div 42 = 5.5$  or  $D = 5^\circ 30'$ .



check station slab #1, 11-3-48  
 chained 122.53 to 50  
 89.95 to 98

BM	4.52	13.78	9.26	
top			4.78	9.00
sub-gr.			5.78	8.00
"			6.11	7.67
BM	5.46	14.72	9.26	
top			5.72	9.00
sub.			6.72	8.00
"			6.75	7.67
Top of concrete			8.24	8.88
BM	4.43	13.69	9.26	
top slab			5.69	9.00
sub			5.09	8.00
"			6.02	7.67
Detriton #1			6.94	6.75
			7.19	6.50
			8.19	8.50
			8.44	8.25

Checked O.K. 11-16-48  
 Box Sand

128.57  
 11.54  
 140.11  
 118.48  
 21.63  
 11.35  
 10.28  
 10.136  
 .9  
 .991224  
 10.136  
 15.7  
 70.952  
 50.680  
 10.136  
 1.591352  
 .75  
 85.16  
 19.84  
 10.136  
 1.84  
 19.84  
 200.364  
 140.11  
 .75  
 139.36  
 11.84  
 151.20  
 10.11  
 10.136  
 .9  
 .991224  
 10.136  
 15.7  
 70.952  
 50.680  
 10.136  
 1.591352  
 .75  
 85.16  
 19.84  
 10.136  
 1.84  
 19.84  
 200.364  
 165  
 101  
 165  
 16665

118.48  
 119.00  
 119.52  
 120.04  
 120.56  
 121.46  
 122.96  
 124.46  
 125.96  
 126.83 - Brk  
 127.43  
 128.58  
 129.26  
 130.58 - Brk  
 131.35  
 132.60  
 135.08  
 135.17 - BC  
 136.76  
 138.35  
 139.94  
 141.53  
 143.53  
 146.06  
 147.41



<u>19</u>	<u>119.52</u>	<u>120.04</u>	<u>120.56</u>
21.11	20.59	20.07	19.55
11.68	11.25	10.58	9.98
9.43	9.33	9.49	9.57

<u>121.46</u>	<u>122.96</u>	<u>124.66</u>	<u>125.96</u>
18.65	17.15	15.45	14.15
9.42	8.32	6.55	5.34
9.23	8.83	9.10	8.81

<u>126.83</u>	<u>127.43</u>	<u>128.58</u>	<u>129.26</u>
13.28	12.68	11.53	10.85
4.12	3.64	2.91	2.32
8.86	8.84	8.62	8.53

<u>130.58</u>	<u>131.35</u>	<u>133.60</u>	<u>135.08</u>
9.53	8.76	17.60	16.12
1.23	0.75	10.00	9.00
8.30	8.01	7.60	7.12

<u>135.17</u>	<u>136.76</u>	<u>138.35</u>
16.03	14.44	12.85
8.88	7.51	6.32
7.15	6.93	6.54

<u>139.94</u>	<u>141.53</u>	<u>143.53</u>	6.33
11.25	9.67	7.67	
4.95	3.98	3.4	
6.31	5.69		

<u>146.06</u>
5.14
<u>1.93</u>
3.81

<u>151.20</u>
4.5

<u>151.20</u>
66
<u>151.86</u>
4.5
<u>147.36</u>



151.20  
Λ



130.58  
131.35  
133.60  
135.08



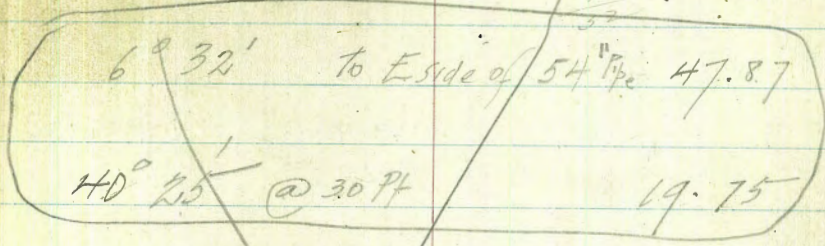
Location 54 = 4' 6" + 6" = 5.00  
 10 42 BM Pier (5)  
 4.39  
 14.81 HI

15 73  
 Rod  
 12 45 @ 25° 40' 0.26  
 15 99  
 14 81  
 14 23 35 26  
 5  
 Crow - 6.18  
 19.17 6.37  
 19

10 42  
 4.61  
 15.03  
 148  
 15 03  
 5.50  
 9.53 set elev on Water  
 for MH at Pier

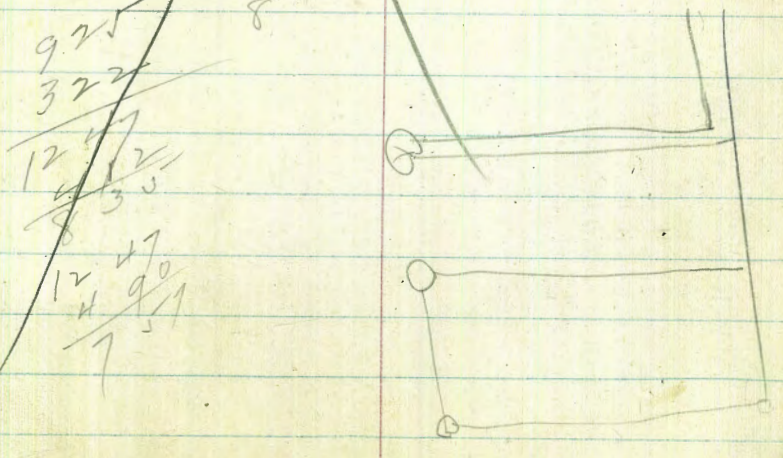
10 42  
 4.09  
 14.51

15 73 Length of Pipe  
 07  
 15 66  
 63  
 71  
 14.51 HI  
 15 66  
 1.15  
 275  
 48  
 54



17.5  
 8  
 2.5  
 5.7  
 19.8 side of Pipe  
 50  
 11.49  
 4.56  
 16.05  
 16.06

14 51  
 15 50  
 \* - 1.00  
 12 47  
 4 00  
 8 47



9.25  
 32.2  
 12 47  
 4 35  
 8  
 12 47  
 4 35  
 7

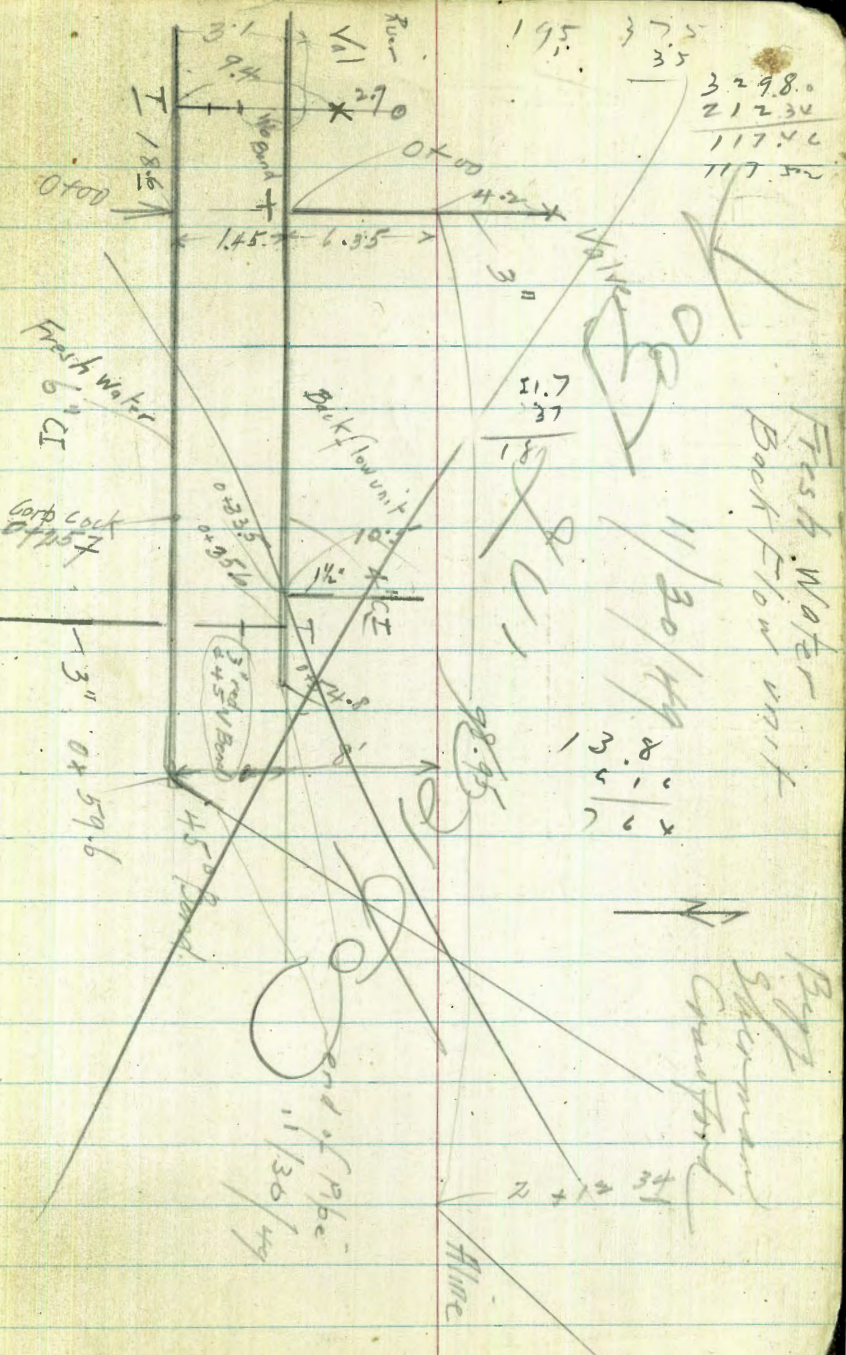
5.60  
 5.18  
 5.17



7 25 BM  
 2 41  
 11.66

78  
 62

0+0	4" on T	4.43	
0+0	3 40 on Valve stem	4.40	on 3" pipe
0+00	6	4.15	
0-18		4.46	4"
0-18		4.30	6" T
0-18		5.32	9.4 out
0-18		5.07	in valve
0-18		3.60	Valve stem
0-18	top	2.36	flange
0 + 356	6"	4.14	
0 + 356	4"	4.28	
0 + 356	3"	5.40	
0 + 356	3"	5.45	at 21.7 enters Sledge Storage
0 + 548	4"	4.34	end of pipe
0 + 596	6"	4.13	5" pipe



195 375  
 35  
 3298.0  
 21230  
 11746  
 117.52

Fresh Water  
 Back Flow Unit  
 11/30/49  
 8.11  
 3.11  
 5.00

Right  
 Sledge Storage  
 Check Valve

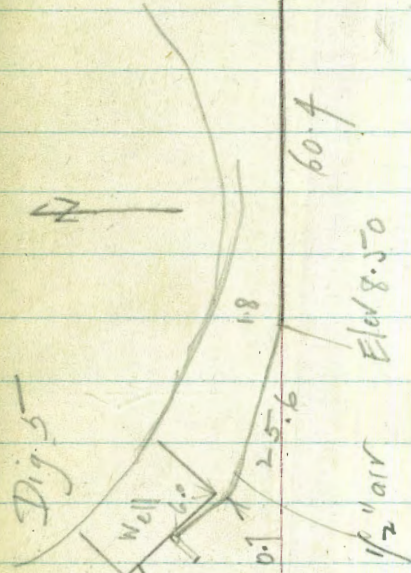
3559.0  
 21230  
 11746  
 117.52



Dig 5

Heat Exc

S Lab



Elev 8.50

1/2 air

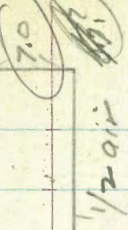
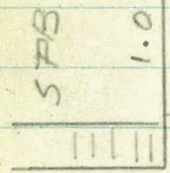
1/2 air  
1/4 air  
lays on top of conduit  
conc

11/30/49

Byg Sherman  
Crawford

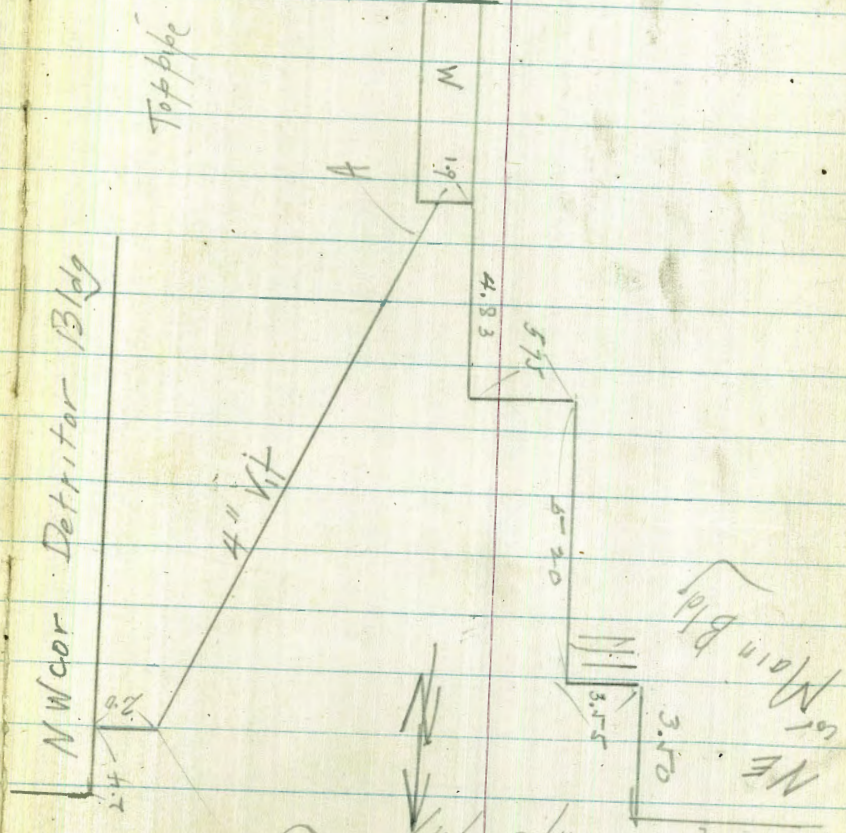
1/3 Air

12 0  
2 20  
1 20  
1 20  
8 30



NW cor Detritar Bldg

Tempco H" Drain. between  
Main Bldg & Detritar Bldg  
11/30/49



NE  
Main Bldg  
NW  
Main Bldg

Topple A B

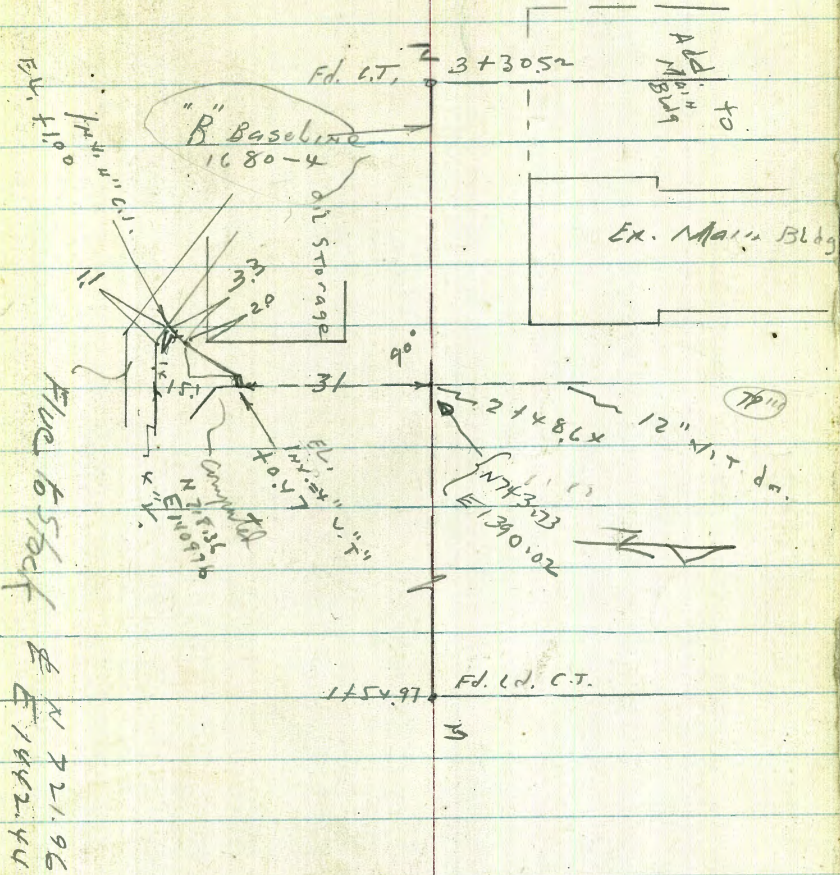
11 66 H
5.74
5.92
6.03
5.63

Byg  
Sherman  
Crawford  
11/30/49



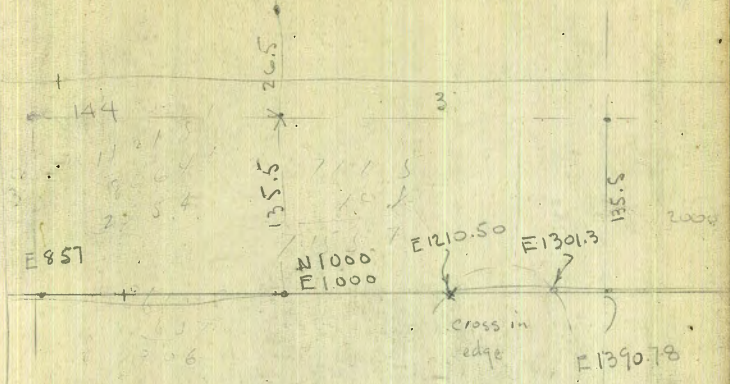
Moore  
Begg  
Sherman  
Crawford  
11-30-49

Locate 4" tile drain  
MH. at stack to Brick  
Tunnel





10.  
12  
18  
531  
25  
765  
461  
191  
1037



13 69  
7 75  
5 94 EI  
5 5  
6. v 9

13 69  
5 44  
8 25 below  
60 1/4

23

° = wedge of  
Mark

819  
17  
836

719  
17  
736



160  
 173  
 53.38  
 86.88  
 112  
 5600  
 2976  
 4  
 6213  
 421  
 20.43  
 125.62  
 398.13  
 58  
 25.5  
 13.5  
 N 1000 } = #1  
 E 1640 }  
 N 1000  
 E 1770 = Ang. 74°  
 82.12  
 08  
 112.41  
 01  
 11201  
 20711  
 5452  
 545285  
 353555  
 424266  
 545485  
 61221583.8  
 11767.3  
 85  
 14768.15  
 532  
 44  
 22.5  
 21.5  
 9.63  
 5280  
 261  
 19001  
 051  
 11201  
 801  
 68  
 261  
 4,500  
 V25  
 4,500  
 142  
 27  
 759  
 61.90

DISTANCES FROM CENTER OF ROADWAY FOR  
CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½  
For Single Track Embankment.

H	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9 + (20 - 16) ÷ 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.