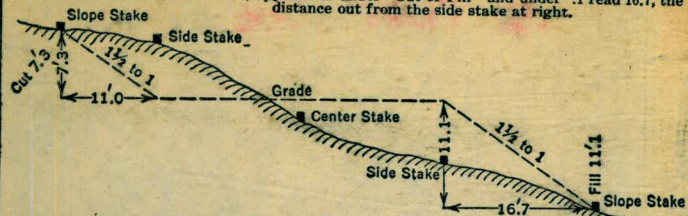


MISSION BAY

56

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.



B OK 56

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

MICROFILMED

MICROFILMED
 JAN 7 1965

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

99267) 1.00000 (1.007
99267

733000
694889

⊙

993) 1.085 (1.09
993

9200
9237

1.09

.12

218

109

MICROFILMED

JAN 5 1982

INDEX

Page	Date
1	Baseline Layout - Proposed Bridge Location Morena to Taylor situation survey - Taylor St. 7-11-50
2-4	to Morena Blvd. 7-11-50
5-10	Intersection Details Morena & Greenwood Streets - Baseline Layout 11-10-50
11-38	Topographic Features Intersection of Camino & Morena Blvds & Taylor Streets 11-6-1950
39	Morena, Taylor, & Camino Del Rio Intersection Details & R/W Ties 11-14-50
40	Layout For Control - Morena Blvd. Bridge - W.O. 65300 5-2-51
41-43	Triangulation of Control Points For Morena Blvd Bridge 5-3-51
44-45	LAYOUT FOR CONTROL - MORENA BLVD. BRIDGE - W.O. 65300 (CONT'D) 5-15-51
46-47	{ Situation Survey Morena Blvd New Location Pro 22057 6-11-51
48-51	{ Original X Sections of Morena Blvd N App. P. 22057 6-19-51
52	CHECK LEVELS 6-21-51
53	Location Brem Cong. Bldg. 6-25-51
54	Pier & Footing Layout Morena Br.
55	Control levels Morena Br. 7-25-51
56	Check on Top of Conk Piles Pier #12 Morena Blvd Br. 8-13-51

- Pier # 12
- ✓ 57 Check on Sub Grade Elevs 8-13-51
 - ✓ 58 Layout of Anchor Bolts & Pour Str.
Piers 1 to 6 & 7 to 12
 - ✓ 59 Check on Pour Strip El. Piers 10 & 11 10-22-51
 - ✓ 60 Girder Seat Elevs Pier # 12 9-4-51
 - ✓ 61 Check on Pour Strip Pier # 8 9-6-51
 - ✓ 62 Check on Pour Strip Pier # 6 9-11-51
 - ✓ 63 Bench Levels Moreno Bridge 9-12-51
 - ✓ 64 Girder Seat Elevs. Piers # 10 & 11 11-15-51
 - ✓ 65 Girder Seat Elevs Piers # 8 & 9
 - ✓ 66 Girder Seat Elevs Pier # 6
 - ✓ 67 Check Pour Strip Pier # 1 9-18-51
 - ✓ 68 Girder Seat Elevs. Pier # 1 10-2-51
 - ✓ 69 Check Pour Strip Elevs Piers # 3 & 4 10-16-51
 - ✓ 70 Check Girder Elevs Piers # 3 & 4 10-22-51
 - ✓ 71 Check on Footing & Pour Strip # 7 10-26-51
 - ✓ 72 Bench levels on Moreno Bridge 10-26-51
 - ✓ 73 Check on Pour Strip Pier # 7 10-28-51
 - ✓ 74 Girder Seat Elevs. Pier # 7 & 9 10-29-51
 - ✓ 75 Check on Pour Strip Elevs # 2 & # 5 11-4-51

Page

Date

- ✓ 76 Girder Seat Elevs Piers # 2 & # 5
- ✓ 77 Girder Seat Elevs. N. & S. Abut.

BASELINE LAYOUT PROPOSED BRIDGE

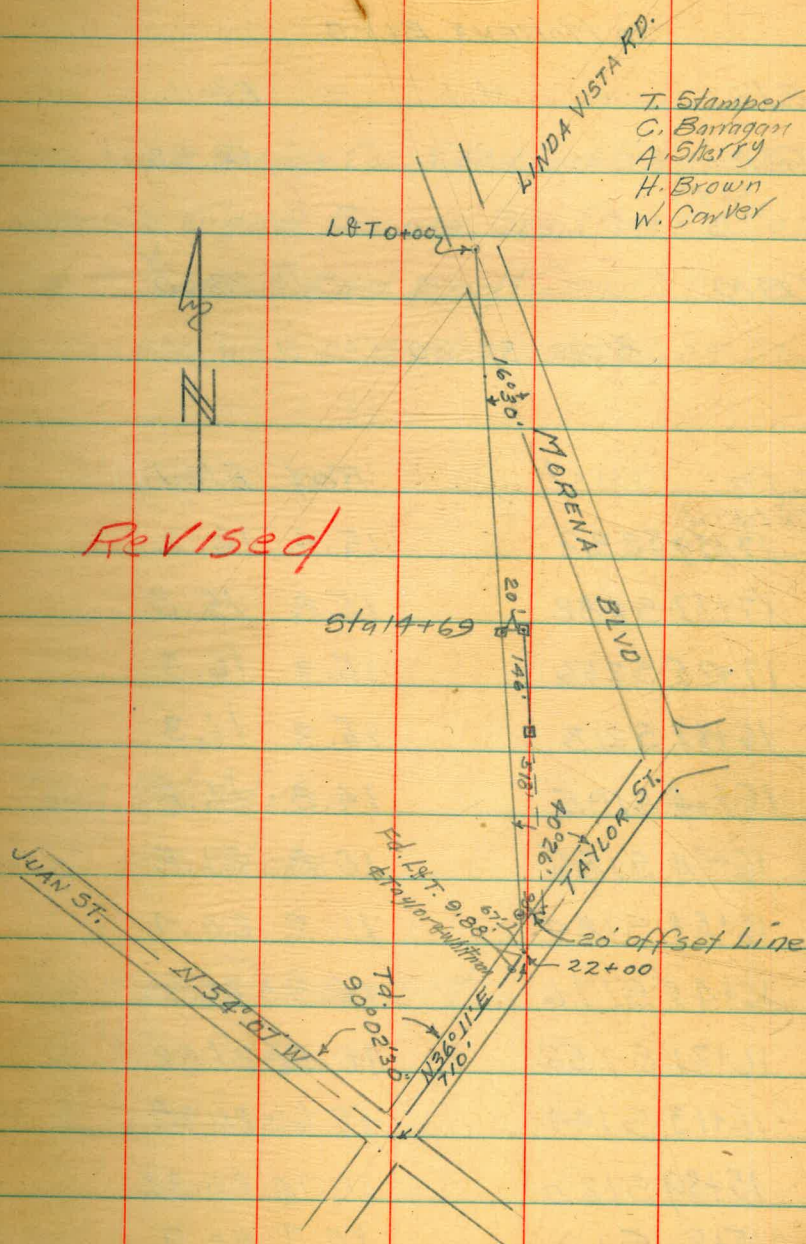
LOCATION MORENA BLVD TO TAYLOR ST.

Revised

22+00	± Taylor St
67	
21+33	
5 18	
16+15	
1 46	
14+69	On Old Dyke

July 17, 1950

①



SITUATION SURVEY TAYLOR ST.

July 17, 1950

②

TO MORENA BLVD

Sta + H.I - Elev.

T.B.M. 13.60

Revised

T.B.M. 23.60 ✓

8.00 31.60

Keel Mark Inside Cor. N. East Curb @ Taylor & Juarez
opposite Signal Service Sta. (See F.B. #42)
Pg. 69

Top S. Curb @ East End of Cami D DEL RIO

APPROX. 800' WLY. OF ⊕ MORENA & TAYLOR ST.

Sta	Dist	Rad	Elev
π@ 14+69			
17+99	5330	15.4	16.2
17+51	5282	15.8	15.8
17+25	5256	15.3	16.3
16+82	5213	15.3	16.3
16+64	5195	14.8	16.8
16+54	5185	10.8	21.8
16+53	5184	11.2	20.4
16+45	5176	10.95	20.65
16+21	5152	10.58	21.02
16+13	5144	10.62	20.98
15+89	5120	10.78	20.82
15+80	5111	10.7	20.9

Toe Shldr

S. Top Shldr

S Edge Pavement

S. & Profile

N. & Profile

SITUATION SURVEY CONTD

STA	DIST	H.I.	Rod Elev	
N 14+69		31.60		Top old S.D. River Dyke
15+78	S 109		10.5 21.1	
15+65	S 96		15.3 16.3	
15+27	S 58		15.6 16.0	
15+21	S 52		15.0 16.6	
15+12	S 43		15.2 16.4	
14+90	S 21		13.7 17.9	Toe old River Dike
14+71	S 2		5.0 26.6	S.
14+69	0		5.0 26.6	
14+58	N 11		5.1 26.5	
14+43	N 26		15.2 16.4	
14+35	N 34		19.6 12.0	Toe

Revised

SITUATION SURVEY CONTD

32+00

STA	+	H.I	-	ELEV	
T.B.M.	6.70	2030		13.60	See Pg 2.
22+00			4.65	15.65	± Taylor St.
21+55±			5.33	15.0	Gutter
21+55±			4.68	15.62	Top N. Curb
21+33			4.65	15.65	S. Edge Bldg

Revised~~10188.59~~~~8181.06~~~~210753~~

INTERSECTION DETAILS MORENA &

Nov. 10, 1950 T.A. Stamper

GREENWOOD ST'S

Conc. Mon. 3' Deep

29.39
519.08
548.47

P.L. 300

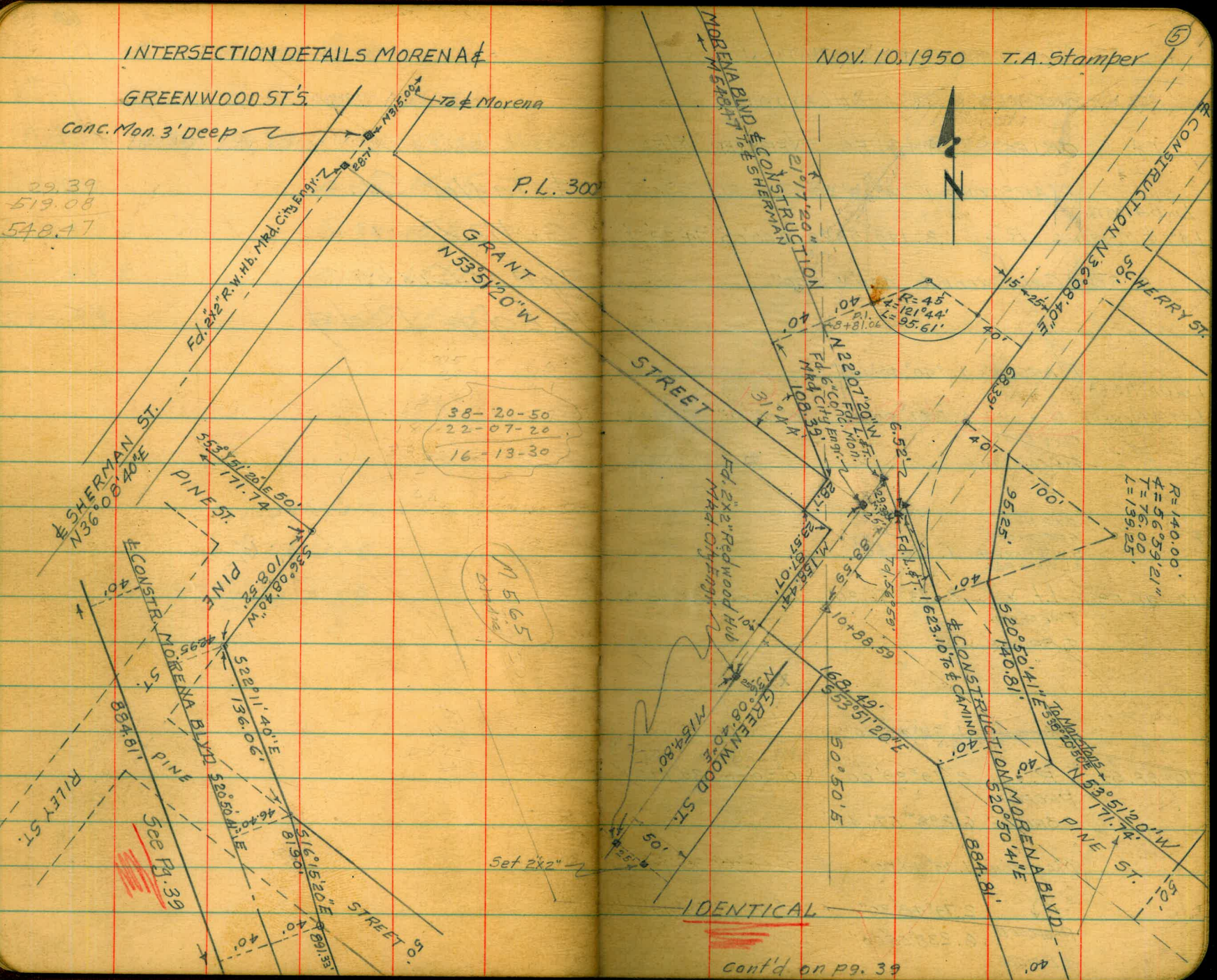
38-20-50
22-07-20
16-13-30

M E 65
D.M. 115

Set 2x2"

IDENTICAL

cont'd on pg. 39

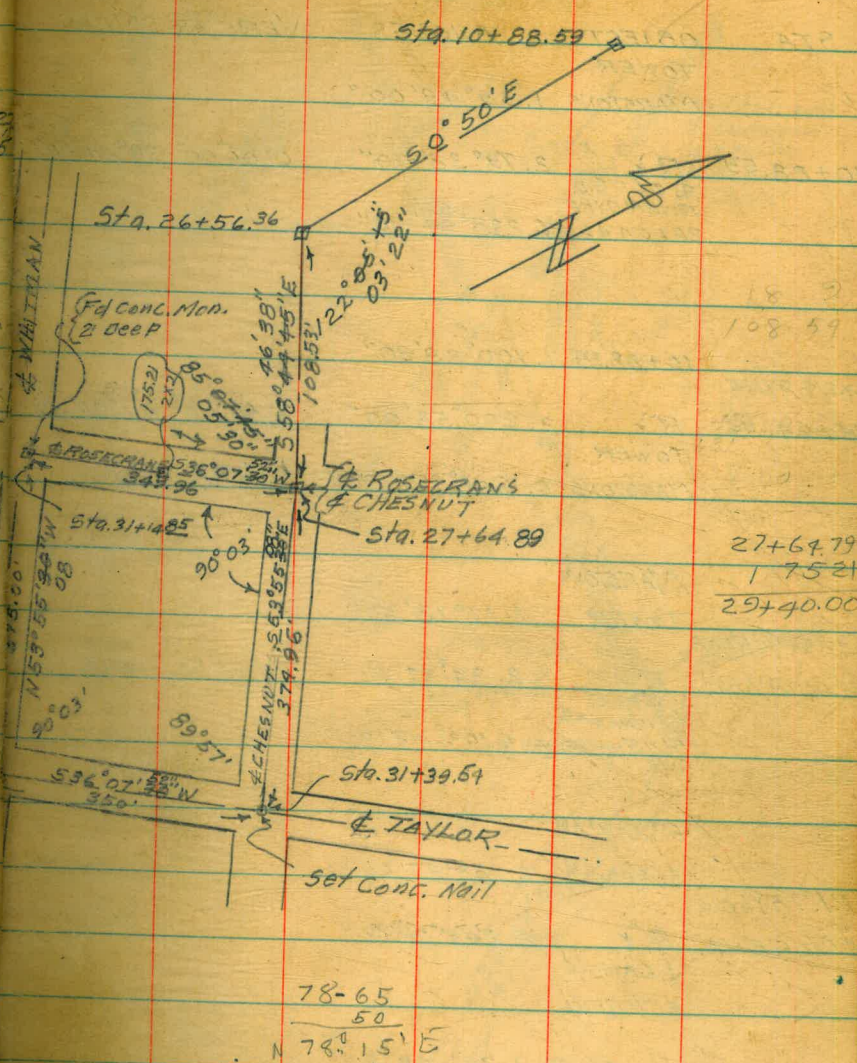


SITUATION SURVEY CONTD

Oct. 5, 1950

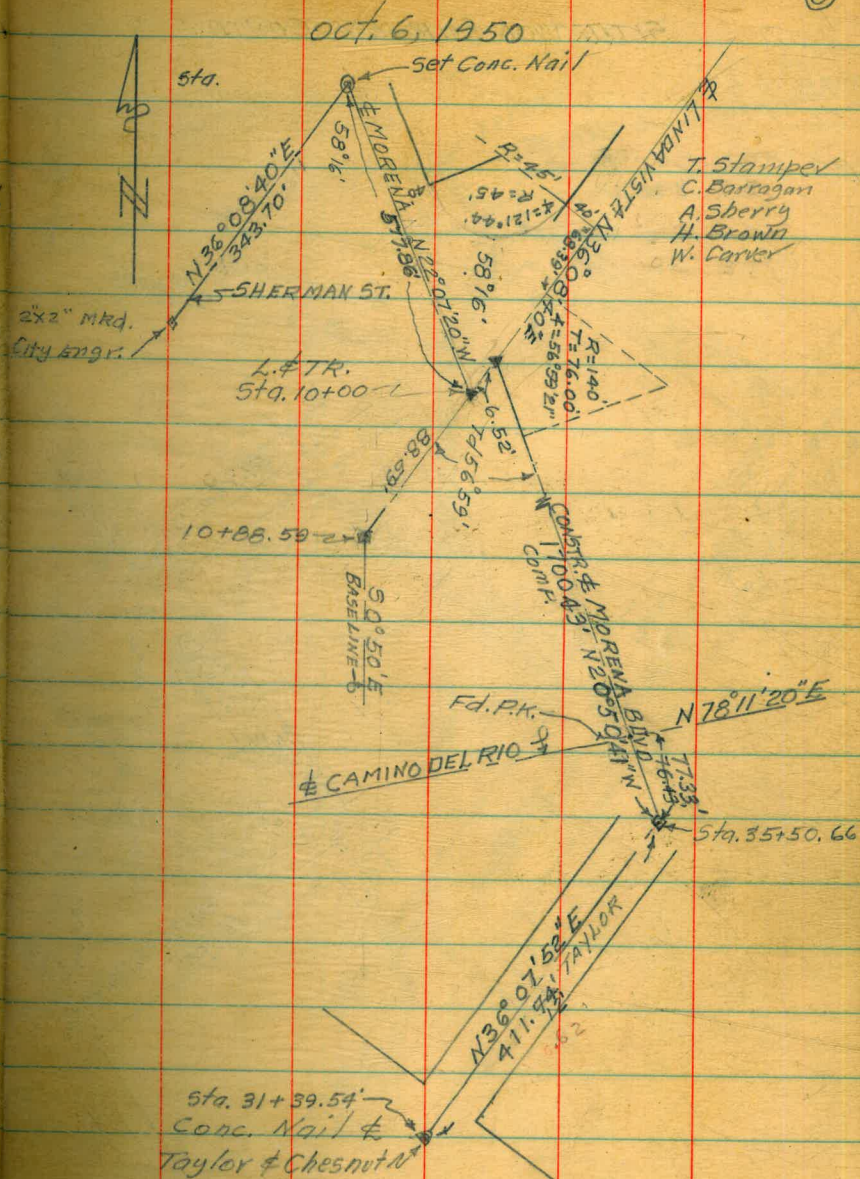
7

STA	OBJECT	ANGLES	VERNIER	MEAN
				03'30"
1	CAMINO DEL RIO	1. 122°05'00"		122°05'15"
	26+56.36 R ↘	2. 244°06'45"	0°00'00"	122°05'15"
L	Chesnut & ROSECRANS			03'22"
	BCA		108.73'	
	26+56.36	1. 85°05'30"		85°05'30"
L	ROSECRANS & CHESNUT	2. 170°11'00"	0°00'00"	85°05'30"
	27+64.79 Lt. ↘			
L	Whitman & ROSECRANS			
L	Whitman & ROSECRANS	1. 90°03'00"		
L	ROSECRANS & CHESNUT	Lt. ↘	2. 180°06'00"	0°00'00" 90°03'00"
	Chesnut & ROSECRANS	1. 89°58'00"		
L	Taylor & CHESNUT	Lt. ↘	2. 179°54'00"	0°00'00" 89°57'00"
	Whitman & ROSECRANS	1. 90°03'00"		
L	Taylor & WHITMAN	Rt. ↘	2. 180°06'00"	0°00'00" 90°03'00"
	ROSECRANS & CHESNUT	1. 89°57'00"		
L	Whitman & ROSECRANS	Rt. ↘	2. 179°54'00"	0°00'00" 89°57'00"
	Whitman & TAYLOR			



SITUATION SURVEY CONTD

STA	OBJECT	ANGLES	VERNIER	MEAN
	TOWER			
	MARSTONS	1.39° 49' 00"		
10+88.59	R ↓ # OLDS.D. RIVER DYKE 26+64.46	2.79° 38' ³⁰ 00"	0° 00' 00"	39° 49' ²⁰ 00"
	2x2 # DYKE	1.100° 28' 30"		
24+64. ¹² 76	R ↓ TOWER	2.200° 58' 00"	0° 00' 00"	100° 28' 45"
	MARSTONS	6.602° 52' 30"		
	MARSTONS TOWER	1.17° 18' 30"		
L & T. # MORENA	R ↓ # LINDA V. RD. P.K. @ # MORENA # SLY END BRIDGE	2.34° 37' 00"	0° 00' 00"	17° 18' 13"
	P.I. TAYLOR			
	# CHESTNUT	1.122° 35' 00"		
P.I. TAYLOR	R ↓ # CAMINO # MORENA	2.245° 09' 00"		
	10+88.59	1.79° 05' 00"		
CAMINO 26+56.02	R ↓ P.I. TAYLOR # MORENA	2.158° 09' 45"		
		79° 04' 52"		



10-25-50

19.75 Curb Inlet.
5.39
25.14

10-25-50

(11)

TOPO SURVEY OF INTERSECTION OF
CAMINO DEL RIO & OF PROPOSED
MORENA ST. BRIDGE

STATION OBJECT AZIM DIST ROD ELEV

A @ STA 26+56³⁶ N = 0° 0' 00" H.I. = 25.14

26+56³⁶ 11+80 359° 10'

✓ ①	253° 05'	370	0.14	25.0	South Bank
✓ ②	253° 50'	362	"	"	So. Top Curb
✓ ③	254° 05'	382	"	"	So. Gutter
✓ ④	" "	382	"	"	So. Edge Pavement
✓ ⑤	257° 50'	370	"	"	So. Center Gutter
✓ ⑥	257° 55'	356	"	"	" " Top Curb
✓ ⑦	258° 25'	355	"	"	No " Top Curb
✓ ⑧	258° 30'	372	"	"	No " Gutter
✓ ⑨	261° 55'	390	"	"	No. Edge Pavement
✓ ⑩	262° 15'	381	"	"	No. Gutter
✓ ⑪	262° 30'	361	"	"	No. Top Curb
✓ ⑫	262° 55'	363	"	"	No. Bank
✓ ⑬	263° 05'	354	"	"	" "
(14)					

H.I. = 25.14

Sta	Object	Azimuth	Dist	Red	Elev	
	✓ (1)	264°00'	338	1.14	240	No Bank
	✓ (2)	263°40'	322	"	"	" "
	✓ (3)	262°55'	326	"	"	No Top Curb
	✓ (4)	262°35'	348	"	"	No Gutter
	✓ (5)	262°20'	348	"	"	No Edge Pavement
	✓ (6)	258°30'	341	"	"	No Center Gutter
	✓ (7)	258°25'	323	"	"	" " Top Curb
	✓ (8)	257°50'	322	"	"	So " " "
	✓ (9)	257°45'	341	"	"	So " Gutter
	✓ (10)	254°05'	349	"	"	So Edge Pavement
	✓ (11)	253°45'	350	"	"	So Gutter
	✓ (12)	253°25'	328	"	"	So Top Curb
	✓ (13)	253°05'	333	"	"	So Bank
	✓ (14)	252°30'	323	"	"	So Bank
	✓ (15)	252°30'	338	"	"	
	✓ (16)	252°30'	360	"	"	

H.I. 25.14

Sta	Object	Azim	Dist	Rod	Elev	
✓	(1)	252°10'	338	2.14	23.0	So Bank
✓	(2)	252°05'	317	"	"	" "
✓	(3)	252°55'	312	"	"	" "
✓	(4)	251°55'	306	"	"	Top of Berm
✓	(5)	253°20'	317	"	"	So Gutter
✓	(6)	253°35'	318	"	"	so Edge Pavement
✓	(7)	252°55'	310	"	"	Jog
✓	(8)	257°45'	306	"	"	So Center Cutoff
✓	(9)	257°50'	283	"	"	" " Top Curb
✓	(10)	258°30'	287	"	"	No " " "
✓	(11)	258°30'	306	"	"	No " Gutter
✓	(12)	262°40'	315	"	"	No Edge Pavement
✓	(13)	263°05'	315	"	"	No Gutter
✓	(14)	263°05'	311	"	"	No Berm
✓	(15)	264°05'	306	"	"	" Bank
✓	(16)	263°25'	313	"	"	" "
✓	(17)	264°30'	315	"	"	
	(18)	264°15'	333	"	"	
	19	264°25'	357	"	"	

H.I. = 25.14

Sta	Object	Azim	Dist	Rod	Elev	
✓	①	264°45'	355	3.14	22.0	N. Bank
✓	②	265°50'	319	"	"	" "
✓	③	265°10'	301	"	"	" "
✓	④	265°10'	295	"	"	" "
✓	⑤	265°20'	282	"	"	" "
✓	⑥	265°30'	271	"	"	" Top Berm.
✓	⑦	265°00'	284	"	"	" Shoulder
✓	⑧	264°35'	297	"	"	" "
✓	⑨	263°20'	276	"	"	" Edge Pavement
✓	⑩	258°35'	266	"	"	" Center Gutter
✓	⑪	258°30'	243	"	"	" " Top. Curb.
✓	⑫	257°40'	241	"	"	So " " "
✓	⑬	257°40'	265	"	"	" " Gutter
✓	⑭	253°00'	278	"	"	" Edge Pavement.
✓	⑮	251°45'	293	"	"	" Shoulder
✓	⑯	251°00'	279	"	"	" Top Berm
✓	⑰	251°10'	292	"	"	" Bank
✓	⑱	251°40'	315	"	"	" "

H.I = 25.14

Sta	Object	Azim	Dist	Prod	Elev	
✓	(20)	252°00'	343	3.14	220	S. Bank
✓	(21)	252°05'	368			
✓	(1)	251°50'	368	4.14	210	So Bank
✓	(2)	251°30'	333		"	" "
✓	(3)	250°55'	302		"	" "
✓	(4)	250°35'	261		"	" "
✓	(5)	250°15'	262		"	" "
✓	(6)	249°40'	237		"	Top Berm
✓	(7)	250°35'	254		"	Shoulder
✓	(8)	252°00'	234		"	"
✓	(9)	257°55'	216		"	So Center Gutter
✓	(10)	257°35'	185		"	" Top Curb
✓	(11)	258°40'	185		"	" " "
✓	(12)	258°40'	217		"	" Gutter
✓	(13)	264°20'	233		"	Edge Pavement
✓	(14)	265°55'	245		"	Gutter
✓	(15)	266°45'	230		"	Top. Reirm

HI 25.14

Sta	Object	Azim	Dist	Red	Elev	
✓ (16)		266°30'	244	4.14	21.0	N. Bank
(17)		266°45'	272	"	"	N. "
(18)		265°45'	305	"	"	" "
(19)		265°05'	350	"	"	" "
(20)		264°55'	390	"	"	" "
(1)		265°10'	390 ₁₇₃	5.14	20.0	N. Bank
(2)			346			" "
(3)	? 266°30'	256°30'	287			" "
(4)		267°15'	242			" "
(5)		267°50'	219			" "
(6)		268°45'	194			" "
(7)		269°20'	180			" "
(8)		270°20'	162			" Top Berm
(9)		268°20'	187			Gutter
(10)		266°30'	170			N. Edge Darcement
(11)		258°55'	150			N. Center Gutter
(12)		259°10'	81			" " Top Curb
(13)		256°50'	79			S. " "

H.I. = 25.14

(17)

Sta	Object	Azin	Dist	Red	Elev	
	(14)	257°15'	195	5.14	20.0	So Center Gutter
	(15)	249°40'	171		"	" Edge Pavement
	(16)	248°25'	200		"	" Gutter
	(17)	246°15'	170		"	" Top Berm
	(18)	247°40'	200		"	" Bank
	(19)	249°00'	232		"	"
	(20)	250°20'	292		"	"
	(21)	251°10'	340		"	"
	(22)	251°45'	380		"	"
	(23)	251°40'	425	5.14	26.0	"
	(1)	251°20'	436	6.14	19.0	"
	(2)	251°20'	370		"	"
	(3)	249°45'	270		"	"
	(4)	248°30'	235		"	"
	(5)	247°05'	200		"	"
	(6)	244°05'	152		"	"
	(7)	239°45'	115		"	"
	(8)	231°35'	80		"	"
	(9)	166°55'	35		"	"

Barragan
Sherry
Brown
Cooper

H.I. = 25.14

19.15 Curb. Inlet.
5.03
24.18

5.7
7.3
1.9

11.5
20

(18)

Sta	Object	Azims	Dist	Red	Elev		
	(10)			614	19.0	50.	Gutter.
	(11)						
	(12)						

Λ @ Sta 26+56³⁴ N: 0+00

10-26-50
H.I. = 24.78

Sta	Object	Azims	Dist	Red	Elev		
	(1)	267°05'	420 178	578	19.0	No.	Bank Hwy
	(2)	267°30'	356		"	"	"
	(3)	^{266°} 299°05'	263		"	"	"
	(4)	272°10'	180		"	"	"
	(5)	279°30'	107		"	"	"
	(6)	^{73 10} 286°50'	76		"	"	"
	(7)	^{16 15} 343°45'	35		"	"	"
	(8)	50°10'	79		"	"	"
	(9)	63°25'	153		"	"	"
	(10)	68°50'	264 190		"	"	"
	(11)	71°05'	380		"	"	"
	(12)	71°15'	449		"	"	"
	(13)	69°45'	422		"	So	Bank of Dyke
	(14)	64°45'	343		"		

10-26-50

P.M. 19.75 Curb Inlet.

(19)

H.I. = 24.78

Sta	Object	Azim	Dist	Red	Elev	
✓	(15)	57°25'	278	5.78	19.0	So. Bank Dyke. (Flood Control.)
✓	(16)	41°30'	213	"	"	" " "
✓	(17)	1°05'	170	"	"	" " "
✓	(18)	325°30'	211	"	"	" " "
✓	(19)	316°35'	233	"	"	" " "
✓	(20)	317°10'	244	"	"	" " "
✓	(21)	304°35'	321	"	"	" " "
✓	(21)	297°50'	490	"	"	" " "
✓	(22)	108°10'	77	"	"	So. Bank Hwy.
✓	(23)	94°00'	160	"	"	" " "
✓	(24)	88°50'	263	"	"	" " "
✓	(25)	87°15'	345	"	"	" " "
✓	(26)	88°35'	385	"	"	" " "
✓	(1)	88°55'	367	6.78	18.0	So. Bank Hwy.
✓	(2)	87°40'	344	"	"	" " "
✓	(3)	89°30'	258	"	"	" " "
✓	(4)	93°50'	175	"	"	" " "
✓	(5)	108°20'	84	"	"	" " "

H.I. = 24.78

10.40
6.78
3.62

20

Sta	Object	Azin	Dist	Prod	Elev			
	✓ (6)	228° 35'	72	6.78	18.0		So. Bank	Hwy.
		247° 10'	200	6.95	18.0	HI 24.56	"	"
	? ✓ (7)	248° 30'	206		"		"	"
		250° 45'	330		"		"	"
	? ✓ (8)	215° 55'	316		"		"	"
		251° 10'	436		"		"	"
	2 ✓ (9)	252° 25'	440		"		"	"
		257° 40'	525		"		"	"
	? (10)	253° 10'	550		"		"	"
		251° 45'	612		"		"	"
	? (11)	253° 06'	724		"		"	"
		251° 30'	722		"		"	"
	✓ (12)	266° 40'	525		"		No. Bank	Hwy.
	✓ (13)	267° 50'	386		"		"	"
	✓ (14)	269° 45'	261		"		"	"
	✓ (15)	274° 40'	157		"		"	"
	✓ (16)	1° 40'	39		"		"	"
	✓ (17)	60° 40'	133		"		"	"
	✓ (18)	69° 15'	311		"		"	"
	✓ (19)	70° 25'	410		"		"	"
	✓ (20)	67° 10'	371		"		So. Bank	Dyke (Flood Control)
	✓ (21)	58° 20'	280		"		"	"
	✓ (22)	35° 20'	196		"		"	"
	✓ 23	0° 50'	169		"		"	"
	✓ (24)	324° 0'	212		"		"	"

10-27-50

H.I. = 24.78

10-26-50

(2)

Sta.	Object	Azim	Dist	Rod	Elev			
L	(25)	315° 40'	233	6.78	18.9	So	Bank	Dyke Flood Control
V	(26)	316° 50'	245			"	"	"
V	(27)	299° 15'	370					
V	(1)	299° 0'	371	7.78	17.0	So	Bank	Dyke
V	(2)	314° 55'	247			"	"	"
V	(3)	314° 10'	237			"	"	"
V	(4)	324° 0'	211			"	"	"
V	(5)	0° 55'	167			"	"	"
V	(6)	44° 30'	205		"	"	"	"
V	(7)	61° 05'	290		"	"	"	"
V	(8)	65° 35'	343			"	"	"
V	(9)	68° 30'	368			"	"	"
V	(10)	66° 55'	³ 217			No	Bank	Hwy
V	(11)	66° 35'	235			"	"	"
V	(12)	59° 0'	131			"	"	"
V	(13)	0° 0'	40			"	"	"
V	(14)	294° 25'	70			"	"	"
V	(15)	276° 55'	142			"	"	"

Sta	Object	Azim	Dist	Rod	Elev	
✓	(16)	272°05'	204	7.78	170	North Embankment Highway
✓	(17)	269°40'	287			"
✓	(18)	268°40'	355			"
✓	(19)	268°00'	415			"
✓	(20)	267°25'	465			"
✓	(1)	297°45'	382	8.78	160	South Bank Dyke (Flood Control)
✓	(2)	303°10'	325			"
✓	(3)	308°50'	271			"
✓	(4)	313°20'	250			"
✓	(5)	313°05'	236			"
✓	(6)	322°10'	211			"
✓	(7)	345°10'	172			"
✓	(8)	12°05'	150			"
✓	(9)	40°40'	173			"
✓	(10)	16°05'	179			"
✓	(11)	45°00'	141			Gully about Cen.
✓	(12)	44°25'	89			North Bank Hwy
✓	(13)	352°45'	43			"

Sta	obj	Azim.	Dist.	Red	Elev	
v	(14)	295°45'	70'	8.78	160	North BANK Highway
v	(15)	280°00'	129'			" " "
v	(16)	273°15'	202'			" " "
v	(17)	272°30'	278'			" " "
v	(18)	268°30'	365'			" " "
v	(19)	268°15'	442'			" " "
v	(1)	299°05'	362'	9.78	150	South Bank Dyke (Flood Control Zone)
v	(2)	303°45'	314'			" " "
v	(3)	308°45'	266'			" " "
v	(4)	311°10'	238'			" " "
v	(5)	321°35'	210'			" " "
v	(6)	335°35'	178'			" " "
v	(7)	352°30'	153'			" " "
v	(8)	11°30'	137'			" " "
v	(9)	70°20'	124'			near E Gully
v	(10)	352°35'	83'			North of Highway Embank
v	(11)	332°10'	77'			" " "
v	(12)	324°05'	53'			" " "

10-26-50

H.I. - 24.78

24

Sta	Obj	Azim	Dist	Rod	Elev.
-----	-----	------	------	-----	-------

✓	(13)	290°30'	93'	9.78	15.0
---	------	---------	-----	------	------

North of Highway Embankment.

✓	(14)	284°20'	152'		
---	------	---------	------	--	--

✓	(15)	286°55'	199'		
---	------	---------	------	--	--

✓	(16)	281°45'	237'		
---	------	---------	------	--	--

✓	(17)	274°30'	293'		
---	------	---------	------	--	--

✓	(17)	273°45'	385'		
---	------	---------	------	--	--

✓	(18)	268°45'	495'		
---	------	---------	------	--	--

H.I. 24.78

	(1)	276°05'	500'	10.6	
--	-----	---------	------	------	--

Line of Levels up approx. E of Gully.

✓	(2)	280°40'	430'	10.6	14.2
---	-----	---------	------	------	------

West to East

✓	(3)	285°45'	345'	10.7	14.1
---	-----	---------	------	------	------

✓	(4)	286°35'	273'	10.8	14.0
---	-----	---------	------	------	------

✓	(5)	297°25'	207'	10.8	14.0
---	-----	---------	------	------	------

✓	(6)	312°40'	146'	11.2	13.6
---	-----	---------	------	------	------

✓	(7)	340°30'	131'	11.0	13.8
---	-----	---------	------	------	------

✓	(8)	1°30'	122'	10.3	14.5
---	-----	-------	------	------	------

✓	(9)	24°55'	133'	9.7	15.1
---	-----	--------	------	-----	------

Topo Survey Cont'd, Camino Del Rio
& New Morena Bridge &

X @ Sta. 26+56³⁶ N=0°0'0" H.I. = ~~24.35~~
25.35

19.75
+5.60
24.35
25.35

C. BARRAGAN 10-27-50
A. SHERRY
H. BROWN
W. CARTER

25

STATION OBJECT AZIM DIST ROD ELEV

STATION	OBJECT	AZIM	DIST	ROD	ELEV	Notes
L ①		251°55'	440		19.03	Power Pole High Line
L ②		130°00'	41	6.32	18.93	N.W. cor. Curb Inlet
V ③		126°25'	43.5	6.30	19.05 18.05	N.E. " " " " 19.0 7.0 15.0 = Inlet El.
L ④		129°20'	47	5.60	19.75	S.E. " " " " South Side
V ⑤		1°45'	117	8.86	16 15.49	⊥ Sewer M.H.
V ⑥		21°30'	50	7.98	9.98 F.L. 15.37	⊥ Drain outlet 24" R.C.
L ⑦		286°05'	76			Guard Rail No. Side
L ⑧		290°45'	63			" " " "
V ⑨		43°40'	62			" " " "
V ⑩		48°50'	75'			
L ⑪		52°40'	87			Bus Station
L ⑫		48°55'	90			" " " "
V ⑬		53°50'	108			" " " "
L 14		57°00'	105			

10-27-10

H.I. = ^{25.}
24.35

26

Sta	Object	Azim	Dist	Rod	Elev			
	(1)	92°30'	149			Guard Rail		So. Side
	(2)	93°15'	136			"	"	"
	(3)	140°20'	39					
	(4)	159°35'	36					
	(5)	107°20'	73			Bus. Station		
	(6)	111°30'	76			"	"	
	(7)	122°05'	60			"	"	
	(8)	117°25'	56			"	"	✓
	(9)	231°45'	76	6.25		Gutter	So. Side	Camino Del Rio
	(10)	237°55'	72	6.21		Edge of Pavement		
	(11)	256°15'	68	5.89		Gutter	Center	South
	(12)	257°45'	68	5.39		Top Curb	"	
	(13)	259°10'	68	5.41		Top	"	
	(14)	259°35'	68	5.91		Gutter		
	(15)	277°55'	72	6.18		Edge of Pavement		
	(16)	283°55'	75	6.43		Shoulder		
	(17)	298°30'	49	6.65		Drain		
	(18)	291°20'	43	6.21		Edge of Pavement		

10-27-30

25.
HI - 24.35

27

Sta	Object	Azim	Dist	Rod	Elev	
	(19)	261°05'	37	5.94		Cutter
	20	260°25'	37	5.49		Top. Curb
	21	255°20'	37	5.45		" "
	22	255°00'	37	5.94		Gut
	23	224°15'	44	6.28		Edge of Pavement
	24	215°35'	50	6.30		Shoulder
	25	177°35'	34	6.34		"
	26	181°50'	25	6.22		So Edge Pav
	27	239°50'	6.5	5.93		Gutter
	28	242°40'	6.5	5.43		Top Curb
	29	273°35'	6.5	5.51		" "
	30	276°40'	6.5	5.99		Gutter
	31	333°00'	25	6.26		N Edge Pavement
	32	335°50'	33	6.47		Shoulder
	33	22°05'	40	6.13		"
	34	29°40'	33	6.11		Edge of Pavement
	35	71°45'	22	5.90		No Gutter
	36	73°00'	22	5.40		No Top. Curb

10-27-50

H.I. = 28.35⁵

(28)

Sta	Object	Azimuth	Dist	Red	Elev	
	37	82° 35'	22	5.36		so Top. Curb
	38	83° 50'	22	5.84		so Gutter
	39	126° 10'	32	6.13		so Edge Pavement
	40	134° 40'	40	6.31		so Gutter
	41	111° 50'	60	6.07		Gutter
	42	109° 35'	56	5.95		Edge Pav
	43	80° 50'	49	5.65		Gutter
	44	80° 10'	49	5.14		Top. Curb
	45	75° 10'	49	5.24		" "
	46	74° 30'	49	5.72		Gutter
	47	50° 25'	55	5.93		so Edge Pavement
	48	43° 30'	59	6.02		Gutter

10-27-50
 Situation Survey Cont'd - at
 intersection of Maeng Taylor &
 El Comodoro Real - N^o Sta 354?

H.I. = 32.57

Sta. obj. Azim. Dist. Rod Elev.

✓ 0	①	341°50'	50'	4.4	gate valve 8"
✓	②	348°10'	67'	4.05	" "
✓	③	338°30'	48'	4.47	Manhole south side Hwy (water)
✓	④	351°55'	68'	4.03	" " " "
✓	⑤	344°40'	56'	4.33	gate valve 8"
✓	⑥	339°20'	58'	4.31	manhole south side Hwy (water)
✓	⑦	5°0'	54'	4.30	" " " "
✓	⑧	4°25'	61'	4.19	" " " "
✓	⑨	1°35'	61'	4.15	Gate valve 8"
✓	⑩	4°40'	80'	3.98	M.H. in island (telephone)
✓	⑪	48°55'	113'	3.93	sewer man hole
✓	⑫	42°00'	62'		Historical marker
✓	⑬	39°30'	63'		"
✓	⑭	39°55'	64'		"
✓	⑮	68°40'	52'	5.36	

RM 27.76
 + 4.81
 = 32.57

C. Ballouan 90
 A. Sherry Rod
 H. Blodig
 W. Chace

(29)

SD G&E

10-27-50

HI=32.57

(30)

Sta	obj	Azim	Dist	POD	Elev.	
✓	(16)	67°35'	46'	5.51		S.D. G&E
✓	(17)	70°25'	47'	5.54		" "
✓	(18)	30°15'	37'			Traffic Signal Box In Island
✓	(19)	27°00'	34.5'			" " "
✓	(20)	25°20'	36'			" " "
✓	(21)	37°35'	32'	4.54		S.D. G&E
✓	(22)	45°30'	26'	4.78		" " "
✓	(23)	33°10'	23'	4.64		" " "
✓	(24)	61°50'	17.5'	5.15		man hole - ? IN ISLAND
✓	(25)	185°35'	29'	6.52		man hole (telephone)
✓	(26)	192°50'	63'	7.63		man hole (sewer)
✓	(27)	196°10'	91'	5.48		Fireplug South side Taylor st.
✓	(28)	205°20'	86'	8.52		gate valve - Taylor st.
✓	(29)	242°25'	123'	11.0		F&K Sign Board ^{note.} cannot see 3rd side
✓	(30)	263°20'	144'			" "
✓	(31)	295°40'	64'	4.4		man hole (Telephone) IN ISLAND

H.L. =

Sto.	obj.	Azim	Dist.	Red	Elev.
------	------	------	-------	-----	-------

SITUATION SURVEY JUAN
ST. TO CAMINO DEL RIO ALONG
TAYLOR STREET

11-2-50

Sta	+ H. I	- Eleu.	
B.M.	6.02	19.66	13.64
10+00		6.03	13.63
		6.78	12.88
		6.32	13.34
10+35		6.65	13.01
		5.87	13.79
		6.71	12.95
11+00		6.48	13.18
		5.69	13.97
		6.48	13.18
12+00		6.23	13.43
		5.33	14.33
		6.15	13.51
T.P.		4.97	14.69

Inside Cor. E Top Curb opposite Signal
Service Sta.

N. Curb Line Extended

North Gut

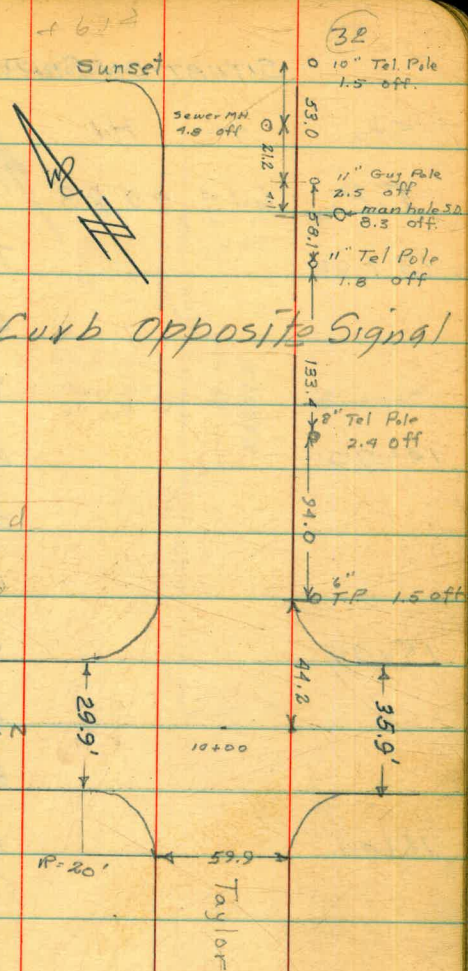
South Gut

North Gut

North Gut

South Gut

North East Curb
Sunset & Taylor

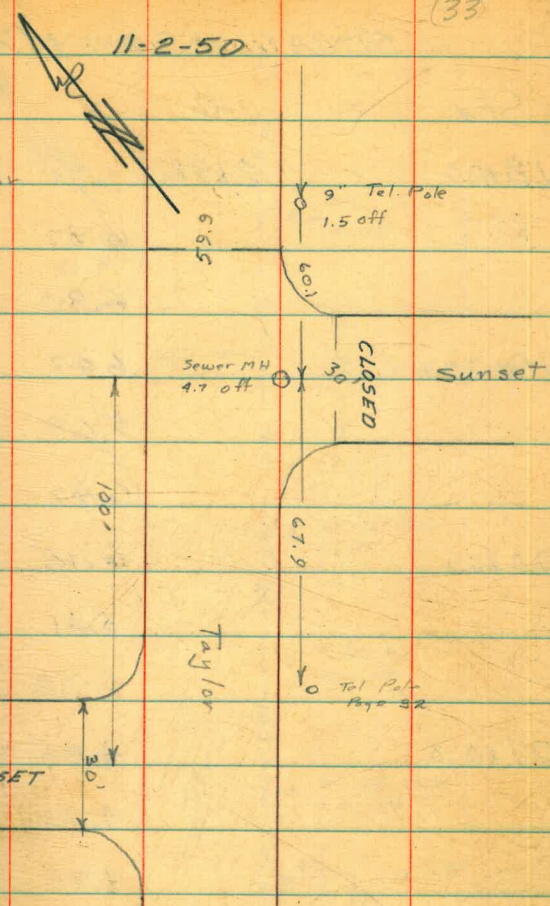


SITUATION SURVEY CONT'D.

11-2-50

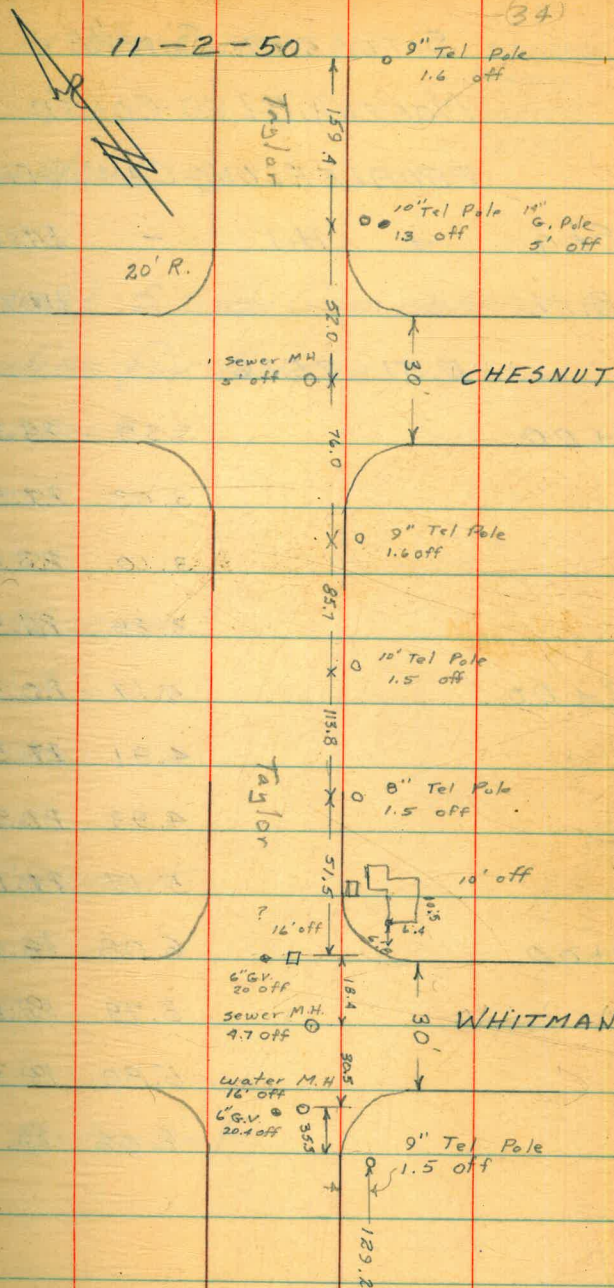
Sta	+ H.I.	-	Elev
T.P.	6.14	20.83	14.69
13+00		7.09	13.74
		6.28	14.55
		7.06	13.77
14+00		6.86	13.97
		5.96	14.87
		6.75	14.08
15+00		6.48	14.35
		5.75	15.08
		6.46	14.37
16+00		6.28	14.55
		5.52	15.31
		6.23	14.60
17+00		5.98	14.85
		5.23	15.60
		5.96	14.87
T.P.	6.33	21.92	5.24 15.59

N.E. Curb
Sunset & Taylor
North Gut
☩
South Gut
No Gutter
☩
So Gutter
N Gutter
☩
S Gutter
☩
No Gutter
☩
So Gutter
No Gutter Curb Line Extended
☩
Gutter " " "
S.E. Curb. Cor Taylor Whitman



SITUATION SURVEY CONT'D.

Sta	+ H/L	= ELEV	
18+00	21.92	6.73	15.19 N. Curb
		6.02	15.90
		6.80	15.12 S. Curb
19+00	6.43	15.49	N. Curb
	5.69	16.23	
	6.42	15.50	S. Curb
20+00	6.15	15.77	N. Curb
	5.41	16.51	
	6.08	15.84	S. Curb
21+00	4.85	17.07	N. Curb
	4.00	17.92	
	4.75	17.17	S. Curb
22+00	3.03	18.89	N. Curb
	2.06	19.86	
	2.57	19.35	S. Curb
23+00			N. Curb
			S. Curb



SITUATION SURVEY

Nov. 6. 1950

(35)
T. Stamper
H. Brown
A. Sherry
W. Carver

MORENA BLVD CONT'D.

PROFILE ALONG CAMINO-DEL-RIO

Note: See B/L.

Sta	+	H.I	-	Elev.	
B.M.				19.75	Top Curb Inlet S. Side Camino APPROX. 30' E of Baseline for Bridge
	5.51	25.26			
7+00			3.30	21.96	S. E. pavement
			3.03	22.23	S. Profile
			3.10	22.16	N. Profile
			3.29	21.97	N. Edge Pavement
8+00			5.17	20.09	S. Edge "
			4.91	20.35	S. Profile
			4.93	20.33	N. "
			5.17	20.09	N. Edge Pavement
9+00			6.08	19.18	S. " "
			5.79	19.47	S. Profile
			5.80	19.46	N. "
			6.06	19.20	N. Edge Pavement

SITUATION SURVEY CONTD

Nov. 6, 1950

36

Sta	+ H.I	- Elev	
	25.26		
10+00	6.01	19.25	S. Edge Pavement
	5.75	19.51	S. Profile
	5.78	19.48	N. Gutter
	6.00	19.26	N. Edge Pavement
11+00	4.99	20.27	S. Edge Pavement
	4.64	20.62	S. Profile
	4.69	20.57	N. "
	4.95	20.31	N. Edge Pavement
12+00	3.20	22.06	S. Edge "
	2.93	22.33	S. Profile
	2.95	22.31	N. "
	3.23	22.03	N. Edge Pavement
13+00	1.39	23.87	S. " "
	1.12	24.14	S. Profile
	1.17	24.09	N. "
	1.40	23.86	N. Edge Pavement

SITUATION SURVEY CONTD

NOV. 6, 1950

(37)

Sta + H.I - ELEV

25.26

14+00
 Top Hair
 1.79 25.59
 Top Hair
 1.50 25.88
 Top Hair
 1.48 25.90
 Top Hair
 1.51 25.87
 Top Hair
 1.72 25.66

1/2 int 212'
 S. Edge Pavement
 1/2 int. 212'
 S. Inside Edge Pavement
 1/2 int 212'
 S. Profile
 1/2 int 212'
 N. "
 1/2 int 212'
 N. Edge Pavement

15+00
 Top Hair
 0.61 27.26
 Top Hair
 0.30 27.57
 T. Hair
 0.29 27.57
 T. Hair
 0.29 27.58
 T. Hair
 0.58 27.29

261' = 1/2 int.
 N. Edge Pavement
 261' = 1/2 int
 N. Profile
 260' = 1/2 int
 S. "
 261' = 1/2 int.
 S. Inside Edge Pavement
 261' = 1/2 int.
 S. Edge "

T.E.M. 23.60

Camino Del Rio (See pg. 2)
 Top East End of South Curb app. Sta. 6+75±

12.43 36.03

6+00
 11.12 24.91
 10.91 25.12
 10.89 25.14
 11.16 24.87

N. Edge Pavement
 N. Profile
 S. "
 S. Edge Pavement

SITUATION SURVEY CONTD

Nov. 6, 1950

38

Sta	+	H.I	-	Elev	
		36.03			
5400		7.31		28.72	N. Edge Pavement
		7.06		28.97	N. Profile
		7.04		28.99	S. "
		7.33		28.70	S. Edge Pavement
4+00		2.26		33.77	N. " "
		2.20		33.83	N. Profile
		2.24		33.79	S. "
		2.52		33.51	S. Edge Pavement
TP.		0.52		35.51	TOP N. CURB OPPOSITE STA. 4+50 ±
	5.16	40.67			
APPROX B.C.					
3+37		3.24		37.43	N. Edge Pavement
		3.28		37.39	N. Profile
		3.32		37.35	S. "
		3.64		37.03	S. Edge Pavement

81
17

May 1951

1725
65 0.62

Layout For Control

14+90
7.71
3.54
4.17

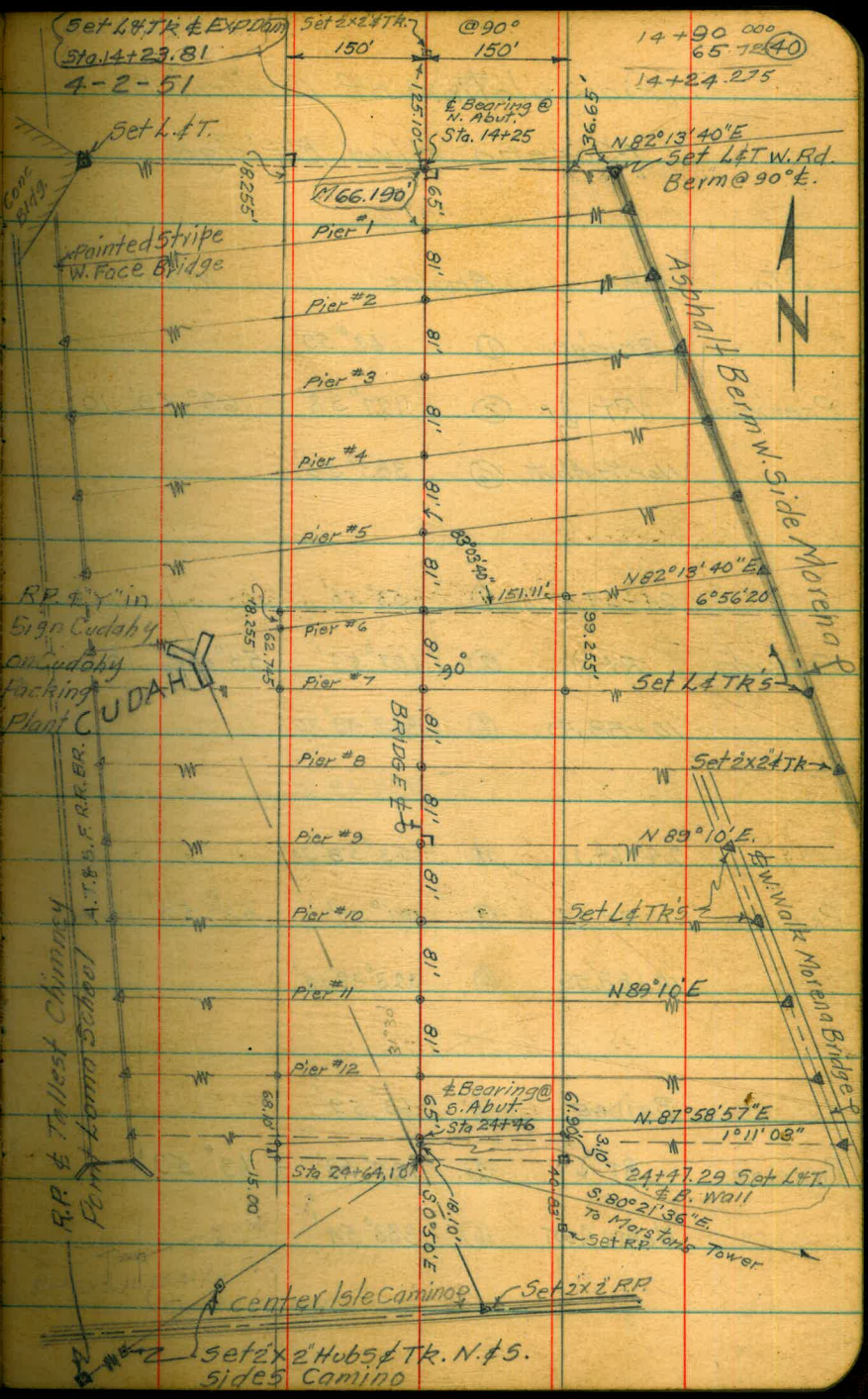
Morena Blvd Bridge

87.60
1.11
88.49

W.O. 65300

STA	OBJECT	ANGLES	VERNIER	MEAN
L&T. & W. Rd. Berm 186.65 E. E.N. Abut. @ 90°	Tower	1. 22° 14' 00"		
E.W. Rd. Berm & W. Edge Sign Post @ 5. End. Br. 6.	R	2. 44° 28' 00"	0° 00' 00"	22° 14' 00"
Marstons	Tower	1. 132° 12' 00"		
L&T. & W. Rd Berm 186.65 E. E.N.A.	R	2. 264° 23' 00"	0° 00' 00"	132° 11' 30"
R.P.S.E. Cot. TOP CONC. Bldg.			179-59-60 83-03-40	96° 56' 20"
Marstons	Tower	1. 125° 49' 30"		
L&T. & W. Rd Berm	RP Pier #1	R 2. 251° 38' 00"	0° 00' 00"	125° 49' 00"
Painted Stripe & Pier #1 R.P. AT&S.F.R.R.				
A in Cudahy W. Edge Sign Post @ 5.		0.4 47° 36' 30"		
L&T. & W. Rd. Berm	RP Pier #2	R 2. 206° 02' 30"	0° 00' 00"	103° 01' 15"
Painted Stripe & Pier #2 R.P. AT&S.F.R.R.				

Cont'd on Page 44



Triangulation of Control Points
 Morena Blvd Bridge

5-3-51

(41)

Sta.	OBL.	Angles	Mean
	BRIDGE	①	63° 59'
PRESIDIO	RT ↓	②	127° 58' - 63° 59' 10"
	NORTH ABUT	③	383° 55'
	24+64.12	①	53° 58'
PRESIDIO	RT ↓	②	107° 57' 53° 58' 15"
	10+88.59	③	323° 49' 30"
			323 49 30
	24+64.12	①	53° 58' 30"
PRESIDIO	RT ↓	②	107° 57' 53° 58' 12 1/2"
	10+88.59	③	323° 49' 15"
	BRIDGE	①	63° 59'
PRESIDIO	RT ↓	②	127° 58' - 63° 59'
	NORTH ABUT	③	383° 54'

5-3-51

(42)

TRIANGULATION OF CONTROL

POINTS MORENA BRIDGE CONTD.

70 23 15

Sta	object	Angles	Vernier	Mean
	N. Abut.	1. $49^{\circ}59'15''$		
Bridge	R \downarrow	2. $99^{\circ}58'15''$	$0^{\circ}00'00''$	$49^{\circ}59'10''$
	Presidio	6. $299^{\circ}55'00''$		
	10+88.59	1. $98^{\circ}33'15''$		
24+64.12	R \downarrow	2. $197^{\circ}06'30''$	$0^{\circ}00'00''$	$98^{\circ}33'16''$
	Presidio	6. $591^{\circ}19'20''$		
	BRIDGE	① $70^{\circ}23'$		
PRESIDIO	R \downarrow	② $140^{\circ}46'30''$	$0^{\circ}00'00''$	$70^{\circ}23'10''$
	10+88.59	⑥ $422^{\circ}19'$		
	10+88.59	① $55^{\circ}19'$		
Bridge	R \downarrow	② $110^{\circ}38'$	$0^{\circ}00'00''$	$55^{\circ}19'10''$
	Presidio	⑥ $331^{\circ}55'$		

5-3-51

Triangulation of Control Points
For Morena Blvd Bridge Cont'd

(43)

Sta.	Object	Angles	Vertier	Mean
	Presidio	① 54° 18'		
10+88.59	R ↓	② 108° 35' 30"	0° 00' 00"	54° 17' 47"
	Bridge	③ 325° 46' 40"		
	Presidio	① 27° 29'		
10+88	R ↓	② 54° 57' 30"	0° 00' 00"	27° 28' 40"
	↳ old Dike 2x2 Hub	③ 164° 52'		
	Presidio	① 33° 52' 40"		
↳ N. Abut. 2x2 Hub	R ↓	② 67° 45' 15"	0° 00' 00"	33° 52' 30"
	↳ old Dike 2x2 Hub	③ 203° 15' 00"		
	Presidio	① 66° 01' 30"		
↳ N Abut. 2x2 Hub	R ↓	② 132° 03' 10"	0° 00' 00"	66° 01' 45"
	Bridge	③ 396° 10' 30"		

Cont'd from Page 40 5-15-51
LAYOUT FOR CONTROL

MORENA BRIDGE

STA.	OBJECT	ANGLES	VERNIER	MEAN
	MARSTON'S TOWER	① 128° 10'		
L&T & W ROAD BERM R.P. PIER 3	R ↓	② 256° 20' 30"	0° 00' 00"	128° 10' 15"
	PAINTED STRIPE & PIER #3 R.P. AT & SF R.R.			
	MARSTON'S	① 129° 32'		
L&T & W ROAD BERM R.P. PIER 4	R ↓	② 259° 04'	0° 00' 00"	129° 32'
	PAINTED STRIPE & PIER #4 R.P. AT & SF R.R.			
	MARSTON'S TOWER	① 131° 02' 01' 45"		
L&T & W ROAD BERM R.P. PIER 5	R ↓	② 262° 04'	0° 00' 00"	131° 02'
	PAINTED STRIPE & PIER #5 R.P. AT & SF R.R.			
	MARSTON'S TOWER	① 132° 43'		
L&T & W ROAD BERM R.P. PIER 6	R ↓	② 265° 25'	0° 00' 00"	132° 42' 30"
	PAINTED STRIPE & PIER #6 R.P. AT & SF R.R.			

5-15-51

(47)

LAYOUT FOR CONTROL

MORENA BRIDGE

STA.	OBJECT	ANGLES	VERNIER	MEAN
	MARSTON'S TOWER	① 142° 41' 30"		
L&T & W ROAD BERM R.P. PIER 7	R ↓	② 285° 23'	0° 00' 00"	142° 41' 30"
	PAINTED STRIPE & PIER #7 R.P. AT & SF R.R.			
	MARSTON'S TOWER	① 145° 00'		
2x2 HUB W. ROAD R.P. PIER 8	R ↓	② 290° 00'	0° 00' 00"	145° 00'
	PAINTED STRIPE & PIER #8 R.P. AT & SF R.R.			
	MARSTON'S TOWER	① 147° 25'		
L&T & W ROAD SIDEWALK R.P. PIER 9	R ↓	② 294° 50' 30"	0° 00' 00"	147° 25' 15"
	PAINTED STRIPE & PIER #9 R.P. AT & SF R.R.			
	MARSTON'S TOWER	① 150° 25' 30"		
L&T & W ROAD SIDEWALK R.P. PIER 10	R ↓	② 300° 51'	0° 00' 00"	150° 25' 30"
	PAINTED STRIPE & PIER #10 R.P. AT & SF R.R.			

LAYOUT FOR CONTROL
MORENA BRIDGE

STA.	OBJECT	ANGLES	VERNIER	MEAN
	MARSTON'S TOWER	10-16-51, P.K. ① 153° 50' ✓		
L & W. ROAD SIDEWALK R.P. PIER 11	R ↓ PAINTED STRIPE & PIER #11 R.P. AT & SF R.R.	② 307° 39' 30"	0° 00' 00"	153° 43' 45"
	MARSTON'S TOWER	① 157° 43'		
L & W. ROAD SIDEWALK R.P. PIER 12	R ↓ PAINTED STRIPE & PIER #12 R.P. AT & SF R.R.	② 315° 25' 30"	0° 00' 00"	157° 42' 45"
	MARSTON'S TOWER	13' 30" ① 161° 14'		
L & W. ROAD SIDEWALK R.P. S. ABUT. @ 90°	R ↓ PAINTED STRIPE & S. ABUT. R.P. AT & SF R.R.	② 322° 28'	0° 00' 00"	161° 14'

SITUATION SURVEY MORENA

BLVD NEW LOCATION

A @ B/L Sta 10+88 59 Proj "22057"

Sta Dist Azim Rod Elev.

B.M. 1.86 23.09 21.23

① 139°20'

2 ✓ 60 4°0' 5.3

3 ✓ 40 44°45' 4.4

4 ✓ 210 296°35' 3.78
N 63°25' W
15' 45'

v 5 ✓ 170 294°15' 3.72

v 6 ✓ 170 317°50' 5.10
42-107 196 318°30' 5.23
41-108 210 317°55' 5.23
42-05'

9 168 312°35' 4.67

10 205' 311°15' 3.80

11 176 319°30' 5.3

12 176 321°50' 5.30

13 182 322°20' 5.4

v 14 48 130°10' 5.5

v 15 44 138°20' 5.7

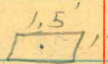
216 59 143°45'

6-11-51

T Stamber
A. Sherry
R. Shorcy

6x6 Conc Mon Wly Bdy Morena; Nly Bdy Green-Wood

Marston's Tower

6" H₂O Meter Box 

6" Gate Valve

N.W. Cor Ftg. Conc. Bldg

S.W. " " " "

S.E. " " " "

Cor @ Bldg

N.E. Cor Bldg

Bld Proper

" "

Septic Tank Pit N.W. Cor 7'x5'

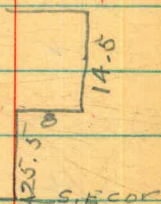
" " " N.E. "

" " " S.E. "

Concr Frame Bldg N.E. Cor 8' Wide

" " " N.W. "

" " " S.E. " 16' Long



SITUATION SURVEY CONTD

6-11-51

(47)

Sta Dist Azim Rod Elev.

HI = 23.09

17 ✓	45	143°35'	5.5
✓	44	153°50'	5.5
✓	54	"	5.4
✓	79	138°50'	
✓	77	146°50'	
✓	95	148°10'	
✓	143	188°40'	5.52
✓	202	185°30'	5.45
✓	228	205°15'	5.48
✓	192	211°0'	5.48
✓	168	194°15'	3.30
✓	150	196°10'	5.48
✓	170	229°05'	5.85
✓	223	212°40'	5.89
✓	251	220°00'	5.90
✓	205	235°45'	5.87

B.M. 1.80 23.00 21.23

14+00	10.7	12.3	31.00
	9.2	13.8	"

Cont'r Frame Bldg NE Cor

" " " NW Cor 8x10'

" " " S.W.

Cont'r Office Bldg N.E. Cor

" " " NW " 10x16'

" " " SW "

Conc Foundation For Precast Piles NE Cor

" " " " " SE "

" " " " " SW "

" " " " " NW "

Log " " " "

End Log " " "

Conc Fndn W/ly Slab NE Cor

SE "

SW "

NW "

Dist out

Grade

65' Rt

63' Lt

ORIGINAL CROSS SECTIONS
OF MORENA BLVD

PX

Sta 3+25

6-19-51

(48)

Contd from Field Book No 62

Pg. 76

Sta + H.I. - Elev.

29.22

See F.B# 62 Pg. 75

0		5.14	24.08
WB		5.33	23.89
W 20		6.0	23.2
W 27		10.2	19.0
W 47		11.3	17.9
W 61		13.4	15.8
W 80		13.7	15.5

± Morena

W.E. Paving

Top Shldr

Sta 3+00

0		4.98	24.27
WB		5.19	24.12
W 18		5.7	23.5
W 25		7.9	21.3
W 49		9.5	19.7
W 61		11.6	17.6
W 88		13.0	16.2

± Morena

W.E. Paving

CROSS SECTIONS CONTD

6-19-51

49

Sta 2+75

PX

Sta + H.I - Elev

29.22

0		4.71	24.51
WB		4.90	24.32
W 18		5.3	23.9
W 34		6.7	22.5
W 57		6.9	22.3
W 81		8.1	21.1

± Marena

W.E. Paving

Sta 2+50

0		4.40	24.82
WB		4.60	24.62
W 15		5.0	24.2
W 16		7.4	24.8
W 30		4.3	24.9
W 46		4.4	24.8
W 70		5.9	23.3

± Marena

W.E. Paving

CROSS SECTIONS CONTD

6-19-51

30

Sta 2+25

Sta + H.I. - ELEV P/

29.22

0		4.09	25.13	± Morena
WB		4.25	24.97	W-E Paving
W 15		4.9	24.3	
W 16		4.2	25.0	
W 38		3.8	25.4	
W 65		5.1	24.1	

Sta 2+00

0		3.85	25.37	± Morena
WB		4.07	25.15	W-E Paving
W 16		4.7	24.5	
W 17		4.1	25.1	
W 43		3.6	25.6	
W 70		5.2	24.0	

CROSS SECTIONS CONTD

6-19-51

Sta 1+75

Sta	+	H.I	-	Elev	Px
-----	---	-----	---	------	----

29.22

0 3.63 25.59

E. Merena

WB 3.88 25.34

W.E. Parving

W 15 4.2 25.0

W 16 3.5 25.7

W 25 3.3 25.9

S.E. Cor 8' High wire fence Linde

W 45 3.4 25.8

Air Products

W 75 5.0 24.2

Sta 1+50

0 3.43 25.79

E. Merena

WB 3.65 25.57

W.E. Parving

W 15 4.2 25.0

W 17 3.0 26.2

W 25 2.7 26.5

E. Line Linde Air Products Co Fence

1+60

Sta 1+60

W 22 2.80 26.42

Top $\frac{1}{2}$ H₂O M. H.

T.B.M. 2.78 26.44

Top $\frac{1}{2}$ H₂O M. H.

CHECK LEVELS CONTD

6-21-51

PX

Sta + H.I - Elev

B.M. 26.44

Top H₂O M.H. W. Side Morena Sta 1+60

1.98 28.42

B.M. 5.16 23.26 23.28

L&T. P.I. Linda Vista & Morena North

10-15-51

B.M.

11.37 P.P.N. 4339

20d SPIR

1.865 13.235

TP

4.580 8.655

4.025 12.680

Side Shot

TBM

1.713 10.97 10.97

T.B.M.

1.355 11.325 11.33

LOCATION OF BREM CONC.
BLOCK OFFICE BLDG.

6-25-51

(53)

T. Stamper
E. Watson
A. Sherry

N 22° 07' 20" W to MORENA BLVD.

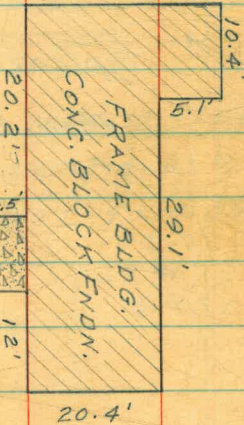


6+32²

50'

25.5'

NOTE: BLDG EAVE IN
FRONT OVERHANGS 1.5'



STOOP

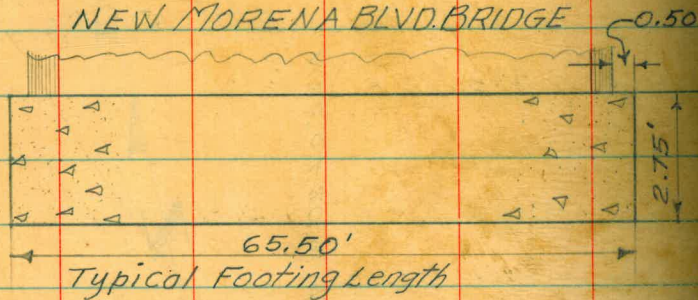
6+71²

50'

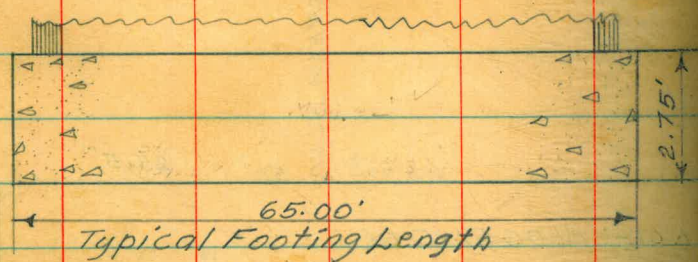
20.4'

PIER & FOOTING LAYOUT

NEW MORENA BLVD. BRIDGE



Pier Nos. 1 To 6



Piers Nos. 7 To 12

32.25
- 3

31.92

32.75
- 3

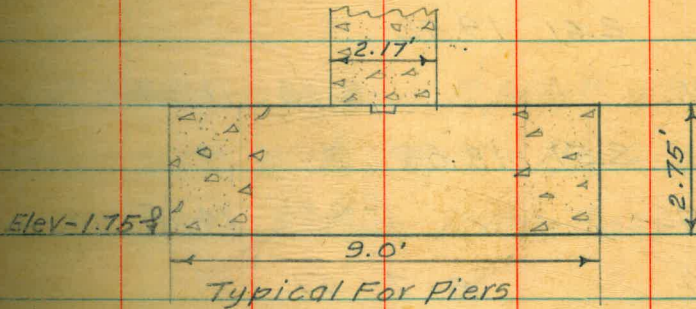
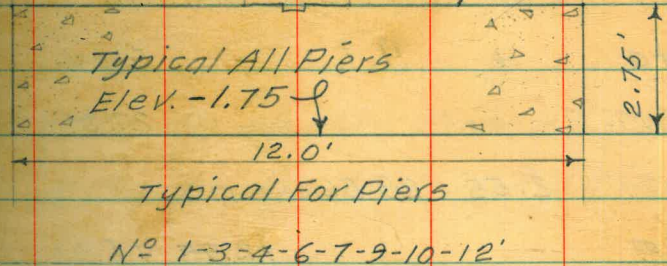
31.92

31.92

7-17-51

(59)

T. Stampey



32.75'

Piers 1-3-4-6 = 0.73

Piers 2-5 = 0.55

Piers 1-3-4-6
12.0'

Piers 2-5-8-11
9.0'

65.50
Skew Piers 1-6

CONTROL LEVELS FOR
MORENA BLVD. BRIDGE

7-25-51

Sta. + H.I. - Elev.

T.B.M. 27.31

See F.B.#61 Pg. 44 Run From U.S.C. & G.S.
on S.W. Top Bridge Seat Abut. A.T. & S.F.R.R.

2.55 29.86

T.P. 12.95 16.91

2.61 19.52

T.B.M. 8.15 11.37

20d Spike in W. Side P. Pole # 4339

2.51 13.88

Approx 200' W. of Middle Pier Old Morena Br.

T.B.M. -0.27 14.15 14.16

60d SPIKE in E. Side P. Pole #4360

8-7-51

CHECK ON TOP OF
CONC PILES PIER NO 12

11.37

1.99 13.36

14.15

1.83 15.98

T.P. 6.77 9.21

0.14 9.35

10.93 -1.58

10.87 -1.52

10.80 -1.45

10.88 -1.53

10.77 -1.42

CHECK ON TOP OF CONC PILES

PIER NO 12 MORENA BLVD BRIDGE

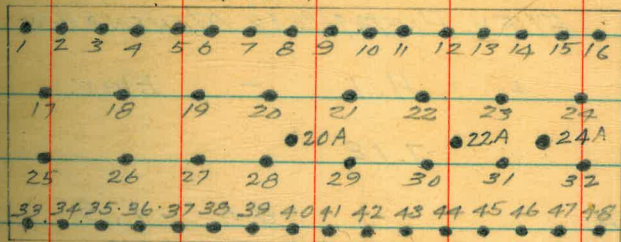
T. Stamper
E. Watson
A. Sherry
R. Shorey

8-13-51
PIER NO 12

(56)

Sta	St	H.I	-	Elev
TBM				14.15
	1.27	15.42		
TP.			6.35	9.07
	1.00	10.07		
TP.			9.15	0.92
	6.20	7.12		
1			8.94	-1.82
2			9.19	-2.07
3			10.06	-2.94
4			9.58	-2.46
5			9.82	-2.70
6			9.95	-2.83
7			10.76	-3.64
8			10.50	-3.38
9			8.71	-1.59
10			8.89	-1.77
11			8.54	-1.42
12			8.58	-1.46
13			8.57	-1.45
14			8.57	-1.45
15			8.56	-1.44
16			4.12	+3.00
17			9.74	-2.62
18			10.83	-3.71
19			9.35	-2.23
20			1.78	+5.34
21			8.62	-1.50
22			8.51	-1.39
23			3.14	+3.98
24			8.68	-1.56
25			9.69	-2.57
26			11.28	-4.16
27			10.14	-3.02
28			5.91	+1.21

BOTTOM OF FTG.
MEAS. BELOW TOP PILE
SUB GRADE ELEV.
TOP OF GRAVEL BASE



APPROX 0.25 GRAVEL BASE

Sta	St	H.I	-	Elev.	Bot. of FTG.	Subgrade Elev.
				7.12		
29				8.73	-1.61	1.3 -2.9
30				8.49	-1.37	
31				8.54	-1.42	0.6 -2.0
32				7.95	-0.83	1.15 -2.0
33				9.72	-2.60	0.9 -2.9
34				9.23	-2.11	1.3 -3.4
35				10.64	-3.52	0.3 -3.8
36				9.88	-2.76	
37				4.81	+2.31	
38				10.04	-2.92	0.5 -3.4
39				9.87	-2.75	0.3 -3.0
40				1.39	+5.73	
41				8.63	-1.51	1.2 -2.7
42				8.57	-1.45	1.1 -2.15
43				8.66	-1.54	0.7 -2.4
44				4.57	+2.55	
45				8.35	-1.23	0.7 -1.9
46				8.39	-1.27	
47				8.34	-1.22	0.8 -2.0
48				6.50	+0.62	2.4 -3.0
20A				8.79	-1.67	1.5 -3.2
22A				8.75	-1.63	0.5 -2.1
24A				8.16	-1.04	

AV. ELEV. BOT. FTG. = -2.9

CHECK ON SUBGRADE
ELEV. PIER NO 12 MORENABR.

8-13-51

PA

Sta	+ H.I	- Elev.
	7.12	
SE COR.		9.0 - 1.9
EE END		9.0 - 1.9
NE COR.		9.1 - 2.0
S. SIDE OPP PILE #		9.3 - 2.2
" " "		9.5 - 2.3
" " "		9.3 - 2.2
N. SIDE		
T.B.M.		7.87 - 0.75
TP.		0.43 6.69
	8.52 15.21	
T.B.M.		1.07 14.14 14.15

Top 12" x 12" S.E. Cor. Ftg. Cluster of 3 Nails

10-3-51
CHECK ON POUR STRIP

TOP FOOTING PIER NO 5

B.M.		10.97
	1.43 12.40	
TP.		3.63 8.77
	2.76 11.53	
TOP FTG.		10.53 1.00

LAYOUT DETAILS FOUR STRIP

LAYOUT ANCHOR BOLTS MORENA BR. PIER

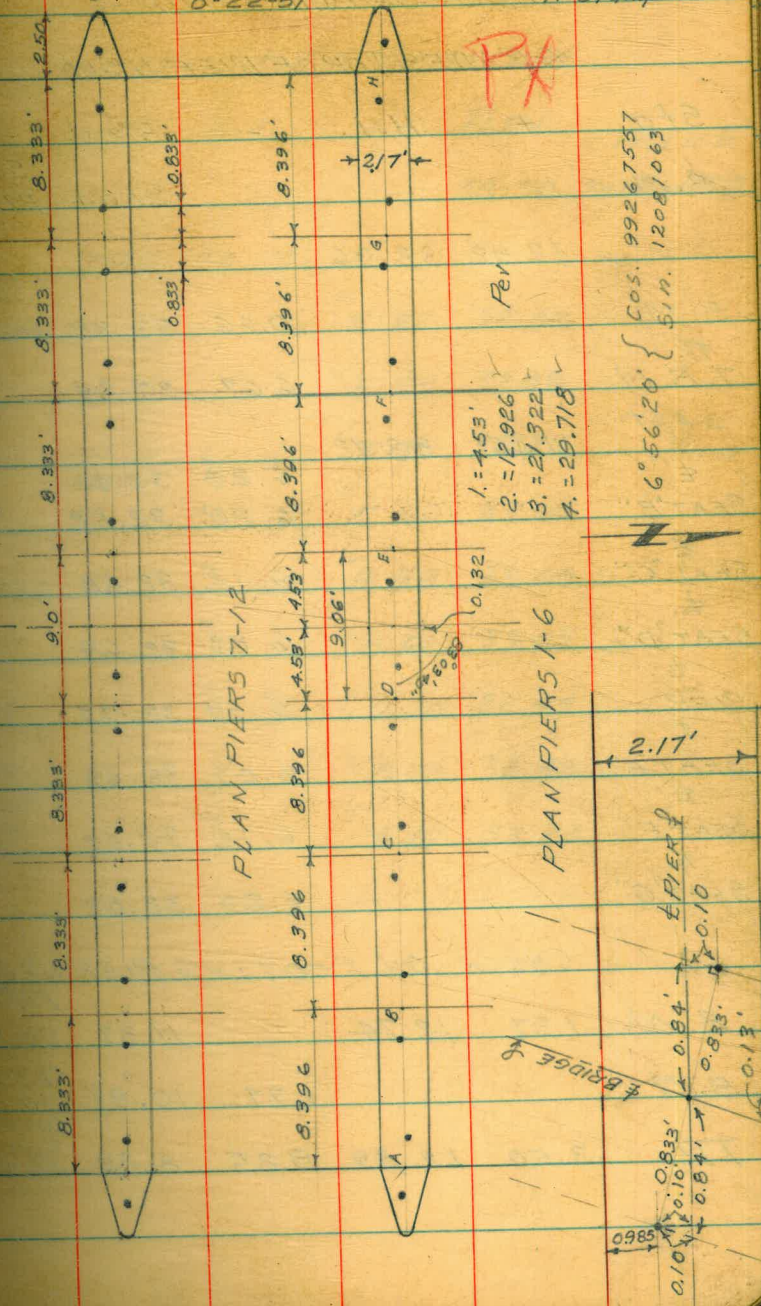
8-22-51
 2.17
 5.5
 1.17
 T. Stamp

Sta	+	H.I	-	Elev.
B.M.	7.38	28.42		21.04
	9.46	37.50	0.38	28.04
E. END PIER		4.28		33.225
SEAT "A"		4.25		33.25
SEAT "B"		4.17		33.33
SEAT "C"				33.42
SEAT "D"		4.00		33.50
PIER				33.545
SEAT "E"				33.50
SEAT "F"				33.42
SEAT "G"				33.33
SEAT "H"		4.25		33.25
W. END PIER				33.225

NOTE: These grades are for screeds only & are
 Approx. one inch below finish Seat Elev's.

See FBG Pg 42 Bolt N. Sill Gd. Post

1. = 4.50'
 2. = 21.17'
 3. = 29.50'



PX

REV

99267557
 12081063
 COS. 51.9.
 6° 56' 20"

2.50
 0.05 PLY.

8-29-51
CHECK ON POUR STRIP

GRADES TOP OF PIER N^o 10

Sta	+	H.I.	-	Elev.	See
B.M.				21.04	PF 58
	12.92	33.96			
B.M.			0.66	33.30	2. Plug N.E. End Pier
TP			6.67	27.29	
T.B.M.					
EAST SEAT "A"	11.43	38.72	6.28	32.44	
SEAT "B"			6.20	32.52	
SEAT "C"			6.12	32.60	
SEAT "D"			6.03	32.69	
PIER			5.99	32.73	
SEAT "E"			6.03	32.69	
SEAT "F"			6.12	32.60	
SEAT "G"			6.20	32.52	

CHECK ON FOOTING PIER N^o 6

B.M.	1.37	12.74		11.37	PF # 1339
B.M.			1.77	10.97	U.S.E.D. 209 57180
TP.	3.50	12.39	3.85	8.89	5.5148 P.P. N ^o 4445

10-22-51
CHECK ON POUR STRIP GRADES

TOP OF PIER N^o 11 MORENA BRIDGE

Sta	+	H.I.	-	ELEV.	L. Plug N.E. End Pier N ^o 12
B.M.				33.30	
	5.37	38.67			
EAST "A"			5.87	32.80	
"B"			5.79	32.88	
"C"			5.70	32.97	
"D"			5.62	33.05	
BRIDGE			5.58	33.09	
"E"			5.62	33.05	
"F"			5.70	32.97	
"G"			5.79	32.88	
WEST "H"			5.87	32.80	

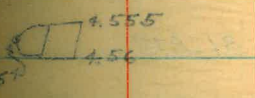
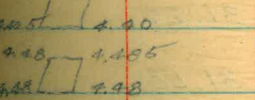
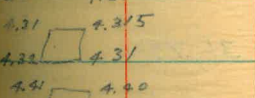
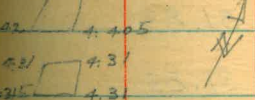
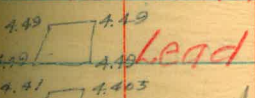
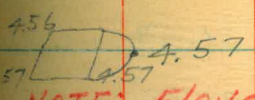
GIRDER SEAT ELEVATIONS
MORENA BLVD BRIDGE PIERN¹²

9-4-51

(20)
 T. Stamper
 E. Watson
 A. Sherry
 R. Shorey

Sta.	+	H.I.	-	Elev.
B.M.	12.98	34.02		21.04
B.M.	③ 4.605	37.905		59
B.M.	5.405	38.705	0.72	33.30
	4.96	38.26		
EAST			0.74	33.28
A	Final	Red 4.93	5.365	33.34
			0.67	33.35
B	✓	4.85	5.205	33.42
			0.59	33.43
C	✓	4.78	5.215	33.49
			0.51	33.51
D	✓	4.68	5.115	33.59
			0.50	33.52
E	✓	4.68	5.115	33.59
			0.57	33.45
F	✓	4.78	5.215	33.49
			0.65	33.37
G	✓	4.85	5.285	33.42
WEST			0.74	33.28
H	✓	4.93	5.365	33.34
	4.906	38.246		

see Pg.
 TOP OF #12
 LEAD PLUG
 see Pg. 59
 GRINDING
 GRADE



NOTE: Girder seats are set 1/8" above grade for grinding

NOTE: Elevations in Red are Top of Lead Plugs.

CHECK ON POUR STRIP

9-6-51

(61)

T. Stamper
E. Watson
A. Sherry
R. Shorey

GRADES PIER 8 MORENABR.

PA

STA.	+	H. I.	-	ELEV.	See Pg.
B. M.				33.30	59
EAST	4.55	37.85			
"A"			✓6.27	31.58	
"B"			✓6.19	31.66	
"C"			✓6.10	31.75	
"D"			6.02 [✓]	31.83	
"E"			6.02 [✓]	31.83	
"F"			6.10 [✓]	31.75	
"G"			6.19 [✓]	31.66	
WEST					
"H"			6.27 [✓]	31.58	
±					
BRIDGE			5.98 [✓]	31.875	

CHECK ON TOP FTG PIERN^o 1

B.M.	7.45	18.78		11.33	See Pg. 6
TP.			8.45	10.33	
POUR STRIP	2.75	13.08			

CHECK ON POUR STRIP

9-11-51

T. Stamper
E. Watson
A. Sherry
R. Shorey

GRADES PIERN^o 6 MORENA BR.

PX

STA	+	H.I.	-	ELEV.	
B.M.				33.30	See Pg. 59
	3.76	37.06			
EAST					
"A"		✓6.24		30.82	
"B"		✓6.16		30.90	
"C"		✓6.08		30.98	
"D"		✓6.00		31.06	
≠					
BRIDGE		✓5.95		31.11	
"E"		✓6.00		31.06	
"F"		✓6.08		30.98	
"G"		✓6.16		30.90	
WEST					
"H"		6.24		30.82	

9-18-51

CHECK ON POUR TOP FTG P#4

R.P. 5 sec

B.M.				10.97	Pg. 63
	1.71	12.68			
			11.68	1.00	

BENCH LEVELS MORENA
BLVD BRIDGE PROJ N° 65300

9-12-51

- T. Stamper
- E. Watson
- A. Sherry
- R. Shorey

PX

STA + H.I. - ELEV.
B.M. 21.04

Bolt in Gd. Post see pg. 58

13.10 34.14

TP. 6.63 27.51

2"x2" Top Old Levee Approx 160' E of Bridge

B.M. 0.84 33.30 33.30

S.E. End Pier N° 12. Top of L. & T.

"H" 0.86 33.28 33.28

Top Lead Plug W. End Pier N° 12

11.20 38.71

B.M. 6.25 32.46 47 52

See Pg. 72

Top Lead Plug Top N.E. End Pier N° 10

B.M. 6.26 32.45 46

" " " " N.W. " " " "

B.M. 33.30

4.60 37.90

B.M. 6.28 31.62

Top Lead Plug N.E. End Pier N° 8

B.M. 10.97 49 P.P. N° 44

See Pg. 59

1.83 12.80

B.M. 1.47 11.33

20 d Spike W. Side P.P. N° ?

12.65 23.98

TP. 2.49 21.49

6.86 28.35

B.M. 5.12 23.23 23.28

Top Lead Plug N. P.I. L. Vista & Morena Blvd's

11-15-51

GIRDER SEAT ELEVATIONS

MORENA BLVD. BRIDGE PIER NO 0

STA.	+	H.I.	-	ELEV.	L. Plug N.E.
B.M.	5.78	38.26		32.48	End Pier No 0
	5.03	37.51			

EAST		✓ 5.75		32.52	
"A"		✓ 4.98		32.53	
		✓ 5.66		32.60	
"B"		✓ 4.90		32.61	
		✓ 5.59		32.67	
"C"		✓ 4.83		32.68	
		✓ 5.49		32.77	
"D"		✓ 4.73		32.78	
		✓ 5.49		32.77	
"E"		✓ 4.73		32.78	
		✓ 5.59		32.67	
"F"		✓ 4.83		32.68	
		✓ 5.66		32.60	
"G"		✓ 4.90		32.61	
WEST		✓ 5.74		32.52	
"H"		✓ 4.98		32.53	

11-15-51

GIRDER SEAT ELEVATIONS

MORENA BLVD BRIDGE PIER NO 11

STA.	+	H.I.	-	ELEV.	L. Plug N.E.
B.M.	5.11	37.93		32.82	End Pier No 11
	5.43	37.91		32.48	End Pier No 10

FINAL		11-23-51	
EAST		✓ 5.05	32.88
"A"		✓ 5.02	32.89
		✓ 4.97	32.96
"B"		✓ 4.94	32.97
		✓ 4.90	33.03
"C"		✓ 4.87	33.04
		✓ 4.80	33.13
"D"		✓ 4.77	33.14
		✓ 4.80	33.13
"E"		✓ 4.77	33.14
		✓ 4.90	33.03
"F"		✓ 4.87	33.04
		✓ 4.97	32.96
"G"		✓ 4.94	32.97
WEST		✓ 5.05	32.88
"H"		5.02	32.89

B.M.	5.09	32.82	L. Plug N.E.
			End Pier No 11

GIRDER SEAT ELEVATIONS

MORENA BLVD. BRIDGE PIER NO 8

STA	+	H.I.	-	ELEV.	BM
B.M.				31.61	Pier 8
		5.070	36.680		
		5.05	36.66		
EAST					
"A"	✓	5.02	31.66		
		4.99	31.67		
"B"	✓	4.93	31.75		
		4.90	31.76		
"C"	✓	4.86	31.82		
		4.83	31.83		
"D"	✓	4.77	31.91		
		4.74	31.92		
"E"	✓	4.77	31.91		
		4.74	31.92		
"F"	✓	4.86	31.82		
		4.83	31.83		
"G"	✓	4.93	31.75		
		4.90	31.76		
WEST					
"H"	✓	5.02	31.66		
		4.99	31.67		

CHECK ON FOUR STRIP GRADES

PP
MORENA BLVD. BRIDGE PIER NO 9

STA	+	H.I.	-	ELEV.	L. PIVOT N.E.
B.M.				31.215	End Pier No 9
		5.79	37.005		
EAST					
A			✓ 4.975	32.03	
B			✓ 4.895	32.11	
C			✓ 4.805	32.20	
D			✓ 4.725	32.28	
BRIDGE			✓ 4.685	32.32	
E			✓ 4.725	32.28	
F			✓ 4.805	32.20	
G			✓ 4.895	32.11	
WEST					
H			✓ 4.975	32.03	

GIRDER SEAT ELEVATIONS

MORENA BLVD BRIDGE PIERN^o 6

FM

STA	+	H.I.	-	ELEV.	Lead Plug NE End Pier #6
B.M.				30.825	

EAST		✓		5.805	30.88
"A"				4.97	30.89
"B"		✓		5.715	30.97
				4.88	30.98
"C"		✓		5.645	31.04
				4.81	31.05
"D"		✓		5.545	31.14
				4.71	31.15
"E"		✓		5.535	31.15
				4.70	31.16
"F"		✓		5.625	31.06
				4.79	31.07
"G"		✓		5.695	30.99
				4.86	31.00
WEST		✓		5.775	30.91
"H"				4.94	30.92

CHECK ON POUR STRIP

9-18-51

T. Stamper

E. Watson

A. Sherry

R. Shorey

PA

GRADES PIER NO 1 MORENA BR.

STA	+	H.I.	-	ELEV.	L. PING N.E.
B.M.				32.46	End Pier #10
	3.75	36.21			
EAST					
"A"			7.58	28.63	
"B"			7.49	28.72	
"C"			7.40	28.81	
"D"			7.30	28.91	
BRIDGE			7.26	28.95	
"E"			7.31	28.90	
"F"			7.37	28.84	
"G"			7.44	28.77	
WEST					
"H"			7.50	28.71	

10-3-51

CHECK POUR STRIP N. ABUT

B.M.				ELEV.	L. PING N.E.
				28.69	End Pier #1
	1.34	30.03			
TOP FTG			8.03	22.00	

GIRDER SEAT ELEVATIONS

10-2-51

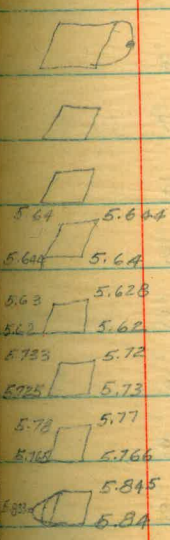
T. Stampel
A. Sherry
R. Shorey

MORENA BLVD BRIDGE PIER No 1

PA

STA.	+	H. I.	-	ELEV.
B.M.	4.625	35.445		28.69 30.82
	5.993	34.683	3.83	31.615 31.62
TP				
B.M.	① 5.423	34.113	6.755	28.69
	② 5.008	33.698		
	③ 5.95	34.64		
EAST			③ 5.92	
A -	✓ 5.963	①	5.393	28.72
			4.888	
B -	✓ 5.873	①	5.303	28.81
			4.828	
C -	✓ 5.813	①	5.243	28.87
			5.698	
D H.I.	+5.803 34.493	①	5.113	29.00
			5.62	
E	✓ 5.473	①	5.093	29.02
			4.678	
F	✓ 5.773	①	5.203	28.91
			5.73	
G	✓ 5.813	①	5.243	28.87
			5.77	
WEST			③ 5.84	
"H"	5.883	①	5.313	28.80
B.M.				23.23
	6.58	29.81		
B.M.			1.10	28.71 28.69
B.M.	4.63	35.45		30.82
B.M.			6.76	28.69 28.69

Top Lead Plug N.E. End Pier No 6
Check on Pier No 8
Top Lead Plug N.E. End Pier No 1



L.Y.T. P.I.
L.V. & Morena

Top Lead Plug N.E. End Pier No 1

9-24-51
 CHECK ON POUR STRIP GRADES
 PIER N^o 4 MORENA BLVD BRIDGE

STA	H. I.	ELEV.	L. Plug N.E.
B.M.		31.62	End Pier N ^o 8
4.62	36.240		
	3.755	32.485	32.46
EAST			
"A"	6.25	29.99	
"B"	6.17	30.07	
"C"	6.09	30.15	
"D"	5.99	30.25	
‡	5.94	30.30	
BRIDGE			
"E"	5.98	30.26	
"F"	6.06	30.18	
"G"	6.14	30.10	
WEST			
"H"	6.22	30.02	

10-16--51
 T. Stampler
 E. Watson
 A. Sherry
 R. Shorey

CHECK ON POUR STRIP GRADES
 PIER N^o 3 MORENA BLVD BRIDGE

STA	H. I.	ELEV.	L. Plug N.E.
B.M.	5.46	35.47	30.01 End Pier #6
EAST			
"A"		5.89	29.58
"B"		5.80	29.67
"C"		5.72	29.75
"D"		5.63	29.84
‡		5.59	29.88
BRIDGE			
"E"		5.63	29.84
"F"		5.70	29.77
"G"		5.77	29.70
WEST			
"H"		5.85	29.62

10-24-51 E. Watson
A. Sherry
R. Storey

GIRDER SEAT ELEVATIONS

MORENA BLVD. BRIDGE PIERN^o 4

STA.	+	H. I.	-	ELEV.	L. Plug N.E.
B. M.	② 5.24	② 35.25		30.01	End Pier [#] 4
	5.46	35.47			
	5.85	35.86			
E End Pier [#] 6			5.03	30.83	
	5.87	35.47			
EAST "A"			✓ 5.40	30.07	
			5.78	30.08	
"B"			✓ 5.31	30.16	
			5.69	30.17	
"C"			② ✓ 5.02	30.23	
			5.62	30.24	
"D"			② ✓ 4.92	30.33	
			5.52	30.34	
"E"			② ✓ 4.91	30.34	
			5.51	30.35	
"F"			② ✓ 5.00	30.25	
			5.60	30.26	
"G"			✓ 5.29	30.18	
			5.67	30.19	
WEST "H"			✓ 5.37	30.10	
			5.75	30.11	

10-23-51 E. Watson (70)
A. Sherry
R. Storey

GIRDER SEAT ELEVATIONS

MORENA BLVD BRIDGE PIERN^o 3

PX

STA.	+	H. I.	-	ELEV.	L. Plug N.E.
B. M.				30.01	End Pier [#] 4
	5.48	35.49			
BM			5.89	29.60	L Plug NE End Pier [#] 3
	11-6-51				
	5.87	35.47			
EAST "A"			✓ 5.81	29.66	
			5.82	29.67	
"B"			✓ 5.72	29.75	
			5.73	29.76	
"C"			✓ 5.65	29.82	
			5.66	29.83	
"D"			✓ 5.54	29.93	
			5.55	29.94	
"E"			✓ 5.54	29.93	
			5.55	29.94	
"F"			✓ 5.63	29.84	
			5.64	29.85	
"G"			✓ 5.69	29.78	
			5.70	29.79	
WEST "H"			✓ 5.77	70	
			5.78	29.71	

NOTE!

Figures in Red are to
Finish Grades

CHECK ON FOOTING

PIER N^o 7 POUR STRIP

STA	+	H. I.	-	ELEV.	P.P.
B.M.				11.37	Sec P. 55
	1.99	13.36			
B.M.			0.0	13.36	
			-0.36	13.00	
TP.			4.73	8.63	
	3.39	12.02			

11.02 1.00

10-15-51

CHECK ON ELEVATION OF

3/8" X 7 1/2" CH'K PLATE N. ABUT.

STA	+	H. I.	-	ELEV.	L. Plug N.E.
B.M.				28.69	End Pier 1
	3.30	31.99			
	3.572	32.262			
			0.64		
			0.912	31.35	
			0.24		
			0.512	31.75	
			0.49	31.50	
			0.752	31.51	

TP.	0.373	20.350	12.285	19.977	
B.M.	1.39	12.69	9.05	11.30	11.33
B.M.			1.76	10.93	10.97

26.85	9-26-51
2.21	
87	27.01
29.93	258
	42
	30.01

+0.25

PX

N.E. Nose Pier N^o 10

Top Pour Strip

TOP FORMS H₂O & GAS N. Abut

2.11	29.88	TOP H ₂ O Form
2.03	29.96	TOP GAS Form

E. End L Iron

W. End L Iron

W. End L Iron

STA	+	H. I.	-	ELEV.
TP.				8.57
		12.69	4.12	
B.M.	3.81	12.380		
B.M.			1.395	10.985
				11.00

BENCH LEVELS MORENA

9-26-51

PX

BLVD. BRIDGE PROJ N^o 65300

STA	+	H.I.	-	ELEV.	
B.M.				21.04	Bolt Gd. Post See Pg. 58

12.35 33.39

B.M.		0.09		33.30	See Pg. 63 33.30
------	--	------	--	-------	---------------------

Top Lead Plug N.E. End Pier N^o 12

TP.		5.49		27.90	
-----	--	------	--	-------	--

10.76 38.66

B.M.		6.19		32.47	32.46
------	--	------	--	-------	------------------

Top Lead Plug N.E. End Pier N^o 10

B.M.		6.20		32.46	32.45
------	--	------	--	-------	-------

" " " N.W. " " "

4.60 27.90

B.M.		6.28		31.62	31.62
------	--	------	--	-------	-------

Top Lead Plug N.E. End Pier N^o 8

4.57 37.04

B.M.		6.22		30.82	
------	--	------	--	-------	--

Top Lead Plug N.E. End Pier N^o 6

B.M.				31.62	
------	--	--	--	-------	--

4.61 36.23

B.M.		6.22		30.01	
------	--	------	--	-------	--

Top Lead Plug N.E. End Pier N^o 4

9-28-51
CHECK ON POUR STRIP GRADES

PIERN^o 7 MORENA BLVD. BRIDGE

STA.	+	H. I.	-	ELEV.	L. Plug N.E.
B.M.				32.47	End Pier #10
	4.56	37.03			

EAST				31.21	
A	✓	5.81	✓	31.22	
B	✓	5.73	✓	31.29	
C	✓	5.64	✓	31.38	
D	✓	5.56	✓	31.46	
⊕	✓	5.52	✓	31.50	
BRIDGE				31.46	
E	✓	5.56	✓	31.47	
F	✓	5.64	✓	31.38	
G	✓	5.73	✓	31.29	
WEST				31.21	
H	✓	5.81	✓	31.22	

9-28-51

T. Stamper
E. Watson
A. Sherry
R. Sherey

SET. 3" LOW

CHECK ON POUR STRIP GRADES

N. ABUTMENT MORENA BLVD BRIDGE

STA.	+	H. I.	-	ELEV.	L. Plug N.E.
B.M.				28.69	End Pier #1

	4.02	32.71			
EAST				6.05	66
A				6.11	26.60
B				5.91	
				6.01	26.70
C				5.83	
				5.92	26.79
D				5.74	
				5.79	26.92
					27.13
E				5.73	
				5.77	26.94
F				5.80	
				5.84	26.87
G				5.85	
				5.89	26.82
WEST				5.93	
H				6.95	26.76

1.39	31.32	S. End Top Exp JT
		E.W. Wall
		N. End Top
	27.05	E.W. Wall & Bridge
	31.75	Top B. Wall
1.21	31.50	S. End Top W.W. Wall
	25.72	N. End Top W.W. Wall

10-29-51

GIRDER SEAT ELEVATIONSMORENA BLVD BRIDGE PIERN^o 7

STA	+	H.I.	-	ELEV.
B.M.				31.215
	5.015	36.290		
	5.05	36.265		
Lead Plug NE End #5			5.90	30.365
EAST			✓ 4.99	31.30
A			4.955	31.31
B			✓ 4.91	31.38
			4.875	31.39
C			✓ 4.84	31.45
			4.805	31.46
D			✓ 4.74	31.55
			4.705	31.56
E			✓ 4.74	31.55
			4.705	31.56
F			✓ 4.84	31.45
			4.805	31.46
G			✓ 4.91	31.38
			4.875	31.39
WEST			✓ 4.99	31.30
H			4.955	31.31

Lead Plug
NE End
Pier #7

11-15-51

GIRDER SEAT ELEVATIONSMORENA BLVD BRIDGE PIERN^o 9

STA	+	H.I.	-	ELEV.
B.M.				32.04
	5.883	37.923 ^o		
	5.43	37.91		
EAST			✓ 5.813 ^o	32.11
"A"			✓ 5.79	32.12
"B"			✓ 5.733 ^o	32.19
			✓ 5.71	32.20
"C"			✓ 5.663 ^o	32.26
			✓ 5.64	32.27
"D"			✓ 5.563 ^o	32.36
			✓ 5.54	32.37
"E"			✓ 5.563 ^o	32.36
			✓ 5.54	32.37
"F"			✓ 5.663 ^o	32.26
			✓ 5.64	32.27
"G"			✓ 5.733 ^o	32.19
			✓ 5.71	32.20
WEST			✓ 5.813 ^o	32.11
"H"			✓ 5.79	32.12
B.M.			5.87	32.04

L. Plug N.E.
End Pier N^o 9L. Plug N.E.
End Pier N^o 10

L. Plug N.E.

End Pier N^o 9

77

CHECK ON FOUR STRIP GRADES

PIER NO 2 MORENA BLVD BRIDGE

STA	+	H.I.	-	ELEV.	L. Plug N.E.
B.M.				30.82	End Pier N:6
	4.63	35.45			

EAST					
"A"			6.31 [✓]	29.14	
"B"			6.23 [✓]	29.22	
"C"			6.14 [✓]	29.31	
"D"			6.05 [✓]	29.40	
BRIDGE			6.00 [✓]	29.45	
"E"			6.04 [✓]	29.41	
"F"			6.12 [✓]	29.33	
"G"			6.20 [✓]	29.25	
WEST					
"H"			6.28 [✓]	29.17	

10-4-51

(75)
T. Stamper
E. Watson
A. Sherry
R. Shorey

CHECK ON FOUR STRIP GRADES

PIER NO 5 MORENA BLVD BRIDGE

STA	+	H.I.	-	ELEV.	L. Plug N.E.
B.M.				30.82	End Pier N:6

	5.41	36.23			
EAST					
A			5.88 [✓]	30.35	
B			5.80 [✓]	30.43	
C			5.71 [✓]	30.52	
D			5.62 [✓]	30.61	
BRIDGE			5.58 [✓]	30.65	
E			5.61 [✓]	30.62	
F			5.69 [✓]	30.54	
G			5.76 [✓]	30.47	
WEST					
H			5.84 [✓]	30.39	

GIRDER SEAT ELEVATIONS

MORENA BLVD. BRIDGE PIERN#2

STA	+	H. I.	-	ELEV.	L. Plug N.E.
B.M.	5.505	34.665	10-30-51	29.16	End Pier #2
	4.94	34.10			
				28.69	
EAST			✓ -5.435		✓
"A"			✓ 4.87	29.23	
"B"			✓ -5.355		✓
			✓ 4.79	29.31	
"C"			✓ -5.275		
			✓ 4.71	29.39	
"D"			✓ -5.175		
			✓ 4.61	29.49	
"E"			✓ -5.065		✓
			✓ 4.60	29.50	
"F"			✓ -5.265		
			✓ 4.70	29.40	
"G"			✓ -5.325		
			✓ 4.76	29.34	
WEST			✓ -5.905		
"H"			✓ 4.84	29.26	

GIRDER SEAT ELEVATIONS

MORENA BLVD BRIDGE PIERN#5

STA	+	H. I.	-	ELEV.	L. Plug NE
B.M.	5.925	36.290		30.365	End Pier #5
	5.90	36.265			
EAST			✓ 5.86	30.43	
"A"			5.825	30.44	
"B"			✓ 5.77	30.52	
			5.735	30.53	
"C"			✓ 5.70	30.59	
			5.665	30.60	
"D"			✓ 5.59	30.70	
			5.555	30.71	
"E"			✓ 5.59	30.70	
			5.555	30.71	
"F"			✓ 5.68	30.61	
			5.645	30.62	
"G"			✓ 5.75	30.54	
			5.715	30.55	
WEST			✓ 5.82	30.47	
"H"			5.785	30.48	

Set 0.01 Bigger Rods
Than Shown To Grind

GIRDER SEAT ELEVATIONS

MORENA BLVD BRIDGE N. ABUT.

STA	+	H.I.	-	ELEV.	L. PLUG NE.
B.M.				28.69	End Prof #1
	5.99	34.68			
EAST					
A		✓	7.82	26.86	
B		✓	7.72	26.96	
C		✓	7.63	27.05	
D		✓	7.50	27.18	
E		✓	7.48	27.20	
F		✓	7.55	27.13	
G		✓	7.60	27.08	
WEST					
H		✓	7.66	27.02	

S. ABUTMENT

TOP OF CHANNEL ON B. WALL

STA	+	H.I.	-	ELEV.	
		39.24			
			1.85	37.39	E. & W. Ends
			1.53	37.71	E. Elev.
LT			3.30	35.94	TOP 2" Water
RT			3.38	35.86	TOP 10" Gas

POUR STRIP GIRDER SEAT ELEVATIONS

MORENA BLVD BRIDGE S. ABUT.

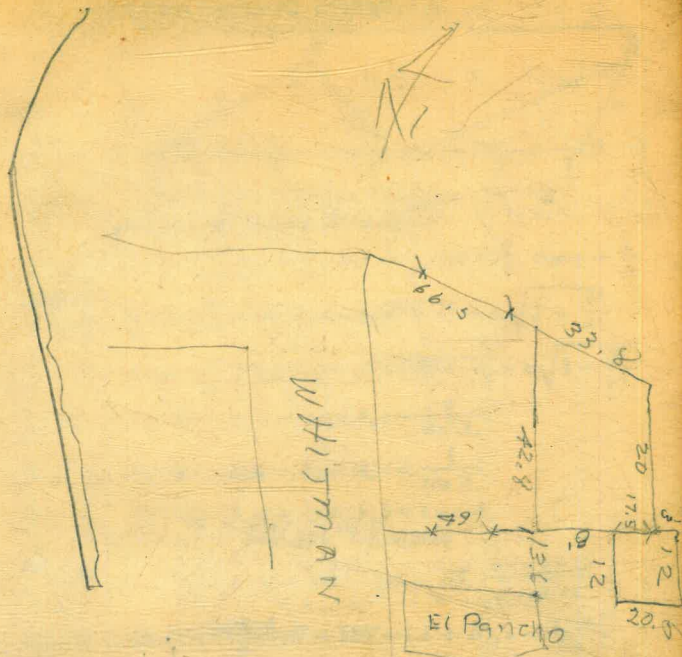
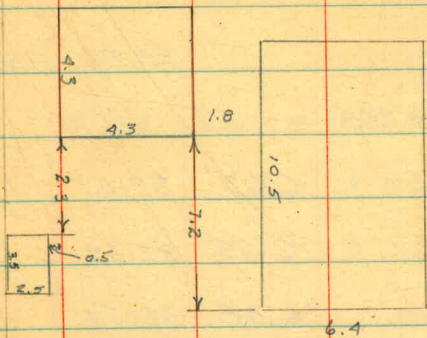
STA	+	H.I.	-	ELEV.	L. Plug NE.
B.M.				33.30	End Prof #12
	5.943	39.243			
A				6.63	32.61
B				6.55	32.69
C				6.48	32.76
D				6.38	32.86
E				6.38	32.86
F				6.48	32.76
G				6.55	32.69
H				6.63	32.61

CHECK ON FTG. POUR STRIP

S. ABUTMENT. MORENA BRIDGE

STA	+	H.I.	-	ELEV.	
B.M.	10.66	31.70		21.04	
			9.70	22.00	TOP FTG.

Taylor



17.5
28.5

L&T. P.I. Linda Vista & Morena 1
 Blvd El. 23.28
 6x6 Conc. Mon Wly Bdy & Morena &
 Wly Bdy Linda Vista Rd El. 21.23

682.04 H/S JURN.
 78.17 682.09
 700.21 1.2
 682.23 682.23 to P.P.L.
 17.98'

20+56 36 - Hub to Carr. D. Rd.

19.75 - DROP INLET
 23.60 - CURB,
 24+64' 20.19

24.35
 18

6.35

12

30

36.65
 27.68
 11.97

9.01
 15.67
 24.68

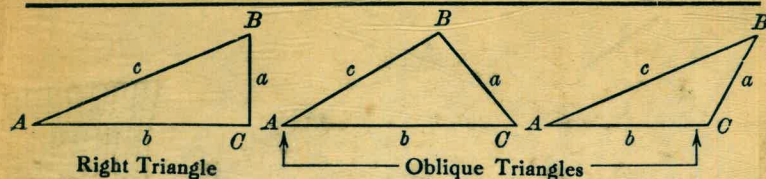
2.3
 8.3
 0.823
 23
 1.249
 1.909
 0.87
 0.279

24.78
 19.00
 5.78

257-55-440

1425.00
 1028.53
 336.47

TRIGONOMETRIC FORMULÆ



Solution of Right Triangles

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

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° 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.