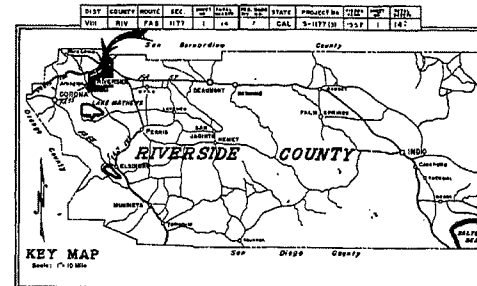


STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

COUNTY OF RIVERSIDE
PLAN AND PROFILE

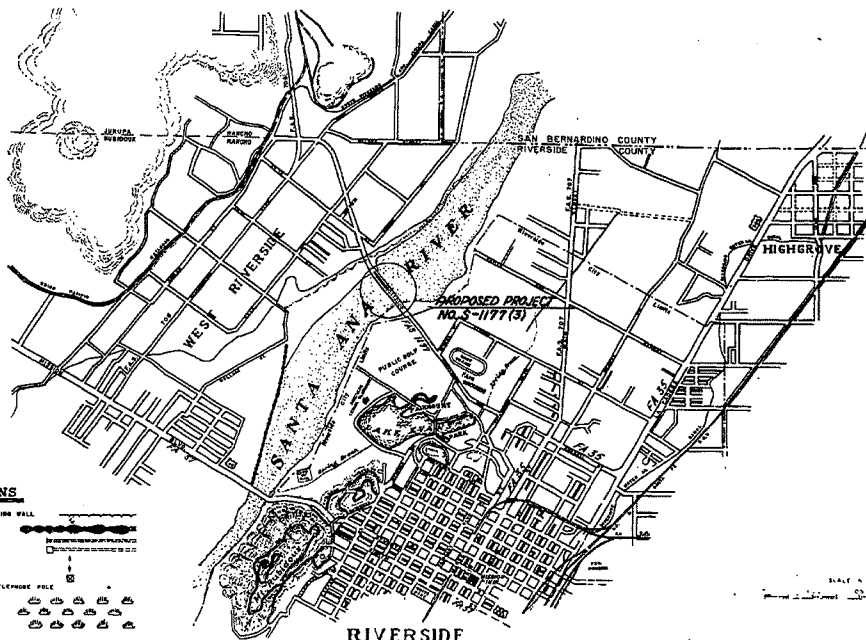
FEDERAL AID SECONDARY PROJECT
No. S-1177(3)

BRIDGE ON CRESTMORE ROAD AT SANTA ANA RIVER



INDEX

Title Sheet	Sheet No. 1
General Plan	Sheet 2
Foundation & Rolling	Sheet 3
Steel Layout	Sheet 6
Deck Details	Sheet 4
Pier Details	Sheet 3
Steel Details	Sheet 7
Expansion Joint Details	Sheet 8
Miscellaneous Details	Sheet 11
Abutments	Sheet 10
Pile Details	Sheet 12
Log of Test Borings	Sheet 13
Grades Details	Sheet 5
Standard Structures	Sheet 14



COUNTY OF RIVERSIDE

[Signature]
COUNTY ENGINEER

ROAD COMMISSIONER
CIVIL ENGINEER LICENSE NUMBER 4386

APPROVED BY THE BOARD OF SUPERVISORS
[Signature]
SEPT. 11, 1956

APPROVED *[Signature]*
COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

STATE OF CALIFORNIA

DISTRICT ENGINEER DISTRICT VIII
APPROVED SEPTEMBER 17, 1956

G. T. McCray
STATE HIGHWAY ENGINEER

[Signature]

CONVENTIONAL SIGNS

COUNTY LINE	_____	BANK OR RETAINING WALL	_____
CITY OR TOWN LIMIT	_____	LEVEE	_____
TRAILROAD LINE	_____	BULVERTS	_____
SECTION LINE	_____	DEEP BUILT	_____
RIGHT OF WAY	_____	TROLLEY POLE	_____
ROAD BAIL	_____	POWER POLE	_____
OPENED PROPERTY	_____	POWER TOWER	_____
RIGHT OF WAY LINE	_____	TELEGRAPH OR TELEPHONE POLE	_____
BASE OF HIGHWAY LINE	_____	MARSH	_____
TRAVELER WAY	_____		
RAILROAD TRACK	_____		

LENGTH 593.73' = 0.112 MILE

ACCOUNT

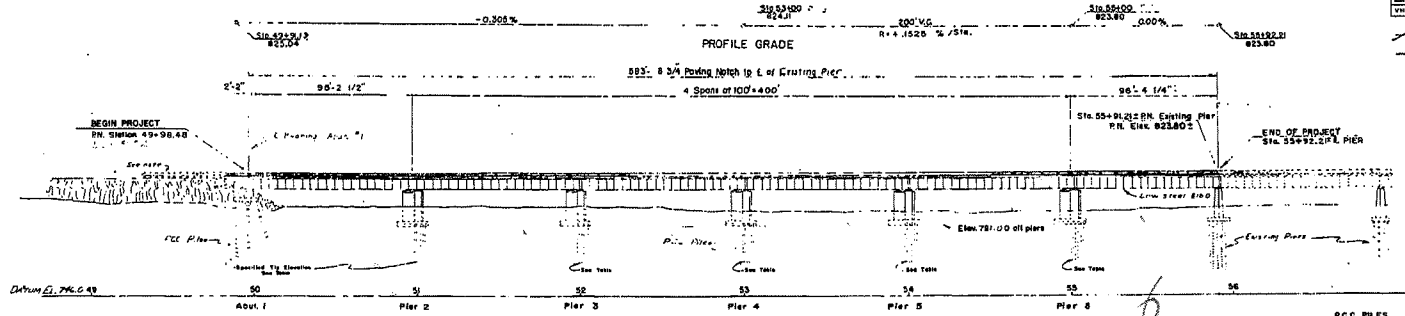
[Signature]
ST-ADDEN-P

56-24

DATE	BY	REVISION
7	CAJF	5-11-73

NO.	DIV.	DATE	BY
1			
2			
3			
4			
5			
6			
7			
8			

September 11, 1968
[Signature]
 Engineer

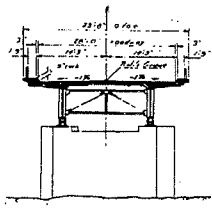


BENCH MARK
 N.B. Same point structure 72880
 S.T. 10.00 42+41.2 Crestmore Rd.
 Elev. 804.36

NOTE:
 Section 30.5.7 Metal plate
 Round Ball as directed by
 the Engineer

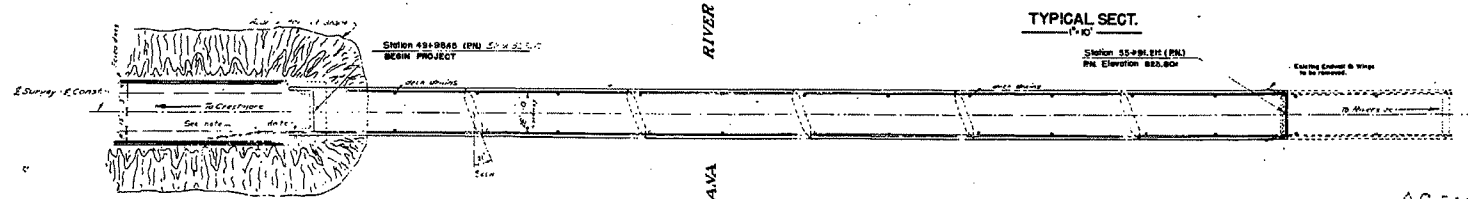
STATION	ELEVATION
49+98.68	824.31
50+00.00	824.00
50+10.00	823.70
50+20.00	823.40
50+30.00	823.10
50+40.00	822.80
50+50.00	822.50
50+60.00	822.20
50+70.00	821.90
50+80.00	821.60
50+90.00	821.30
51+00.00	821.00
51+10.00	820.70
51+20.00	820.40
51+30.00	820.10
51+40.00	819.80
51+50.00	819.50
51+60.00	819.20
51+70.00	818.90
51+80.00	818.60
51+90.00	818.30
52+00.00	818.00
52+10.00	817.70
52+20.00	817.40
52+30.00	817.10
52+40.00	816.80
52+50.00	816.50
52+60.00	816.20
52+70.00	815.90
52+80.00	815.60
52+90.00	815.30
53+00.00	815.00
53+10.00	814.70
53+20.00	814.40
53+30.00	814.10
53+40.00	813.80
53+50.00	813.50
53+60.00	813.20
53+70.00	812.90
53+80.00	812.60
53+90.00	812.30
54+00.00	812.00
54+10.00	811.70
54+20.00	811.40
54+30.00	811.10
54+40.00	810.80
54+50.00	810.50
54+60.00	810.20
54+70.00	809.90
54+80.00	809.60
54+90.00	809.30
55+00.00	809.00
55+10.00	808.70
55+20.00	808.40
55+30.00	808.10
55+40.00	807.80
55+50.00	807.50
55+60.00	807.20
55+70.00	806.90
55+80.00	806.60
55+90.00	806.30
56+00.00	806.00

ELEVATION



TYPICAL SECT.
 1"=10'

LOCATION	SPECIFIED TP. ELEV.	As-Built Avg. TP. Elev.
Abut. 1	781.0	780.4
Pier 1	781.0	780.2
Pier 3	781.0	780.3
Pier 4	781.0	780.4
Pier 5	781.0	780.2
Pier 6	781.0	780.0



PLAN
 SCALE: 1"=30'

LIVE LOAD: H20-S16-44

AS-BUILT
[Signature]
 5-14-73

CRESTMORE BRIDGE	
GENERAL PLAN	
SCALE AS SHOWN	FILE NO.
BRIDGE NO. 982-24	DRAWING NO.

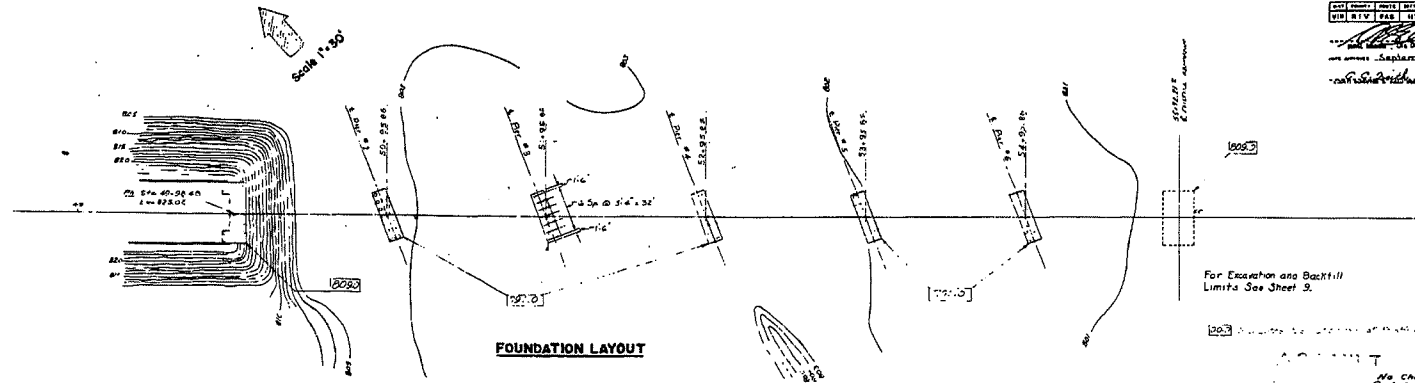
PRELIMINARY 5-14-73

NO DETAILS
 1-14-73
 1-14-73

2

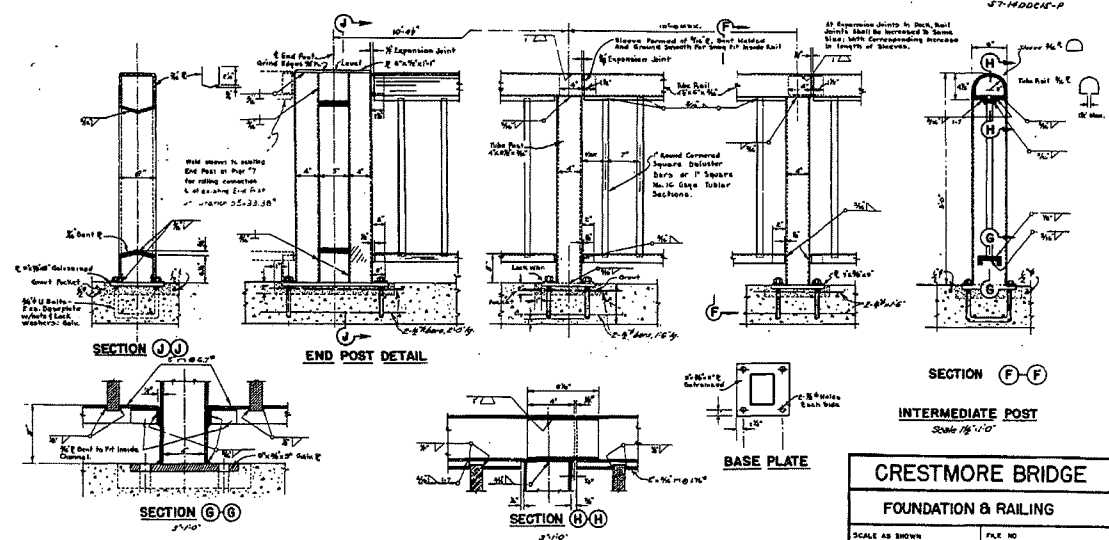
DATE	BY	CHKD	APP'D
7/1/56	PPF	PPF	PPF

PROJECT NO. 56C-24
 SHEET NO. 3 OF 3
 DRAWING NO. 56C-24
 PREL. DRAWING NO. P.



FOUNDATION LAYOUT

For Exception and Backfill Limits See Sheet 3.



SECTION (J) J

END POST DETAIL

SECTION (F) F

INTERMEDIATE POST
Scale 1/8"=1'-0"

SECTION (G) G

SECTION (H) H

BASE PLATE

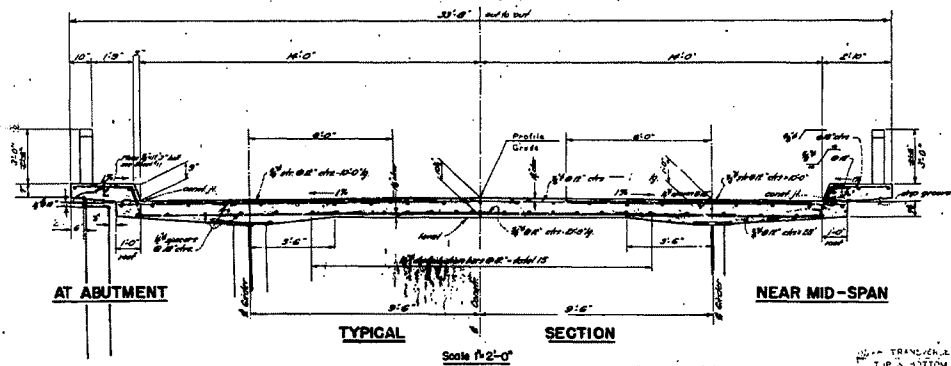
Note: Railing to be galvanized following fabrication, rail shall conform to height of vertical alignment and lower portion of railposts to be determined from the approved strip plans.

CRESTMORE BRIDGE	
FOUNDATION & RAILING	
SCALE AS SHOWN	FILE NO.
BRIDGE NO 56C-24	DRAWING NO.
PREL. DRAWING NO. P.	

DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 DATE: 7/1/56

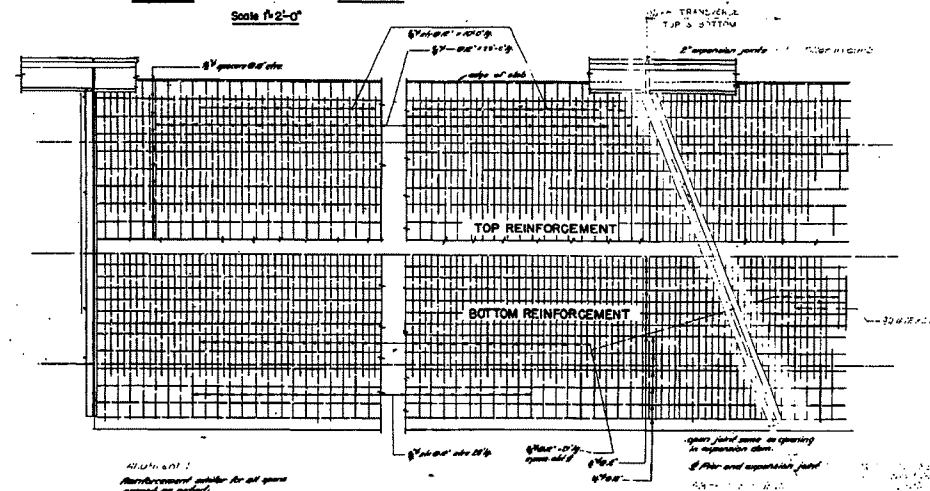
3

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 100



TYPICAL SECTION

Scale 1/2"=1'-0"



PART PLAN OF DECK

Scale 1/4"=1'-0"

ALL OTHER
 Reinforcement similar to all spans
 except as noted.

Spans joined same as opening
 in adjacent spans.
 If pier and approach joint
 shown.

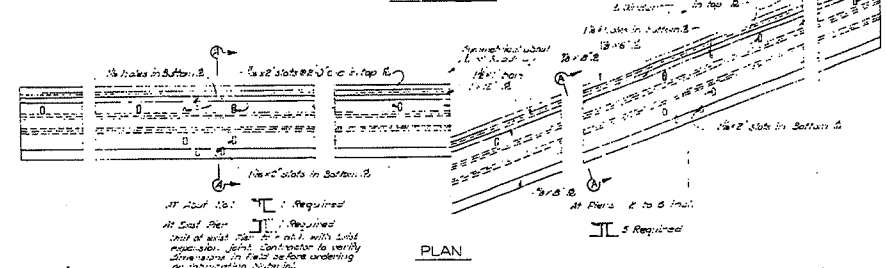
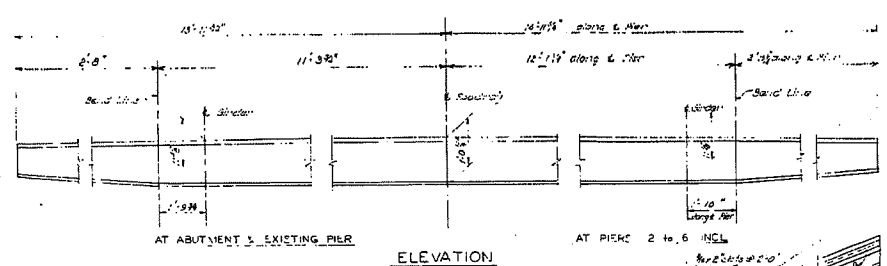
CRESTMORE BRIDGE	
DECK DETAIL	
SCALE AS SHOWN	FILE NO.
DESIGN NO. 55-1-1-1	ISSUED NO.
PREL. DRAWING NO. P-2775	

DATE	BY	CHKD	APP'D
7	SAW	5/27/55	5

NO.	REV.	DATE	BY	CHKD.

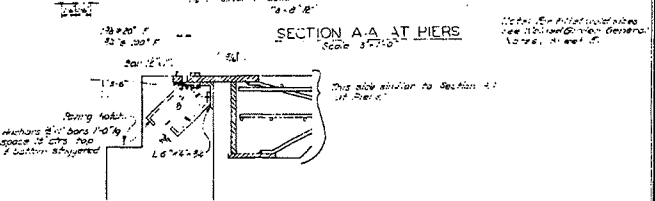
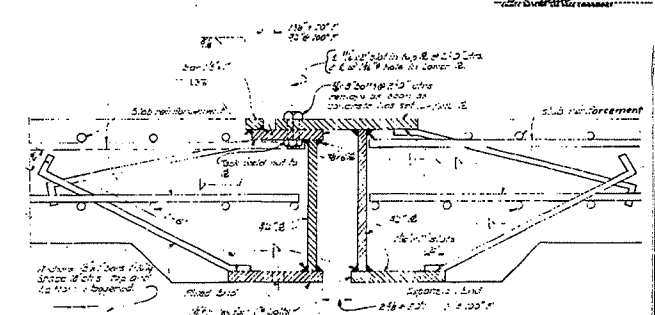
September 17, 1955

AS BUILT



GENERAL NOTE

SPECIFICATIONS:
 SECTION: A.S.S.H.O. DATED 1954 WITH SUBSEQUENT REVISIONS, AND BRIDGE DEPARTMENT SUPPLEMENT DATED 1951.
 CONSTRUCTION: STANDARD SPECIFICATIONS, DIVISION OF HIGHWAYS, DATED AUGUST 1954 AND THE SPECIAL PROVISIONS.
 LIVE LOADS: HD-80-E-64
 SOIL STRENGTH:
 RETICULATED CONCRETE: $f_c = 20,000$ P.S.I., $n = 10$
 $f_c = 1,200$ P.S.I., (EXCEPT AS NOTED)
 $f_c = 1,000$ P.S.I., (ROADWAY SLAB ON GIRDERS)
 STRUCTURAL STEEL: $f_y = 18,000$ P.S.I.
 PILE LOADS: 45 TONS TYPE: CONCRETE
 BELIEVING: EMPLOYMENT IS CLEAR TO OUTSIDE OF RAN AND IS AT 10 MAIN RELIEF ELEMENT, EXCEPT AS NOTED. BAKING FOR HOOPS IS FOUR DIAMETERS, EXCEPT AS NOTED.
 WHERE REINFORCING BARS ARE SPICED THEY SHALL HAVE A 20 DIAMETER LAP UNLESS OTHERWISE CALLED FOR ON THE PLANS.
 CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ORDERING OR FABRICATING MATERIAL.



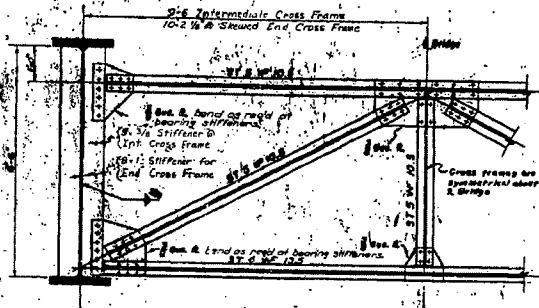
SECTION A-A AT ABUTMENTS
Scale 3/4" = 1'-0"

AS BUILT
 CONTRACTING BY *AS BUILT*
 CONTRACT NO. *12-10-10-10*

DESIGN SECTION		9		STATE OF CALIFORNIA DEPARTMENT OF PUBLIC WORKS DIVISION OF HIGHWAYS	
Project Designer: <i>AS BUILT</i>				CRESTMORE BRIDGE	
DETAILS: <i>AS BUILT</i>				EXPANSION JOINT DETAILS	
QUANTITY:	1	SCALE: 1/4" = 1'-0"	BRIDGE NO. 2772	FILE	DATE
APPROVALS:					

PREL. DRAWING NO. P-2772 20 58

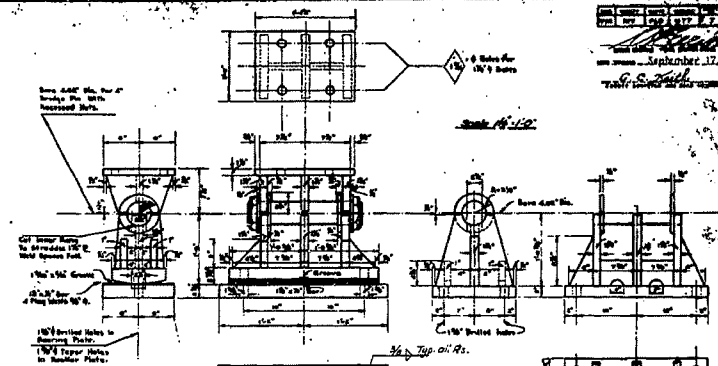
8



SCALE 1/4" = 1'-0" CROSS FRAME

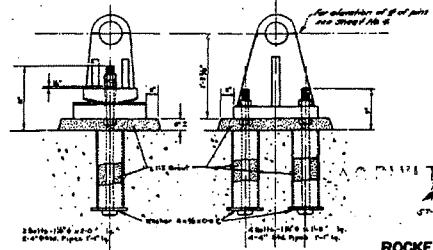
High strength bolts may be substituted for rivets.

Weldmarks shall be stress-relieved by heat treating before machining.



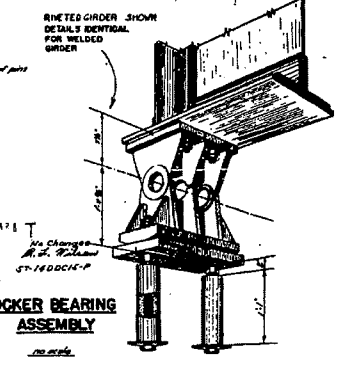
BEARING DETAILS

SHOE FOR ALL ENDS — 24 REQ'D
 FIXED END PEDESTAL — 12 REQ'D
 ROCKER B.P. FOR EXPANSION ENDS — 12 REQ'D
 BRIDGE PINS — 24 REQ'D



ANCHORAGE DETAILS

BRIDGE PIN DETAIL



ROCKER BEARING ASSEMBLY

CRESTMORE BRIDGE

STEEL DETAILS

SCALE AS SHOWN	FILE NO.
BRIDGE NO. 58C-24	DRAWING

PREL. DRAWING NO. P. 1257

DATE: September 17, 1933
 G. S. Smith
 DRAWING NO. 58C-24

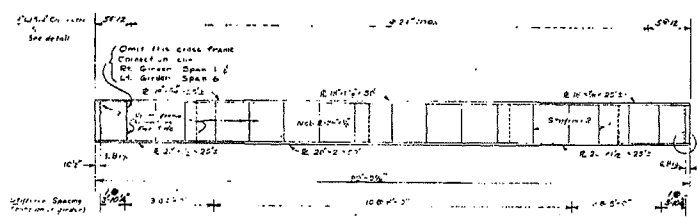
PREPARED BY: [Signature]
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]

7

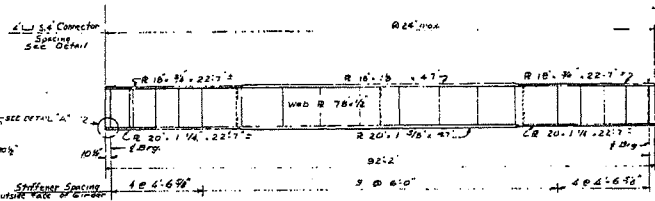
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7	CAUF	3-17-73	1	1987	3

NO.	REV.	DATE	BY
1			

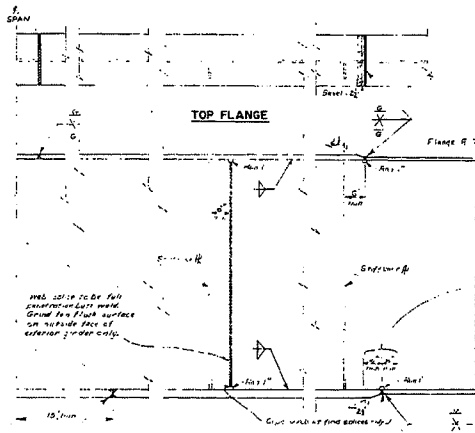
September 17, 1956
R. S. Smith



OUTSIDE ELEVATION
 Typical Except Span 1 Left & Span 6 Right
 Scale 1/4" = 1'-0"

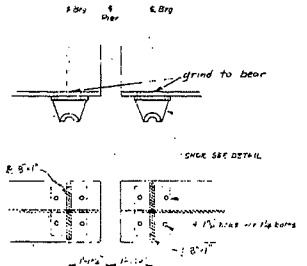


OUTSIDE ELEVATION
 Span 1 Left & Span 6 Right
 Scale 1/4" = 1'-0"



LOWER FLANGE (Looking up)

WELDED TAILS



CONNECTOR DETAIL
 Scale 1/2" = 1'-0"

DETAIL 'A' AT PIERS
 Scale 3/4" = 1'-0"

NOTE: Details as furnished are for

ALL STEEL SHALL BE A36 UNLESS OTHERWISE SPECIFIED

THE RELATION BETWEEN THE NET NET AREA AND THE MAXIMUM THICKNESS OF MEMBER SHALL BE AS FOLLOWS: THE NET AREA SHALL BE IN ACCORDANCE WITH ARTICLE 201 (a) OF THE AISC SPECIFICATIONS (1955) WITH THE FOLLOWING EXCEPTION: THE MINIMUM THICKNESS REQUIRED, THE SIZE OF FLANGE AND CONNECTIONS OF ALL MEMBERS SHALL BE 3/16" UNLESS OTHERWISE SPECIFIED. THE MINIMUM THICKNESS SHALL BE 1/4" UNLESS OTHERWISE SPECIFIED FOR ALL THE MEMBERS ON THE BRIDGE.

TO BE CHECKED BY THE ENGINEER IN THE FIELD WHEN THE BRIDGE IS BUILT OR REBUILT AND THE RESULTS OF THE CHECKS SHALL BE FURNISHED TO THE CONTRACTOR BY THE ENGINEER.

IF THE BRIDGE IS BUILT OR REBUILT AND THE RESULTS OF THE CHECKS SHALL BE FURNISHED TO THE CONTRACTOR BY THE ENGINEER.

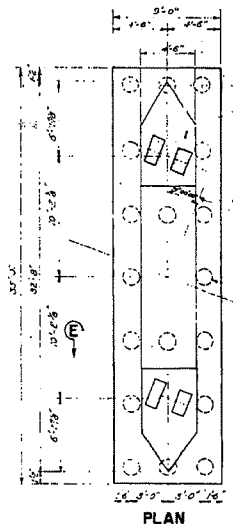
AS BUILT
 No Change
 CORRECTED BY *R. S. Smith*
 CONTRACT NO. *52-6000-2-P*

CRESTMORE BRIDGE	
GIRDER DETAILS	
SCALE AS NOTED	FILE NO.
BRIDGE NO. 56C-24	DRAWING NO.

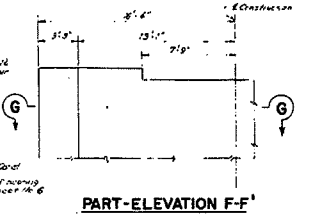
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STATE	PROJECT NUMBER	YEAR	DATE
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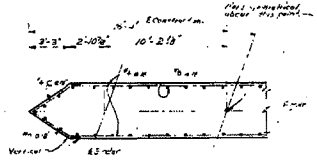
VIII	RIV	FACE	LEFT	9	10
<i>A. P. ...</i> U.S. DISTRICT COURT SEPTEMBER 17, 1938 G.C. ...					



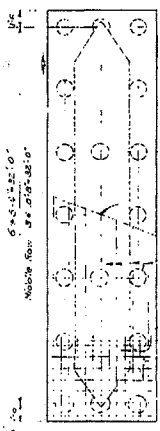
PLAN



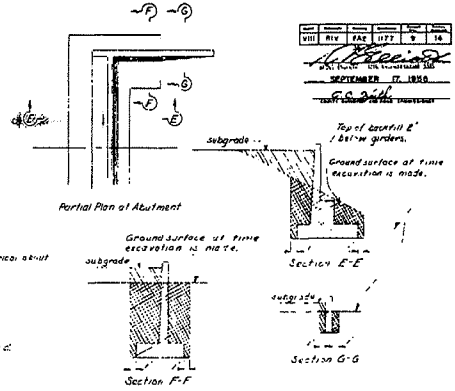
PART-ELEVATION F-F'



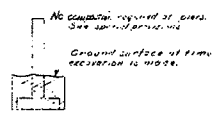
SECTION G-G



PILE LAYOUT



AT ABUTMENT I

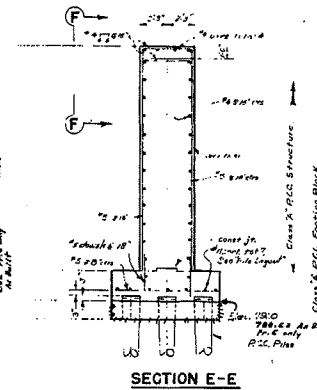


AT PIERS

- Structure Excavation
- Structure Backfill

Legend
LIMITS OF EXCAVATION FOR STRUCTURE EXCAVATION AND STRUCTURE BACKFILL

AG FAULT
 CO. ...
 COR. ...



SECTION E-E

PIER DETAILS

NOTE: Steel courses to be placed only where indicated by the Engineer. See MAXIMUM SPACING for a limiting provision only. The distance to the steel will be determined in the field by the Engineer. When steel is not used, the location of any reinforced concrete shall be placed at the discretion of the Engineer.

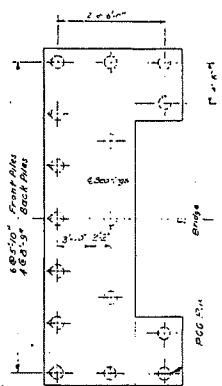
No Steel Course Used

CRESTMORE BRIDGE	
PIER DETAILS	
SCALE 1/4"=1'-0"	FILE NO.
BRIDGE NO 56C-24	DRAWING NO.

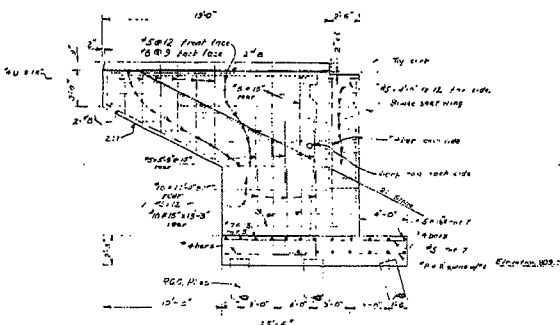
DESIGN	DATE	BY	CHECK	DATE
7	CAL	10-17-56	10	10

REV	DATE	BY	REASON
1	PAS	11-7	10

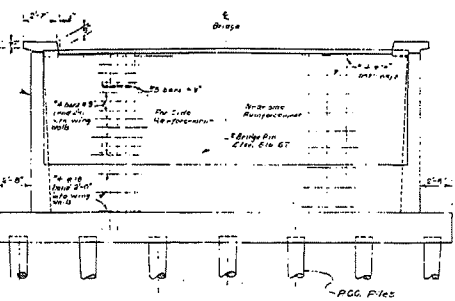
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 DATE: September 17, 1956
 PROJECT: CRESTMORE BRIDGE



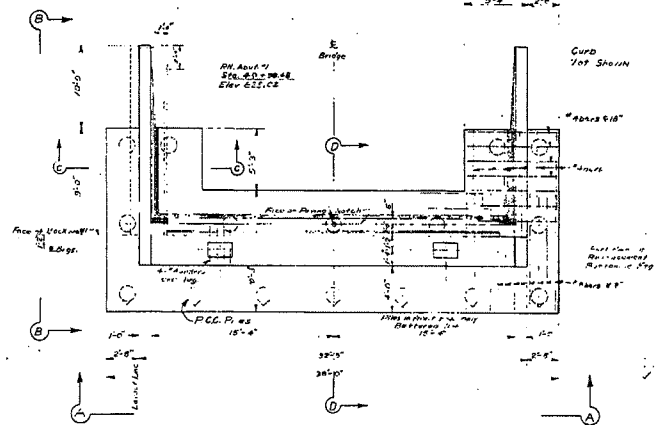
SCALE 3/16"=1'-0" PILE LAYOUT



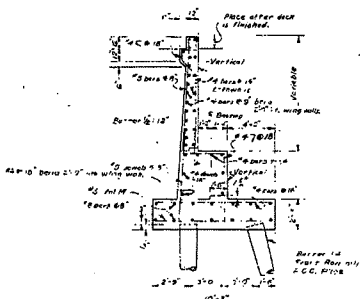
ELEVATION B-B



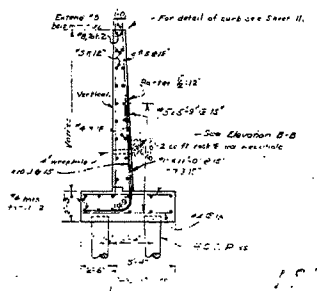
ELEVATION A-A



PLAN



SECTION D-D



SECTION C-C

CRESTMORE BRIDGE	
ABUTMENT DETAILS	
SCALE 1/4"=1'-0"	FILE NO.
BRIDGE NO. 560-24	DRAWING NO.

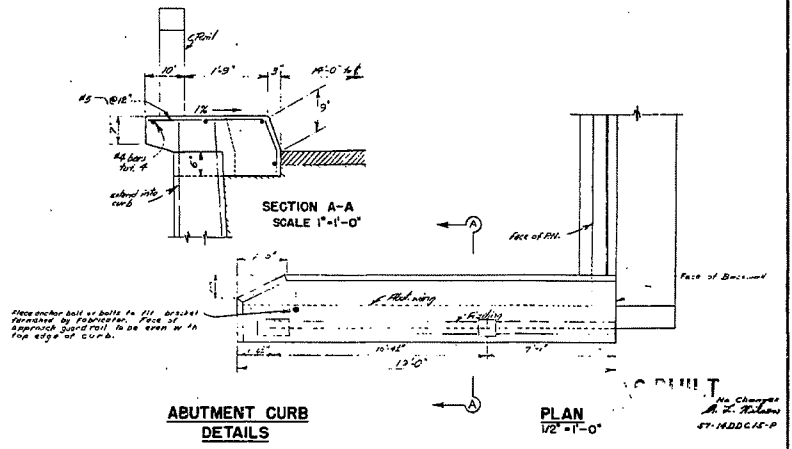
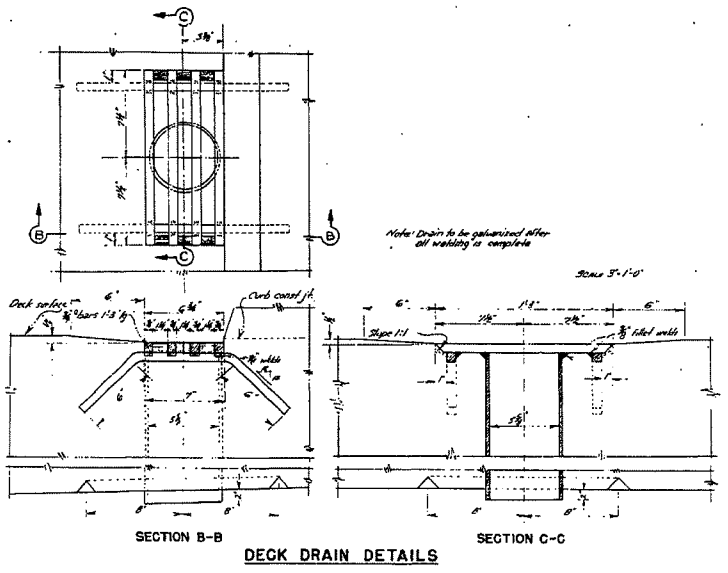
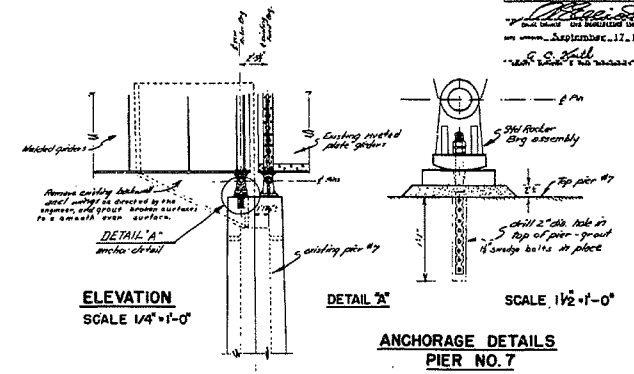
STRUCTURAL DIVISION
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]

10

NO.	DATE	BY	CHKD.	APP'D.	SCALE
7	1956	WSP	LL	EG	

NO.	DATE	BY	CHKD.	APP'D.	SCALE
7	1956	WSP	LL	EG	

APPROVED
 DATE 12-17-1956
 E. S. Hall



CRESTMORE BRIDGE	
MISCELLANEOUS DETAILS	
SCALE AS SHOWN	FILE NO.
BRIDGE NO. 560-24	DRAWING NO.

STRUCTURAL DETAILS
 PREPARED BY
 W. S. PETERSON
 CHECKED BY
 L. E. GARDNER

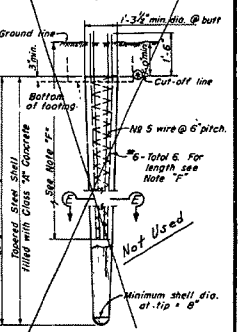
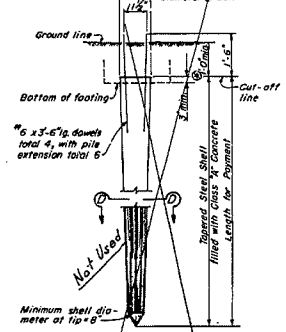
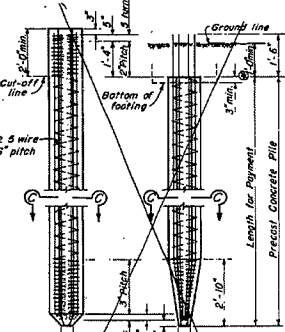
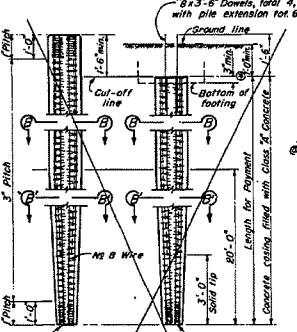
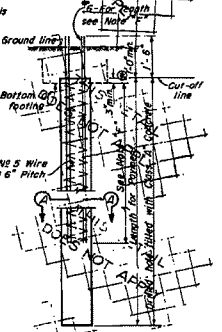
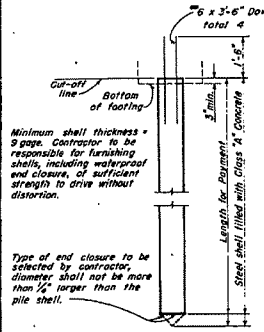
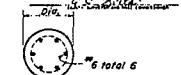
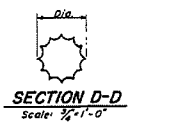
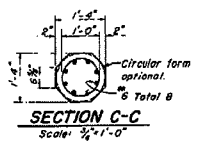
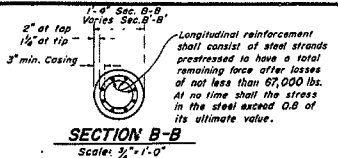
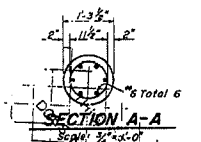
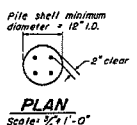
BRIDGE DEPARTMENT
 DIVISION OF PUBLIC WORKS
 STATE OF CALIFORNIA
 SAN FRANCISCO, CALIF.

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 STATE OF CALIFORNIA
 SAN FRANCISCO, CALIF.

STRUCTURAL DETAILS
 CHECKED BY
 APPROVED BY
 BRIDGE DEPARTMENT
 DIVISION OF PUBLIC WORKS
 STATE OF CALIFORNIA
 SAN FRANCISCO, CALIF.

DATE: SEP 17 1956
 SCALE: 1/4" = 1'-0"

SEPTEMBER 17, 1956
 R. J. FISHAW
 S. J. HODGINS



CAST-IN-PLACE CONCRETE PILE ALTERNATIVE "U"
 Concrete extensions of this pile will not be permitted.

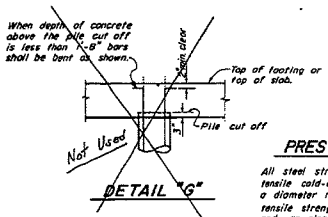
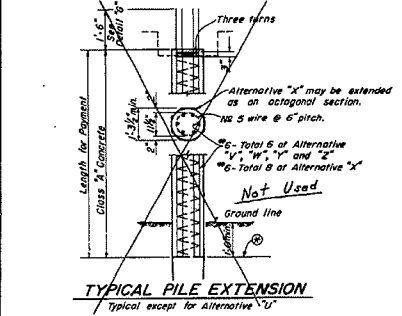
CAST-IN-DRILLED HOLE CONCRETE PILE ALTERNATIVE "V"

CAST-IN-PLACE CONCRETE PILE ALTERNATIVE "W"

PRECAST CONCRETE PILE ALTERNATIVE "X"

CAST-IN-PLACE CONCRETE PILE ALTERNATIVE "Y"

CAST-IN-PLACE CONCRETE PILE ALTERNATIVE "Z"



PRESTRESSING NOTE
 All steel strand to be prestressed shall be High Tensile cold-drawn stress relieved wire strand of a diameter not to exceed 3/8" having an ultimate tensile strength of not less than 200,000 p.s.i. and an elongation at rupture of not less than 3% in 10".

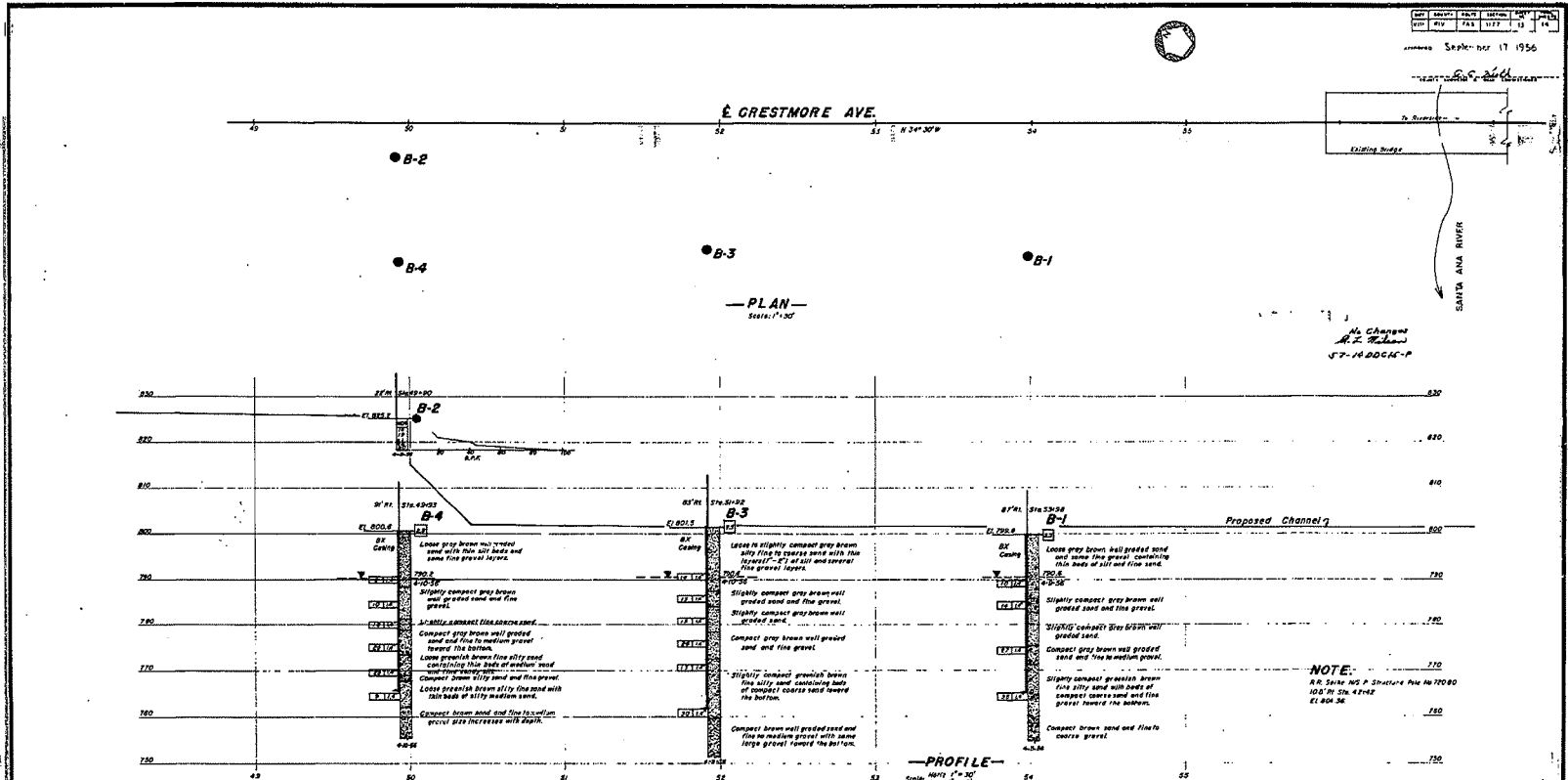
PILE NOTES
 For Alternatives "W" and "X" the piles may be driven full length and cut off without extension or they may be extended as shown at the option of the Contractor.
 When piles are extended the elevation of cut-off shall be located 1'-0" minimum below ground line, unless shown otherwise on the plans.
 Note "Z": In Alternatives "V" and "Z" the length of "6" round bars, measured below the top of the bearing struts shall be either (1) a minimum of 1/2 penetration, or (2) 12", whichever is the greater.

BRIDGE DEPARTMENT DESIGN SECTION			
Project Designer	Chief Designer	Checked	Checked
REVISION	By	Checked	Checked
QUANTITIES	By	Checked	Checked
SPECIFICATIONS	By	Checked	Checked
Approval Recommended by	Checked	Checked	Checked

STATE OF CALIFORNIA DEPARTMENT OF PUBLIC WORKS DIVISION OF HIGHWAYS	
CREATURE PROJECT	
PILE DETAILS	
EXCESS OF SCALE 1/4" = 1'-0"	BRIDGE NO. FILE DRAWING
PREL. DRAWING NO. P-	

NO.	DATE	BY	REVISION
7	CAL	10/27/54	1

DATE	BY	SCALE	NO.
SEP 17 1956			



NOTE:
R.C. Spoke No. 1 Structure Pier No. 70080
1025' to Sta. 42+00
E1 804 36

SIZE CLASSIFICATION	MATERIAL SYMBOLS	CONSISTENCY CLASSIFICATION
	<ul style="list-style-type: none"> Gravel Sand Silt Clay Silty clay or clayey silt Silty sand or sandy silt Organic matter 	<p>According to the Standard Penetration Test</p> <ul style="list-style-type: none"> 11-30' Very soft 30-40' Soft 40-50' Medium 50-60' Stiff 60-70' Hard 70-80' Very hard

LEGEND OF BORING OPERATIONS	
Penetration test	Rotary boring
Sample location	Water table
Blow count	Penetration test

GEO-ENGINEERING COMPANY
322 SOUTH HAYWARD AVENUE
FULLERTON, CALIFORNIA

F-148

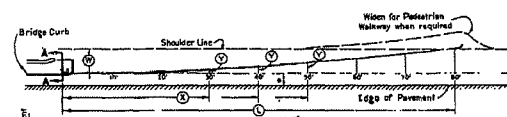
RIVERSIDE COUNTY

**CRESTMORE AVENUE BRIDGE
EXTENSION**

LOG OF TEST BORINGS

13

DATE	BY	REVISION	DESCRIPTION
7/1/53	CHAS.	1177	1.31
1/1/54			
1/1/54			
1/1/54			

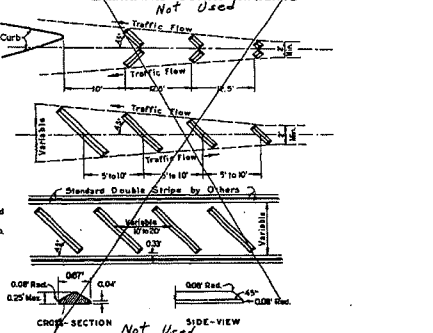
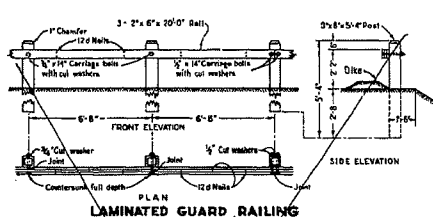


W = Offset from bridge curb to edge of shoulder
L = Length of guard rail
X = Distance from beginning of guard rail at bridge
Y = Offset at each post

X	W=1'	W=2'	W=3'	W=4'	W=5'	W=6'
10	0.2	0.11	0.08	0.07	0.06	0.06
20	0.48	0.44	0.31	0.30	0.23	0.22
30	1.08	1.02	0.79	0.67	0.52	0.50
40	1.92	1.78	1.25	1.19	0.93	0.89
50	3.00	2.76	1.95	1.85	1.45	1.39
60		4.00	2.81	2.67	2.08	2.00
70			3.83	3.63	2.83	2.72
80				5.00	4.24	3.70
90					6.00	4.90
100						5.79
110						6.50
120						7.00

Offset from edge of pavement = Y + X
Note: Offset from pavement edge to top of bridge curb face

TYPICAL INSTALLATION OF METAL GUARD RAILING AT BRIDGES



TAPER FOR SPEED CHANGE LANES ON CONTINUOUSLY CURBED MEDIANS

Edge of Pavement = Base Line Parallel to Pavement

AD = Taper Length
AB = BC = 1/2 AD
AB' B' C' are Parabolic Curves

Width of Speed Change Lane is usually the same width as the adjacent lane

The following table gives offsets from a base line parallel to the EDGE OF PAVEMENT at intervals measured from point "A" Add "E" for measurements from edge of pavement

Offset from BASE LINE	LENGTH OF TAPER, FEET					
	90	120	150	180	240	270
0	0	0	0	0	0	0
0.14	0.16	0.19	0.21	12.5	15	22.5
0.56	0.62	0.75	1.0	20	25	40
1.27	1.41	1.69	2.25	30	45	60
2.25	2.50	3.00	4.0	40	60	90
4.50	5.00	6.00	8.0	60	75	120
6.75	7.50	9.00	12.0	80	100	150
7.75	8.50	10.5	15.0	90	115	180
8.84	9.75	11.25	17.5	100	125	200
8.88	9.81	11.81	20.0	110	135	225
9.0	10.0	12.0	22.5	120	150	240
9.0	10.0	12.0	25.0	130	165	247.5
9.0	10.0	12.0	30.0	150	180	270

* Where Edge of Pavement is a curve, neither base line nor taper between B' C' will be tangent. Use proportional offsets from "B" to "C".
* The accepted offset "C" is usually 2' along outside edge of pavement but may vary in some cases.

