
Bridge Inspection Records Information System

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State of California
Department of Transportation

**Division of Maintenance
Structures Maintenance & Investigations**



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55CC205
Facility Carried: SANTA ANA AV
Location : 0.1 MI S OF BRISTOL ST
City :
Inspection Date : 16-JUL-01
Inspection Type
Routine Group A Underwater Special Other
X

Bridge Inspection Report

Name : SANTA ANA-DELHI CHANNEL

CONSTRUCTION INFORMATION

Year Built : Unknown
Year Widened : 1973
Length (m) : 16.5
Skew (degrees): 10
No. of Joints : 0
No. of Hinges : 0
Description of Structure : Single span PC/PS concrete cored deck slab (22 units) with RC pile bent abutments with sheathing walls.

Span Configuration : (S) 1 x 16.2 m (N) c/c

LOAD CAPACITY AND RATINGS

Design Live Load : MS - 18 OR HS - 20
Inventory Rating : 32.6 metric tons
Operating Rating : 76.1 metric tons
Permit Rating : PPPPP
Posting Load : Type 3 N/A english tons
Calculation Method : LOAD FACTOR
Calculation Method : LOAD FACTOR
Type 3S2 N/A english tons
Type 3-3 N/A english tons

DESCRIPTION ON STRUCTURE

Bridge width : (W) 0.4 m AC dike, 18.7 m, 1.4 m sw (E)
Total Width : 20.4 m
Net Width : 18.70 m
Rail Description : MBGR
Min. Vertical Clearance : Unimpaired
No. of Lanes : 4
Rail Code : 0000

DESCRIPTION UNDER STRUCTURE

Channel Description : RC rectangular.

CONDITION OF STRUCTURE

The structure is in good condition.

MISCELLANEOUS

Vehicular access beneath the structure is from the northwest quadrant.

ELEMENT LEVEL INSPECTION RATINGS

F#	Elem No.	Element Description	Env	Total Units Quantity	Qty in each Condition State				
					St. 1	St. 2	St. 3	St. 4	St. 5
01 39		Concrete Slab - Unprotected w/ AC Overlay	2	310 sq.m.	310	0	0	0	0
01 215		Reinforced Conc Abutment	2	40 m.	40	0	0	0	0
01 337		Metal Railing (W6X25 Posts)	2	40 m.	40	0	0	0	0

WORK RECOMMENDATIONS - NONE

Bridge No.: 55C0205

Location: 0.1 MI S OF BRISTOL ST

Inspection Date: 16-JUL-01

Inspected By : M. Ogata

M. Ogata
Registered Civil Engineer



CC : TMRut
Orange County

Bridge No.: 55C0205

Location: 0.1 MI S OF BRISTOL ST

Inspection Date: 16-JUL-01

STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME - CALIFORNIA 059
 (8) STRUCTURE NUMBER 55C0205
 (5) INVENTORY ROUTE (ON/UNDER) - ON 140 00000N
 (2) HIGHWAY AGENCY DISTRICT 12
 (3) COUNTY CODE 059 (4) PLACE CODE 06000
 (6) FEATURE INTERSECTED - SANTA ANA DELHI CHANNEL
 (7) FACILITY CARRIED - SANTA ANA AV
 (9) LOCATION - 0.1 MI S OF BRISTOL ST
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK - NOT ON NET 0
 (13) LRS INVENTORY ROUTE & SUBROUTE
 (16) LATITUDE 33 DEG 39 MIN 54 SEC
 (17) LONGITUDE 117 DEG 52 MIN 56 SEC
 (98) BORDER BRIDGE STATE CODE % SHARE %
 (99) BORDER BRIDGE STRUCTURE NUMBER

***** STRUCTURE TYPE AND MATERIAL *****

(43) STRUCTURE TYPE MAIN: MATERIAL - PRESTRESS CONC
 TYPE - BOX BEAM OR GDR - MULTIPLE CODE 5 05
 (44) STRUCTURE TYPE APPR: MATERIAL -
 TYPE - CODE
 (45) NUMBER OF SPANS IN MAIN UNIT 1
 (46) NUMBER OF APPROACH SPANS 0
 (107) DECK STRUCTURE TYPE PRECAST CONC. PANELS CODE 2
 (108) WEARING SURFACE / PROTECTIVE SYSTEM:
 A) TYPE OF WEARING SURFACE - BITUMINOUS CODE 6
 B) TYPE OF MEMBRANE - NONE CODE 0
 C) TYPE OF DECK PROTECTION - NONE CODE 0

***** AGE AND SERVICE *****

(27) YEAR BUILT
 (106) YEAR RECONSTRUCTED 1973
 (42) TYPE OF SERVICE: ON - HIGHWAY-PEDESTRIAN 5
 UNDER - WATERWAY 5
 (28) LANES: ON STRUCTURE 04 UNDER STRUCTURE
 (29) AVERAGE DAILY TRAFFIC 10000
 (30) YEAR OF ADT 1999 (109) TRUCK ADT 1%
 (19) BYPASS, DETOUR LENGTH 2 KM

***** GEOMETRIC DATA *****

(48) LENGTH OF MAXIMUM SPAN 16.2 M
 (49) STRUCTURE LENGTH 16.5 M
 (50) CURB OR SIDEWALK: LEFT 0 M RIGHT 1.4 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 18.7 M
 (52) DECK WIDTH OUT TO OUT 20.4 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 17.1 M
 (33) BRIDGE MEDIAN - CLOSED (NO BARRIER) 2
 (34) SKEW 10 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 18.7 M
 (53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
 (54) MIN VERT UNDERCLEAR REF - NOT H/RR 0 M
 (55) MIN LAT UNDERCLEAR RT REF - NOT H/RR 0 M
 (56) MIN LAT UNDERCLEAR LT 0 M

***** NAVIGATION DATA *****

(38) NAVIGATION CONTROL - NO CONTROL CODE 0
 (111) PIER PROTECTION - NOT REQUIRED CODE 1
 (39) NAVIGATION VERTICAL CLEARANCE 0 M
 (116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR 0 M
 (40) NAVIGATION HORIZONTAL CLEARANCE 0

***** SUFFICIENCY RATING *****

SUFFICIENCY RATING = 96.1

STATUS =

HEALTH INDEX = 100

***** CLASSIFICATION *****

CODE	DESCRIPTION	VALUE
(112)	NETS BRIDGE LENGTH - YES	Y
(104)	HIGHWAY SYSTEM - NOT ON NHS	0
(26)	FUNCTIONAL CLASS - LOCAL URBAN	19
(100)	DEFENSE HIGHWAY - NOT STRAHNET	0
(101)	PARALLEL STRUCTURE - NONE EXISTS	N
(102)	DIRECTION OF TRAFFIC - 2 WAY	2
(103)	TEMPORARY STRUCTURE -	
(105)	FEDERAL LANDS HIGHWAY - NOT APPLICABLE	0
(110)	DESIGNATED NATIONAL NETWORK - NOT ON NET	0
(20)	TOLL - ON FREE ROAD	3
(21)	MAINTAIN - COUNTY HIGHWAY AGENCY	2
(22)	OWNER - COUNTY HIGHWAY AGENCY	2
(37)	HISTORICAL SIGNIFICANCE - NOT ELIGIBLE	5

***** CONDITION *****

CODE	DESCRIPTION	VALUE
(58)	DECK	7
(59)	SUPERSTRUCTURE	7
(60)	SUBSTRUCTURE	7
(61)	CHANNEL & CHANNEL PROTECTION	9
(62)	CULVERTS	N

***** LOAD RATING AND POSTING *****

CODE	DESCRIPTION	VALUE
(31)	DESIGN LOAD - MS - 18 OR HS - 20	5
(63)	OPERATING RATING METHOD - LOAD FACTOR	1
(64)	OPERATING RATING -	76.1
(65)	INVENTORY RATING METHOD - LOAD FACTOR	1
(66)	INVENTORY RATING -	32.6
(70)	BRIDGE POSTING - Equal to or above legal loads	5
(41)	STRUCTURE OPEN, POSTED OR CLOSED - DESCRIPTION - OPEN, NO RESTRICTION	A

***** APPRAISAL *****

CODE	DESCRIPTION	VALUE
(67)	STRUCTURAL EVALUATION	7
(68)	DECK GEOMETRY	6
(69)	UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(71)	WATER ADEQUACY	9
(72)	APPROACH ROADWAY ALIGNMENT	8
(36)	TRAFFIC SAFETY FEATURES	0000
(113)	SCOUR CRITICAL BRIDGES	U

***** PROPOSED IMPROVEMENTS *****

CODE	DESCRIPTION	VALUE
(75)	TYPE OF WORK -	
(76)	LENGTH OF STRUCTURE IMPROVEMENT	M
(94)	BRIDGE IMPROVEMENT COST	
(95)	ROADWAY IMPROVEMENT COST	
(96)	TOTAL PROJECT COST	
(97)	YEAR OF IMPROVEMENT COST ESTIMATE	
(114)	FUTURE ADT	20000
(115)	YEAR OF FUTURE ADT	2019

***** INSPECTIONS *****

CODE	DESCRIPTION	VALUE
(90)	INSPECTION DATE 07/01	
(91)	FREQUENCY 24 MO	
(92)	CRITICAL FEATURE INSPECTION:	
(93)	CFI DATE	
A)	FRACTURE CRIT DETAIL - NO	-1 MO A)
B)	UNDERWATER INSP - NO	-1 MO B)
C)	OTHER SPECIAL INSP - NO	-1 MO C)

Bridge No. 55C-205

Name SANTA ANA-DELHI CHANNEL (Santa Ana Avenue, 0.1 mile south of Bristol Street) Location 12-Ora-CR Dist.-Co.-Rte.-City

SUMMARY OF ENCROACHMENTS

Permit No. and Permittee	Date	Description & Location on Bridge
	Prior to 8-7-96	1 - 600 mm steel pipe through abutments about 4 meters from west fascia.

HBD M 30

Bridge Number 55C-205

Location 12 - Ora - CR
Dist.-Co.-Rte.-City

Date of Investigation August 7, 1996

TYPE OF INVESTIGATION/REPORT

BIENNIAL	<u>X</u>	DAMAGE	___
CATEGORY A	___	OTHER	___
UNDERWATER	___	OFFICE	___

Name SANTA ANA-DELHI CHANNEL (Santa Ana Avenue, 0.1 mile south of Bristol Street)

CONDITION RATINGS:

Element Level Inspection (ELI) form attached.

Channel & Channel Protection

9

CONDITION OF STRUCTURE:

Condition of structure is good.

WORK RECOMMENDED:

None.

ENCROACHMENT:

One 600 mm steel pipe through abutments about 4 meters from west fascia.

M. Hadi Behrooj ^{nth}

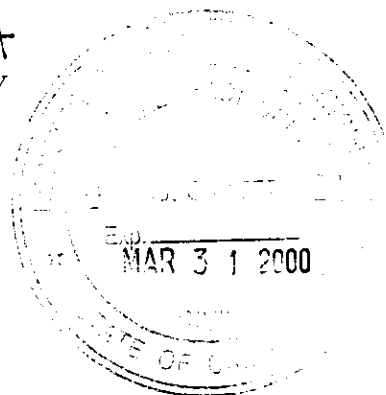
By

G. P. Balinghasay

GPB:cd

cc: TMRut

Orange County



SUPPLEMENTARY BRIDGE REPORT

DS-M19 (REV. 2/93)

Bridge Number 55C-205

Location 12 - Ora - CR
Dist.-Co.-Rte.-City

Date of Investigation June 23, 1994

TYPE OF INVESTIGATION/REPORT

BIENNIAL	<u>X</u>	DAMAGE	___
CATEGORY A	___	OTHER	___
UNDERWATER	___	OFFICE	___

Name SANTA ANA-DELHI CHANNEL (Santa Ana Avenue, 0.1 mile south of Bristol Street)

CONDITION RATINGS:

Condition ratings of all bridge elements are shown on the PONTIS DATA FORM (Attachment A).

Channel & Channel Protection

9

SCOUR CRITICAL:

The scour rating of A-1 is appropriate.

CONDITION OF STRUCTURE:

The structure is in good condition.

WORK DONE:

The growing tree branches from south abutment has been removed.

WORK RECOMMENDED:

None.

M. H. Behrooj *MHB*

By

S. A. Zanganeh
S. A. Zanganeh

SAZ:cd

cc: CDHarris
Orange County
WLindsey

41777

INFORMATION ONLY - NOT FOR UPDATE

SCOUR CRITICAL	NO
CATEGORY A	NO
FRACTURE CRITICAL	NO
ELIGIBLE FOR RAIL UPGRADE	NO
UNDERWATER INSPECTION	NO

DISTRICT	12
COUNTY	ORA
ROUTE	
POSTMILE	
NAME	

07/10/95

BY: 832

SUPPLEMENTARY BRIDGE REPORT

DS-M19 (REV. 12/91)

Bridge Number 55C-205

Location 12 - Ora - CR
Dist.-Co.-Rte.-City

Date of Investigation June 10, 1992

TYPE OF INVESTIGATION/REPORT

BIENNIAL X DAMAGE
CATEGORY A OTHER
UNDERWATER OFFICE

Name SANTA ANA-DELHI CHANNEL (Santa Ana Avenue, 0.1 mile south of Bristol Street)

CONDITION RATINGS:

Deck

8

Superstructure

8

Substructure

8

Channel & Channel Protection

9

Culvert

N

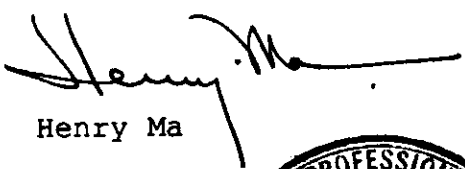
CONDITION OF STRUCTURE:

Previously noted tree growth under south abutment bearing seat remains the same.

Condition of the structure is good.

WORK RECOMMENDED:

Remove growing tree from south abutment seat.


Henry Ma

HM:cd

cc: INagai (2)
County of Orange



BRIDGE REPORT

DS-M58 (REV. 4/90)

14W22

Bridge No. 55C - 205

Location 12 - Ora - CR
Dist Co Rte City

REVISED ORIGINAL REPORT

Date of Investigation May 24, 1990

Name SANTA ANA-DELHI CHANNEL (Santa Ana Avenue, 0.1 mile South of Bristol Street)

Lat. 33° - 39.9'N Long. 117° - 52.9'W

Custodian County of Orange Owner County of Orange

STRUCTURAL DATA AND HISTORY

Year Built Unknown By Orange County Contract No. Unknown
See Page 2

Designed by: Orange County Plans Avail. @ County

Description: Single span PC/PS concrete cored slab units (22 each) supported by RC pile bent abutments with concrete sheathing wall.

Spans 53'

Length 54' NBIS Bridge Length Yes Skew 10° Right

Number Of Intermediate Joints: @Hinges N @Bents N

Maximum Column/Pier Height: (Less than 20') X (20'-29') (30' & Over)

Design Live Load H20-S16 Design Method Unknown

DESCRIPTION - ON STRUCTURE

Bridge Width (W) 1.3'AC dike; 61.4'; 4.5'sw (E)

Total Width 67' Net Width 61.4' Lanes 4 Tracks None

Median None Rail Type Metal beam with CL fence 0000

Vert. Clearance over deck Unimpaired Appr. Rdwy. Width 56'

Deck Type 2 Wearing Surface/Prot. Sys. 600 AC/None

Alignment Tangent

DESCRIPTION - UNDER STRUCTURE

Roadway Section None

Clearances: Road: Vert. Horiz. Lt. ; Rt.

Lanes Tracks

Facilities Crossed Santa Ana-Delhi Channel (F01)

May 24, 1990

DESCRIPTION - HYDRAULICS

Channel RC rectangular

Navigable: Yes ☐ No ☒ Clearances: Vert.

Horiz.

Pier/Abutment Protection (For Navigation) ☐

TRAFFIC INFORMATION

	DECK	YEAR	UNDER	YEAR
Average Daily Traffic & Year :	14,000	1989	N	
Average Daily Traffic (Future) :	15,000 Est	2010	N	
Average Daily Trucks (% OF ADT) :	1% Est		N	
Bypass Detour Length	1 mile		N	
Shell Route:	No		N	
Functional Classification :	16		N	
LOAD RATINGS:	Inventory HS 20	Operating HS 47		
	Permit PPPPP	Computation Method Load Factor		

CONDITION RATINGS:

Deck	8	Superstructure	8	Substructure	8
Channel & Channel Protection	9	Culvert	N	Widenable	Yes

APPRAISAL RATINGS:

Waterway Adequacy	9	Approach Roadway Alignment	8
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Date of Revisions

STRUCTURAL DATA AND HISTORY (Con't.)

Date of Revision: 1973 - Widened 20'± west side and 30'± east side.

CONDITION OF STRUCTURE:

There is a tree branch growing out of south abutment girder bearing seat area near east edge of bridge.

Condition of the structure is good.

WORK DONE:

RC rectangular channel was recently constructed.

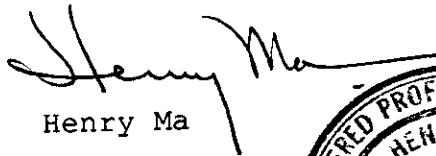
WORK RECOMMENDED:

Remove growing trees branch from girder bearing area under bridge near south east end.

May 24, 1990

ENCROACHMENT:

24" ± steel pipe through abutments about 15' from west facia.


Henry Ma

HM:ms

cc: INagai (2)
County of Orange



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DS-M19 (REV. 2/75)

Bridge No. 55C-205

Location 7-Oran-CR
Dist - Co - Rte - PM - City

Date of Investigation May 11, 1988

Name SANTA ANA - DELHI CHANNEL (Santa Ana Ave., 0.1 mile S. of Bristol Street)

CONDITION RATING:

APPRAISAL RATING:

Deck 8 Superstructure 8 Substr. & Pipes 8 Overall 8
Channel & Channel Protection 8 Retaining Walls N

Widenable? Yes ☒ No ☐ Conditional ☐

Action Required by COUNTY Yes ☐ No ☒

REVISION:

Name: SANTA ANA - DELHI CHANNEL (Santa Ana Avenue, 0.1 mile south of Bristol Street)

Average Daily Traffic: 13,000 (1987)

CONDITION OF STRUCTURE:

There is a minor erosion under the sidewalk at northeast corner of the structure.

Condition of the structure is good.

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

None

HM/pht

cc: INagai (2)
Orange County (2)

Henry Ma



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-05 M19 (REV. 1/74)

55C-205

Bridge No. _____
7-Oran-CR
Location _____
City - Co - Pm - Rd - Hwy
Date of Investigation May 20, 1986

Name DELHI CHANNEL (Santa Ana Ave., 0.1 mile S. of Bristol St.)

CONDITION RATING:

APPRAISAL RATING:

Deck 8 Superstructure 8 Substr. & Pipes 8 Overall 8
Channel & Channel Protection 8 Retaining Walls N

Widenable? Yes ☒ No ☐ Conditional ☐

Action Required by City Yes ☐ No ☒

PRIORITY

A - Immediate Action
B - Early Scheduling
C - Routine Maint.
O - For Record Only

ENCROACHMENT:

24"± steel pipe through abutments about 10' from north facia.

CONDITION OF STRUCTURE:

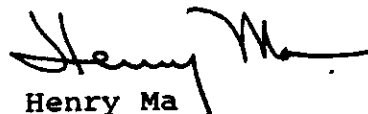
Overall condition of the structure is good.

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

None


Henry Ma
C-36817

HM:pht

cc: INagai (2)
Orange County (2)

1411'22

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-05 M19 (REV. 1/74)

Bridge No. 55C-205
Location 7-Ora-CR
Stat - Co - Rm - Pk - City
Date of Investigation May 7, 1984

Name DELHI CHANNEL (Santa Ana Ave., 0.1 mile South of Bristol St.)

CONDITION RATING:

APPRAISAL RATING:

Deck 8 Superstructure 8 Substr. & Pipes 8 Overall 8
Channel & Channel Protection 8 Retaining Walls N

Widenable? Yes ☒ No ☐ Conditional ☐

Action Required by County Yes ☐ No ☒

PRIORITY

A - Immediate Action
B - Early Scheduling
C - Routine Maint.
O - For Record Only

CONDITION OF STRUCTURE:

The overall condition of the structure is good.

RECOMMENDED POSTING:

None

RECOMMENDATION:

None

E. L. Neff
E. L. Neff
C-28703

ELN:pdh
cc: DRHiggins (2)
Orange County (2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-OS M19 (REV. 1/74)

14W22
Bridge No. 55C-205
Location 07-Oran-CR
Dist - Co - Pte - PM - City
Date of Investigation June 10, 1982

Name DELHI CHANNEL (Santa Ana Avenue, 0.1 mile south of Bristol Street

CONDITION RATING:

APPRAISAL RATING:

Deck 8 Superstructure 8 Substr. & Pipes 8 Overall 8
Channel & Channel Protection 8 Retaining Walls (N)

Widenable? Yes ☒ No ☐ Conditional ☐

County Orange
Action Required by DDHM: Yes ☐ No ☒

CONDITION OF STRUCTURE:

The overall condition of the structure is good.

RECOMMENDATION:

None

E. L. Neff
E. L. Neff
C-28703

ELN:pdh
cc: DRHiggins (2)
Orange County (2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
BRIDGE REPORT
DH-OS M58 (REV. 3/74)

Bridge No. **95C-203**

Other No. **BE-12**

P.U.C. No. _____

Location **07-022-0-GR**
Dist - Co - Rte - PM - City

Date of Investigation **May 22, 1978**

SEE RE-1580
ORIGINAL REPORT

Name **DELHI CHANNEL (Santa Ana Ave., 0.1 mi S. of Bristol St.)**

Lat **33° - 39.9'** Long. **117° - 52.9'**

STRUCTURAL DATA AND HISTORY

Year Built _____ By **Orange County** Contract No. **---**

Date of Revisions **Widened 1973**

Designed by: B.D. ☐ **County** Plans Avail. ☒ **County**

Description: **Single span 22 PC/PS box sections, RC seated abutments supported on piles.**

Spans **53'**

Length **54'** Skew **10° Rt** Design LL **H20-S16**

Ratings: Inventory **H20.0/LF** Operating **H247.4/LF** Permit **PPPP/LF**

DESCRIPTION - ON STRUCTURE

Bridge Width **(W) 61.0', 4.5' sw (E)**

Total Width **67'** Lanes **4** Tracks **None**

Median **None** Rail Type **None w/chain link fence (0000)**

Vert. Clearance over deck **Unimpaired** Appr. Rdwy. Width **61'**

Wearing Surface **5" AC** Deck Seal **None**

Alignment **Tangent**

DESCRIPTION - UNDER STRUCTURE

Roadway Section **None**

Clearances: Vert. _____ Horiz. _____ Lt. _____ Rt. _____

Lanes _____ Tracks _____ Pumpplant: None ☐ See Br. No. **✓**

Facilities Crossed **Delhi Channel**

cc:

Bridge No. 55C-205

Date May 22, 1978

DESCRIPTION - HYDRAULICS

Channel Natural - RCC slope protection under structure

Navigable: Yes ☐ No ☒ Clearances: Vert. _____ Horiz. _____

MAINTENANCE

Custodian Orange County Owner Orange County

**ORIGINAL
CONDITION RATING**

Deck	<u>8</u>
Superstructure	<u>8</u>
Substructure & Pipes	<u>8</u>
Channel & Channel Protection	<u>8</u>
Retaining Walls	<u>---</u>
Approach Rdwy. Alignment	<u>8</u>
Estimated Remaining Life	<u>50</u>

**ORIGINAL
APPRAISAL**

Overall	<u>8</u>
Deck Geometry	<u>8</u>
Underclearances	Vert. <u>---</u>
	Horiz. <u>---</u>
Safe Load Capacity	<u>9</u>
Waterway Adequacy	<u>8</u>
Approach Rdwy. Alignment	<u>9</u>

Widenable? Yes ☒ No ☐ Conditional ☐

AVERAGE DAILY TRAFFIC:
1978
1979
1980
1981
1982

Action Required by District: Yes ☐ No ☒

6500 * (1978)
01

The structure is in good condition.
Calculated by Office of Structures
rating section.

J. R. Martin

Original signed by

By C. E. Broussard

CHB:mb
cc:Dist. Of Local Ass't
Orange County (2)

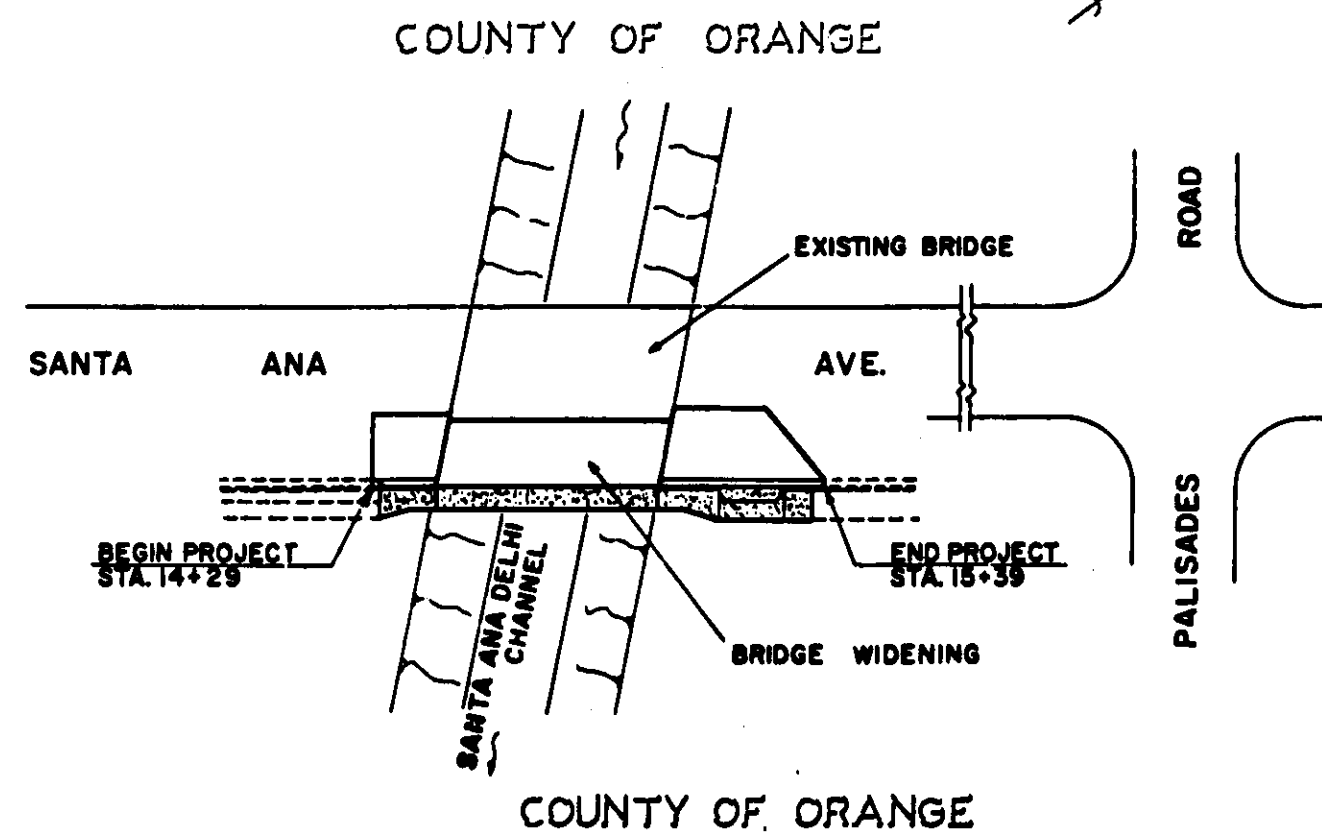
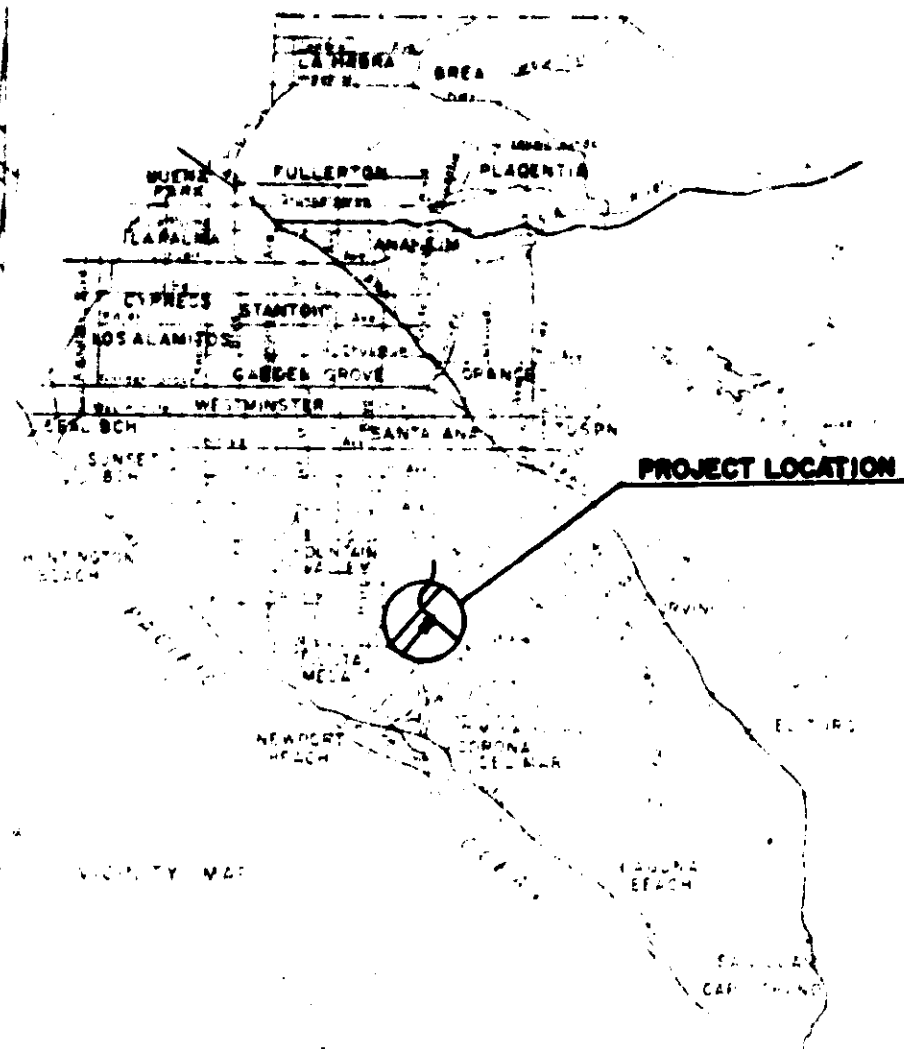
ORANGE COUNTY ROAD DEPT.

STATE OF CALIFORNIA

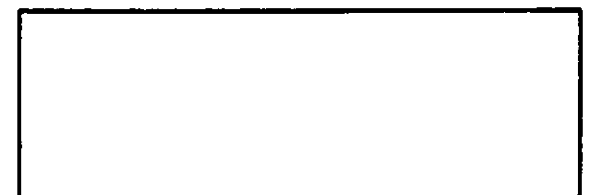
PLANS FOR WIDENING OF SANTA ANA AVE. BRIDGE DE - 12 ACROSS FLOOD CONTROL CHANNEL FO 1

INDEX OF SHEETS

Sheet No	Description
1	TITLE SHEET
2	GENERAL PLAN
3	BRIDGE PLAN
4	MISCELLANEOUS DETAILS
5	GUARD RAIL & FENCE DETAILS
6	PILE DETAILS



ALL WORK WITHIN THE FLOOD CONTROL DISTRICT RIGHT OF WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF THE CONSTRUCTION PERMIT GRANTED BY ORANGE COUNTY FLOOD CONTROL DISTRICT AND THE PLANS STAMPED WITH THE APPROVAL OF ORANGE COUNTY FLOOD CONTROL DISTRICT. CONTRACTOR SHALL HAVE A COPY OF SAID PERMIT AND STAMPED PLANS ON THE JOB SITE.



550-205

550205

AS BUILT

CONVENTIONAL SIGNS	
1. A LINE	2. A LINE
3. A LINE	4. A LINE
5. A LINE	6. A LINE
7. A LINE	8. A LINE
9. A LINE	10. A LINE
11. A LINE	12. A LINE
13. A LINE	14. A LINE
15. A LINE	16. A LINE
17. A LINE	18. A LINE
19. A LINE	20. A LINE
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23. A LINE	24. A LINE
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37. A LINE	38. A LINE
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65. A LINE	66. A LINE
67. A LINE	68. A LINE
69. A LINE	70. A LINE
71. A LINE	72. A LINE
73. A LINE	74. A LINE
75. A LINE	76. A LINE
77. A LINE	78. A LINE
79. A LINE	80. A LINE
81. A LINE	82. A LINE
83. A LINE	84. A LINE
85. A LINE	86. A LINE
87. A LINE	88. A LINE
89. A LINE	90. A LINE
91. A LINE	92. A LINE
93. A LINE	94. A LINE
95. A LINE	96. A LINE
97. A LINE	98. A LINE
99. A LINE	100. A LINE

9247
Santa Ana Ave. Bridge
Sheet 1 of 6
Red. 12.5:1 Scale as shown
Serial

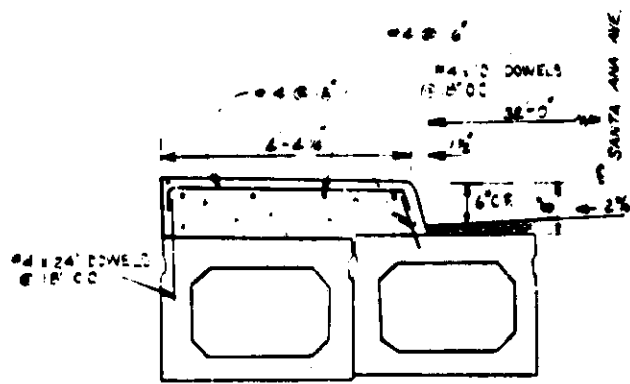
MICROFILMED
JUN 1 9 1967

APPROVED: *[Signature]* 5-24-67
ROAD COMMISSIONER R.C.E. 7872 DATE

Dr. 17 (9247)

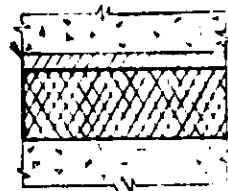
LEGEND:

- CONST. VAR. AC CAP. ON BRIDGE
- CONST. STRUCTURAL SECTION S&A/B

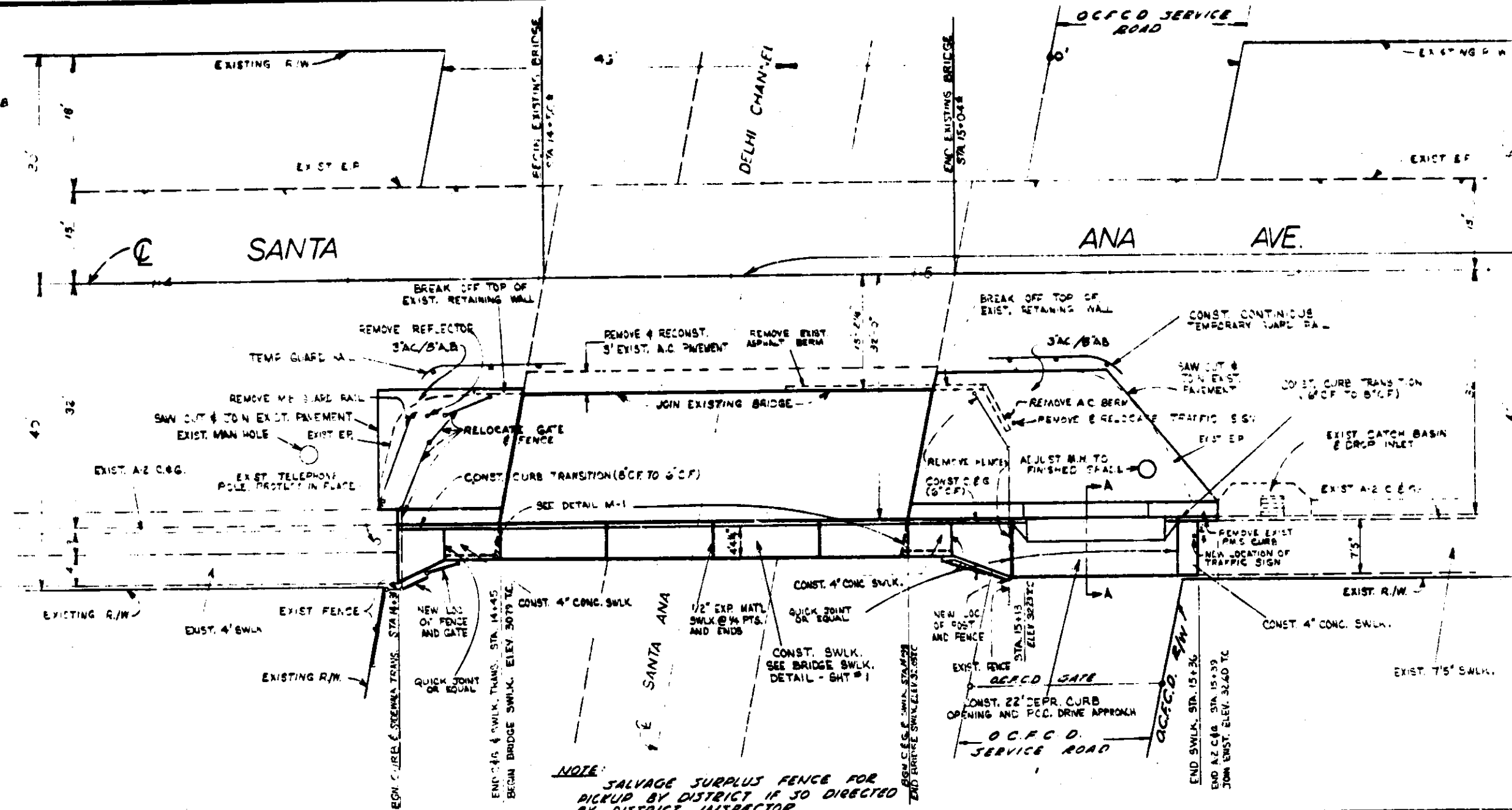


BRIDGE SIDEWALK SECT.
 (NO SCALE)

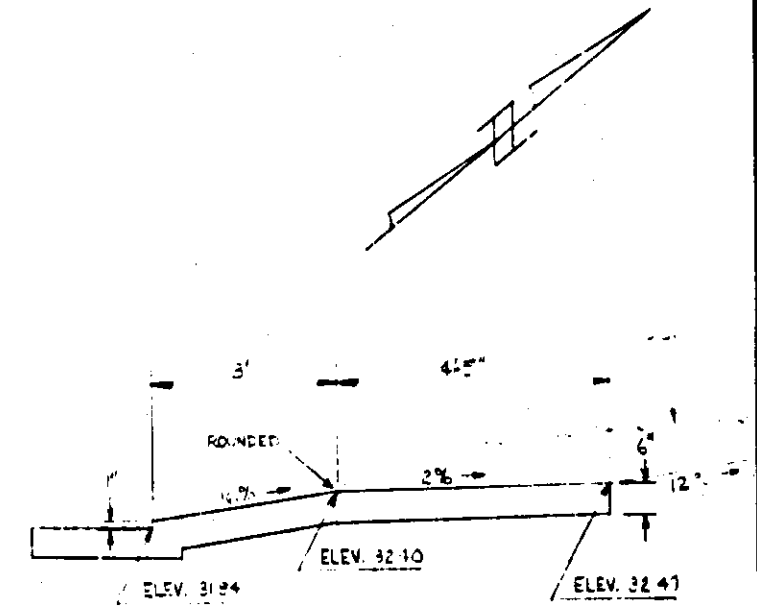
TEMPERED HARDWARE
 SMOOTH SIDE DOWN OVER 1/2"
 UNTREATED INSULATING BOARD



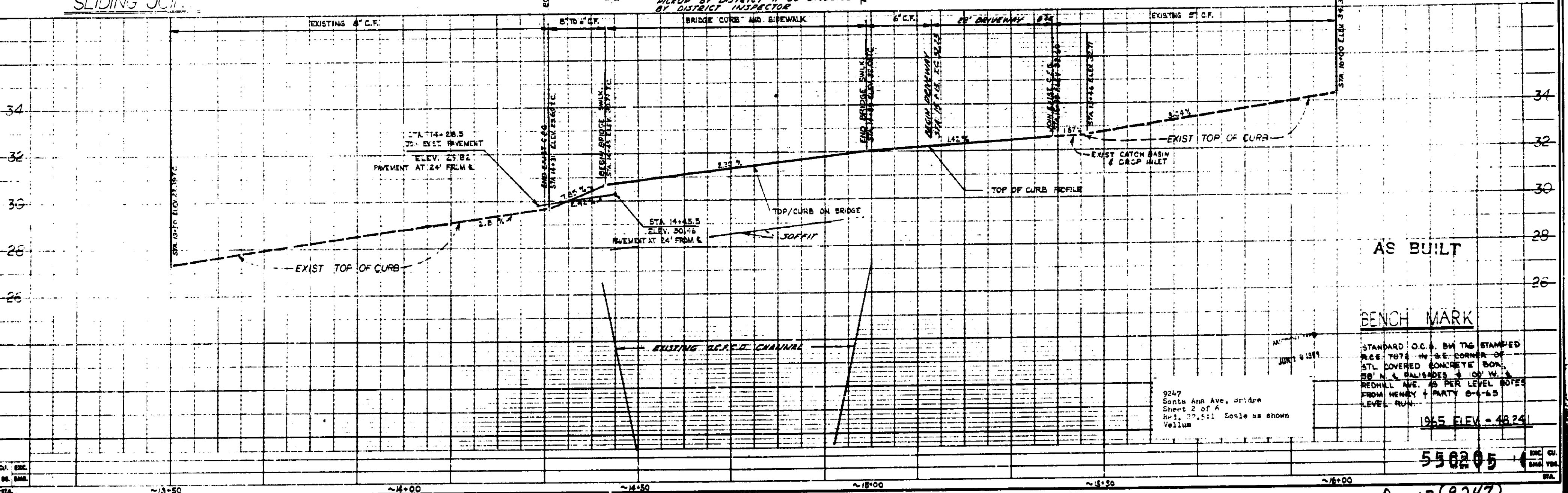
DETAIL M-1
 SLIDING JOINT



NOTE: SALVAGE SURPLUS FENCE FOR
 PICKUP BY DISTRICT IF SO DIRECTED
 BY DISTRICT INSPECTOR



DETAIL A-1 - DRIVE APPROACH
 STA - 15+21
 (SCALE 1"=2')



AS BUILT

BENCH MARK

STANDARD O.C. B. BM TAG STAMPED
 P.C.E. 7078 - W. S.E. CORNER OF
 STL COVERED CONCRETE BOX
 50' N. & 100' W. A
 REDHILL AVE. 45 PER LEVEL NOTES
 FROM HENRY + PARTY 8-1-65
 LEVEL RUN

1965 ELEV. = 48.24

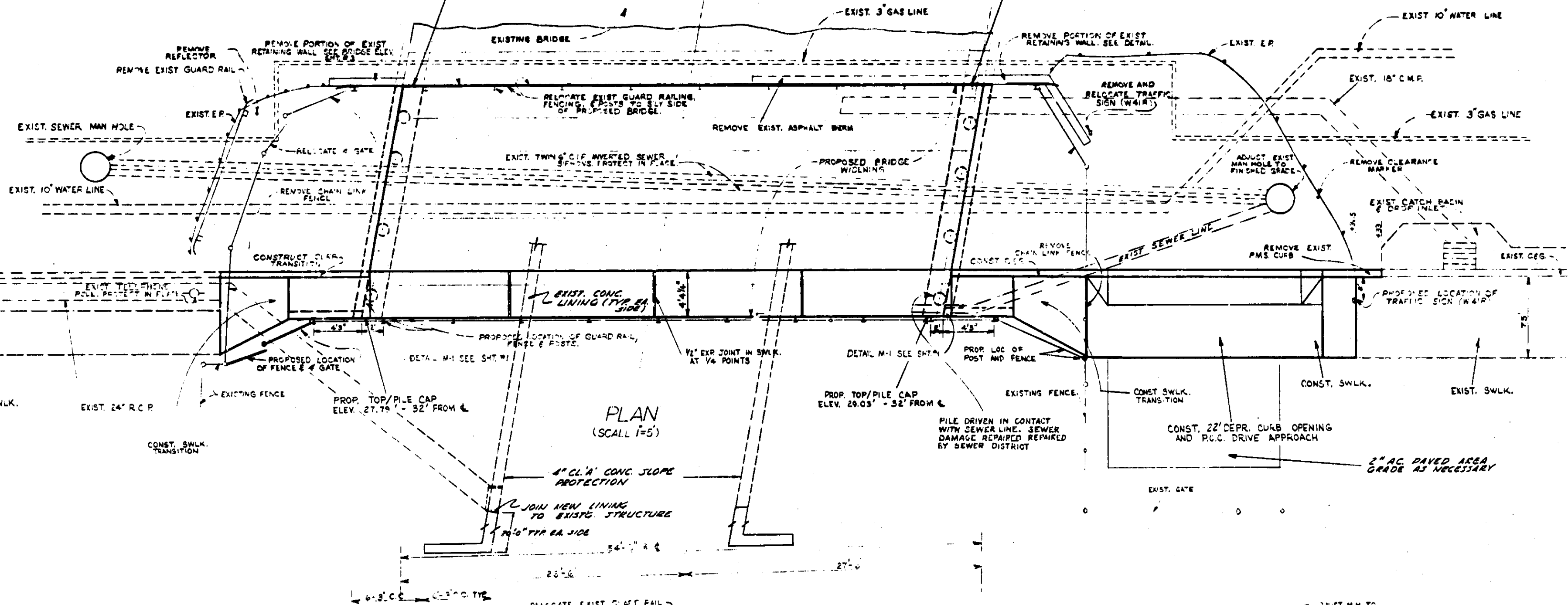
550205

Rev. 17 (9247)

SANTA ANA AVENUE

PROP. TOP/PILE CAP
ELEV. 28.04' - 15' 2 1/4" FROM &

PROP. TOP/PILE CAP
ELEV. 29.28' - 15' 2 1/4" FROM &



PLAN
(SCALE 1"=5')

SOUTH ELEVATION OF PROPOSED BRIDGE
(SCALE 1"=5')

550205
AS BUILT

ORANGE COUNTY HIGHWAY DEPARTMENT
SANTA ANA AVE.
BRIDGE WIDENING DE-12
ACROSS
SANTA ANA-DELHI CHANNEL
BRIDGE PLAN

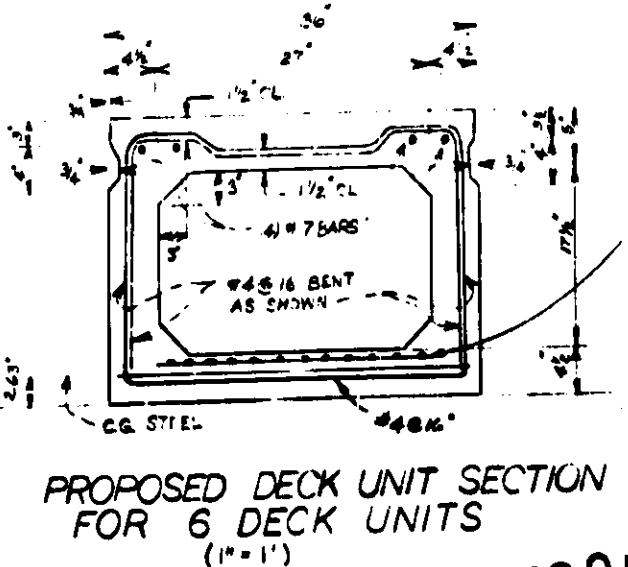
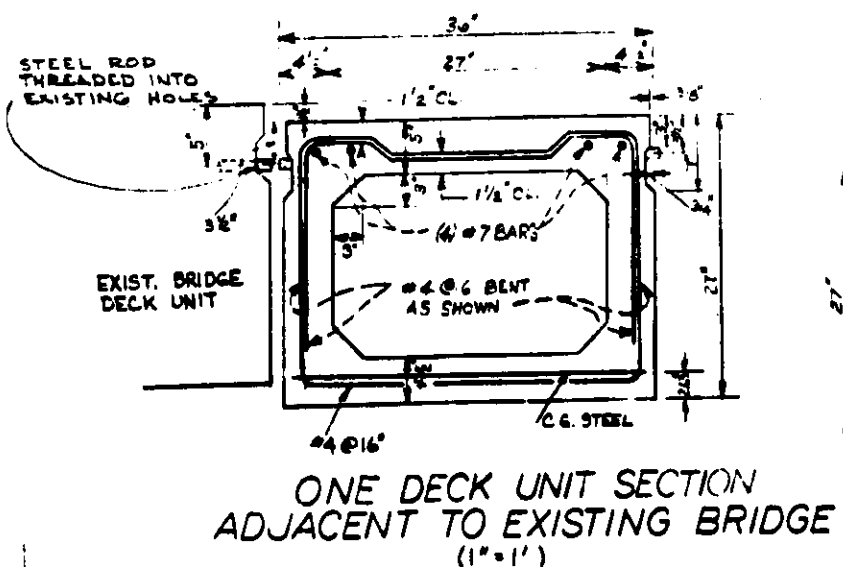
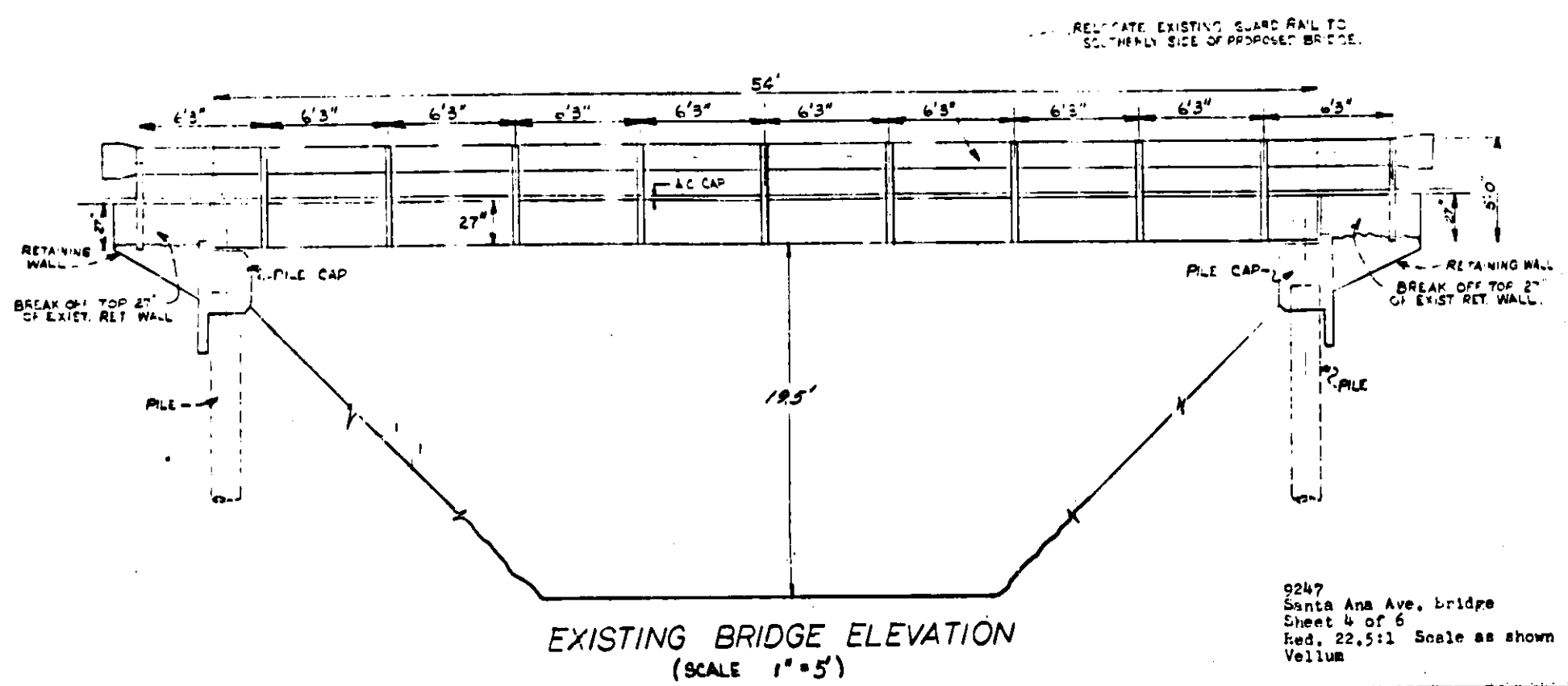
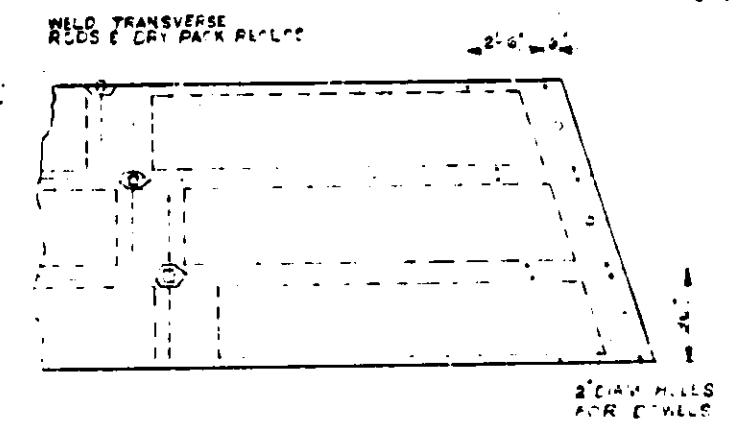
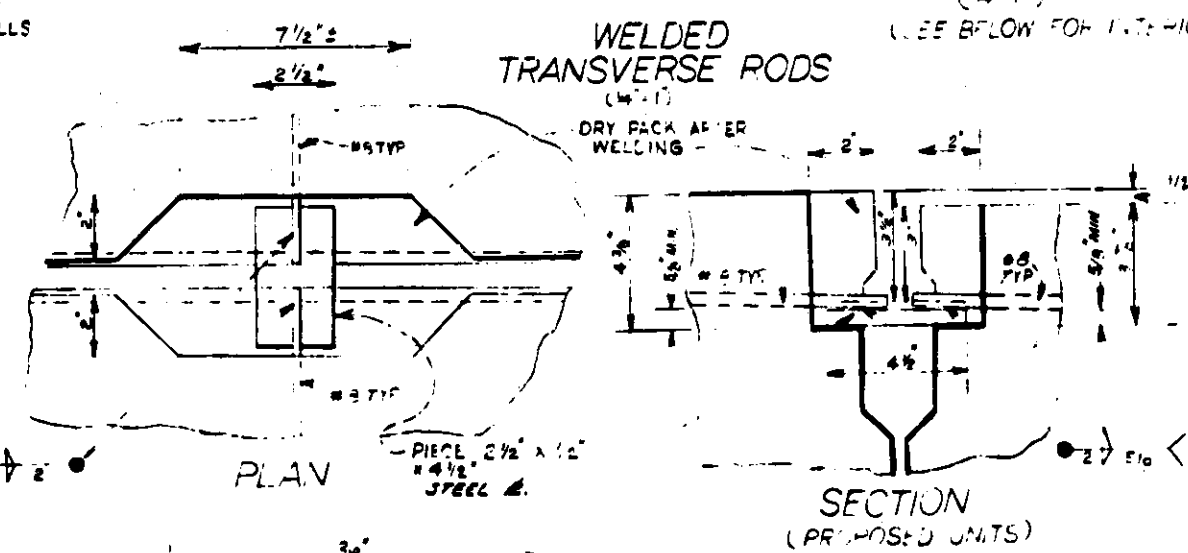
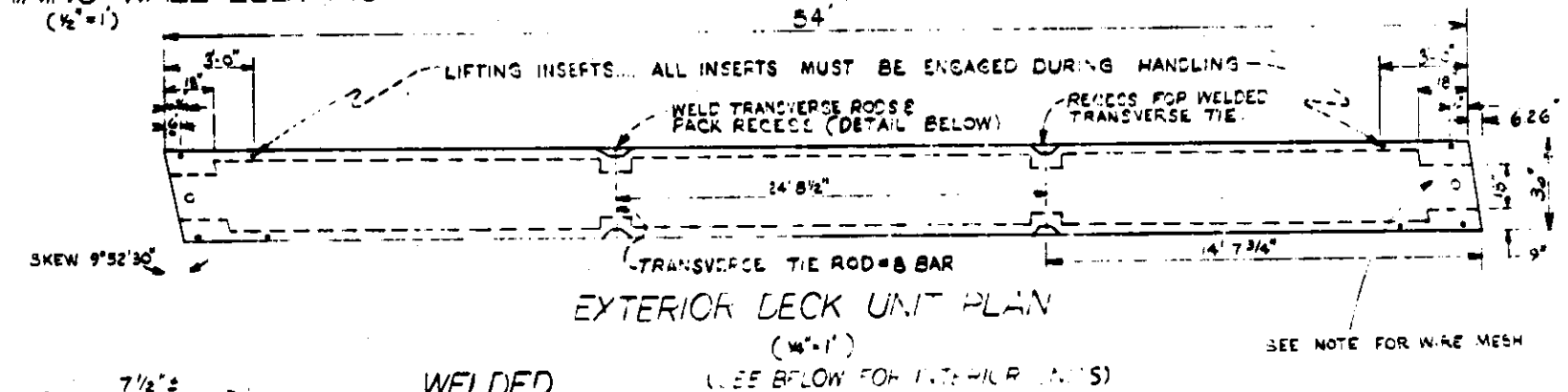
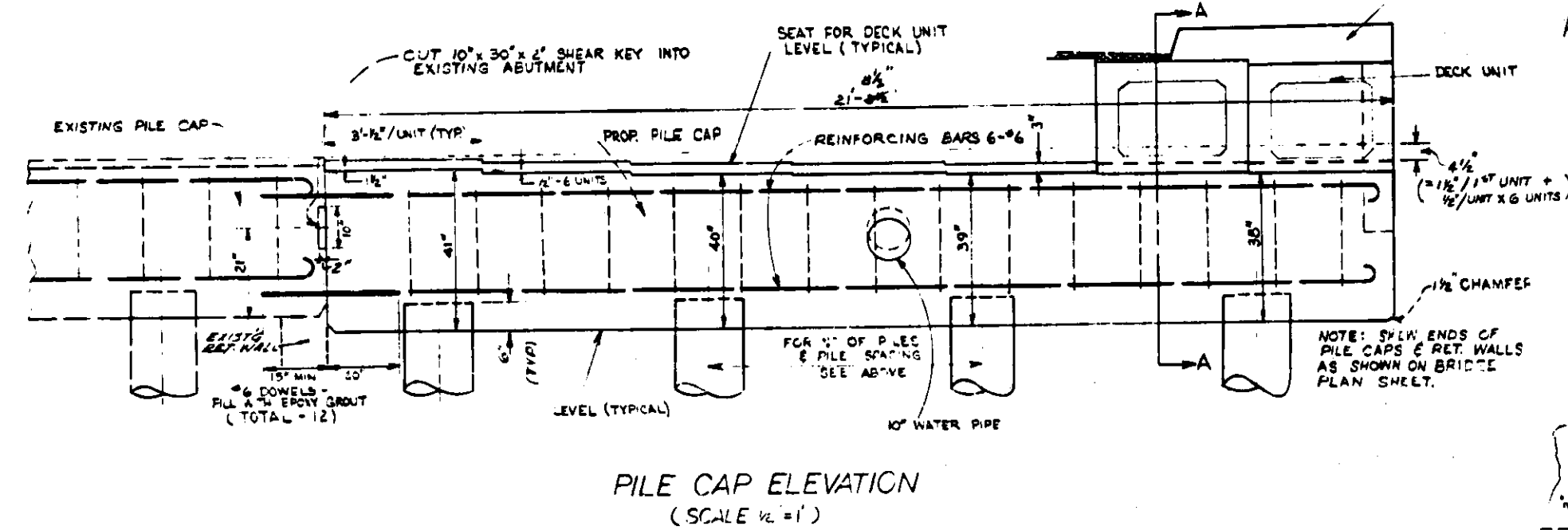
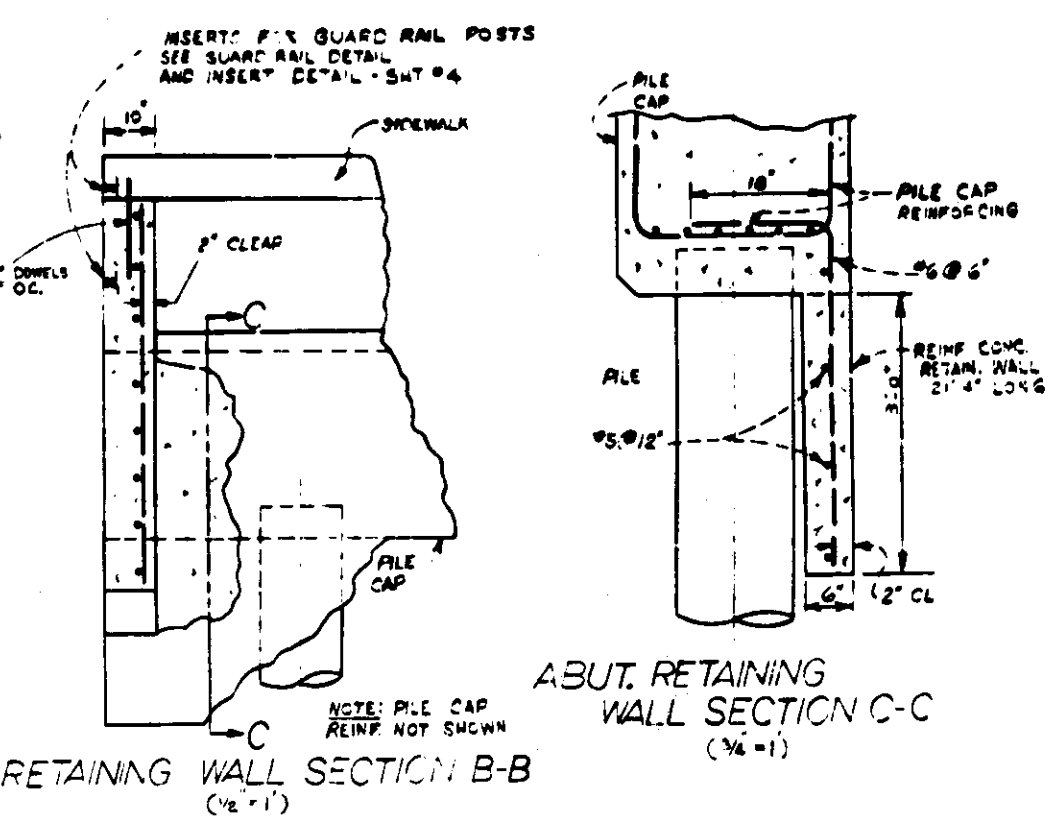
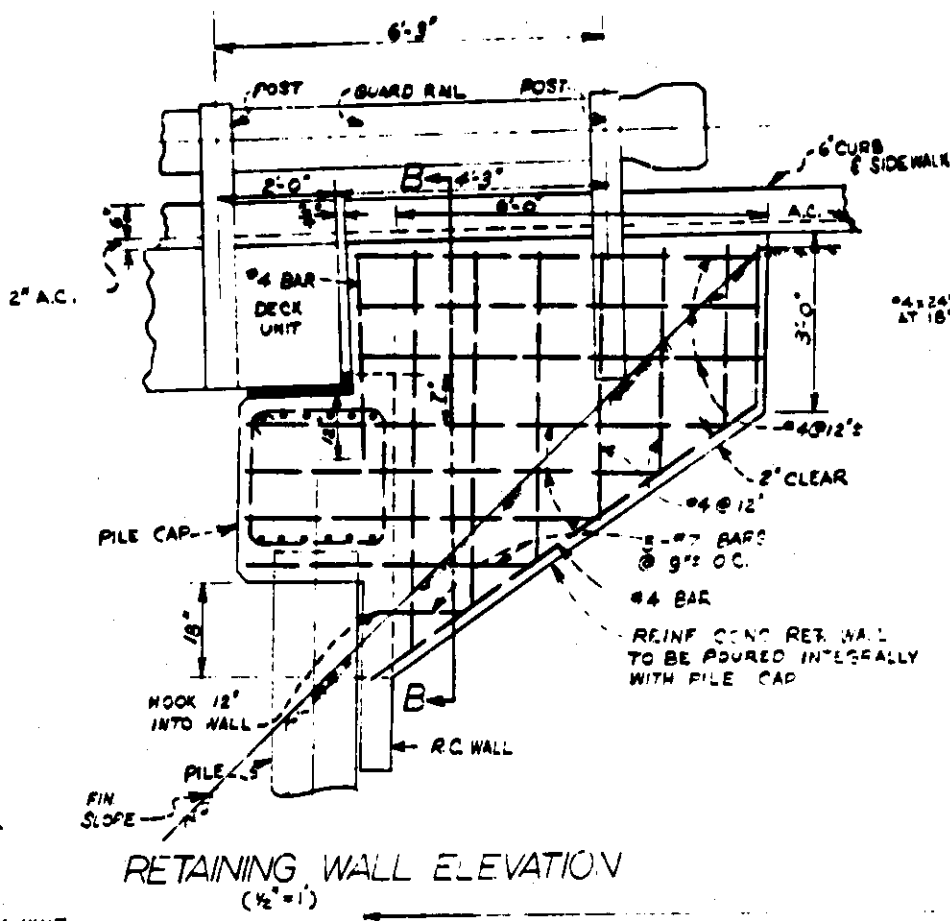
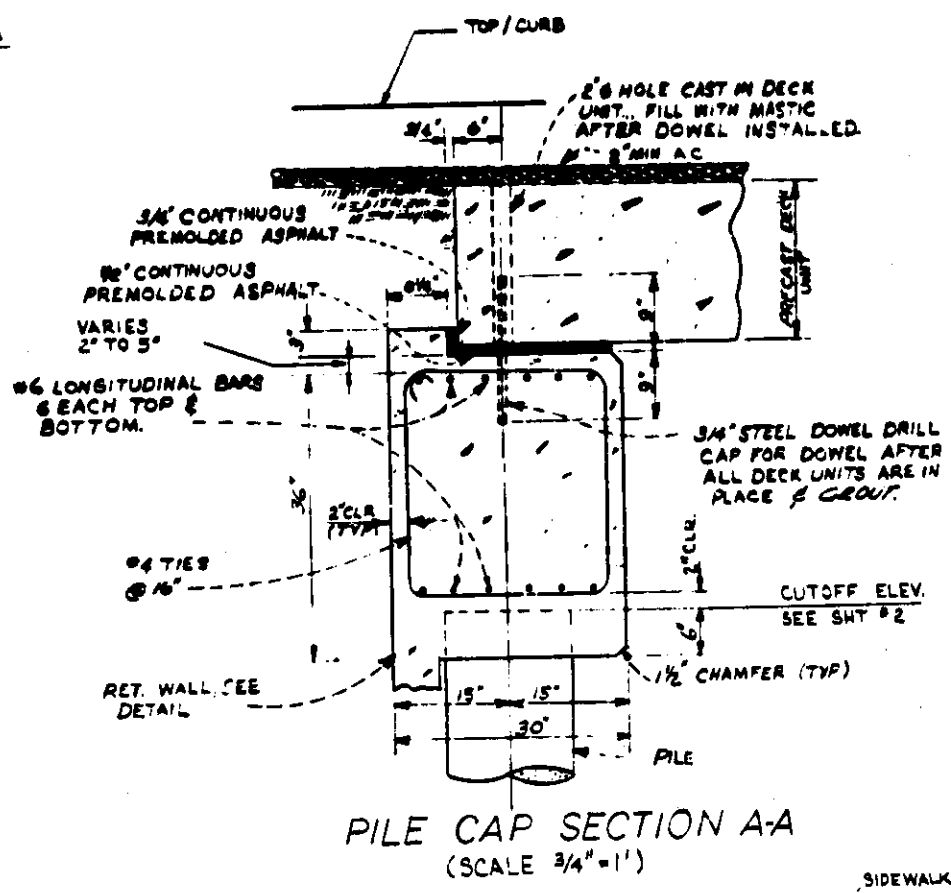
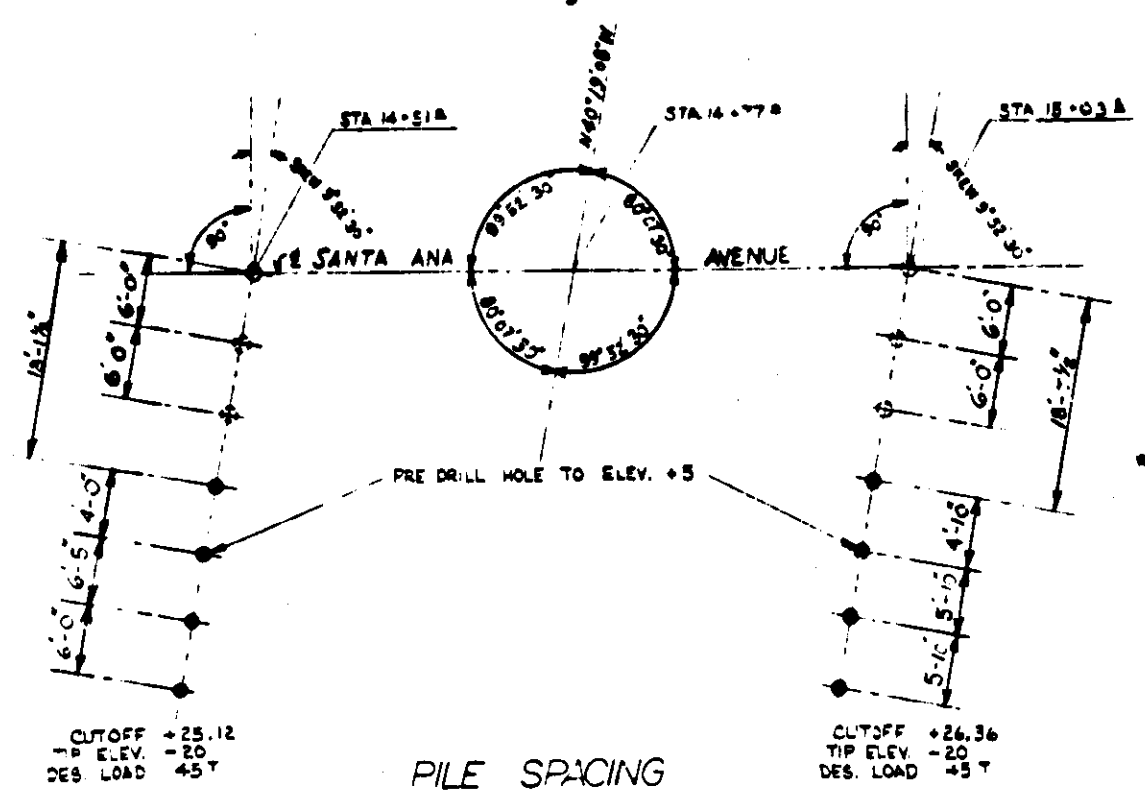
MICROFILMED
JUN 12 1969

9247
Santa Ana Ave. Bridge
Sheet 3 of 6
Red. 22.5:1 Scale as shown
Vellum

SCALE 1"=5' SHEET 3 OF 6

Rev. 17 (9247)

PRETENSIONED - PRESTRESSED - PRECAST DECK UNITS							
TOTAL NO. DECK UNITS	LENGTH	DEPTH	SPACING	DESIGN MOMENT	PRESTRESS DESIGN FORCE	BAR C WEIGHT	CONCRETE COMP. STRENGTH
7	54'	27"	24"	6264 K'	353 K	3,100	6.26



AS BUILT

SANTA ANA AVE.
BRIDGE WIDENING DE-12
ACROSS
SANTA ANA-DELHI CHANNEL

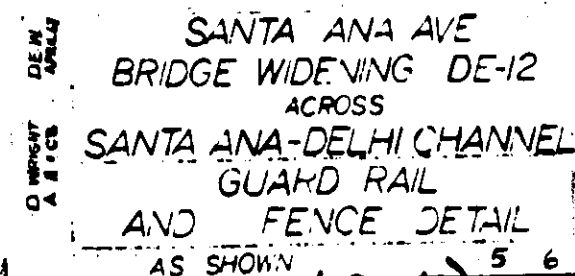
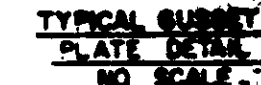
MISCELLANEOUS DETAILS

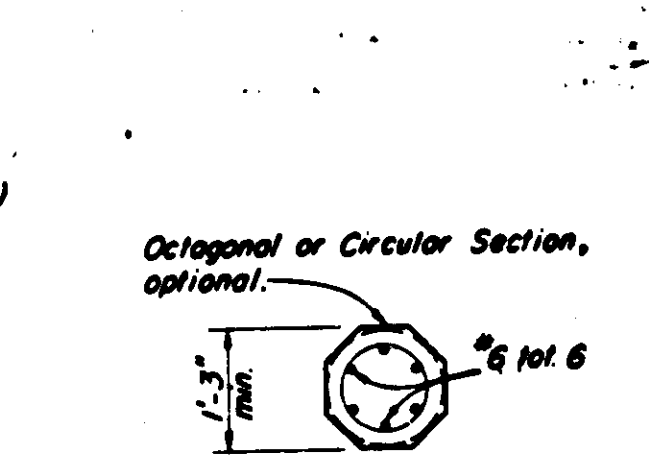
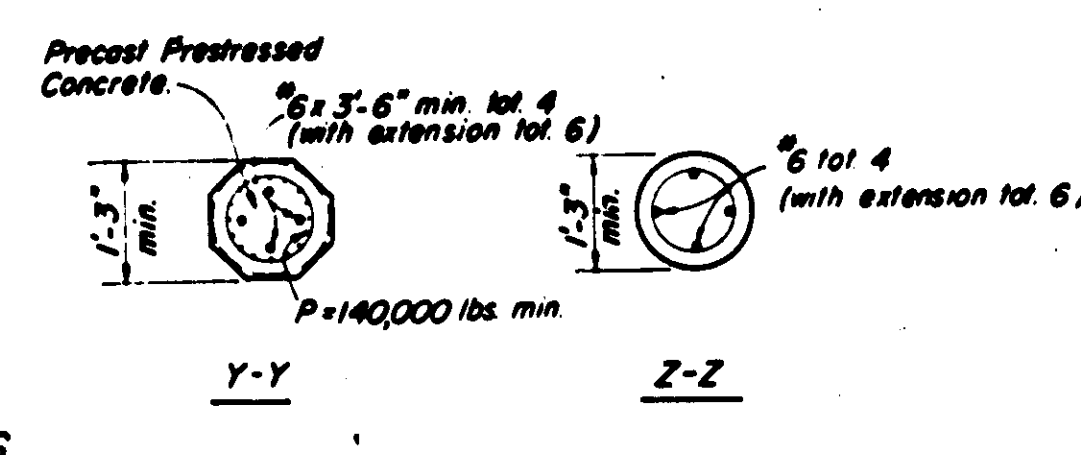
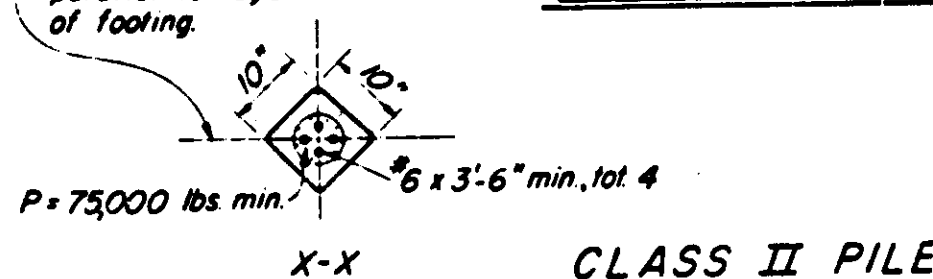
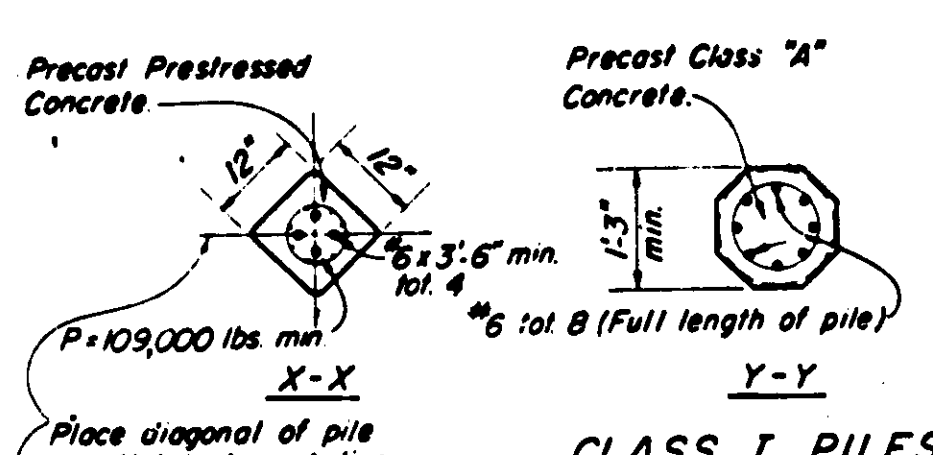
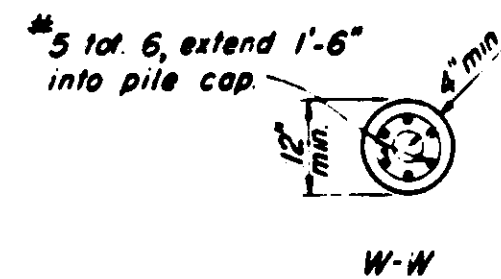
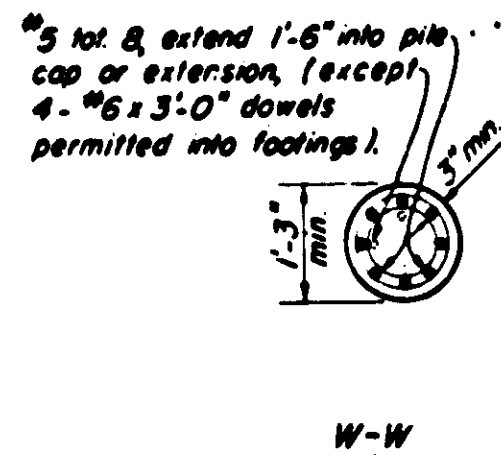
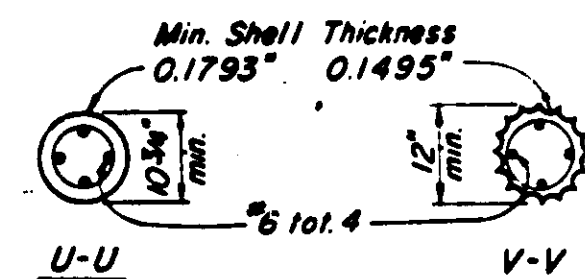
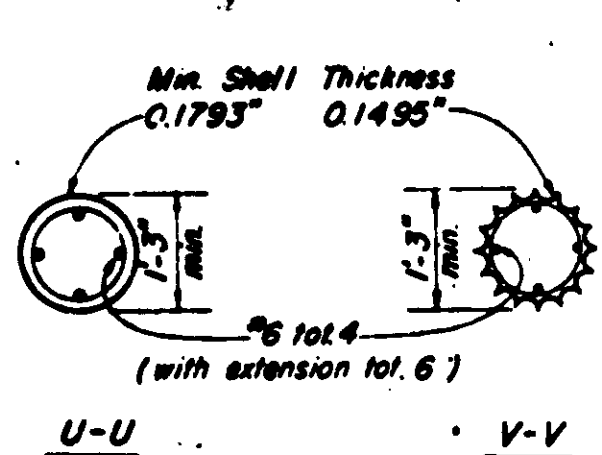
AS SHOWN

550205

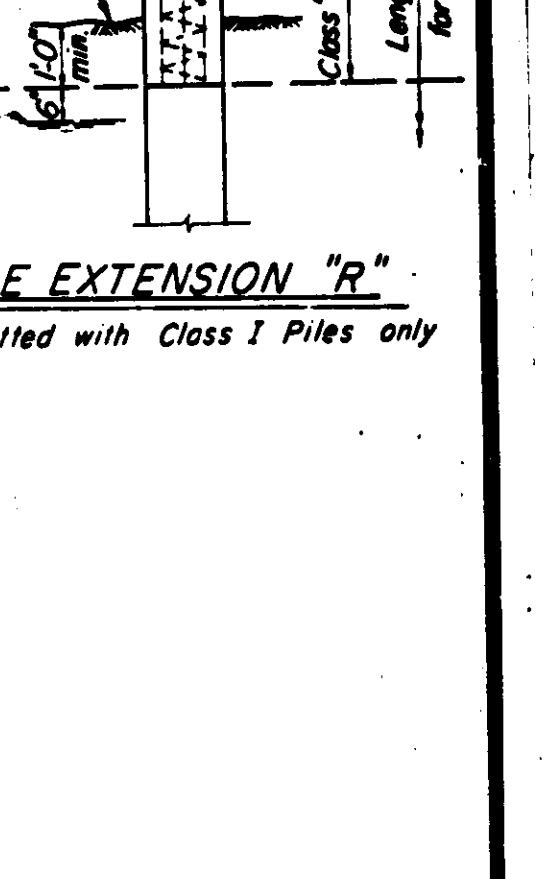
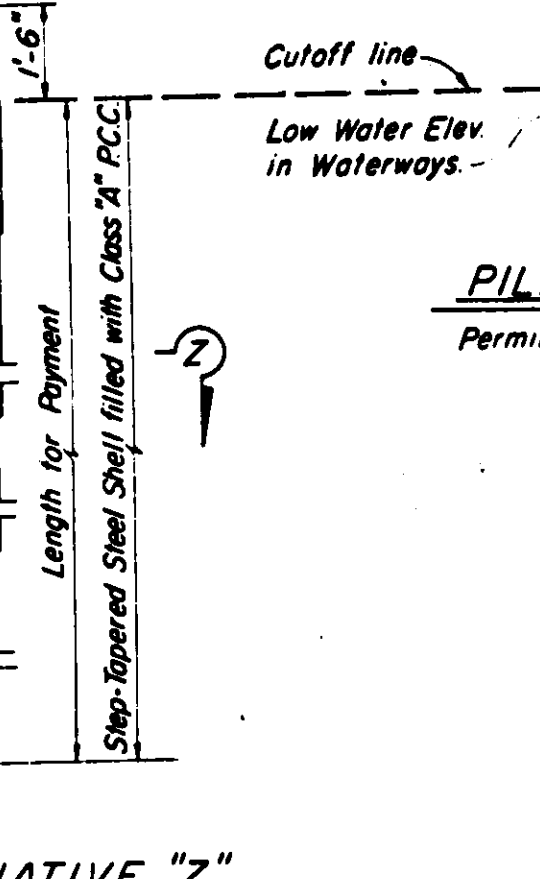
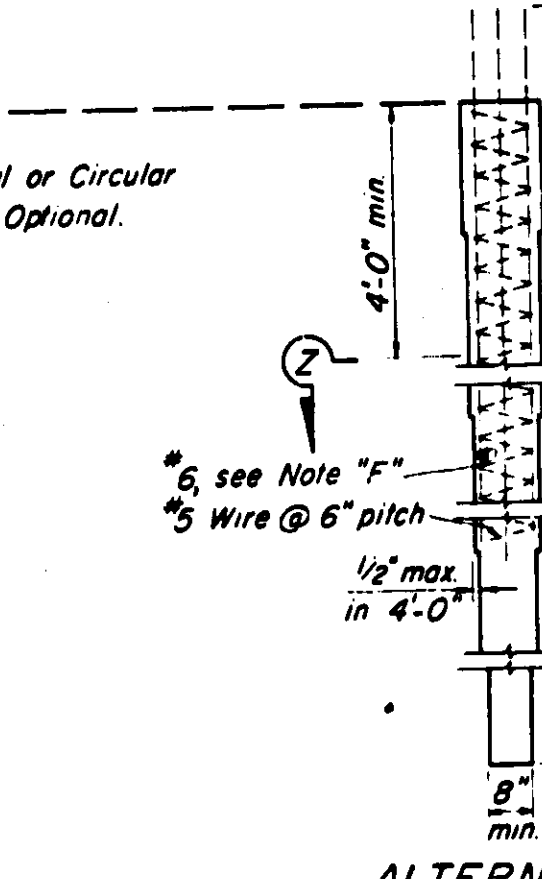
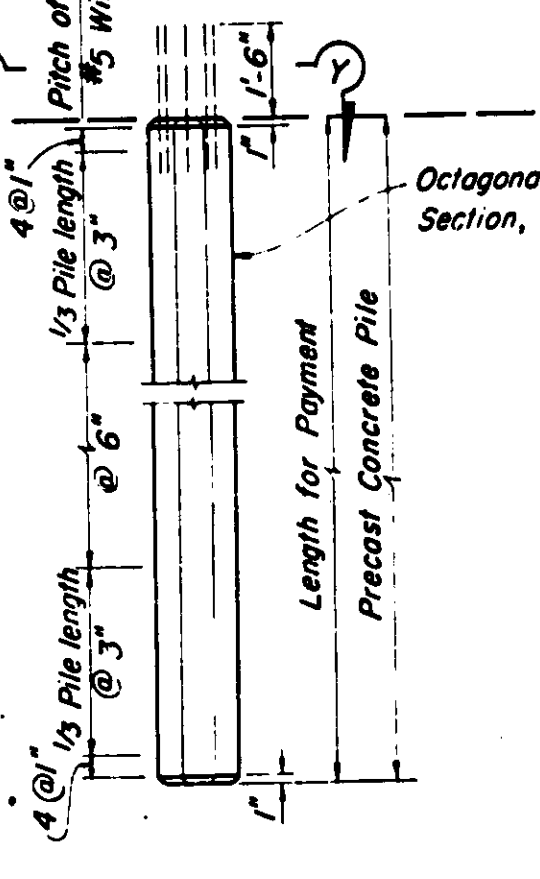
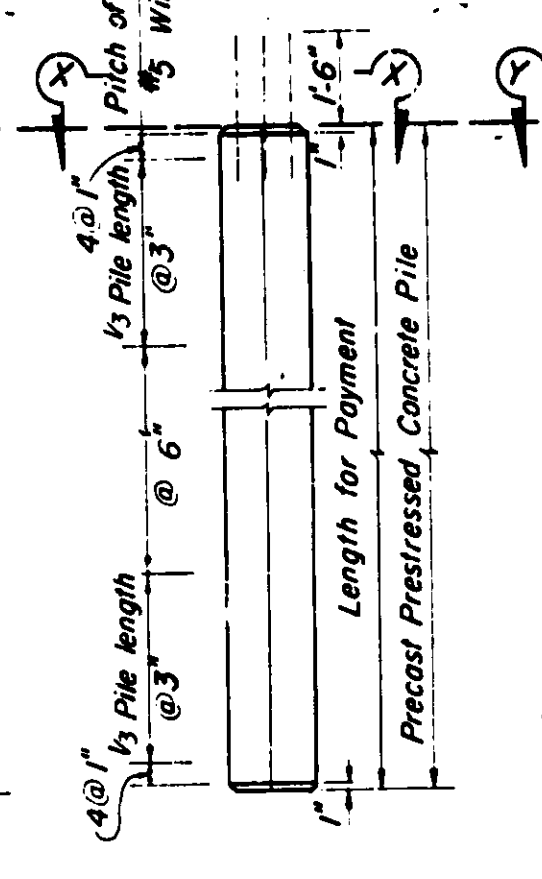
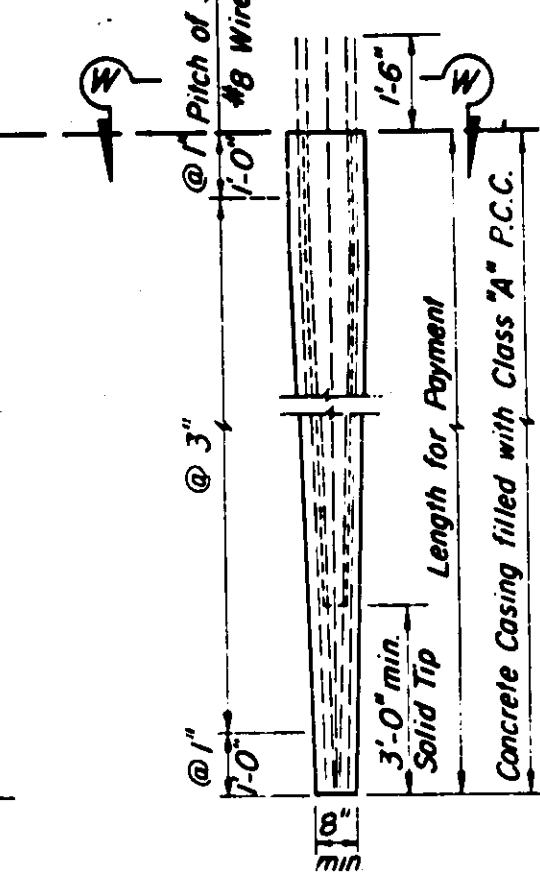
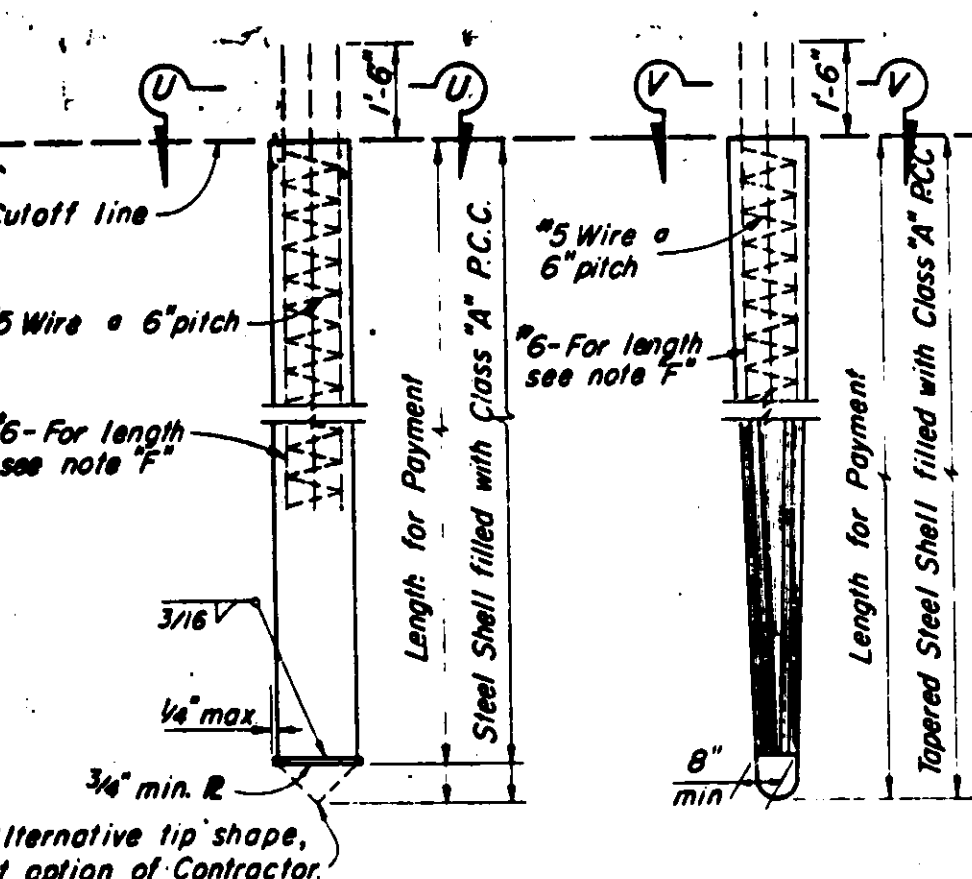
9247

NOTE: 7 DECK UNITS ARE REQUIRED FOR THE WIDENING - 6 UNITS HAVE SHEAR KEY DETAILS AS SHOWN TO THE RIGHT AND ONE UNIT IS DETAILED AS SHOWN ABOVE.





NOTE: When "ALTERNATIVE U" is driven with mandrel, shell thickness may be reduced to 0.1196."



ALTERNATIVE "U" ALTERNATIVE "V" ALTERNATIVE "W" ALTERNATIVE "X" ALTERNATIVE "Y"

ALTERNATIVE "Z"

PILE NOTES

Alternatives "W" & "Y" may be driven full length or may be extended.
All exposed piles or pile extensions shall be consistent in cross-section throughout the project.

Alternatives "X" & "Y" (Precast Prestressed)

P = Prestressing Force (after losses)

Concrete stress:

$f'_{ci} = 6,000$ p.s.i. (All "X"); 4,500 p.s.i. (All "Y") @ 28 days

$f'_{ci} = 3,500$ p.s.i. @ transfer (3/8" strand)

$f'_{ci} = 4,000$ p.s.i. @ transfer (7/16" strand and 1/2" strand)

Note: In Alternatives "U", "V", & "Z" the 6 bars shall extend a minimum of 12' below the lowest of the following:

- Bottom of footing.
- Top of final ground surface.
- Top of original ground surface when piles are driven through fills.

Class I Piles may be substituted for Class II Piles.
Unless indicated to the contrary all piles shall be Class I Piles.

Alternative "X" may not extend above ground line nor be used with Pile Extension "R".

10" min. dia. pipe extension may be used at the tip when step taper is 30' or more in length.

Minimum thickness of pipe extension = 0.1793"

DESIGN LOADING = 45 TONS

AS BUILT

550205

SANTA ANA AVE.
BRIDGE WIDENING DE-12
ACROSS
SANTA ANA-DELHI CHANNEL
PILE DETAILS

9247
Santa Ana Ave. Bridge
Sheet 6 of 6
Rev. 22.5.11 Scale as shown
Sepia

9247
Santa Ana Ave. Bridge
Sheet 6 of 6
Rev. 22.5.11 Scale as shown
Sepia

NOV 17 1942