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 : 55C0371
Facility Carried: SEGERSTROM-SLATER
Location : 0.3 MI W HARBOR BLVD
City :
Inspection Date : 24-JUL-01
Inspection Type
Routine | Group A | Underwater | Special | Other
X

Bridge Inspection Report

Name : SANTA ANA RIVER CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1974
Year Widened : 1982
Length (m) : 100

Skew (degrees): 13
No. of Joints : 0
No. of Hinges : 0

Description of Structure : Continuous 5-span CIP/RC T-beam (10 each) with RC pier walls and RC open end seat abutments, all supported upon concrete piles.

Span Configuration : (W) 16.5 m, 3 @ 21.9 m, 16.5 m (E) c/c

LOAD CAPACITY AND RATINGS

Design Live Load : MS - 18 OR HS - 20
Inventory Rating : 59.8 metric tons — Calculation Method : LOAD FACTOR
Operating Rating : 99.9 metric tons — Calculation Method : LOAD FACTOR
Permit Rating : PPPPP
Posting Load : Type 3 N/A english tons Type 3S2 N/A english tons Type 3-3 N/A english tons

DESCRIPTION ON STRUCTURE

Bridge width : (S) 0.1 m br, 1.5 m sw, 19.5 m, 1.5 m sw, 0.1 m br (N)
Total Width : 23.2 m — Net Width : 19.50 m — No. of Lanes : 4
Rail Description : Type 11 (Misc) Railing — Rail Code : 1000
Min. Vertical Clearance : Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description : RC trapezoidal.

CONDITION OF STRUCTURE

Unsealed cracks exist in the concrete deck which are of moderate size or density. (O)

Otherwise, the structure is in good condition.

MISCELLANEOUS

Vehicular access into the channel is from the southwest quadrant.

Transients are living beneath the structure at both abutments.

ELEMENT LEVEL INSPECTION RATINGS

F#	Elem No.	Element Description	Env	Total Quantity	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
01	12	Concrete Deck - Bare	2	1930	sq.m.	1930	0	0	0	0
01	110	Reinforced Conc Open Girder/Beam	2	1000	m.	1000	0	0	0	0
01	210	Reinforced Conc Pier Wall	2	96	m.	96	0	0	0	0
01	215	Reinforced Conc Abutment	2	48	m.	48	0	0	0	0
01	227	Reinforced Conc Submerged Pile	2	104	ea.	104	0	0	0	0
01	256	Slope Protection	2	2	ea.	2	0	0	0	0
01	302	Compression Joint Seal	2	40	m.	40	0	0	0	0
01	312	Enclosed/Concealed Bearing	2	2	ea.	2	0	0	0	0
01	335	Other Bridge Railing	2	200	m.	200	0	0	0	0
01	351	Open Joint - Expansion Paper	2	100	m.	100	0	0	0	0
01	358	Deck Cracking	2	1	ea.	0	1	0	0	0

Printed on : 27-JUL-2001 10:29:32 AM

Bridge No.: 55C0371 Location: 0.3 MI W HARBOR BLVD Inspection Date: 24-JUL-01

WORK RECOMMENDATIONS

Remove the temporary shelters and the transients from beneath the structure at both abutments.

Item#	Rec. Date	Work By	Work Id.	Prog. Method	Cost
1	20-JAN-1999	County Agency	40371X99020X		

Inspected By : M. Ogata

M. Ogata

Registered Civil Engineer

REGISTERED PROFESSIONAL ENGINEER
MAKOTO OGATA
No. C23989
Exp. 12-31-01
CIVIL
STATE OF CALIFORNIA

CC : TMRut
Orange County

Printed on : 27-JUL-2001 10:29:32 AM

Bridge No.: 55C0371 **Location: 0.3 MI W HARBOR BLVD** **Inspection Date: 24-JUL-01**

STRUCTURE INVENTORY AND APPRAISAL REPORT

IDENTIFICATION

(1) STATE NAME - CALIFORNIA 069
(8) STRUCTURE NUMBER 55C0371
(5) INVENTORY ROUTE(ON/UNDER) - ON 1 4 0 0M029N
(2) HIGHWAY AGENCY DISTRICT 12
(3) COUNTY CODE 059 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED - SANTA ANA RIVER CHANNEL
(7) FACILITY CARRIED - SEGERSTROM-SLATER
(9) LOCATION - 0.3 MI W HARBOR BLVD
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK - NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 33 DEG 42 MIN 32 SEC
(17) LONGITUDE 117 DEG 55 MIN 30 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE MAIN: MATERIAL - CONCRETE CONT
TYPE - TEE BEAM CODE 2 04
(44) STRUCTURE TYPE APPR: MATERIAL -
TYPE - CODE
(45) NUMBER OF SPANS IN MAIN UNIT 5
(46) NUMBER OF APPROACH SPANS 0
(107) DECK STRUCTURE TYPE CIP CONCRETE CODE 1
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE - CONCRETE CODE 1
B) TYPE OF MEMBRANE - NONE CODE 0
C) TYPE OF DECK PROTECTION - NONE CODE 0

AGE AND SERVICE

(27) YEAR BUILT 1974
(106) YEAR RECONSTRUCTED 1982
(42) TYPE OF SERVICE: ON - HIGHWAY-PEDESTRIAN 5
UNDER - WATERWAY 5
(28) LANES: ON STRUCTURE 04 UNDER STRUCTURE
(29) AVERAGE DAILY TRAFFIC 18000
(30) YEAR OF ADT 1999 (109) TRUCK ADT 1%
(19) BYPASS, DETOUR LENGTH 2 KM

GEOMETRIC DATA

(48) LENGTH OF MAXIMUM SPAN 21.9 M
(49) STRUCTURE LENGTH 100 M
(50) CURB OR SIDEWALK: LEFT 1.5 M RIGHT 1.5 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 19.5 M
(52) DECK WIDTH OUT TO OUT 23.2 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 20.1 M
(33) BRIDGE MEDIAN - CLOSED (NO BARRIER) 2
(34) SKEW 13 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 19.5 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 - NOT APPLICABLE CODE N
(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 = 96.2
STATUS =
HEALTH INDEX = 100

CLASSIFICATION

		CODE
(112)	NBIS BRIDGE LENGTH - YES	Y
(104)	HIGHWAY SYSTEM - NOT ON NHS	0
(26)	FUNCTIONAL CLASS - MINOR ARTERIAL URBAN	16
(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
(58)	DECK	6
(59)	SUPERSTRUCTURE	7
(60)	SUBSTRUCTURE	7
(61)	CHANNEL & CHANNEL PROTECTION	9
(62)	CULVERTS	N

LOAD RATING AND POSTING

		CODE
(31)	DESIGN LOAD - MS - 18 OR HS - 20	5
(63)	OPERATING RATING METHOD - LOAD FACTOR	1
(64)	OPERATING RATING -	99.9
(65)	INVENTORY RATING METHOD - LOAD FACTOR	1
(66)	INVENTORY RATING -	59.8
(70)	BRIDGE POSTING - Equal to or above legal loads	5
(41)	STRUCTURE OPEN, POSTED OR CLOSED -	A
	DESCRIPTION - OPEN, NO RESTRICTION	

APPRAISAL

		CODE
(67)	STRUCTURAL EVALUATION	7
(68)	DECK GEOMETRY	7
(69)	UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(71)	WATER ADEQUACY	9
(72)	APPROACH ROADWAY ALIGNMENT	8
(36)	TRAFFIC SAFETY FEATURES	1 0 0 0
(113)	SCOUR CRITICAL BRIDGES	8

PROPOSED IMPROVEMENTS

(75) TYPE OF WORK - CODE
(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 36000
(115) YEAR OF FUTURE ADT 2019

INSPECTIONS

(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)

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STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF STRUCTURES

SUPPLEMENTARY BRIDGE REPORT

DS-M19 (REV. 2/93)

Bridge Number 55C-371

Location 12 - Ora - FAU M029-CR
Dist.-Co.-Rte.-City

Date of Investigation July 14, 1995

TYPE OF INVESTIGATION/REPORT			
BIENNIAL	X	DAMAGE	
CATEGORY A		OTHER	
UNDERWATER		OFFICE	

Name SANTA ANA RIVER CHANNEL (Slater Avenue/Segerstrom Avenue, 0.3 mile west of Harbor Boulevard)

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

Channel & Channel Protection: 9

SCOUR CRITICAL:
A scour rating of A-1 is appropriate.

DISCUSSION:
Transients have taken up residence at east abutment and there are indications of the use of fire.

CONDITION OF STRUCTURE:
A. Anchors for PVC pipes in 4th bay from south have been damaged and there is concern that PVC pipes could break.

B. Expansion joint for departure of north sidewalk is full of sand and debris.

C. 0.1 m diameter PVC pipes in north exterior bay have separated (span 4) and wires are now exposed.

WORK RECOMMENDED:
1. Fix anchors for suspended PVC pipe in location "A".

2. Clean expansion joint in location "B".

3. Replace PVC couplers in location "C".

ENCROACHMENT:
Nine 4" PVC ducts in 4th bay from south.

Nine 4" PVC ducts in north exterior bay.

Four 5" PVC ducts in 2nd bay from north.

By M. Hadi Behrooj MHB
G. P. Balinghasay

REGISTERED ... No. C 41777 Exp. MAR 31 1996 CIVIL STATE OF CALIFORNIA

GPB:cd
cc: CDHarris
Orange County
WLindsey

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

(ATTACHMENT A)

PONTIS DATA FORM - PIA

BRIDGE NUMBER: 55C0371 (1–8)

FRAME: 01 (9)

INSPECTION DATE: 071495 (11–16)

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:

DEL	ELE #	ELEMENT DESCRIPTION	ENV	TOTAL QUANTITY	UNITS	QUANT CONDITION STATE 1	QUANT CONDITION STATE 2	QUANT CONDITION STATE 3	QUANT CONDITION STATE 4	QUANT CONDITION STATE 5
	10	REINFORCED CONCRETE OPEN GIRDER	2	1000	M	1000				
	49	CONCRETE PIER WALL	2	95	M	95				
	51	CONCRETE ABUTMENT	2	47	M	47				
	92	COMPRESSION JOINT SEAL	2	40	M	40				
	97	ENCLOSED/CONCEALED BEARING AND/OR BEARING SEAT SYSTEM	2	2	EA	X				
	104	MISCELLANEOUS BRIDGE RAILING	2	199	M	199				
	106	SLOPE PAVING	2	2	EA	2				
	112	CONCRETE DECK - BARE	2	1	EA		1			
	202	DRIVEN CONC. FOUNDATION PILES	2	104	EA	X				
	310	OPEN JOINT- EXPANSION PAPER	2	100	M	100				

18 19 | 22 23 | 28 | 33 | 38 | 43 | 48

07/18/95

BY: CDB

Bridge No. 55C-371

Name SANTA ANA RIVER CHANNEL (Slater Avenue/Segerstrom Avenue, 0.3 mile west of Harbor Boulevard)

Location 12-Ora-FAS M029-CR
Dist.-Co.-Rte.-City

SUMMARY OF ENCROACHMENTS

Permit No. and Permittee	Date	Description & Location on Bridge
	Prior to 7-14-95	9 - 4" PVC ducts in 4th bay from south. 9 - 4" PVC ducts in north exterior bay. 4 - 5" PVC ducts in 2nd bay from north.

HBD M 30

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION (ATTACHMENT A)

P O N T I S D A T A F O R M - P I A

BRIDGE NUMBER	FRAME	INSPECTION DATE
5 5 C 0 3 7 1	0 1	0 4 1 2 9 3
1 8	9	11 16

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	

DEL	ELE #	ELEMENT DESCRIPTION	ENV	TOTAL QUANTITY	UNITS	QUANT CONDITION STATE 1	QUANT CONDITION STATE 2	QUANT CONDITION STATE 3	QUANT CONDITION STATE 4	QUANT CONDITION STATE 5
	1 0	CONCRETE OPEN GIRDER/STRINGER	2	3 2 8 0	LF	3 2 8 0				
	4 9	CONCRETE PIER WALL; DRY	2	4	EA	4				
	5 1	CONCRETE ABUTMENT; DRY	2	2	EA	2				
	9 2	COMPRESSION JOINT SEAL	2	1 3 2	LF	1 3 2				
	9 7	ENCLOSED/CONCEALED BEARING OR BEARING SEAT	2	2	EA	2				
	1 0 4	MISCELLANEOUS BRIDGE RAILING	2	6 5 2	LF	6 5 2				
	1 0 6	SLOPE PAVING	2	2	EA	2				
	1 1 2	CONCRETE DECK - BARE	2	1	EA		1			
	2 0 2	DRIVEN CONC. FOUNDATION PILES	2	1 0 4	EA	X				
18 19			22 23			28	33	38	43	48

H. MA

BY: J.M.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF STRUCTURES

SUPPLEMENTARY BRIDGE REPORT

DS-M19 (REV. 8/92)

Bridge Number 55C-371

Location 12 - Ora - FAU M029-CR
Dist.-Co.-Rte.-City

Date of Investigation April 12, 1993

TYPE OF INVESTIGATION/REPORT			
BIENNIAL	X	DAMAGE	___
CATEGORY A	___	OTHER	___
UNDERWATER	___	OFFICE	___

Name **SANTA ANA RIVER CHANNEL (Slater Avenue/Segerstrom Avenue, 0.3 mile west of Harbor Boulevard)**

CONDITION RATINGS:

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

Channel & Channel Protection: 9

CONDITION OF STRUCTURE:

Condition of the structure is good.

Henry Ma

REGISTERED PROFESSIONAL ENGINEER
HENRY MA
No. C-36817
Exp. 6-30-96
CIVIL
STATE OF CALIFORNIA

HM:cd
cc: INagai (2)
County of Orange

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

BRIDGE REPORT 14W11

DS-M58 (REV. 1/91)

Bridge No. 55C - 371

Location 12 - Ora - FAU M029-CR
Dist Co Rte City

REVISED ORIGINAL REPORT

Date of Investigation April 11, 1991

Name SANTA ANA RIVER CHANNEL (Slater Avenue/Segerstrom Avenue, 0.3 mile west of Harbor Boulevard)

Lat. 33 °- 42.5'N **Long.** 117 °- 55.5'W

Custodian County of Orange **Owner** County of Orange

STRUCTURAL DATA AND HISTORY

Year Built 1974 **By** County of Orange **Contract No.** Unknown
See Page 2

Designed by: County and Wheeler & Gray **Plans Avail.** @DOS

Description: 5 span continuous CIP RC "T" beam (10 each) supported by RC pier walls and open end RC seated abutments, all on concrete piles.

Spans (W) 54', 3 @ 72', 54' (E)

Length 328' **NBIS Bridge Length** Yes **Skew** 13° Right

Number Of Intermediate Joints: **@Hinges** None **@Bents** None

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

Design Live Load HS20-44 & Alt **Design Method** Unknown

DESCRIPTION - ON STRUCTURE

Bridge Width (S) 1'br, 5'sw, 64', 5'sw, 1'br (N)

Total Width 76' **Net Width** 64' **Lanes** 4 **Tracks** None

Median None **Rail Type** 11 with tubular handrail 1000

Vert. Clearance over deck Unimpaired **Appr. Rdwy. Width** 66'

Deck Type 1 **Wearing Surface/Prot. Sys.** 100 Concrete/none

Alignment Tangent

DESCRIPTION - UNDER STRUCTURE

Roadway Section None

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

Lanes **Tracks**

Facilities Crossed Santa Ana River Channel (E 01)

Bridge No. 55C - 371

April 11, 1991

DESCRIPTION - HYDRAULICS

Channel Sandy bottom trapezoidal with concrete side slopes

Navigable: Yes [ ] No [X] **Clearances:** Vert. Horiz.

Pier/Abutment Protection (For Navigation) [ ]

TRAFFIC INFORMATION	DECK	YEAR	UNDER	YEAR
Average Daily Traffic & Year :	21,000	1989	N	
Average Daily Traffic (Future) :	22,000 Est	2010	N	
Average Daily Trucks (% OF ADT) :	1% Est		N	
Bypass Detour Length	1 mile		N	
Shell Route:	No		No	
Functional Classification :	16		N	

LOAD RATINGS: Inventory HS 37 Operating HS 62

Permit PPPPP Computation Method Load Factor

CONDITION RATINGS:

Deck [7] Superstructure [8] Substructure [8]

Channel & Channel Protection [9] Culvert [N] Widenable Yes

APPRAISAL RATINGS:

Waterway Adequacy [9] Approach Roadway Alignment [8]

Date of Revisions

STRUCTURAL DATA AND HISTORY (Con't.)

Date of Revision: 1982, widened 38' on south side.

CONDITION OF STRUCTURE:

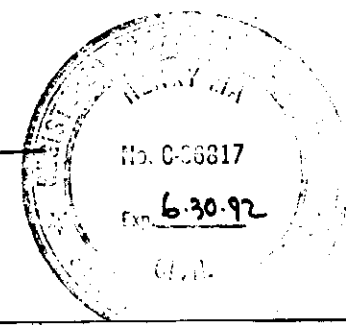
There is moderate transverse and random cracking in the concrete bridge deck in north half (original construction) of the structure.

Condition of the structure is good.

ENCROACHMENT:

9-4" PVC ducts in 4th bay from south.
9-4" PVC ducts in north exterior bay.
4-5" PVC ducts in 2nd bay from north.

Henry Ma



HM:ms
cc: INagai (2)
County of Orange

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SUPPLEMENTARY BRIDGE REPORT

DS-M19 (REV. 1/89)

Bridge No. 55C-371

Location 12 - Ora - FAU M029 - CR
(Dist. Co. Rte. City)

Date of Investigation 4-10-89

Name SANTA ANA RIVER (Segerstrom - Slater, 0.3 mile West of Harbor Boulevard)

CONDITION RATING:

Deck 7 Superstructure 8 Substr.&Pipes 8

Channel & Channel Protection 8 Culvert N Widenable? Yes

TYPE OF INVESTIGATION/REPORT

BIENNIAL X DAMAGE ____

CATEGORY A ____ OTHER ____

UNDERWATER ____ OFFICE ____

CONDITION OF STRUCTURE:

There is light random cracking in the concrete bridge deck in the north half (original construction) of the structure.

Condition of the structure is good.

REVISION:

Location: 12-Ora-FAU M029-CR
Condition Rating: Deck - 7
Approach Roadway Alignment - 7
Original Appraisal: Approach Roadway Alignment - 7

WORK RECOMMENDED:

None.

RECOMMENDED POSTING:

None.

SUBSTRUCTURE CODING UPDATE:

2 RC open end seated abutments on concrete piles.

4 RC pier walls on concrete piles.

Henry Ma

REGISTERED PROFESSIONAL ENGINEER
HENRY MA
No. C-36817
Exp. 6.30.92
CIVIL
STATE OF CALIFORNIA

HM:ms
cc: INagai (2)
County of Orange (2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-0S M19 (REV. 1/74)

Bridge No. 55C-371

Location 7-Ora-FAU-M029-CR
Dist - Co - Rte - PM - City

Date of Investigation April 15, 1987

Name SANTA ANA RIVER (Segerstrom - Slater, Ø.3 mi W. of Harbor Blvd)

CONDITION RATING:

Deck 8 Superstructure 8 Substr. & Pipes 8

Channel & Channel Protection 8 Retaining Walls N

APPRAISAL RATING:

Overall 8

Widenable? Yes [X] No [ ] Conditional [ ]

Action Required By County Yes [ ] No [X]

PRIORITY

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

REVISION:

Approach Roadway Width - 64'
Average Daily Traffic - 20,000 (1985)

CONDITION OF STRUCTURE:

Overall condition of the structure is good.

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

None

Henry Ma

REGISTERED PROFESSIONAL ENGINEER
HENRY MA
No. C-36817
Exp. 6-30-88
CIVIL
STATE OF CALIFORNIA

HM:pht
cc: INagai (2)
Orange County (2)

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

Bridge No. 55C-371

Location 7-Ora-FAU M029-CR
Dist.-Co.-Rte.-PM.-Brg (On Deck)

Date of Investigation January 7, 1986

Name SANTA ANA RIVER (Segerstrom - Slater, 0.3 mile west of Harbor Blvd.)

CONDITION RATING: **APPRAISAL RATING:**

Deck 8 Superstructure 8 Substr. & Piles 8 Overall 8

Channel & Channel Protection 8 Retaining Walls N

Widenable? Yes [X] No [ ] Conditional [ ]

Action Required by County Yes [X] No [ ]

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

REVISION:

Encroachments - 4 - 5" PVC ducts in the 2nd bay from the north.
9 - 4" PVC ducts in the 4th bay from the south.

CONDITION OF STRUCTURE:

At the northwest corner of the structure, the wood sidewalk expansion joint form remaining in the abutment joint is protruding above the sidewalk surface.

Otherwise, the overall condition of the structure is good.

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

Remove or cut-off wood form flush with sidewalk surface at the northwest abutment sidewalk. A

Henry Ma
C-36817

HM:pdh
cc: INagai (2)
Orange County (2)

DIST	ROUTE	COUNTY	STRU. NO	POSTMILE	RATING WIDTH-FT	STRU TYPE	YR ORIG CONST	
07	CO RD	55 C	0371	.	038.0	CGC	82	OCT. 22, 1982

	RATING FACTOR	PT	SPAN	ULT MOM CAP TOP IN COM	ULT MOM CAP BOT IN COM	POS HS20 MOMENT	NEG HS20 MOMENT	POS PURP MOMENT	NEG PURP MOMENT	DEAD LOAD MOMENT	SECONDARY MOMENT
INV	1.82	4	1	11031.5	0.0	2267.8	-640.9	3290.6	-1161.8	1621.8	0.0
OPER	3.03	4	1	11031.5	0.0	2267.8	-640.9	3290.6	-1161.8	1621.8	0.0
PURP	1.82	10	4	0.0	13950.1	447.0	-1799.0	810.3	-4290.0	-2918.0	0.0

THE NUMBER OF AXLES ON THE TRUCK THAT CAUSES THE PURPLE RATING FACTOR IS 13.
FC = 1.30 FY = 60.

IF THE REPORTED ULTIMATE MOMENT CAPACITY IS 0, IT WAS DETERMINED NOT TO BE CRITICAL

2 SANTA ANA RIVER (SEGERSTROM AV-SLATER AV) WIDENING
3 CONT 5 SPAN RC T-BEAM W/NO ACWS
4 [redacted]

PPPPP

(3)

DIST	ROUTE	COUNTY	STRU. NO	POSTMILE	RATING	WIDTH-FT	STRU TYPE	YR ORIG CONST	
07	CO RD	55 C	0371	.	038.0		CGC	82	OCT. 22, 1982

INFLUENCE LINE FOR CRITICAL INVENTORY RATING POINT SPAN 1 10TH POINT 4

MEM NO	LEFT	.1	.2	.3	.4	.5	.6	.7	.8	.9	RIGHT
1	0.0	2.711	5.454	8.262	11.165	8.797	6.589	4.573	2.782	1.247	0.0
2	0.0	-1.212	-1.981	-2.272	-2.468	-2.279	-1.927	-1.458	-0.937	-0.429	0.0
3	0.0	0.306	0.500	0.599	0.619	0.575	0.486	0.368	0.236	0.108	0.0

THE CRITICAL OPERATING RATING POINT IS THE SAME AS THE CRITICAL INVENTORY RATING POINT

INFLUENCE LINE FOR CRITICAL PURPLE RATING POINT SPAN 4 10TH POINT 10

2	0.0	-0.072	-0.160	-0.250	-0.333	-0.396	-0.427	-0.414	-0.347	-0.213	0.0
3	0.0	0.299	0.652	1.016	1.343	1.589	1.708	1.654	1.382	0.846	0.0
4	0.0	-1.185	-2.587	-4.026	-5.323	-6.296	-6.765	-6.550	-5.471	-3.348	0.0
5	0.0	-2.039	-3.434	-4.256	-4.578	-4.471	-4.006	-3.255	-2.289	-1.180	0.0

2 SANTA ANA RIVER (SEGERSTROM AV-SLATER AV) WIDENING
3 CONT 5 SPAN RC T-BEAM W/NO ACHS
4 WIDENING ON SOUTHSIDE

DEPARTMENT OF TRANSPORTATION
BRIDGE REPORT
DS-M58 (REV. 1/75)

Bridge No. 55C-371

Other No.

P.U.C. No.

REVISED

Location 07-Ora-FAU M029-CR (ON DECK)
Dist - Co - Rte - PM - City

SEE REVISED ORIGINAL REPORT

Date of Investigation October 14, 1982

Name SANTA ANA RIVER (Segerstrom Ave./Slater Ave.), 0.3 mile west of Harbor Blvd.

Lat. N 33°-42.5' Long. W 117°-55.5'

STRUCTURAL DATA AND HISTORY

Year Built 1974 By Orange County Contract No. Unknown

Date of Revisions 1982 - Widening 38.0' on the south side

Designed by: B.D. ☐ Wheeler and Gray, and Orange County Plans Avail. @ BD

Description: Continuous 5 span RC deck on T-beam (10) girders on seated pile cap RC abutments and solid RC pier walls, all supported on RC footings with piles.

Spans 1 @ 54'; 3 @ 72'; 1 @ 54' (c-c)

Length 327.5' Skew 13° Rt. Design LL HS 20-44 and Alt.

Ratings: Inventory HS 37/LF Operating HS 62/LF Permit PPPPP/LF

DESCRIPTION – ON STRUCTURE

Bridge Width 1.0'br; 5.0'sw; 64.0'; 5.0'sw; 1.0'br

Total Width 76.0' Lanes 4 Tracks None

Median Double yellow stripe Rail Type 11 (1000)

Vert. Clearance over deck Unimpaired Appr. Rdwy. Width 49'

Wearing Surface None Deck Seal None

Alignment Tangent

DESCRIPTION – UNDER STRUCTURE

Roadway Section None

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

Lanes N Tracks N Pumpplant: None ☒ See Br. No.

Facilities Crossed Santa Ana River (EO 1)

cc:

(1) CON'T.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
BRIDGE REPORT
DS-M58A (REV. 1/75)

Bridge No. 55C-371

Date October 14, 1982

DESCRIPTION – HYDRAULICS

Channel Earth cut trapezoidal shape with RC slope lining and a sandy bottom

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

MAINTENANCE

Custodian Orange County **Owner** Orange County

ORIGINAL CONDITION RATING		ORIGINAL APPRAISAL	
Deck	8	Overall	8
Superstructure	8	Deck Geometry	8
Substructure & Pipes	8	Underclearances Vert.	N
Channel & Channel Protection	8	Horiz.	N
Retaining Walls	N	Safe Load Capacity	9
Approach Rdwy. Alignment	9	Waterway Adequacy	8
Estimated Remaining Life	50	Approach Rdwy. Alignment	9

Widenable? Yes ☒ No ☐ Conditional ☐ **Action Required** Yes ☐ No ☒

AVERAGE DAILY TRAFFIC: 25,000 Estimated 1982.

BYPASS DETOUR LENGTH: 2 miles.

ENCROACHMENTS: Nine 4" Ø conduits in the north exterior bay.

SEISMIC RETROFIT: Not applicable. Vertical restrainers were installed during construction.

CONDITION OF STRUCTURE: The overall condition of the structure is good.

LOAD CAPACITY: The inventory, operating and permit ratings shown were determined in accordance with the 1979 AASHTO Standard Specifications for Highway Bridges utilizing the "Frame Rate" program using the load factor method of analysis.

RECOMMENDED POSTING: None.

RECOMMENDATION: None.

E. L. Neff
C 28703

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

(2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH.OS M13 (REV. 1/74)

Bridge No. 55C-371

Location 7-Ora-FAU M029-CR (On deck)
Dist - Co - Rte - PM - City

Date of Investigation June 8, 1982

Name SANTA ANA RIVER (Segerstrom - Slater, 0.3 mile west of Harbor Boulevard)

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 District: 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:cd
cc: DRHiggins (2)
Orange County (2)

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

Bridge No. 55C-371

Location 07-Ora-FAU M029-CR (On deck)
Dist - Co - Rte - PM - City

Date of Investigation August 20, 1981

Name SANTA ANA RIVER (Segerstrom Ave./Slater Ave., 0.3 mile west of Harbor Blvd.)

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 ☐

WORK DONE:

The previously recommended work has not been done, i.e., correct the offset between the bridge deck and the AC approach pavement at the westerly paving notch.

CONDITION OF STRUCTURE:

The overall condition of the structure is good.

RECOMMENDED POSTING:

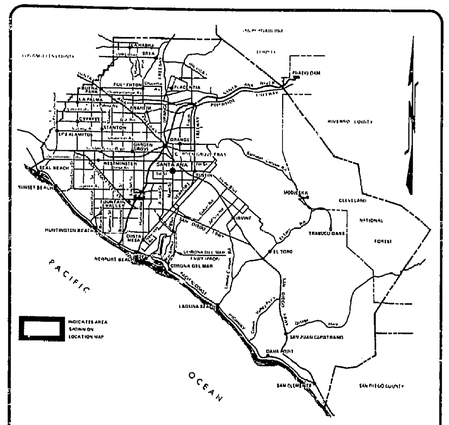
None.

RECOMMENDATION:

Place 1" AC leveling blanket at the west bridge approach.

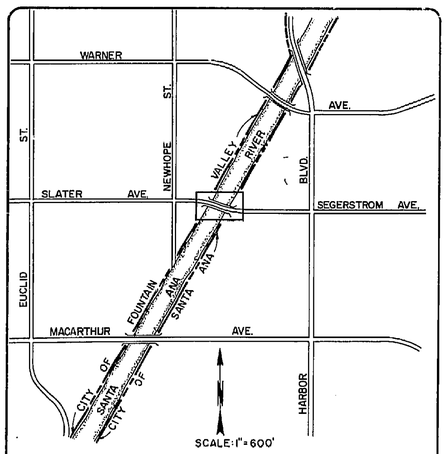
E. L. Neff
E. L. Neff
C 28703

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



VICINITY MAP

SCALE IN MILES



PROJECT LOCATION

LOCATION MAP

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY

SANTA ANA, CALIFORNIA

M. STORM, DIRECTOR

PLANS FOR THE WIDENING OF

SLATER - SEGERSTROM BRIDGE
SA-31A

ACROSS

SANTA ANA RIVER

(CHANNEL E01)

55C-371

FUNDED BY: HIGHWAY USERS' TAXES

EMA-DEVELOPMENT

SUBMITTED: William H. Talley 6/8/81
SECTION CHIEF RCE 16799

RECOMMENDED: 6/9/81
DIVISION MANAGER RCE 13184

APPROVED: C.R. Nelson 6-8-81
DIRECTOR PUBLIC WORKS RCE 13142

PREPARED BY:

WHEELER AND GRAY
2512 CHAMBERS RD., STE 206
TUSTIN, CA. 92680
PH. (714) 731-4717

S.E. # 918

INDEX OF SHEETS

SHEET	DESCRIPTION
1	TITLE SHEET
2	GENERAL PLAN
3	FOUNDATION PLAN
4	ABUTMENT DETAILS
5	PIER DETAILS
6	SUPERSTRUCTURE LAYOUT AND REINFORCEMENT
7	TYPICAL SECTION
8	BARRIER RAILING - TYPE 11
9	METAL RAILING DETAILS - TYPE 11
10	T-BEAM AND EXCAVATION DETAILS
11	MISCELLANEOUS DETAILS
12	PILING DETAILS
13	TEMPORARY RAILING
14	ELECTRICAL DETAILS
15	LOG OF TEST BORINGS
16	CONCRETE SLOPE LINING REMOVAL & REPLACEMENT DETAILS
17	ROAD APPROACH DETAILS
18	TRAFFIC STRIPING DIAGRAM

UTILITY	PHONE NO.
SOUTHERN CALIFORNIA EDISON COMPANY (MR. FRED HERRMANN)	(213) 435-1121 X 368
PACIFIC TELEPHONE & TELEGRAPH COMPANY (MR. MARSHALL ANDREWS)	(714) 999 5715
COUNTY SANITATION DISTRICT OF ORANGE COUNTY (MR. BUD FREY)	(714) 962-2411
CITY OF SANTA ANA (MR. JOE HOPPER)	(714) 834-4152
CITY OF FOUNTAIN VALLEY (MR. JIM McCLENDON)	(714) 963-8321
NATIONAL WEATHER SERVICE FIVE DAY FORECAST	(213) 824 7211

BENCH MARK:
ALUMINUM CAP FV-73-75
AT THE NW'LY CORNER OF SLATER AVE AND NEWHOPE ST. 108.8' NORTH OF C.L. OF SLATER AVE. AND 33.2' WEST OF C.L. OF NEWHOPE ST. IN NE'LY CORNER OF A LARGE CATCH BASIN.
ELEV. 36.713 ADJUSTED 1976

BASIS OF BEARING:
THE CENTERLINE OF SLATER-SEGERSTROM AVENUES: S.74° 11' 52"W. AS SHOWN ON S.M. 71-4

NO.	DESCRIPTION	SHT.	APPROVED	DATE

REVISIONS

W.O. NO. RO9205
DWG. NO.

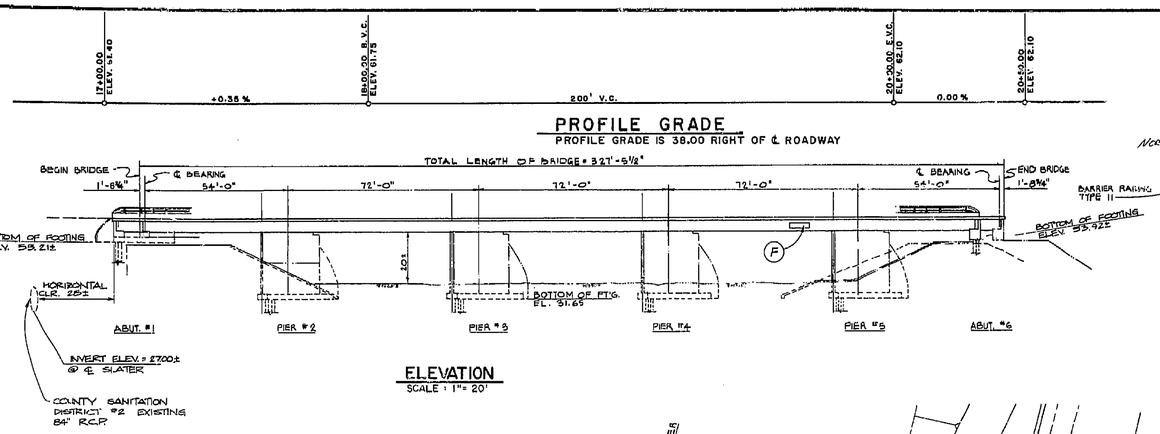
SHEET 1 OF 18

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 70008509

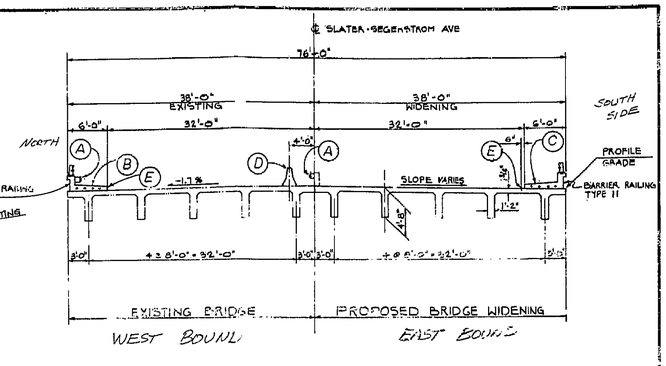
I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10-29-82 | SIGNATURE Donald L. Blackford | TITLE SUPERVISOR OF MICROFILM SERVICES

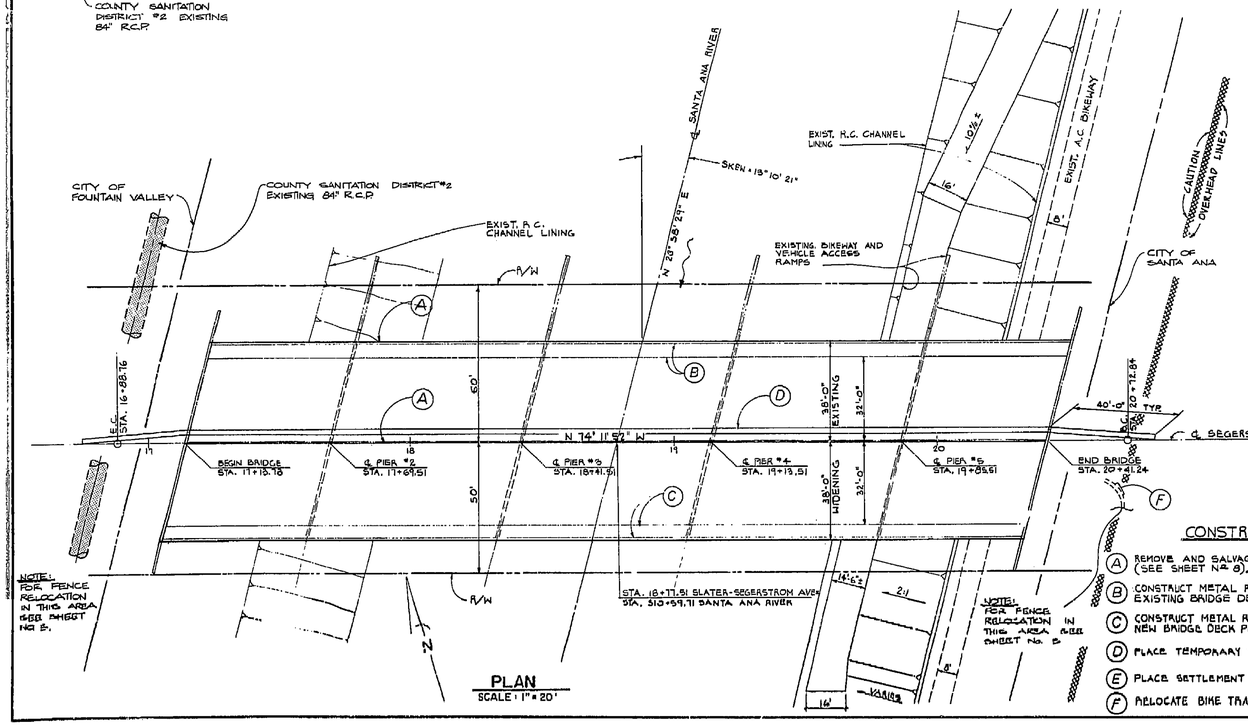
DAS-55-70



ELEVATION
SCALE : 1"= 20'



TYPICAL SECTION
SCALE : 1/8" = 1'-0"



PLAN
SCALE : 1"= 20'

BRIDGE QUANTITIES

CLEARING AND GRUBBING	L.S.
REMOVE AND REPLACE SLOPE PROTECTION	L.S.
TEMPORARY RAILING TYPE K	420 L.F.
REMOVE AND SALVAGE BRIDGE GUARD RAIL	655 L.F.
BRIDGE REMOVAL (PORTIONS)	L.S.
STRUCTURE EXCAVATION	275 C.Y.
STRUCTURE BACKFILL (METHOD A)	145 C.Y.
STRUCTURE BACKFILL (METHOD B)	35 C.Y.
GRAVEL BLANKET	28 C.Y.
STRUCTURE CONCRETE (BRIDGE)	1,035 C.Y. F
JOINT SEAL (TYPE B-1)	78 L.F.
WATERSTOP	78 L.F.
REINFORCING STEEL (BRIDGE)	247,000 LBS. F
METAL RAILING TYPE 11	655 L.F.
FURNISH CONCRETE PILING (CLASS 70)	1,840 L.F.
DRIVE CONCRETE PILING (CLASS 70)	42 EA.

ITEMS MARKED "F" ARE FINAL PAY QUANTITIES. SEE SPECIAL PROVISIONS.

55C-371

1/2 0 1 2
3 inches on original drawing

CONSTRUCTION NOTES

(A) REMOVE AND SALVAGE EXISTING BRIDGE GUARD RAIL (SEE SHEET No. 9).
(B) CONSTRUCT METAL RAILING TYPE 11 AND SIDEWALK ON EXISTING BRIDGE DECK PER DETAIL SHEET No. 8.
(C) CONSTRUCT METAL RAILING TYPE 11 AND SIDEWALK ON NEW BRIDGE DECK PER DETAIL SHEET NO 8.
(D) PLACE TEMPORARY TYPE K RAILING PER DETAIL SHEET NO 13
(E) PLACE SETTLEMENT PING. SEE SPECIAL PROVISIONS.
(F) RELOCATE BIKE TRAIL SIGN

WHEELER & GRAY
CONSULTING ENGINEERS
R.C.E. No. 918

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

SLATER-SEGERSTROM BRIDGE (SA-31A) WIDENING OVER SANTA ANA RIVER (E01)

GENERAL PLAN

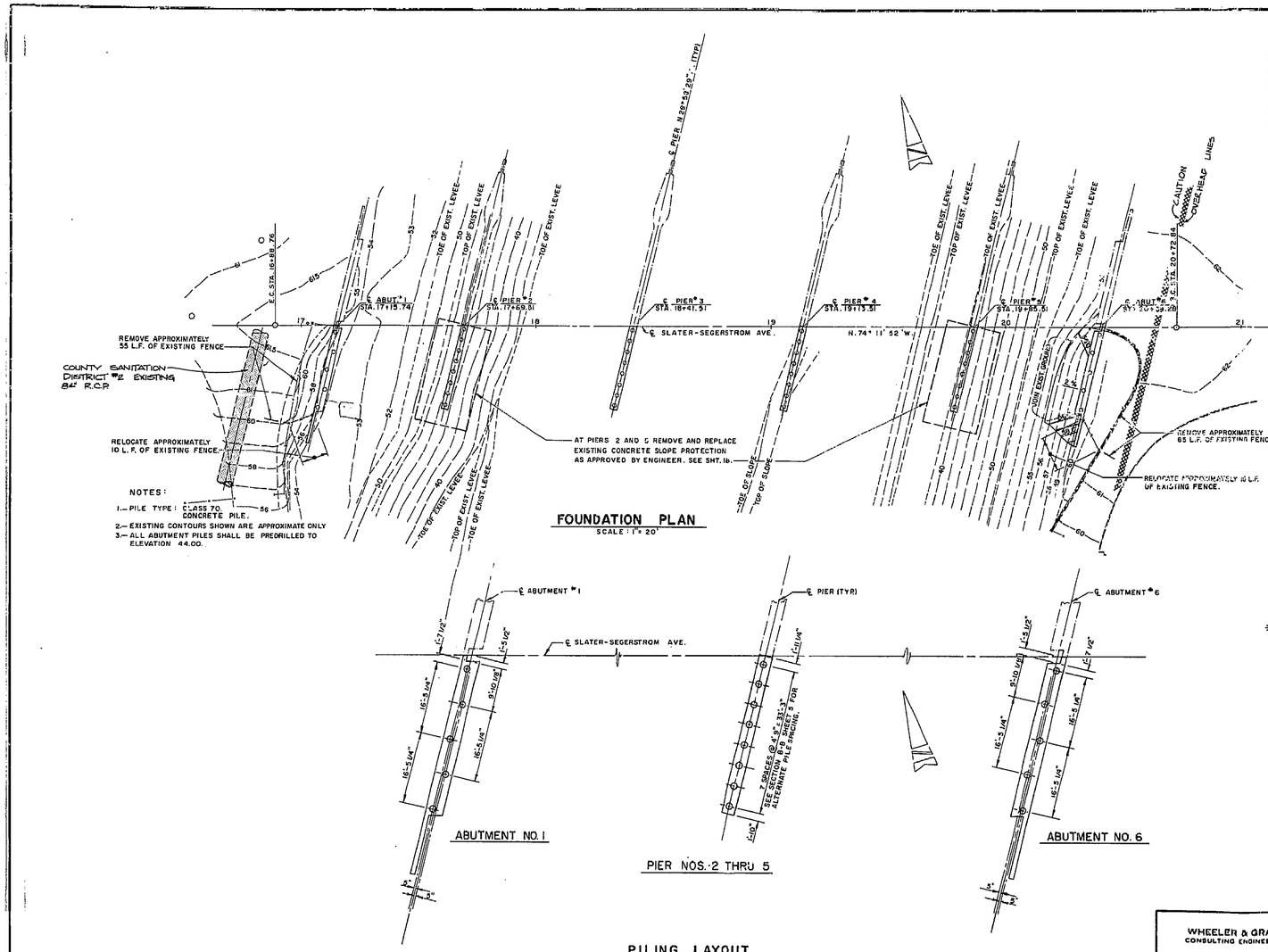
MARK	DATE	DESCRIPTION	PREPARED UNDER SUPERVISION OF	DATE	SHEET
		REVISIONS			2
DESIGNED W. F. POND			SCALE AS SHOWN	DATE	DWG. NO.
DRAWN E.O.	CHECKED W.F.P.				

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 7000 8509

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKE
UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO
AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10-29-82 | SIGNATURE Donald E. Blackford | TITLE SUPERVISOR OF MICROFILM SERVICES

DAS-55-78



FOUNDATION PLAN
SCALE: 1" = 20'

PILING LAYOUT
SCALE 3/32" = 1'-0"

AS BUILT PILE DRIVING DATA

PILE DRIVING MAKE AND MODEL
DRIVING ACTION
RATED ENERGY
RAM WEIGHT
MAX. STROKE
BEARING VALUE FORMULA — STD. SPEC. SECTION 305-1.5
P = OR P=

	* CUT-OFF ELEVATION	** MIN. PILE TIP ELEVATION	* MINIMUM PILE LENGTH	** AVG. "AS BUILT" PILE TIP ELEVATION	* AVG. STROKE HEIGHT	* AVG. BLOWS PER FOOT	* AVG. BEARING VALUE (TONS)
ABUTMENT NO. 1							
PIER NO. 2							
PIER NO. 3							
PIER NO. 4							
PIER NO. 5							
ABUTMENT NO. 6							

* NEW BRIDGE CONSTRUCTION (D/S WIDENING)
NOTE: TABLE AND DATA ABOVE FOR USE OF RESIDENT ENGINEER UPON COMPLETION OF CONSTRUCTION.

PILING DATA				MINIMUM PILE LENGTH	AVE. AS BUILT-PILE
ABUT OR PIER NO.	PILE NO.*	PILE CUTOFF	NEW PILE TIP		PILE LENGTH
ABUT # 1	PILE # 1	53.[illegible]	+ 2.[illegible]	51.68	55.58
ABUT # 1	PILE # 2	53.56	+ 2.00	51.56	55.58
ABUT # 1	PILE # 3	53.43	+ 2.00	51.43	[illegible]
ABUT # 1	PILE # 4	[illegible]	+ 2.00	51.[illegible]	55.55
ABUT # 1	PILE # 5	53.[illegible]	+ 2.00	51.18	55.58
PIER # 2	ALL PILES	31.90	-13.00	44.90	48.34
PIER # 3	ALL PILES	31.90	-13.00	44.90	48.26
PIER # 4	ALL PILES	31.90	-13.00	44.90	43.89
PIER # 5	ALL PILES	31.90	+11.00	20.90	20.31
ABUT # 6	PILE #38	54.40	-11.00	65.40	63.99
ABUT # 6	PILE #39	54.27	-11.00	65.27	63.99
ABUT # 6	PILE #40	54.13	-11.00	65.13	63.99
ABUT # 6	PILE #41	54.00	-11.00	65.00	63.99
ABUT # 6	PILE #42	53.86	-11.00	64.86	63.99

*-PILES ARE NUMBERED BEGINNING WITH THE PILE NEAREST THE CENTER LINE OF SLATER-SEGERSTROM AVE. AND PROGRESSING SOUTHERLY DOWNSTREAM BEGINNING WITH ABUTMENT #1 AND PROGRESSING FROM WEST TO EAST.

** -"AS BUILT" PILE TIP ELEVATIONS ARE FROM THE 70 TON PILES OF THE EXISTING BRIDGE.

55C-371

1 1/2 0 1 2
3 inches on original drawing

WHEELER & GRAY
CONSULTING ENGINEERS
S.E. # 918

MARK	DATE	DESCRIPTION
REVISIONS		

DESIGNED W.F. POND
DRAWN V.V. CHECKED W.F.P.

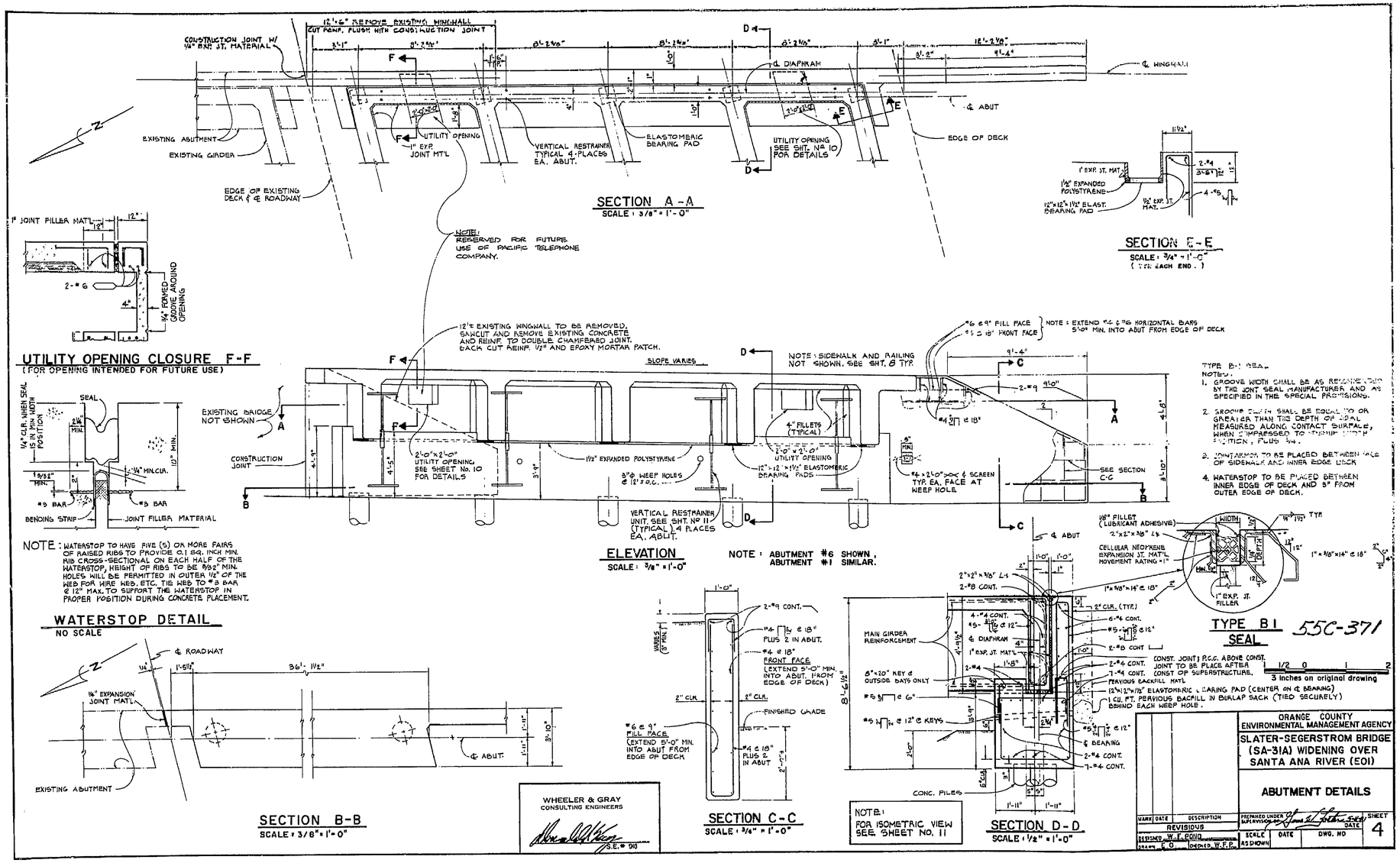
ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY
SLATER-SEGERSTROM BRIDGE (SA-31A) WIDENING OVER SANTA ANA RIVER (E01)
FOUNDATION PLAN
PREPARED UNDER THE SUPERVISION OF — DATE — SHEET 3
SCALE AS SHOWN | DATE | DWG. NO.

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 70008509

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10-29-82 | SIGNATURE Donald E. Blackford | TITLE SUPERVISOR OF MICROFILM SERVICES

DA5-55-76



AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 70008509

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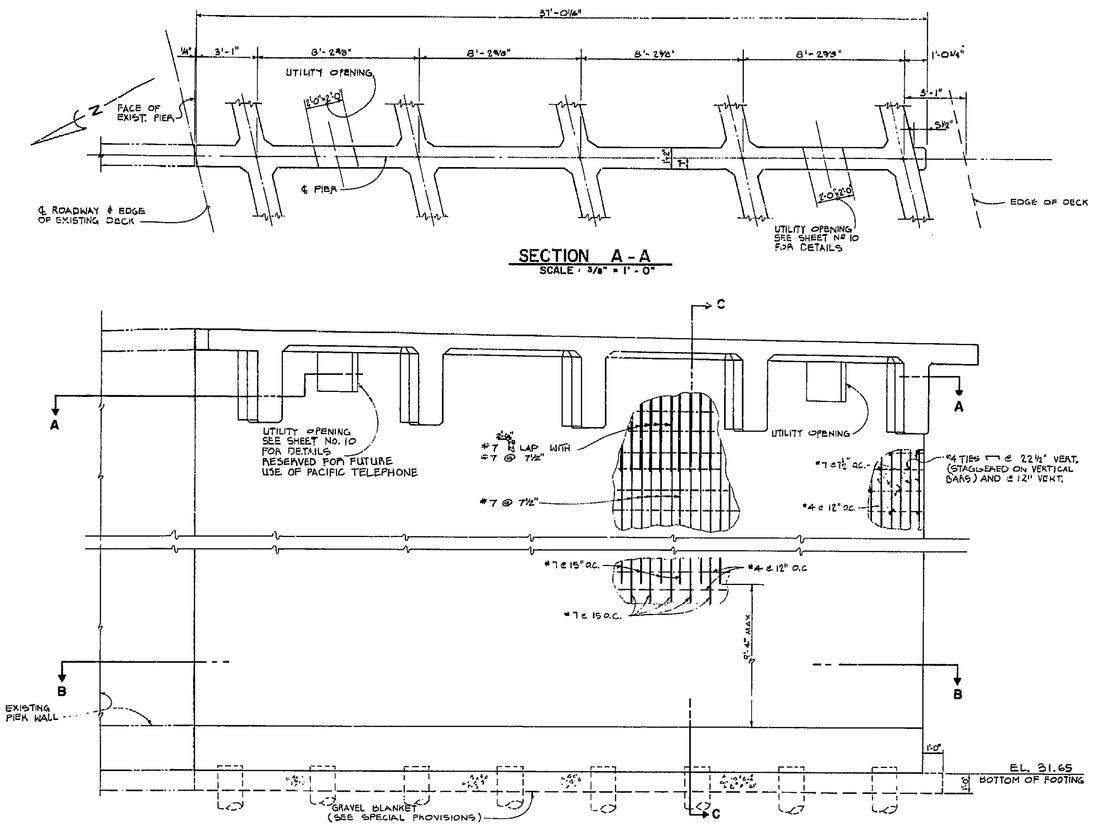
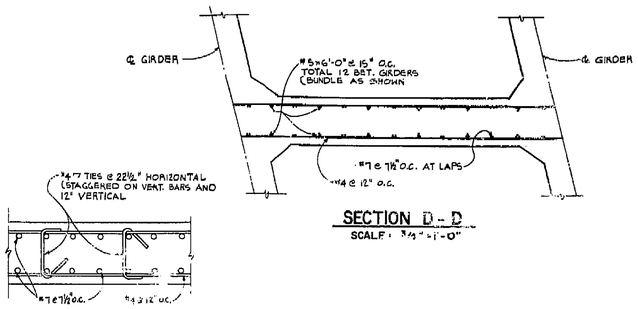
DATE 10-29-82. SIGNATURE Donald E. Blackford TITLE SUPERVISOR OF MICROFILM SERVICES

DAS-SS-78



SECTION A - A
SCALE : 3/8" = 1' - 0"

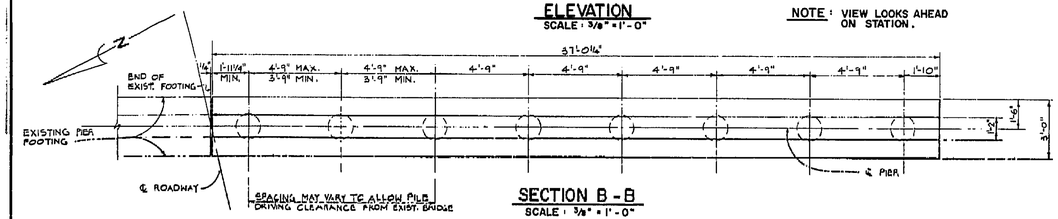


SECTION D - D
SCALE : 3/4" = 1'-0"

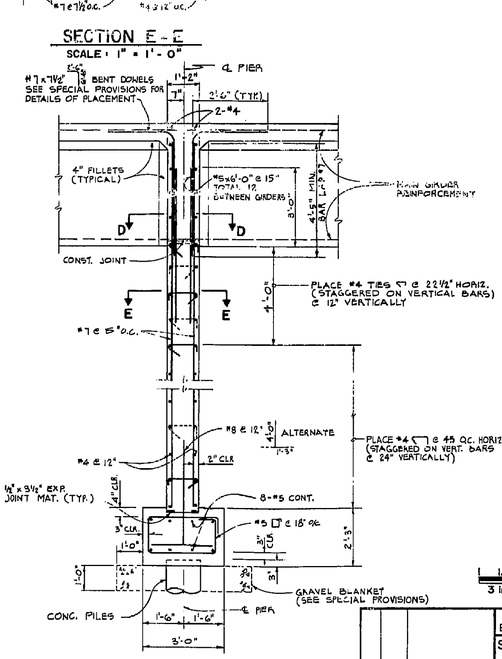
SECTION E - E
SCALE : 1" = 1'-0"

ELEVATION
SCALE : 3/8" = 1'-0"

NOTE : VIEW LOOKS AHEAD ON STATION.



SECTION B - B
SCALE : 3/8" = 1'-0"



SECTION C-C
SCALE : 1/2" = 1'-0"

55C-371

1/2 0 1 2
3 inches on original drawing

WHEELER & GRAY
CONSULTING ENGINEERS
S.E. № 910

MARK	DATE	DESCRIPTION
REVISIONS		

DESIGNED W.F. POND
DRAWN E.G. CHECKED W.F.P.

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY
SLATER-SEGERSTROM BRIDGE (SA-31A) WIDENING OVER SANTA ANA RIVER (EOI)

PIER DETAILS

PREPARED UNDER SUPERVISION OF — DATE — SHEET 5

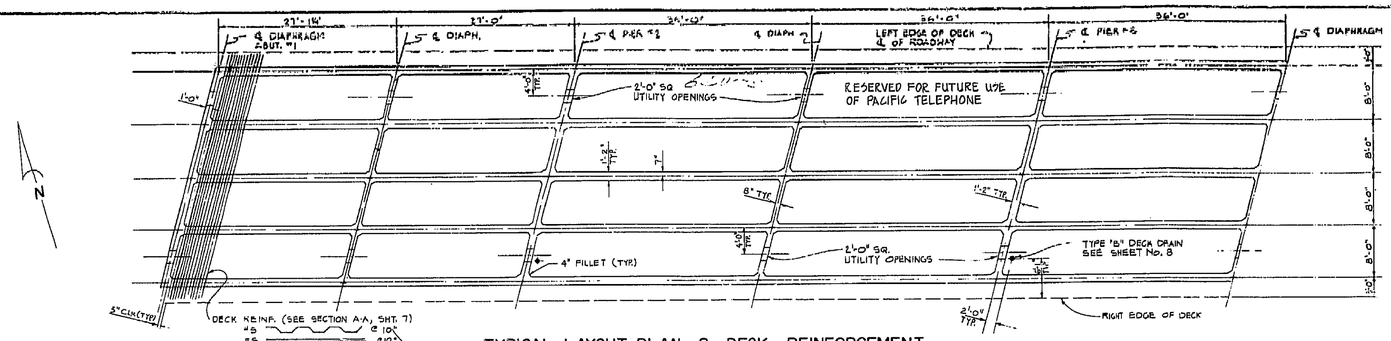
SCALE AS SHOWN | DATE | DWG. NO.

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 70008509

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10-29-82 | SIGNATURE Donald C. Blackford | TITLE SUPERVISOR OF MICROFILM SERVICES

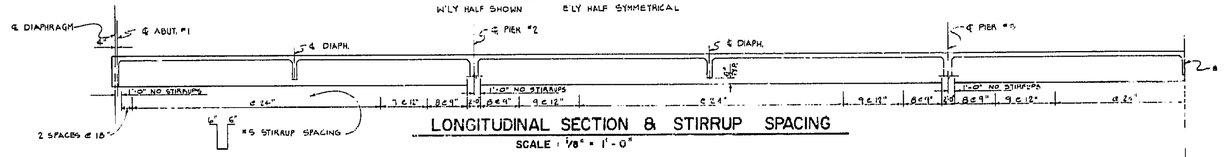
DAS-55-78



TYPICAL LAYOUT PLAN & DECK REINFORCEMENT

SCALE : 1/8" = 1'-0"

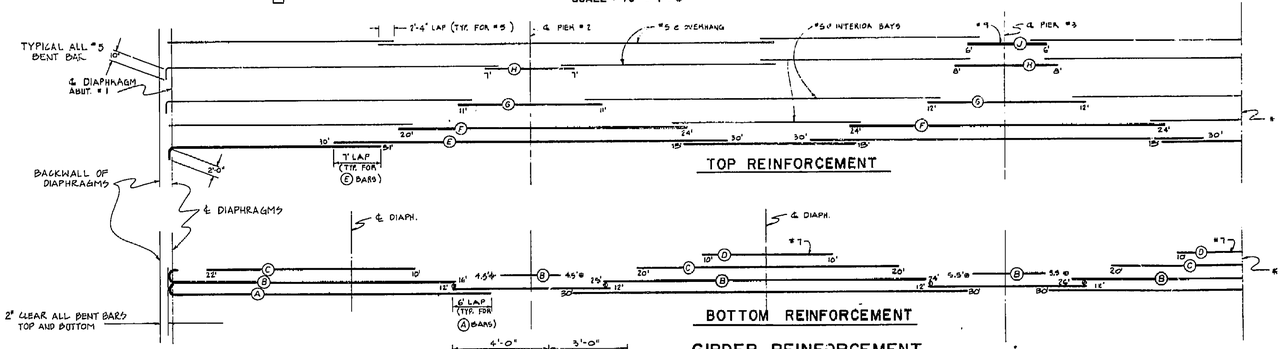
W'LY HALF SHOWN E'LY HALF SYMMETRICAL



LONGITUDINAL SECTION & STIRRUP SPACING

SCALE : 1/8" = 1'-0"

* LINE OF SYMMETRY ℄ OF DIAPHRAGM

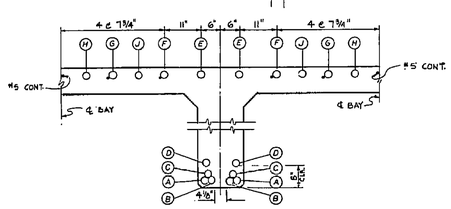


TOP REINFORCEMENT

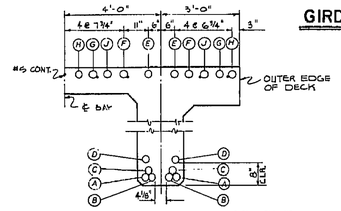
BOTTOM REINFORCEMENT

GIRDER REINFORCEMENT

SCALE: 1/8" = 1'-0"



INTERIOR GIRDER REINFORCEMENT PLACING DIAGRAM



EXTERIOR GIRDER REINFORCEMENT PLACING DIAGRAM

NOTES:

1) ALL MAIN GIRDER REINF. ARE #11 BARS EXCEPT AS NOTED.
2) DIM. AT END OF BARS ARE FROM ℄ DIAPH (BOT. REINF.) AND ℄ PIERS (TOP REINF.) EXCEPT AS NOTED.
3) FOR ADDITIONAL REINF. IN SLAB OVER INTERMEDIATE DIAPHRAGMS SEE SHT. #10.
4) @ THIS BOT REINF. BAR IS DIMN. FROM ℄ PIER.
5) GIRDER REINFORCEMENT SHOWN ABOVE SHALL BE PLACED AS SHOWN IN THE PLACING DIAGRAMS

55C-371

1/2 0 1 2
3 inches on original drawing

WHEELER & GRAY
CONSULTING ENGINEERS
S.E. # 918

MARK	DATE	DESCRIPTION
REVISIONS		

DESIGNED W. F. BOND DRAWN L. O. CHECKED W. F. B.

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

SLATER-SEGERSTROM BRIDGE (SA-31A) WIDENING OVER SANTA ANA RIVER (EOI)

SUPERSTRUCTURE LAYOUT & REINF.

PREPARED UNDER SUPERVISION OF [signature] DATE 5-14-81

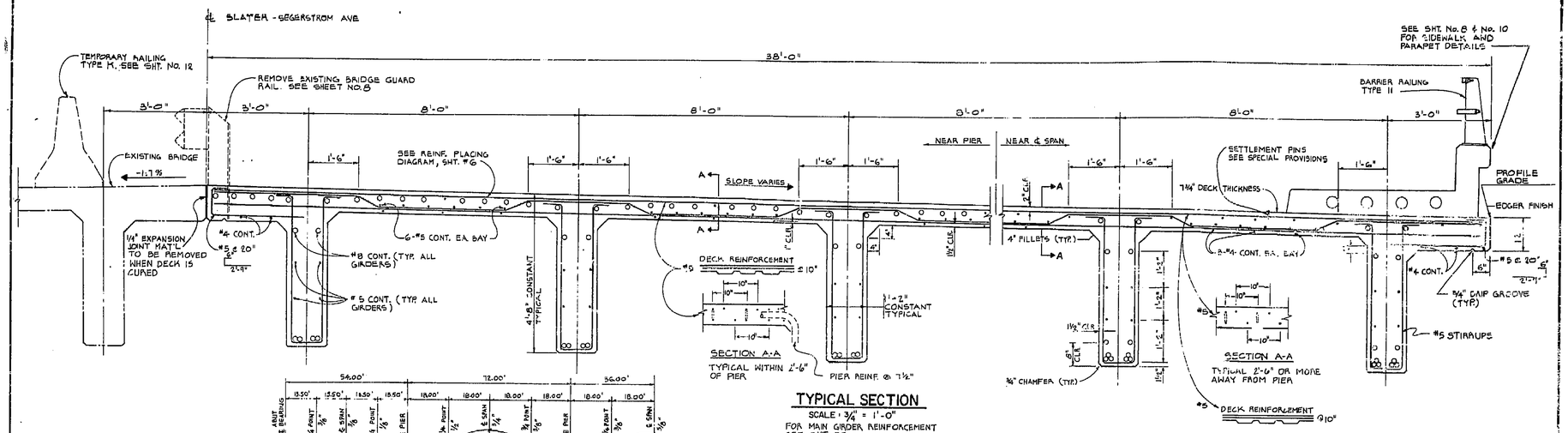
SCALE AS SHOWN DATE DWG. NO. SHEET 6

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 70008509

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10-29-82 SIGNATURE Donald E. Lockford TITLE SUPERVISOR OF MICROFILM SERVICES

DAS-55-78



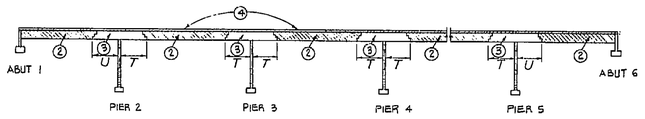
TYPICAL SECTION

SCALE : 3/4" = 1'-0"

FOR MAIN GIRDER REINFORCEMENT SEE SHT. #6

DEAD LOAD CAMBER DIAGRAM

NOTE : THE TOTAL DEFLECTION WILL BE REACHED ABOUT FOUR YEARS AFTER FALSEWORK REMOVAL. FOR VALUES AT TIME OF FALSEWORK REMOVAL, DIVIDE THOSE SHOWN BY FOUR. THE AMOUNT OF CAMBER FOR CONSTRUCTION WILL BE DETERMINED BY THE ENGINEER.



TEE BEAM SUPERSTRUCTURE PLACING DIAGRAM

NUMBERS (2) AND (3) INDICATE SEQUENCE OF PLACING GIRDER STEM CONCRETE. (3) MAY BE PLACED SIMUTANEOUSLY WITH (2) WHEN APPROVED BY THE ENGINEER, AND PROVIDED THAT THE (2) SECTIONS ARE PLACED IN ADJOINING SPANS.

TOP SLAB CONCRETE (4) SHALL BE PLACED SEPARATELY FROM (2) AND (3). (4) MAY BE PLACED CONTINUOUSLY OR IN PARTS AS APPROVED BY THE ENGINEER.

T = 1/5 SPAN LENGTH

U = 1/4 SPAN LENGTH

FOR ANY DEVIATION FROM THE ABOVE CONTRACTOR SHALL SUBMIT A DIAGRAM TO THE ENGINEER.

GENERAL NOTES

SPECIFICATIONS:

DESIGN : A.A.S.H.T.O. DATED 1977 WITH SUBSEQUENT REVISIONS, AND CALIF. DIVISION OF HIGHWAY BRIDGE DESIGN SPECIFICATIONS.

CONSTRUCTION : STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION DATED 1979 AND THE SPECIAL PROVISIONS.

LIVE LOADING : HS20-44 AND ALTERNATIVE

UNIT STRESSES

REINFORCING STEEL (ASTM A615 GR. 60) : f_s TENSION = 24,000 P.S.I. ; 20,000 P.S.I. IN SLAB AND WEB REINFORCEMENT.

CONCRETE : F_c = 1,300 P.S.I., F_c' = 3,250 P.S.I. @ 28 DAYS.
N = 10
V_c = 90 P.S.I.

PILE LOADING : 70 TONS, TYPE : CLASS 70

CONCRETE : CLASS 658-C-3250 TYPE II PORTLAND CEMENT.

55C-371

1 1/2 0 1 2
3 inches on original drawing

WHEELER & GRAY
CONSULTING ENGINEERS
R.C.E. 9010

MARK	DATE	DESCRIPTION
REVISIONS		

DESIGNED W.F.POND
DRAWN E.O. CHECKED W.F.P.

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY
SLATER-SEGERSTROM BRIDGE (SA-31A) WIDENING OVER SANTA ANA RIVER (EOI)
TYPICAL SECTION
PREPARED UNDER SUPERVISION OF
DATE
SCALE AS SHOWN | DATE | DWG. NO. | SHEET 7

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 7000 8509

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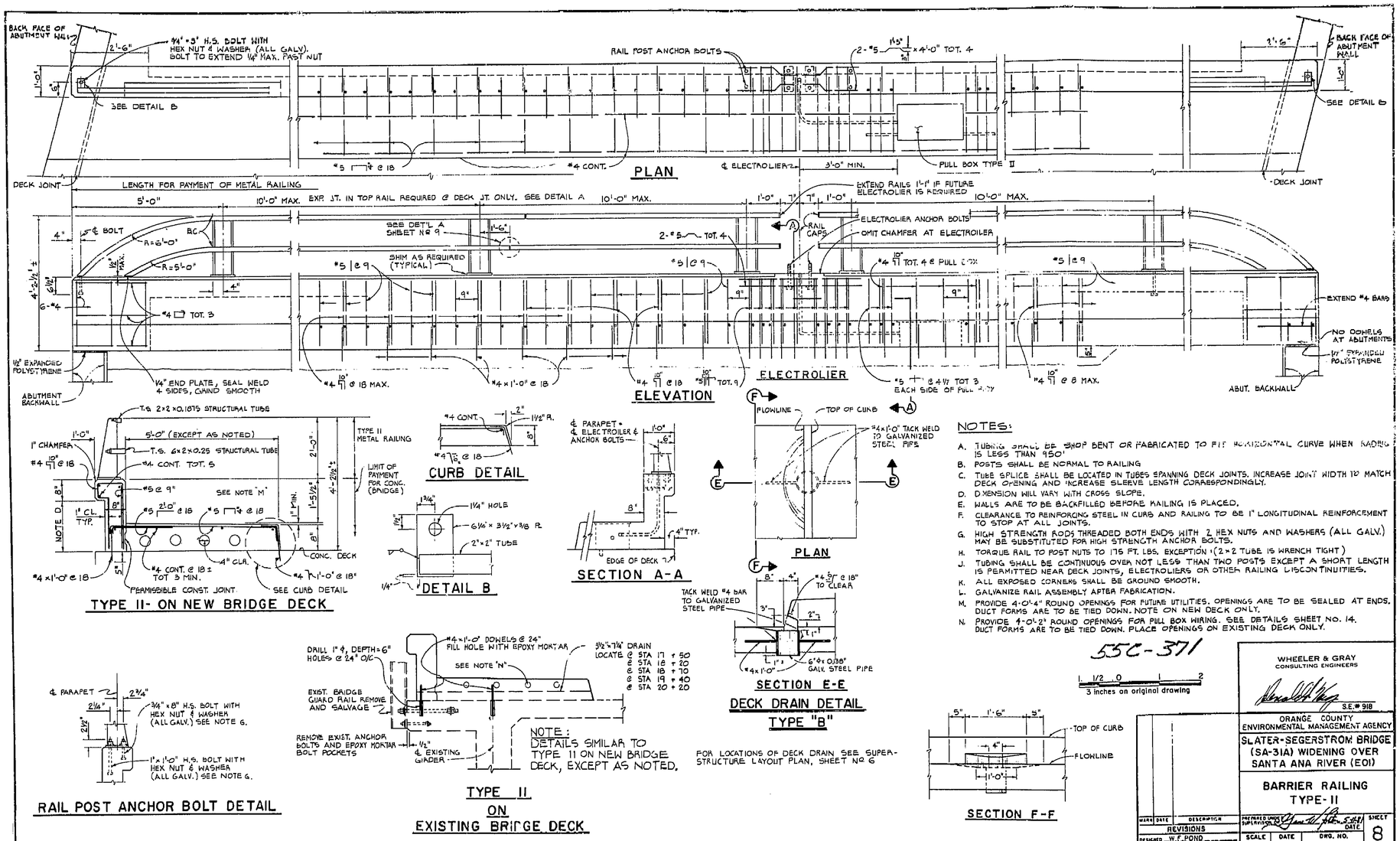
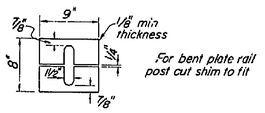
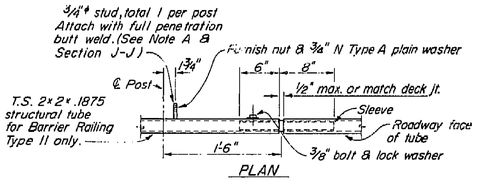
DATE 10-29-82 | SIGNATURE Donald E. Blackford | TITLE SUPERVISOR OF MICROFILM SERVICES

DAS-55-78

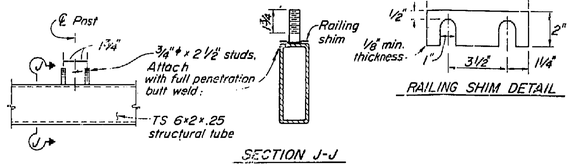




POST SHIM DETAIL



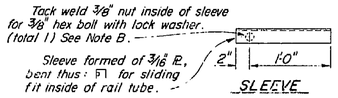
PLAN



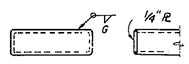
SECTION J-J

RAILING SHIM DETAIL

STUD BOLT DETAILS

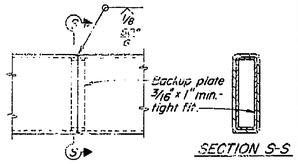


SLEEVE



RAIL CAP
3" = 1'-0"

Note: Contractor may submit alternative detail for approval. Typical for 2"x2" tube also.

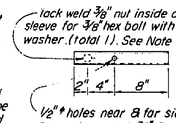


SECTION S-S

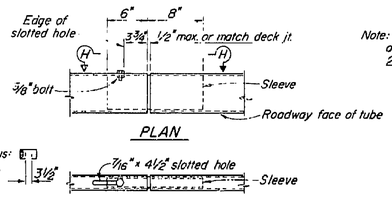
TUBE - WELDED SPLICE

Note A:
3/8"ϕ studs may be used with 2x2 tube in lieu of 3/4"ϕ studs. Decrease post slotted hole size to 5/8" x 1 1/8" and use 3/8" W Type A plain washers.

Note B:
3/8" hex nut tack welded to inside of sleeve may be replaced by a drilled and tapped hole to accept the 3/8" bolt.

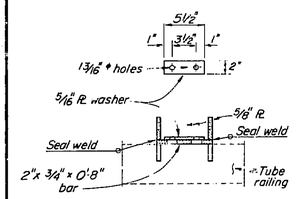


SLEEVE

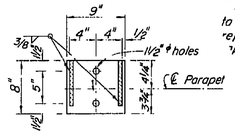


PLAN

VIEW H-H

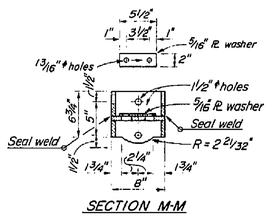


SECTION E-E

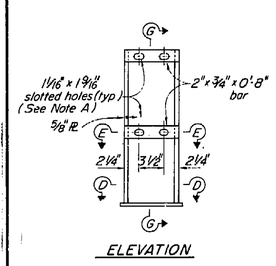


SECTION D-D

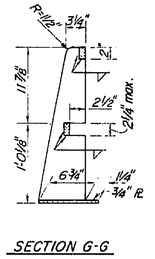
DETAIL A - TUBE SPLICE



SECTION M-M



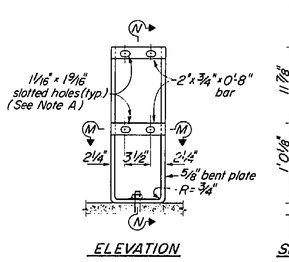
ELEVATION



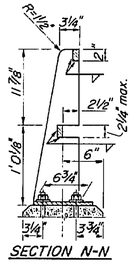
SECTION G-G

RAIL POST DETAILS TYPE II

These details apply to Barrier Railing Types 11 & 9-11



ELEVATION



SECTION N-N

ALTERNATIVE RAIL POST DETAILS TYPE II

55C-371

1 1/2 0 1 2
3 inches on original drawing

WHEELER & GRAY
CONSULTING ENGINEERS
RCE # 910

MARK	DATE	DESCRIPTION
REVISIONS		

DESIGNED W.F.POND
DRAWN K.O. CHECKED W.F.P.

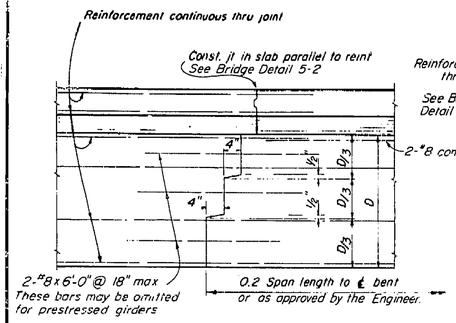
ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

SLATER-SEGERSTROM BRIDGE (SA-31A) WIDENING OVER SANTA ANA RIVER (E01)

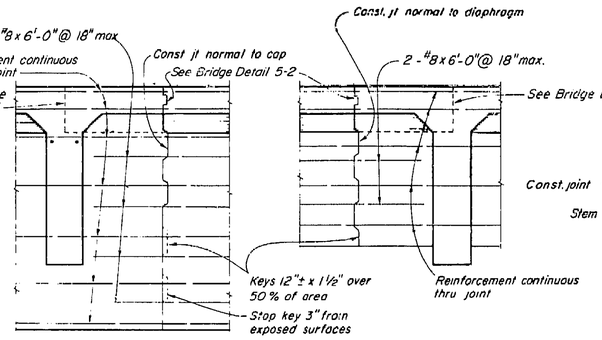
METAL RAILING DETAILS TYPE II

DESIGNED UNDER SUPERVISION OF [illegible] DATE

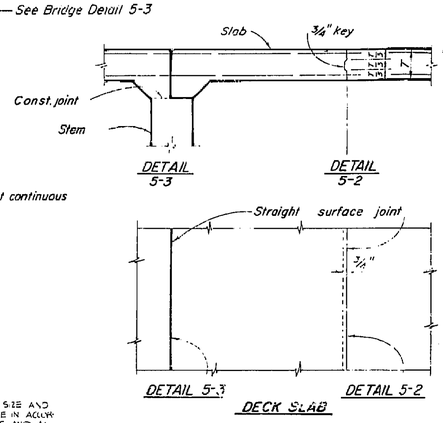
SCALE AS SHOWN | DATE | DWG. NO. | SHEET 9



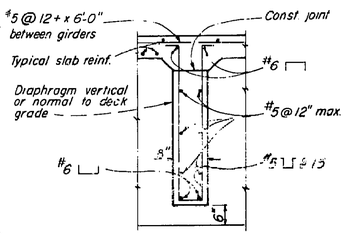
TRANSVERSE GIRDER CONSTRUCTION JOINTS
DETAIL J-3



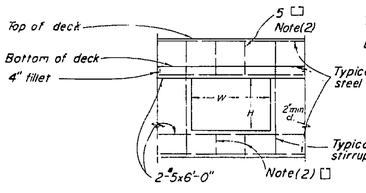
BENT CAP
LONGITUDINAL CONSTRUCTION JOINTS
DIAPHRAGMS
DETAIL J-4



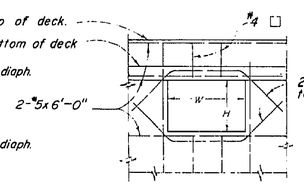
DECK SLAB



INTERMEDIATE DIAPHRAGM SECTION
DETAIL D-1



DIAPHRAGM



PIERS & ABUTMENTS

NOTES:

1. THE EXACT LOCATION ELEVATION, SIZE AND DIRECTION OF OPENINGS SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS AND AS DIRECTED BY THE ENGINEER.
2. ALL REINF DETAILED TO BE PLACED IN ADDITION TO REINF. SHOWN ON PROJECT PLANS.
3. MAIN REINF. TO CLEAR OPENING.
4. PILES TO BE SAME BAR SIZE AND 2/3 THE SPACING OF ADJACENT REINF. SHOWN ON PROJECT PLANS.
5. W = 24", H = 24"

LONGITUDINAL CONSTRUCTION JOINTS

Note: Longitudinal construction joints in slab, if required, are to be located at edge of traffic lanes except as approved by the engineer.

NOTES

(1) All reinforcement detailed to be placed in addition to reinforcement shown on other sheets.

(2) Stirrups are same size as adjacent stirrups shown on other sheets.

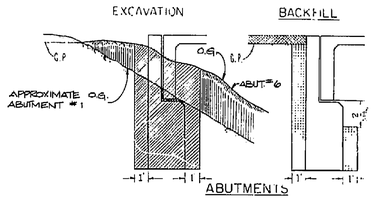
UTILITY OPENING DETAILS

FOR SECTION THRU UTILITY OPENING IN END DIAPHRAGM SEE SHEET 4.

LEGEND

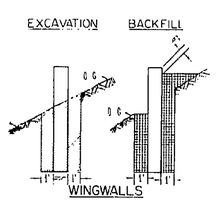
- STRUCTURAL SECTION - 060' AC / N.S
- UNCLASSIFIED EXCAVATION
- STRUCTURE EXCAVATION
- STRUCTURE BACKFILL (METHOD A)
- STRUCTURE BACKFILL (METHOD B)
- GRAVEL BLANKET (SEE SPECIAL PROVISIONS)

G.P. = GRADING PLANE
F.S. = FINISHED SURFACE
O.G. = ORIGINAL GROUND



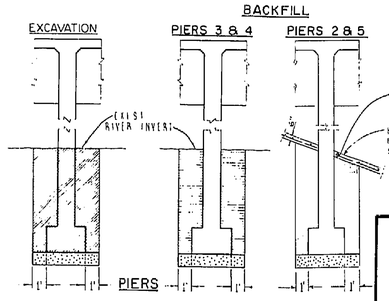
ABUTMENTS

NOTE
APPROXIMATELY 30 C.Y. UNCLASSIFIED EXCAVATION ABOVE ELEVATION 56 AT ABUTMENT #6. (SEE SHEET #8)



WINGWALLS

IN EXCAVATION



PIERS

STRUCTURE EXCAVATION AND BACKFILL DETAILS

55C-371

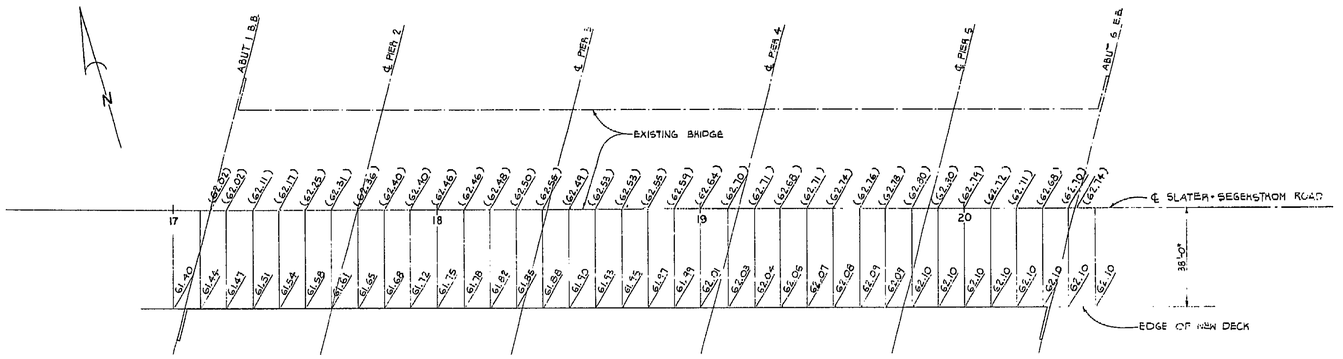
1/2 0 1 2
3 inches on original drawing

WHEELER & GRAY
CONSULTING ENGINEERS
S.E. # 910

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY
SLATER-SEGERSTROM BRIDGE
(SA-31A) WIDENING OVER
SANTA ANA RIVER (EOI)
T-BEAM & EXCAVATION DETAILS

MARK	DATE	DESCRIPTION
REVISIONS		

DESIGNED W.F.POND
DRAWN E.O. CHECKED W.F.P
PREPARED UNDER SUPERVISION OF
DATE
SCALE AS SHOWN
DATE
DWG. NO.
SHEET 10



DECK GRADES

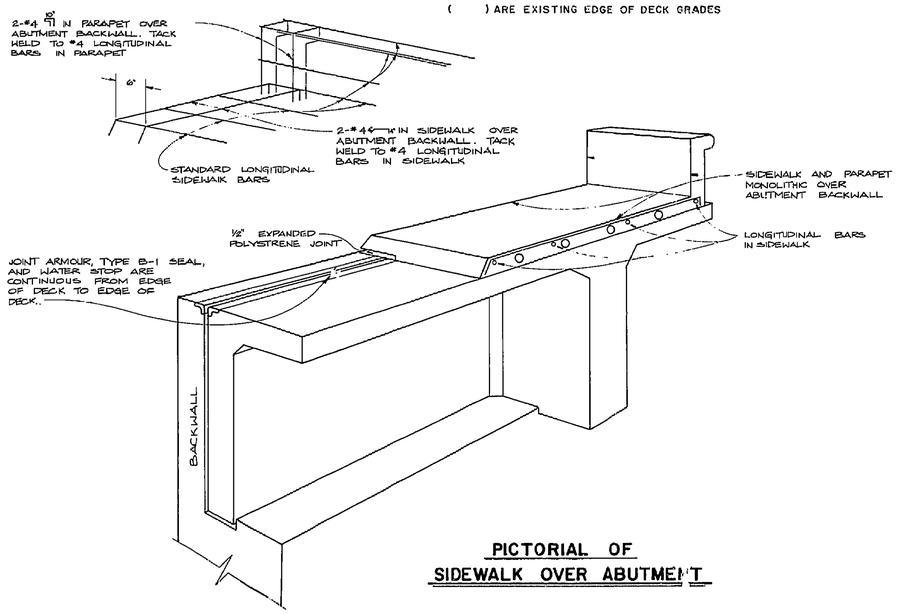
SCALE 1" = 20'

( ) ARE EXISTING EDGE OF DECK GRADES

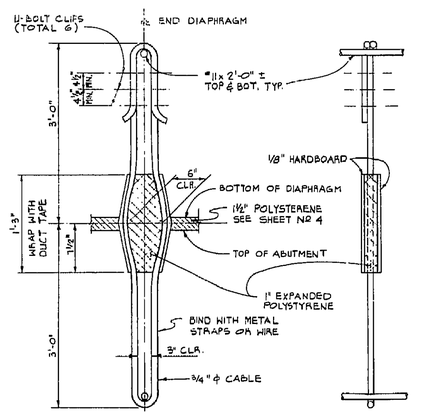
SETTLEMENT PIN ELEVATIONS		
LOCATIONS	RIGHT SIDE (DECK PIN)	LEFT SIDE (SIDEWALK PIN)
℄ ABUTMENT Nº 1		
℄ SPAN Nº 1		
℄ PIER Nº 2		
℄ SPAN Nº 2		
℄ PIER Nº 3		
℄ SPAN Nº 3		
℄ PIER Nº 4		
℄ SPAN Nº 4		
℄ PIER Nº 5		
℄ SPAN Nº 5		
℄ ABUTMENT Nº 6		

DESCRIPTION OF DATUM:

NOTE:
FOR USE OF RESIDENT ENGINEER UPON COMPLETION OF CONSTRUCTION.



PICTORIAL OF SIDEWALK OVER ABUTMENT



ELEVATION SECTION

VERTICAL RESTRAINER

NO SCALE

NOTE
DURING CONCRETE POUR FOR END DIAPHRAGMS, VERTICAL RESTRAINER UNITS SHALL BE DRAWN TAUT AND PLUMB.

55C-371

1 1/2 0 1 2
3 inches on original drawing

WHEELER & GRAY
CONSULTING ENGINEERS
S.E. # 918

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

SLATER-SEGERSTROM BRIDGE (SA-31A) WIDENING OVER SANTA ANA RIVER (E01)

MISCELLANEOUS DETAILS

MARK	DATE	DESCRIPTION
REVISIONS		

DESIGNED W.F.POND
DRAWN F.O. CHECKED W.F.P.

PREPARED UNDER SUPERVISION OF [signature] DATE

SCALE AS SHOWN | DATE | DWG. NO. 11 | SHEET

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 70008509

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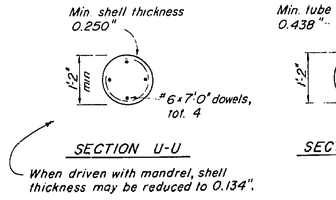
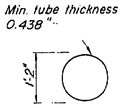
DATE 10-29-82 | SIGNATURE Donald L. Blackford | TITLE SUPERVISOR OF MICROFILM SERVICES

DAS-55-78



SECTION U-U



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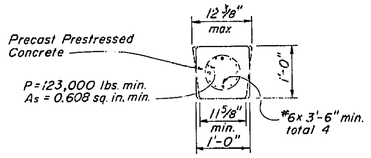

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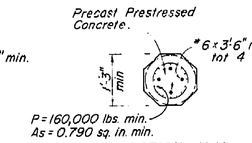
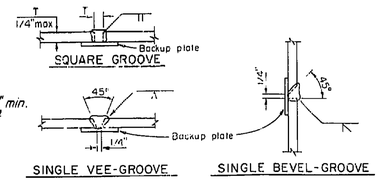
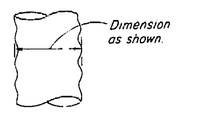


SECTION Y-Y

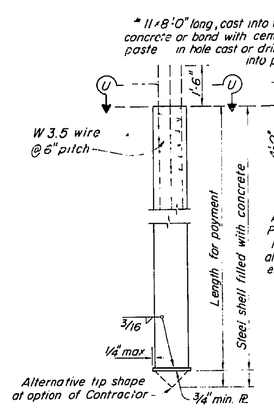


PILE WELDING DETAIL - BUTT JOINTS

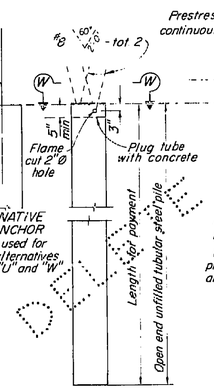
Notes:
1. Single Vee-Groove and Square Groove permitted for all positions
2. Single Bevel-Groove permitted for horizontal joints only



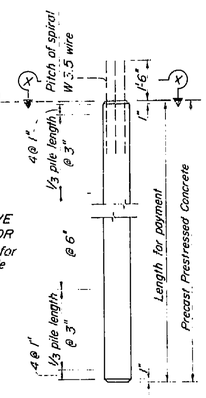
CORRUGATED ALTERNATIVE "Z"



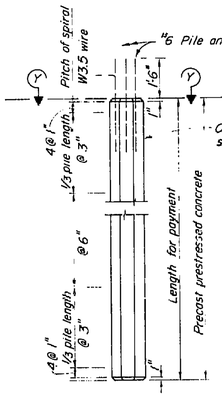
ALTERNATIVE "U"



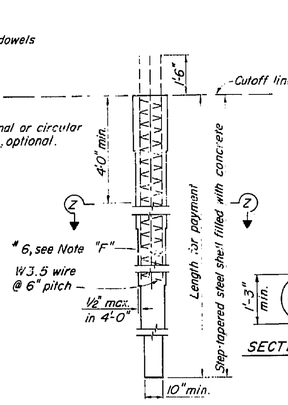
ALTERNATIVE "W"



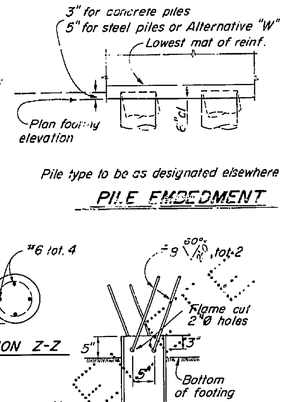
ALTERNATIVE "X"



ALTERNATIVE "Y"



ALTERNATIVE "Z"



PILE EMBEDMENT

Steel piles to be used only when shown on plans or permitted by the Special Provisions.

Notes:

A 10" minimum diameter pipe extension (thickness = 0.250" min.) may be used at the tip of Alternative "Z" when taper is 30' or more in length.

All dowels or bars extending into a footing having a depth less than 2'-0" shall be hooked.

5 gauge wire may be substituted for W3.5 wire.

Piles may not be extended except in accordance with details shown in the Project Plans.

PRECAST PRESTRESSED PILES:

P = Prestressing Force @ anchorage — If section used is larger than the min. section shown, then "P" shall provide 860 psi. min.

As = Minimum Area of prestressing steel required.

Concrete Strength: f'_c @ 28 days = 6,000 p.s.i (Alternative "X")
5,000 p.s.i (Alternative "Y")
f'_{ci} @ transfer = 4,000 p.s.i

DESIGN LOADING = 70 TONS

NOTE F

In Alternative "Z", two #6 bars shall extend to the pile tip and the other two #6 bars and the spiral wrap shall extend, at least, to a point halfway between the pile tip and the lowest of the following:

a. Bottom of footing.
b. Top of final ground surface.
c. Top of original ground surface when holes are drilled through embankment constructed by Contractor.
d. Bottom of pre-drilled holes greater than pile diameter.

1 1/2 0 1 2
3 inches on original drawing

WHEELER & GRAY
CONSULTING ENGINEERS
R.E. # 910

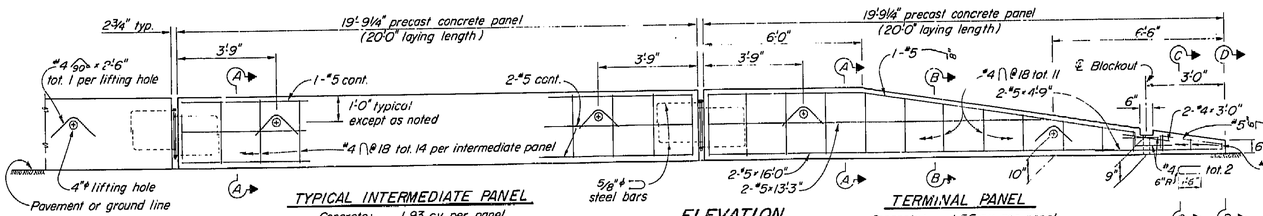
ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY
SLATER-SEGERSTROM BRIDGE (SA-31A) WIDENING OVER SANTA ANA RIVER (E01)

PILING DETAILS

MARK	DATE	DESCRIPTION
REVISIONS		

DESIGNED W.F. POND
DRAWN P.O. CHECKED W.F.P.

PREPARED UNDER SUPERVISION OF [illegible] DATE
SCALE AS SHOWN DATE DWG. NO.
SHEET 12



TYPICAL INTERMEDIATE PANEL

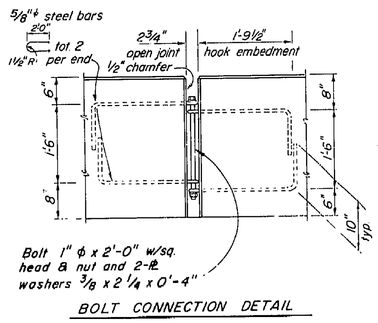
Concrete: 1.93 c.y. per panel
Reinforcing: 169 lbs per panel
Weight: 3.9 tons per panel

ELEVATION

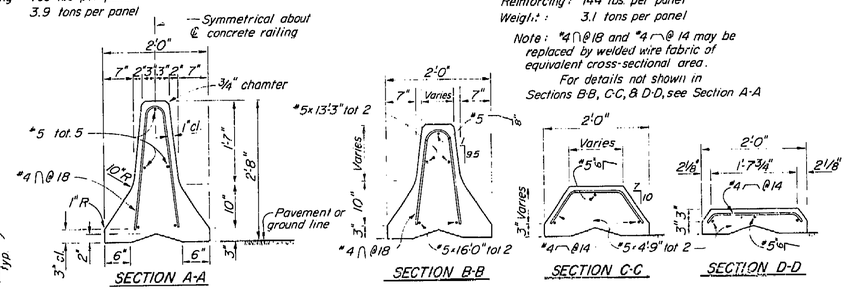
TERMINAL PANEL

Concrete: 1.55 c.y. per panel
Reinforcing: 144 lbs. per panel
Weight: 3.1 tons per panel

Note: #4 ∩ @ 18 and #4 ⌐ @ 14 may be replaced by welded wire fabric of equivalent cross-sectional area. For details not shown in Sections B-B, C-C, & D-D, see Section A-A

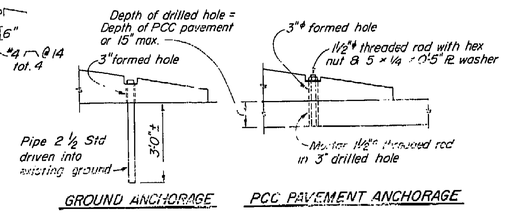


BOLT CONNECTION DETAIL



SECTION A-A | SECTION B-B | SECTION C-C | SECTION D-D

TEMPORARY RAILING TYPE K



GROUND ANCHORAGE | PCC PAVEMENT ANCHORAGE

NOTES:

1. Alternative details for lifting the precast concrete panels of the Temporary Railing Type K may be submitted by the Contractor for the Engineer's approval.
2. All Temporary Railing Type K shall become the property of the Orange County EMA. See Special Provisions.

1 1/2 0 1 2
3 inches on original drawing

WHEELER & GRAY CONSULTING ENGINEERS
R.E. 916

MARK	DATE	DESCRIPTION
REVISIONS		

DESIGNED W.F. POTO
DRAWN E.O. CHECKED W.F.P.

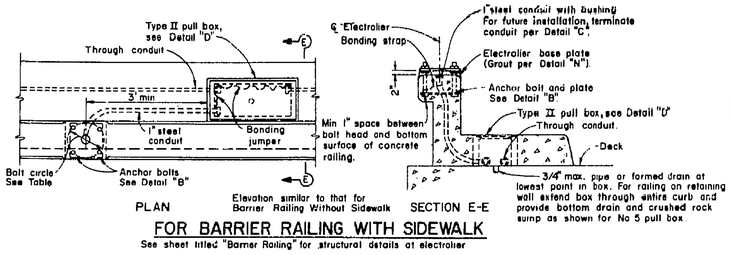
ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY
SLATER-SEGERSTROM BRIDGE (SA-31A) WIDENING OVER SANTA ANA RIVER (E01)
TEMPORARY RAILING
PREPARED UNDER SUPERVISION OF: Donald Clark DATE 5-4-87
SCALE AS SHOWN | DATE | DWG. NO.
SHEET 13

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 70008509

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10-29-82 | SIGNATURE Donald E. Clark | TITLE SUPERVISOR OF MICROFILM SERVICES

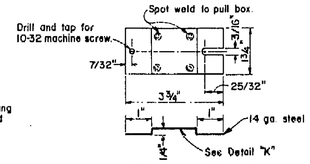
DAS-55-78



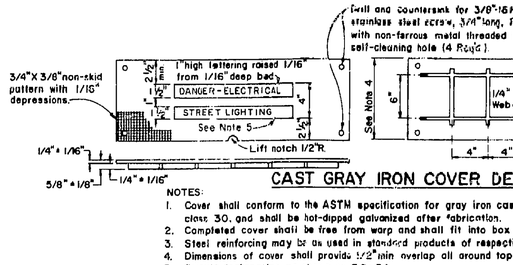
FOR BARRIER RAILING WITH SIDEWALK

See sheet titled "Barrier Railing" for structural details at electrolier

DETAIL "A" ELECTROLIER BASE AND PULL BOX INSTALLATION



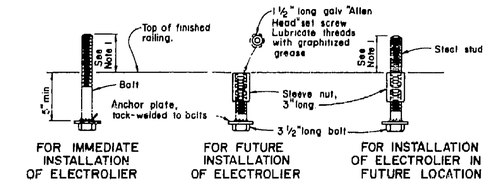
TERMINAL BLOCK MOUNTING BRACKET



CAST GRAY IRON COVER DETAIL

NOTES:

1. Cover shall conform to the ASTM specification for gray iron castings, designation A-48, class 30, and shall be hot-dipped galvanized after fabrication.
2. Completed cover shall be free from warp and shall fit into box facing either direction.
3. Steel reinforcing may be as used in standard products of respective manufacturer.
4. Dimensions of cover shall provide 1/2" min overlap all around top inside edge of box.
5. Circuit designation as shown on ES-3A



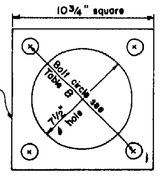
NOTES:

1. Anchor bolt or stud length shall be such that thread extends 1/2" maximum above nut on level base plate after grouting. See Detail "N".
2. Electrolier anchor bolts shall be held in position for pouring by means of suitable templates. Deviation from the true position, vertical and height, shall not exceed 1/16"

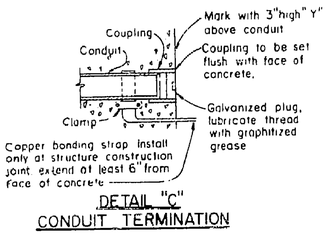
DETAIL "B" ELECTROLIER ANCHOR BOLTS

TABLE B

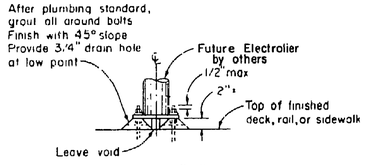
TYPE	BOLT CIRCLE	ANCHOR BOLT DIAMETER
XV	11"	1"
XXI	11 1/2"	1 1/8"



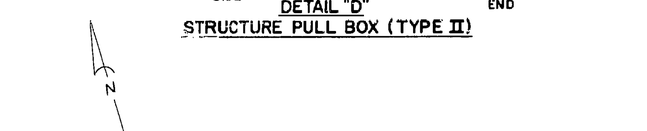
ANCHOR PLATE



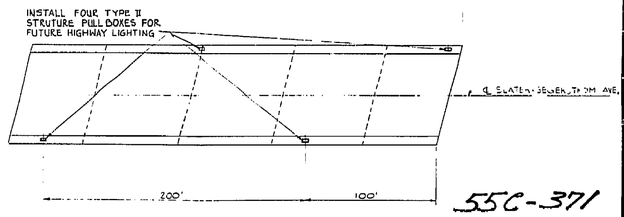
DETAIL "C" CONDUIT TERMINATION



DETAIL "N" GROUTING AT ELECTROLIER



DETAIL "D" STRUCTURE PULL BOX (TYPE II)



ELECTROLIER PLAN

SCALE 1"=50'

1/2 0 1 2

3 inches on original drawing

55C-371

WHEELER & GRAY CONSULTING ENGINEERS

S.E. #910

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

SLATER-SEGERSTROM BRIDGE (SA-31A) WIDENING OVER SANTA ANA RIVER (EOI)

ELECTRICAL DETAILS

MARK	DATE	DESCRIPTION
REVISIONS		

PREPARED UNDER SUPERVISION OF: [illegible] DATE

DESIGNED W.E. POND | DRAWN E.O. | CHECKED W.E.P.

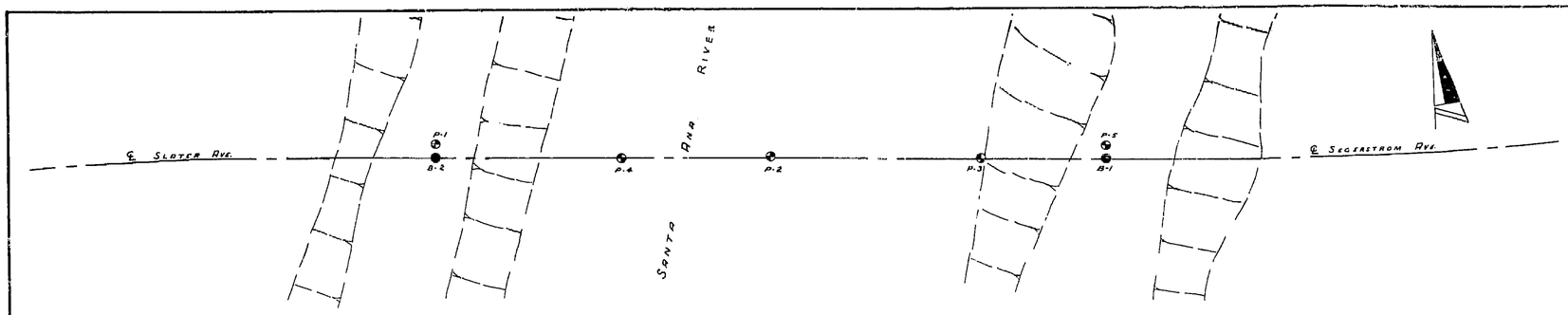
SCALE AS SHOWN | DATE | DWG. NO. 14 | SHEET

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 70008509

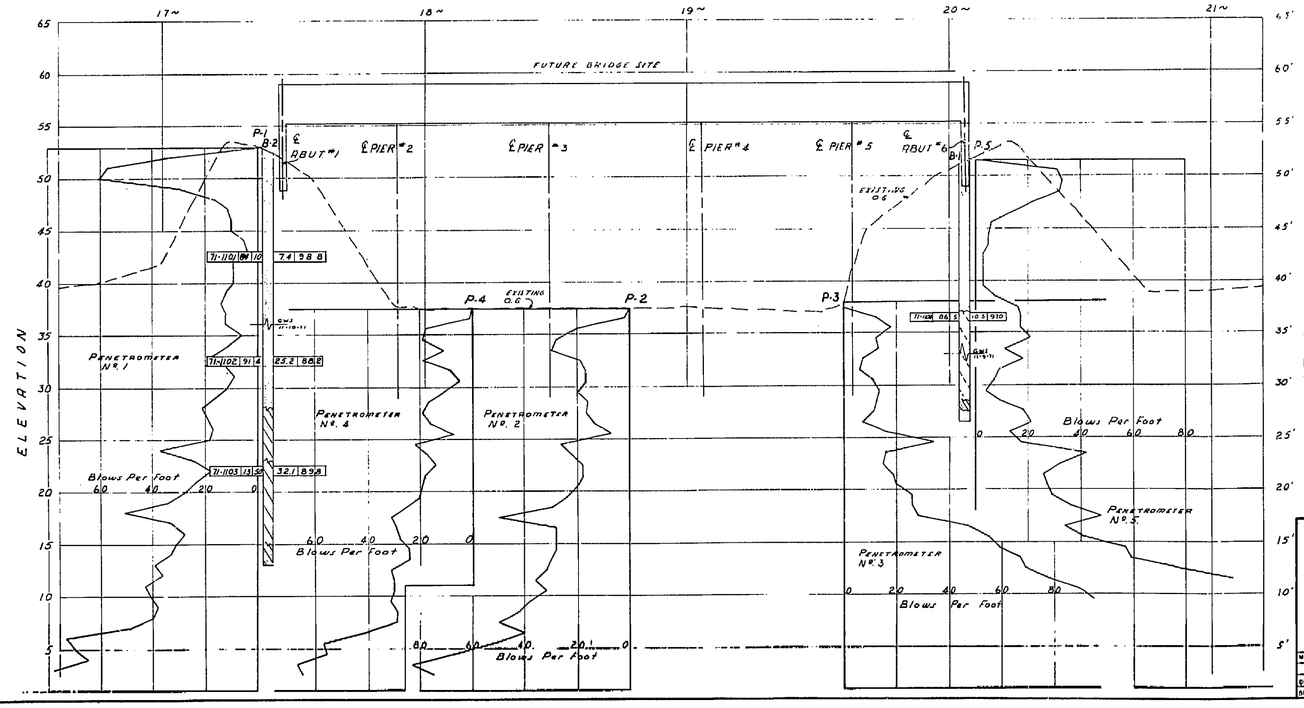
I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10-29-82. SIGNATURE Donald E. Blackford TITLE SUPERVISOR OF MICROFILM SERVICES

DAS-55-78



SLATER-SEGERSTROM BRIDGE

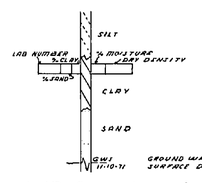


NOTE:
FOR SUMMARY OF PILE DRIVING DATA FROM EXISTING SLATER-SEGERSTROM BRIDGE SEE SHEET 2.

LEGEND

- B" Boring Location
- Penetrometer Location

TYPICAL BORING



WHEELER & GRAY
CONSULTING ENGINEERS
S.F. '93

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY

SLATER-SEGERSTROM BRIDGE
(SA-31A) WIDENING OVER
SANTA ANA RIVER (EOI)

LOG OF TEST BORINGS

MARK	DATE	DESCRIPTION
REVISIONS		

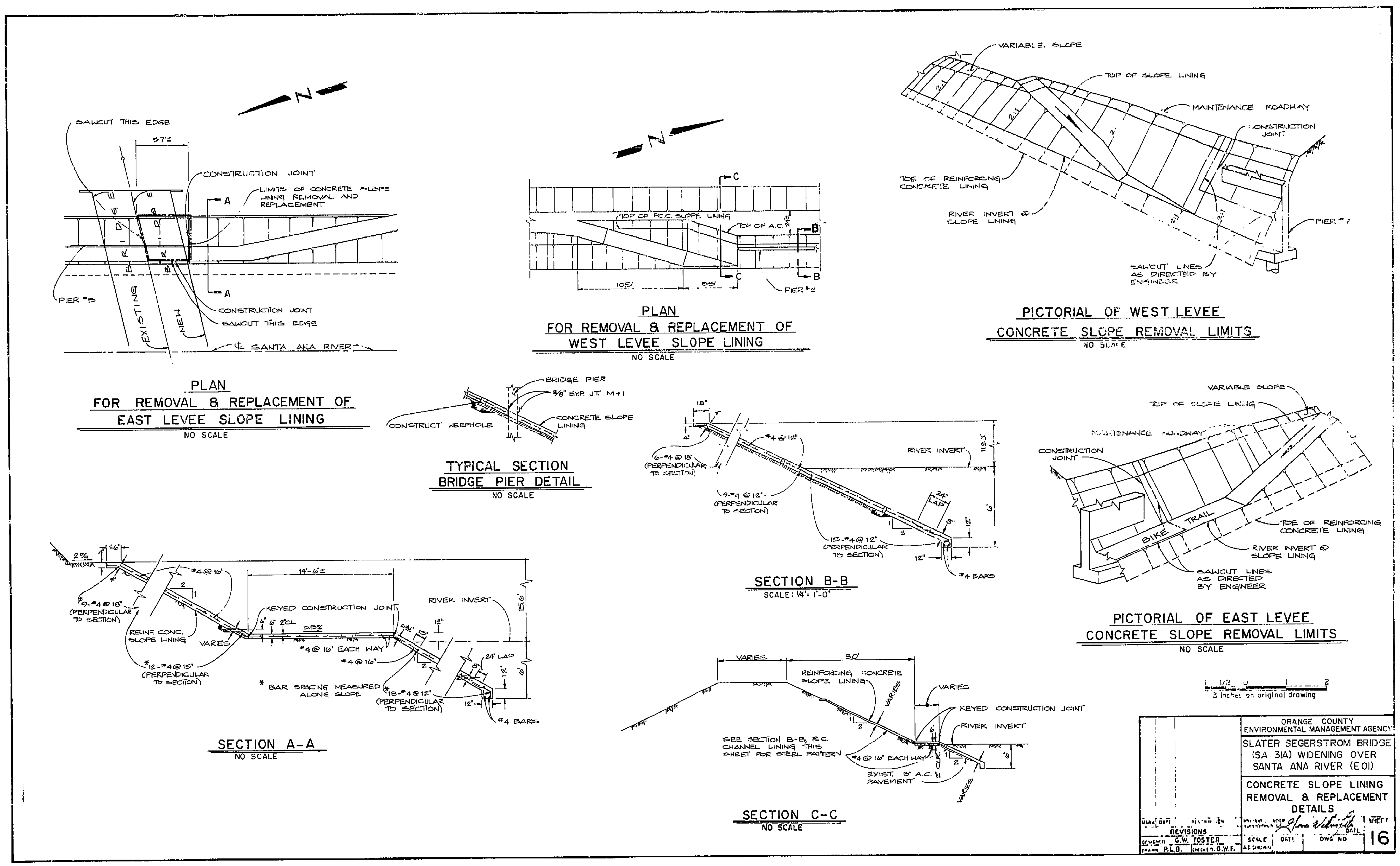
DESIGNED W.F. POYO
DRAWN E.O. CHECKED W.F.P.
PREPARED UNDER SUPERVISION OF
DATE
SCALE AS SHOWN
DATE
DWG. NO.
SHEET 15

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 70008509

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10-29-82 SIGNATURE Donald E. Blackford TITLE SUPERVISOR OF MICROFILM SERVICES

DAS-55-70


PLAN
FOR REMOVAL & REPLACEMENT OF
EAST LEVEE SLOPE LINING
NO SCALE
SAWCUT THIS EDGE
CONSTRUCTION JOINT
LIMITS OF CONCRETE SLOPE LINING REMOVAL AND REPLACEMENT
PIER #5
EXISTING
NEW
SANTA ANA RIVER
PLAN
FOR REMOVAL & REPLACEMENT OF
WEST LEVEE SLOPE LINING
NO SCALE
TOP OF A.C.
PIER #2
PICTORIAL OF WEST LEVEE
CONCRETE SLOPE REMOVAL LIMITS
NO SCALE
VARIABLE SLOPE
TOP OF SLOPE LINING
MAINTENANCE ROADWAY
CONSTRUCTION JOINT
TOE OF REINFORCING CONCRETE LINING
RIVER INVERT @ SLOPE LINING
SAWCUT LINES AS DIRECTED BY ENGINEER
TYPICAL SECTION
BRIDGE PIER DETAIL
NO SCALE
BRIDGE PIER
CONSTRUCT WEEPHOLE
CONCRETE SLOPE LINING
SECTION B-B
SCALE: 1/4" = 1'-0"
RIVER INVERT
24" LAP
#4 BARS
PICTORIAL OF EAST LEVEE
CONCRETE SLOPE REMOVAL LIMITS
NO SCALE
BIKE TRAIL
SECTION A-A
NO SCALE
KEYED CONSTRUCTION JOINT
RIVER INVERT
REINF. CONC. SLOPE LINING
VARIES
#4 @ 16" EACH WAY
BAR SPACING MEASURED ALONG SLOPE
SECTION C-C
NO SCALE
REINFORCING CONCRETE SLOPE LINING
KEYED CONSTRUCTION JOINT
RIVER INVERT
SEE SECTION B-B, R.C. CHANNEL LINING THIS SHEET FOR STEEL PATTERN
EXIST. 3" A.C. PAVEMENT
ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY
SLATER SEGERSTROM BRIDGE
(SA 31A) WIDENING OVER
SANTA ANA RIVER (E01)
CONCRETE SLOPE LINING
REMOVAL & REPLACEMENT
DETAILS
REVISIONS
G.W. FOSTER
R.L.B.
G.W.F.
16

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
BRIDGE REPORT
DS-M58 (REV. 1/75)

Bridge No. 55C-371

Other No.

P.U.C. No.

BRIDGE ALTERED
SEE REVISED
ORIGINAL REPORT

Location 07-Ora-FAU-M029
Dist - Co - Rte - PM - City

Date of Investigation October 1, 1980

Name SANTA ANA RIVER (Segerstrom Ave. (Slater Ave.) - 0.3 mi. W. of Harbor Blvd.)

Lat. N33°-42.5' Long. W117°-55.5'

STRUCTURAL DATA AND HISTORY

Year Built 1974 By Orange County Contract No. Unknown

Date of Revisions

Designed by: B.D. ☐ Orange County Plans Avail. @ County

Description: Continuous five "T" beam (5) spans on RC abutments and RC piers.

Spans 1 @ 54'; 3 @ 72'; 1 @ 54' c/c

Length 327.5' Skew 13° Rt. Design LL HS20-44

Ratings: Inventory HS37/LF Operating HS62/LF Permit PPPPP/LF

DESCRIPTION – ON STRUCTURE

Bridge Width 1'br; 36'; 1'br

Total Width 38' Lanes 2 Tracks None

Median None Rail Type Metal Beam Guard Rail (0000)

Vert. Clearance over deck Unimpaired Appr. Rdwy. Width 37'

Wearing Surface None Deck Seal None

Alignment Tangent (between curves)

DESCRIPTION – UNDER STRUCTURE

Roadway Section None

Clearances: Vert. Horiz.; Lt. Rt.

Lanes Tracks Pumpplant: None ☒ See Br. No.

Facilities Crossed Santa Ana River (OCFCD - EC1)

cc:

(1) CON'T.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
BRIDGE REPORT
DS-M58A (REV 1/75)

Bridge No. 55C-371

Date October 1, 1980

DESCRIPTION – HYDRAULICS

Channel Well defined. Side slopes - concrete paved.

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

MAINTENANCE

Custodian Orange County Owner Orange County

ORIGINAL CONDITION RATING

Deck	8
Superstructure	8
Substructure & Pipes	8
Channel & Channel Protection	8
Retaining Walls	N
Approach Rdwy. Alignment	9
Estimated Remaining Life	50

ORIGINAL APPRAISAL

Overall	8
Deck Geometry	7
Underclearances Vert.	N
Horiz.	N
Safe Load Capacity	9
Waterway Adequacy	8
Approach Rdwy. Alignment	9

Widenable? Yes ☒ No ☐ Conditional ☐

Action Required by District: County XXXXX Yes ☒ No ☐

AVERAGE DAILY TRAFFIC: 10,000 (Estimated 1980)

BYPASS DETOUR LENGTH: 3 miles

ENCROACHMENTS: Nine 4" ø conduits in the north exterior bay.

CONDITION OF STRUCTURE: The grade of the AC approach pavement at the westerly paving notch is lower than the grade of the bridge deck (1"±).

Otherwise, the structure is in good condition.

LOAD CAPACITY: The inventory, operating and permit ratings shown were obtained through the "Frame Rate" program using the load factor (LF) method of analysis.

RECOMMENDATIONS: Correct the offset between the bridge deck and the AC approach pavement at the westerly paving notch.

RECOMMENDED POSTING: None

Original signed by
FRANK J. WALLISER
C 019767

FJW:ym
cc: DRHiggins
Orange County (2)

DIST	ROUTE	COUNTY	STRU. NO	POSTMILE	RATING WIDTH-FT	STRU TYPE	YR ORIG CONST	
07	CO RD	55 C	0371	.	038.0	CGC	70	AUG. 11, 1980

	RATING FACTOR	PT	SPAN	ULT MOM CAP TOP IN COM	ULT MOM CAP BOT IN COM	POS HS20 MOMENT	NEG HS20 MOMENT	POS PURP MOMENT	NEG PURP MOMENT	DEAD LOAD MOMENT	SECONDARY MOMENT
INV	1.87	4	1	11032.4	0.0	2267.7	-640.8	3290.6	-1161.7	1450.6	0.0
OPER	3.10	4	1	11032.4	0.0	2267.7	-640.8	3290.6	-1161.7	1450.6	0.0
PURP	1.40	10	3	0.0	12489.9	418.9	-2010.0	758.9	-4817.0	-2873.0	0.0

THE NUMBER OF AXLES ON THE TRUCK THAT CAUSES THE PURPLE RATING FACTOR IS 13.
FC = 1.30 FY = 60.

IF THE REPORTED ULTIMATE MOMENT CAPACITY IS 0, IT WAS DETERMINED NOT TO BE CRITICAL

2 SANTA ANA RIVER (SEGERSTROM ROAD)
3 CONT 5 SPAN RC T-BEAM W/NO AC SURFACING
4 ASSUMED STRUCTURE BUILT IN EARLY 70'S

PPPPP

(5)

DIST	ROUTE	COUNTY	STRU. NO	POSTMILE	RATING	WIDTH-FT	STRU TYPE	YR ORIG CONST	AUG. 11, 1980
07	CO RD	55 C	0371	.	038.0		CGC	70	

INFLUENCE LINE FOR CRITICAL INVENTORY RATING POINT SPAN 1 10TH POINT 4

MEM NO	LEFT	.1	.2	.3	.4	.5	.6	.7	.8	.9	RIGHT
1	0.0	2.711	5.454	8.262	11.165	8.797	6.589	4.573	2.782	1.247	0.0
2	0.0	-1.212	-1.981	-2.371	-2.449	-2.279	-1.927	-1.458	-0.936	-0.429	0.0
3	0.0	0.306	0.500	0.599	0.618	0.575	0.486	0.368	0.236	0.108	0.0

THE CRITICAL OPERATING RATING POINT IS THE SAME AS THE CRITICAL INVENTORY RATING POINT

INFLUENCE LINE FOR CRITICAL PURPLE RATING POINT SPAN 3 10TH POINT 10

1	0.0	-0.085	-0.164	-0.234	-0.288	-0.321	-0.329	-0.306	-0.246	-0.146	0.0
2	0.0	0.271	0.600	0.941	1.251	1.486	1.603	1.556	1.303	0.799	0.0
3	0.0	-1.122	-2.451	-3.817	-5.048	-5.972	-6.419	-6.216	-5.193	-3.178	0.0
4	0.0	-2.813	-4.588	-5.479	-5.643	-5.233	-4.405	-3.313	-2.111	-0.955	0.0
5	0.0	0.515	0.868	1.076	1.157	1.130	1.013	0.823	0.579	0.298	0.0

2 SANTA ANA RIVER (SEGERSTROM ROAD)
3 CONT 5 SPAN RC T-BEAM W/NO AC SURFACING
4 ASSUMED STRUCTURE BUILT IN EARLY 70'S

ORANGE COUNTY ROAD DEPT.

STATE OF CALIFORNIA

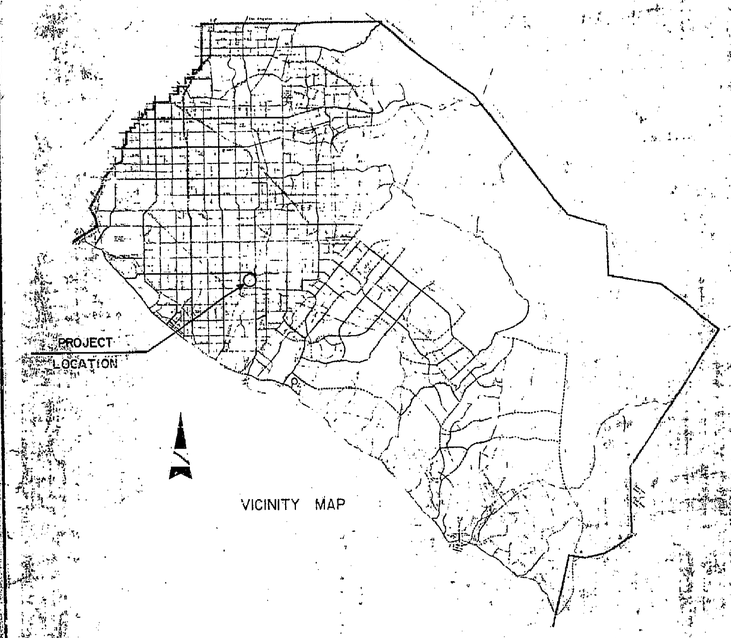
PLANS FOR CONSTRUCTION OF

55C-371

SLATER - SEGERSTROM BRIDGE

SA-31

ACROSS SANTA ANA RIVER
(CHANNEL E-01)



VICINITY MAP

BENCH MARK F.V. 69-70

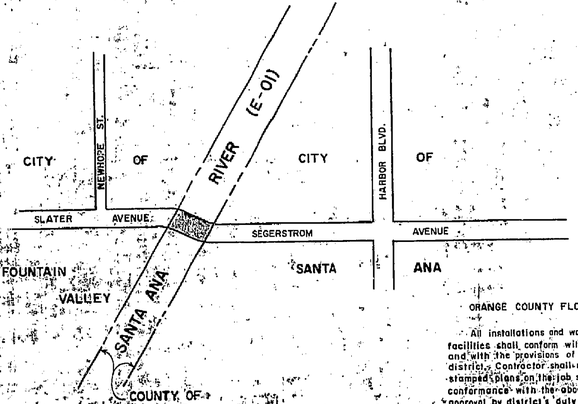
IN THE SOUTHEAST PART OF INTERSECTION OF NEWHOPE STREET AND SLATER AVENUE; 20.5 FEET EAST OF THE CENTERLINE PROLONGATION OF THE STREET TO THE NORTH, ABOUT 9 FEET SOUTH OF THE CENTERLINE PROLONGATION OF THE AVENUE TO THE WEST, 1 FOOT WEST OF THE CORNER OF A CONCRETE BLOCK WALL IN THE TOP OF A CONCRETE POST ABOUT 0.4 OF A FOOT HIGHER THAN THE GROUND.

ELEV. 38.784 1970 ADJ.

CONVENTIONAL SIGNS

CONTINUITY LINE	SPOT ELEVATIONS
LOT LINES	FENCE POSTS
ROW LINE	EUCALYPTUS TREE
BASE OR SURVEY LINE	EVERGREEN TREE
E CONSTRUCTION	PALM TREE
HIGHWAY (NO.)	POWER POLE
RAILROAD TRACKS	TELEPHONE POLE
CULVERTS	GUY ANCHOR
UNION PACIFIC	MANHOLE
WOOD FENCE	FIRE HYDRANT
WIRE FENCE	STAND PI
CHAIN LINK FENCE	WELL NO
CORRUGATED METAL FENCE	DOM WATER METERS
CONCRETE WALL	WATER VALVE
MASONRY WALL	GUARD RAIL
HEDGE OR BUSHES	CULVERT
CURB OR RETAINING WALL	MONUMENT
TOP OF SLOPE	SIDEWALKS
TOE OF SLOPE	UNFENCED PROPERTY

AS BUILT PLANS
Contract No
Date Completed
Document No



INDEX OF SHEETS

SHT. NO.	CONTENTS
1.	TITLE SHEET
2.	GENERAL PLAN & PROFILE
3.	FOUNDATION PLAN
4.	ABUTMENT DETAILS
5.	PIER DETAILS
6.	PIER EXTENSION DETAILS
7.	SUPERSTRUCTURE LAYOUT & REINFORCEMENT
8.	TYPICAL SECTION
9.	MISCELLANEOUS DETAIL
10.	GUARD RAIL - STRUCTURE EXCAVATION AND BACKFILL
11.	PILING DETAILS
12.	LOG OF TEST BORINGS
13.	EAST LEVEE ACCESS RAMP DETAILS
14.	LEVEE EXCAVATION & BACKFILL - SLOPE PROTECTION DETAILS

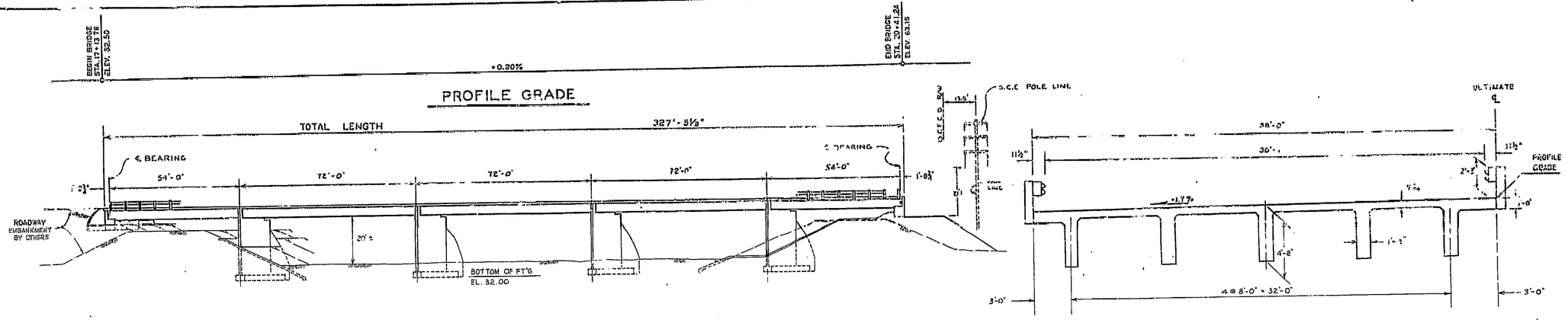
ORANGE COUNTY FLOOD CONTROL DISTRICT

All installations and work affecting flood control district facilities shall conform with district's standard specifications and with the provisions of the construction permit granted by district. Contractor shall maintain a copy of said permit and stamped plans on the job site. Use of district property and conformance with the above shall be subject to inspection and approval by district's duly assigned inspector.

DISTRICT INSPECTOR SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF ANY WORK IN ACCORDANCE WITH PERMIT PROVISIONS.

APPROVED: [redacted]
ROAD COMMISSIONER R.D.E. 6978 DATE: 8-22-71

DR 12 (11359)



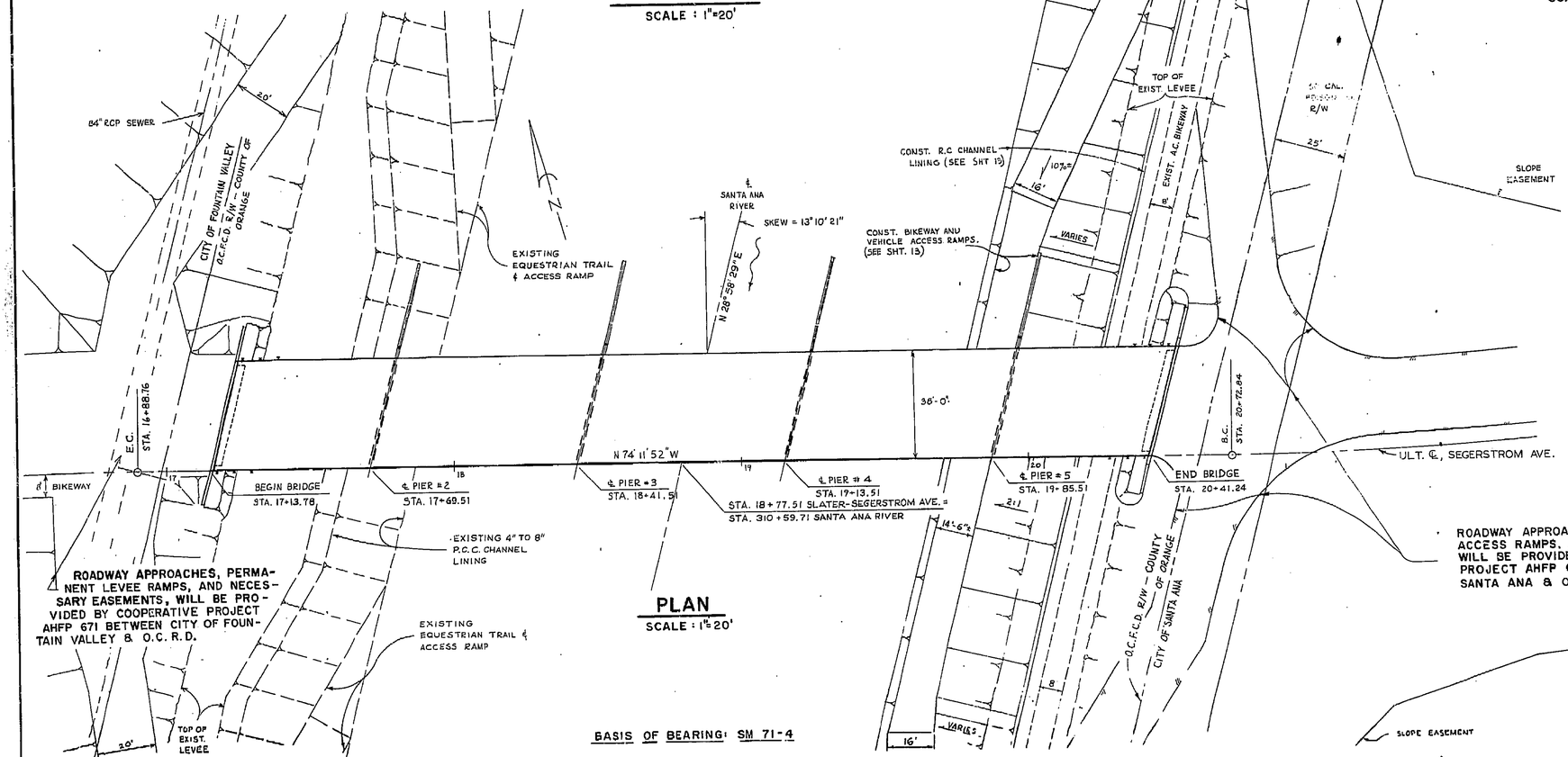
PROFILE GRADE

TYPICAL SECTION

SCALE : 1/4"= 1'-0"

ELEVATION

SCALE : 1"=20'



PLAN

SCALE : 1"=20'

BASIS OF BEARING: SM 71-4

APPROXIMATE BRIDGE QUANTITIES

REMOVE SLOPE PROTECTION	12 C.Y.
CLEARING & GRUBBING	L.S.
STRUCTURE EXCAVATION (BRIDGE)	520 C.Y.
STRUCTURE EXCAVATION (CHANNEL LINING)	3920 C.Y.
STRUCTURE BACKFILL (BRIDGE)	285 C.Y.
ROADWAY EMBANKMENT	2020 C.Y.
ASPHALT CONCRETE	60 TON
FENCE (METAL) (CHAIN LINK) (MISCELLANEOUS AREAS)	270 L.F.
FURNISH CONCRETE PILING (70 TON)	1865 L.F.
DRIVE CONCRETE PILE (70 TON)	62 EA.
JOINT SEAL (TYPE B1)	76 L.F.
GRAVEL BLANKET	95 TON
METAL BEAM BRIDGE RAIL	627 L.F.

FINAL BRIDGE QUANTITIES

CLASS "A" CONCRETE (CHANNEL)	557 C.Y.
STRUCTURE CONCRETE	1027 C.Y.
BAR REINFORCING STEEL	284,000 LB.

ROADWAY APPROACHES, PERMANENT LEVEE ACCESS RAMPS, AND NECESSARY EASEMENTS, WILL BE PROVIDED BY COOPERATIVE PROJECT AHFP 668 BETWEEN CITY OF SANTA ANA & ORANGE COUNTY ROAD DEPT.

[redacted]

55C-371

ORANGE COUNTY ROAD DEPARTMENT

SLATER-SEGERSTROM BRIDGE

SA-31

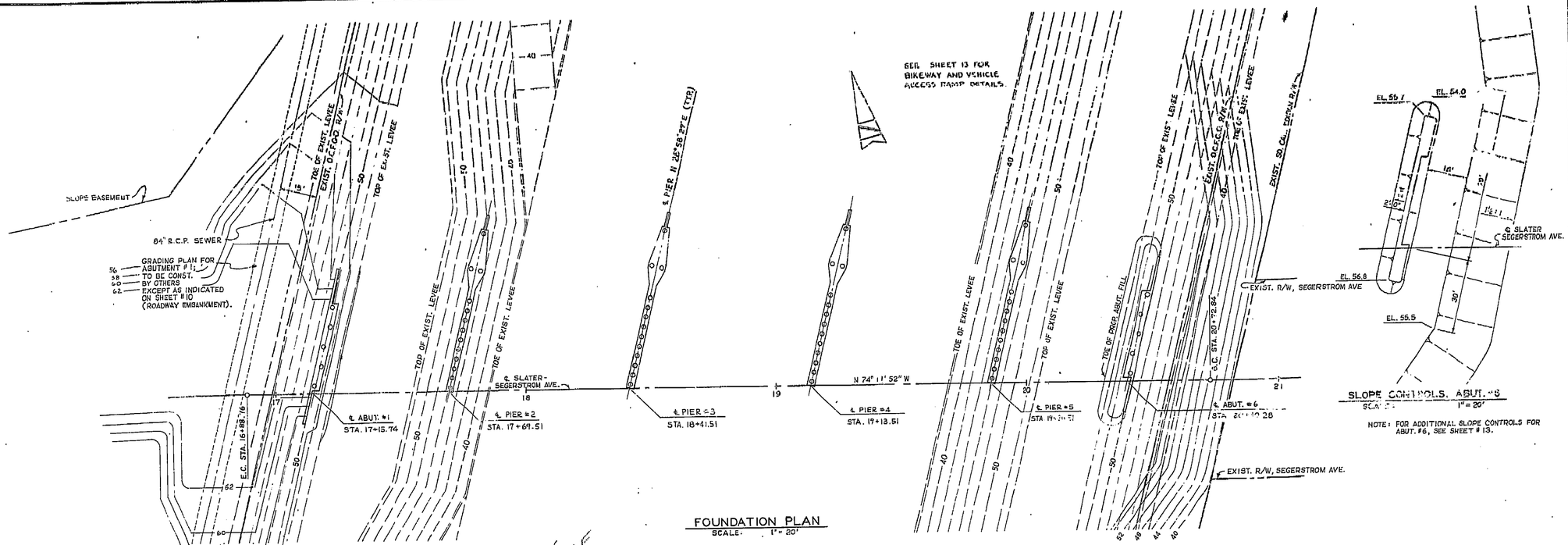
GENERAL PLAN AND TYPICAL SECTION

DR. 12 C/1330 2

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 7000 8277

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10/10/75 SIGNATURE Joseph M. Goette TITLE Supervisor of Micrographics

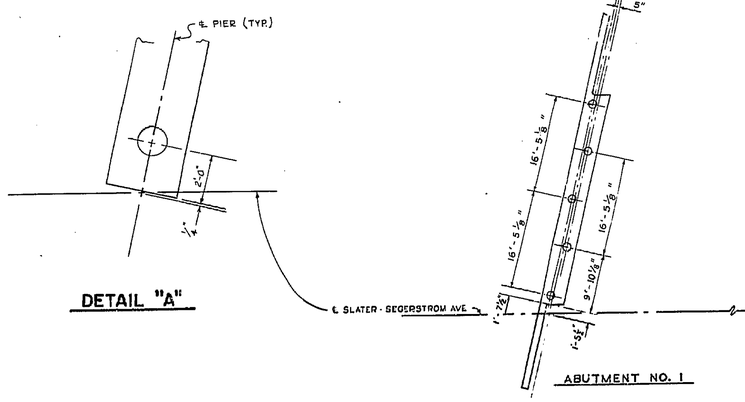


NOTES:

1. PILE TYPE: CLASS 70 CONCRETE PILE
2. EXISTING CONTOURS SHOWN ARE APPROXIMATE ONLY.
3. ALL ABUTMENT PILES SHALL BE PREDRILLED TO ELEVATION 44 ±
4. CONTRACTOR SHALL CONSTRUCT TEMPORARY ACCESS ROAD TO MAINTAIN THROUGH ACCESS ALONG LEVEE.

PILING DATA			
PIER NO.	PILE NO.*	PILE CUTOFF	PILE TIP
ABUT. # 1	PILE # 1	54.15	4.00
ABUT. # 1	PILE # 2	54.03	4.00
ABUT. # 1	PILE # 3	53.89	4.00
ABUT. # 1	PILE # 4	53.76	4.00
ABUT. # 1	PILE # 5	53.63	4.00
PIER # 2	ALL PILES	32.25	4.00
PIER # 3	ALL PILES	32.25	4.00
PIER # 4	ALL PILES	32.25	4.00
PIER # 5	ALL PILES	32.25	10.00
ABUT. # 6	PILE # 58	54.81	10.00
ABUT. # 6	PILE # 59	54.68	10.00
ABUT. # 6	PILE # 60	54.55	10.00
ABUT. # 6	PILE # 61	54.41	10.00
ABUT # 6	PILE # 62	54.28	10.00

* PILES ARE NUMBERED BEGINNING WITH THE PILE NEAREST THE CENTERLINE OF SLATER-SEGERSTROM AVE. AND PROGRESSING NORTHERLY UPSTREAM BEGINNING WITH ABUTMENT # 1 AND PROGRESSING FROM WEST TO EAST.



AS BUILT PLANS
Contract No. [illegible]
Date Completed [illegible]
Document No. [illegible]

[redacted]

55C-371

ORANGE COUNTY ROAD DEPARTMENT

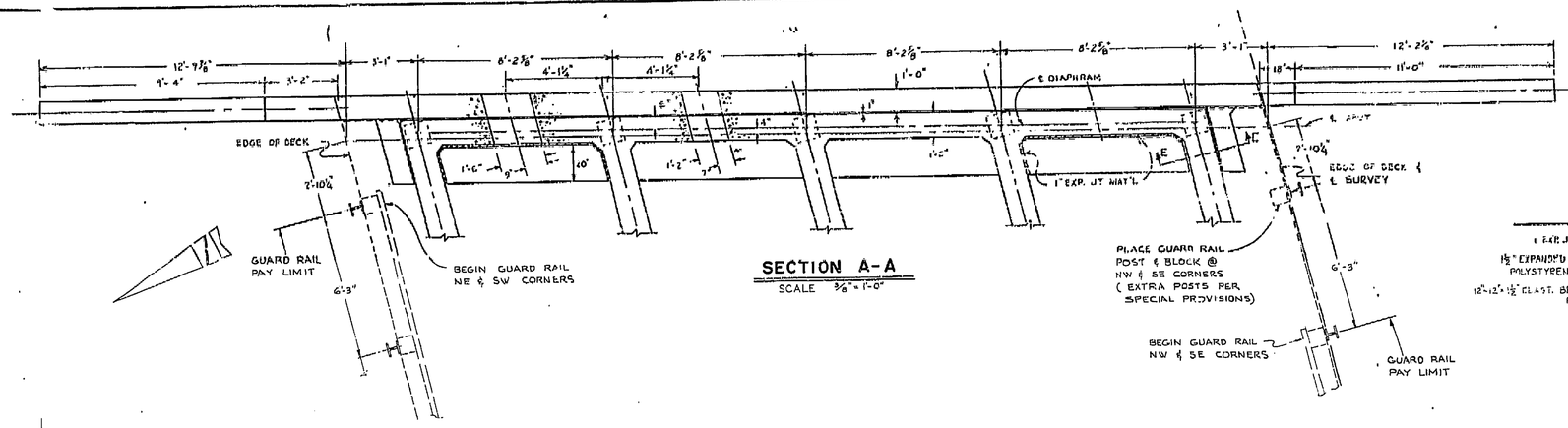
SLATER-SEGERSTROM AVE.

FOUNDATION PLAN

DR. 12 (11359)

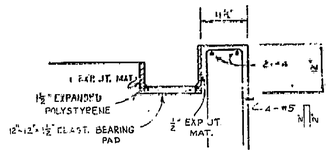
I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10/10/79 SIGNATURE [illegible] TITLE Supervisor of Microfilm



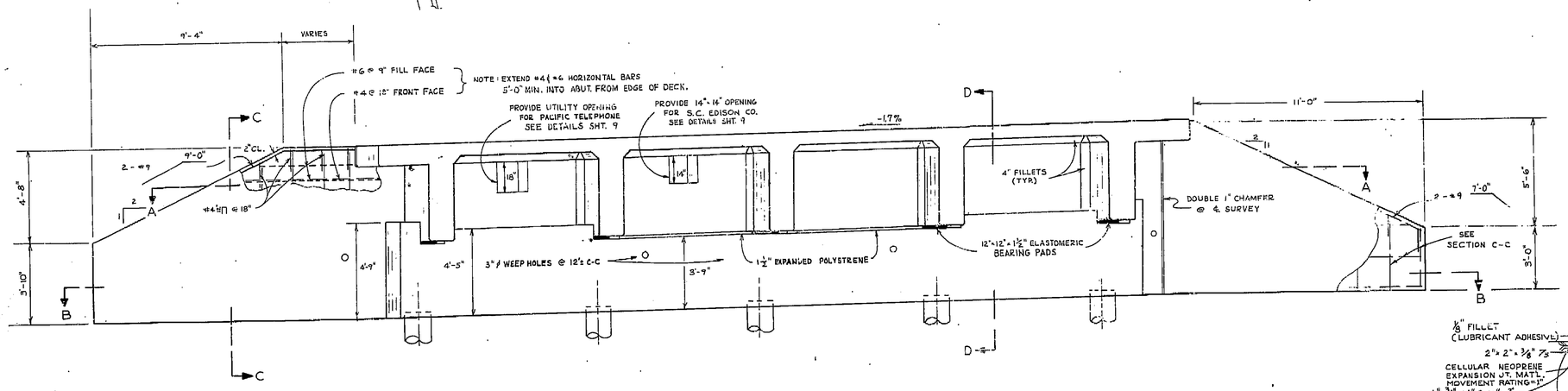
SECTION A-A

SCALE 3/8" = 1'-0"



SECTION E-E

SCALE 3/4" = 1'-0"
(TYPICAL EACH END)

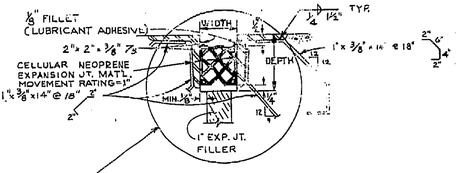


ELEVATION

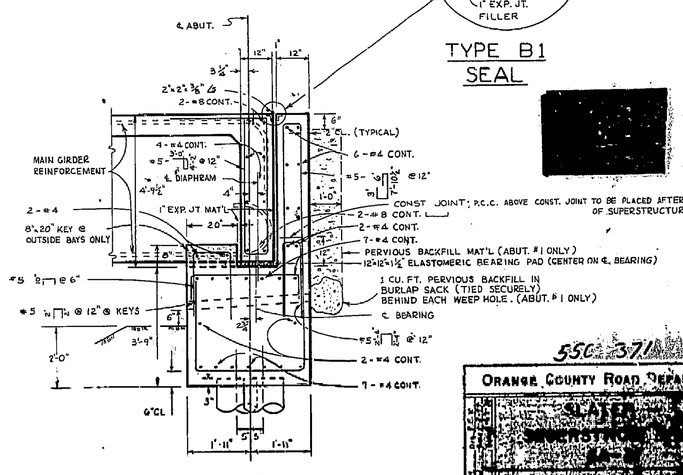
SCALE 3/8" = 1'-0"

NOTE : ABUTMENT #6 SHOWN, ABUTMENT #1 SIMILAR

TYPE B-1 SEAL
NOTES:
1. GROOVE WIDTH SHALL BE AS RECOMMENDED BY THE JOINT SEAL MANUFACTURER AND AS SPECIFIED IN THE SPECIAL PROVISIONS.
2. GROOVE DEPTH SHALL BE EQUAL TO OR GREATER THAN THE DEPTH OF SEAL MEASURED ALONG CONTACT SURFACE, WHEN COMPRESSED TO MINIMUM WIDTH POSITION, PLUS ⅛".

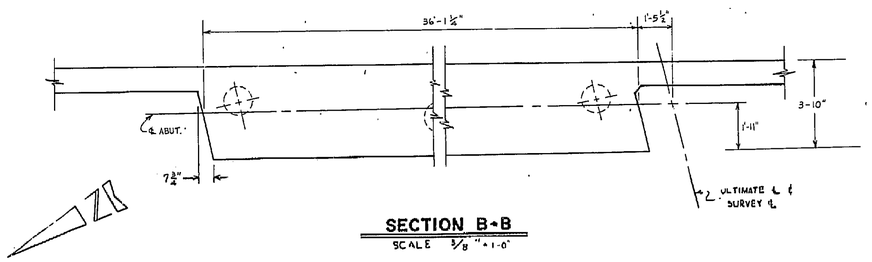


TYPE B1 SEAL



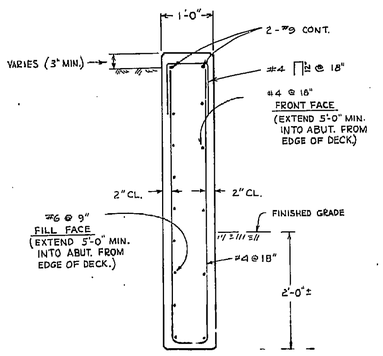
SECTION D-D

SCALE ½" = 1'-0"



SECTION B-B

SCALE 3/8" = 1'-0"



SECTION C-C

SCALE 1" = 1'-0"

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 7000 8277

550-371

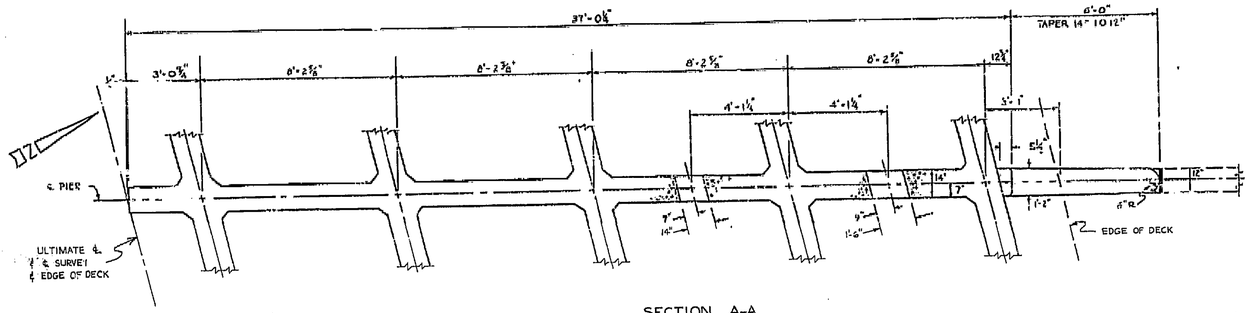
ORANGE COUNTY ROAD DEPARTMENT

[redacted]

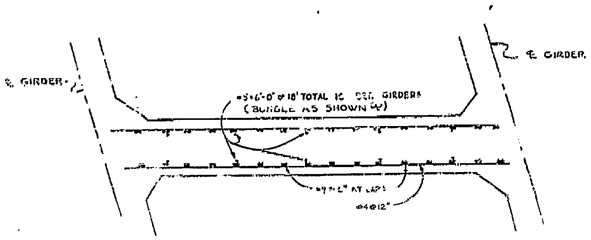
OR. 12 (1125)

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

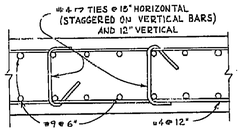
DATE 10/10/79 SIGNATURE Joseph M. Costa TITLE Superintendent of Photography



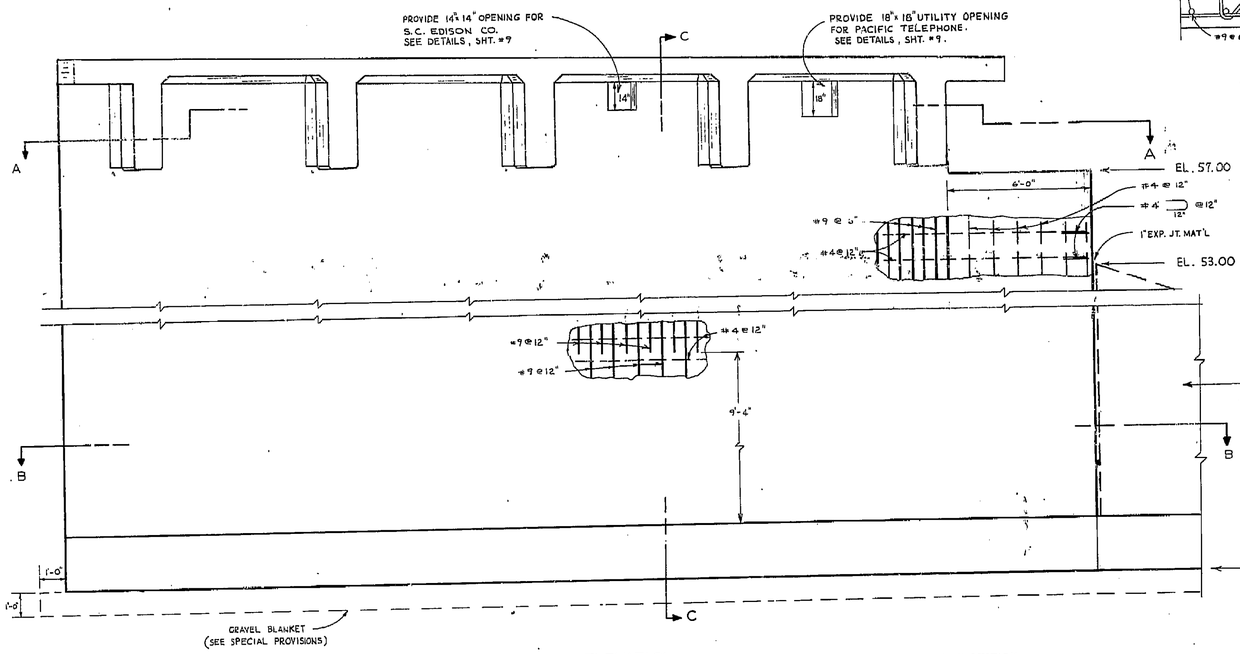
SECTION A-A
SCALE ⅜"=1'-0"



SECTION D-D
SCALE ¾"=1'-0"

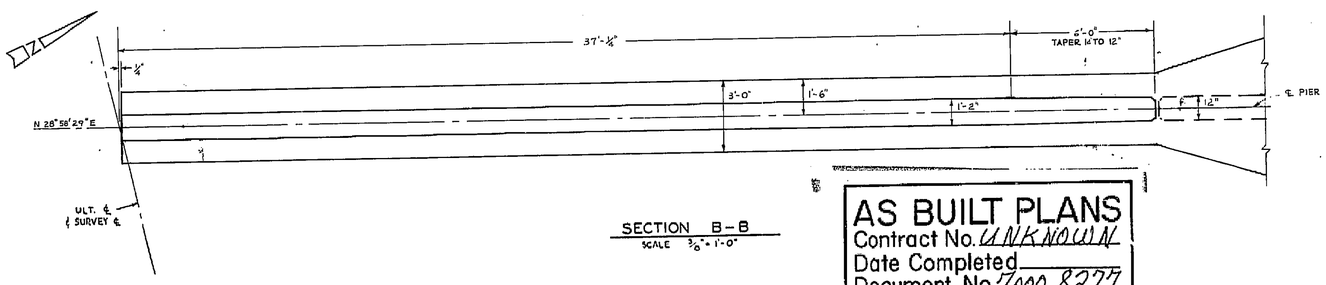


SECTION E-E
SCALE 1"=1'-0"

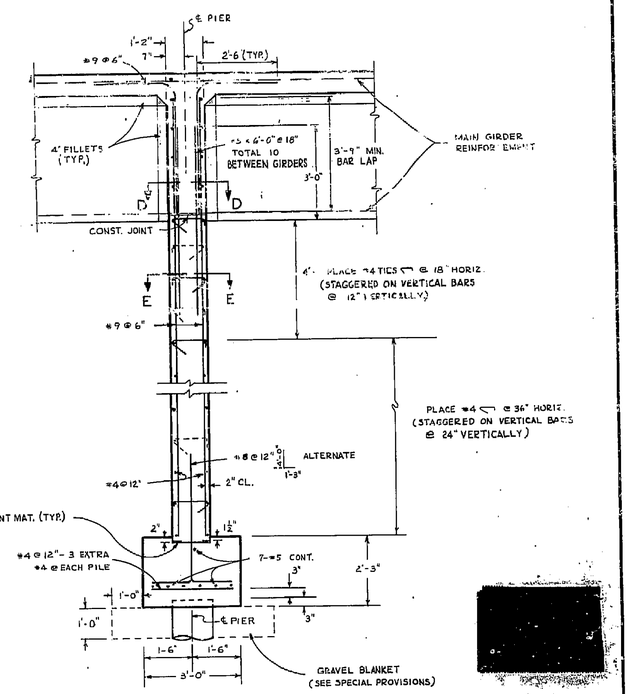


ELEVATION
SCALE ⅜"=1'-0"

NOTE: VIEW LOOKS DOWN STATION



SECTION B-B
SCALE ⅜"=1'-0"



SECTION C-C
SCALE ½"=1'-0"

[redacted]

55C-371

ORANGE COUNTY ROAD DEPARTMENT

SLATER — SEGERSTROM BRIDGE
SA-31
PIER DETAILS

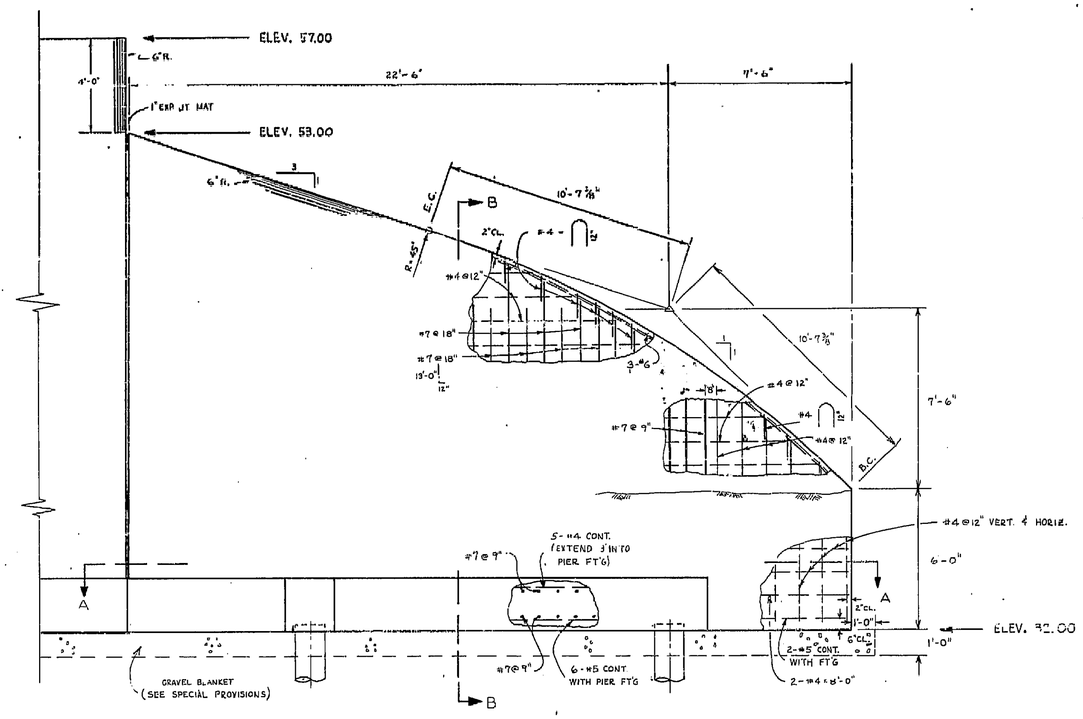
DATE 1-61 SCALE AS SHOWN SHEET 5 OF 6 SHEETS

DR. 12 (11359) 5

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 7000 8277

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

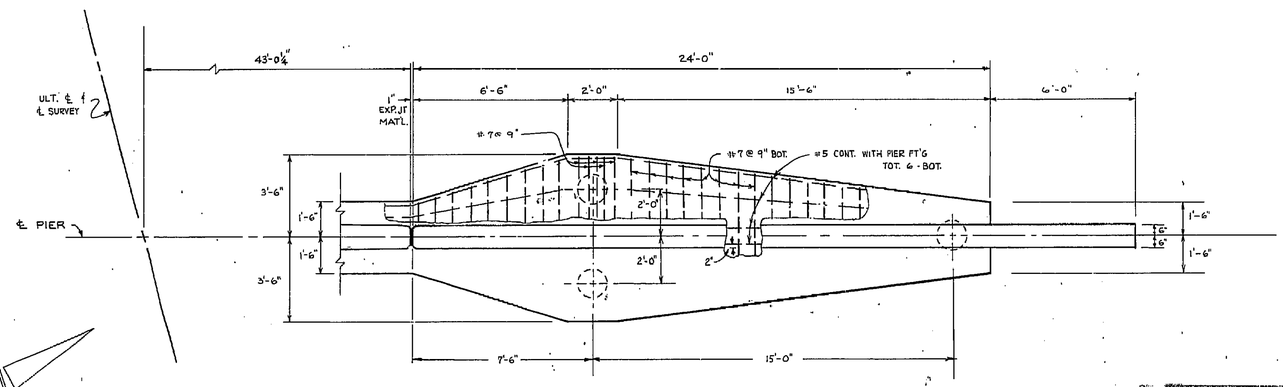
DATE 10/10/75 SIGNATURE Joseph M. Coutts TITLE Supervisor of Microfilm



TYPICAL PIER EXTENSION DETAILS

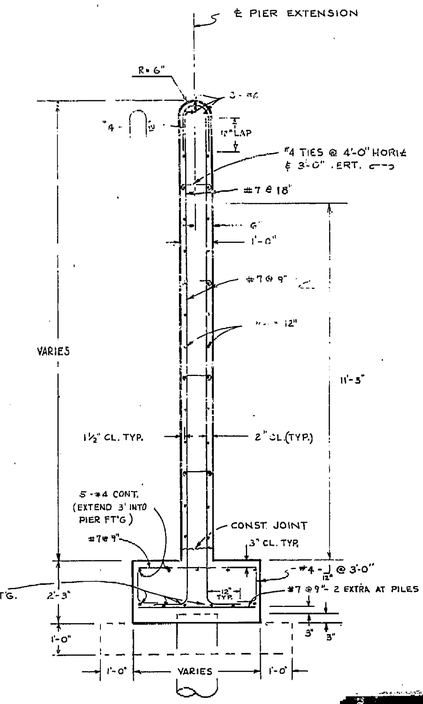
SCALE 3/8"=1'-0"

NOTE: VIEW LOOKS DOWN STATION



SECTION A-A

SCALE 3/8" =1'-0"



SECTION B-B

SCALE ½"=1'-0"

55C-371

[redacted]

ORANGE COUNTY ROAD DEPARTMENT

SLATER-SEGERSTROM BRIDGE SA-31

PIER EXTENSION DETAILS

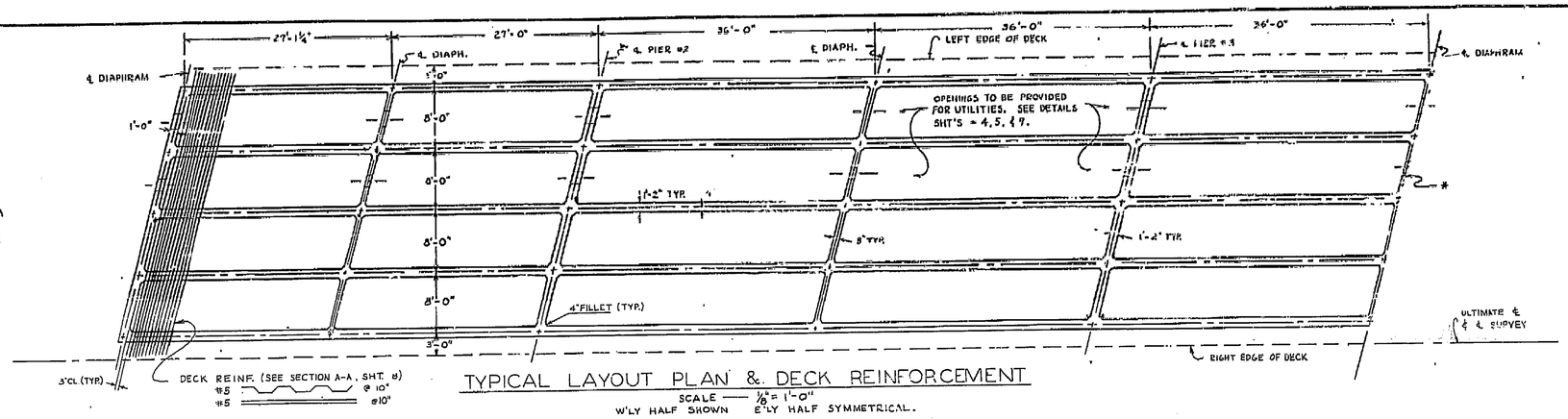
AS SHOWN

DR-12 (11359) G

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 7000 8277

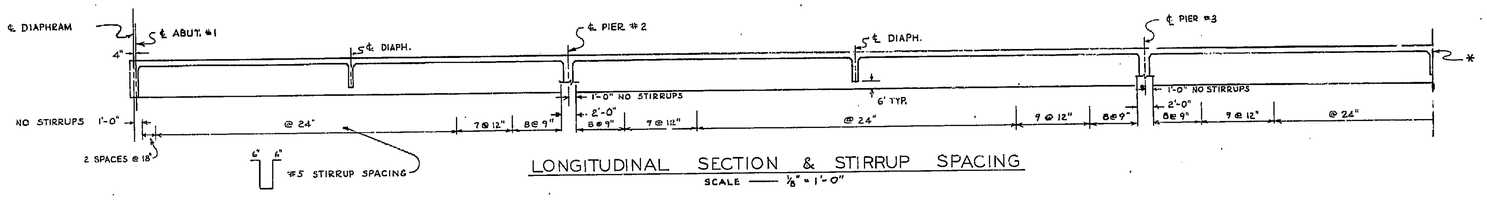
I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10/10/77 SIGNATURE Joseph M. Coste TITLE Supervisor of Photography



TYPICAL LAYOUT PLAN & DECK REINFORCEMENT

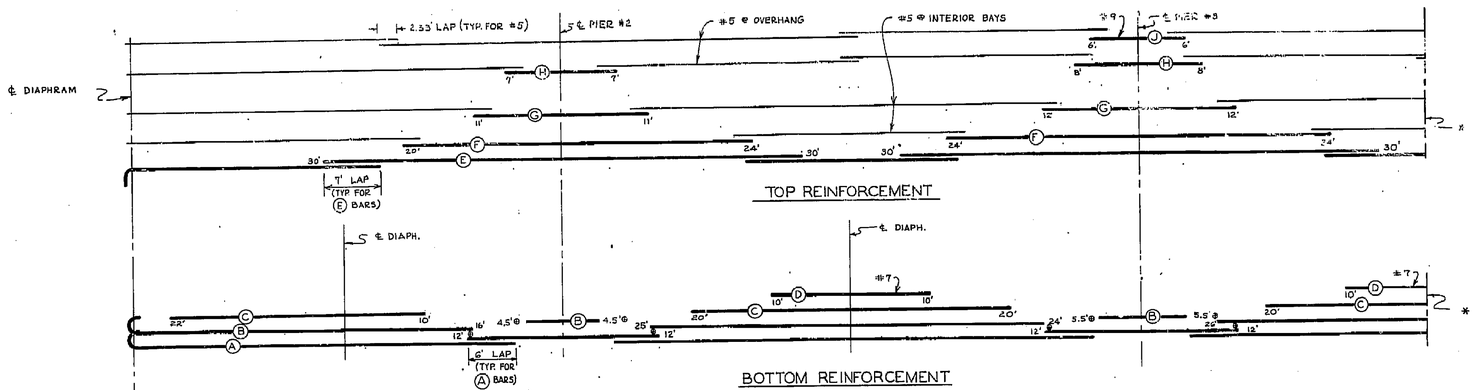
SCALE — ⅛" = 1'-0"
W'LY HALF SHOWN E'LY HALF SYMMETRICAL.



LONGITUDINAL SECTION & STIRRUP SPACING

SCALE — ⅛" = 1'-0"

* LINE OF SYMMETRY ℄ OF DIAPHRAGM



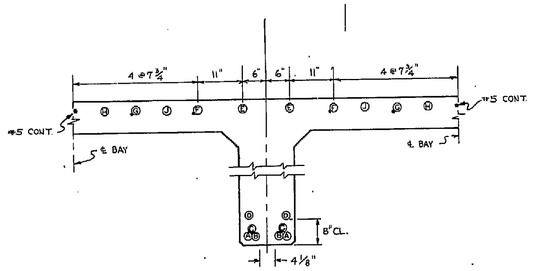
TOP REINFORCEMENT

BOTTOM REINFORCEMENT

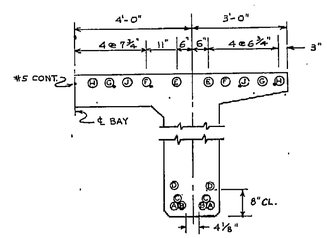
GIRDER REINFORCEMENT

SCALE — ½" = 1'-0"

NOTES:
1) ALL MAIN GIRDER REINF. ARE #11 BARS EXCEPT AS NOTED.
2) DIM. AT END OF BARS ARE FROM ℄ DIAPH (BOT. REINF) AND ℄ PIERS (TOP REINF), EXCEPT AS NOTED.
3) FOR ADDITIONAL REINF. IN SLAB OVER INTERMEDIATE DIAPHRAGMS SEE SHT.# 9.
4) @ THIS BOT. REINF. BAR IS DIMN. FROM ℄ PIER.
5) GIRDER REINFORCEMENT SHOWN ABOVE SHALL BE PLACED AS SHOWN IN THE PLACING DIAGRAMS.



INTERIOR GIRDER REINFORCEMENT PLACING DIAGRAM



EXTERIOR GIRDER REINFORCEMENT PLACING DIAGRAM

AS BUILT PLANS
Contract No. 11-1A4804
Date Completed
Document No. 1000 8277

55C-371

DR. 12 (1135)

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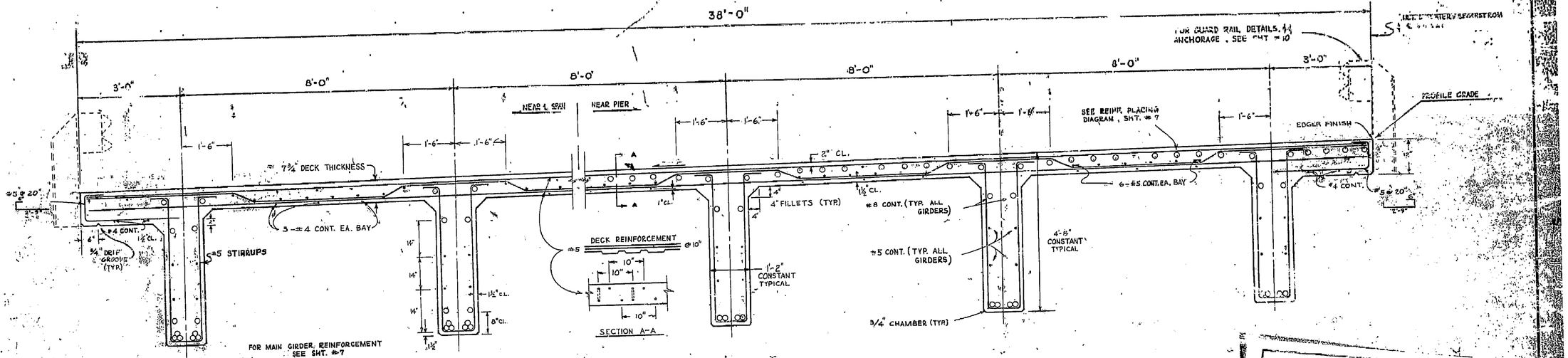
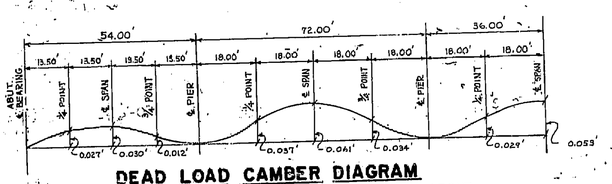
DATE 10/10/79 SIGNATURE Joseph M. Gantt TITLE Supervisor of Microfilm



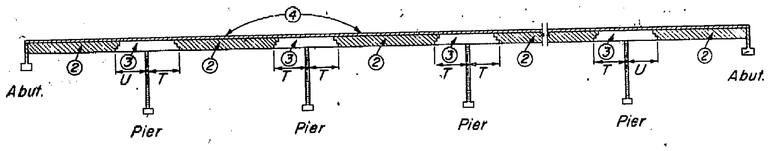
TYPICAL SECTION

SCALE: 3/4" = 1'-0"



DEAD LOAD CAMBER DIAGRAM

NOTE: THE TOTAL DEFLECTION WILL BE REACHED ABOUT FOUR YEARS AFTER FALSEWORK REMOVAL. FOR VALUES AT TIME OF FALSEWORK REMOVAL, DIVIDE THOSE SHOWN BY FOUR. THE AMOUNT OF CAMBER FOR CONSTRUCTION WILL BE DETERMINED BY THE ENGINEER.



TEE BEAM SUPERSTRUCTURE PLACING DIAGRAM

Numbers (2) and (3) indicate sequence of placing girder stem concrete. (3) may be placed simultaneously with (2) when approved by the Engineer, and provided that the (2) sections are placed in both adjoining spans.

Top slab concrete (4) shall be placed separately from (2) and (3). (4) may be placed continuously or in parts as approved by the Engineer.

T = 1/5 span length
U = 1/4 span length

For any deviation from the above the contractor shall submit a diagram to the Engineer.

GENERAL NOTES

SPECIFICATIONS:
Design: A.A.S.H.O. dated 1971 with subsequent revisions, and Calif. Division of Highways Bridge Planning and Design manual.

Consiruction: Standard Specifications, Division of Highways, Calif. dated Jan. 1973 and the special provisions.

LIVE LOADING: HS20-44 and Alternative

UNIT STRESSES:
Reinforcing Steel (A.S.T.M. A615 Grade 60): f_s tension = 24,000 p.s.i.; 20,000 p.s.i. in slab and web reinforcement.
Concrete: f_c = 1,300 p.s.i., f'_c = 3250 p.s.i. @ 28 days. n = 10, v_c = 90 p.s.i.

PILE LOADING: Type: Class 70

CONCRETE: Class "A" using type II portland cement

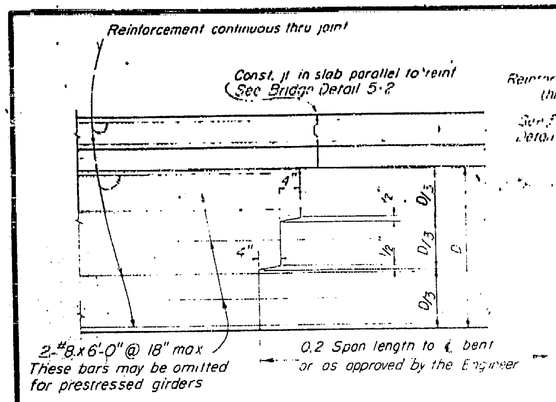
AS BUILT PLANS
Contract No. 07-120014
Date Completed
Document No. 7000 8271

[redacted]
55C-371

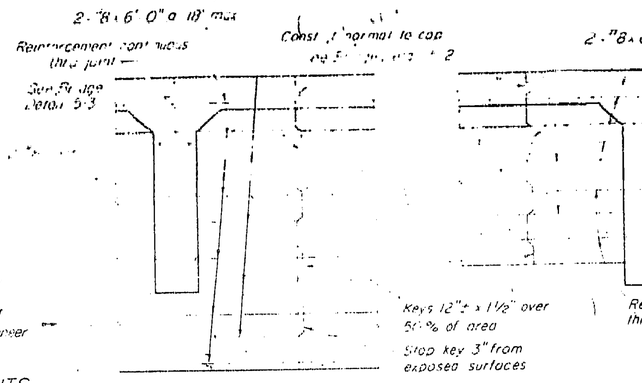
ORANGE COUNTY ROAD DEPARTMENT
SLATER-SEGERSTROM BRIDGE
SA-31
TYPICAL SECTION
AS SHOWN
SHEET 2

DR. 12 (11359)

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.
DATE 10/10/95 SIGNATURE [illegible] TITLE Supervisor of Microfilm

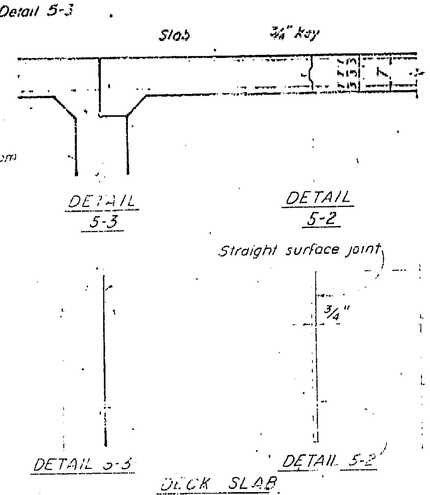


TRANSVERSE GIRDER CONSTRUCTION JOINTS
DETAIL J-3

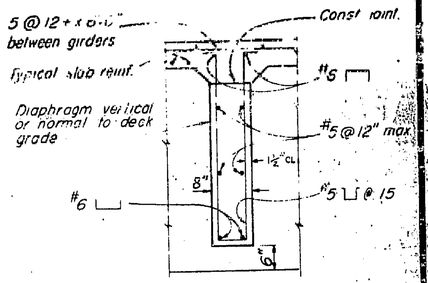


BENT CAP LONGITUDINAL CONSTRUCTION JOINTS
DETAIL J-4

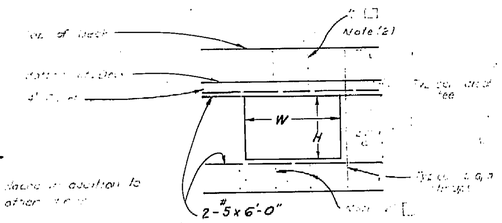
DIAPHRAGMS



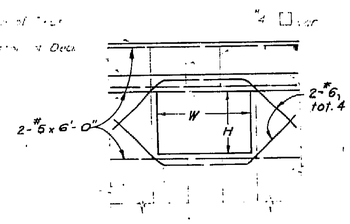
DECK SLAB
LONGITUDINAL CONSTRUCTION JOINTS
Note: Longitudinal construction joints in slab, if required, are to be located at edge of traffic lanes except as approved by the Engineer



INTERMEDIATE DIAPHRAGM SECTION
DETAIL D-1



DIAPHRAGM



PIERS & ABUTMENTS

NOTES

(1) All reinforcement details to be shown in addition to reinforcement shown on other details.

(2) Stirrups are same size as adjacent stirrups shown on other details.

UTILITY OPENING DETAILS

55C-371
ORANGE COUNTY ROAD DEPARTMENT
SLATER-
SEGERSTROM BRIDGE
SA-31
MISCELLANEOUS DETAILS
TEE BEAM
SCALE: NO SCALE
SHEET 9 OF 16

DR. 12 (11359)
9

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.
DATE 10/10/79 SIGNATURE Joseph M. Costa TITLE Supervisor of Microfilm

SLATER—SEGERSTROM BRIDGE

FUTURE BRIDGE SITE

℄ ABUT #1 ℄ PIER #2 ℄ PIER #3 ℄ PIER #4 ℄ PIER #5 ℄ ABUT #6

P.1 P.2 P.3 P.4 EXISTING

ELEVATION

PENETROMETER NO. 1

PENETROMETER NO. 4

PENETROMETER NO. 2

PENETROMETER NO. 3

PENETROMETER NO. 5

Blows Per Foot

TYPICAL BORING

CLAY

SAND

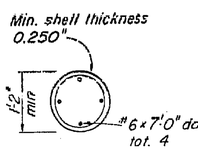
GROUND WATER SURFACE

55C-371

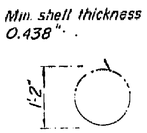
LOG OF TEST BORINGS

AS SHOWN

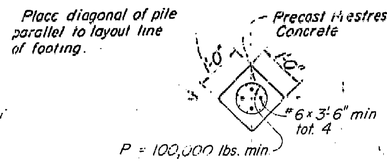
DR-12(11359)



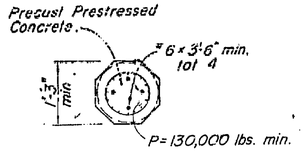
SECTION U-U



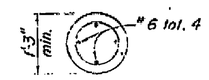
SECTION W-W



SECTION X-X



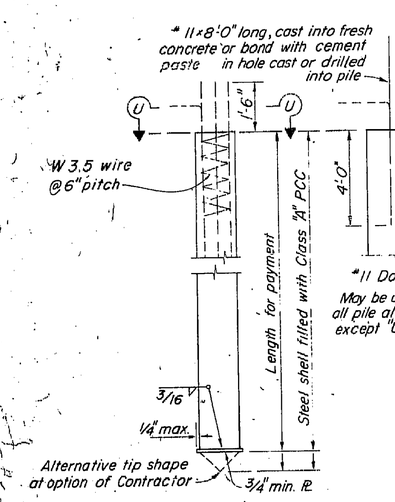
SECTION Y-Y



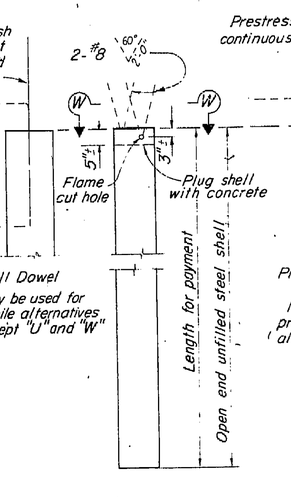
SECTION Z-Z

CORRUGATED ALTERNATIVE "Z"

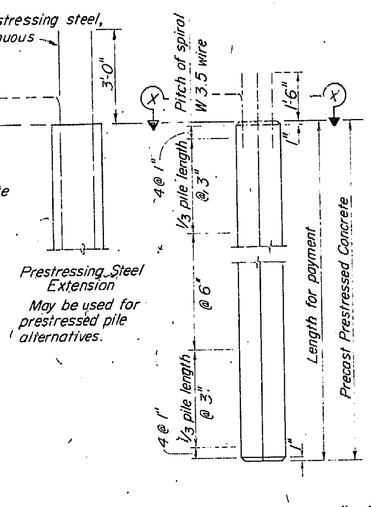
NOTE:
When 'Alternative "U"' is driven with mandrel, shell thickness may be reduced to 0.134".



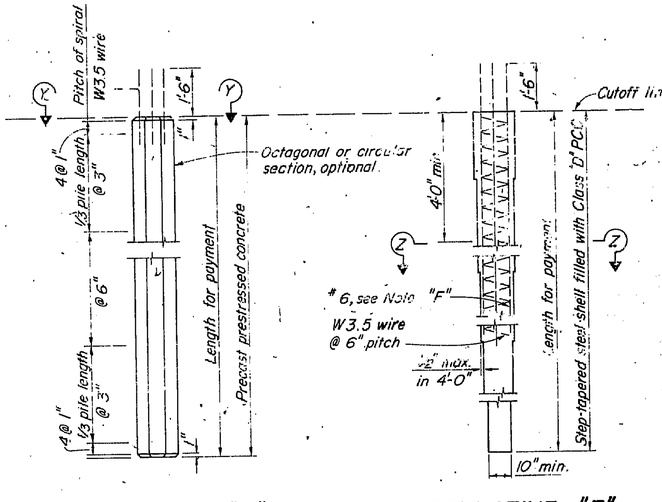
ALTERNATIVE "U"



ALTERNATIVE "W" ◇1



ALTERNATIVE "X"



ALTERNATIVE "Y"

ALTERNATIVE "Z"

A 10" minimum diameter pipe extension (thickness = 0.250" min.) may be used at the tip of Alternative "Z" when taper is 30' or more in length.

PRECAST PRESTRESSED PILES:

P = Prestressing Force (After losses)

If section used is larger than the min. section shown, then "P" shall provide 700 psi. min.

Concrete strength: f'_c @ 28 days = 6,000 psi (Alternative "X")
5,000 psi (Alternative "Y")

All dowels or bars extending into slab or footing having a depth less than 2'-0" shall be hooked.

DESIGN LOADING = 70 TONS

NOTE: "F"
In ALTERNATIVE "Z" the No. 6 bars shall extend to:
1. Bottom of pile for bridges over water courses.
2. 12'-0" below the lowest of the following for bridges not over water courses.
   a. Bottom of footing.
   b. Top of final ground surface.
   c. Top of original ground surface when holes are drilled through embankment constructed by Contractor.
   d Bottom of pre-drilled holes greater than pile diameter

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 7000 8277

[redacted]

55C-371

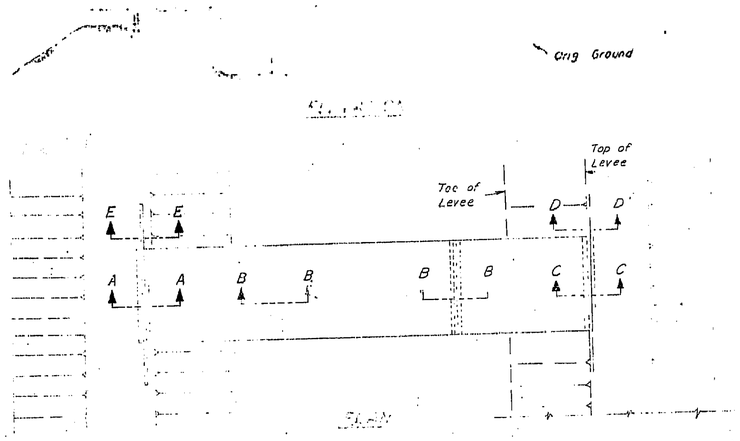
ORANGE COUNTY ROAD DEPARTMENT

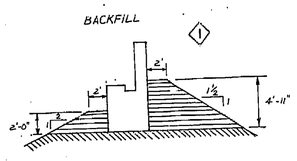
SLATER SEGERSTROM BRIDGE SA-31

PILING DETAILS

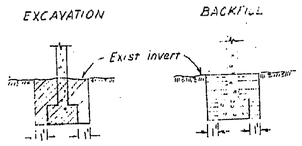
NO SCALE

DR. 12 (1135)

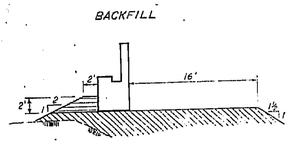




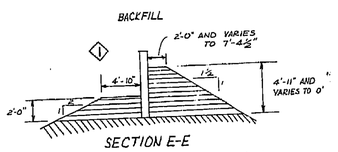
SECTION A-A
ABUTMENT # 1



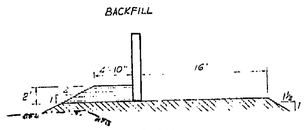
SECTION B-B
PIERS "3 & 4
SEE SHT. 14 FOR PIER DETAILS



SECTION C-C
ABUTMENT #6

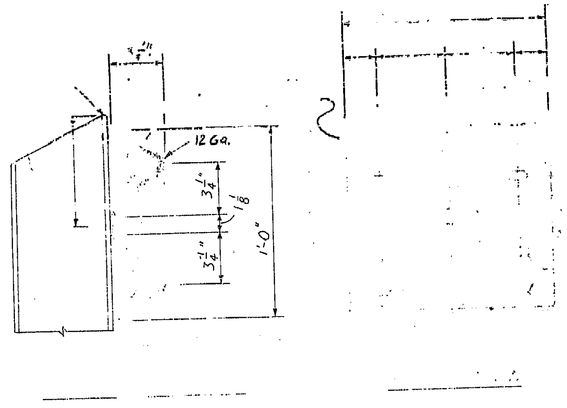


SECTION E-E
WINGWALLS @ ABUTMENT #1



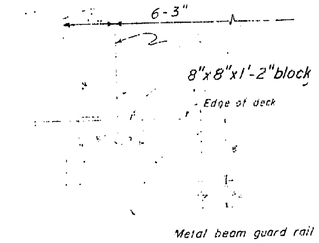
SECTION D-D
WINGWALLS @ ABUTMENT #6

LEGEND



Note : 8"x8"x1'-2" Block not shown.

Limit of payment



Metal beam guard rail

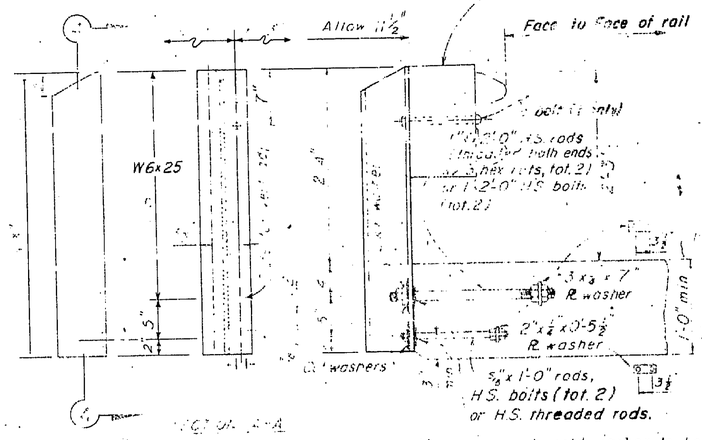
PLAN

Notes

At right end of bridge at expansion joint in bridge deck, slot holes in movable [illegible] to allow some amount of movement as is provided in bridge [illegible] posts shall bearing between rail elements. Adjust bolts [illegible] set in posts.

Posts shall be vertical. Contractor to provide galvanized metal shims [illegible] posts. Galvanize rail assembly after fabrication. Space posts [illegible] 6" min. clear between post slots, joints and ℄ of post.

Stud bolt nuts shall be torqued to 175 ft-lbs. Anchor bolt nuts shall be wrench tight.



POST FOR THIN SLABS

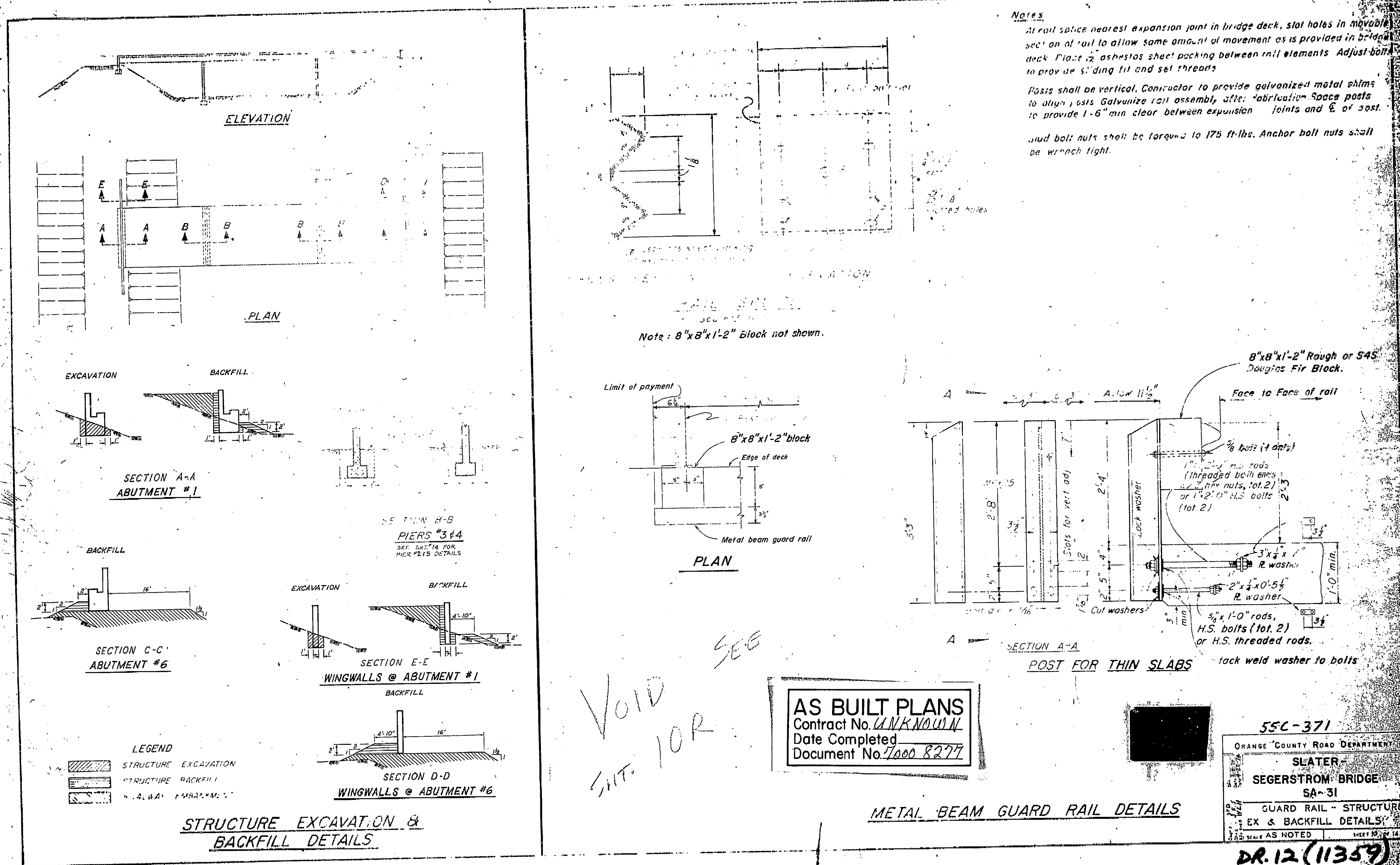
AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 7000 8277

6-10-74 - CHANGE IN BACKFILL DETAIL.
55C-371

ORANGE COUNTY ROAD DEPARTMENT
SLATER-
SEGERSTROM BRIDGE
SA-31
GUARD RAIL STRUCTURE
EX. & BACKFILL DETAILS

[redacted]

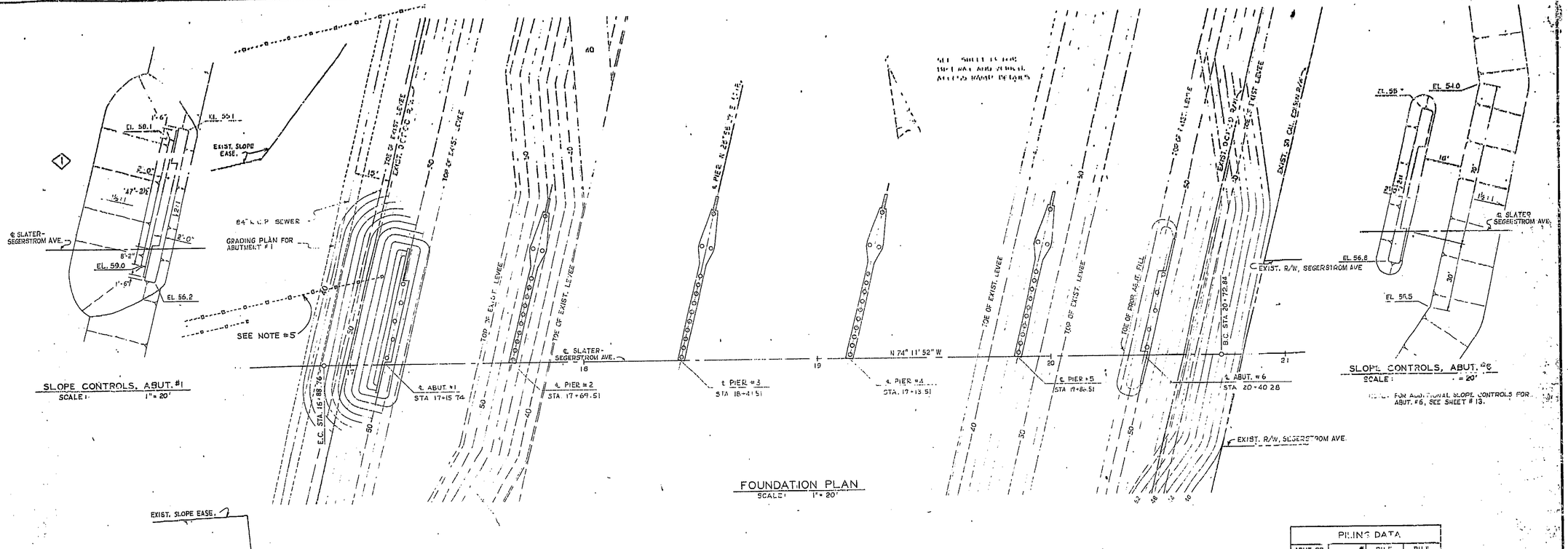
I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.
DATE 10/10/79 SIGNATURE [illegible] TITLE Supervisor of Micrographics



ELEVATION
PLAN
EXCAVATION
BACKFILL
SECTION A-A
ABUTMENT #1
SECTION B-B
PIERS #3 & 4
BACKFILL
SECTION C-C
ABUTMENT #6
EXCAVATION
BACKFILL
SECTION E-E
WINGWALLS @ ABUTMENT #1
BACKFILL
SECTION D-D
WINGWALLS @ ABUTMENT #6
LEGEND
STRUCTURE EXCAVATION
STRUCTURE BACKFILL
STRUCTURE EXCAVATION & BACKFILL DETAILS
Note: 8"x8"x1'-2" Block not shown.
Limit of payment
8"x8"x1'-2" block
Edge of deck
Metal beam guard rail
PLAN
Notes
At rail splice nearest expansion joint in bridge deck, slot holes in movable section of rail to allow same amount of movement as is provided in bridge deck. Place asbestos sheet packing between rail elements. Adjust bolts to provide sliding fit and set threads.
Posts shall be vertical. Contractor to provide galvanized metal shims to align posts. Galvanize rail assembly after fabrication. Space posts to provide 1'-6" min clear between expansion joints and ℄ of post.
Stud bolt nuts shall be torqued to 175 ft-lbs. Anchor bolt nuts shall be wrench tight.
8"x8"x1'-2" Rough or S4S Douglas Fir Block.
Face to Face of rail
Lock washer
Slots for vert adj
Cut washers
R washer
R washer
H.S. bolts (tot. 2)
or H.S. threaded rods.
SECTION A-A
POST FOR THIN SLABS
tack weld washer to bolts
VOID
SEE
SHT. 10R
AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 7000 8277
METAL BEAM GUARD RAIL DETAILS
55C-371
ORANGE COUNTY ROAD DEPARTMENT
SLATER-SEGERSTROM BRIDGE
SA-31
GUARD RAIL - STRUCTURE EX & BACKFILL DETAILS
SCALE AS NOTED
SHEET 10 OF 14
DR. 12 (11359)

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

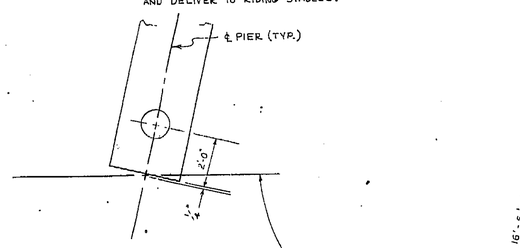
DATE 10/10/79 SIGNATURE Joseph M. Costa TITLE Supervisor of Microfilm



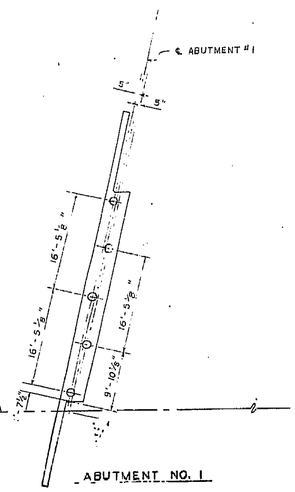
PILING DATA			
ABUT. OR PIER NO.	PILE NO.*	PILE CUTOFF	PILE TIP
ABUT.	PILE #1	Elev. 56	4.00
ABUT. # 1	PILE #2	Elev. 53	4.00
ABUT. # 1	PILE # 3	53.89	4.00
ABUT. # 1	PILE # 4	53.76	4.00
ABUT. # 1	PILE # 5	53.63	4.00
PIER # 2	ALL PILES	32.25	4.00
PIER # 3	ALL PILES	32.25	4.00
PIER # 4	ALL PILES	32.25	4.00
PIER # 5	ALL PILES	32.25	10.00
ABUT. # 6	PILE # 58	54.81	10.00
ABUT. # 6	PILE # 59	54.68	10.00
ABUT. # 6	PILE # 60	54.55	10.00
ABUT. # 6	PILE # 61	54.41	10.00
ABUT. # 6	PILE # 62	54.28	10.00

* PILES ARE NUMBERED BEGINNING WITH THE PILE NEAREST THE CENTERLINE OF SLATER-SEGERSTROM AVE. AND PROGRESSING NORTHERLY UPSTREAM BEGINNING WITH ABUTMENT # 1 AND PROGRESSING FROM WEST TO EAST.

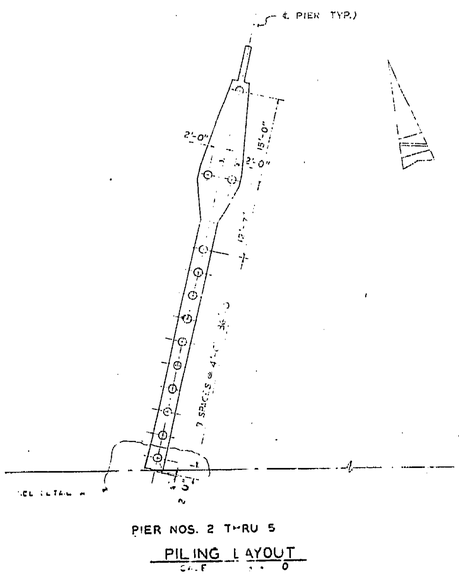
NOTES:
1. PILE TYPE: CLASS 70 CONCRETE PILE
2. EXISTING CONTOURS SHOWN ARE APPROXIMATE ONLY.
3. ALL ABUTMENT PILES SHALL BE PREDRILLED TO ELEVATION 44 ±
4. CONTRACTOR SHALL CONSTRUCT TEMPORARY ACCESS ROAD TO MAINTAIN THROUGH ACCESS ALONG LEVEE.
5. REMOVE EXISTING TIMBER RAIL FENCING AS REQUIRED TO CONSTRUCT LEVEE EMBANKMENT. REPLACE EXISTING FENCING AS SOON AS PRACTICAL TO JOIN NEW EMBANKMENT SIMILAR TO EXISTING FENCE JOIN. SALVAGE EXCESS FENCING AND DELIVER TO RIDING STABLES.



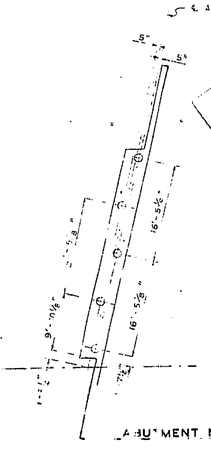
DETAIL "A"



ABUTMENT NO. 1



PIER NOS. 2 THRU 5



ABUTMENT NO. 6

PILING LAYOUT
SCALE: 1" = 10'

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 7200 8277

[redacted]

1 6-10-74 SLOPE CONTROLS AT ABUTMENT #1 CHANGED.

55C-371

ORANGE COUNTY ROAD DEPARTMENT

SLATER-SEGERSTROM BRIDGE
SA-31

FOUNDATION PLAN

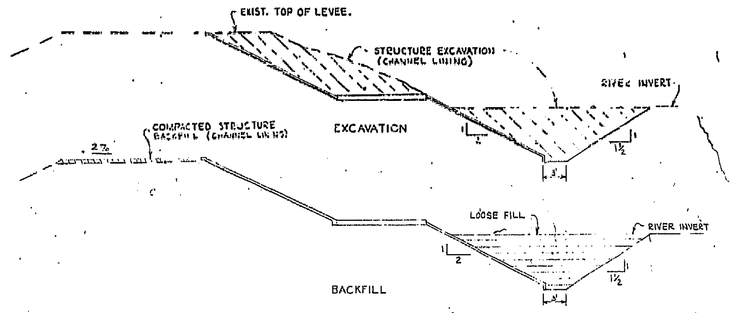
SCALE: AS SHOWN

SHEET 12

Dia. 12 (11359)

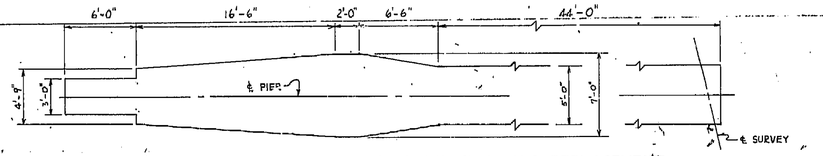
I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10/10/79 SIGNATURE Joseph M. Costa TITLE Supervisor of Microfilm



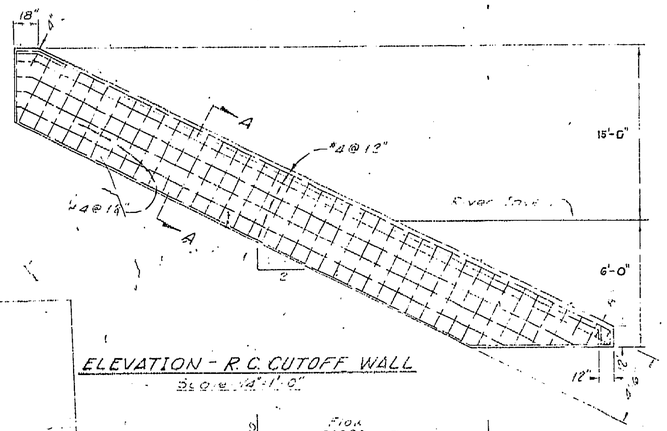
STRUCTURE EXCAVATION AND BACKFILL FOR R.C. CHANNEL LINING

NO SCALE



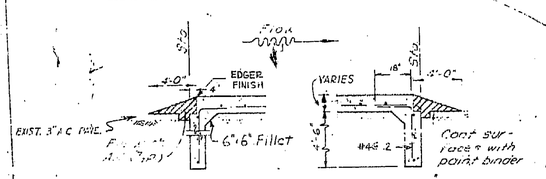
PAY LIMITS FOR SLOPE PROTECTION REMOVAL AND REPLACEMENT

SCALE: 1/4" = 1'-0"



ELEVATION - R.C. CUTOFF WALL

SCALE: 1/4" = 1'-0"

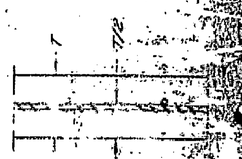


SECTION A-A
R.C. CUTOFF WALL

No Scale

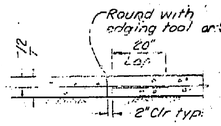
SECTION A-A
R.C. CUTOFF WALL

No Scale



STEEL CLEARANCE

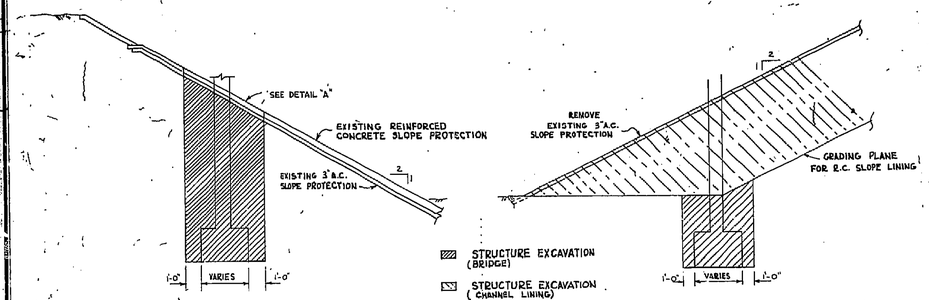
No Scale



TYP. CONST. JOINT

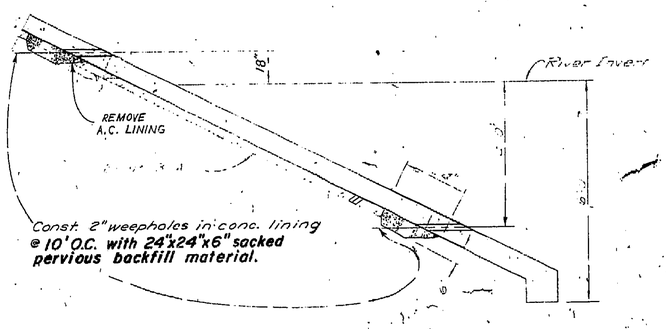
CONSTRUCTION JOINT NOTES

1. All construction joints to be in the same plane for the entire structure.
2. All construction joints are typical construction joints unless otherwise specified on the plans

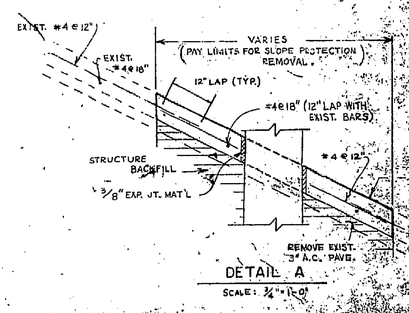


TYPICAL EXCAVATION & BACKFILL (BRIDGE)

NO SCALE



TYPICAL SECTION GRAVEL DRAIN



DETAIL A

SCALE: 3/4" = 1'-0"

AS BUILT PLANS
Contract No. U.M.R.M.O.A.L.
Date Completed
Document No. 1000 8277

55C-371

ORANGE COUNTY ROAD DEPARTMENT

SLATER-SEGERSTROM BRIDGE
SA-3
LEVEE EXCAVATION & SLOPE PROTECTION

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 10/10/79 SIGNATURE [illegible] TITLE Supervisor of Micrographics

PERMANENT LEVEE ACCESS RAMPS, NECESSARY EASEMENTS, AND ABUTMENT BACKFILL WILL BE PROVIDED BY JOINT CITY-COUNTY PROJECT A.N.F.P. 668.

ROAD R/W

65' 70' 30' 65'

CONSTRUCT EMBANKMENT AS SHOWN TO PROVIDE TEMPORARY LEVEE ROAD ACCESS AROUND BRIDGE ABUT. (REL. COMPACTION 90%)

SO. CAL. EDISON R/W

60' CAL. EDISON R/W

O.C.F.C.D. R/W

JOIN EXIST. LEVEE

JOIN EXIST. BIKE TRAIL

B.C. STA. 20+72.64

TOE OF FILL

END BRIDGE STA 20+41.82

SAWCUT EXIST. A.C. BIKE TRAIL

REMOVE EXIST. BIKE TRAIL (STA. 309+13 TO STA. 312+13)

TOP OF R.C. SLOPE LINING

EXIST TOP/LEVEE

JOIN EXIST. A.C.

TOP OF EXIST. A.C. LINING

CONST. 4" A.C. OVER COMPACTED N.A. SOIL

REMOVE EXIST. A.C. LINING. CONST. 3" A.C. OVER N.A. SOIL WITH VARIABLE SLOPE.

BRIDGE PIER

CONST. CUTOFF WALL

CONST. CUTOFF WALL PER DETAIL SHT. #14

END R.C. CHANNEL LINING

313+46 JOIN EXIST. A.C. LINING

308+45 BEGIN R.C. CHANNEL LINING

308+15 JOIN EXIST. A.C. LINING

SCALE : 1"= 20'

℄ SANTA ANA RIVER
N 28° 58' 29" E

ULT. ℄ SLATER - SEGERSTROM ℄ E SURVEY

STA. 18+77.61 SLATER
STA. 310+59.71 S.A.R.

VAR. AS REQUIRED FOR R.C. CHANNEL LINING OVERLAY

DETAIL "A"

BIKEWAY (VAR. TO JOIN ACCESS RAMP)

EXIST. 8' A.C. BIKE TRAIL

EXIST. A.C. SLOPE LINING

SEE DETAIL "A"

CONST. 3" A.C. / N.A. SOIL WITH VARIABLE SLOPE TO JOIN EXIST. A.C. LINING.

PLAN
EAST LEVEE ACCESS RAMPS
SCALE : 1"= 20'

Extend ramp reinforcing 20" into slope lining.

See Section C-C for Steel pattern.

Keyed Const Jt.

SECTION D-D
No Scale
"T1" & "T2" VARIES

PLAN ELEV.

*c-bars

18" REINF. CONC. SLOPE LINING VARIES

14'-6" ±

KEYED CONST. JT.

River Invert

See typ sect. sheet #14

*4 @ 16" EACH WAY

*b-bars

EXIST. 3" A.C. PAVEMENT

*a-bars

*4 bars

*a, b & c- bar spacing measured along slope.

SECTION C-C
SCALE : 1/4" = 1'-0"
"T1" = "T2" = 6 3/4"

TABLE OF REINFORCING						
Station to Station	A	B	a-bars	b-bars	c-bars
308+45 — 313+16	15.00	6.00'	18 - #4 @ 12"	12 - #4 @ 12"	9 - #4 @ 12"

Bridge Pier

3/8" Exp. Jt. Mtl.

TYPICAL SECTION BRIDGE PIER DETAIL
No Scale

See Section C-C for Steel pattern.

SECTION B-B
No Scale
"T1" & "T2" VARIES

SECTION A-A
No Scale

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 7000 8277

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DATE 10/10/79 SIGNATURE Engineer of Records TITLE

55C-371

ORANGE COUNTY ROAD DEPARTMENT

SLATER - SEGERSTROM - BRIDGE SA-31

EAST LEVEE ACCESS RAMPS DETAIL

SHEET 15 OF 15 SHEETS