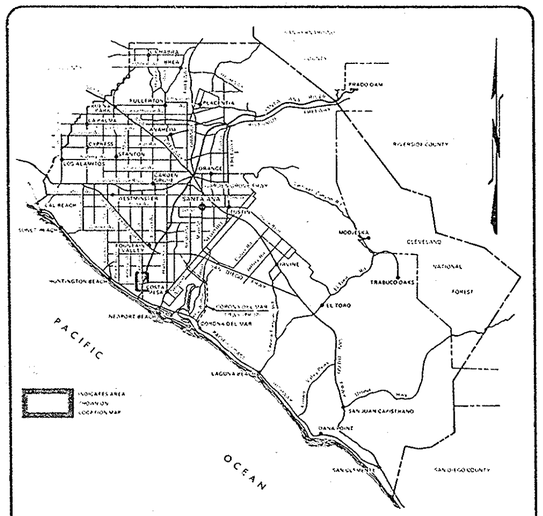
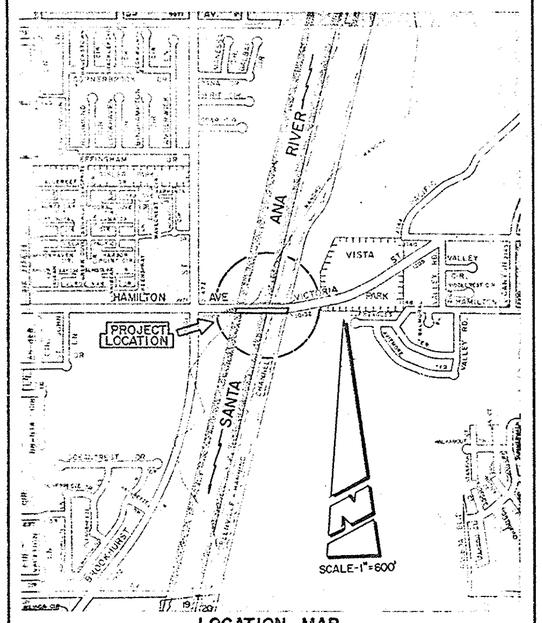


VICINITY MAP

SCALE IN MILES



LOCATION MAP

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY

SANTA ANA, CALIFORNIA

H.G. OSBORNE, DIRECTOR

PLANS FOR WIDENING OF

HAMILTON-VICTORIA
BRIDGE

SA-38A

ACROSS

SANTA ANA RIVER
(CHANNEL E01)

INDEX OF SHEETS

SHEET	DESCRIPTION
1	TITLE SHEET
2	GENERAL PLAN
3	FOUNDATION PLAN
4	ABUTMENT NO. 1
5	ABUTMENT NO. 6
6	RETAINING WALL & MISCELLANEOUS DETAILS
7	PIERS
8 & 9	SUPERSTRUCTURE LAYOUT & REINFORCEMENT
10	TOP DECK REINFORCEMENT & PLACING DIAGRAM
11	TYPICAL SECTION AND GENERAL NOTES
12	STRUCTURE EXCAVATION & BACKFILL DETAILS UTILITY OPENINGS AND DECK GRADES
13	MISCELLANEOUS DETAILS
14	TYPE K TEMPORARY RAILING AND JOINT SEAL DETAILS
15	BARRIER RAILING TYPE 11
16	METAL RAILING DETAILS TYPES 9 & 11
17	ELECTRICAL DETAILS
18	PILE DETAILS
19	LOG OF TEST BORINGS
20-22	WESTERLY APPROACH WIDENING PLANS (CITY OF HUNTINGTON BEACH)

UTILITY	PHONE NO.
Southern California Edison Co. (Bill Guffy)	835-3833
Pacific Telephone (Al Cashen)	776-0065
General Telephone (Ed Semling)	(213) 435-9373
Southern California Gas Co. (Max Howard)	634-0211
Orange County Sanitation District (Bruce Witcher)	962-2411

BENCH MARK: IL-24-69
ABOUT 400 FT. EAST ALONG HAMILTON AVE. FROM ITS INTERSECTION WITH BROOKHURST ST., TO THE SOUTH END OF THE CONCRETE BRIDGE OVER THE SANTA ANA RIVER, 27 FT. NORTH OF THE CENTERLINE OF HAMILTON AVE., 12 FT. NORTH OF THE NORTH SIDE OF THE BRIDGE, SET IN THE TOP, 1FT. SOUTH OF THE HINGE POINT OF A CONCRETE RETAINING WALL, ABOUT LEVEL WITH THE BRIDGE DECK.
ELEV. 23.074 ADJ. 1970

BASIS OF BEARING:
THE BEARING OF N87°35'33"E FOR THE CENTERLINE OF HAMILTON AVENUE AS SHOWN ON PARCEL MAP 26-20, DATED DECEMBER 10, 1969.

#12504
Hamilton-Victoria Bridge (SA38)
Sheet 1 of 22
Sed. 24:1
Linen

FUNDED BY: COUNTY OF ORANGE HIGHWAY USERS TAXES (BRIDGE)
CITY OF HUNTINGTON BEACH (WESTERLY ROADWAY APPROACH) A.H.F.P. No. 841

CITY OF HUNTINGTON BEACH

APPROVED AS TO PORTIONS WITHIN CITY LIMITS:

H E Hartge 3/1/77
DIRECTOR OF PUBLIC WORKS DATE

EMA-DEVELOPMENT

SUBMITTED: Wendell L Hartman 3-4-77
SECTION CHIEF RCE 13941

RECOMMENDED: A W Willis 3/7/77
DIVISION MANAGER RCE 13154

APPROVED: C R Nelson 3-8-77
ASSISTANT DIRECTOR RCE 13142

CITY OF COSTA MESA

APPROVED AS TO PORTIONS WITHIN CITY LIMITS:

James H. Eldridge 3/1/77
DIRECTOR OF PUBLIC SERVICES DATE

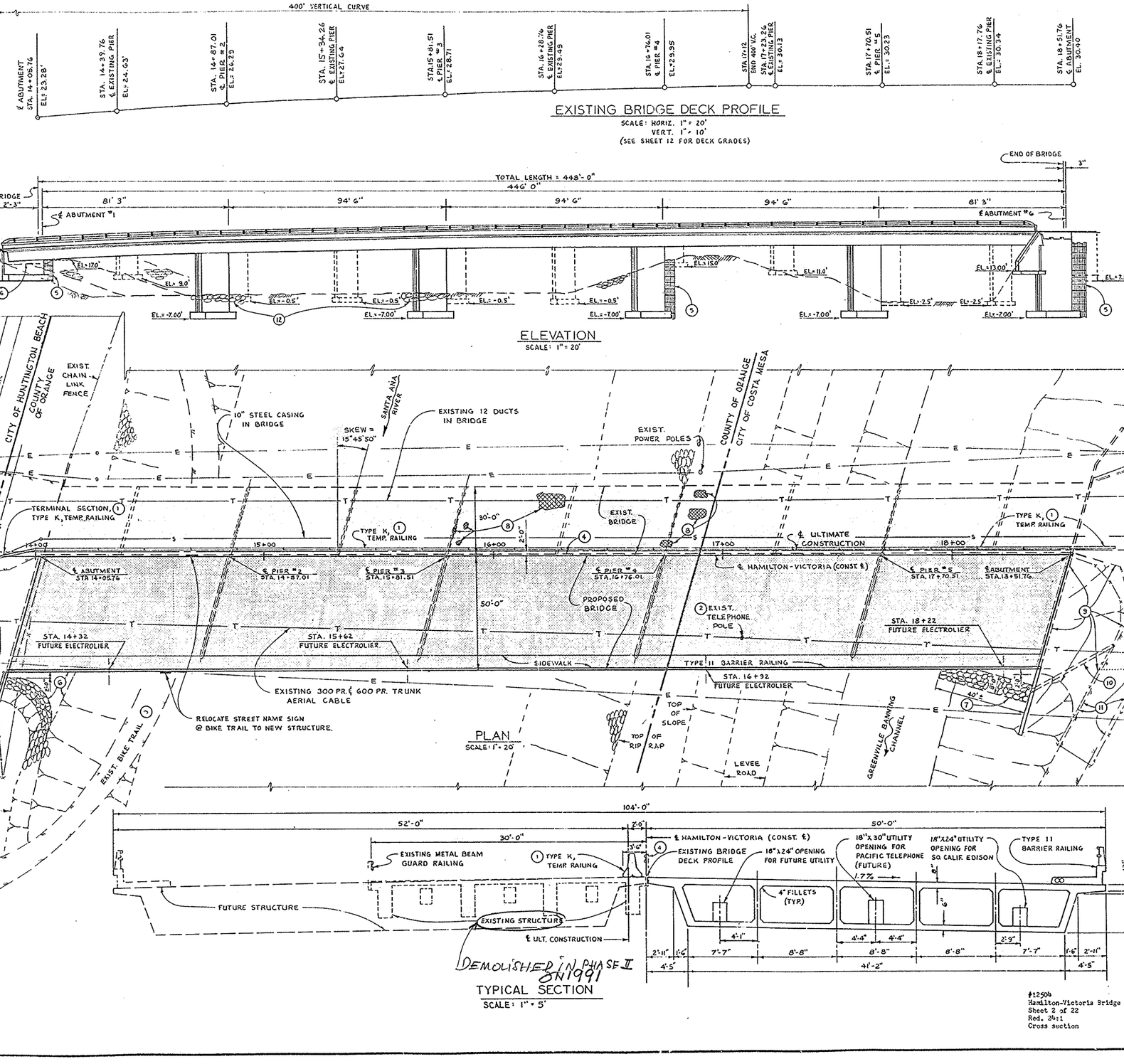
NO.	DESCRIPTION	SHT.	APPROVED	DATE

REVISIONS

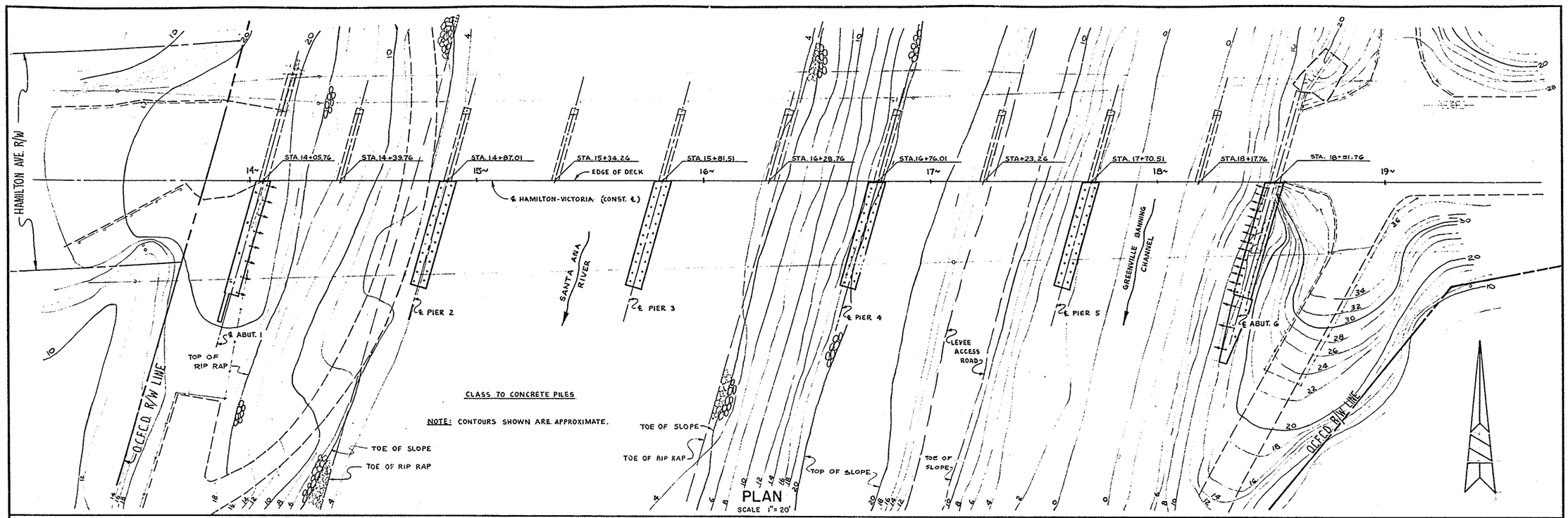
W. O. NO. R12005
DWG. NO.

SHEET 1 OF 22

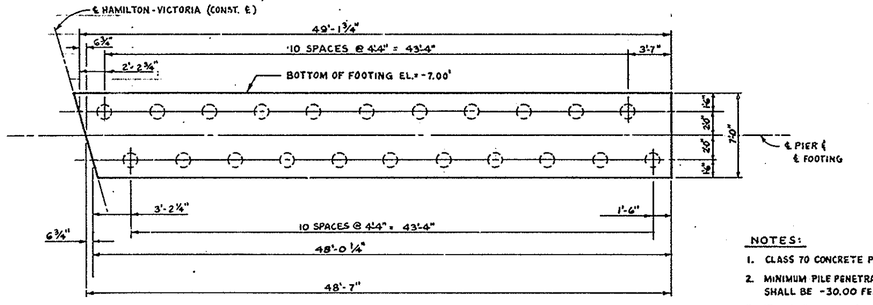
DR 8 (12504)
1977
HAMILTON-VICTORIA BR.
SA-38A
55C-103
Thos map: 888-E2


400' VERTICAL CURVE
℄ ABUTMENT STA. 14+05.76 EL= 23.28'
STA. 14+39.76 ℄ EXISTING PIER EL= 24.63'
STA. 14+87.01 ℄ PIER # 2 EL= 26.29
STA. 15+34.26 ℄ EXISTING PIER EL= 27.64
STA. 15+81.51 ℄ PIER # 3 EL= 28.71
STA. 16+28.76 ℄ EXISTING PIER EL= 29.49
STA. 16+76.01 ℄ PIER # 4 EL= 29.95
STA. 17+12 END 400' VC. STA. 17+23.26 ℄ EXISTING PIER EL= 30.13
STA. 17+70.51 ℄ PIER # 5 EL= 30.23
STA. 18+17.76 ℄ EXISTING PIER EL= 30.34
STA. 18+51.76 ℄ ABUTMENT EL. 30.40
EXISTING BRIDGE DECK PROFILE
SCALE: HORIZ. 1" = 20'
VERT. 1" = 10'
(SEE SHEET 12 FOR DECK GRADES)
END OF BRIDGE
3"
TOTAL LENGTH = 448'-0"
446'-0"
BEGIN BRIDGE
2'-3"
81' 3"
94' 6"
94' 6"
94' 6"
81' 3"
℄ ABUTMENT #1
℄ ABUTMENT #6
EL=6.50'
EL=17.0'
EL=9.0'
EL=-7.00'
EL=-0.5'
EL=15.0'
EL=11.0'
EL=-2.5'
EL=13.00'
EL=7.5'
ELEVATION
SCALE: 1" = 20'
200 PR. COMMUNICATION CABLE
12" NEW GAS LINE
48" SEWER
8" GAS LINE
66" SEWER
CITY OF HUNTINGTON BEACH
COUNTY OF ORANGE
EXIST. CHAIN LINK FENCE
EXISTING TELEPHONE POLE
M.H.
10" STEEL CASING IN BRIDGE
SKEW = 15°45'50"
SANTA ANA RIVER
EXISTING 12 DUCTS IN BRIDGE
EXIST. POWER POLES
COUNTY OF ORANGE
CITY OF COSTA MESA
O.C.F.C.D. R/W LINE
TERMINAL SECTION, TYPE K, TEMP. RAILING
TYPE K, TEMP. RAILING
EXIST. BRIDGE
℄ ULTIMATE CONSTRUCTION
TYPE K, TEMP. RAILING
CONDUCTOR PIPE
℄ ABUTMENT STA 14+05.76
℄ PIER #2 STA. 14+87.01
℄ PIER #3 STA. 15+81.51
℄ PIER #4 STA. 16+76.01
℄ HAMILTON - VICTORIA (CONST. ℄)
℄ PIER #5 STA. 17+70.51
℄ ABUTMENT STA. 18+51.76
EXIST. TELEPHONE POLE
EXIST. METAL BEAM GUARD RAIL
EXIST. POWER POLES
SEE SHEET 20 FOR APPROACH WIDENING PLANS
STA. 14+32 FUTURE ELECTROLIER
STA. 15+62 FUTURE ELECTROLIER
PROPOSED BRIDGE
EXIST. TELEPHONE POLE
STA. 18+22 FUTURE ELECTROLIER
SIDEWALK
TYPE 11 BARRIER RAILING
STA. 16+92 FUTURE ELECTROLIER
EXISTING 300 PR. & 600 PR. TRUNK AERIAL CABLE
RELOCATE STREET NAME SIGN @ BIKE TRAIL TO NEW STRUCTURE.
TOP OF SLOPE
TOP OF RIP RAP
LEVEE ROAD
GREENVILLE BANNING CHANNEL
EXIST. BIKE TRAIL
ORANGE COUNTY SANITATION DISTRICT EASEMENT
TOP OF RIP RAP
O.C.F.C.D. R/W LINE
PLAN
SCALE: 1" = 20'
APPROACH WIDENING BY CITY OF COSTA MESA
EXISTING POWER POLE
EXISTING TELEPHONE POLE
O.C.F.C.D. R/W LINE
104'-0"
52'-0"
30'-0"
50'-0"
EXISTING METAL BEAM GUARD RAILING
TYPE K, TEMP. RAILING
℄ HAMILTON - VICTORIA (CONST. ℄)
EXISTING BRIDGE DECK PROFILE
18"x30" UTILITY OPENING FOR PACIFIC TELEPHONE (FUTURE)
18"x24" UTILITY OPENING FOR SO. CALIF. EDISON
TYPE 11 BARRIER RAILING
18"x24" OPENING FOR FUTURE UTILITY
4" FILLETS (TYP.)
1.7%
FUTURE STRUCTURE
EXISTING STRUCTURE
℄ ULT. CONSTRUCTION
DEMOLISHED IN PHASE II ON 1991
TYPICAL SECTION
SCALE: 1" = 5'
CONSTRUCTION NOTES
1. PLACE TEMPORARY RAILING (TYPE K).
2. TO BE RELOCATED BY OTHERS.
3. PROTECT IN PLACE.
4. REMOVE AND SALVAGE EXISTING METAL BEAM GUARD RAILING. (SEE SPECIAL PROVISIONS)
5. CONSTRUCT COFFERDAM TO PROTECT EXISTING BRIDGE APPROACHES, ABUTMENTS AND PIER PILING. (SEE SPECIAL PROVISIONS)
6. GRADE EXISTING LEVEE TO 2' BELOW THE PROPOSED BRIDGE SOFFIT. (SALVAGE EXISTING ROCK. SLOPE PROTECTION AND PLACE AT WINGWALL.)
7. CONSTRUCT CONCRETED-ROCK SLOPE PROTECTION PER DETAIL SHEET G.
8. REFINISH EXISTING BRIDGE DECK AT VARIOUS LOCATIONS.
9. BACKFILL TO GRADING PLANE.
10. INSTALL 40 L.F. 21" RCP (2000 D).
11. PROTECT EXISTING FENCING & ROADWAY IN PLACE.
12. EXCAVATION OF EXISTING ROCK BLANKET INCLUDED IN COST OF STRUCTURE EXCAVATION.
APPROXIMATE BRIDGE QUANTITIES
TEMPORARY RAILING (TYPE K) 500 L.F.
REMOVE & SALVAGE BRIDGE GUARD RAIL 446 L.F.
BRIDGE REMOVAL (PORTIONS) L.S.
STRUCTURE EXCAVATION (COFFERDAM) 1320 C.Y.
STRUCTURE EXCAVATION 540 C.Y.
STRUCTURE BACKFILL (METHOD A) 1250 C.Y.
STRUCTURE BACKFILL (METHOD B) 125 C.Y.
GRAVEL BLANKET 138 TONS
CONCRETED-ROCK SLOPE PROTECTION 25 C.Y.
CONCRETE (CONCRETED-ROCK SLOPE PROTECTION) 3 C.Y.
STRUCTURE CONCRETE 28 C.Y.
REINFORCING STEEL (STRUCTURE) 2800 LBS.
STRUCTURE CONCRETE (BRIDGE) 2095 C.Y.
JOINT SEAL (TYPE B-1) 53 L.F.
WATERSTOP 48 L.F.
REINFORCING STEEL (BRIDGE) 580,000 LBS.
METAL RAILING (TYPE 11) 448 L.F.
FURNISH CONCRETE PILING (CLASS 70) 3394 L.F.
DRIVE CONCRETE PILES 135 EA.
21" RCP (2000 D) 40 L.F.
ORANGE COUNTY ROAD DEPARTMENT
HAMILTON - VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER
GENERAL PLAN
SCALE AS SHOWN
SHEET 2 OF 22
PREPARED UNDER SUPERVISION OF
DATE 2-77
CHECKED J.B. HANDEL R.E. L.S.
DATE 2-4-77
#12504
Hamilton-Victoria Bridge (SA38)
Sheet 2 of 22
Red. 24:1
Cross section

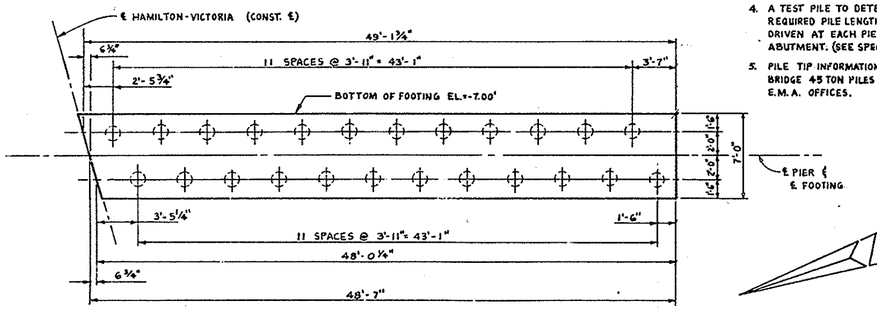
DR 8 (12504)



PLAN
SCALE 1"= 20'



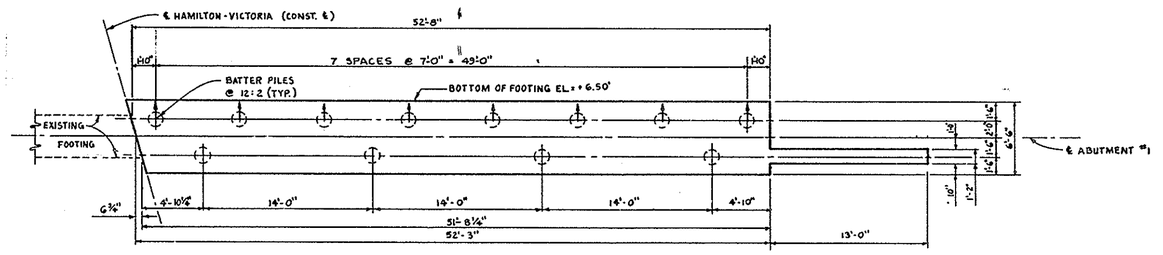
PIERS 2,3&5
SCALE 3/16"= 1'-0"



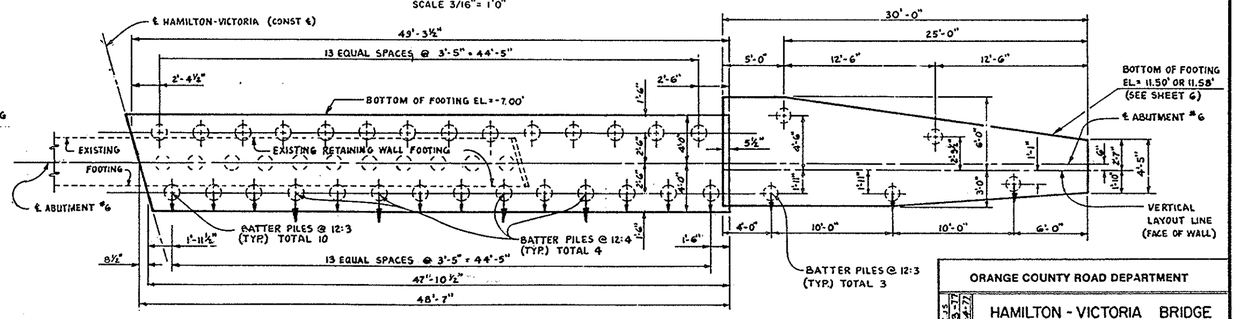
PIER 4
SCALE 3/16"= 1'-0"

NOTES:

1. CLASS 70 CONCRETE PILES.
2. MINIMUM PILE PENETRATION SHALL BE -30.00 FEET.
3. IT IS ANTICIPATED THAT AIDS MAY BE REQUIRED IN ORDER TO ATTAIN MINIMUM PENETRATION. (SEE SPECIAL PROVISIONS.)
4. A TEST PILE TO DETERMINE REQUIRED PILE LENGTH WILL BE DRIVEN AT EACH PIER AND ABUTMENT. (SEE SPECIAL PROVISIONS.)
5. PILE TIP INFORMATION FOR THE EXISTING BRIDGE 45 TON PILES IS AVAILABLE AT E.M.A. OFFICES.



ABUTMENT 1
SCALE 3/16"= 1'-0"



ABUTMENT 6
SCALE 3/16"= 1'-0"

#12504
Hamilton-Victoria Bridge (SA38)
Sheet 3 of 22
Red. 24:1
Cross section

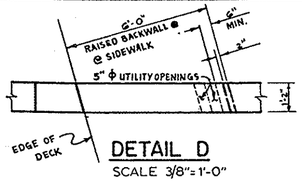
ORANGE COUNTY ROAD DEPARTMENT

HAMILTON - VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER
FOUNDATION PLAN

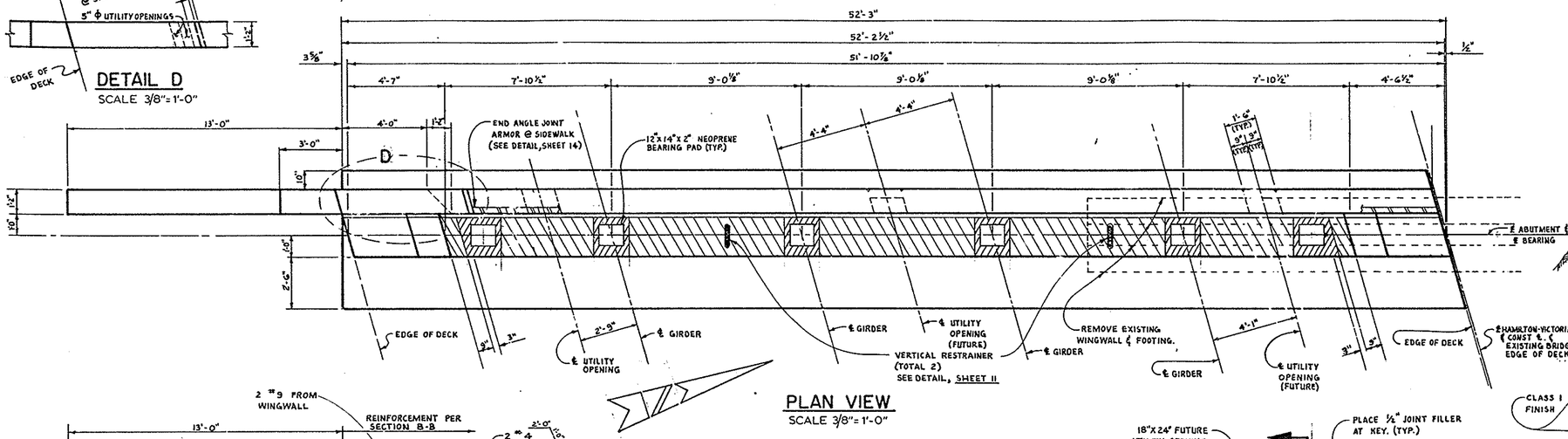
Design — S.K.W. Date 3-3-77
Drawn — J.B. Date 3-24-77
Checked — Date
Supervised — Date

SCALE AS SHOWN | SHEET 3 OF 22

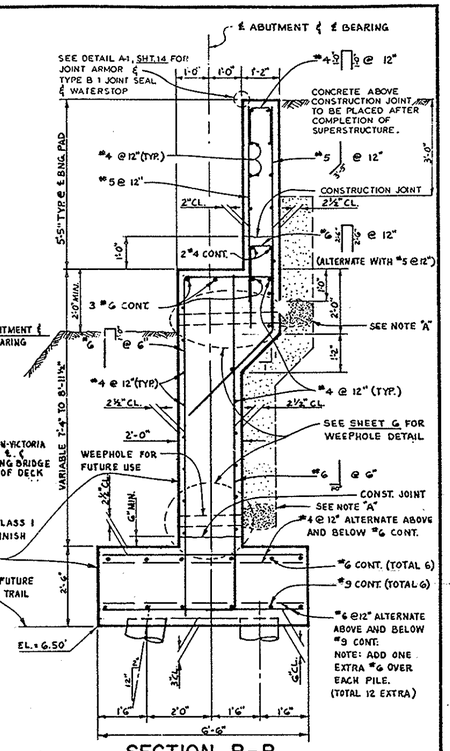
DR 8 (12504)



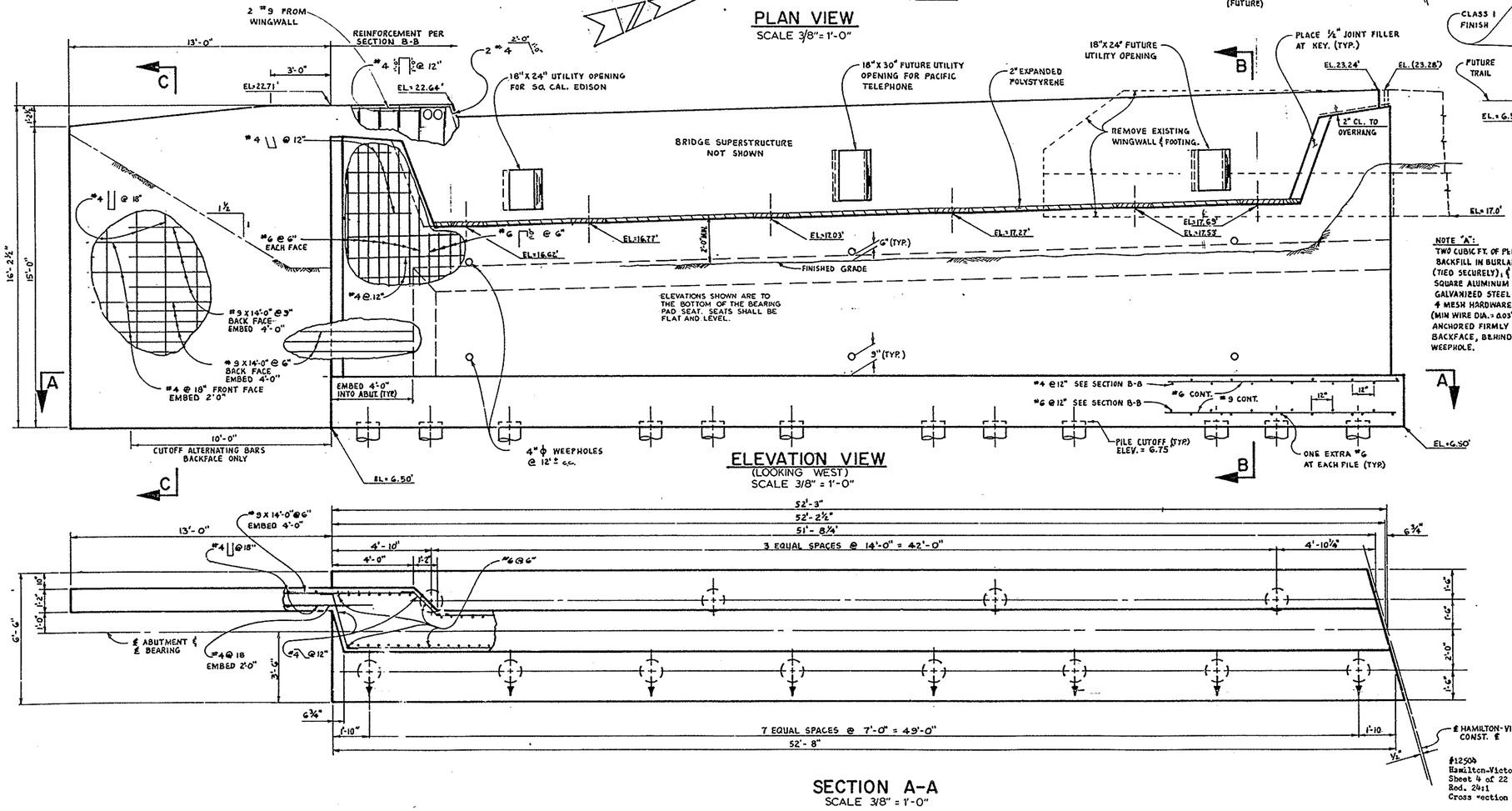
DETAIL D
SCALE 3/8"= 1'-0"



PLAN VIEW
SCALE 3/8"= 1'-0"

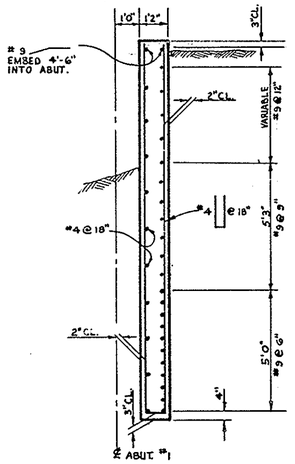


SECTION B-B
SCALE ½"= 1'-0"



ELEVATION VIEW
(LOOKING WEST)
SCALE 3/8" = 1'-0"

NOTE "A":
TWO CUBIC FT. OF PERVIOUS BACKFILL IN BURLAP SACK (TIED SECURELY), ℄ 8" SQUARE ALUMINUM OR GALVANIZED STEEL WIRE 4 MESH HARDWARE CLOTH (MIN WIRE DIA.= 0.03") ANCHORED FIRMLY TO BACKFACE, BEHIND EACH WEEPHOLE.



SECTION C-C
SCALE 3/8" = 1'-0"

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

#12504
Hamilton-Victoria Bridge (SA38)
Sheet 4 of 22
Red. 2411
Cross section

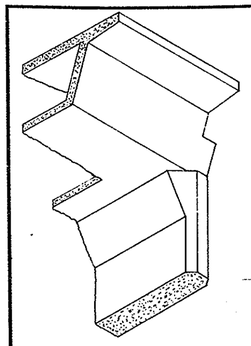
ORANGE COUNTY ROAD DEPARTMENT

HAMILTON-VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER

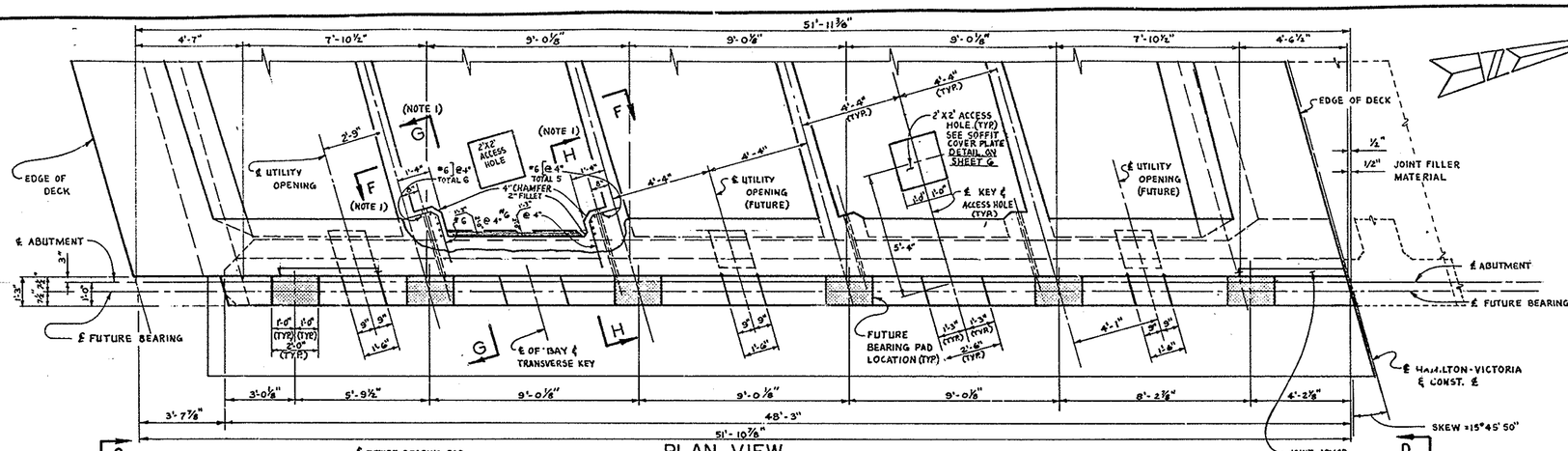
ABUTMENT NO. 1

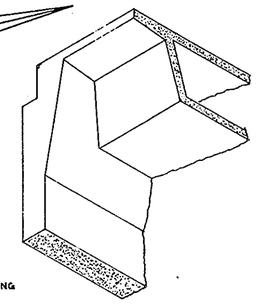
Drawn S.D.V. Date 3-77
Checked J.R.J. Date 7-4-77
Supervised [illegible]
SCALE AS SHOWN
SHEET 4 OF 22

DR 8 (12504)



ISOMETRIC VIEW
SOUTH ELEVATION
(RETAINING WALL NOT SHOWN)

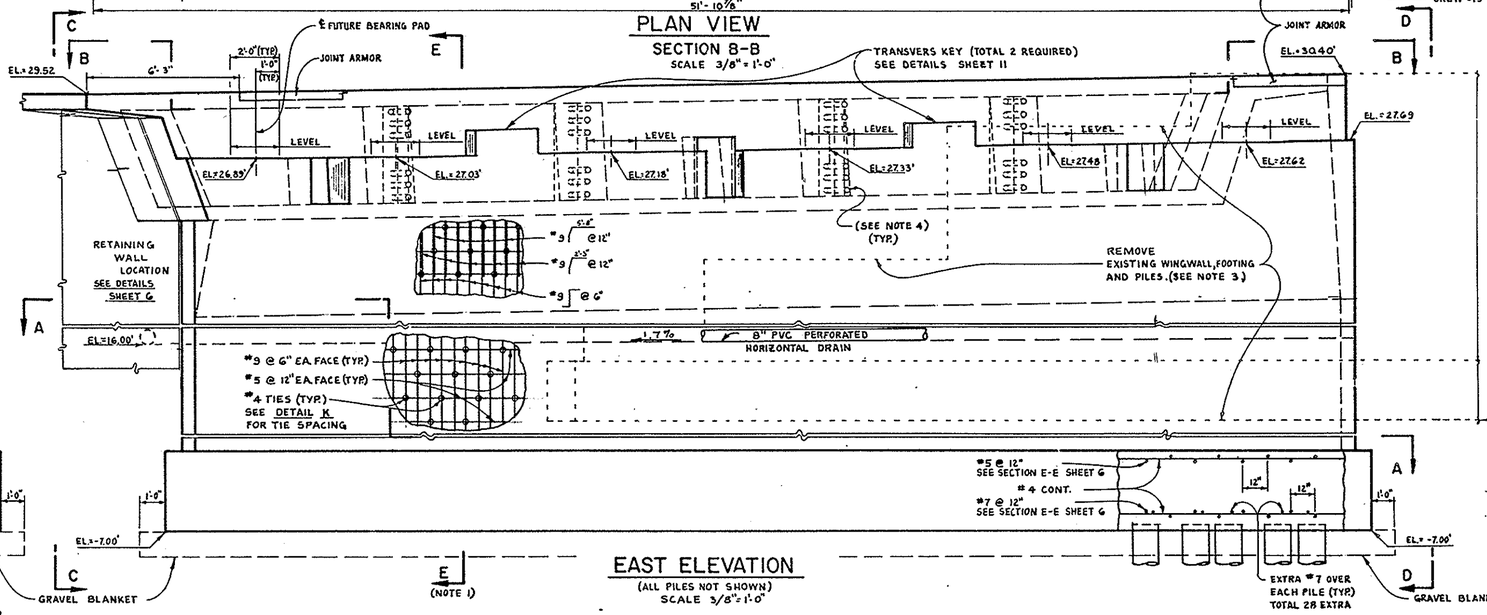


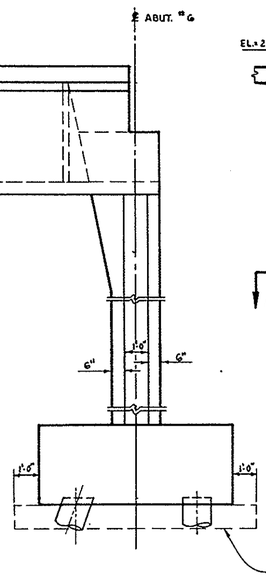


ISOMETRIC VIEW
NORTH ELEVATION
(EXISTING BRIDGE ABUTMENT NOT SHOWN)

PLAN VIEW

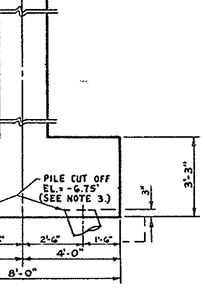
SECTION B-B
SCALE 3/8" = 1'-0"





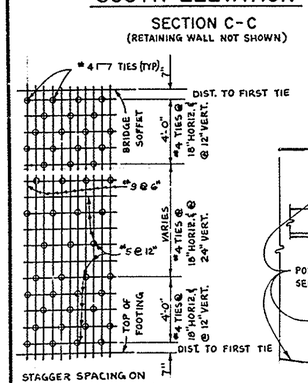
SOUTH ELEVATION

SECTION C-C
(RETAINING WALL NOT SHOWN)



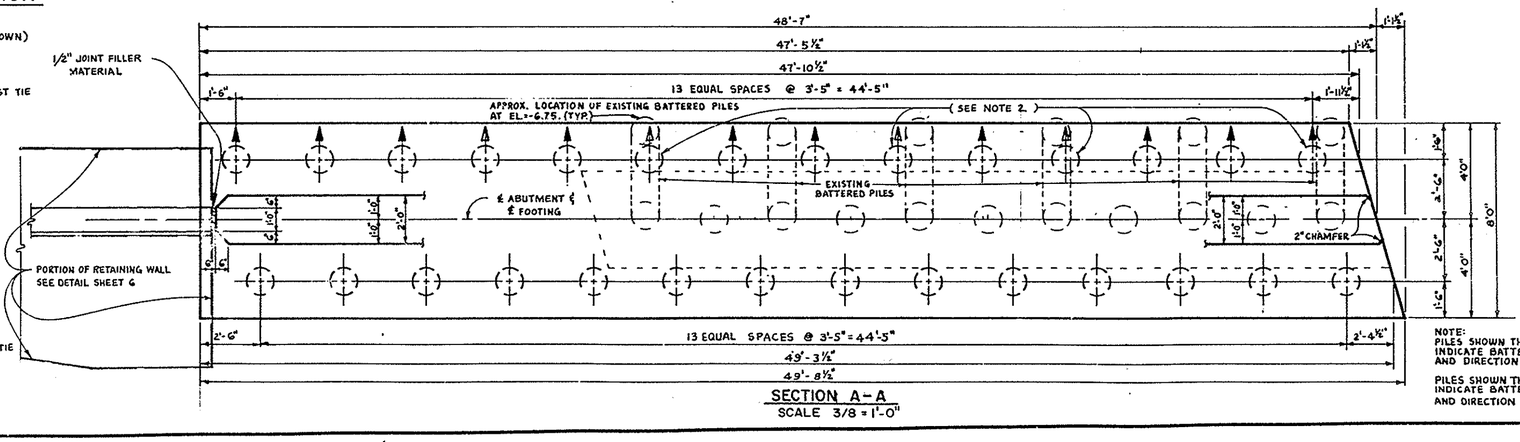
NORTH ELEVATION

SECTION D-D



STAGGER SPACING ON VERT. BARS.

DETAIL K
NO SCALE
TIE SPACING (TYP. EA. FACE)



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

NOTE:
PILES SHOWN THUS ⊕ INDICATE BATTER OF 12:3 AND DIRECTION OF BATTER.
PILES SHOWN THUS ⊕→ INDICATE BATTER OF 12:4 AND DIRECTION OF BATTER.

#12504
Hamilton-Victoria Bridge (SA38)
Sheet 5 of 22
Red. 24:11
Cross section

NOTES:
1. SEE SHEET 6 FOR SECTIONS E-E, F-F, G-G AND H-H.
2. EXACT LOCATION OF PILES, TO BE DETERMINED IN THE FIELD.
3. CUT OFF ELEVATION FOR EXISTING PILES = -6.75'
4. PLUG HOLES FOR FUTURE RESTRAINERS.

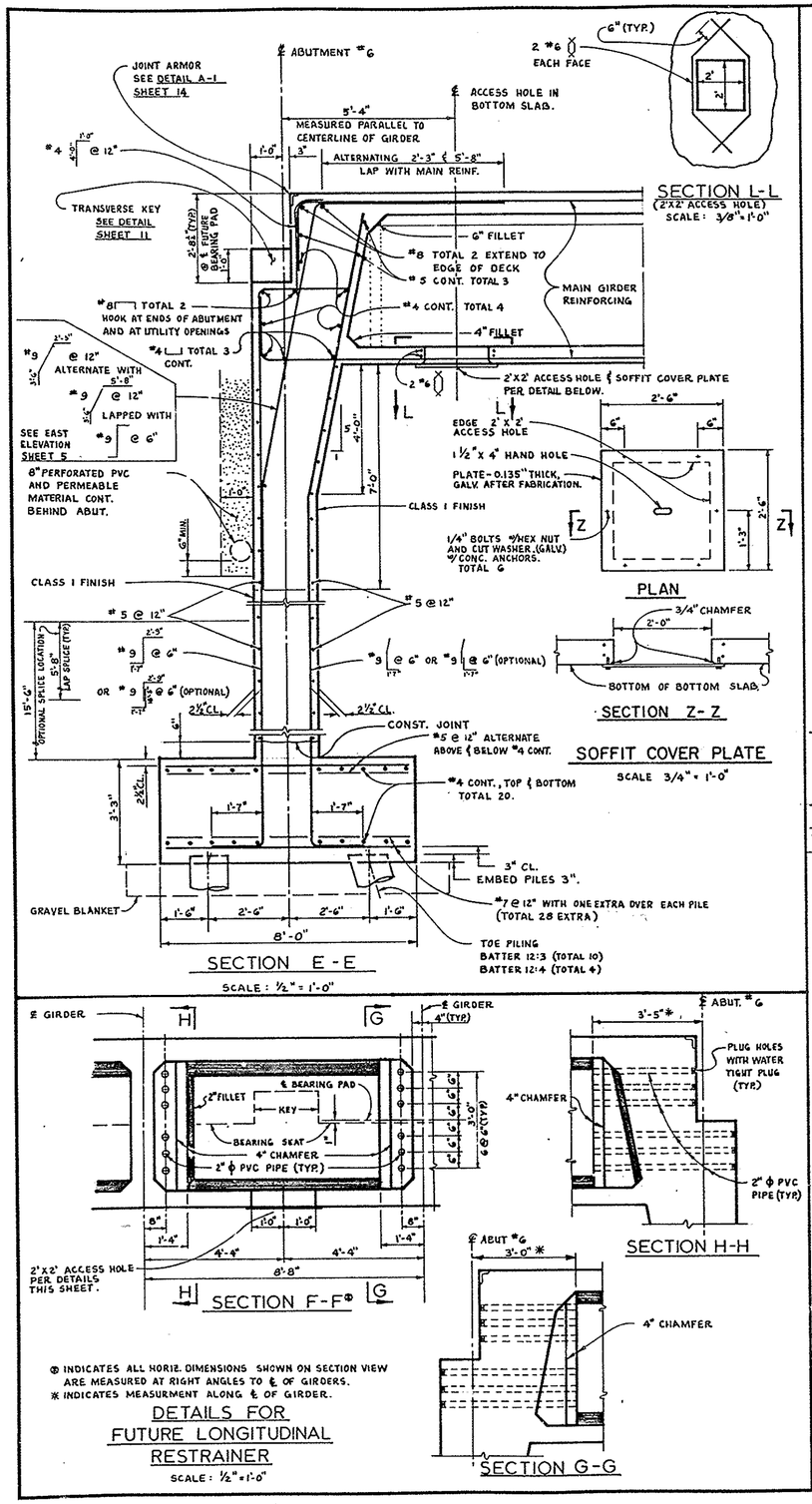
ORANGE COUNTY ROAD DEPARTMENT

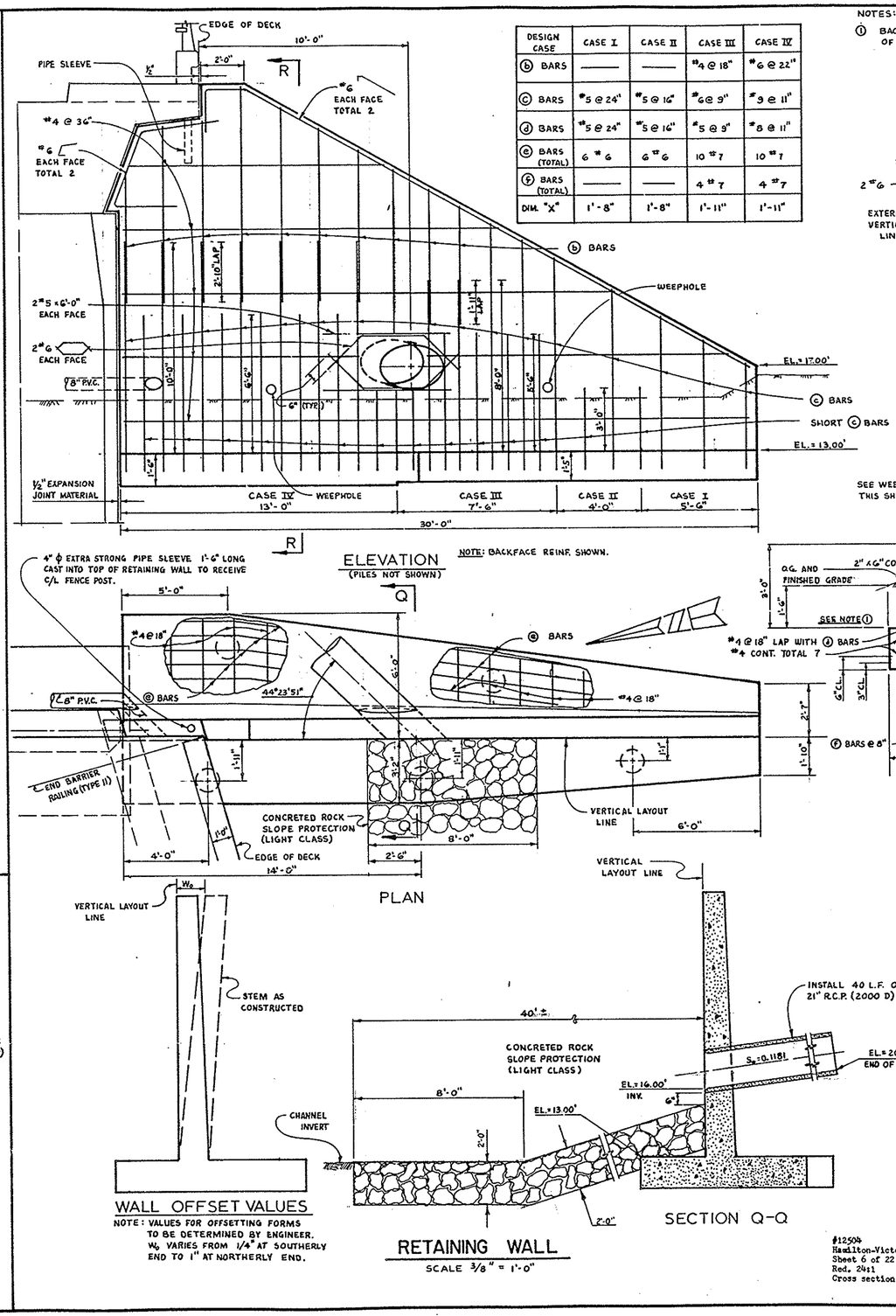
HAMILTON-VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER
ABUTMENT NO. 6

Dsgnd. S.H.D. Date 6-1-77
Drn. S.H.D. Date 6-1-77
Chkd. [illegible] Date 7-26-77

SCALE AS SHOWN
SHEET 5 OF 22

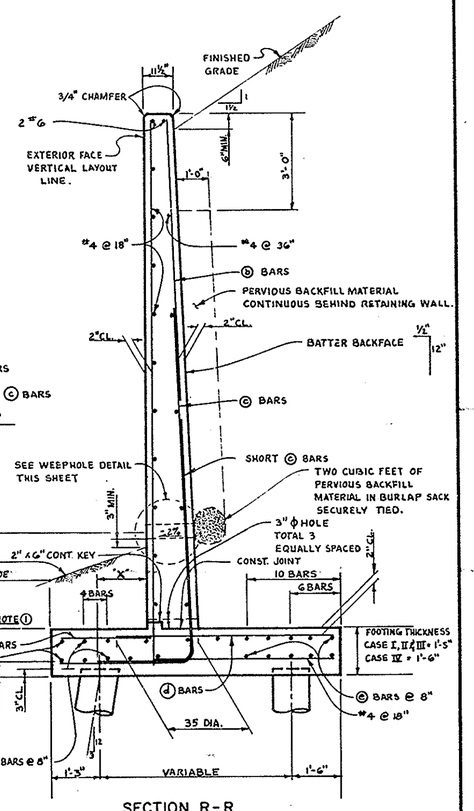
DR 8 (12504)

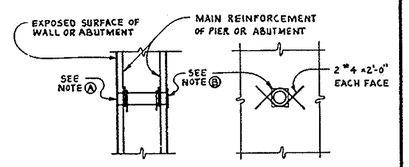




DESIGN CASE	CASE I	CASE II	CASE III	CASE IV
(b) BARS	——	——	#4 @ 18"	#6 @ 22"
(c) BARS	#5 @ 24"	#5 @ 16"	#6 @ 9"	#9 @ 11"
(d) BARS	#5 @ 24"	#5 @ 16"	#5 @ 9"	#8 @ 11"
(e) BARS (TOTAL)	6 #6	6 #6	10 #7	10 #7
(f) BARS (TOTAL)	——	——	4 #7	4 #7
DIM. "X"	1'-8"	1'-8"	1'-11"	1'-11"

NOTES:
(1) BACKFILL SUFFICIENTLY TO PREVENT PONDING. TO BE DONE AFTER REMOVAL OF FORMS AND BEFORE BACKFILLING BEHIND WALL.





NOTES:
A. 4" ϕ DRAINS AS SHOWN. EXPOSED WALL DRAINS SHALL BE LOCATED 3"± ABOVE FNISHED GRADE
B. 8" SQUARE, ALUMINUM OR GALVANIZED STEEL WIRE 4 MESH HARDWARE CLOTH. (MIN. WIRE DIAMETER 0.03".) ANCHOR FIRMLY IN PLACE.

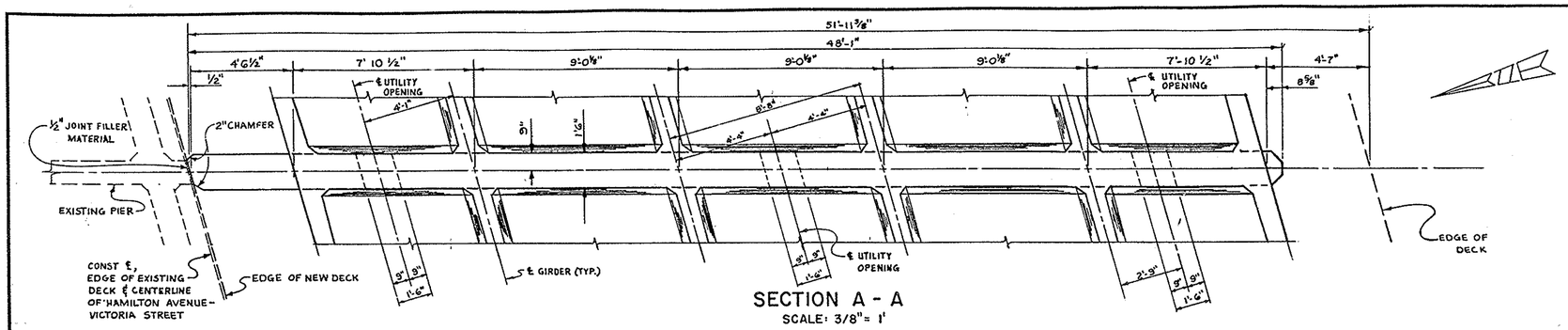
ORANGE COUNTY ROAD DEPARTMENT

HAMILTON-VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER
RETAINING WALL AND MISCELLANEOUS DETAILS

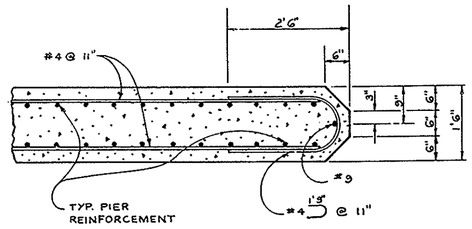
Drawn S.B.V. Date 3-1-77
Check [illegible] Date 3-24-77
SCALE AS SHOWN
SHEET 6 OF 22

#12504
Hamilton-Victoria Bridge (SA38)
Sheet 6 of 22
Red. 24:1
Cross section

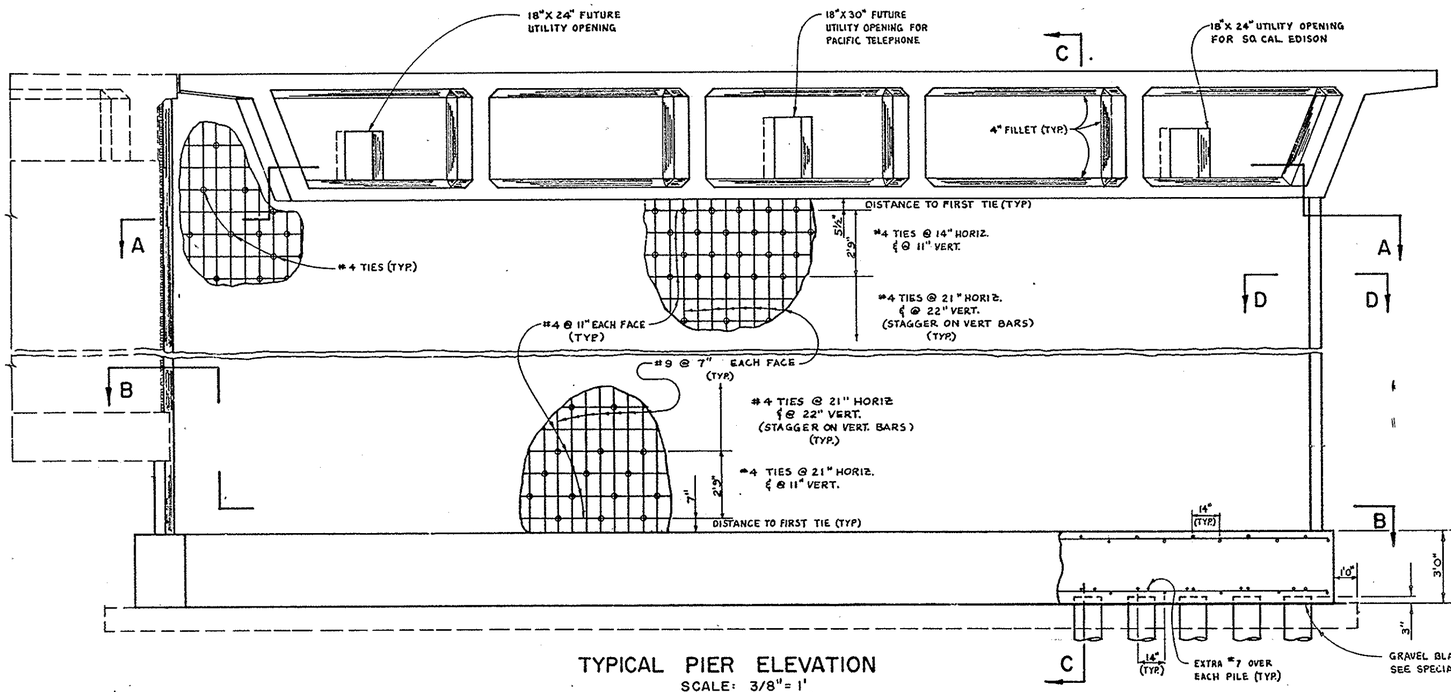
DRB (12504)



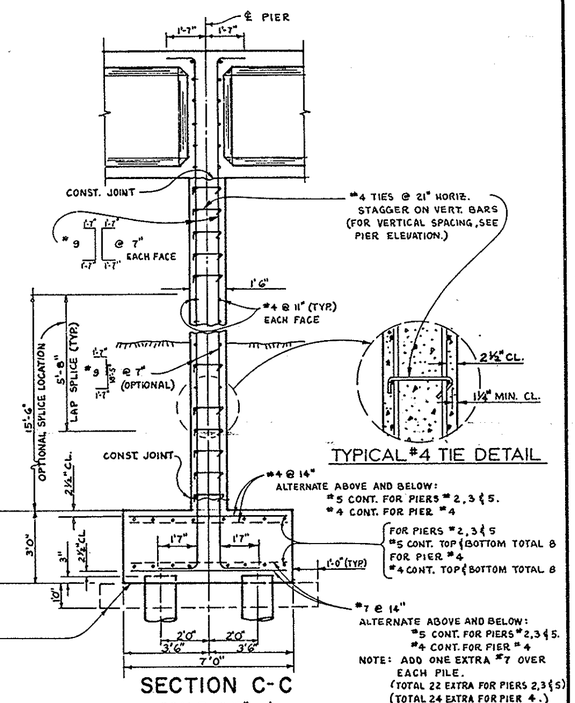
SECTION A - A
SCALE: 3/8"= 1'



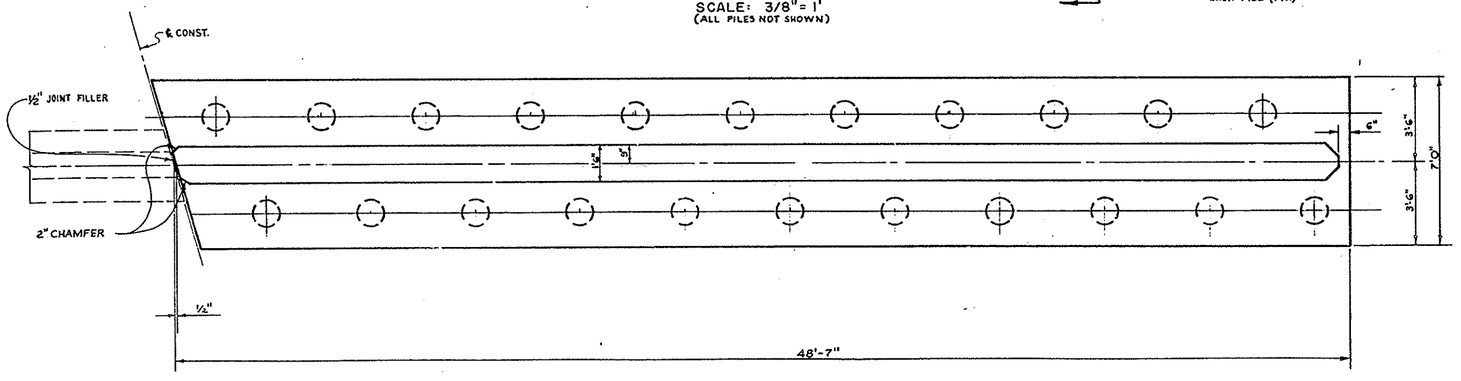
SECTION D-D
NO SCALE



TYPICAL PIER ELEVATION
SCALE: 3/8"= 1'
(ALL PILES NOT SHOWN)



SECTION C-C
SCALE 3/8"= 1'



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

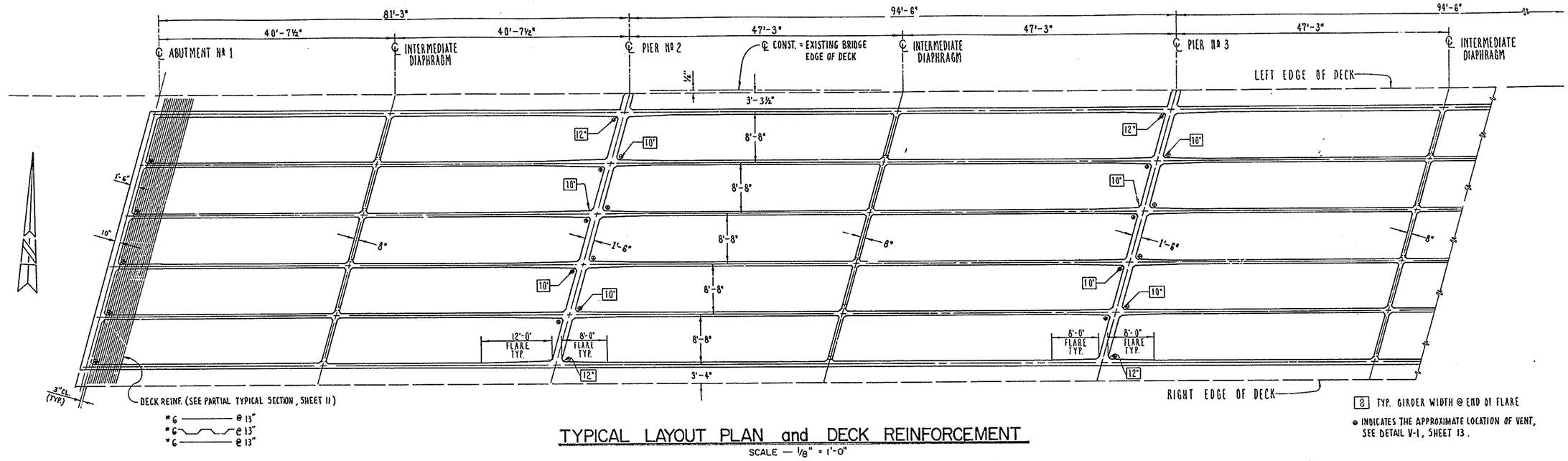
#12504
Hamilton-Victoria Bridge (SA38)
Sheet 7 of 22
Red. 24:1
Cross section

ORANGE COUNTY ROAD DEPARTMENT

HAMILTON-VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER
PIERS

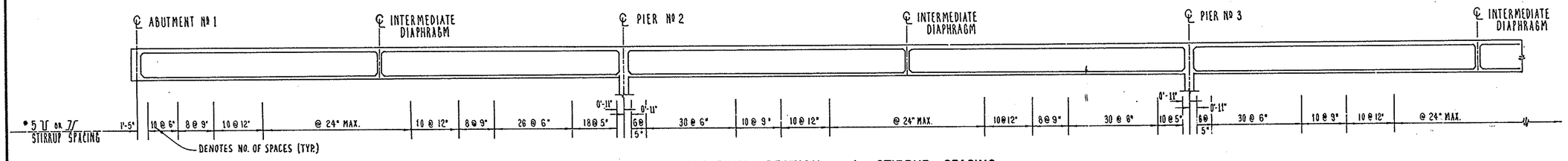
Drawn: S.B.V.
Check: [illegible]
Date: 3-64
Design: [illegible]
Scale: AS SHOWN
Sheet 7 of 22

DR 8 (12504)



TYPICAL LAYOUT PLAN and DECK REINFORCEMENT

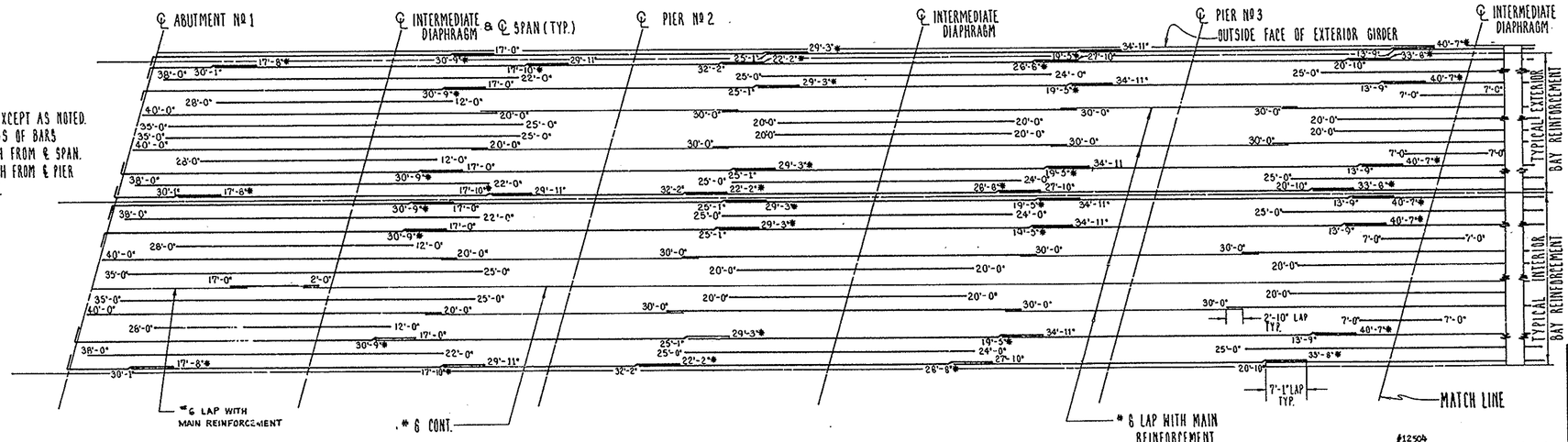
SCALE — 1/8" = 1'-0"



LONGITUDINAL SECTION and STIRRUP SPACING

SCALE — 1/8" = 1'-0"

NOTE: ALL BARS # 11 EXCEPT AS NOTED. NUMBERS AT ENDS OF BARS INDICATE LENGTH FROM ℄ SPAN. *INDICATES LENGTH FROM ℄ PIER OR ℄ ABUTMENT.



BOTTOM REINFORCEMENT

NO SCALE

#12504
Hamilton-Victoria Bridge (SA38)
Sheet 8 of 22
Rgd. 24:1
Cross section

ORANGE COUNTY ROAD DEPARTMENT

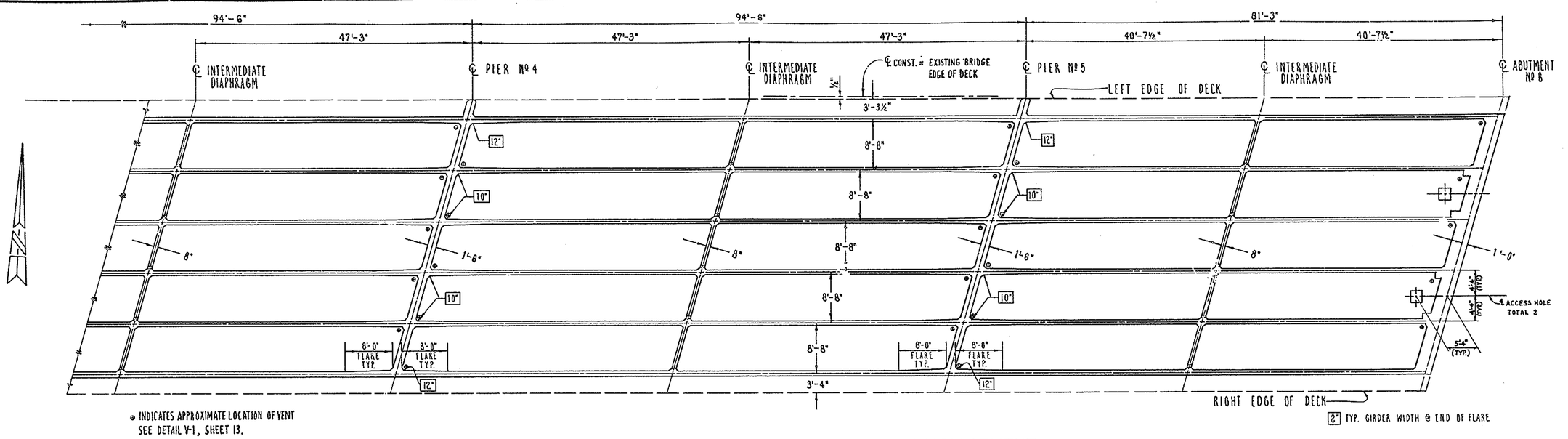
Dwn. S.D.V. Dat. 3-77
Chk'd. J.B.H. Dat. 3-24-77
Approved [illegible]

HAMILTON—VICTORIA BRIDGE
SA - 38
ACROSS SANTA ANA RIVER

SUPERSTRUCTURE LAYOUT and REINFORCEMENT

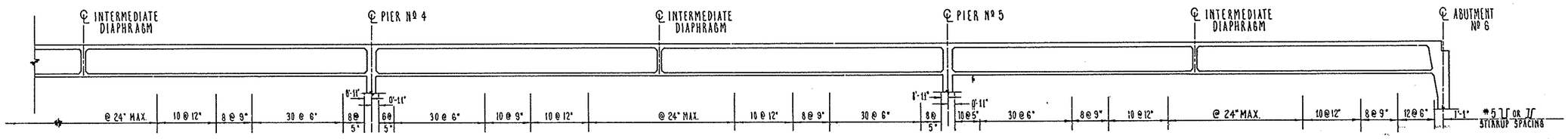
SCALE AS SHOWN SHEET 8 OF 22

DR 8 (12504)



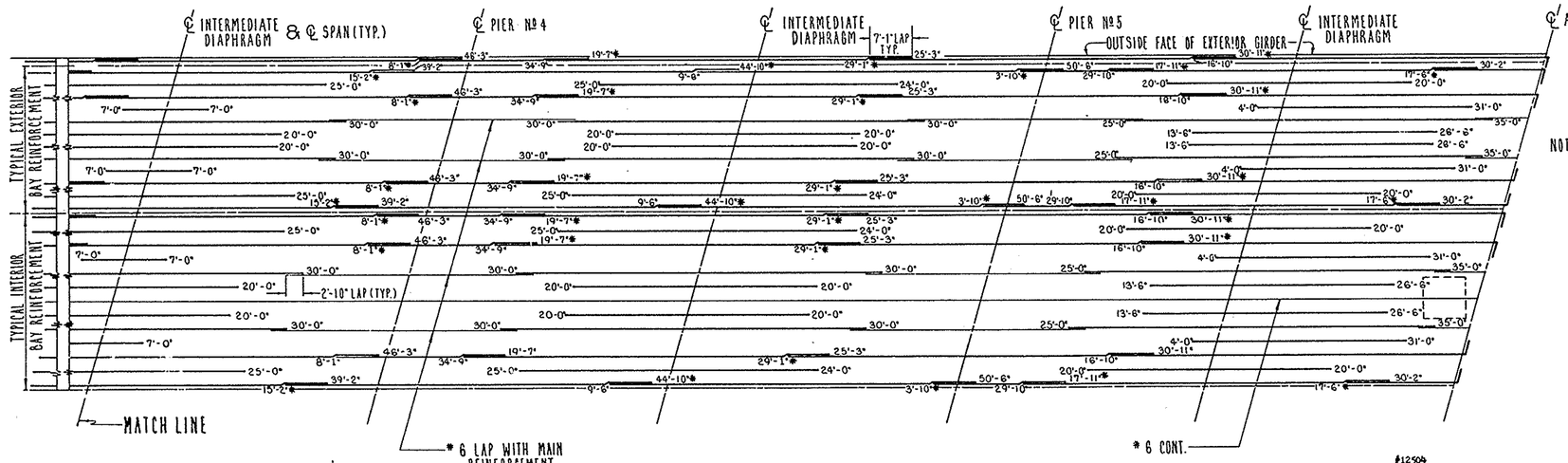
TYPICAL LAYOUT PLAN and DECK REINFORCEMENT

SCALE — ⅛" = 1'-0"



LONGITUDINAL SECTION and STIRRUP SPACING

SCALE — ⅛" = 1'-0"



BOTTOM REINFORCEMENT

NO SCALE

NOTE: ALL BARS # 11 EXCEPT AS NOTED. NUMBERS AT ENDS OF BARS INDICATE LENGTH FROM ℄ SPAN. * INDICATES LENGTH FROM ℄ PIER OR ℄ ABUTMENT.

#12504
Hamilton- victoria Bridge (SA38)
Sheet 9 of 22
Red, 24x1
Cross section

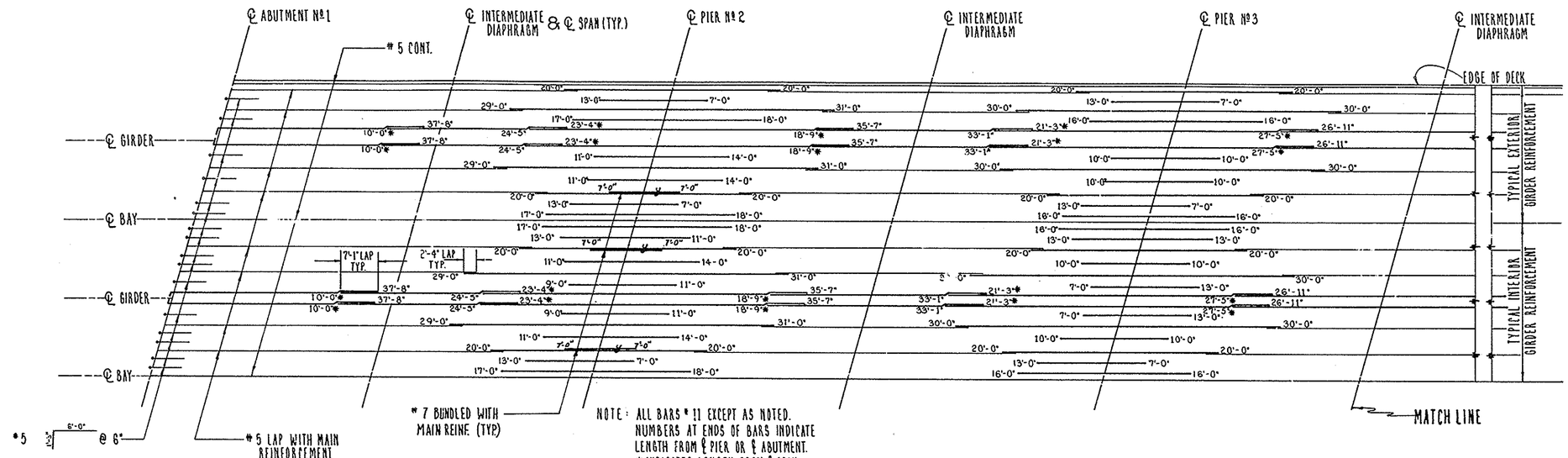
ORANGE COUNTY ROAD DEPARTMENT

HAMILTON-VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER

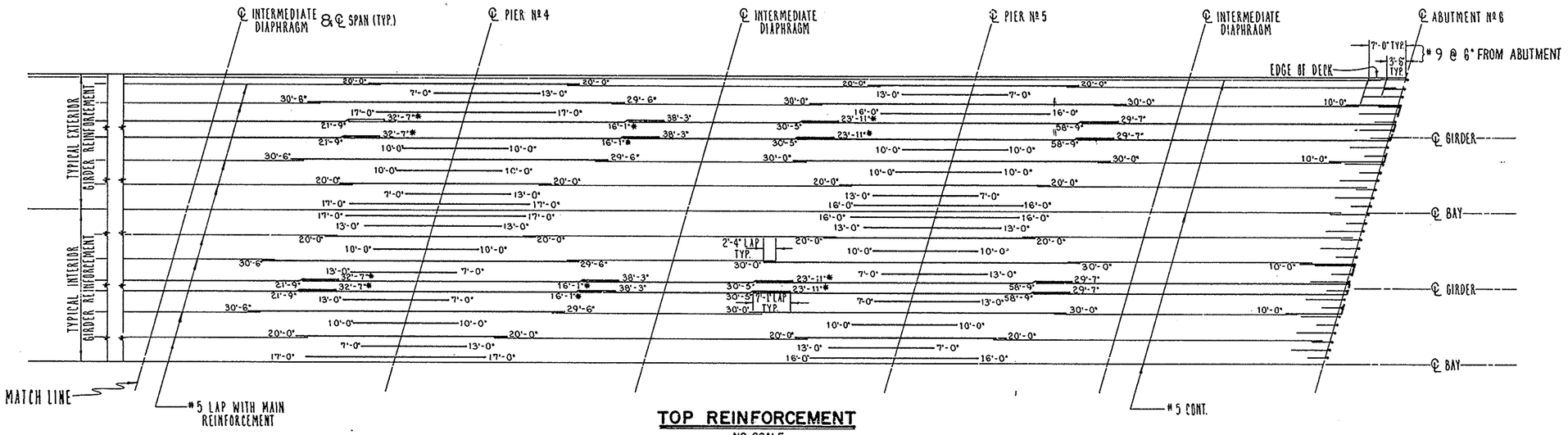
SUPERSTRUCTURE LAYOUT and REINFORCEMENT

DES'D — S.D.V. — DATE —
DRAWN — — DATE —
CHK'D — — DATE —
SECTION — — DIV. P.I.S. — DATE 9-27-
SCALE AS SHOWN — SHEET 9 OF 22

DRB (12504)

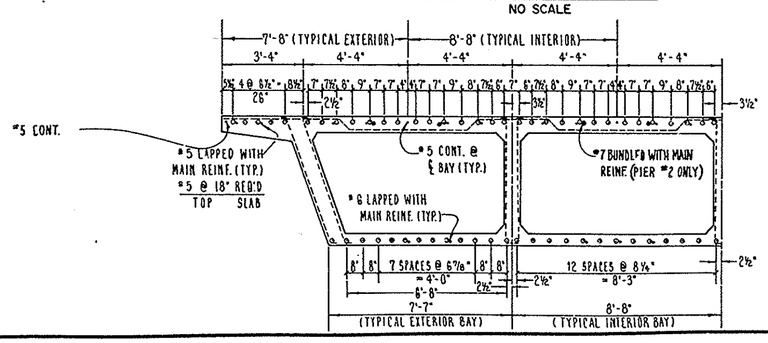


NOTE: ALL BARS # 11 EXCEPT AS NOTED.
NUMBERS AT ENDS OF BARS INDICATE LENGTH FROM ℄ PIER OR ℄ ABUTMENT.
*INDICATES LENGTH FROM ℄ SPAN.
¥ INDICATES BUNDLED BARS.



TOP REINFORCEMENT

NO SCALE



PLACING DIAGRAM

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

#12504
Hamilton-Victoria Bridge (SA38)
Sheet 10 of 22
Red. 2b11
Cross section

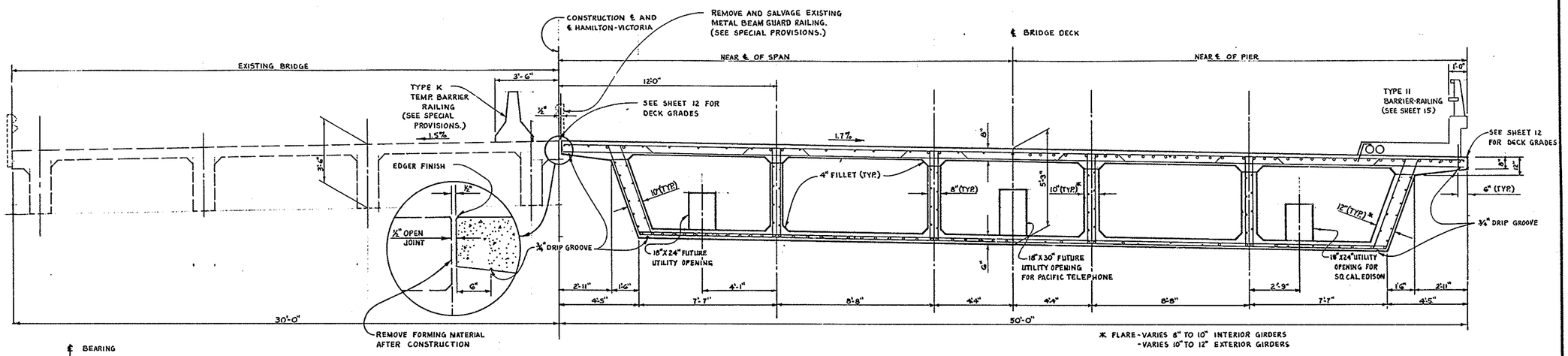
ORANGE COUNTY ROAD DEPARTMENT

HAMILTON—VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER

TOP DECK REINFORCEMENT and PLACING DIAGRAM

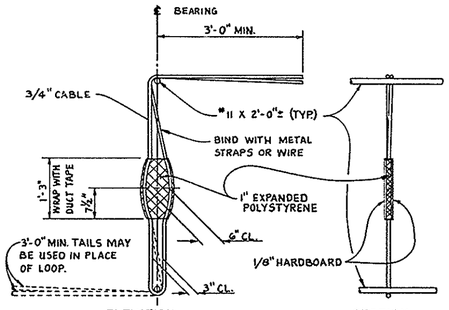
Drawn S.D.V. Date 3-1-77
Checked J.R.L. Date 3-4-77
SCALE AS SHOWN
SHEET 10 OF 22

DRB (12504)



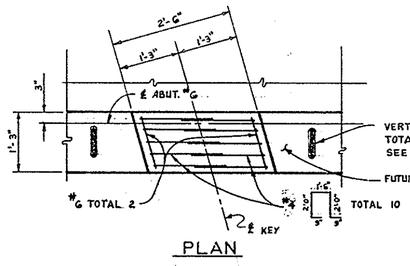
TYPICAL SECTION

SCALE 3/8" = 1'-0"

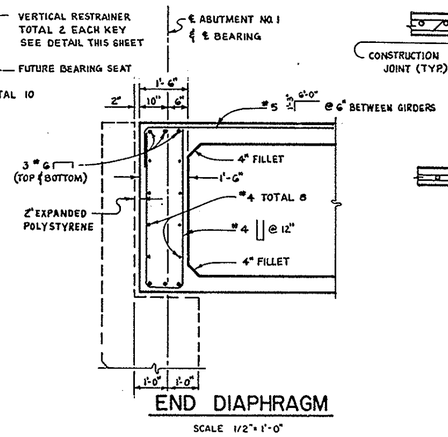


VERTICAL RESTRAINER

SCALE 3/4" = 1'-0"

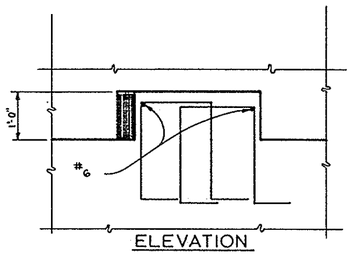


PLAN



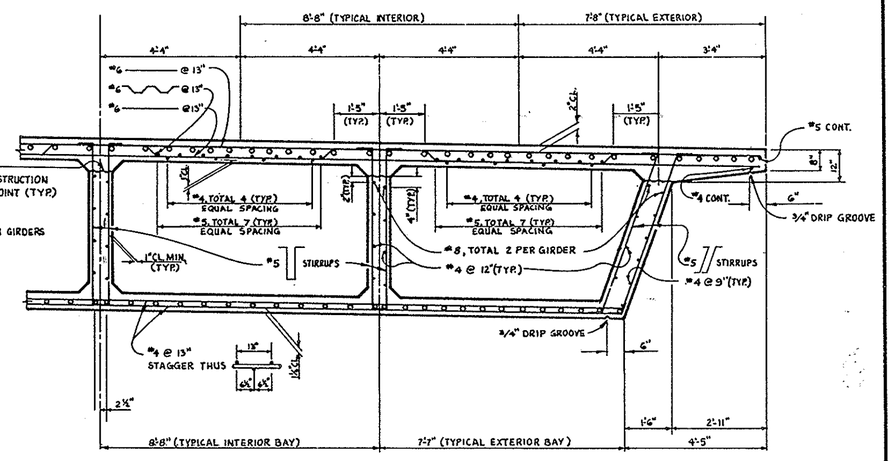
END DIAPHRAGM

SCALE 1/2" = 1'-0"



TRANSVERSE KEY

ABUTMENT NO. 6



PARTIAL TYPICAL SECTION

SCALE 1/2" = 1'-0"

O = MAIN REINFORCING BARS

GENERAL NOTES

DESIGN: AASHO DATED 1973 WITH SUBSEQUENT REVISIONS AND STATE OF CALIFORNIA BRIDGE PLANNING AND DESIGN MANUAL.

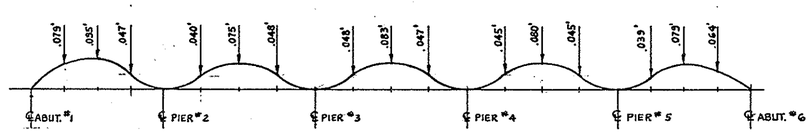
LIVE LOADING: HS 20-44 ℄ ALTERNATIVE

REINFORCED CONCRETE : f_s = 24,000 psi EXCEPT
= 20,000 psi IN TRANSVERSE DECK SLABS AND STIRRIPS.
f_c = 1300 psi
f'_c = 3250 psi @ 28 DAYS
n = 10

PILE LOADING: 70 TONS ; TYPE: CLASS 70.

CONCRETE: CLASS "A" USING TYPE II PORTLAND CEMENT.

REINFORCEMENT SPLICING:
BARS #8 ℄ SMALLER - LAP 45 DIAMETERS OF SMALLER BAR JOINED.
BARS #9, #10 ℄ #11 - LAP 60 DIAMETERS OF SMALLER BAR JOINED.



CAMBER DIAGRAM

NO SCALE

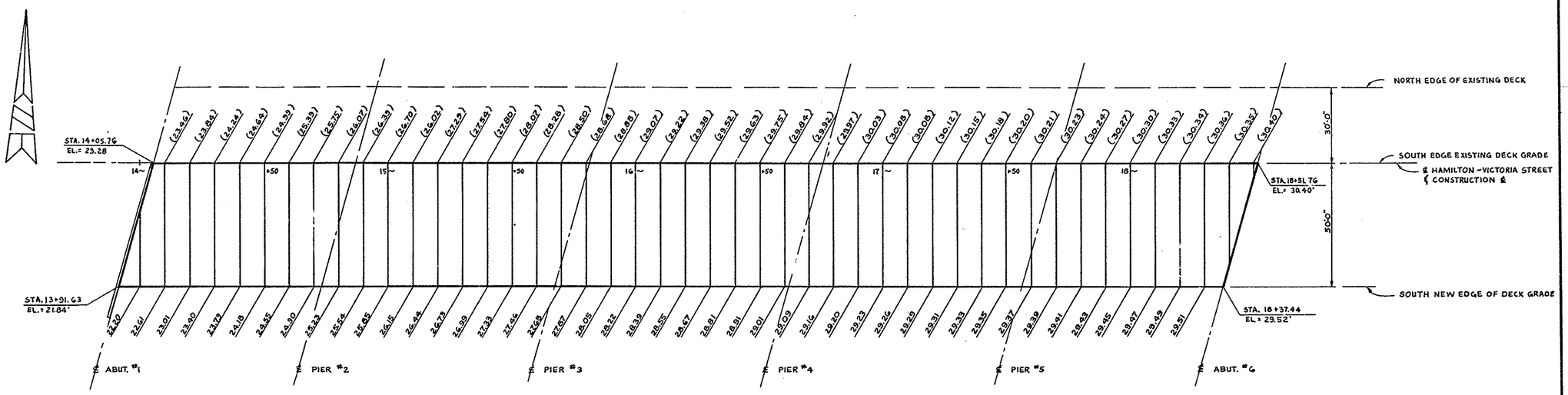
#12504
Hamilton-Victoria Bridge (SA38)
Sheet 11 of 22
Bed. 24x1
Cross section

ORANGE COUNTY ROAD DEPARTMENT

HAMILTON-VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER
TYPICAL SECTION AND GENERAL NOTES

SCALE AS SHOWN — SHEET 11 OF 22

DR 8 (12504)



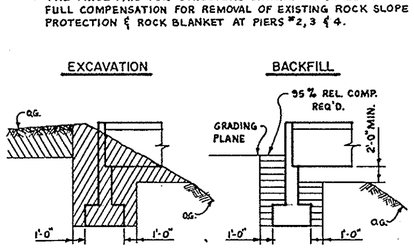
DECK GRADES

AT 10' STATION INTERVALS
SCALE 1" = 20'

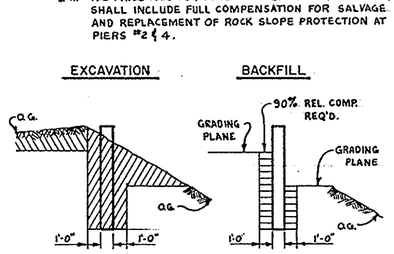
* THE PRICE PAID FOR STRUCTURE EXCAVATION SHALL INCLUDE FULL COMPENSATION FOR REMOVAL OF EXISTING ROCK SLOPE PROTECTION ℄ ROCK BLANKET AT PIERS #2, 3 ℄ 4.

** THE PRICE PAID FOR STRUCTURE BACKFILL (METHOD A) SHALL INCLUDE FULL COMPENSATION FOR SALVAGE AND REPLACEMENT OF ROCK SLOPE PROTECTION AT PIERS #2 ℄ 4.

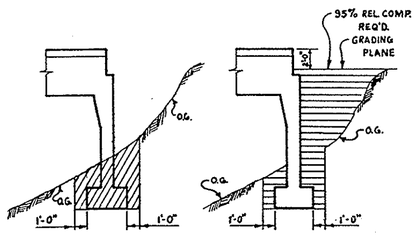
EXCAVATION BACKFILL



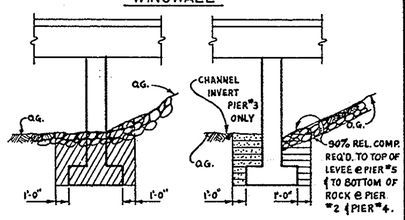
EXCAVATION BACKFILL



ABUTMENT NO. 1

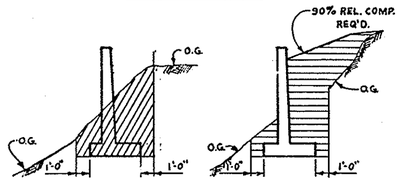


WINGWALL



TYPICAL PIER

ABUTMENT NO. 6

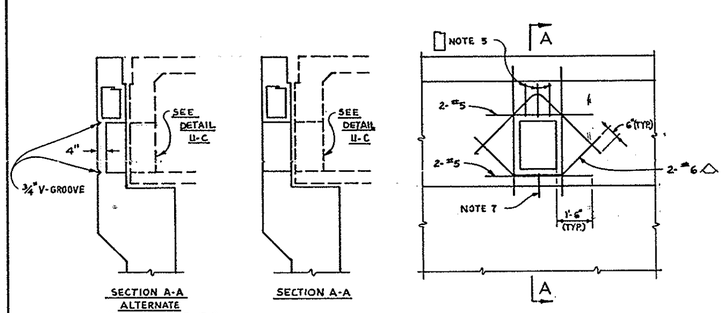


RETAINING WALL

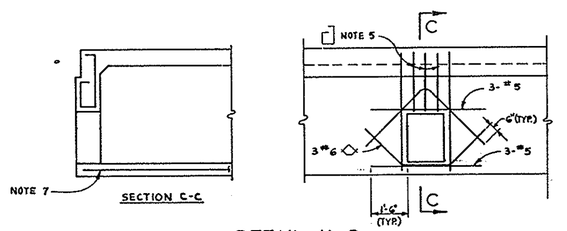
LEGEND

- STRUCTURE EXCAVATION *
- STRUCTURE BACKFILL (Method A)**
- UNCLASSIFIED EXCAVATION
- STRUCTURE BACKFILL (Method B)

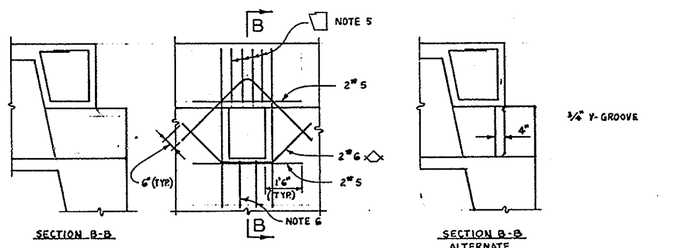
STRUCTURE EXCAVATION & BACKFILL DETAILS



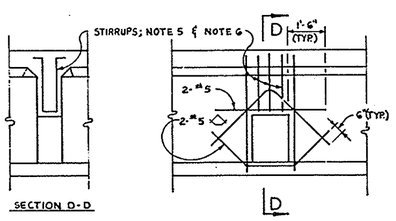
DETAIL U-A
(ABUTMENT NO. 1)



DETAIL U-C
(END DIAPHRAM)



DETAIL U-B
(ABUTMENT NO. 6)



DETAIL U-D
(INTERMEDIATE DIAPHRAMS AND PIERS)

NOTES Cont.:

6. REINF. TO BE SAME BAR SIZE AND SHAPE AS ADJACENT REINF. SHOWN ON PROJECT PLANS.
7. MAIN REINF. TO CLEAR OPENING.

NOTES:

1. FOR EXACT LOCATION, SIZE AND DIRECTION OF OPENINGS, SEE PROJECT PLANS.
2. GIRDERS NOT SHOWN, SEE PROJECT PLANS.
3. ALL REINF. DETAILED, TO BE PLACED IN ADDITION TO REINF. SHOWN ON PROJECT PLANS.
4. WATERTIGHT SEAL AROUND UTILITIES AT ABUTMENTS, TO BE OF SUFFICIENT STRENGTH TO WITHSTAND EARTH PRESSURE
5. REINF. TO BE SAME BAR SIZE AND ⅔ THE SPACING OF ADJACENT REINF SHOWN ON PROJECT PLANS.

UTILITY OPENING DETAILS

#12504
Hamilton-Victoria Bridge (SA38)
Sheet 12 of 22
Red. 2411
Cross section

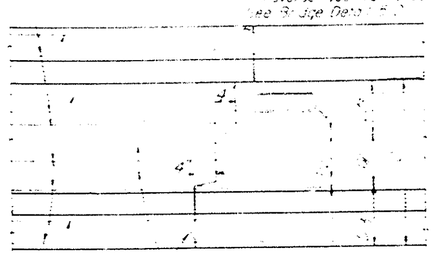
ORANGE COUNTY ROAD DEPARTMENT

HAMILTON-VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER
STRUCTURE EXC. & BACKFILL DET., UTILITY OPENINGS, DECK GRADES

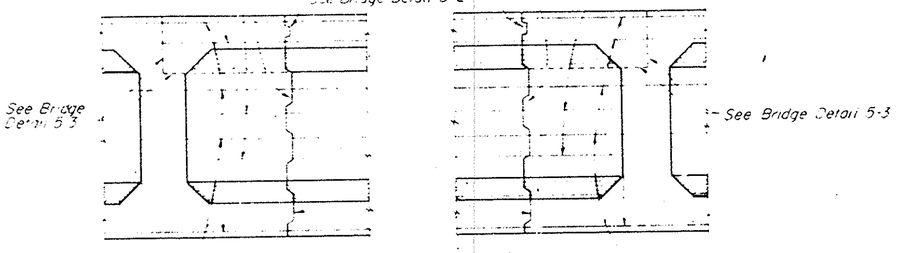
Design S.B.V. Date 3-1-72
Check J.B.J. Date 3-24-72
Approved [illegible] Date

SCALE AS SHOWN
SHEET 12 OF 22

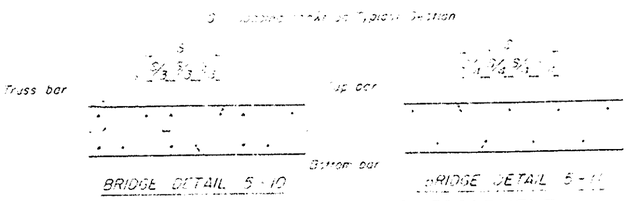
DR 8 (12504)



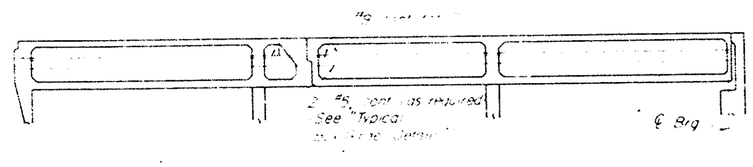
TRANSVERSE GIRDER CONSTRUCTION JOINTS
DETAIL J-2



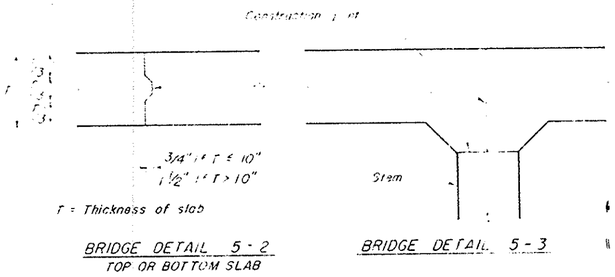
LONGITUDINAL CONSTRUCTION JOINTS
DETAIL J-4



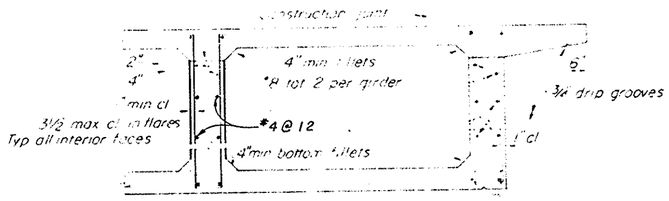
TRANSVERSE DECK REINFORCEMENT
SPACING DIAGRAMS



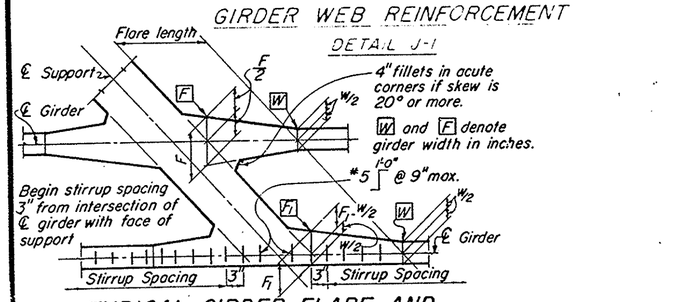
GIRDER WEB REINFORCEMENT
DETAIL J-1



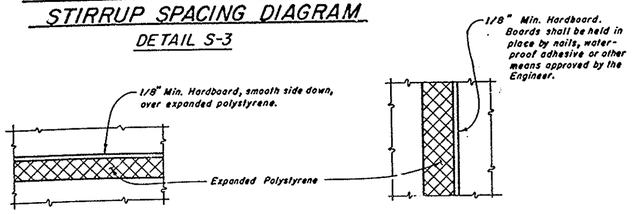
DECK CONSTRUCTION JOINTS



TYPICAL BOX GIRDER DETAILS
DETAIL B-1



TYPICAL GIRDER FLARE AND
STIRRUP SPACING DIAGRAM
DETAIL S-3

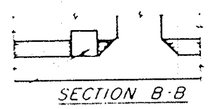


HORIZONTAL
DETAIL 13-1

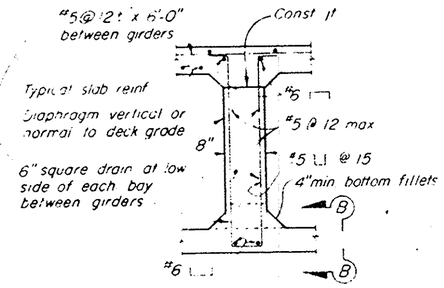
VERTICAL
DETAIL 13-2

NOTE:
Surfaces of expanded polystyrene against which concrete is to be placed shall be facad with hardboard. Other facing materials may be used, provided they furnish equivalent protection.

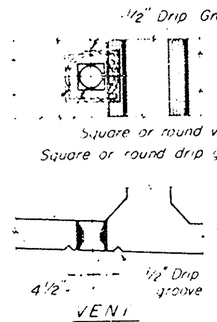
PROTECTION OF POLYSTYRENE



SECTION B-B

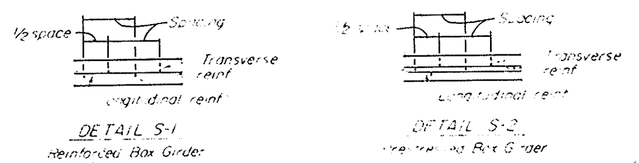


INTERMEDIATE DIAPHRAGM SECTION
DETAIL D-1



VENT
DETAIL V-1

Note. 5" ϕ vent in lower slab
Min of two vents per span in each bay between girders. One vent to be located at low point of span and other vent to be located at opposite end of span @ 1'6" from face of abutment or bent

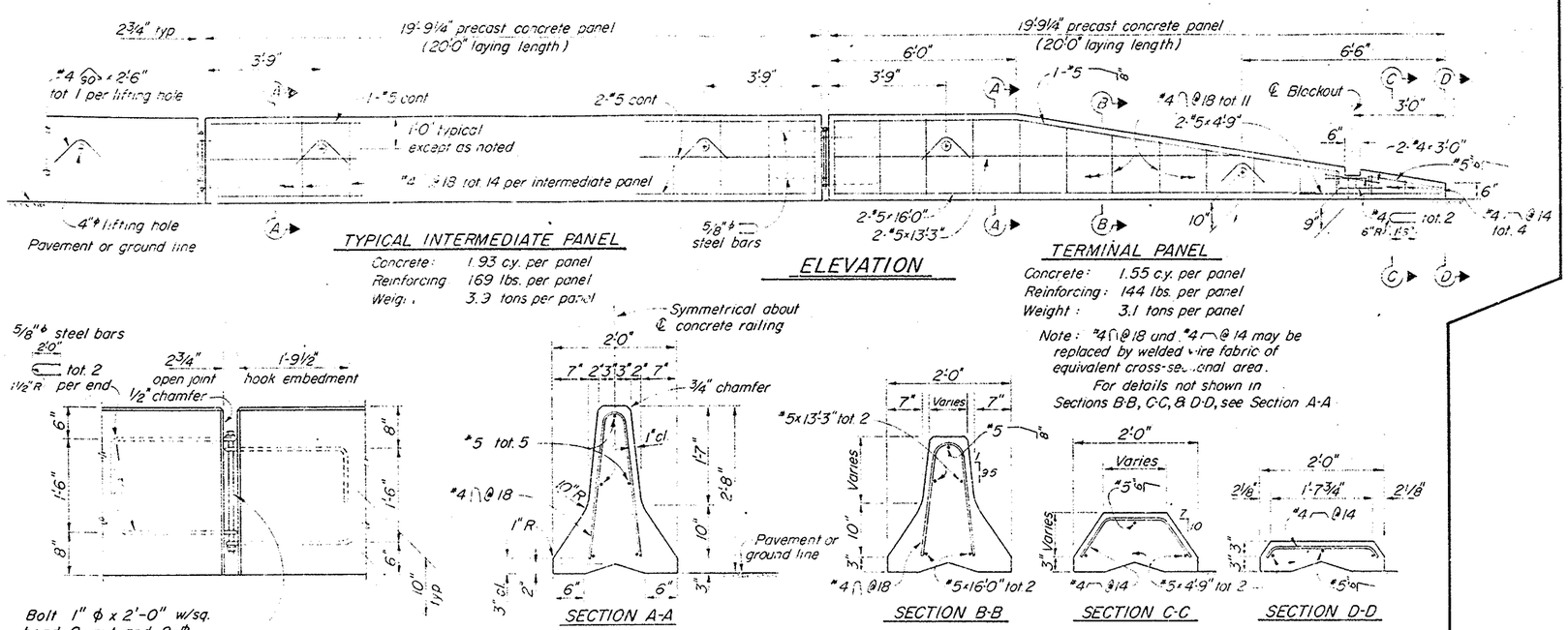


BOTTOM SLAB TRANSVERSE REINFORCEMENT
SPACING DIAGRAMS

#12504
Hamilton-Victoria Bridge (SA-38)
Sheet 13 of 22
Red. 2411
Linen

ORANGE COUNTY ROAD DEPARTMENT
Drawn S.B.V. Des. E.A.S.
Chkd. Date 3-5-72
Approved
HAMILTON-VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER
MISCELLANEOUS DETAILS
SCALE AS SHOWN
SHEET 13 OF 22

DA 8 (12504)



TYPICAL INTERMEDIATE PANEL

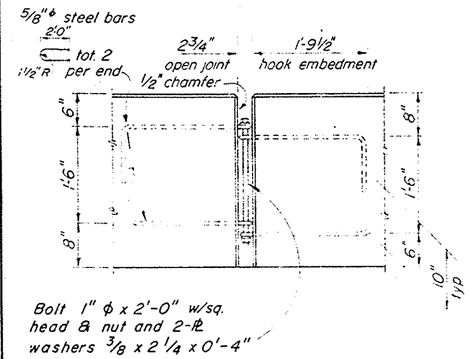
Concrete: 1.93 c.y. per panel
Reinforcing 169 lbs. per panel
Weight 3.3 tons per panel

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

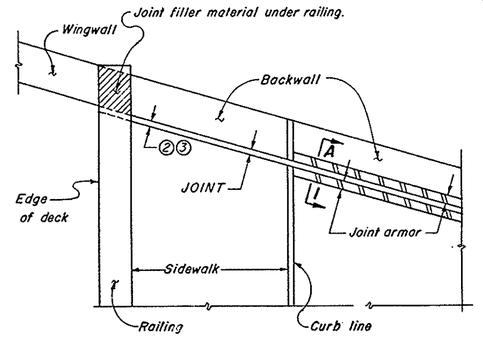
SECTION A-A

SECTION B-B

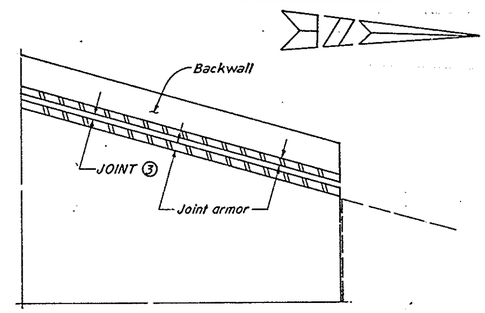
SECTION C-C

SECTION D-D

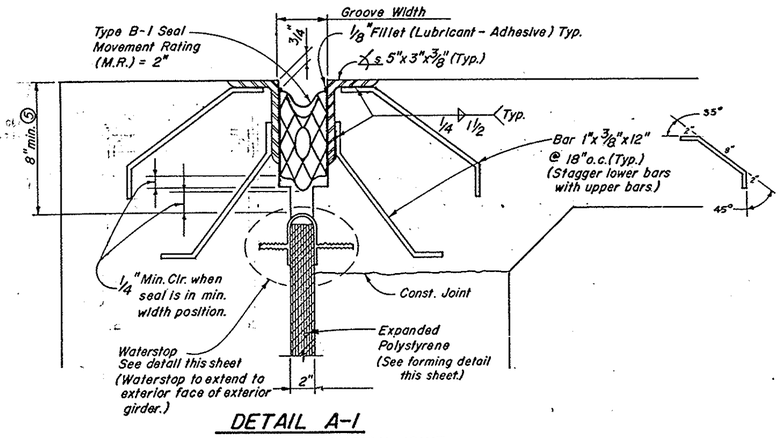
TEMPORARY RAILING TYPE K



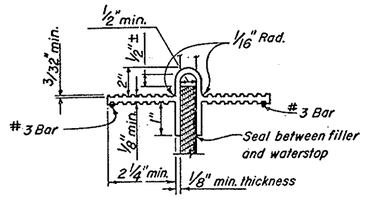
PLAN OF JOINT
SOUTHWEST CORNER OF BRIDGE



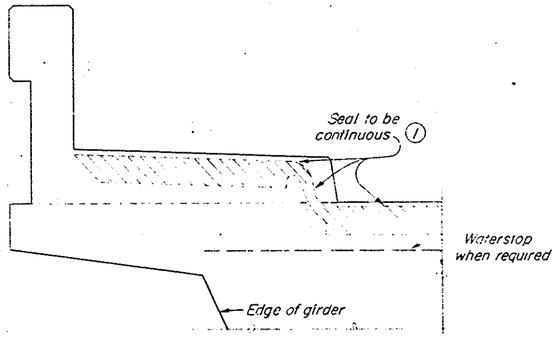
PLAN OF JOINT
NORTHWEST CORNER OF BRIDGE



DETAIL A-1
TYPICAL DECK EXPANSION JOINT



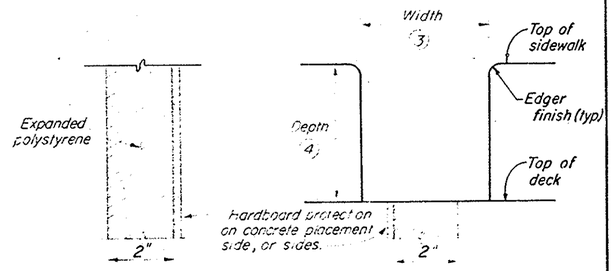
WATERSTOP DETAIL



SIDEWALK JOINT SEAL DETAILS

NOTES:

① Make smooth cuts from the bottom of seal to 1½" clear of top leaving at least one complete cell between the top of the cut and the top of the seal. When necessary cut back of seal to clear conduit.
② Opening in the rail and sidewalk to be constructed to the existing width of formed deck joint.
③ Groove widths shall be as ordered by the engineer.
④ Depth of groove: Depth to be equal to or greater than the depth of seal measured along the contact surface, when compressed to a minimum width position (w_2) plus dimension shown on Detail A-1.
⑤ Other depths must be approved by the engineer.



FORMING DETAIL

SIDEWALK JOINT FORMING DETAIL

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Hamilton-Victoria Bridge (SA38)
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Linen

ORANGE COUNTY ROAD DEPARTMENT

HAMILTON - VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER
TYPE K TEMPORARY RAILING AND JOINT SEAL DETAILS

SCALE: AS SHOWN SHEET 14 OF 22

DR 8 (12504)

PLAN

ELEVATION

METAL BEAM GUARD RAIL ANCHORAGE

CURB DETAIL

TYPE 11

TYPE 11A

RAIL POST ANCHOR BOLT DETAIL

UTILITY DUCT EXPANSION JOINT

TYPE 1

Notes

A. Tubing shall be fabricated with horizontal curve when radius is less than 100'

B. [illegible] tubing

C. Pipe sleeves shall be placed in pipes spanning joints to provide clear width to match joint opening at that point. Sleeves shall be securely

D. Splices will only be allowed with approval of Engineer at surfacing. See bridge plans.

E. Walls shall be constructed before railing is placed.

F. Clearance between railing posts and curb and railing to be 1" Longitudinal reinforcement in posts shall not be shown.

G. [illegible] strength is specified with 2 hex nuts and washer [illegible] may be substituted for high strength anchor bolts.

H. Torque [illegible] post [illegible] 2 hours before traffic.

I. Galvanize rail assembly after fabrication.

K. Locate pull box near mid-point between posts, but not in same panel as deck joints or expansion joints. For Electrical Details, see Standard Plan sheets ES-7A, 7B, 7C, 7D

L. See Project Plans for electrolier locations.

M. For details not shown, see "Metal Railing Details Types B & 11" sheet.

N. A minimum of 2-0.6" round openings are required for future or existing utilities. Openings are to be sealed at ends if not used. Duct forms are to be tied down.

Form and seal by expansion joint at least building paper material

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Red, Okl
Linen

DEPARTMENT OF PUBLIC WORKS

HAMILTON-VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER

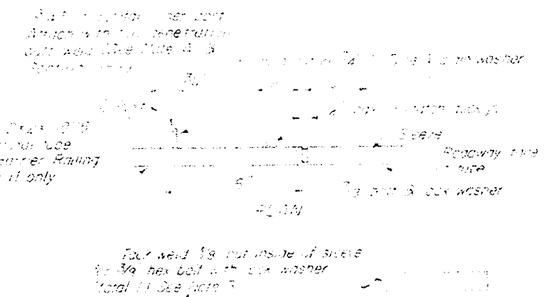
BARRIER RAILING
TYPE 1

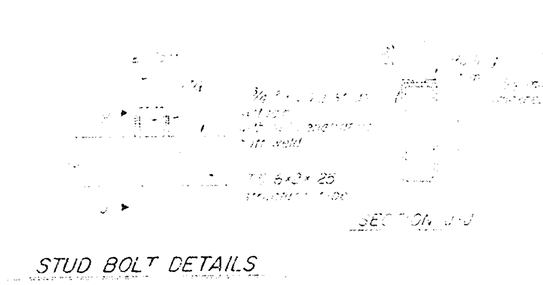
AS SHOWN 15 22

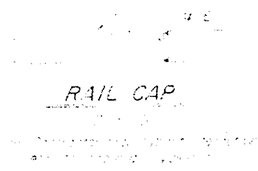
DR8 (12504)

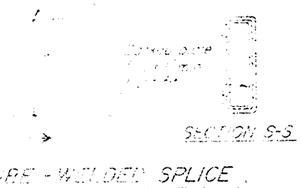
ALTERNATIVE RAIL POST DETAILS TYPE 9

These details apply to Barrier Railing Types 9 and 9A

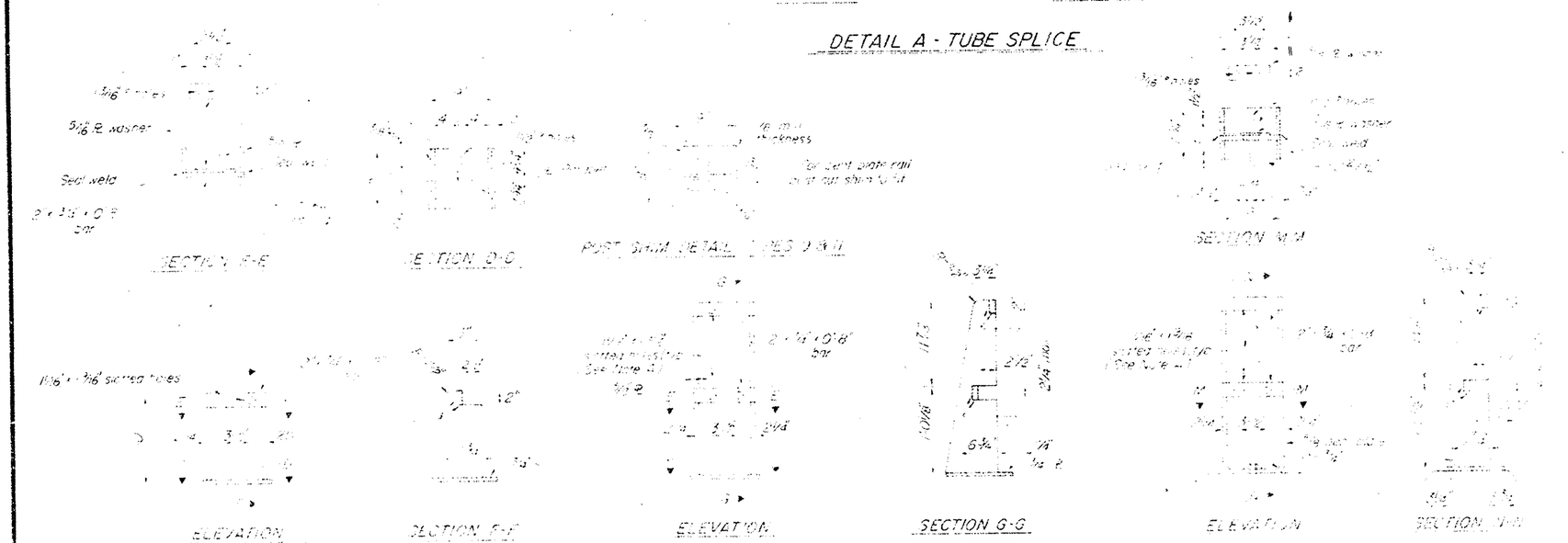








TUBE - WELDED SPLICE



RAIL POST DETAILS TYPE 9

These details apply to Barrier Railing Types 9 & 9A

RAIL POST DETAILS TYPE 11

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

ALTERNATIVE RAIL POST DETAILS TYPE 11

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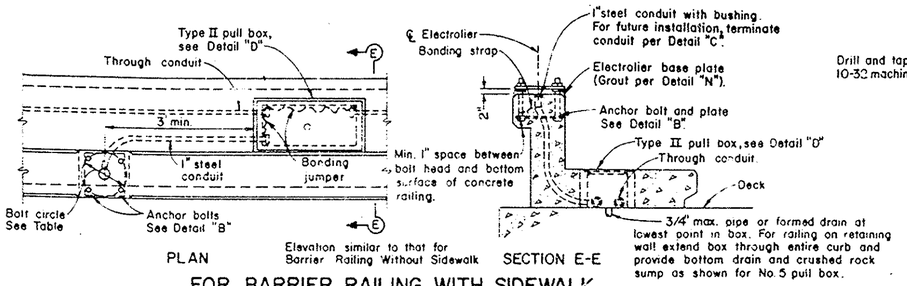
Red. Mat:
Linen

DIST. 12	HAMILTON-VICTORIA BRIDGE
COUNTY ORA	SA-38
	ACROSS SANTA ANA RIVER
	METAL RAILING DETAILS TYPES 9 & 11
	SCALE
	16-22

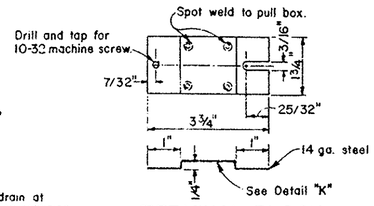
DR 8 (12504)



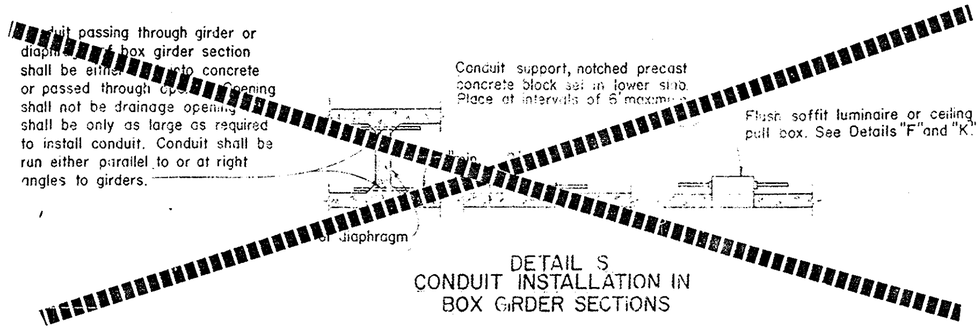
FOR BARRIER RAILING WITH SIDEWALK

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

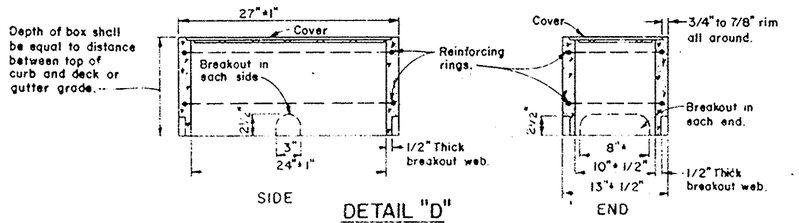
DETAIL "A" ELECTROLIER BASE AND PULL BOX INSTALLATION



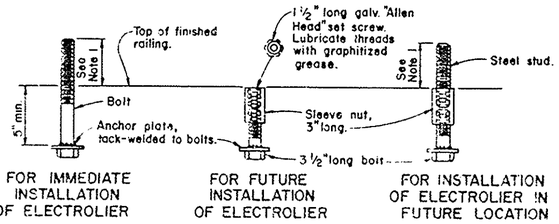
TERMINAL BLOCK MOUNTING BRACKET



DETAIL S
CONDUIT INSTALLATION IN BOX GIRDER SECTIONS



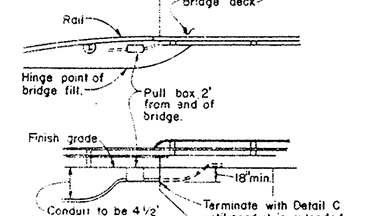
DETAIL "D"
STRUCTURE PULL BOX (TYPE II)



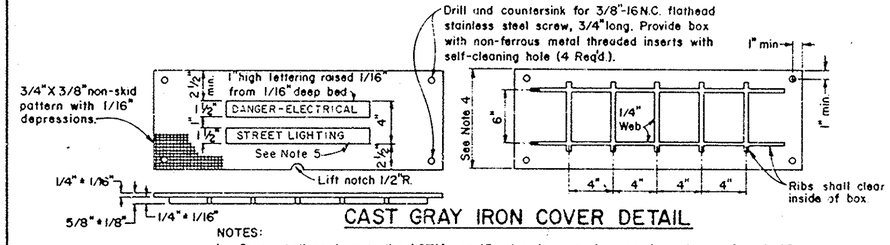
NOTES:

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



DETAIL I
CONDUIT TERMINATION AT END OF STRUCTURE



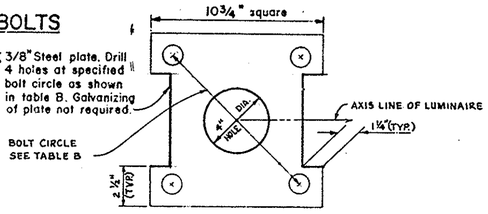
CAST GRAY IRON COVER DETAIL

NOTES:

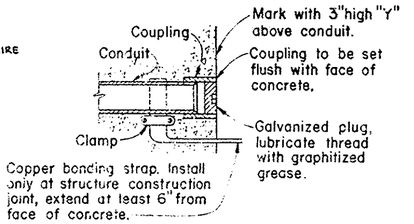
1. Cover shall conform to the ASTM specification for gray iron castings, designation A-48, class 30, and shall be hot-dipped galvanized after fabrication.
2. Completed cover shall be free from warp and shall fit into box facing either direction.
3. Steel reinforcing may be as used in standard products 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

TABLE B

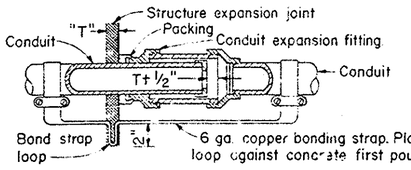
TYPE	BOLT CIRCLE	ANCHOR BOLT DIAMETER
XV	11"	1"
XVI	11 ½"	1 ⅛"



ANCHOR PLATE



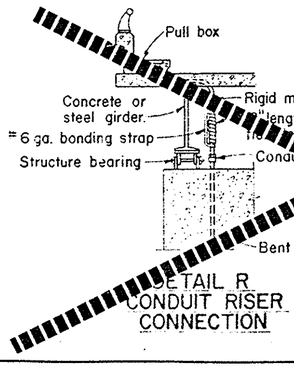
DETAIL "C"
CONDUIT TERMINATION



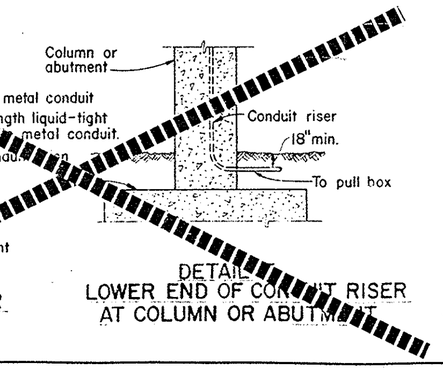
NOTES:

1. Except for sidewalk joints, a conduit expansion fitting shall be installed at each 1/2 inch or greater structure joint, hinge or abutment.
2. Expansion fitting shall be installed parallel to superstructure girders.
3. Where lateral movement greater than 1/4" may occur, install neoprene sleeve expansion-deflection fitting straddling joint.

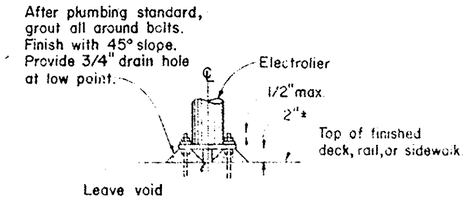
DETAIL "X"
CONDUIT EXPANSION JOINT



DETAIL R
CONDUIT RISER CONNECTION



DETAIL
LOWER END OF CONDUIT RISER AT COLUMN OR ABUTMENT



DETAIL "N"
GROUTING AT ELECTROLIER

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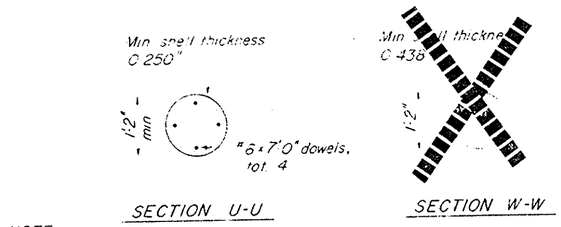
Linen

ORANGE COUNTY ROAD DEPARTMENT

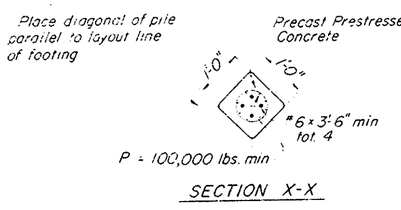
C.I.S. 9-77	HAMILTON-VICTORIA BRIDGE SA-38
S.D.V. W.B.H.	ACROSS SANTA ANA RIVER
	ELECTRICAL DETAILS
	AS SHOWN 17 22

DRB (12504)

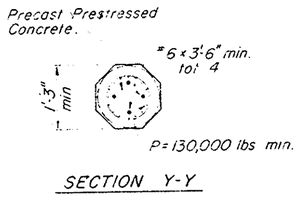


SECTION U-U

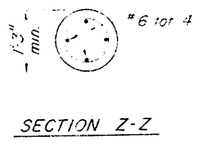
SECTION W-W



SECTION X-X



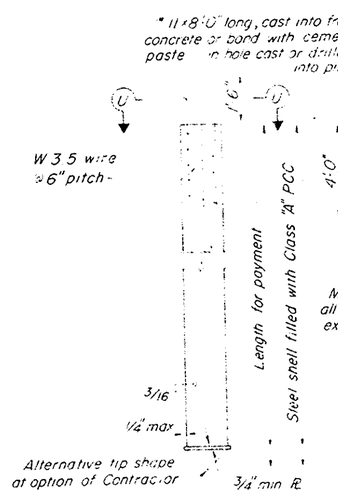
SECTION Y-Y



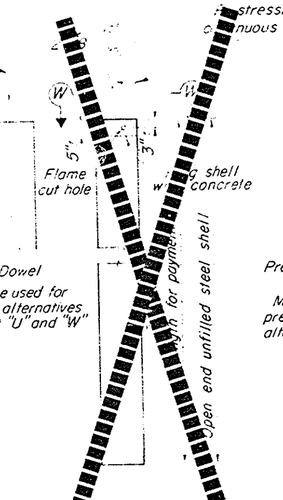
SECTION Z-Z

CORRUGATED ALTERNATIVE "Z"

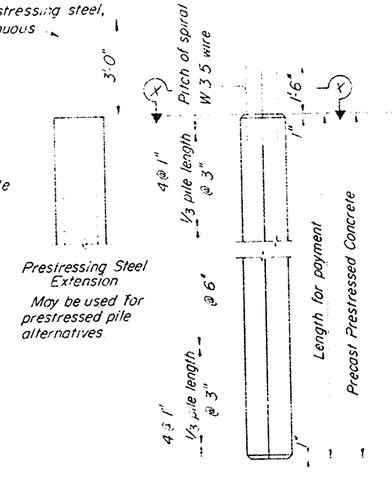
NOTE:
When 'Alternative "U"' is driven with mandrel, shell thickness may be reduced to 0.134"



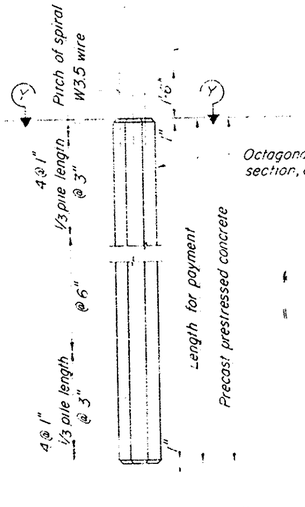
ALTERNATIVE "U"



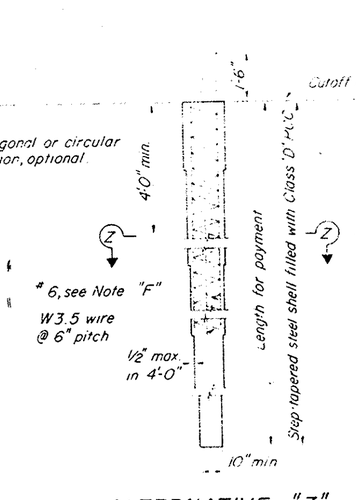
ALTERNATIVE "W"



ALTERNATIVE "X"



ALTERNATIVE "Y"



ALTERNATIVE "Z"

NOTES:

1. 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
2. ~~5~~ Guage wire may be substituted for W3.5 wire.
   For W 3.5 wire

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.

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.

DESIGN LOADING = 70 TONS

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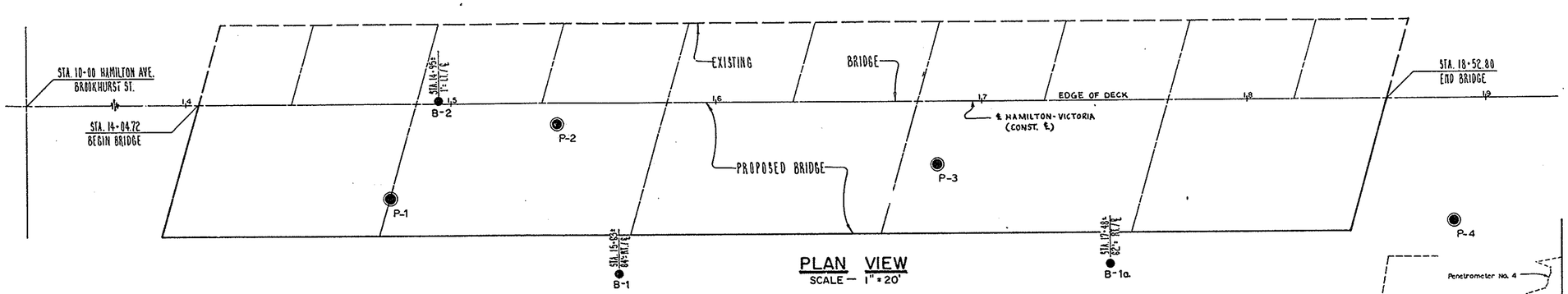
Linen

E.I.S. 3-4-77

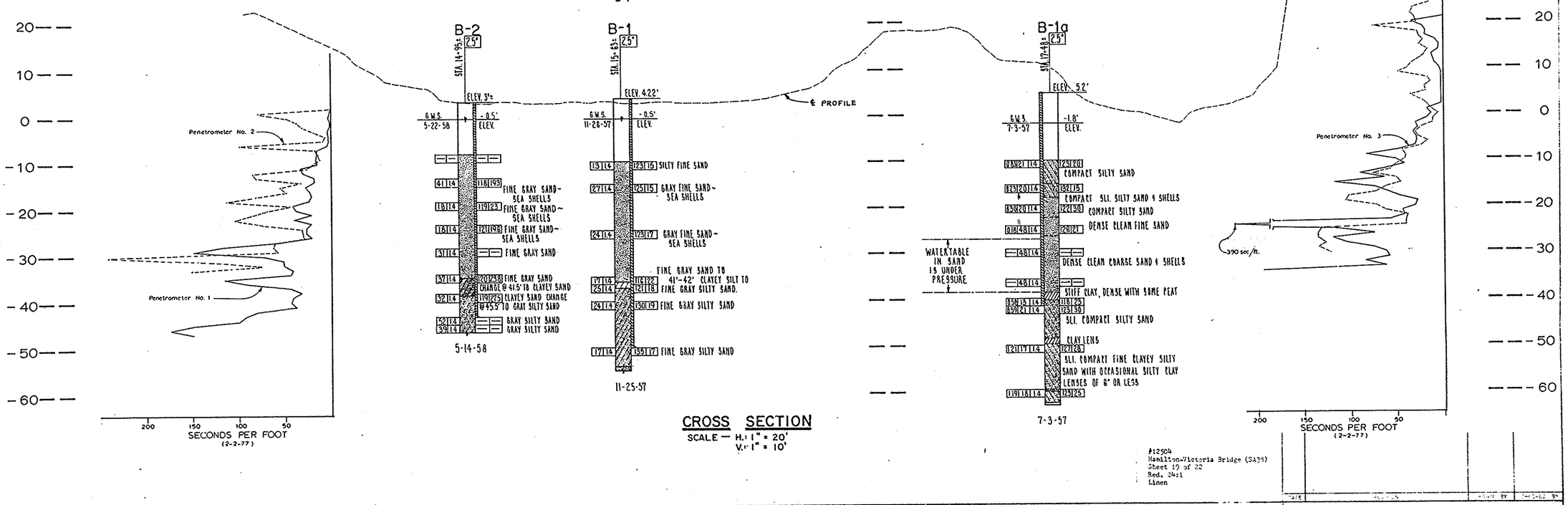
S.O.V.

HAMILTON-VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER
PILE DETAILS
AS SHOWN
18 22

DRB (12504)



PLAN VIEW
SCALE — 1" = 20'

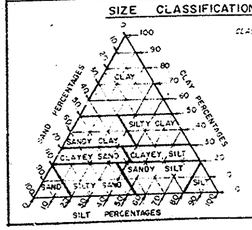


CROSS SECTION
SCALE — H.: 1" = 20'
V.: 1" = 10'

#12504
Hamilton-Victoria Bridge (SA38)
Sheet 19 of 22
Red, 24x1
Linen

LEGEND OF EARTH MATERIALS

SIZE CLASSIFICATION



CLASSIFICATION OF EARTH MATERIAL SHOWN ON THIS SHEET IS BASED ON MECHANICAL ANALYSIS UNLESS OTHERWISE INDICATED.

MATERIAL SYMBOLS

- GRAVEL
- S...
- SI...
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY S...
- SILTY CLAY OR CLAYEY SILT
- PEAT OR ORGANIC MATTER
- FILL MATERIAL
- SHALE
- SANDSTONE
- LIMESTONE
- METAMORPHIC ROCK
- IGNEOUS ROCK

CONSISTENCY CLASSIFICATION

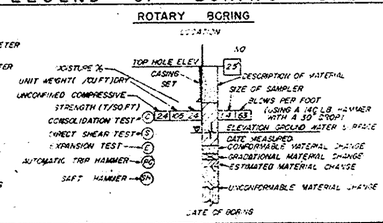
ACCORDING TO THE STANDARD PENETRATION TEST

NO OF BLOWS	GRANULAR	COHESIVE
0 - 5	VERY LOOSE	VERY SOFT
6 - 10	LOOSE	SOFT
11 - 20	SLIGHTLY COMPACT	STIFF
21 - 35	COMPACT	VERY STIFF
36 - 70	DENSE	HARD
70+	VERY DENSE	VERY HARD

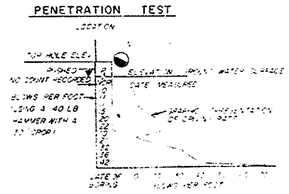
LEGEND OF BORING OPERATIONS

- AUGER BORING
- STANDARD PENETROMETER
- 2.5" SAME PENETROMETER
- ROTARY BORING
- AUGER BORING
- SAMPLE BORING
- JET BORING
- DIAMOND CORE BORING
- TEST PIT

ROTARY BORING



PENETRATION TEST



COUNTY OF ORANGE
ENVIRONMENTAL MANAGEMENT AGENCY

HAMILTON VICTORIA BRIDGE
SA-38
ACROSS SANTA ANA RIVER

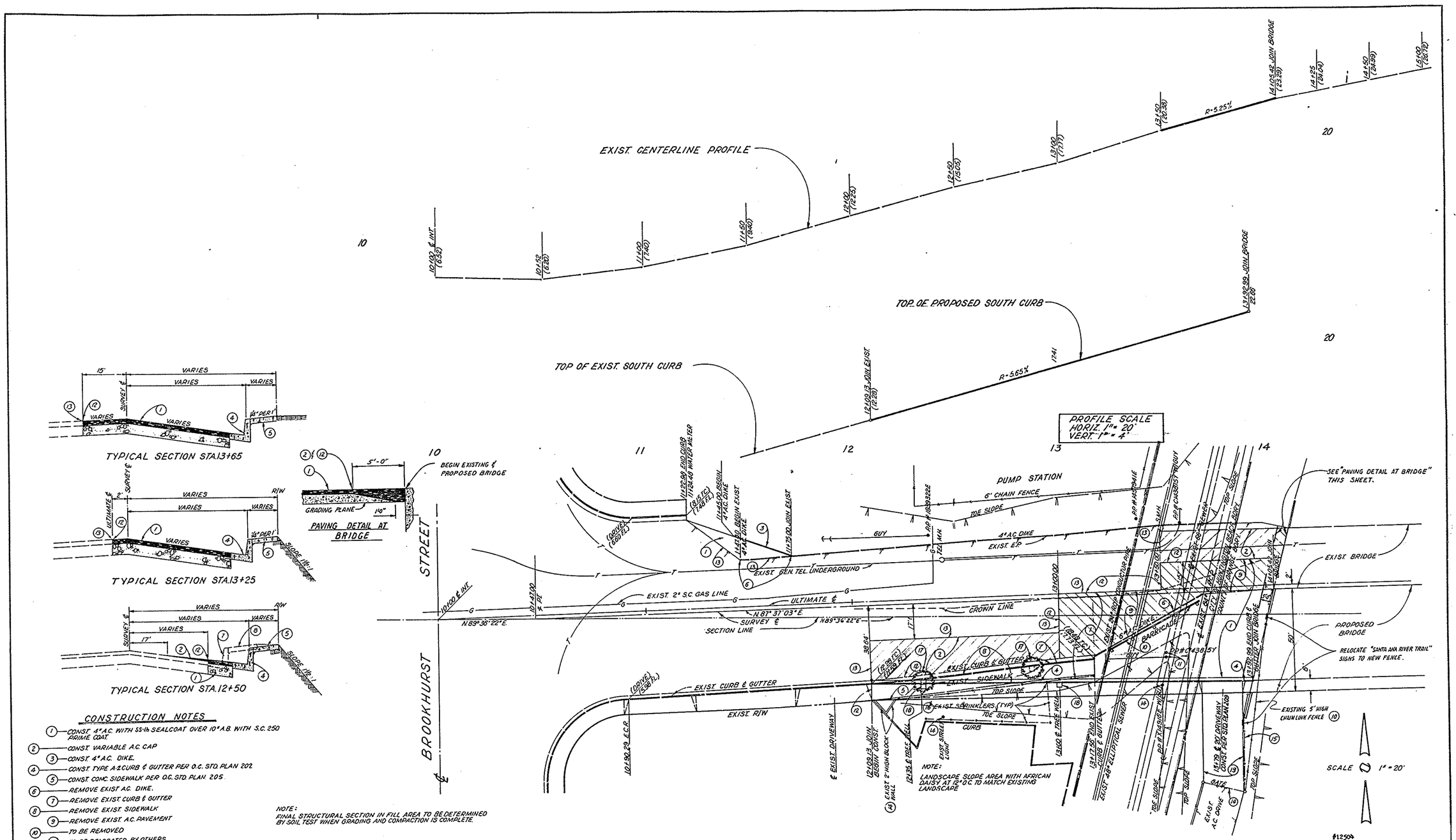
LOG OF TEST BORINGS

SHT. 19 OF 22

SCALE AS SHOWN

DRAWING

DR 8 (12504)



CONSTRUCTION NOTES

1. CONST. 4" A.C. WITH SS-1h SEALCOAT OVER 10" A.B. WITH S.C. 250 PRIME COAT.
2. CONST. VARIABLE A.C. CAP
3. CONST. 4" A.C. DIKE.
4. CONST. TYPE A-2 CURB & GUTTER PER O.C. STD. PLAN 202
5. CONST. CONC. SIDEWALK PER O.C. STD. PLAN. 205
6. REMOVE EXIST. A.C. DIKE.
7. REMOVE EXIST. CURB & GUTTER
8. REMOVE EXIST. SIDEWALK
9. REMOVE EXIST. A.C. PAVEMENT
10. TO BE REMOVED
11. TO BE RELOCATED BY OTHERS
12. SAWCUT
13. FEATHER FOR SMOOTH JOIN
14. PROTECT IN PLACE.
15. CONSTRUCT TYPE CL-5 CHAIN LINK FENCE
16. REMOVE AND RELOCATE EXIST. IRRIGATION SYSTEM AS REQUIRED FOR EMBANKMENT CONST.
17. REMOVE EXIST. VINE TREES
18. CONST. BLOCK OUT FOR TREE WELLS 2'-6" x 4'-0"
19. CONST. 2" A.C. WITH SS-1h SEAL COAT OVER 5" A.B. WITH S.C.-250 PRIME COAT

NOTE:
FINAL STRUCTURAL SECTION IN FILL AREA TO BE DETERMINED BY SOIL TEST WHEN GRADING AND COMPACTION IS COMPLETE.

HAMILTON AVENUE

AHFP #841

REVISIONS				REFERENCES	
NUMBER	DATE	INITIALS	APP'D	BENCH MARK IL-24-69	
				O.C.S. ALUMINUM CAP SET IN THE TOP OF THE NORTH END OF THE NORTHWEST WING WALL, 27' NORTH OF THE ℄ OF HAMILTON AVENUE STA. 4+15.1 ELEV. 23.074 1970 ADJ.	

PREPARED UNDER THE SUPERVISION OF		DATE
DEPT. OF PUBLIC WORKS	R.C.E. NO.	
DRAWN BY	E.P.	8/76
CHECKED		
RECOMMENDED		
APPROVED Michael Zambrano DEPARTMENT OF PUBLIC WORKS		2/15/77 DATE

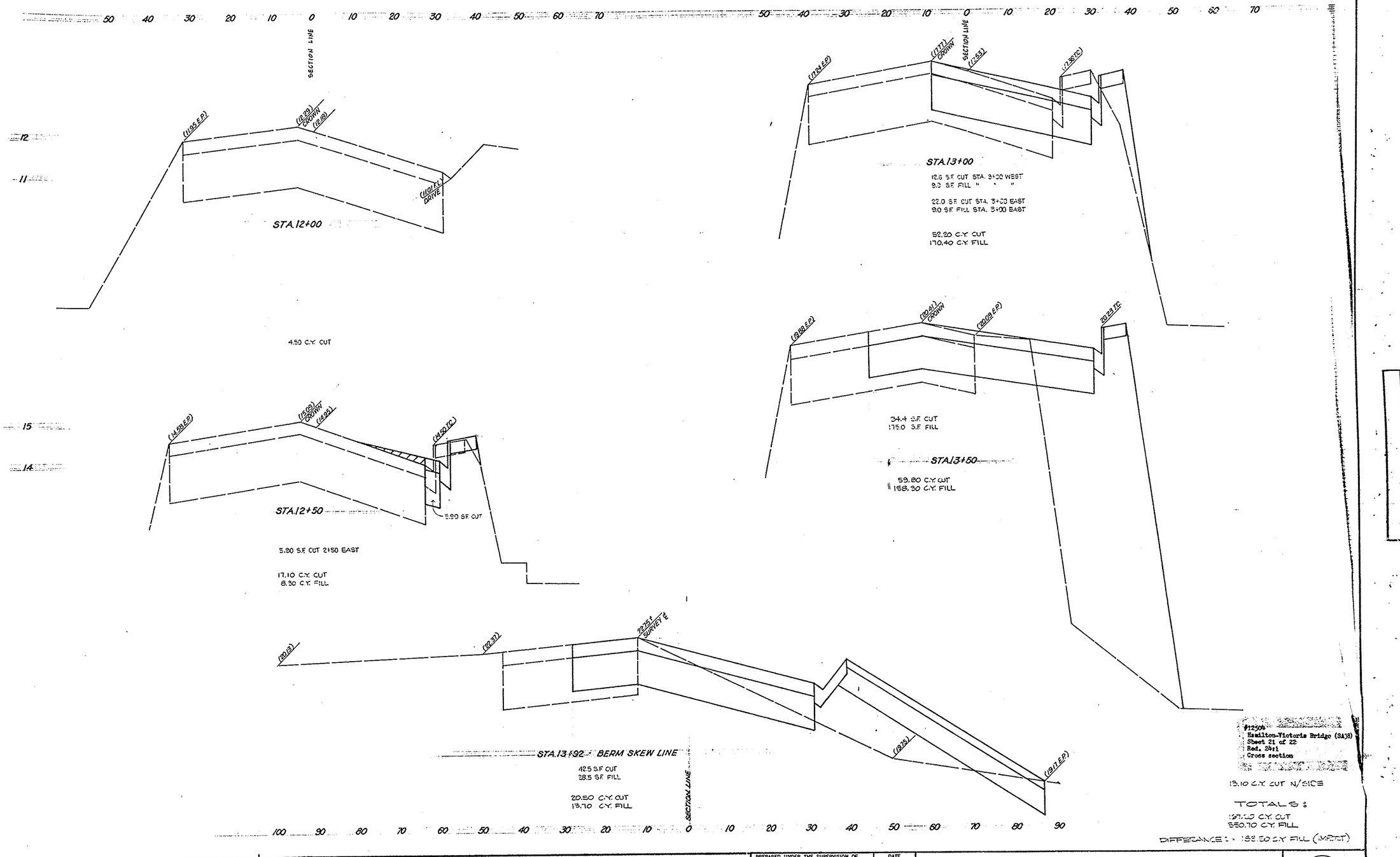
PLAN OF IMPROVEMENTS
HAMILTON AVENUE
BROOKHURST STREET TO SANTA ANA RIVER
CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

477

SHEET NO. 20 OF 22

#12504
Hamilton-Victoria Bridge (SA38)
Sheet 20 of 22
Red. 24x11
Linen

DR 8 (12504)



REVISIONS				REFERENCES	
NUMBER	DATE	INITIALS	APPV'D		

PREPARED UNDER THE SUPERVISION OF
DEPT. OF PUBLIC WORKS
R.C.E. NO.

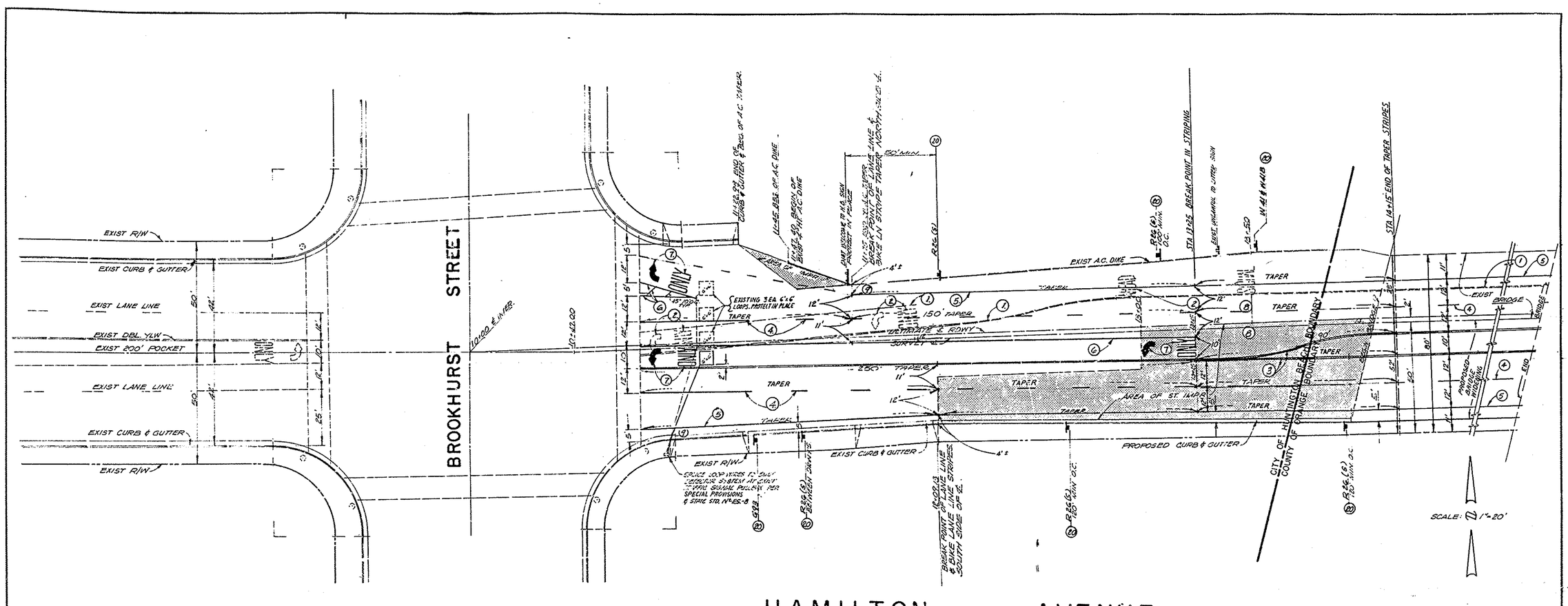
		DATE
DRAWN BY		
CHECKED		
RECOMMENDED		
APPROVED DEPARTMENT OF PUBLIC WORKS	DATE:	

CROSS SECTIONS
HAMILTON AVE.

CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

SHEET NO. 21 OF 22

DRB (12504)



HAMILTON AVENUE

NOTES - STRIPING (see special provision)

1. SANDBLAST EXISTING STRIPE.
2. SANDBLAST EXISTING PAVEMENT MARKING.
3. PAINT 4" WIDE DOUBLE YELLOW STRIPE WITH REFLECTIVE BEADS AND BLACK PAINT IN BETWEEN THE DOUBLE YELLOW STRIPES.
4. PAINT 4" WIDE WHITE STRIPE WITH REFLECTIVE BEADS.
5. PAINT 6" WIDE WHITE STRIPE, (BIKE LN.) WITH REFLECTIVE BEADS.
6. PAINT 8" WIDE WHITE STRIPE WITH REFLECTIVE BEADS.
7. PAINT "ONLY" AND "ARROW SYMBOL" PAVEMENT MARKINGS WITH REFLECTIVE BEADS.
8. PAINT "SIGNAL AHEAD" PAVEMENT MARKINGS WITH REFLECTIVE BEADS.
9. PAINT "BIKE ONLY" AND "ARROW SYMBOL" PAVEMENT MARKINGS WITH REFLECTIVE BEADS.

NOTES - SIGNING (see special provision)

20. INSTALL SIGN AS SHOWN ON GALVANIZED "U" CHANNEL POST IN A READILY DISCERNABLE POSITION AND FREE FROM OBSTRUCTIONS TO MOTORISTS AND BICYCLISTS VISION.

#12504
Hamilton-Victoria Bridge (SA38)
Sheet 22 of 22
Red. 24x1
Linen

REVISIONS				
NUMBER	DATE	INITIALS		APP'D
1.	3/14/77	S.Y.	CHANGE IN WIDTH TO MIN. 12', 250' TAPER, REVISED RDWY IN FRONT OF N.B. SIGN	RWK

REFERENCES

PREPARED UNDER THE SUPERVISION OF	R.C.E. NO. 23739	DATE 10/6/76
DRAWN BY	S.Y.	9/28/76
CHECKED		
RECOMMENDED		
APPROVED: DEPARTMENT OF PUBLIC WORKS		2/15/77 DATE

PLAN OF CHANNELIZATION & SIGNING & INSTALLATION OF TRAFFIC SIGNAL DETECTOR
HAMILTON AVENUE
BROOKHURST STREET TO SANTA ANA RIVER
CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

477

SHEET NO. 22 OF 22

DR 8 (12504)