

MINNESOTA DEPARTMENT OF TRANSPORTATION

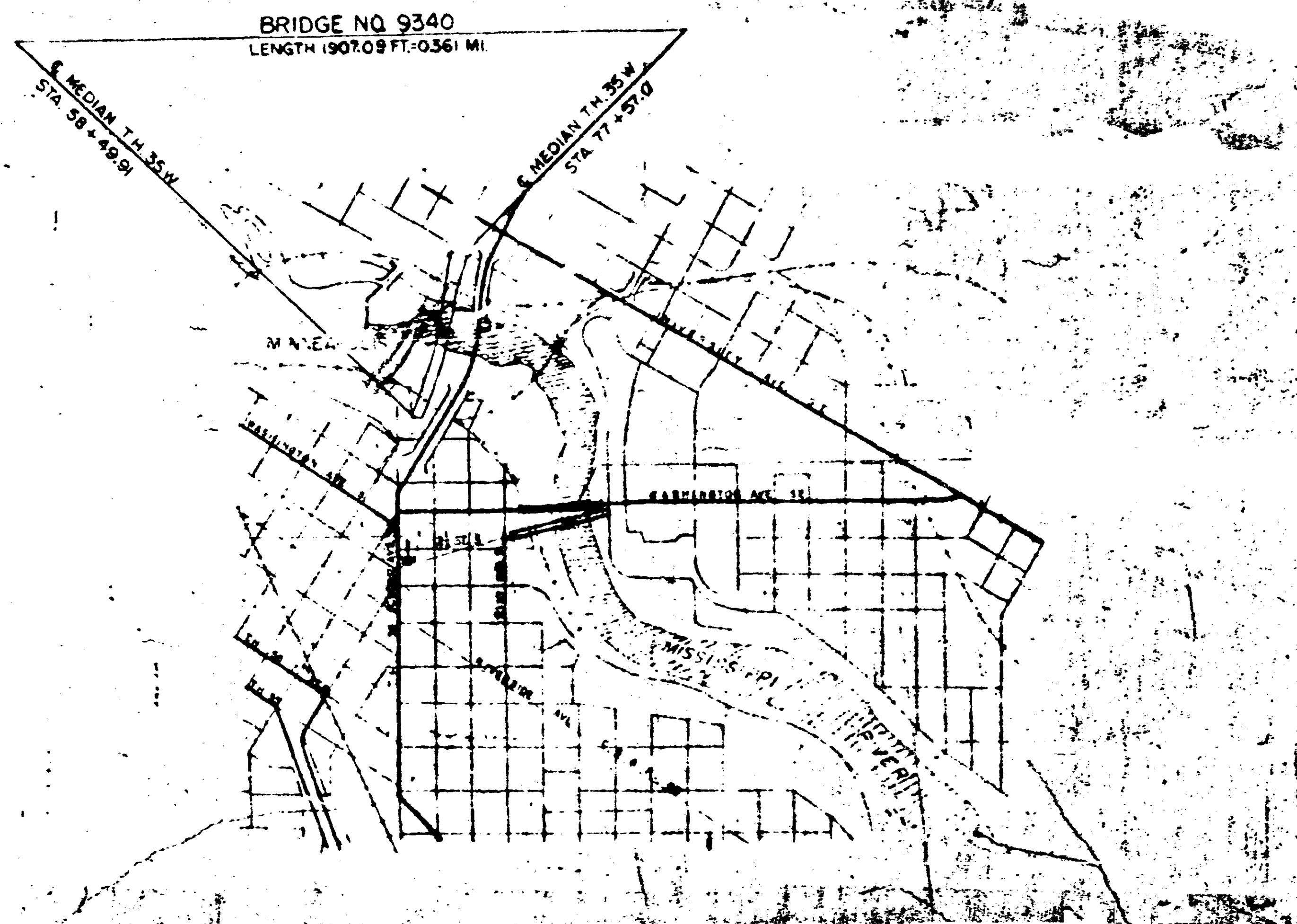
CONSTRUCTION PLAN FOR REPAIR OF BRIDGE 9340 + 9340A.

LOCATED ON T.H. 35W

FED. PROJ. NO. I-IG-IR 35W-3 (182) 106

INDEX

SHEET NO. 1-10 BRIDGE NO. 9340 + 9340A

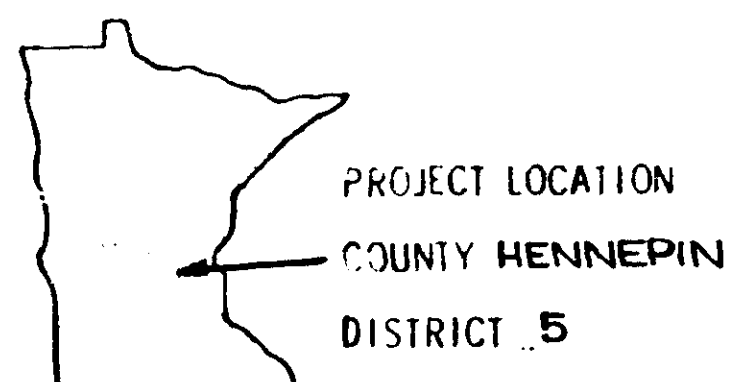


I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A JULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DATE 2-16-77 REG. NO. 8170 ENGR. *Darryl E. Wellhausen*
 DESIGN SQUAD G. WELLHAUSEN

Right of Way Approval *R. J. Brennan* 2-17 1977
 DIRECTOR RIGHT OF WAY OPERATIONS
 Recommended for Approval DISTRICT ENGINEER 19
 Recommended for Approval PLANS ENGINEER 19
 Recommended for Approval DESIGN ENGINEER 19
 Recommended for Approval *H. V. Brennan* 2-16 1977
 BRIDGE ENGINEER
 Approved 2-17 1977 *Leo A. Hart*
 DIRECTOR DESIGN SERVICES

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

BRIDGE NO. 9340 AREA NO. 58 JOB NO. 700
 9340 A 58 701



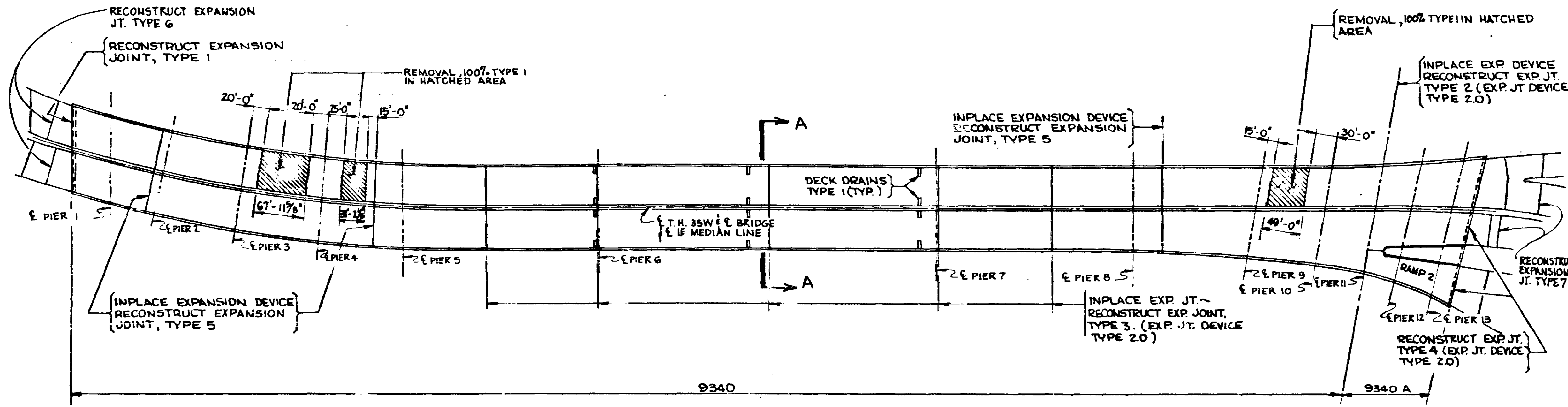
DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 APPROVED
 DIVISION ADMINISTRATOR DATE

STATE PROJ. NO. 2783-9340 (T.H. 35 W = 394)

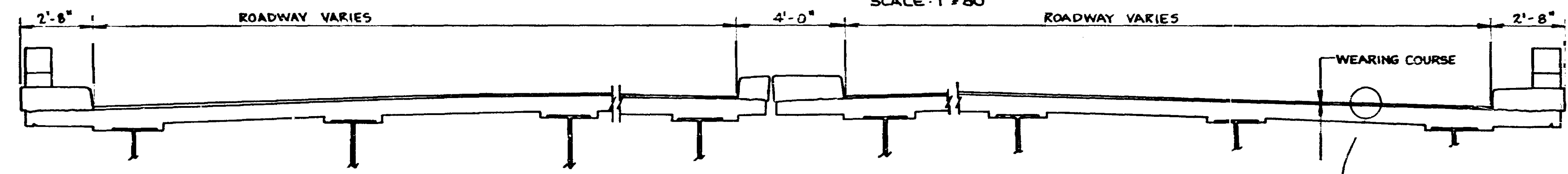
DESIGN DATA
 1973 AND INTERIM A.A.S.H.T.O. DESIGN SPEC.
 REINFORCEMENT:
 $f_y = 60000$ p.s.i.
 DECK AREA 205,560 SQ. FT.

LIST OF SHEETS

NO.	DESCRIPTION
1.	GENERAL PLAN AND ELEVATION
2.	EXP. DEVICE - PIER II - RECONSTRUCT JT. TYPE 2
3.	EXP. DEVICE - PIERS 2, 5, & 8
4.	DETAILS
5.	APPROACH PANEL DETAILS
6.	GUARDRAIL DETAILS
7.	WATERPROOF EXPANSION DEVICE
8.	PAVING LAYOUT
9.	PAVEMENT DETAILS
10.	DOUBLE ACTING WIDE FLANGE JOINT DETAILS



PLAN
 SCALE: 1" = 80'

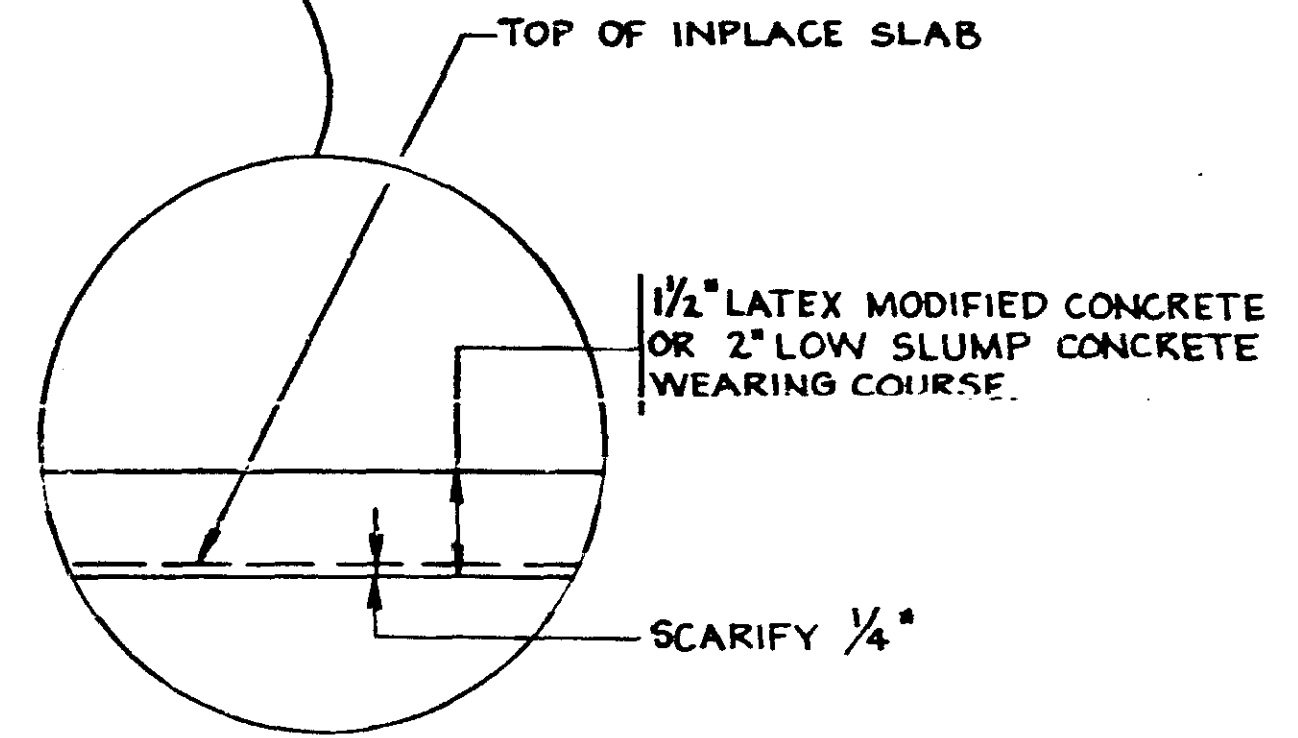


SECTION A-A

CONSTRUCTION NOTES

THE MINNESOTA HIGHWAY DEPARTMENT "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED JANUARY 1, 1972 AS AMENDED BY "SUPPLEMENTAL SPECIFICATIONS" DATED APRIL 1, 1976 SHALL GOVERN. NO CUTTING WILL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. REMOVAL AND RECONSTRUCTION SHALL CONFORM TO M. H. D. 2433. PROVIDE SAW CUT IN CONCRETE WEARING COURSE OVER ALL CONSTRUCTION JOINTS IN EXISTING SLAB AND SEAL WITH CONCRETE JOINT SEALER PER M. H. D. 3723.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNED: *Ray E. Wellhausen*
 DATE: 2-16-77 REG. NO. 8170



554.613	2401.511	401.612	2031.501	402.612	401.617	2433.501	531.606	2104.503	563.624	363.624	563.624	563.624	563.624	563.624
TRAFFIC BARRIER RECONSTRUCTION	CONCRETE, MIX NO. 3X33	TEMPORARY TRAFFIC CONTROL RAMP	FIELD OFFICE TYPE D	DRAINAGE SYSTEM	RECONSTRUCT EXPANSION JOINT TYPE 7	LUMP SUM REMOVAL	TEMPORARY LANE MARKING	REMOVE PAVEMENT MARKING	TYPE III BARRICADE	TYPE II BARRICADE	FLASHER TYPE A (LOW INTENSITY)	FLASHER TYPE C (STEADY BUR)	48" x 48" SIGN	48" x 48" SIGN WITH SUPPORTS
LIN. FT.	SQ. FT.	SQ. FT.	EACH	SYSTEM	LIN. FT.	LUMP SUM	LIN. FT.	SQ. FT.	UNIT DAY	UNIT DAY	UNIT DAY	UNIT DAY	UNIT DAY	UNIT DAY
1907	2500	150	ONE	ONE	100	ONE	6000	1400	500	350	350	350	350	200

FOR ADDITIONAL QUANTITIES, SEE SHEET NO. 9.

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

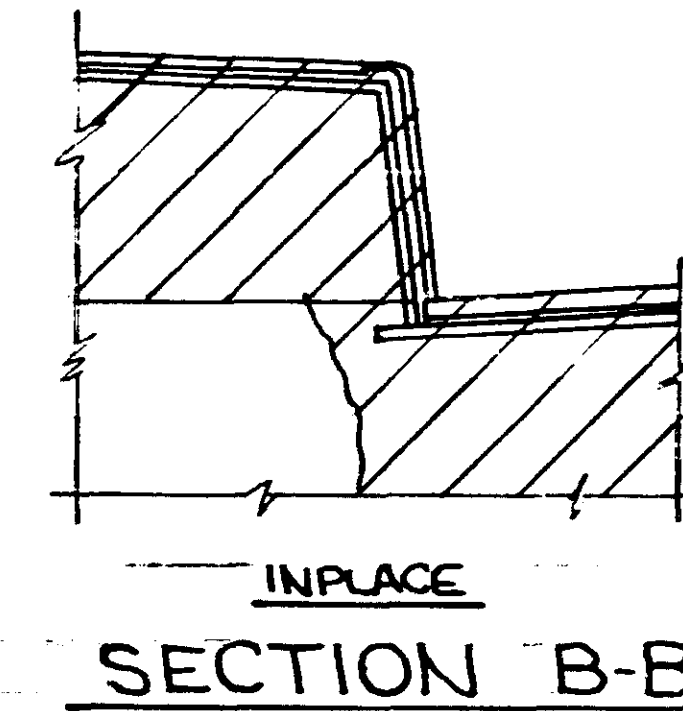
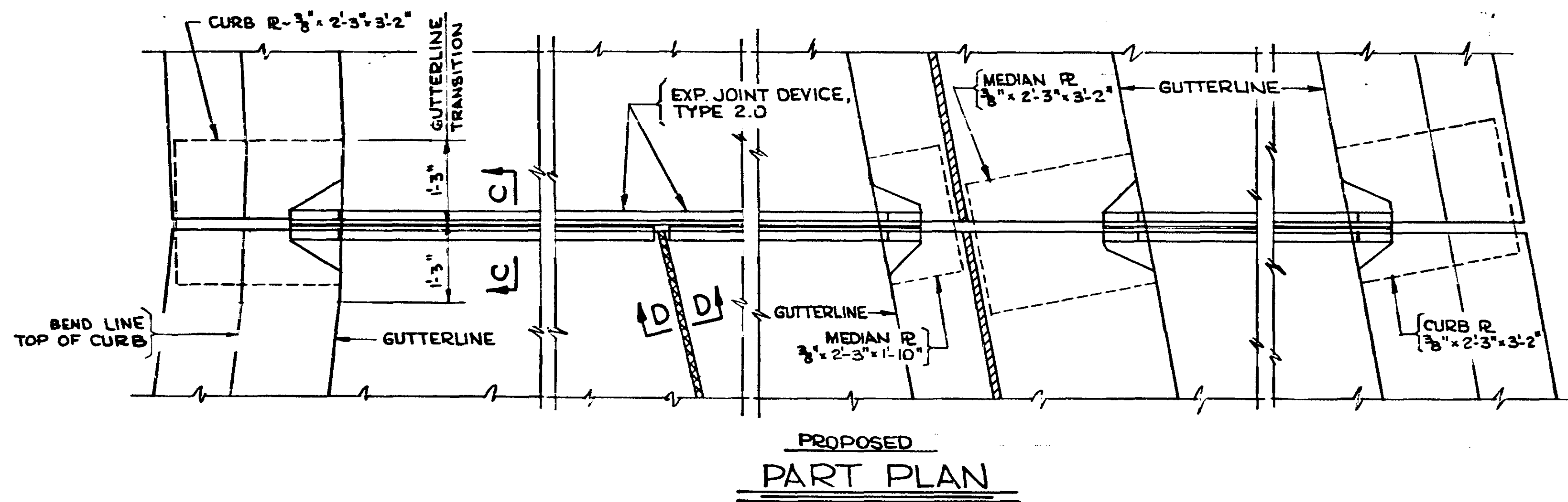
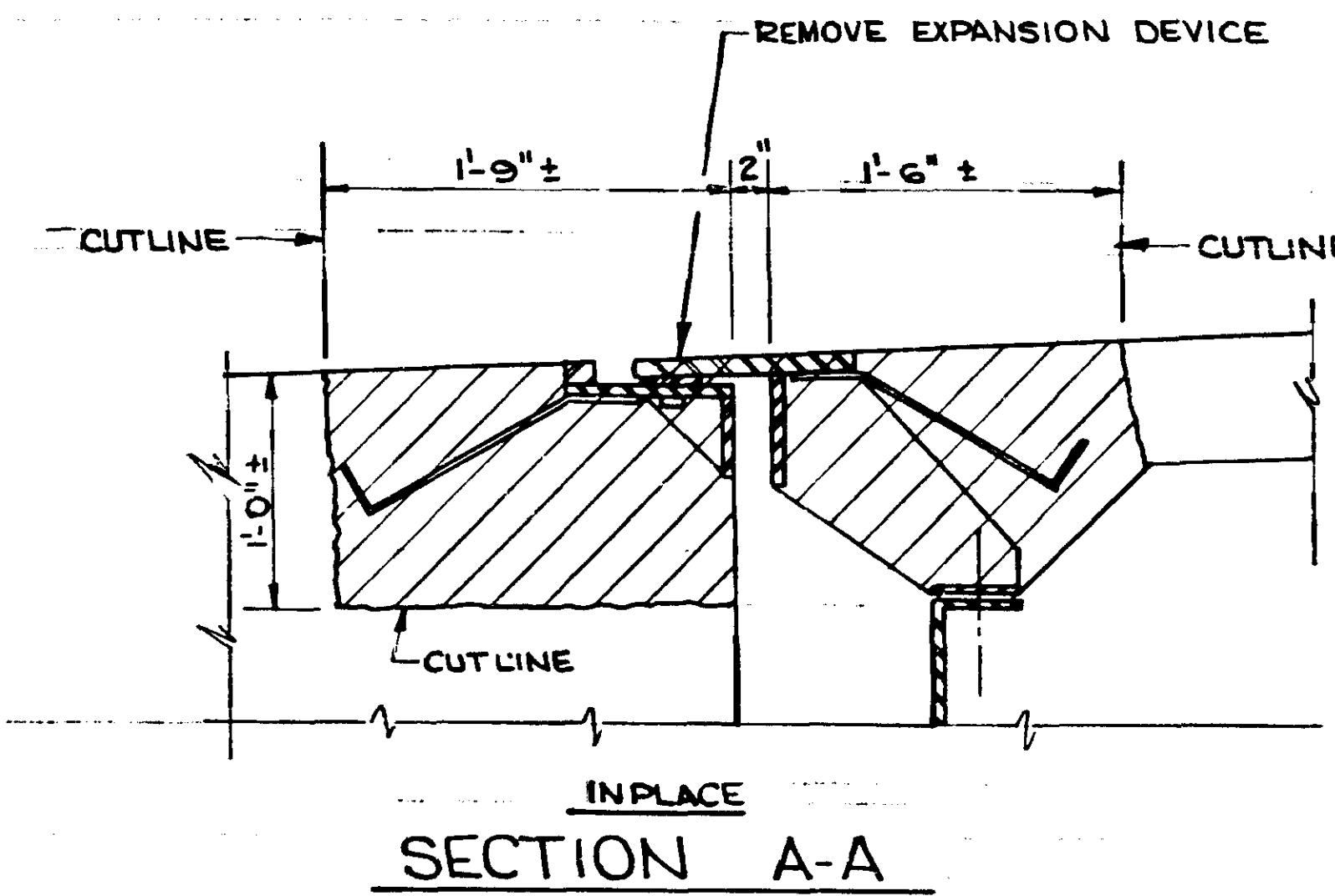
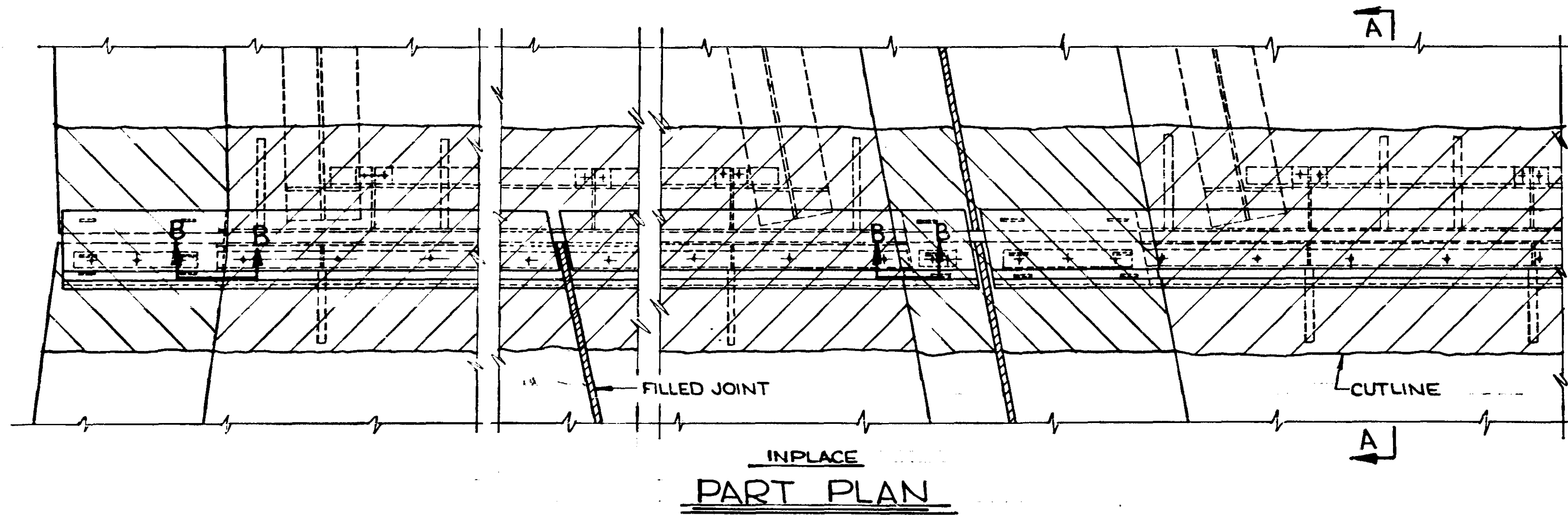
ITEM NO.	2476.501	2401.501	2021.501	041.606	2104.503	301.619	2104.503	104.606	401.604	401.612	401.617	401.617	401.617	401.617	401.617	402.601	401.617	401.620	401.614	2402.546	301.620
ITEM	PAINTING METAL STRUCTURES	CONCRETE, MIX NO. SPECIAL	MOBILIZATION	TRAINERS	REMOVE SLAB TYPE 1	PAVEMENT JOINT DESIGN WF	REMOVE SLAB TYPE 3	SCARIFY BRIDGE DECK	WEARING COURSE FINISH	CONSTRUCT APPROACH TAPERS	RECONSTRUCT EXPANSION JOINT, TYPE 1	RECONSTRUCT EXPANSION JOINT, TYPE 2	RECONSTRUCT EXPANSION JOINT, TYPE 3	RECONSTRUCT EXPANSION JOINT, TYPE 4	RECONSTRUCT EXPANSION JOINT, TYPE 5	EXPANSION JOINT DEVICE, TYPE 2.0	RECONSTRUCT EXPANSION JOINT, TYPE 6	REPAIR HINGE	JOINT WATER-PROOFING	FLOOR DRAINS TYPE 1	RECONSTRUCT PAVEMENT
UNIT	LUMP SUM	CU. YD.	LUMP SUM	HOURL	SQ. FT.	LIN. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LUMP SUM	LIN. FT.	EACH	LIN. FT.
QUANTITY	ONE	1204	ONE	750	24200	52	2500	197,600	205,560(P)	16,040	108	139	520	154	314	921(P)	104	ONE	1064	12	52

FRANK HIGHWAY NO. 35W
 MINNESOTA
 DEPARTMENT OF TRANSPORTATION

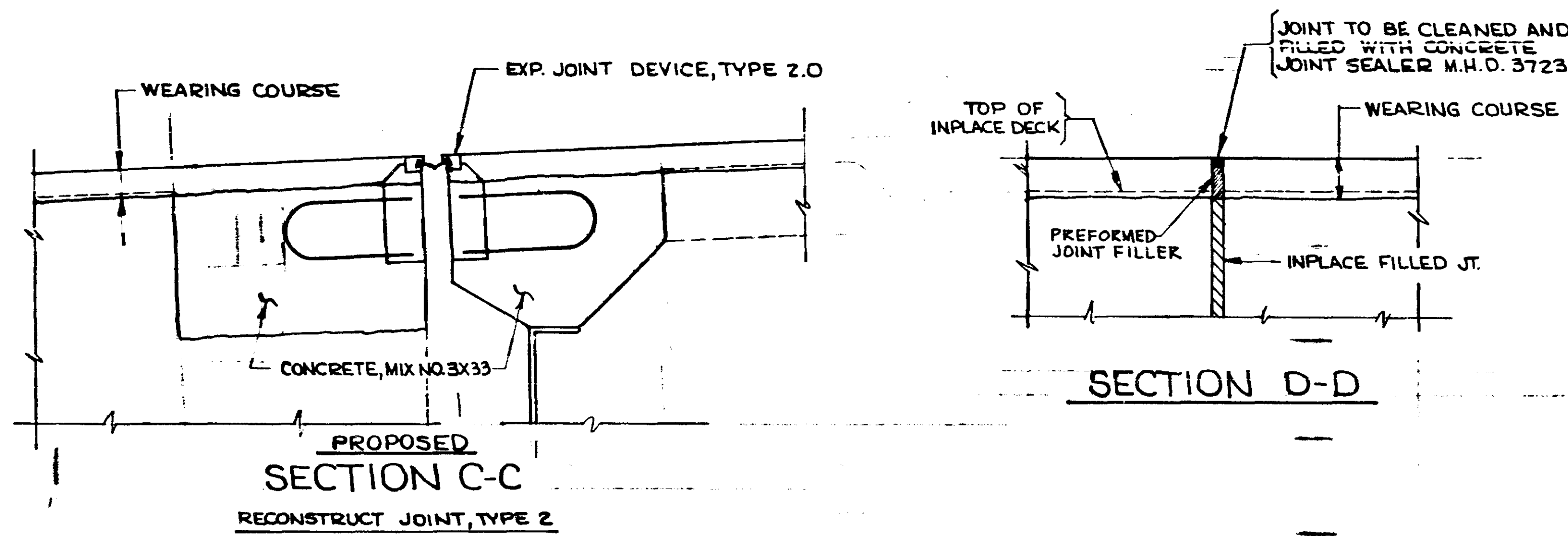
Bridge No. 9340, 9340A
 T.H. 35W OVER BRIDGE, C.N.W. TRANSP. CO., BLUFF ST, MISS. RIV, B.N. INC., & 2ND ST. S.E. WEST OF CEDAR AVE. IN MINNEAPOLIS.
 T.H. 35W S.B. RAMP OVER MSAS 292(2ND ST) SW. WEST OF CEDAR AVE. IN MINNEAPOLIS.

GENERAL PLAN AND ELEVATION
 SEC. 24 & 25 T. 29 N. R. 24 W.
 HENNEPIN COUNTY
 APPROVED: *2-17-77*

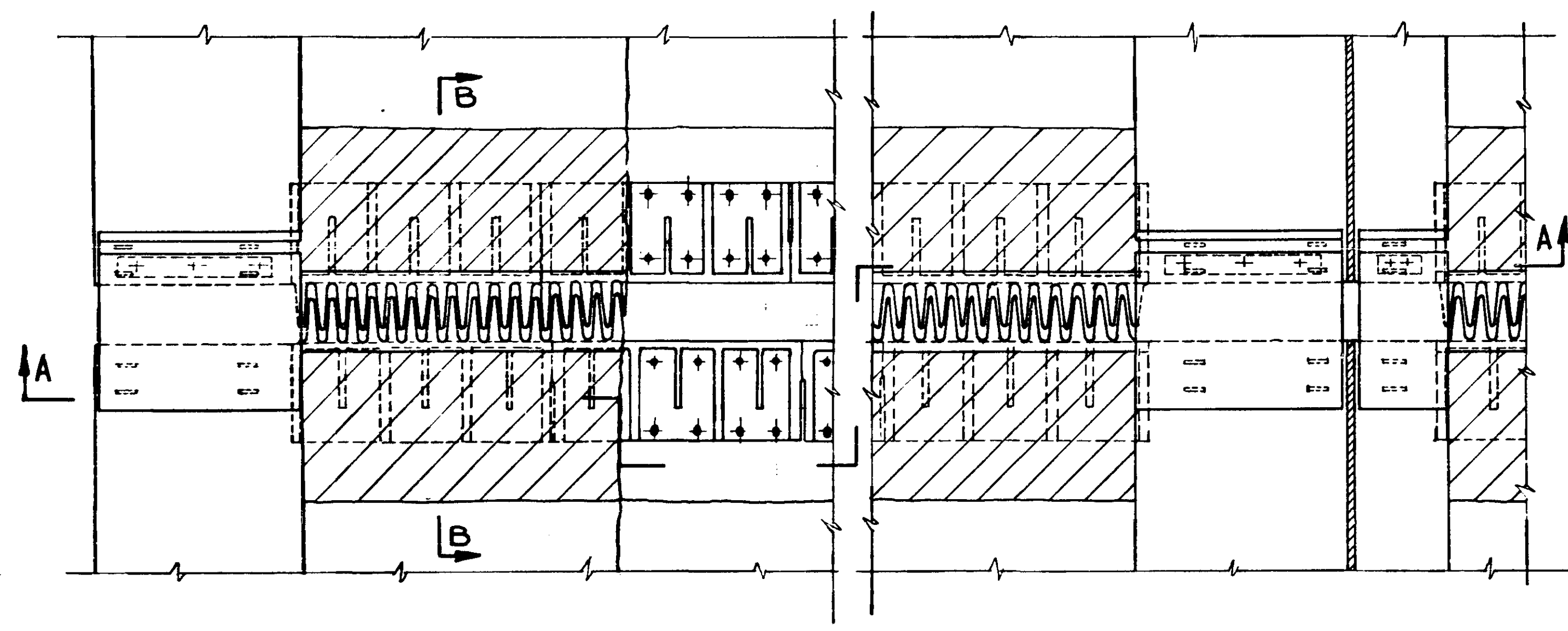
DES. G.E.W. DR. J.K.B. 9340
 CHK. L.A.J. CHK. G.E.W. 9340A



NOTES:
 HATCHED AREA INDICATES CONCRETE TO BE REMOVED.
 SEE STD FIG 397-627 FOR ADDITIONAL EXP. JOINT DEVICE DETAILS

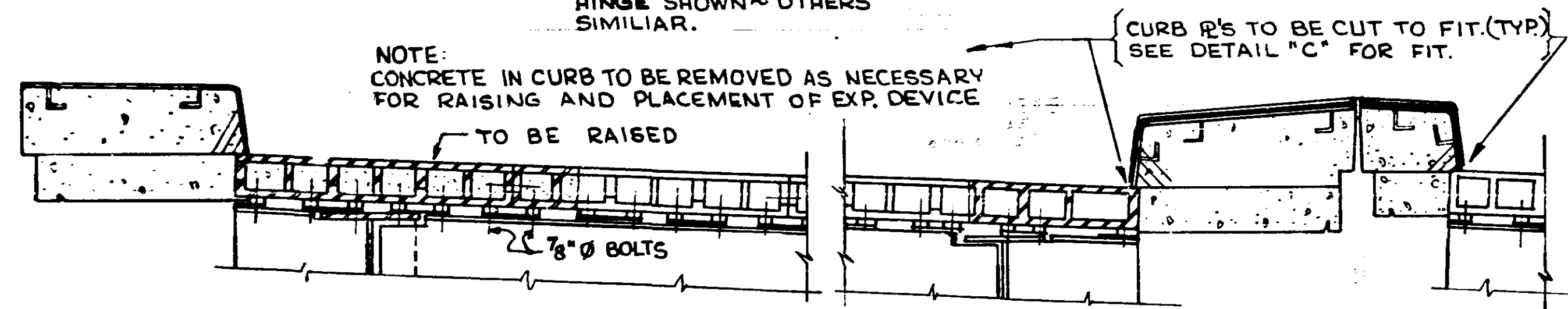


MINNESOTA DEPARTMENT OF TRANSPORTATION		
Bridge No. 9340		
EXP. DEVICE ~ PIER 11 RECONSTR. JT. ~ TYPE 2		
APPROVED: 8-11-71		
DES. G. E. W.	DR. G. R. F.	9340
CHK. L. A. J.	CHK. G. E. W.	



PART PLAN

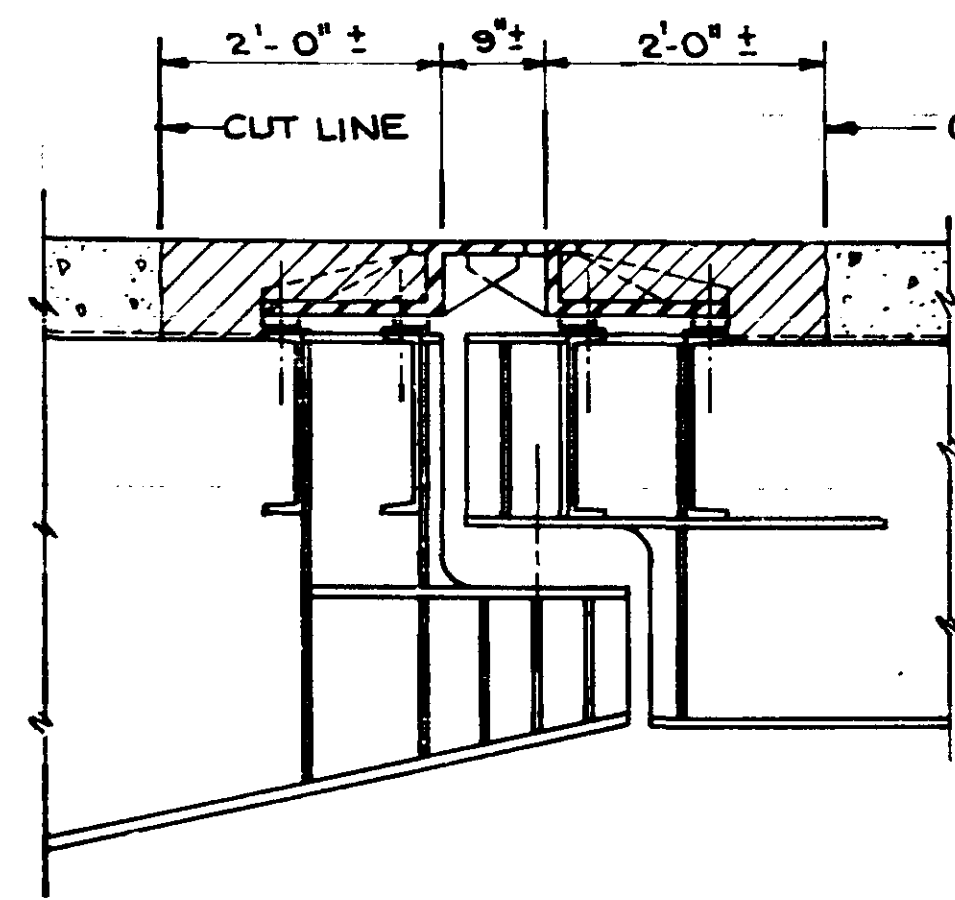
HINGE SHOWN ~ OTHERS SIMILAR.



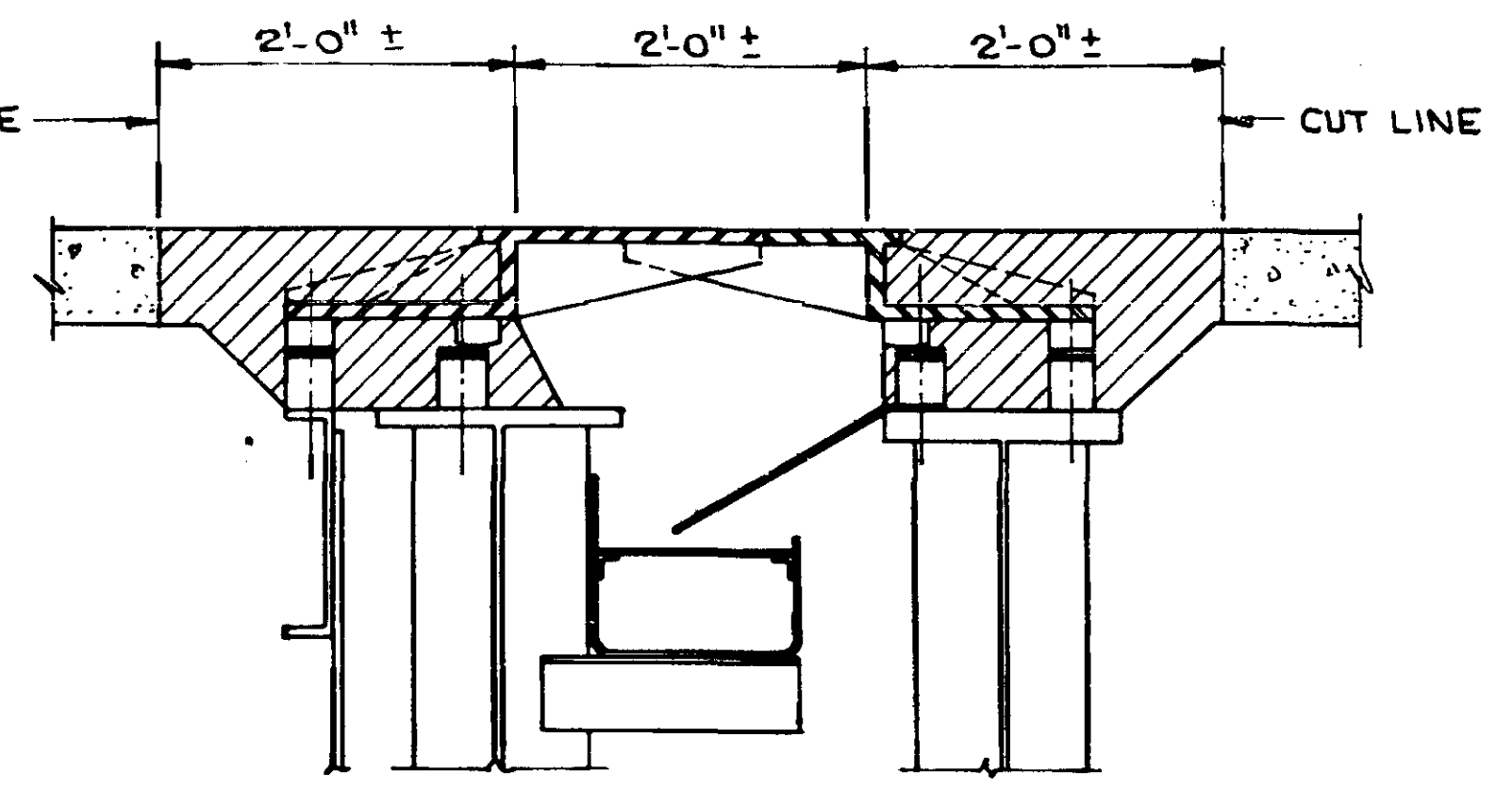
SECTION A-A

NOTE: CONCRETE IN CURB TO BE REMOVED AS NECESSARY FOR RAISING AND PLACEMENT OF EXP. DEVICE

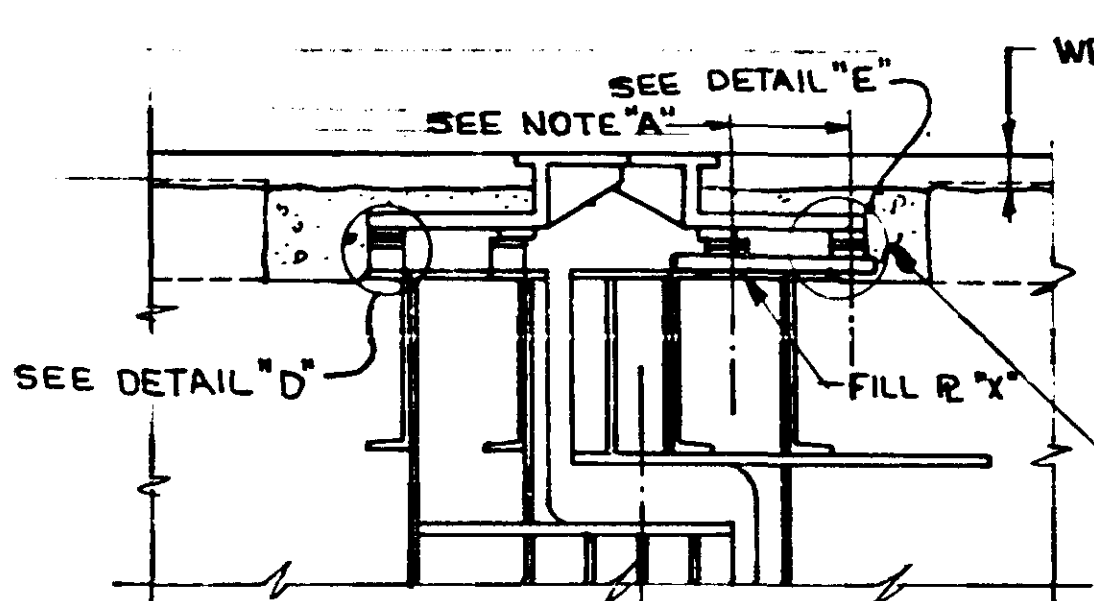
CURB R'S TO BE CUT TO FIT (TYP) SEE DETAIL "C" FOR FIT.



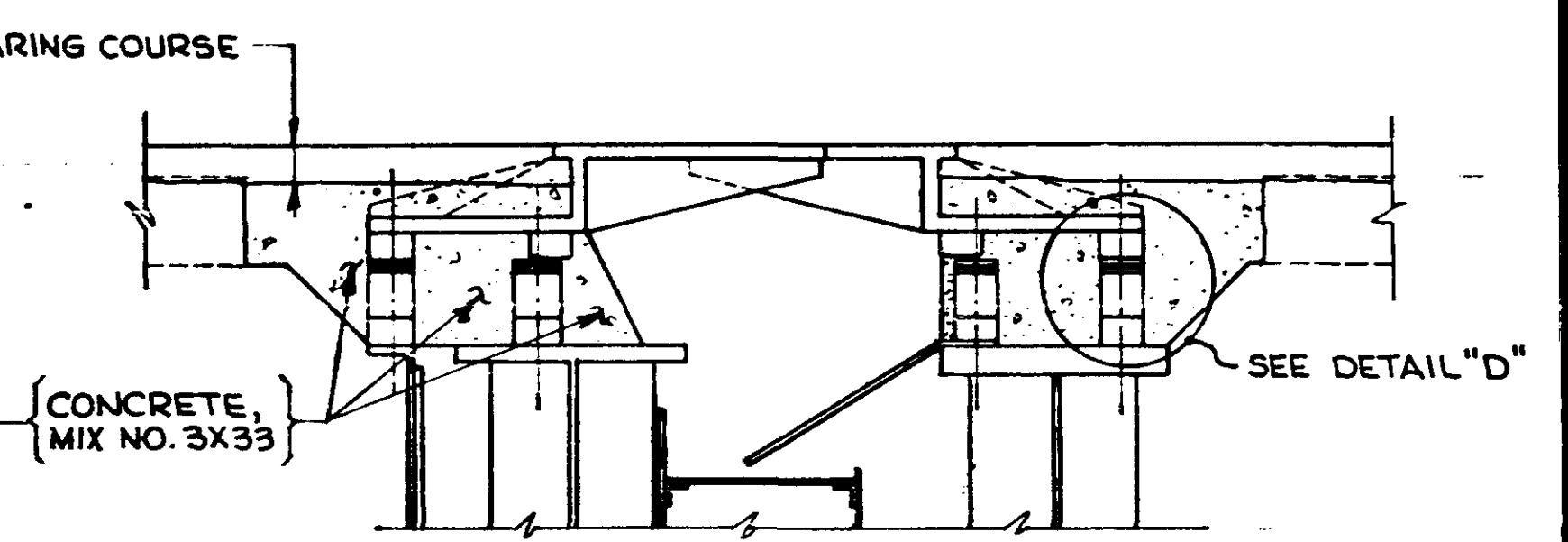
INPLACE SECTION B-B NEAR PIER 2 @ HINGE



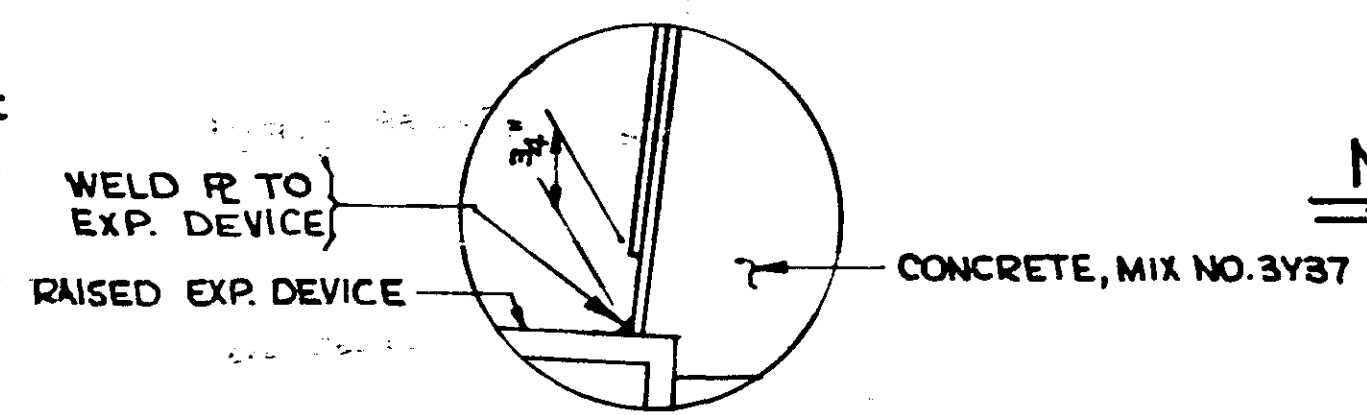
INPLACE SECTION B-B NEAR PIER 5 AT UO



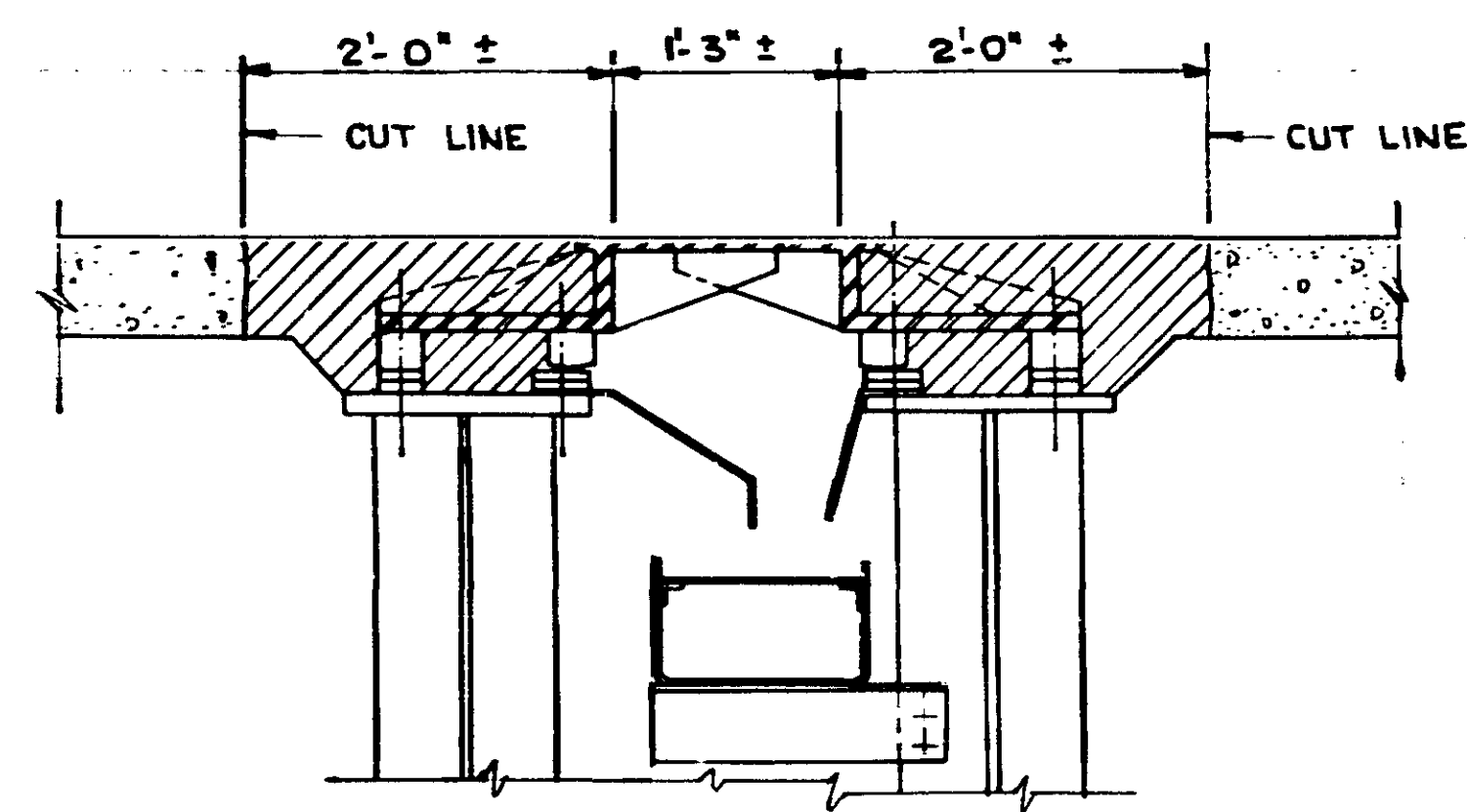
PROPOSED SECTION B-B NEAR PIER 2 @ HINGE



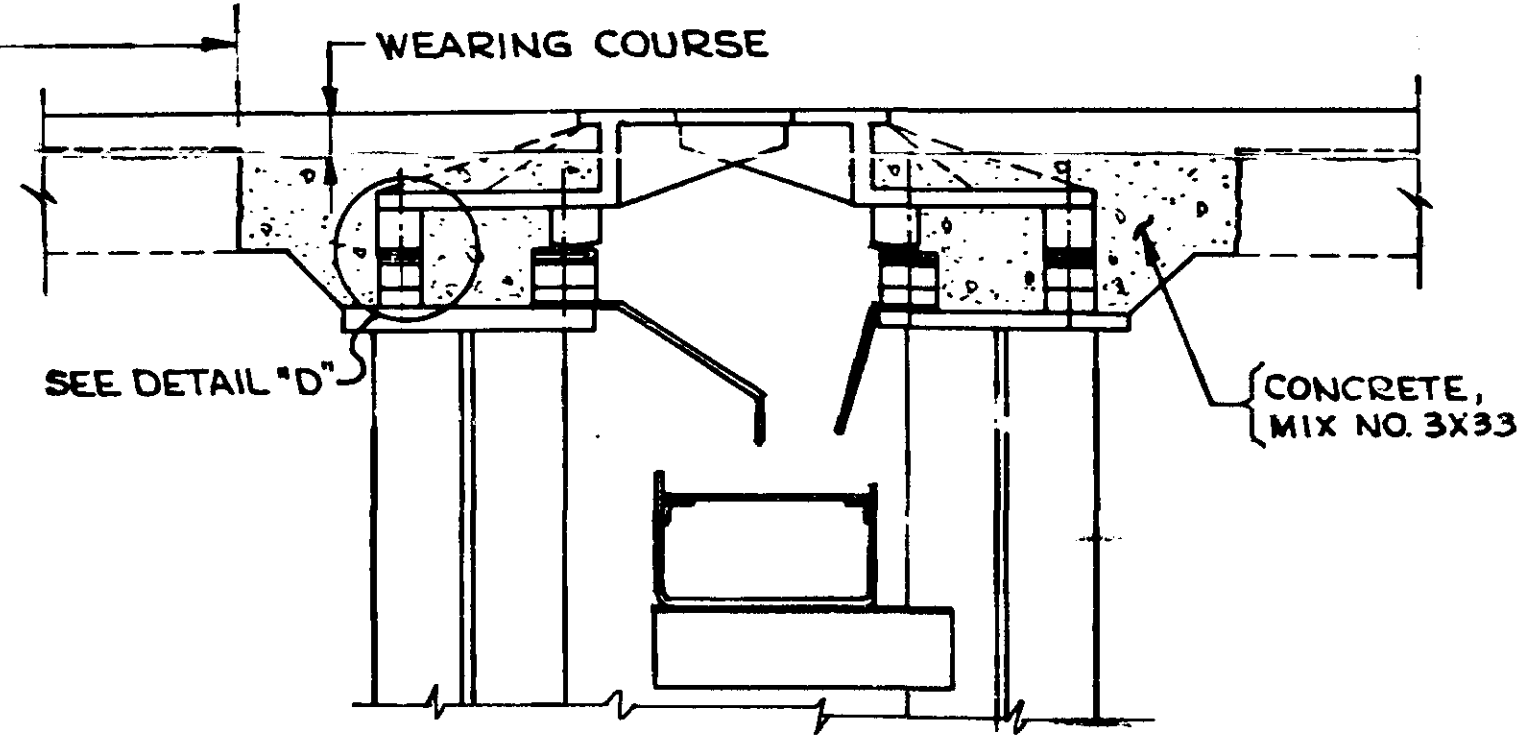
PROPOSED SECTION B-B NEAR PIER 5 AT UO



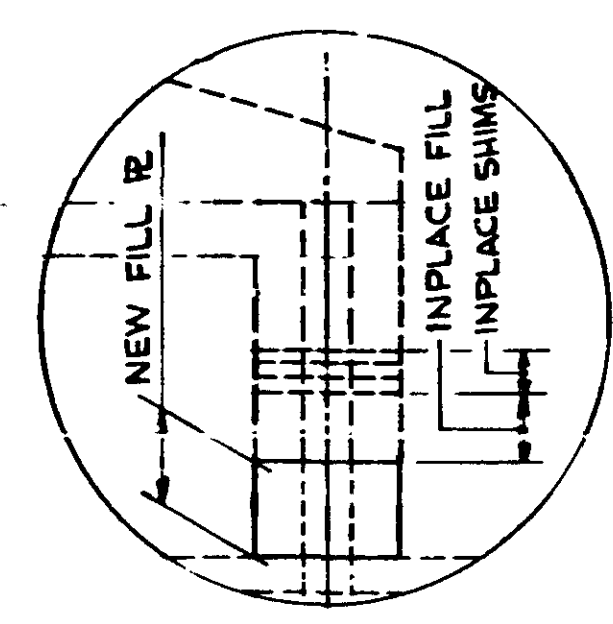
DETAIL "C"



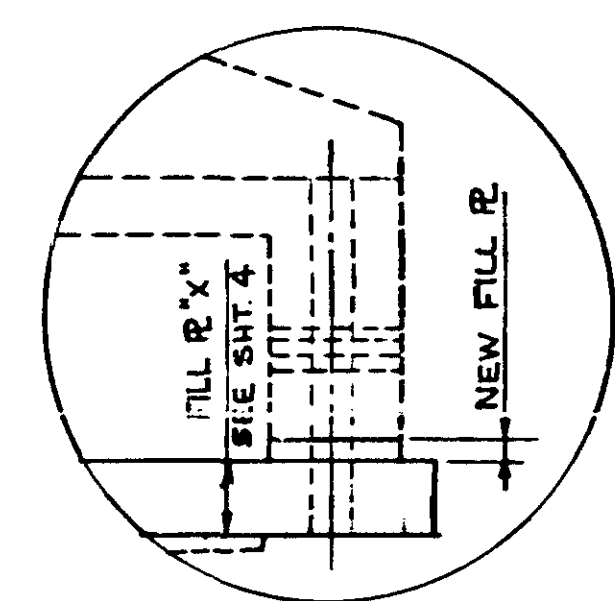
INPLACE SECTION B-B NEAR PIER 8 AT UO'



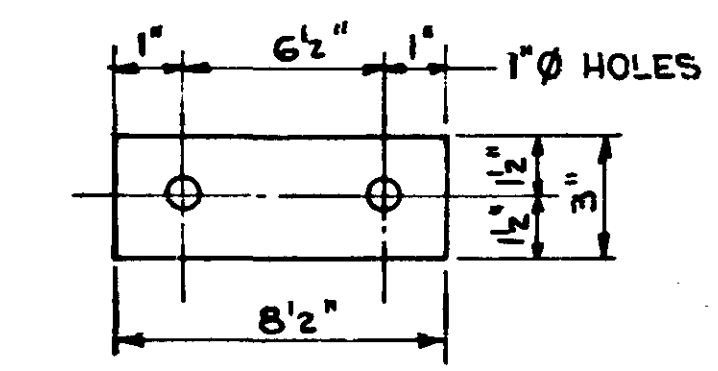
PROPOSED SECTION B-B NEAR PIER 8 AT UO'



DETAIL "D"



DETAIL "E"

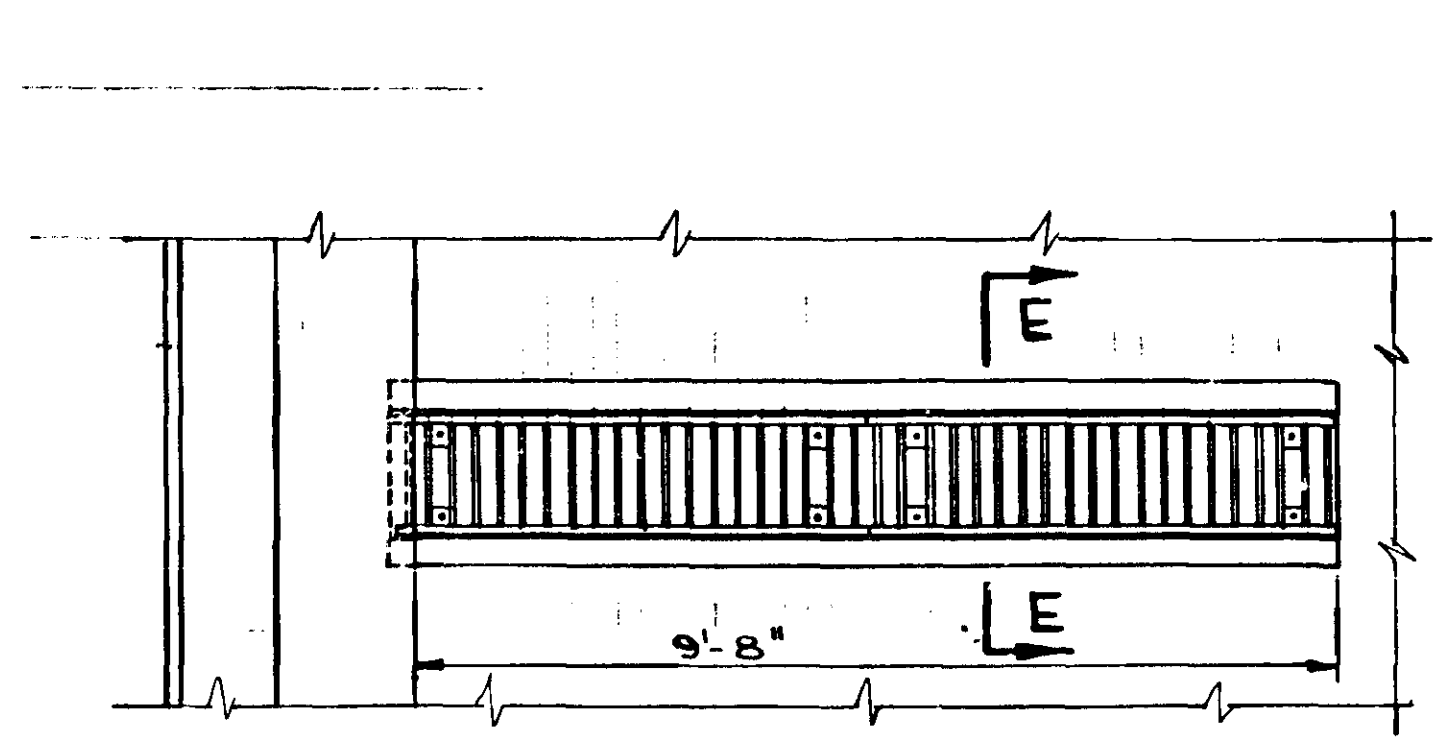
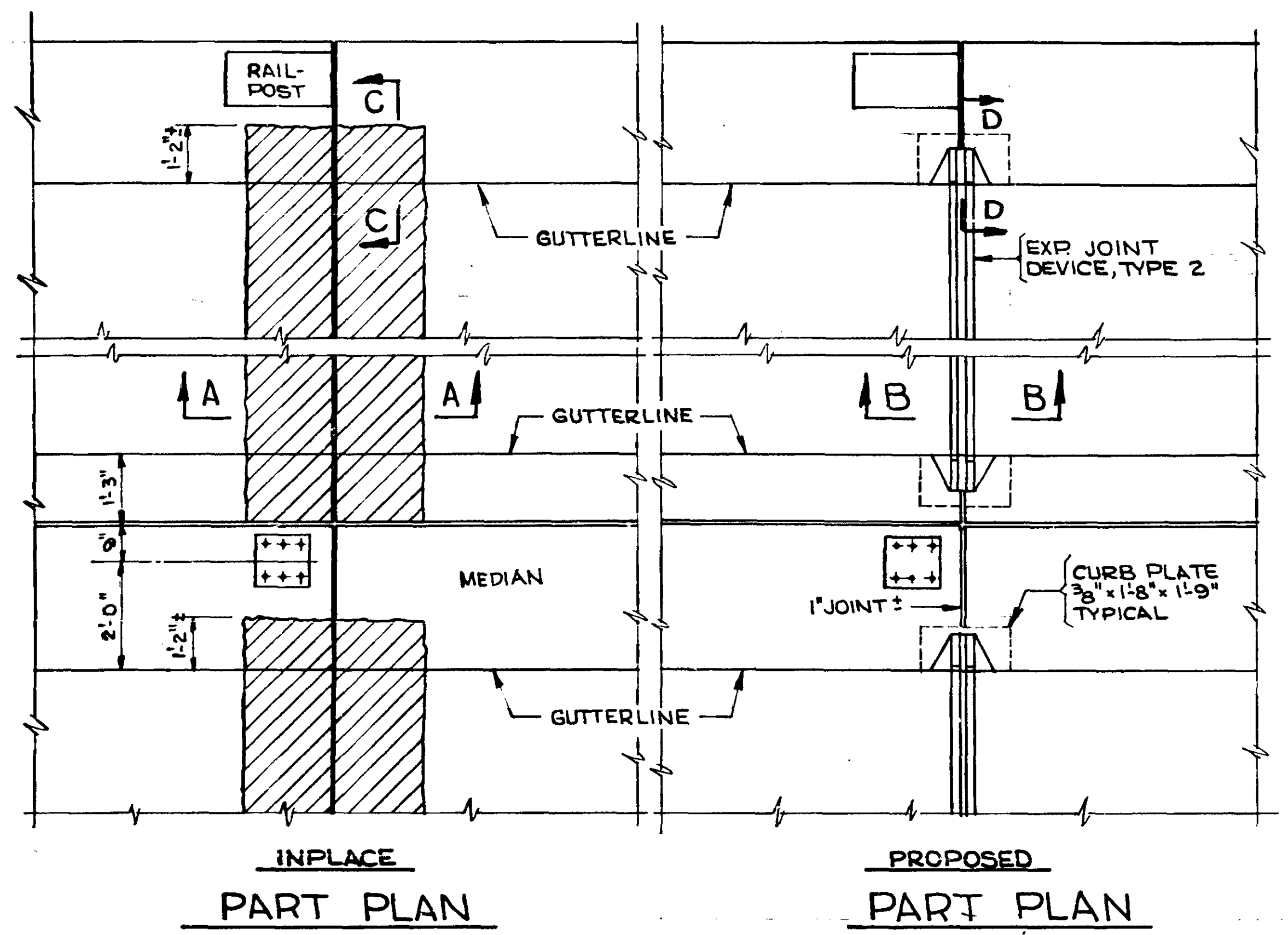


FILL PLATE
USE HALF FILLS @ CURBS THICKNESS OF FILL TO BE DETERMINED BY ENGINEER IN THE FIELD.

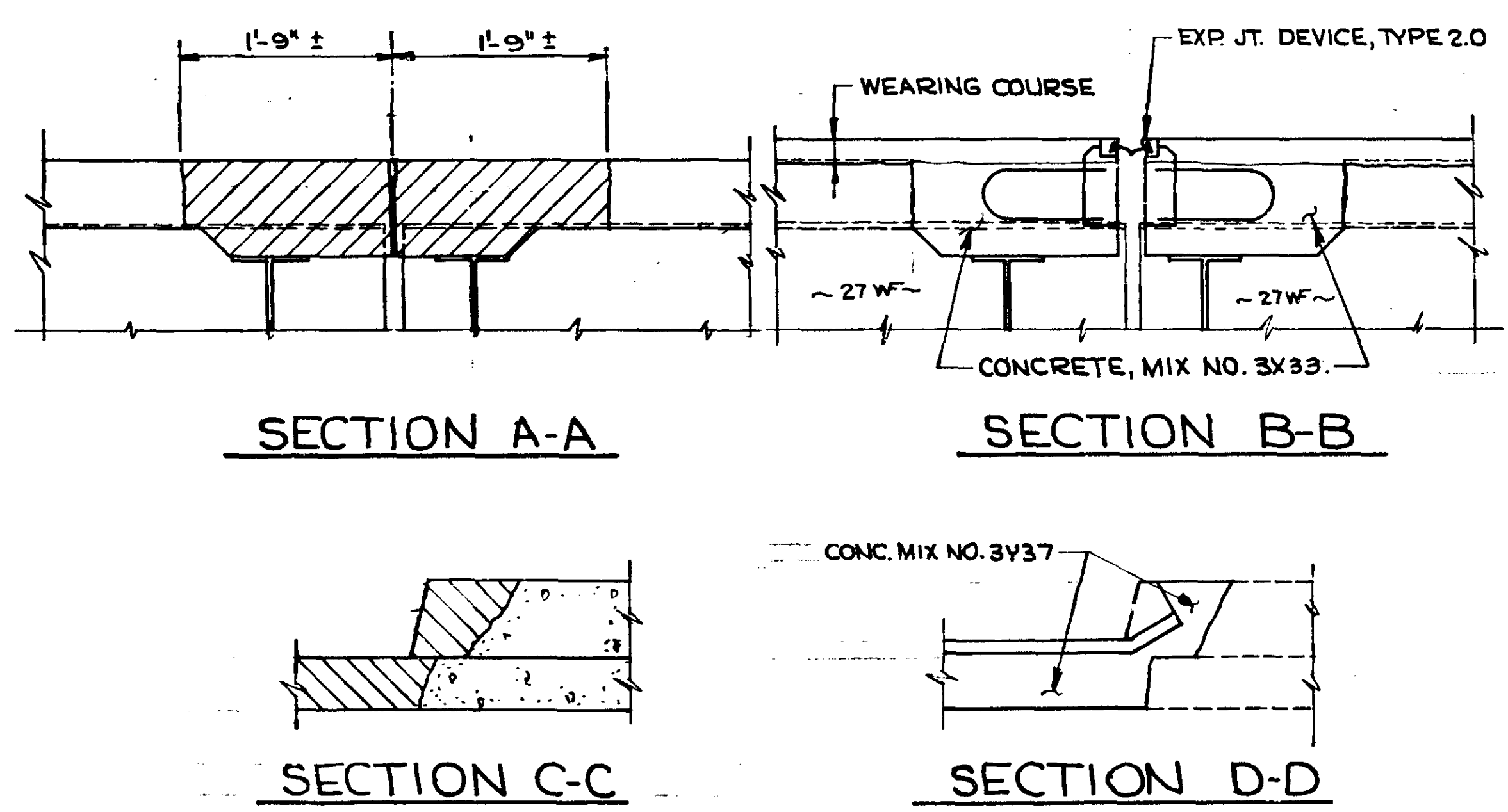
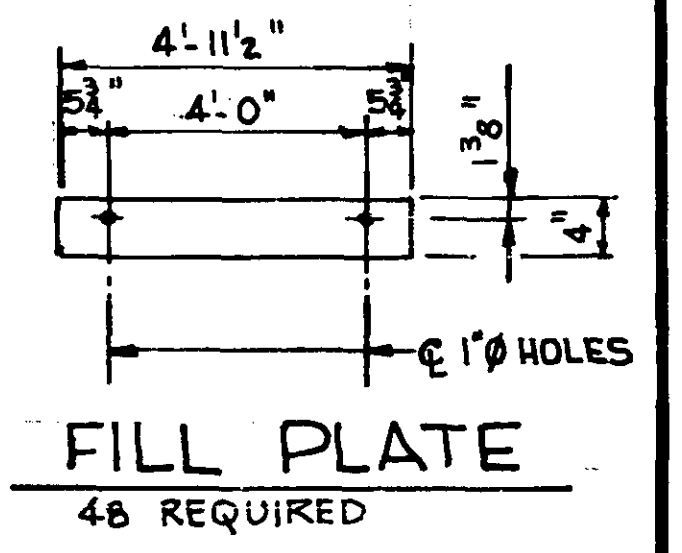
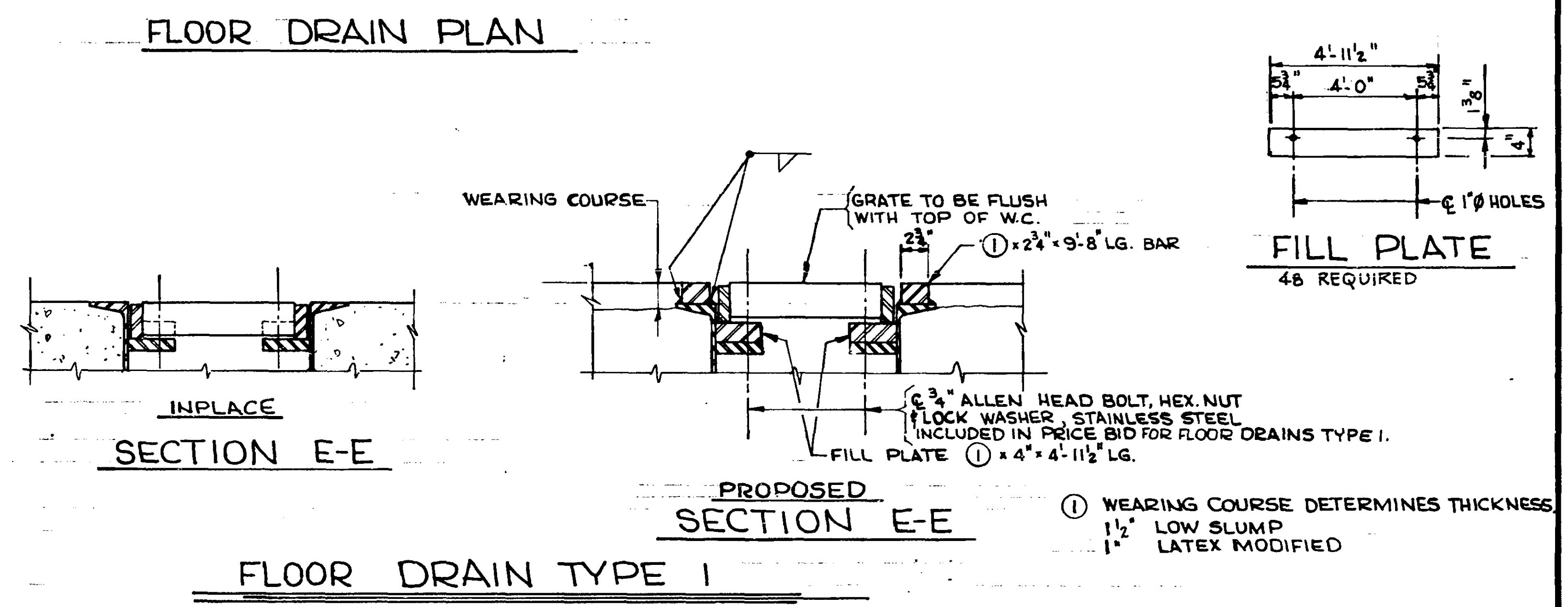
NOTES

- HATCHED AREA INDICATES CONCRETE TO BE REMOVED.
- FILL PLATES TO COMPLY TO M.H.D. 3306
- FILL PLATES TO BE INCLUDED IN PRICE BID FOR JOINT RECONSTRUCTION, TYPE 5. GALVANIZE PER M.H.D. 3394.
- NOTE "A" DRILL HOLES FOR EXPANSION DEVICE IN FIELD AFTER ADJUSTMENT OF DEVICE.
- CASTING TO CHANNEL OR GIRDER CONNECTION, 7/8" BOLT, HEAVY HEX HEAD AND NUT AND ONE LOCK NUT.

MINNESOTA DEPARTMENT OF TRANSPORTATION		
Bridge No. 9340		
EXPANSION DEVICE ~ PIER 2, 5 AND PIER 8		
APPROVED: <u>2-17-77</u>		
DES. GRF	DR. G.R.F.	9340
CHK. GEW	CHK. G.E.W.	

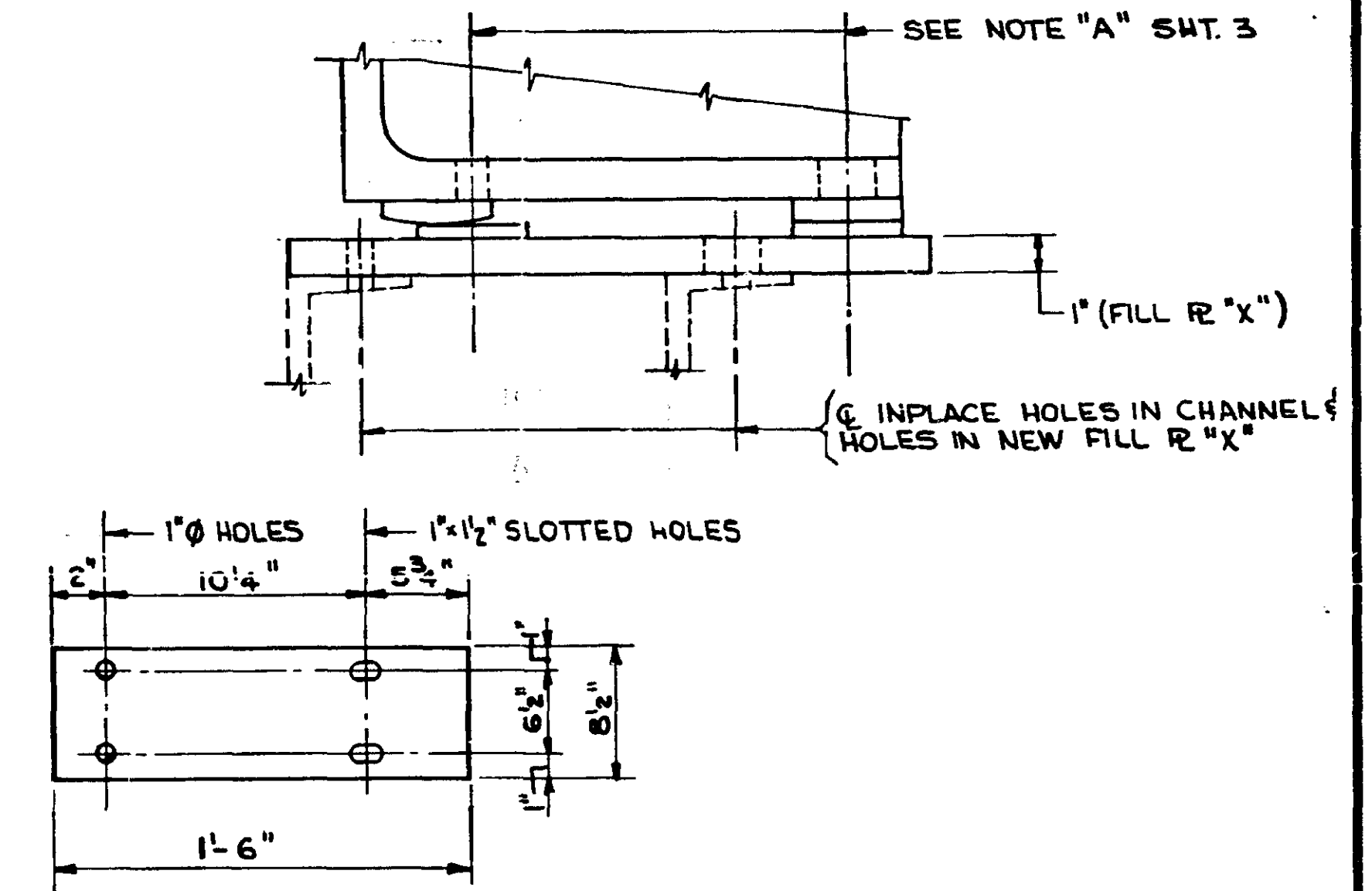
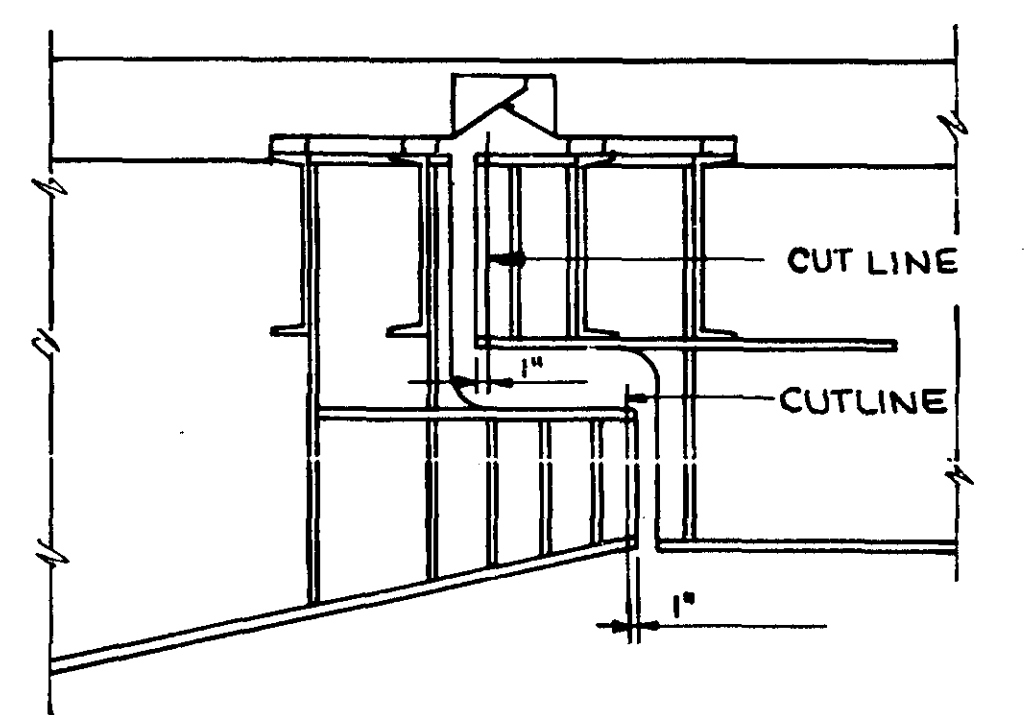


NOTES:
 BAR AND FILL R'S TO COMPLY TO M.H.D 3309 AND BE INCLUDED IN PRICE BID FOR FLOOR DRAINS TYPE I.
 1-8' LONG
 9-8' LONG

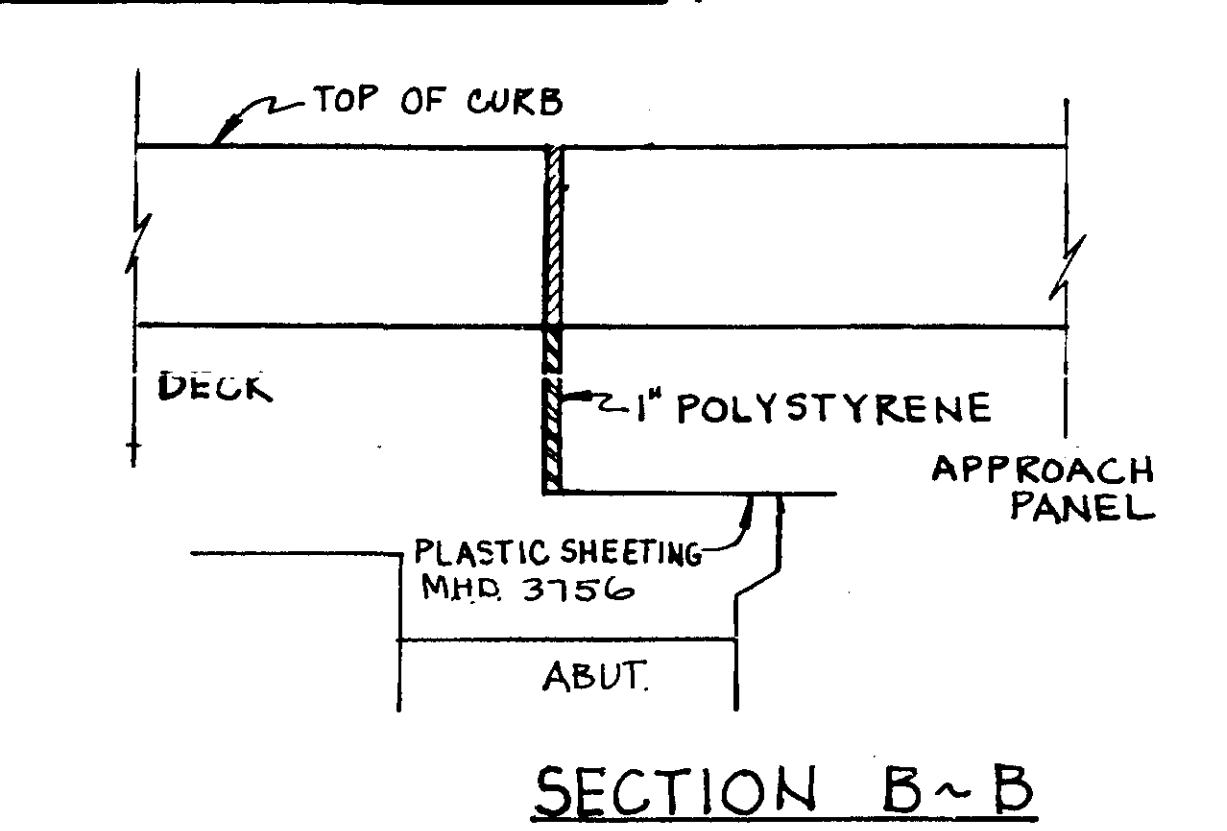
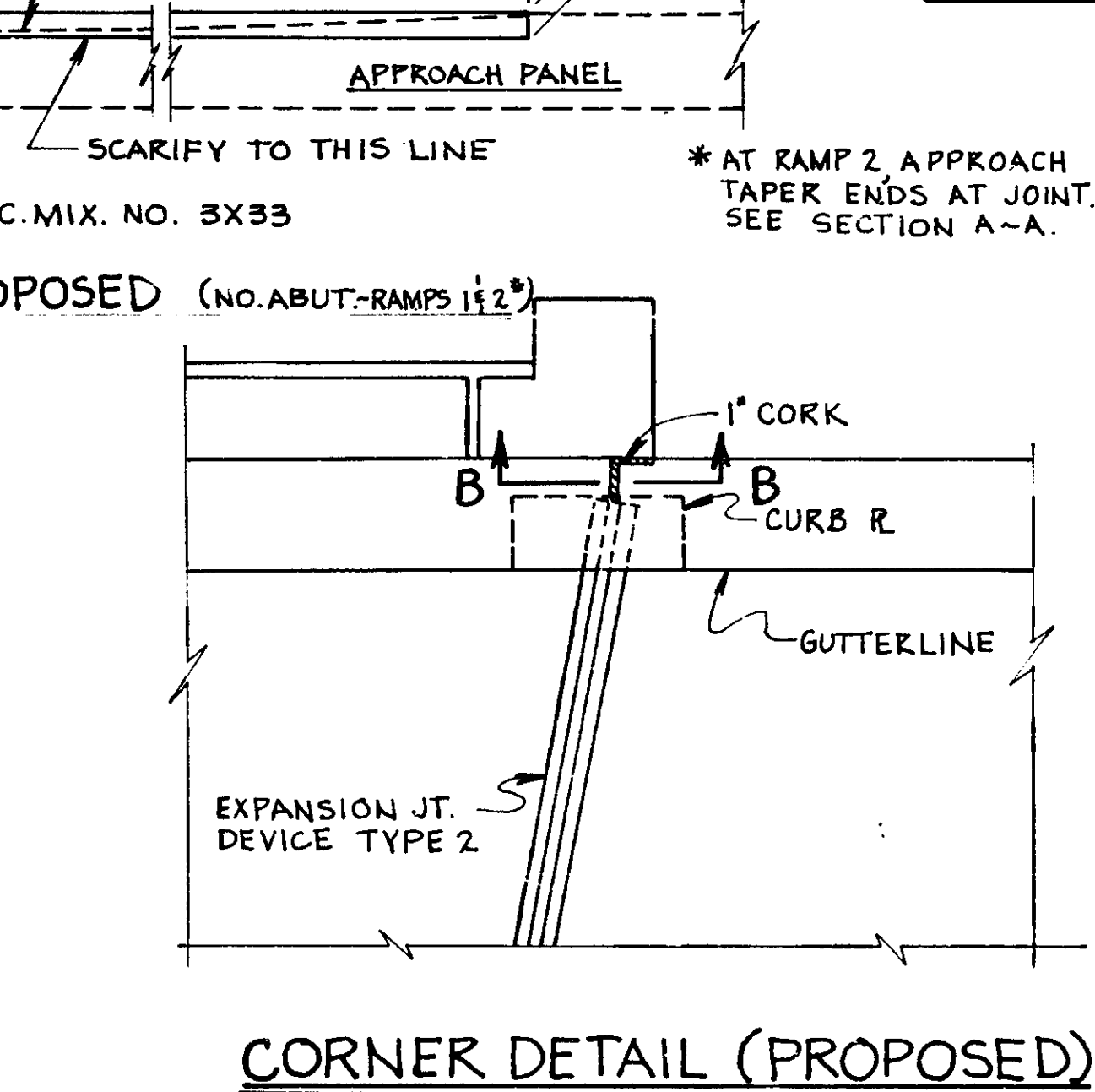
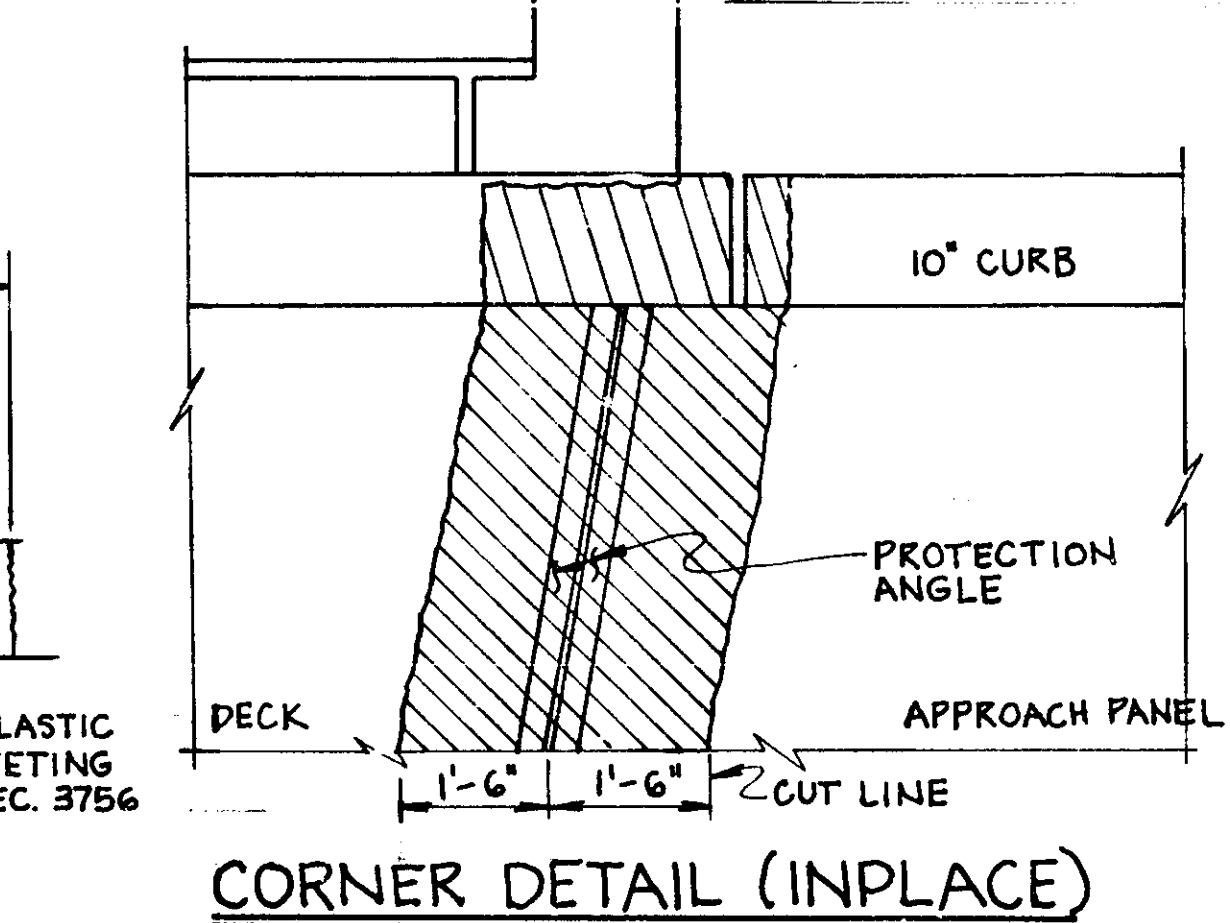
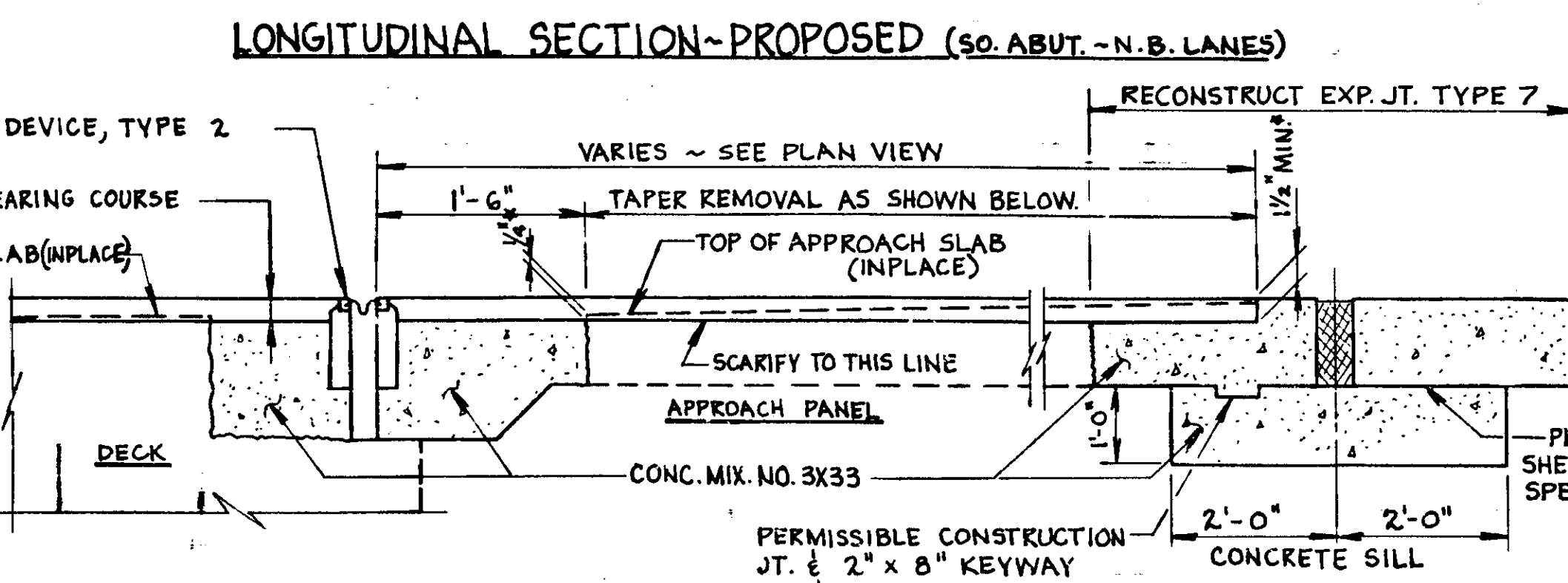
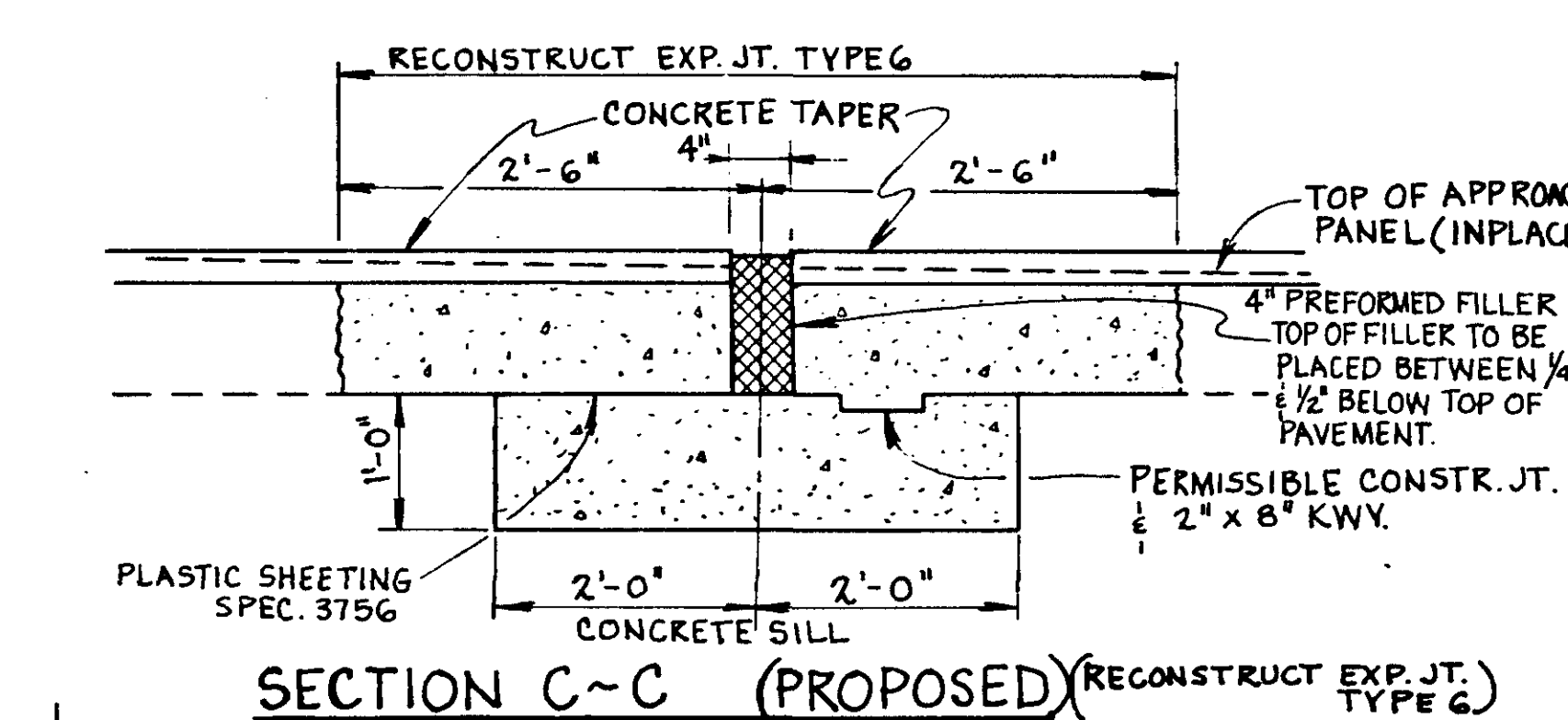
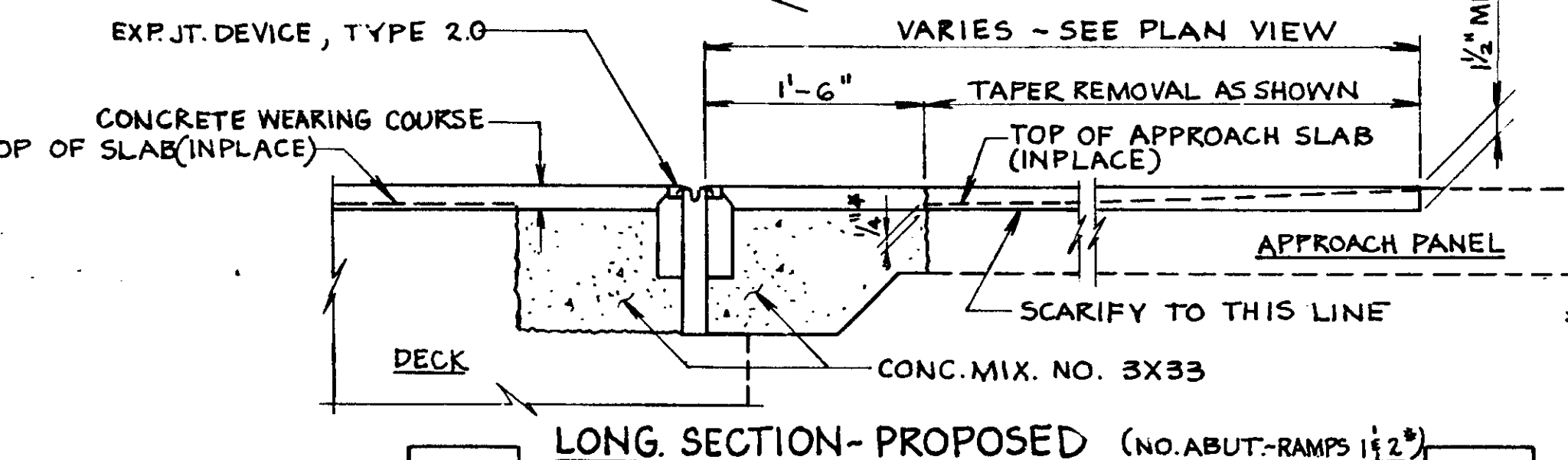
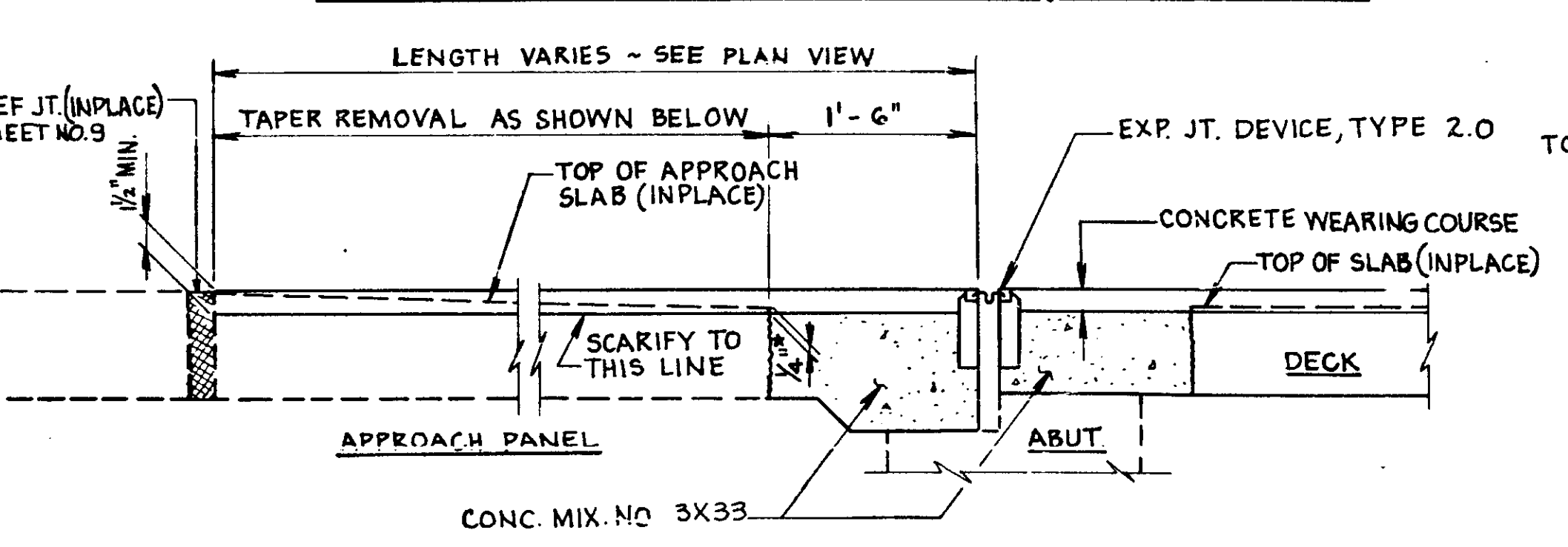
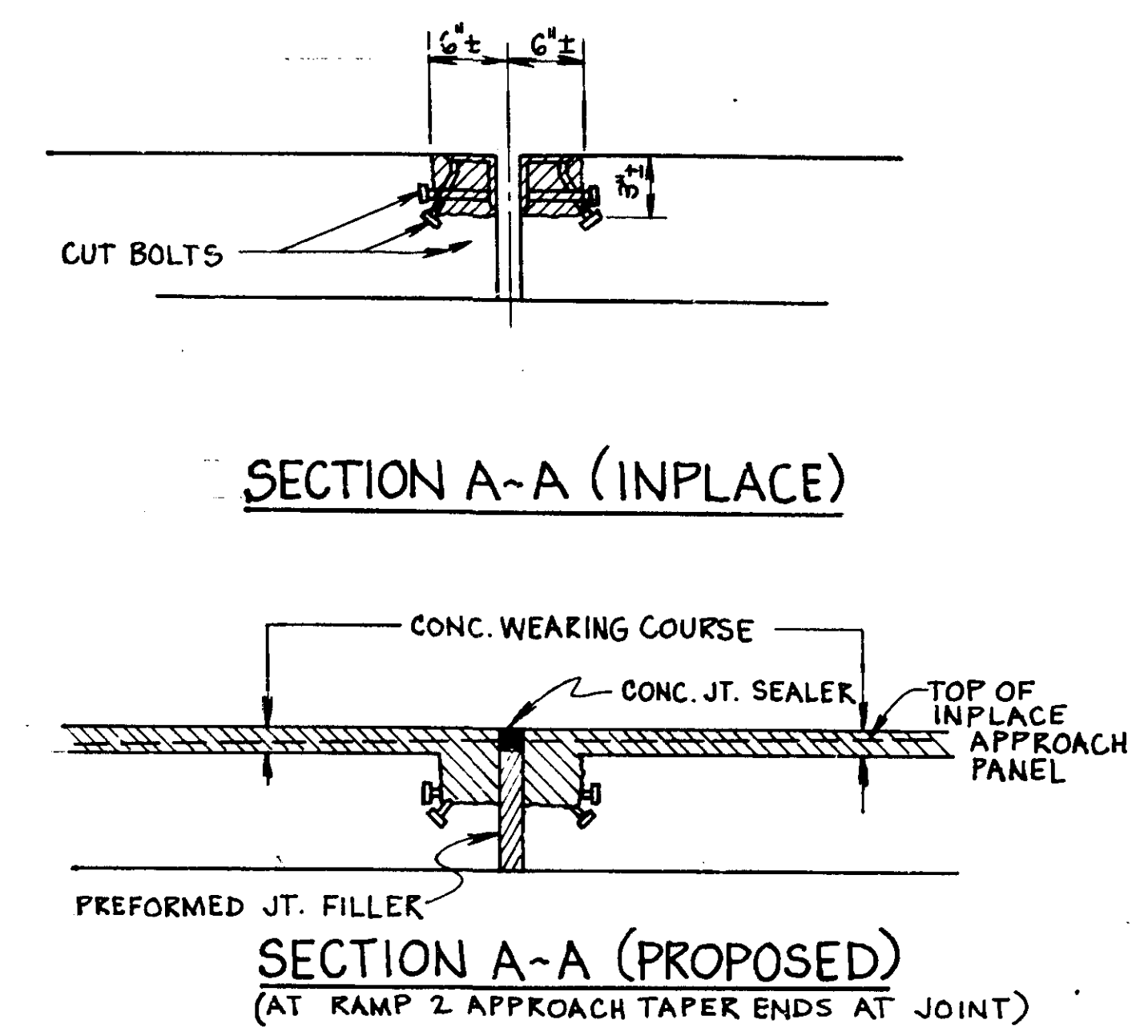
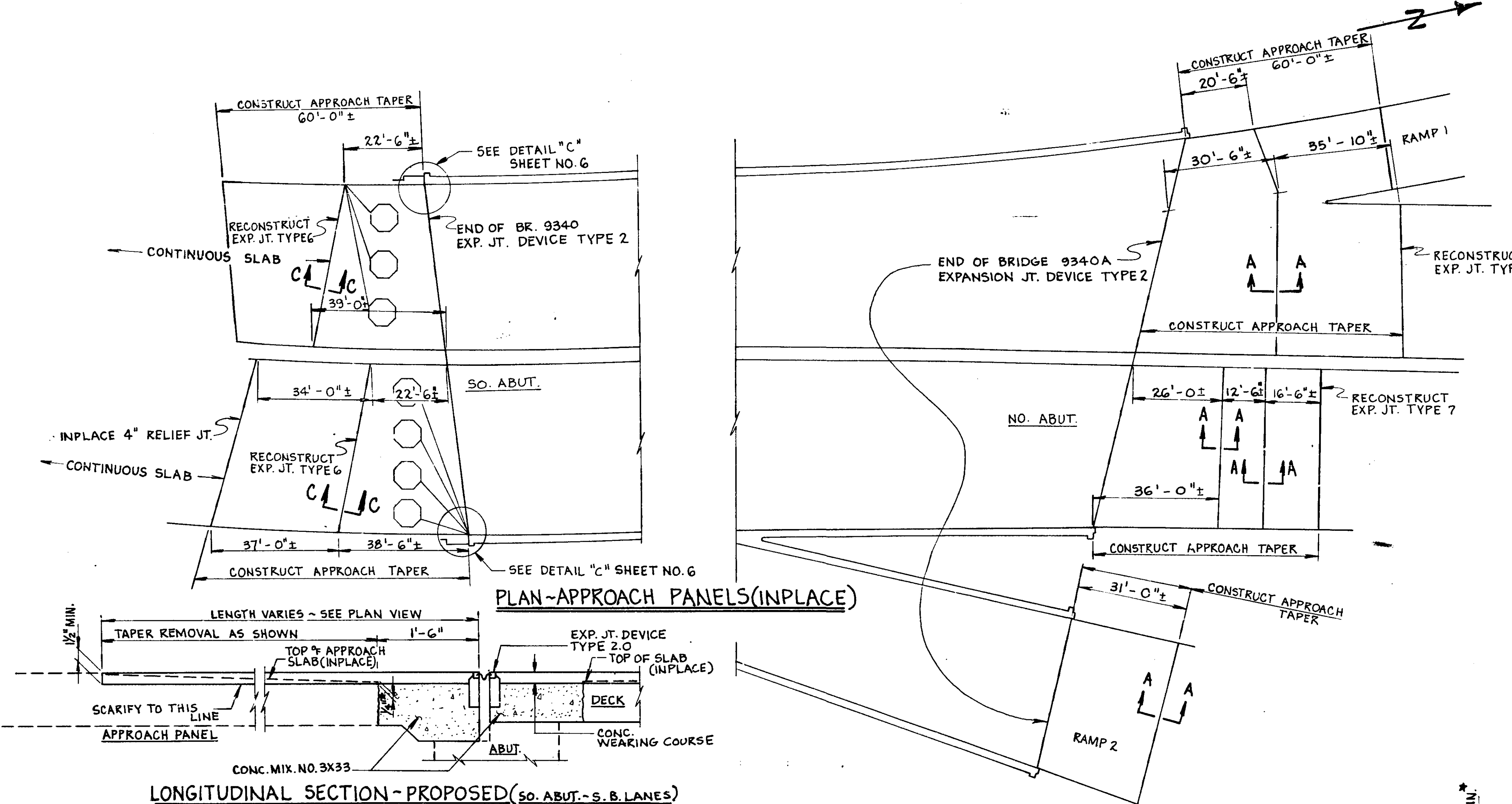


RECONSTRUCT EXP. JOINT TYPE 3 DETAILS

TYPICAL ~ AT U4, U8, U14, U8' AND U4'
 HATCHED AREA INDICATES CONCRETE TO BE REMOVED.
 SEE STD FIG. 5-397.627 FOR ADDITIONAL EXP. DEVICE DETAILS.

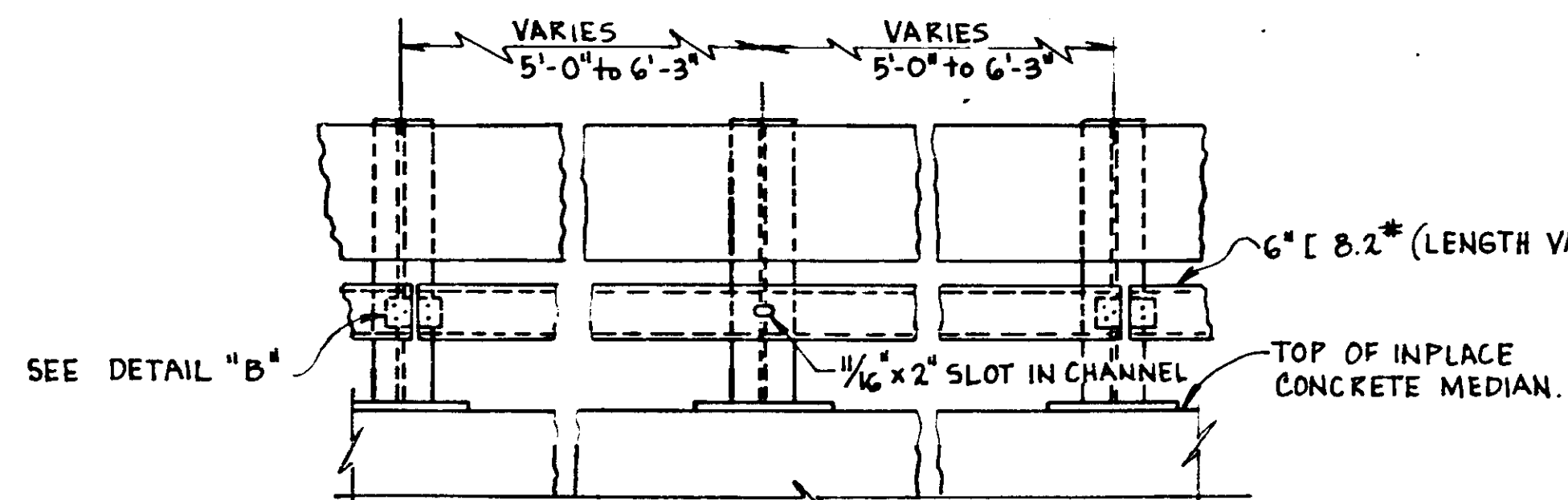


MINNESOTA
 DEPARTMENT OF TRANSPORTATION
Bridge No. 9340
DETAILS
 APPROVED: 2-17-77
 DES G.E.W. DR G.K.F.
 CHK J.K.B. CHK G.E.W. **9340**
Sheet No. 4 of 10 Sheets

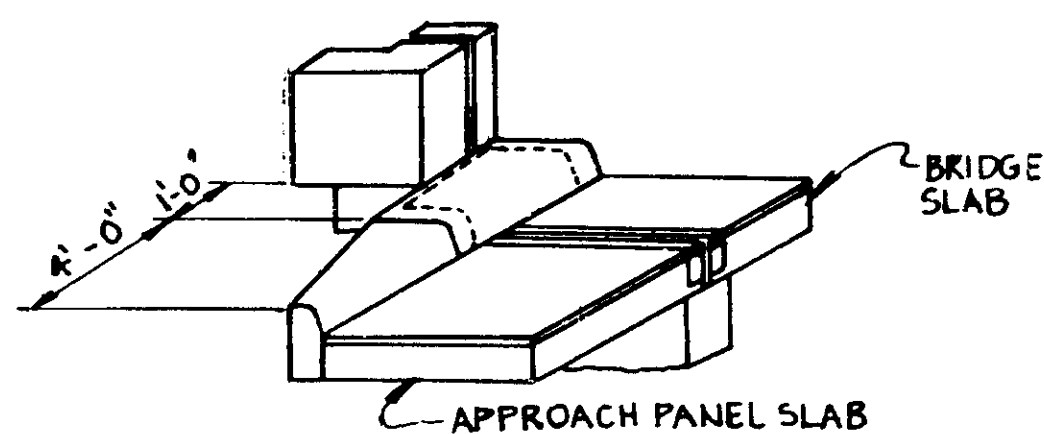


MINNESOTA DEPARTMENT OF TRANSPORTATION		
Bridge No. 9340 & 9340A		
APPROACH PANEL DETAILS		
APPROVED: 2-17-77		
DES. G. E. W.	DR. J. K. B.	9340 & 9340A
CHK. L. A. J.	CHK. G. E. W.	

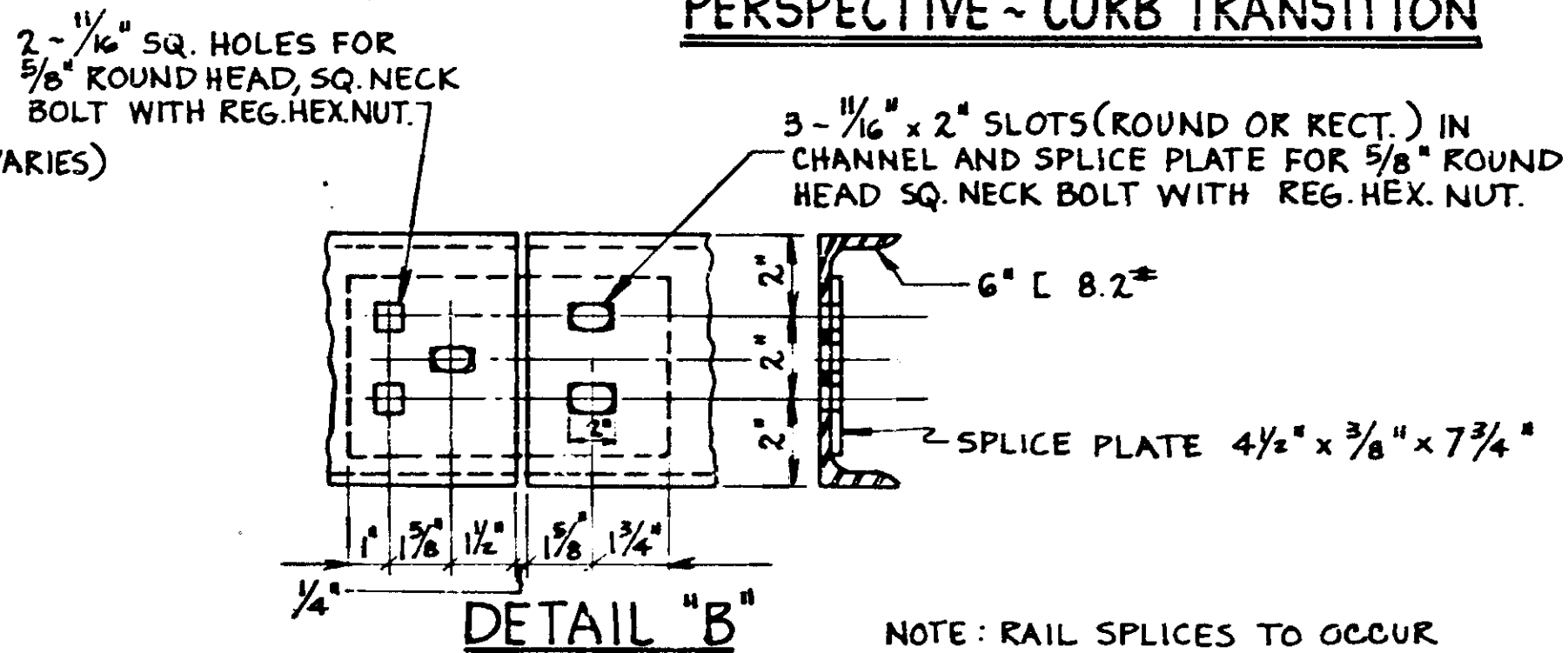
LONGITUDINAL SECTION - PROPOSED (NO. ABUT. - N. B. & S. B. RDWY.) *DIMENSIONS BASED ON LOW SLUMP ALTERNATE.



DETAIL "A"

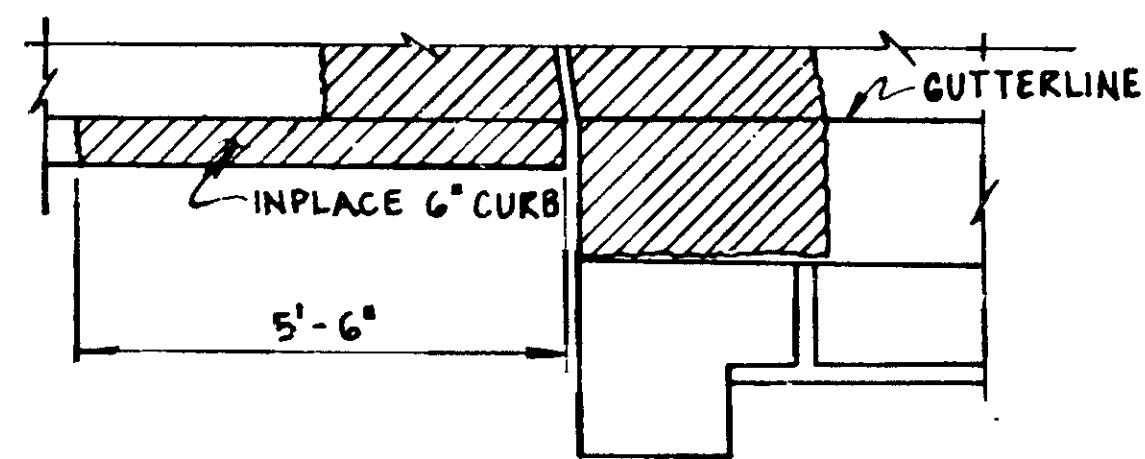


PERSPECTIVE - CURB TRANSITION

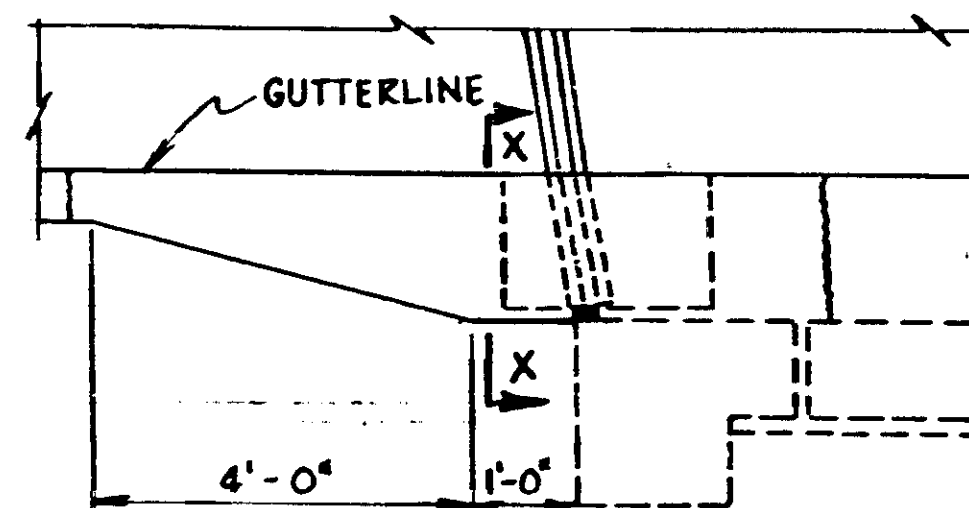


DETAIL "B"

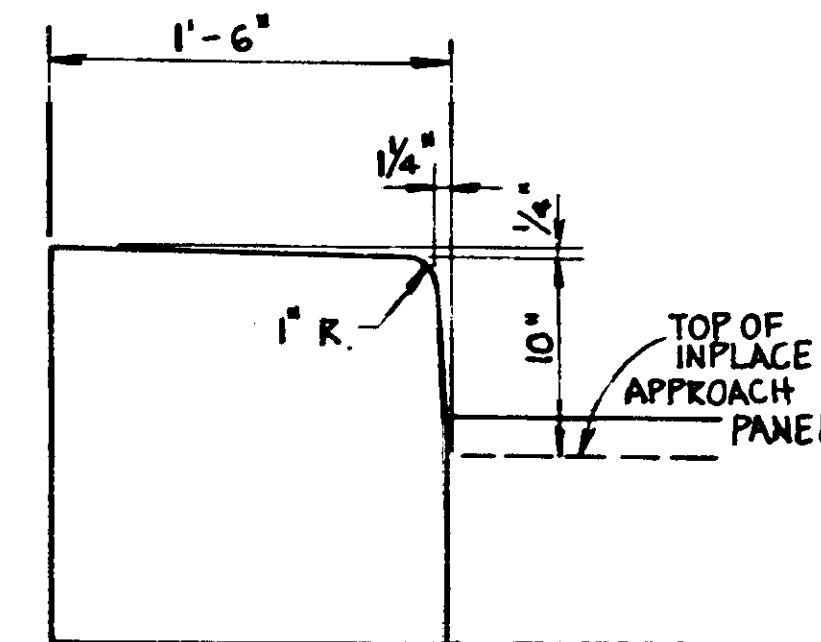
NOTE: RAIL SPLICES TO OCCUR AT POSTS ONLY.



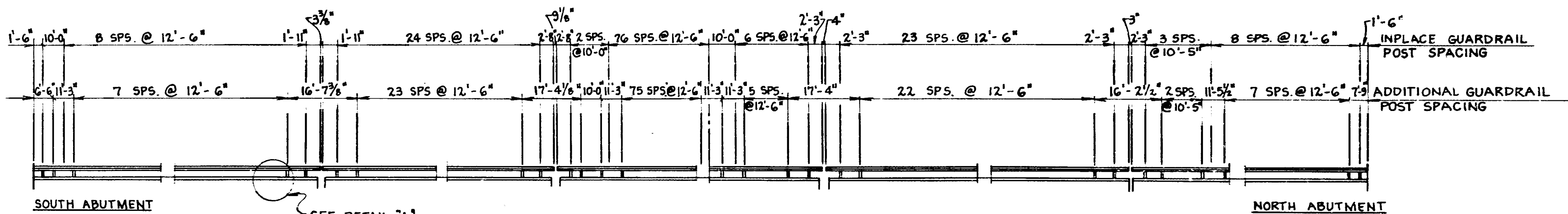
DETAIL "C" INPLACE (SEE SHEET 5)



DETAIL "C" PROPOSED (SEE SHEET 5)

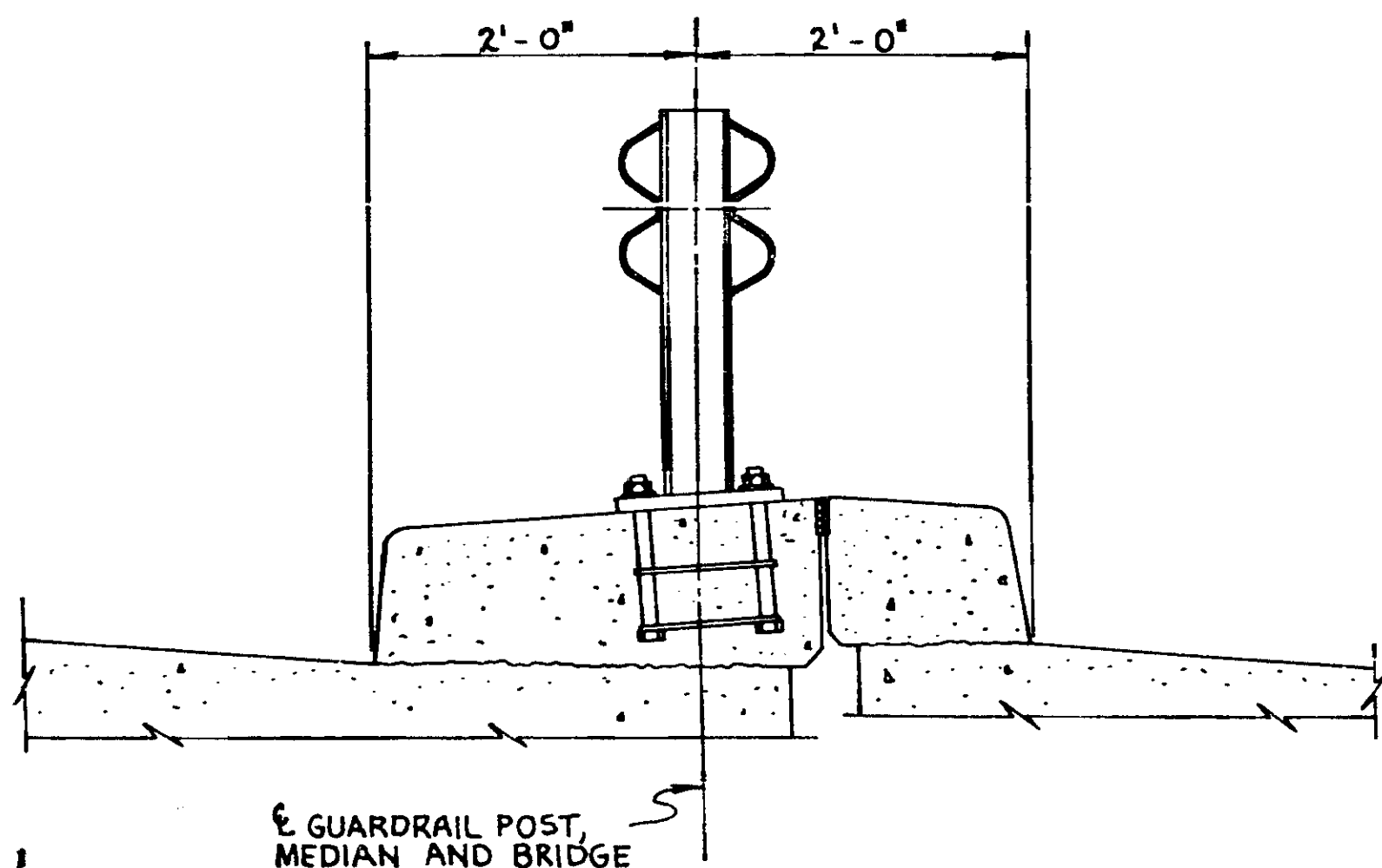


SECTION X-X

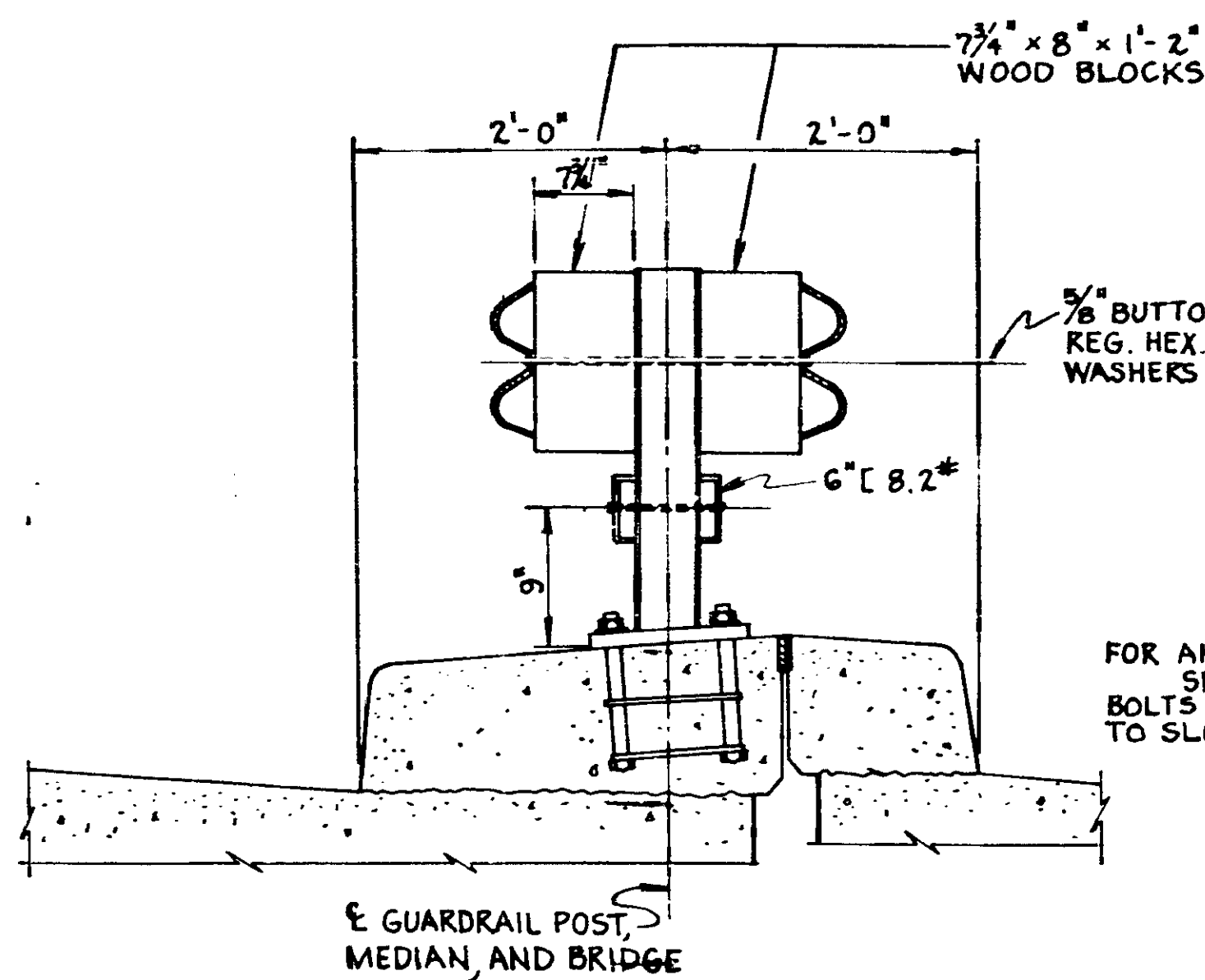


ELEVATION - GUARDRAIL

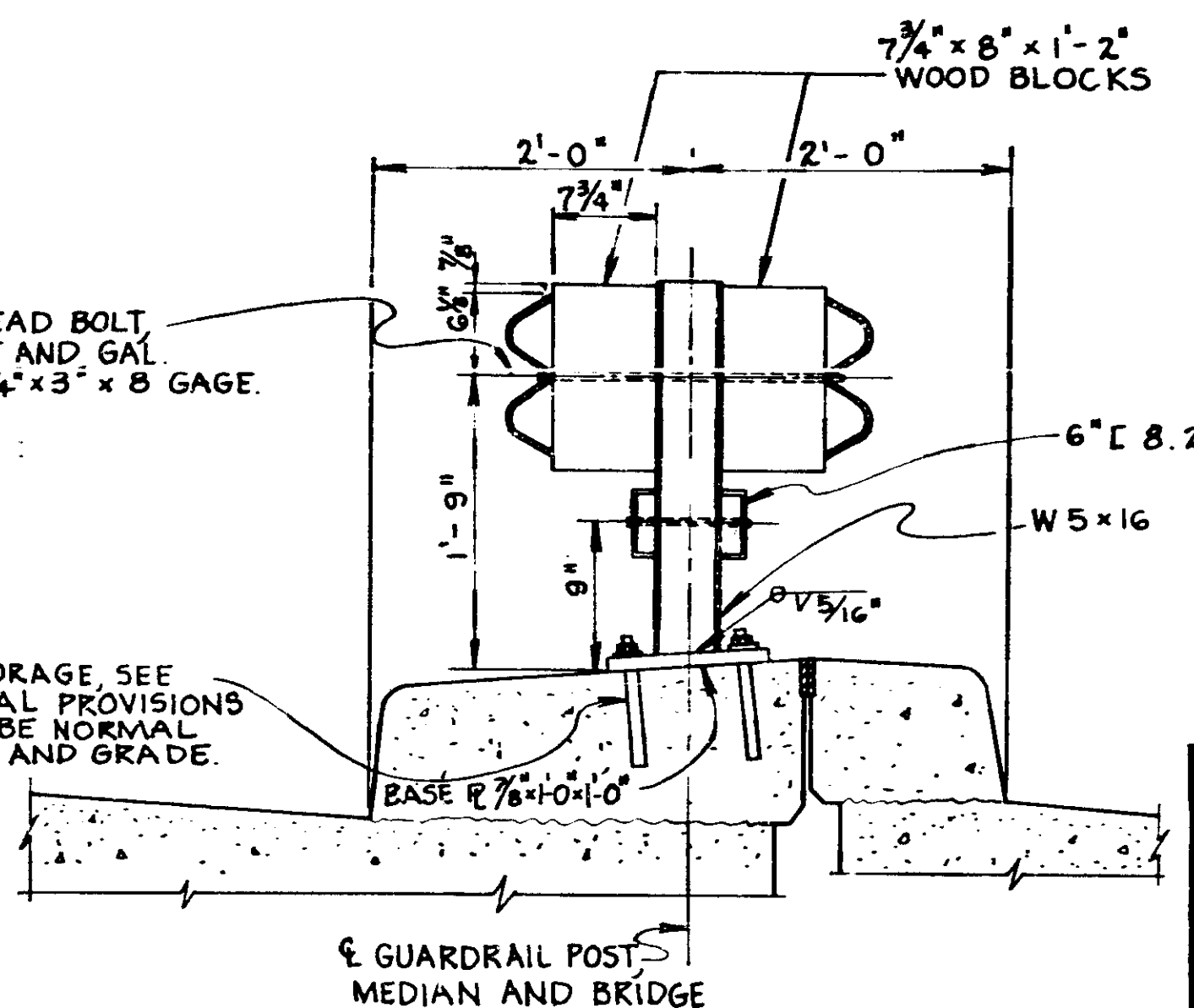
SUMMARY OF QUANTITIES 1/2" GUARDRAIL	
(ALL TO BE PAID FOR AS 554.613 TRAF. BARRIER REGION)	
BASE PLATES 7/8" x 1'-0" x 1'-0"	152 EA.
WOOD BLOCKS 7/4" x 8" x 1'-2"	646 EA.
6" L 8.2* x 10'-0"	8 EA.
6" L 8.2* x 10'-5"	6 EA.
6" L 8.2* x 12'-6"	290 EA.
5/8" BOLT, HEX. NUT & WASHER (FOR PLATE BEAM BARRIER)	323 EA.
5/8" BOLT & HEX NUT	309 EA.
BUFFER END SECTIONS	12 EA.
MATERIAL FOR GUARDRAIL POSTS, BASE PLATES, SPLICE PLATES, AND RUBRAIL SHALL BE IN ACCORDANCE WITH M.H.D. 3306. GALVANIZE PER M.H.D. 3394.	
FOR BUFFER END SECTION DETAILS, SEE STANDARD HM-TF-13/RE-7-70 IN "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE."	



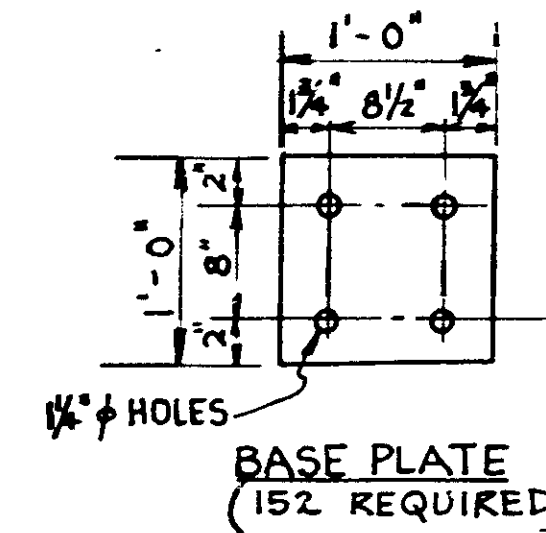
SECTION THRU GUARDRAIL (INPLACE)



SECTION THRU GUARDRAIL (INPLACE) WITH WOOD BLOCKS AND RUBRAIL

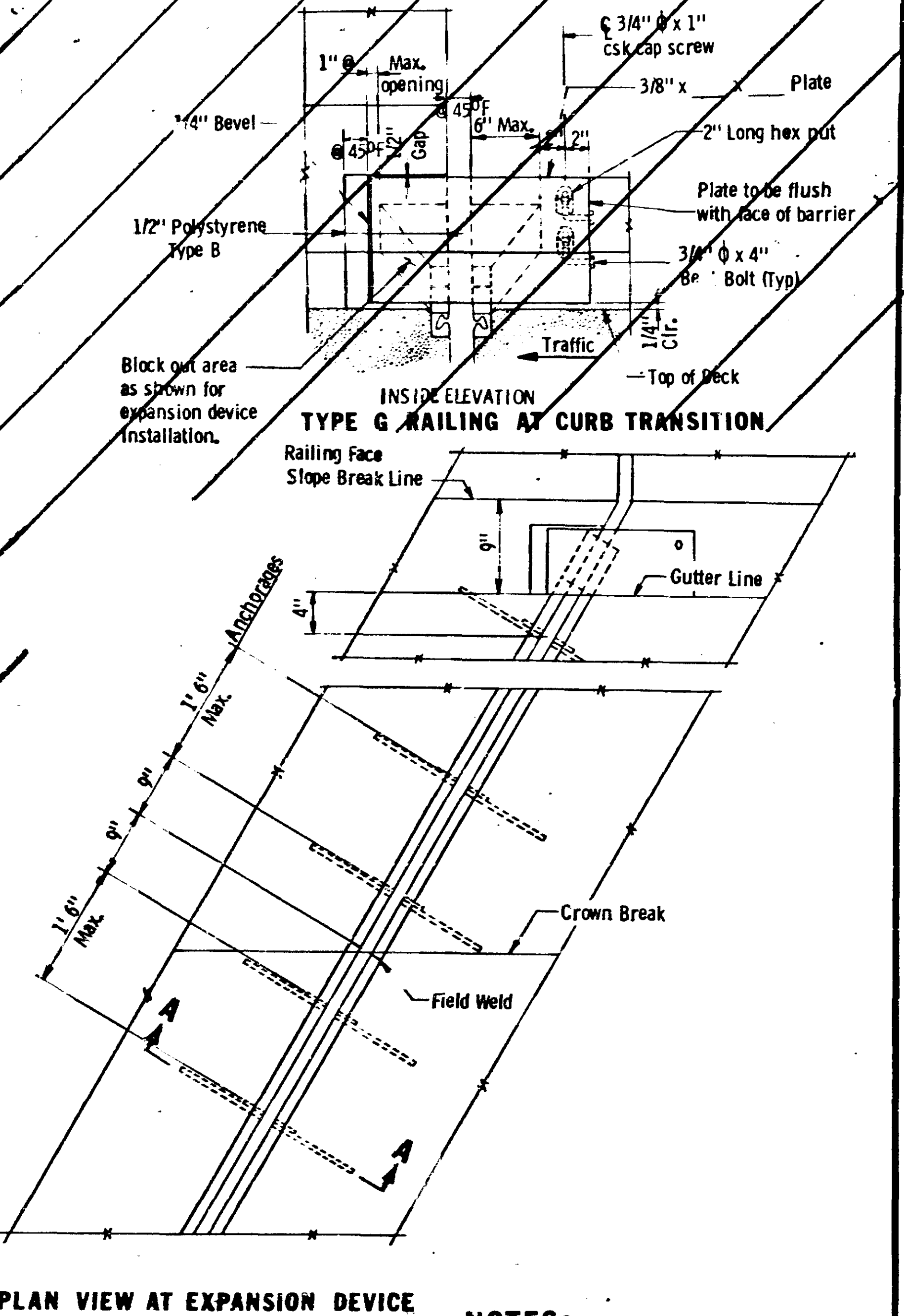
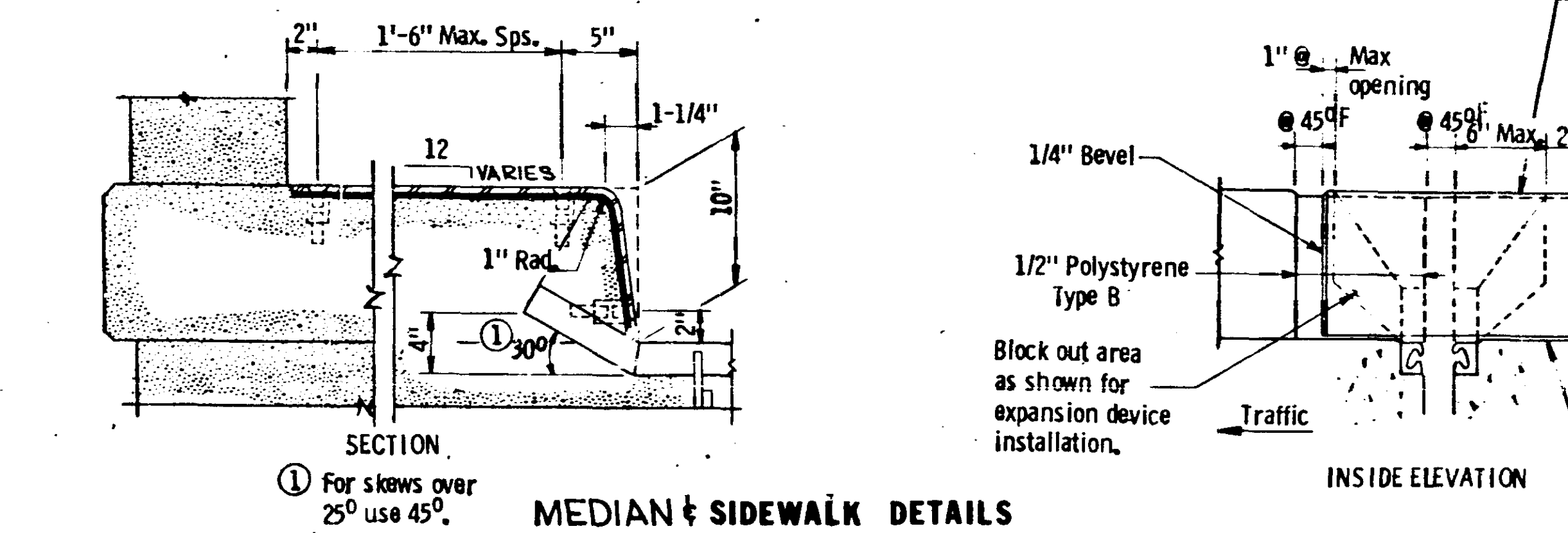
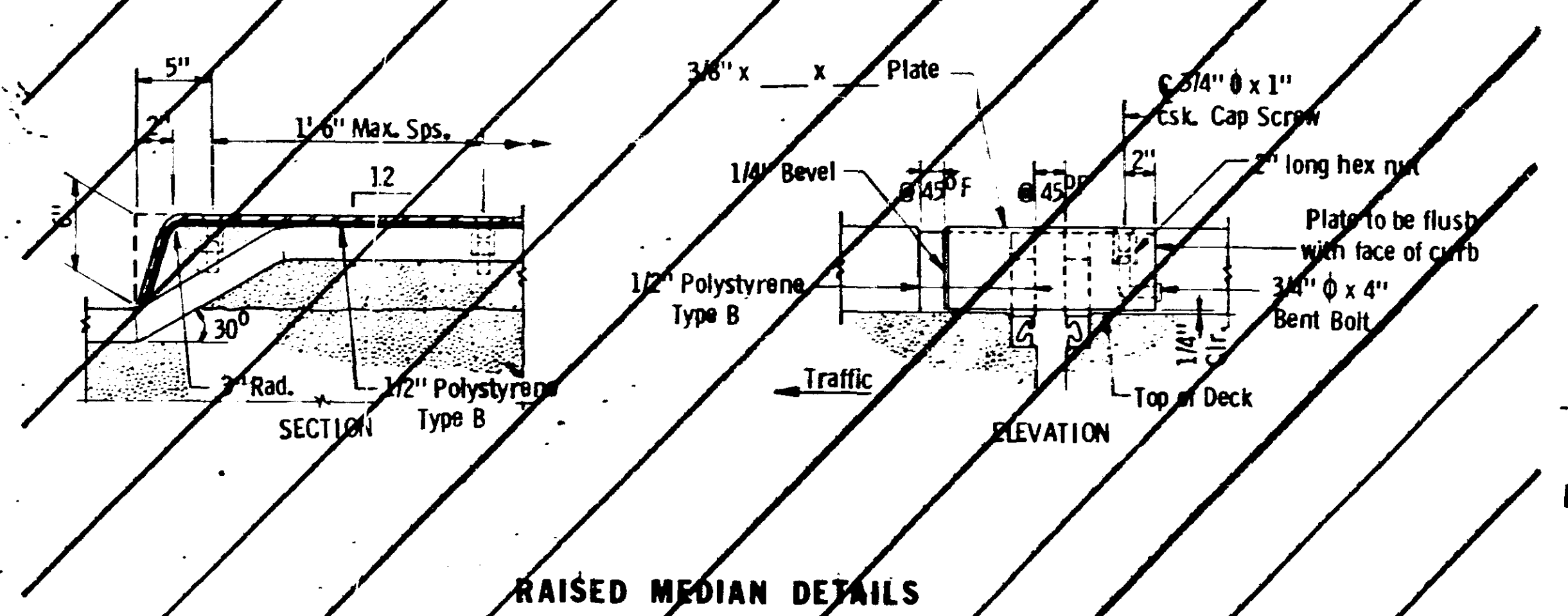
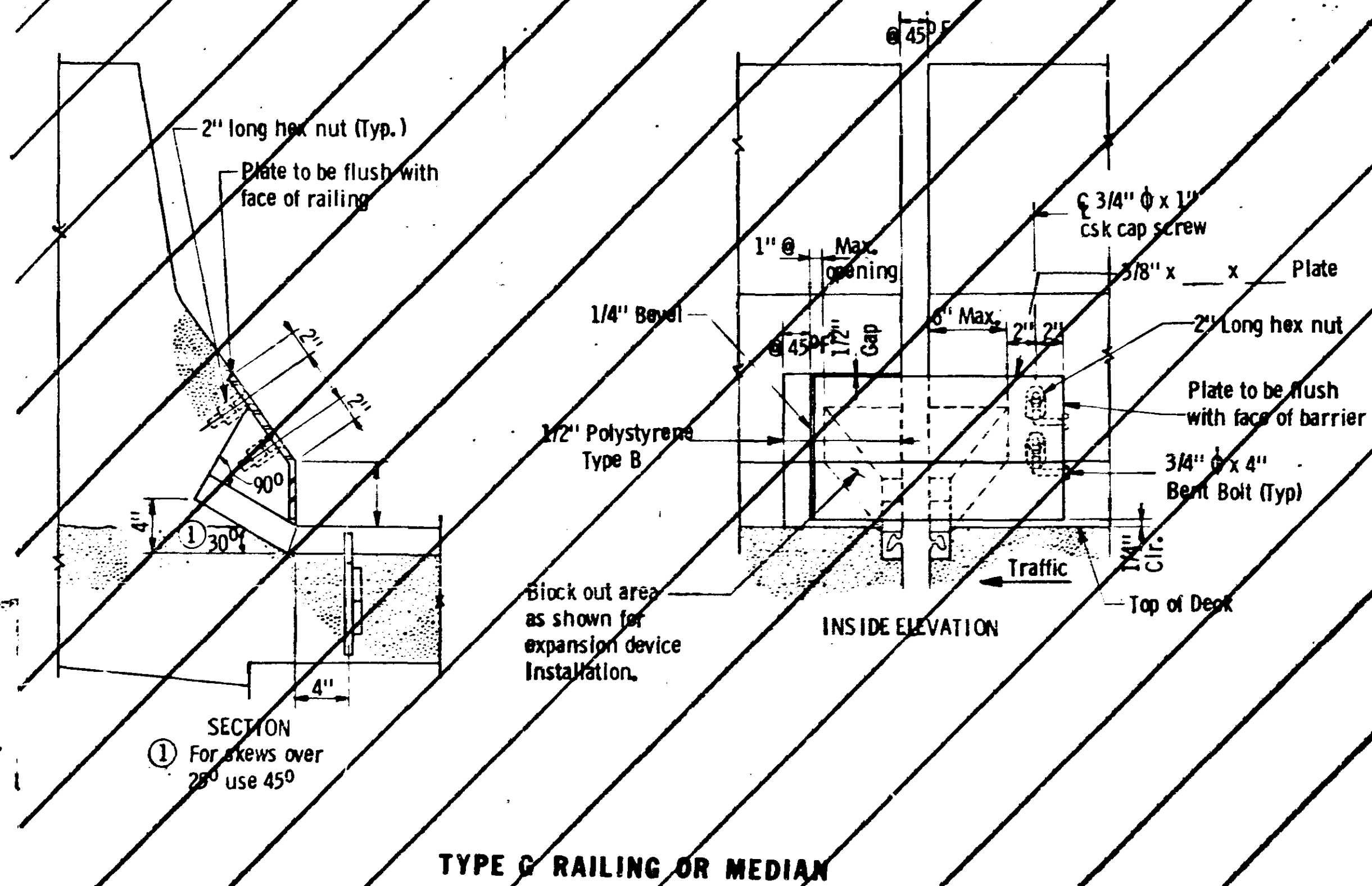
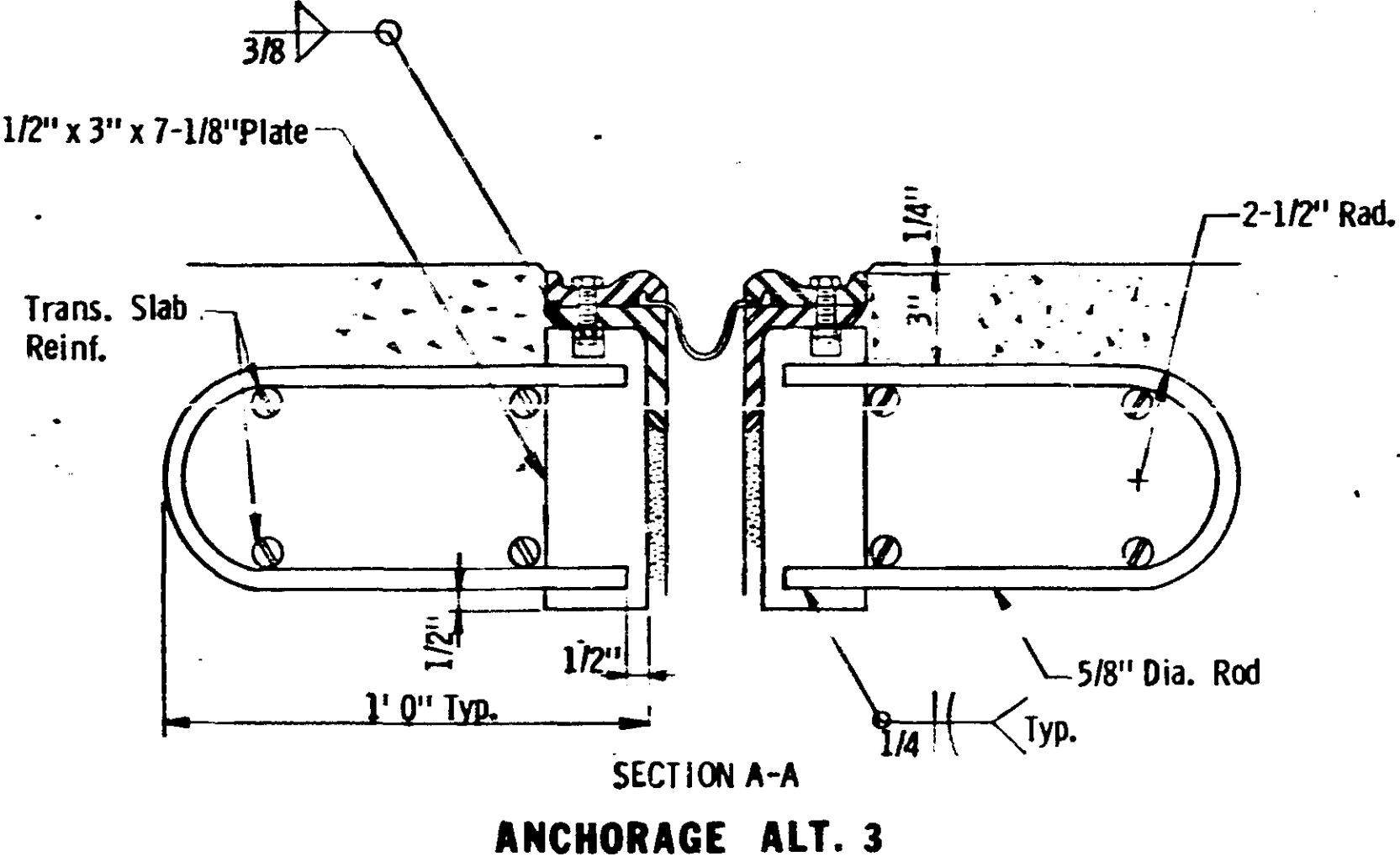
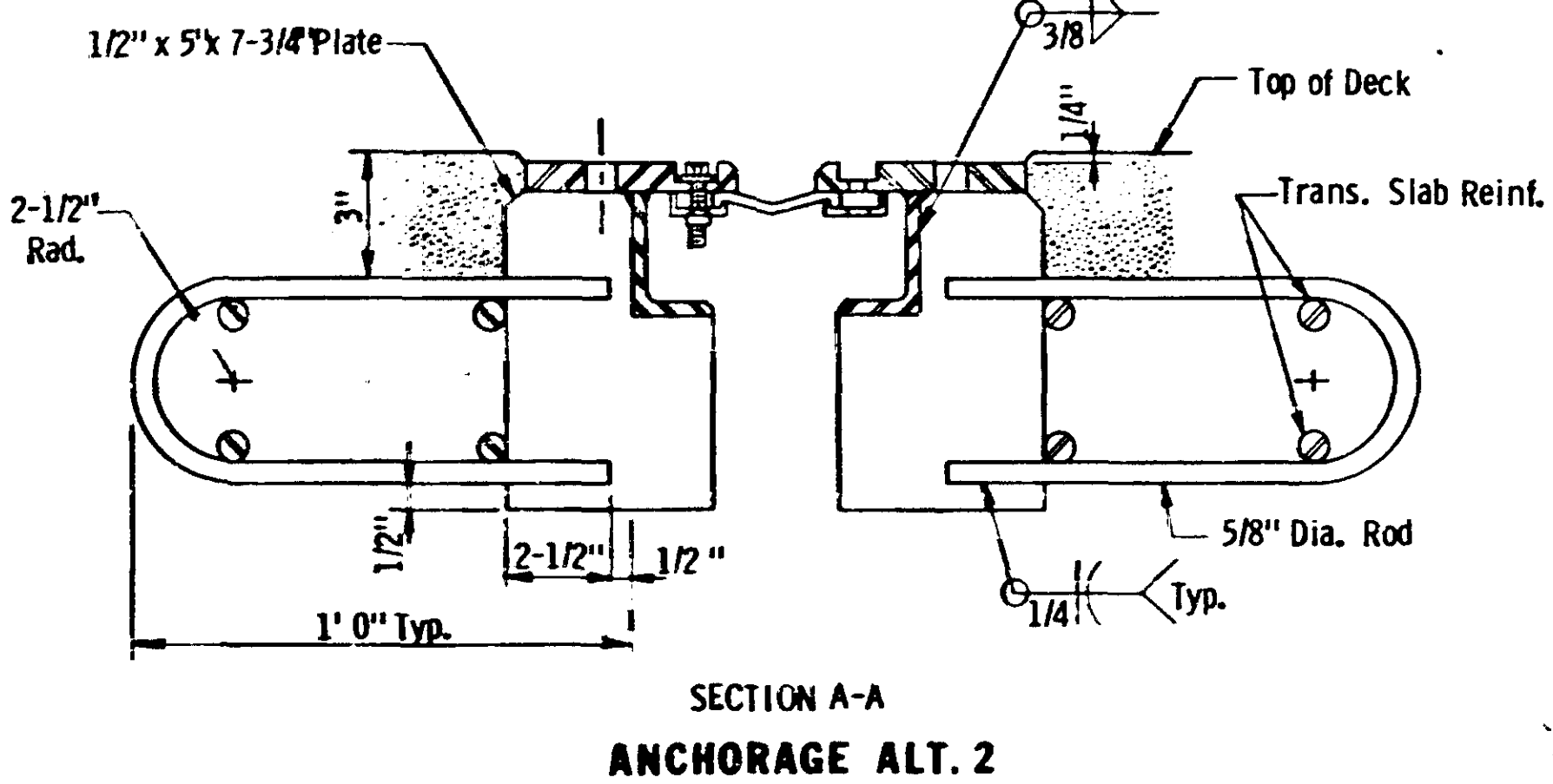
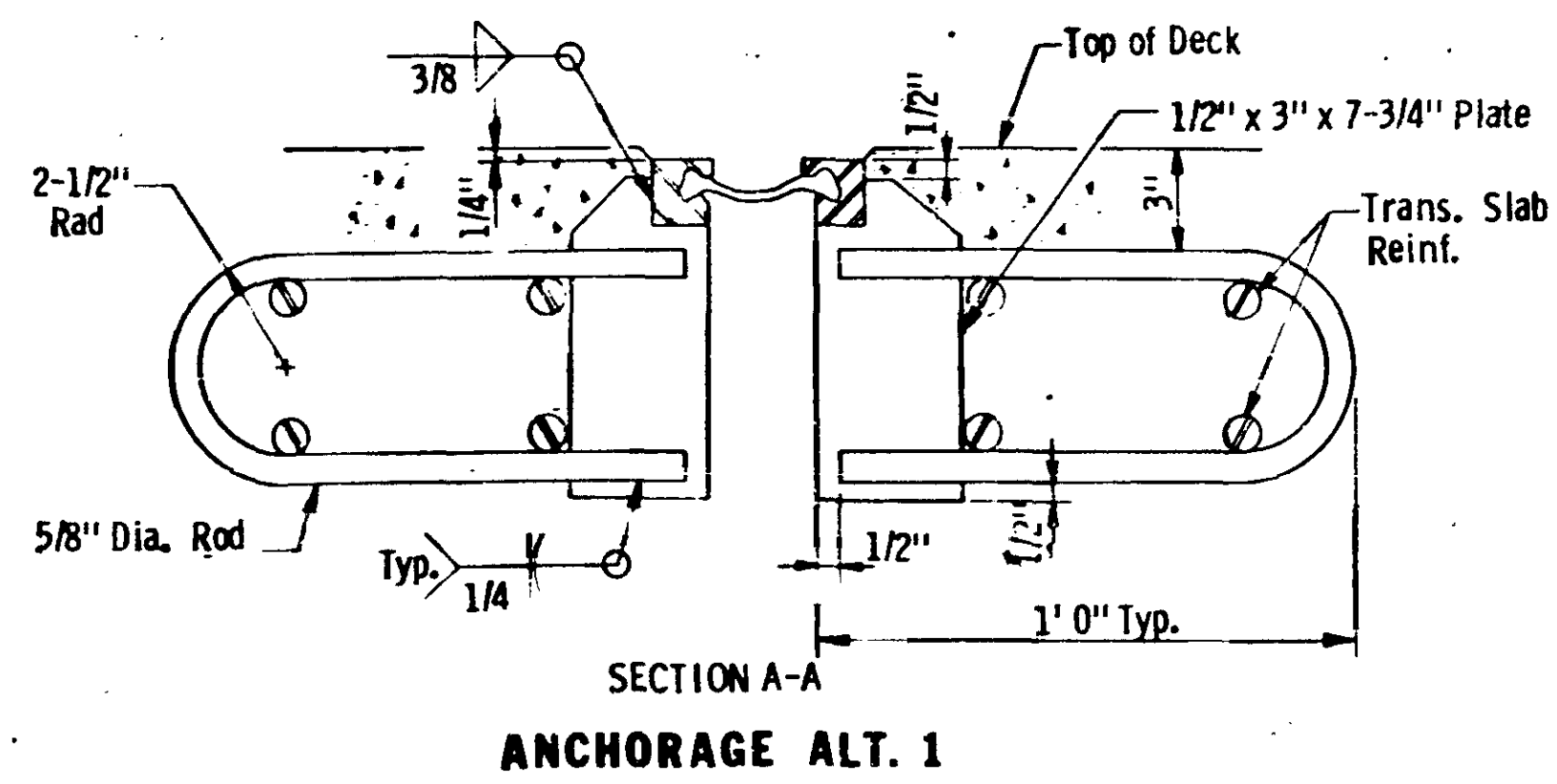


SECTION THRU GUARDRAIL WITH NEW POST, ANCHORAGE WOOD BLOCKS & RUBRAIL



BASE PLATE (152 REQUIRED)

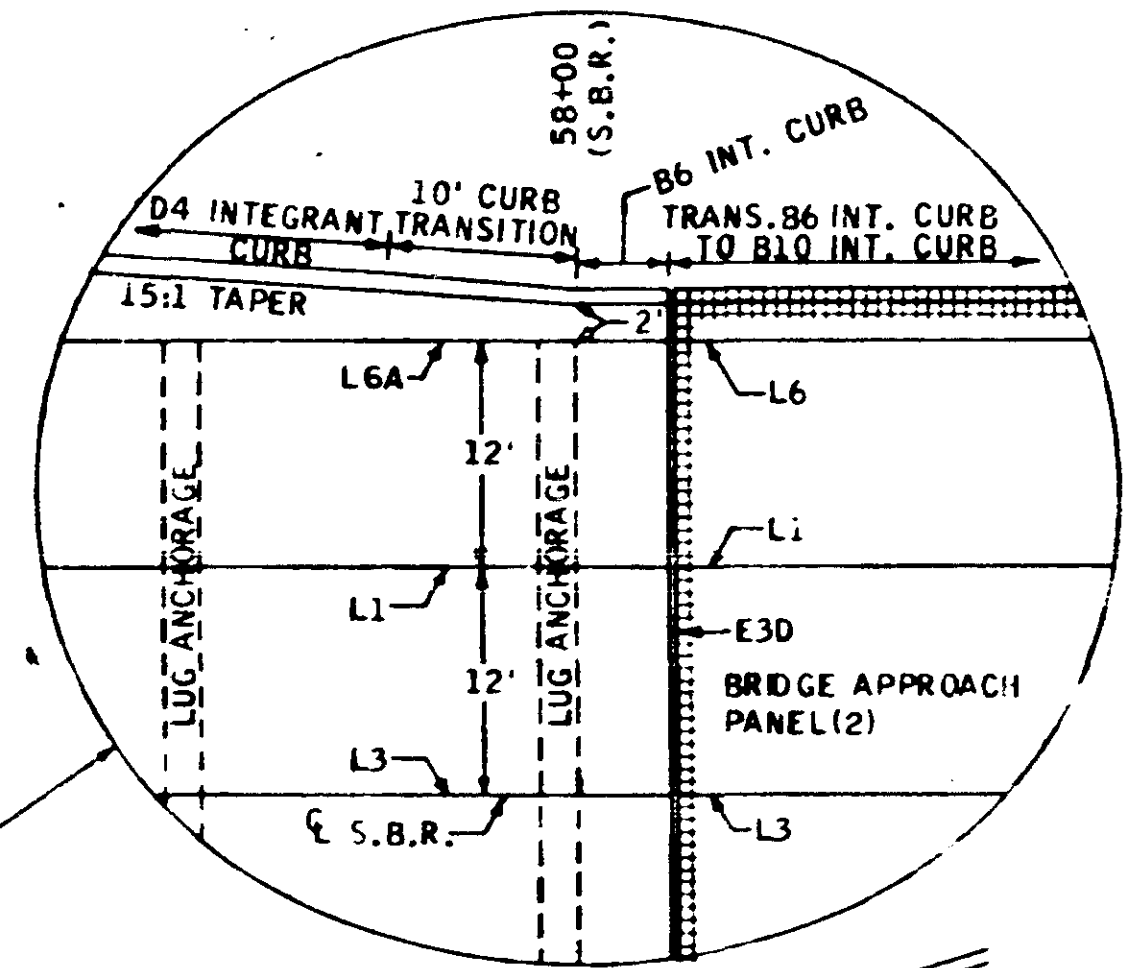
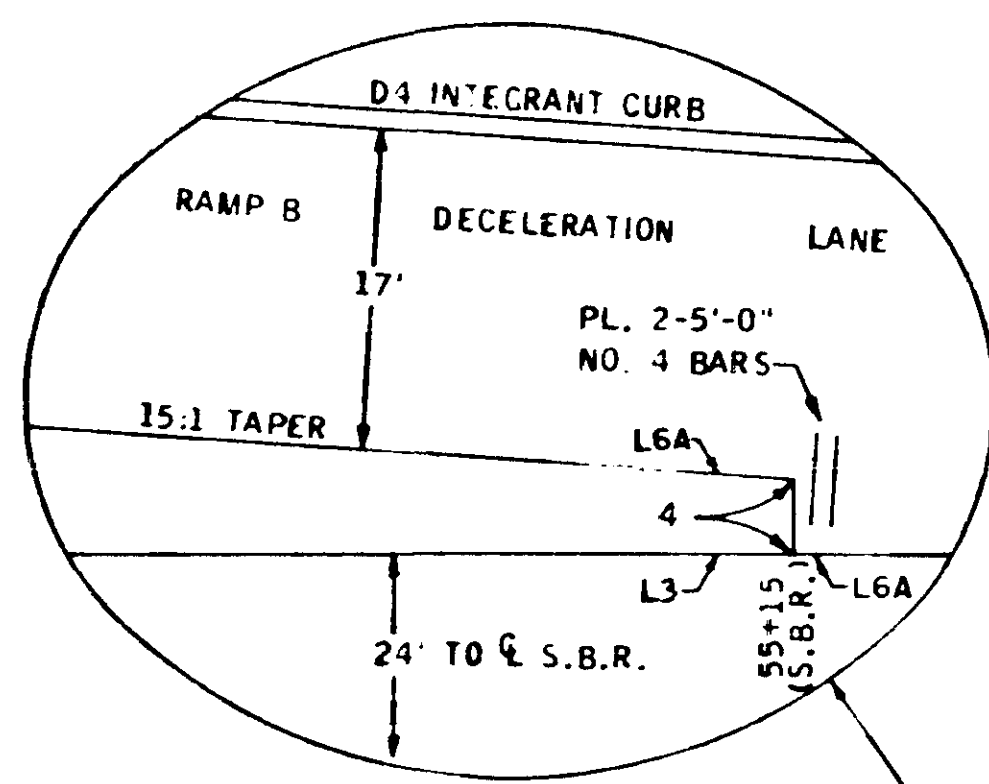
MINNESOTA DEPARTMENT OF TRANSPORTATION		
Bridge No. 9340 & 9340A		
GUARDRAIL DETAILS		
APPROVED: 2-17-77		
DES. G. E. W.	DR. J. K. B.	9340 & 9340A
CHK. D. H.	CHK. G. E. W.	



NOTES:
 Galvanize structural steel after fabrication as per Spec. 3394.
 Joints in roadway plate or extrusion shall be located at breaks in transverse profile and as otherwise required. Joints shall be close fit and welded. Repair after welding as per Spec. 2471.3L.
 Structural steel shall comply with Spec. 3306 or Spec. 3309.
 Galvanize screws and nuts as per Spec. 3392.
 Plates shall be flat after galvanizing.
 Cap screws shall be csk. 1/16\"/>

Fig. 5-397.627

TITLE: WATERPROOF EXPANSION DEVICE	DES: CHK:	DR: CHK:	APPROVED: 5-17-77	Bridge No. 9340/9340A
Sheet No. 7 of 10 Sheets				

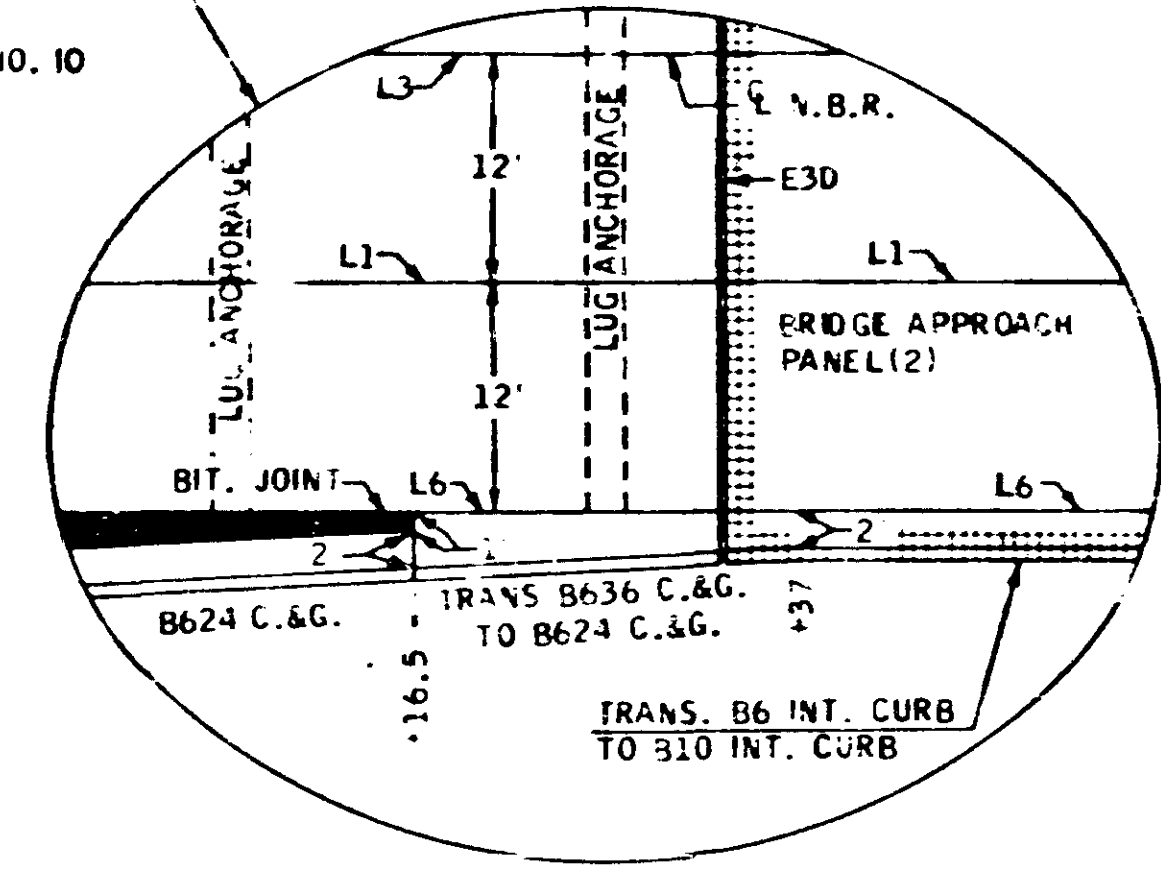


PROTECTION ANGLES		
LOCATION	LINE	FT.
S.B.R. 58+05		96
58+35		49
N.B.R. 58+33		96
58+64		49

LUG ANCHORAGES		
LOCATION	LINE	FT.
S.B.R. 57+59		49.0
57+79		49.0
57+99		49.0
N.B.R. 57+87		49.0
58+07		49.0
58+27		49.0

LEGEND

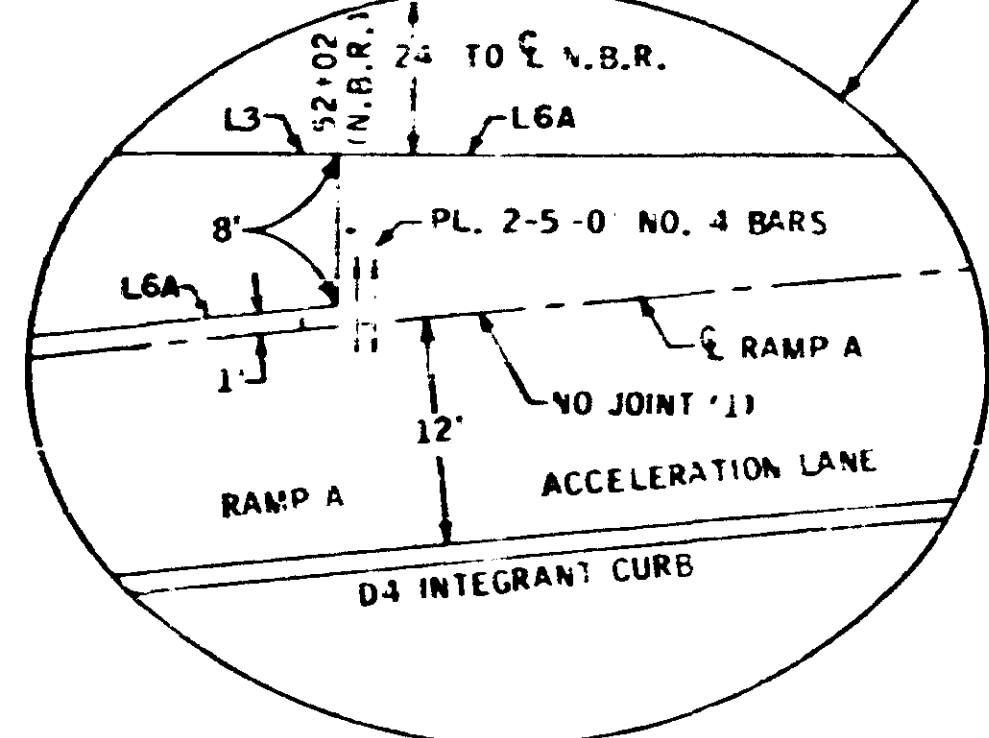
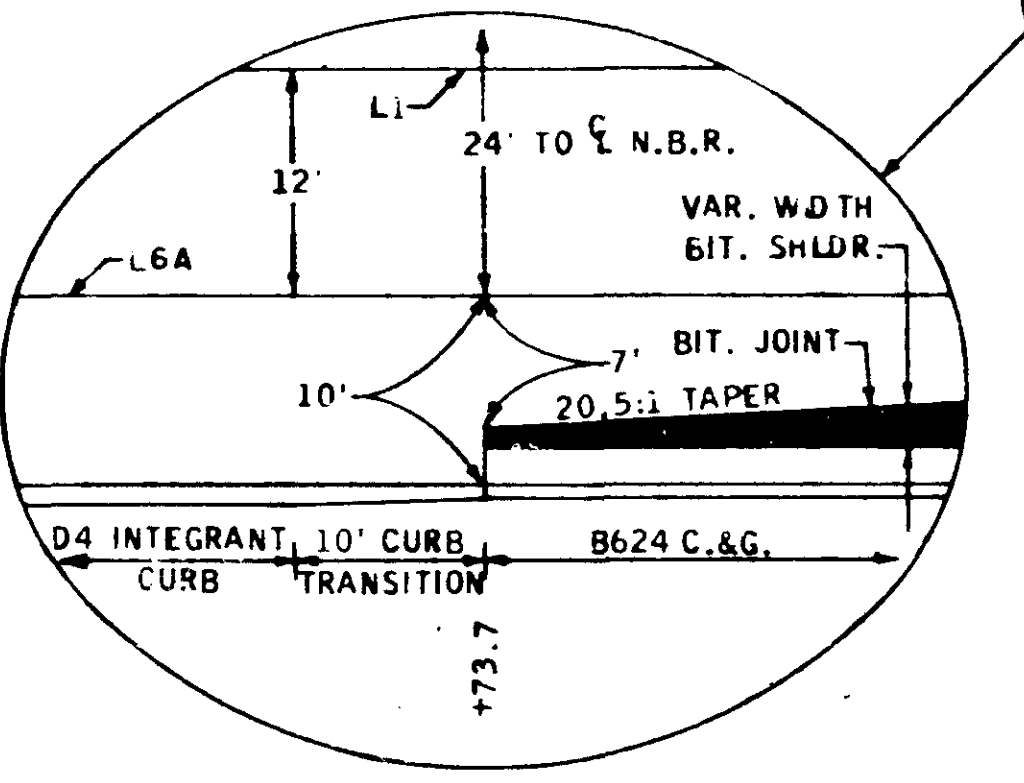
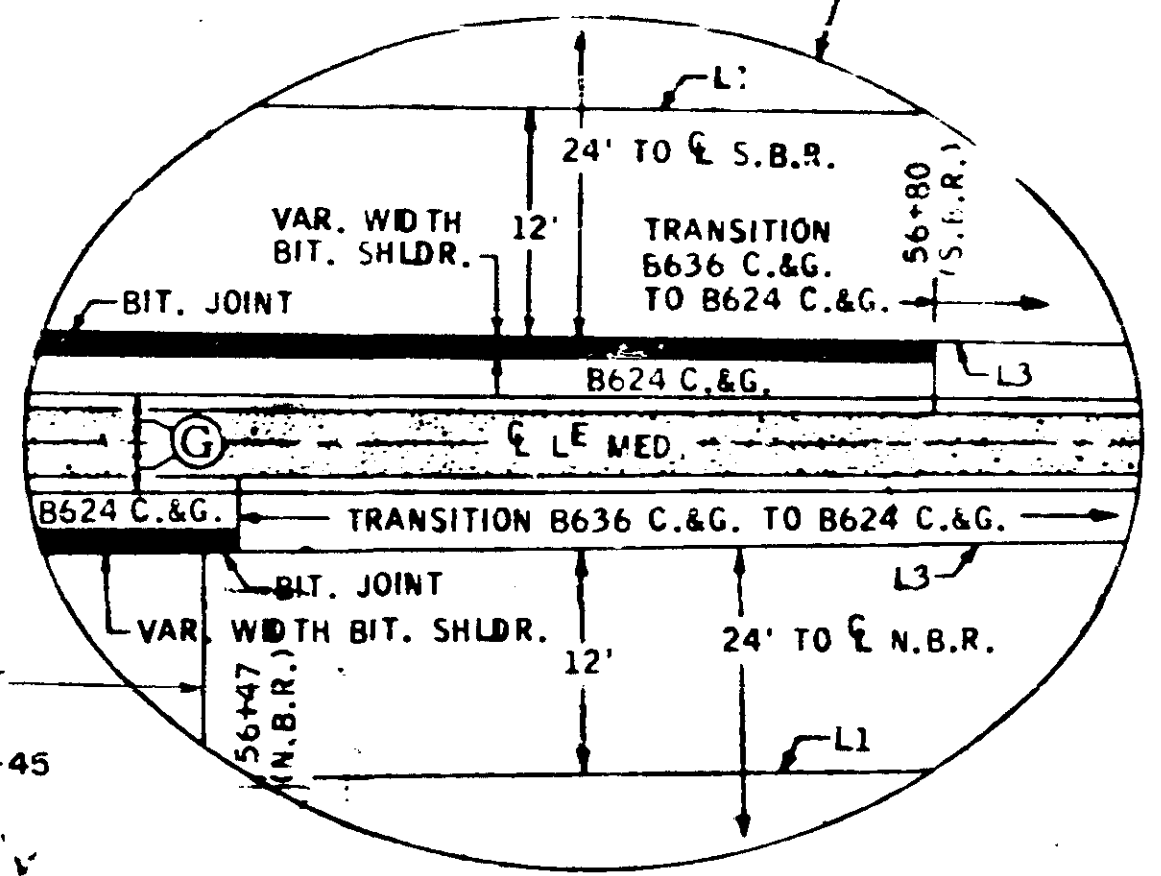
- ▨ DENOTES LUG ANCHORAGES
- ▭ DENOTES 4' CONC. WALK
- ▨ DENOTES TEMPORARY BITUMINOUS SURFACING
- ▭ DENOTES LIMITS OF REINFORCED CONCRETE PAVEMENT (2303) SEE TABULATION THIS SHEET



- (1) PAVEMENT WIDTH AT THE END OF L1 OR L6 JOINT SHALL NOT EXCEED 22'
- (2) SEE STANDARD PLATE 1035D WITH THE FOLLOWING MODIFICATIONS
- (a) THE B6 INTEGRANT CURB SHALL TRANSITION TO B10 INTEGRANT CURB ALONG THE LENGTH OF THE BRIDGE APPROACH PANEL
- (b) THE L6 JOINTS IN THE BRIDGE APPROACH PANEL MAY BE ELIMINATED AT THE CONTRACTOR'S OPTION
- (c) A SPECIAL TRANSVERSE JOINT SHALL BE CONSTRUCTED IN ANY PANEL LESS THAN 4' WIDE SEE DETAIL ON SHEET NO. 16
- (d) PROTECTION ANGLES (AS DETAILED ON SHEET NO. 16) SHALL BE PLACED AT EACH END OF THE BRIDGE APPROACH PANEL FOR INFORMATION PURPOSES ONLY

FOR INFORMATION ONLY

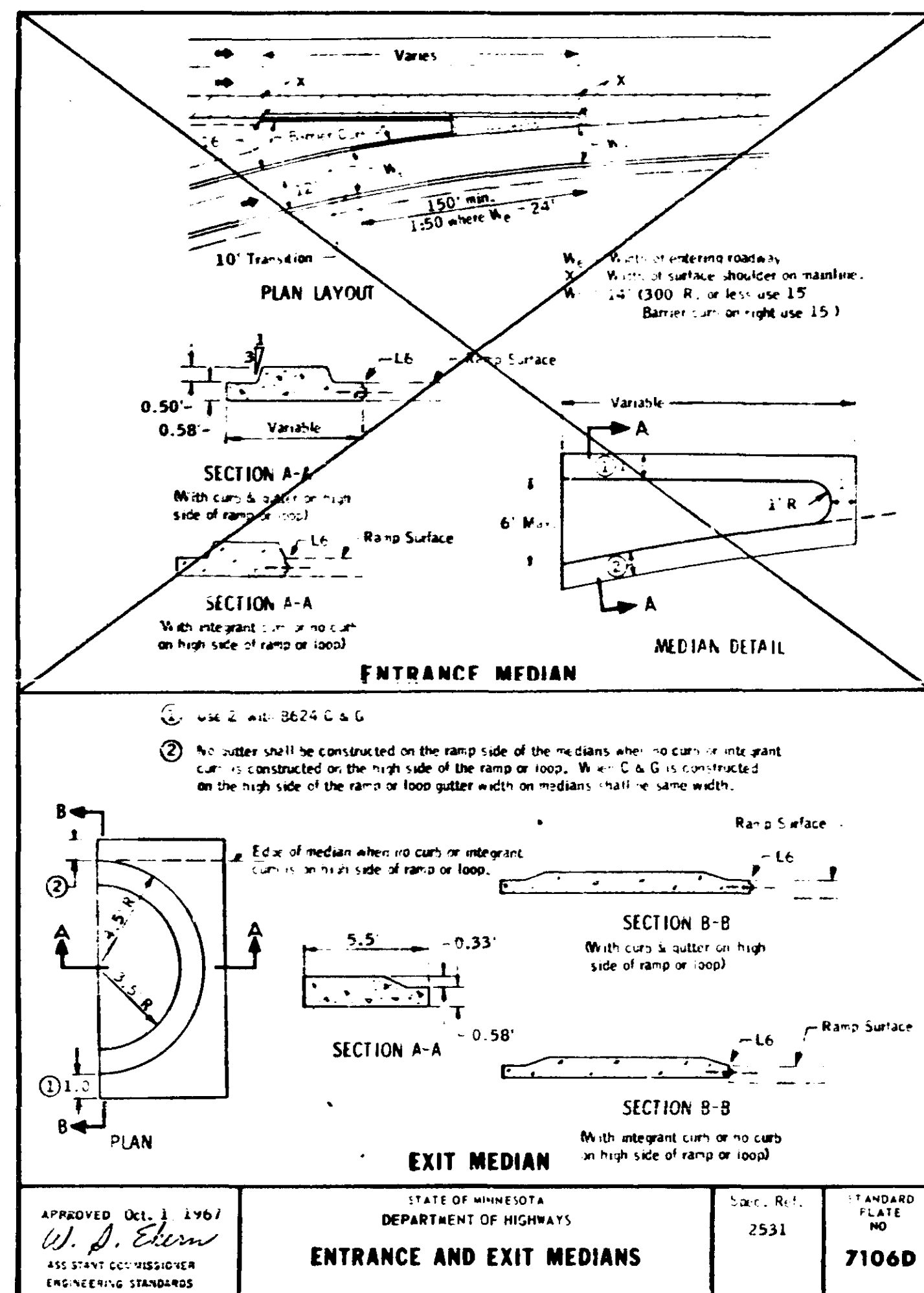
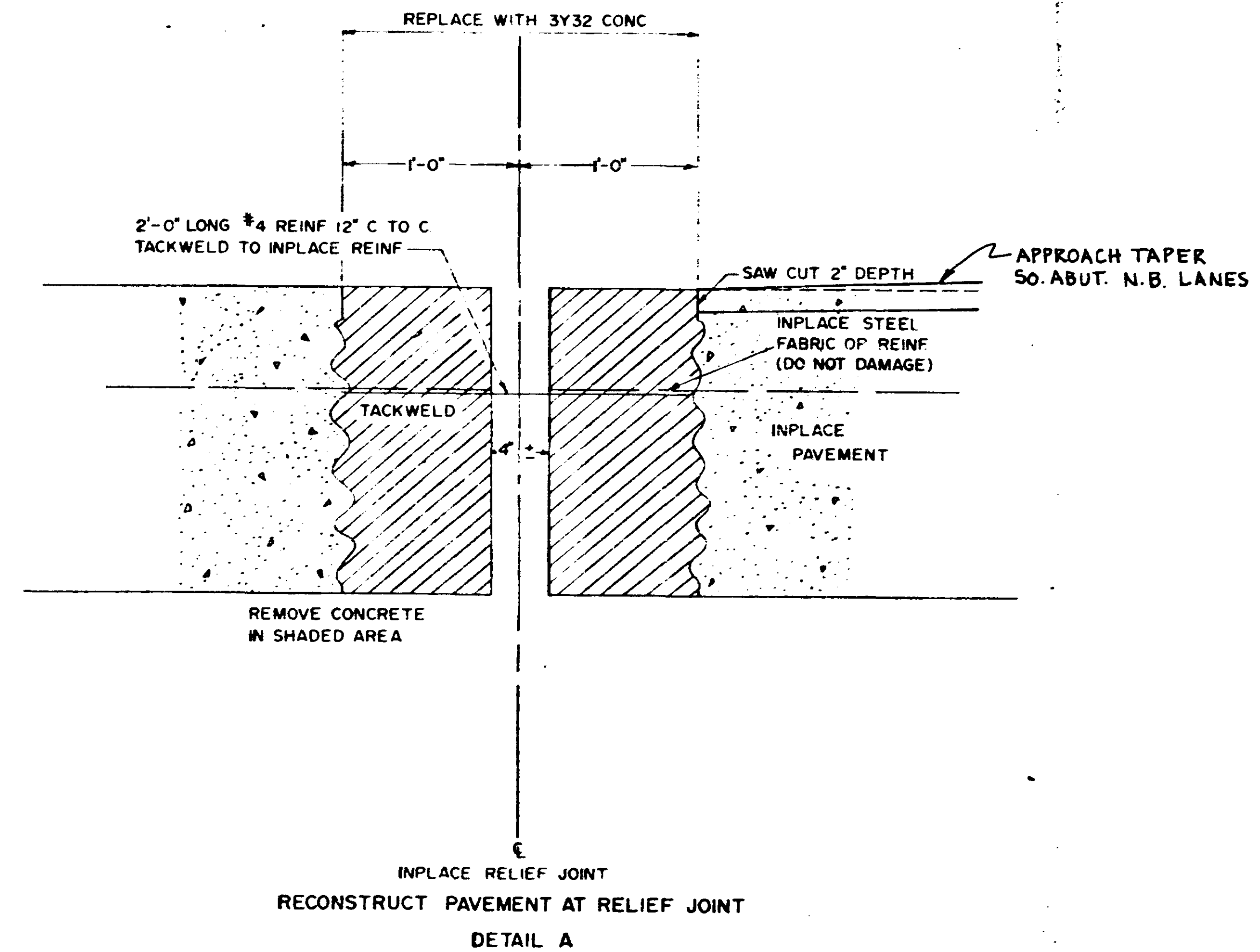
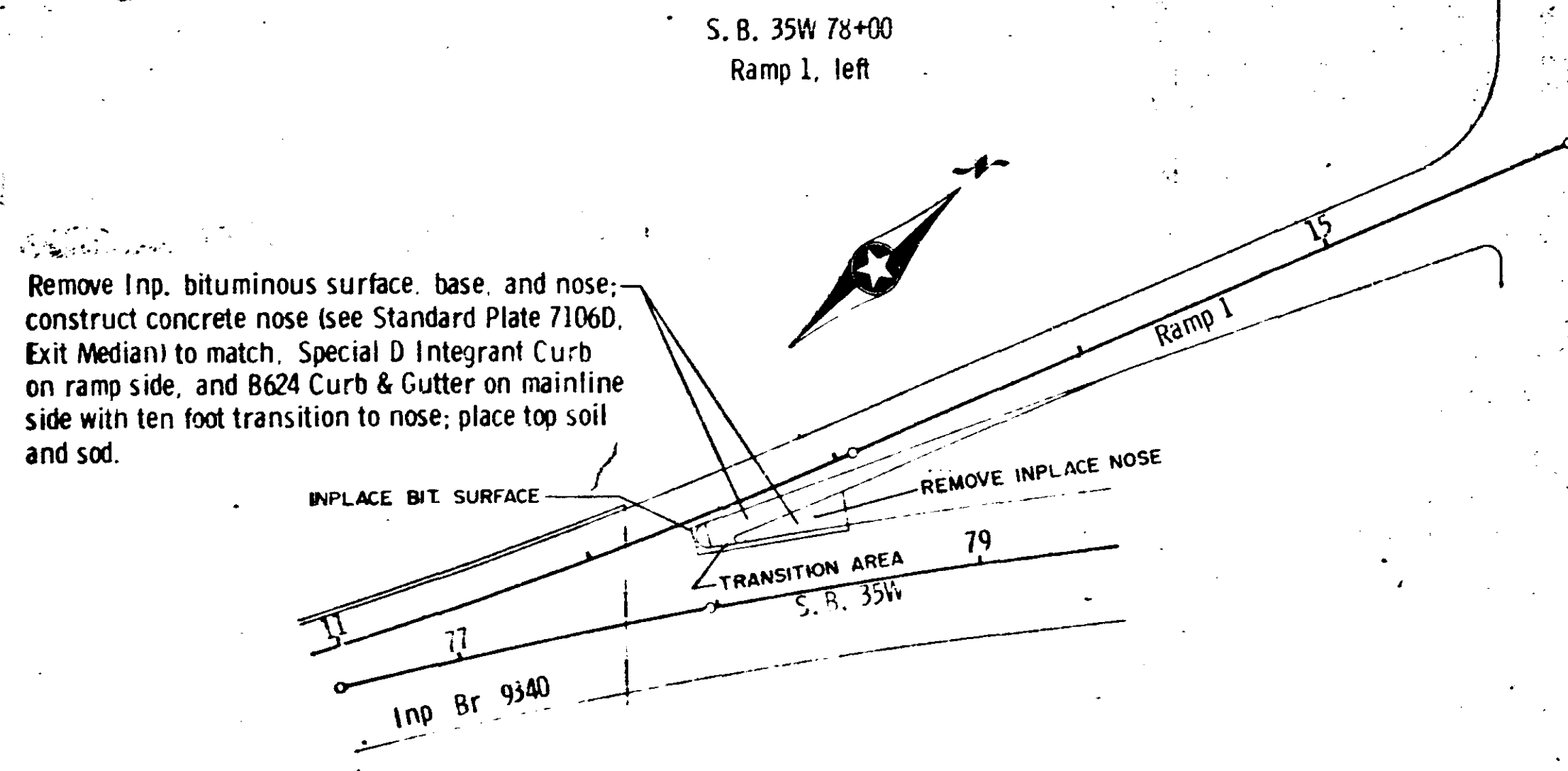
REINFORCED CONCRETE PAVEMENT			REINFORCING STEEL	
LOCATION	THICKNESS	SQ. YDS.		
S.B.R. 58+04 - 58+35	10"	181	AS PER ST'D. PLATE 1035D	
N.B.R. 58+33 - 58+64	10"	181	AS PER ST'D. PLATE 1035D	



S.P. 111

PAVING LAYOUT
SCALE 1" = 40'

TRANSITION 3' TO 2' LE MED. STA. 54+88.44 TO LE MED. STA. 58+01.72



MISCELLANEOUS CONSTRUCTION					
Location	Remove	CONCRETE Curb	6" Conc. Walk	SODDING	CONC. CURB
	Bit. Pavement	+ GUTTER	TH. FT.	Sq. Yd.	& Gutter B624
	Sq. Yd.	Lin. Ft.	Sq. Ft.	Sq. Yd.	Lin. Ft.
S. B. 35W 78+00 - Ramp 1 LT.	114	160	50	160	45
	2104.505	2531.501	2521.501	2575.505	2531.501

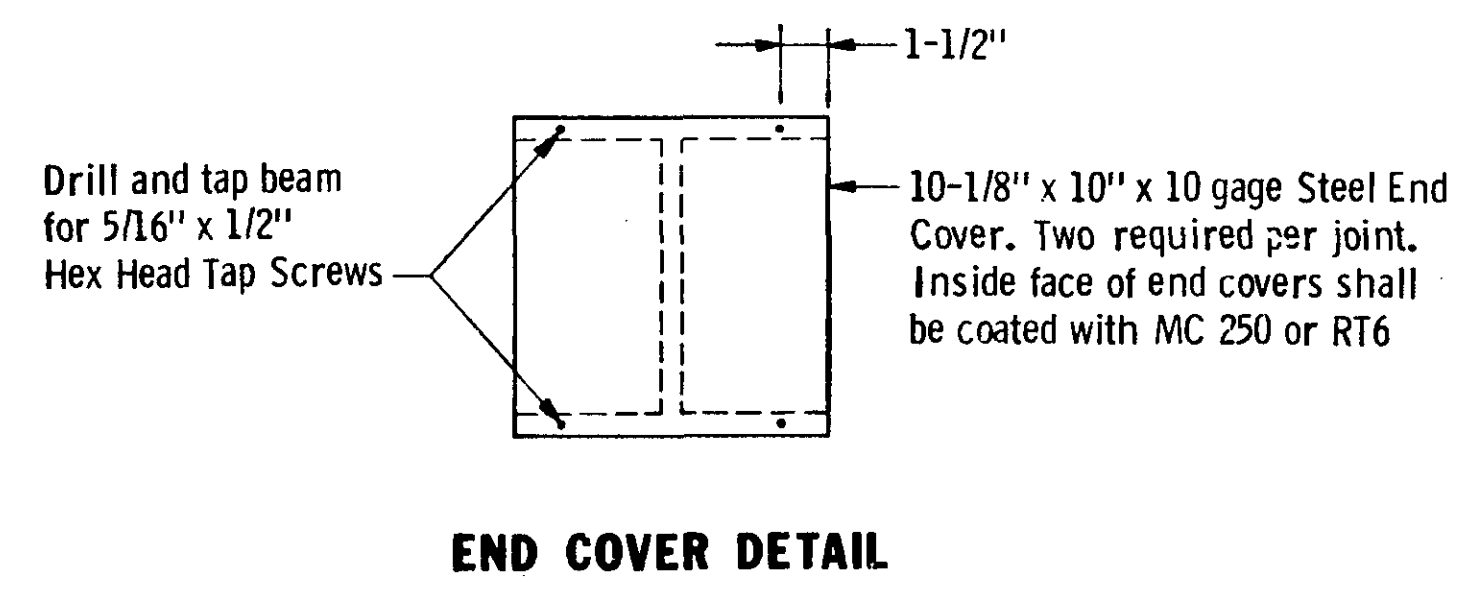
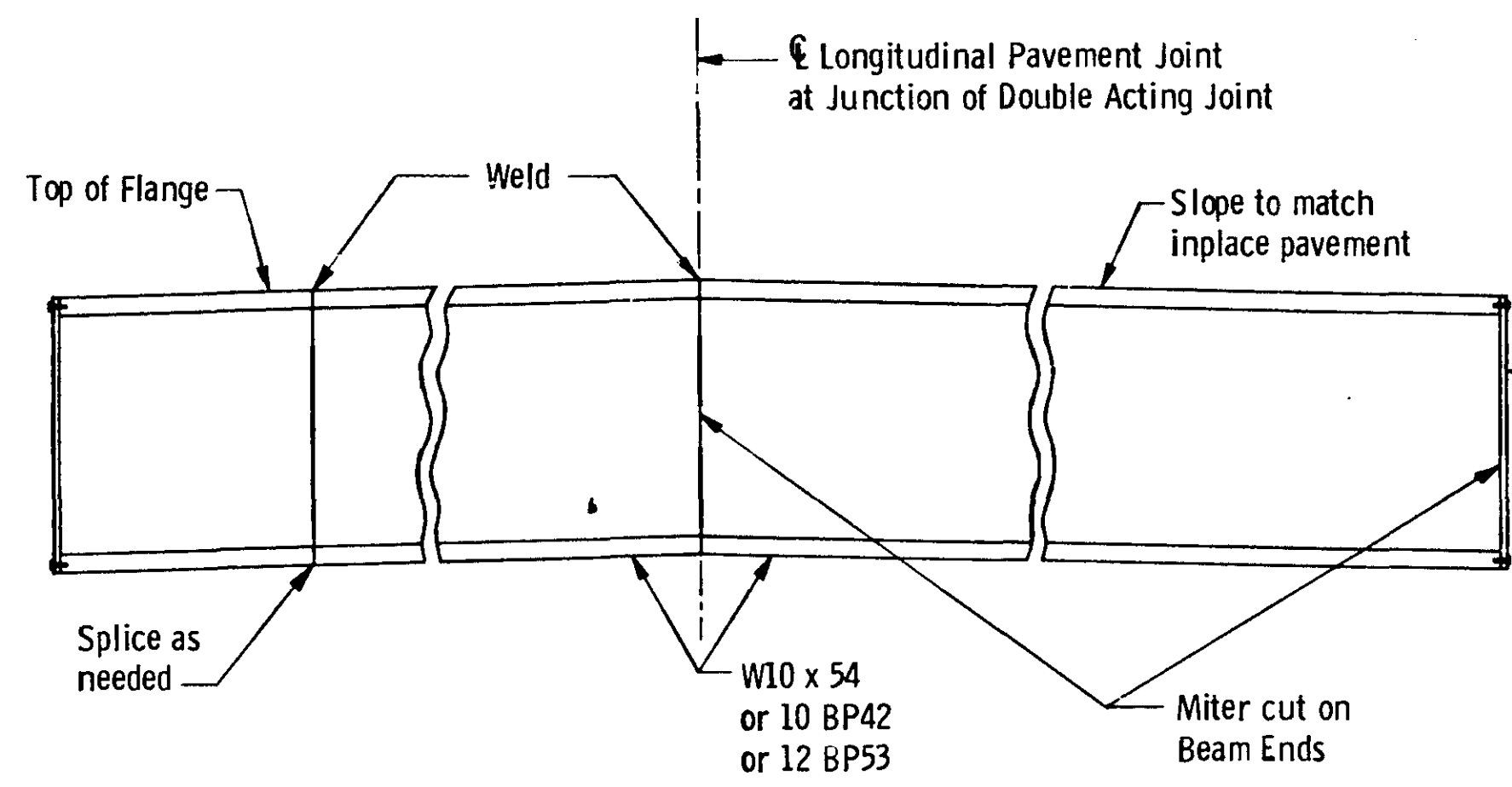
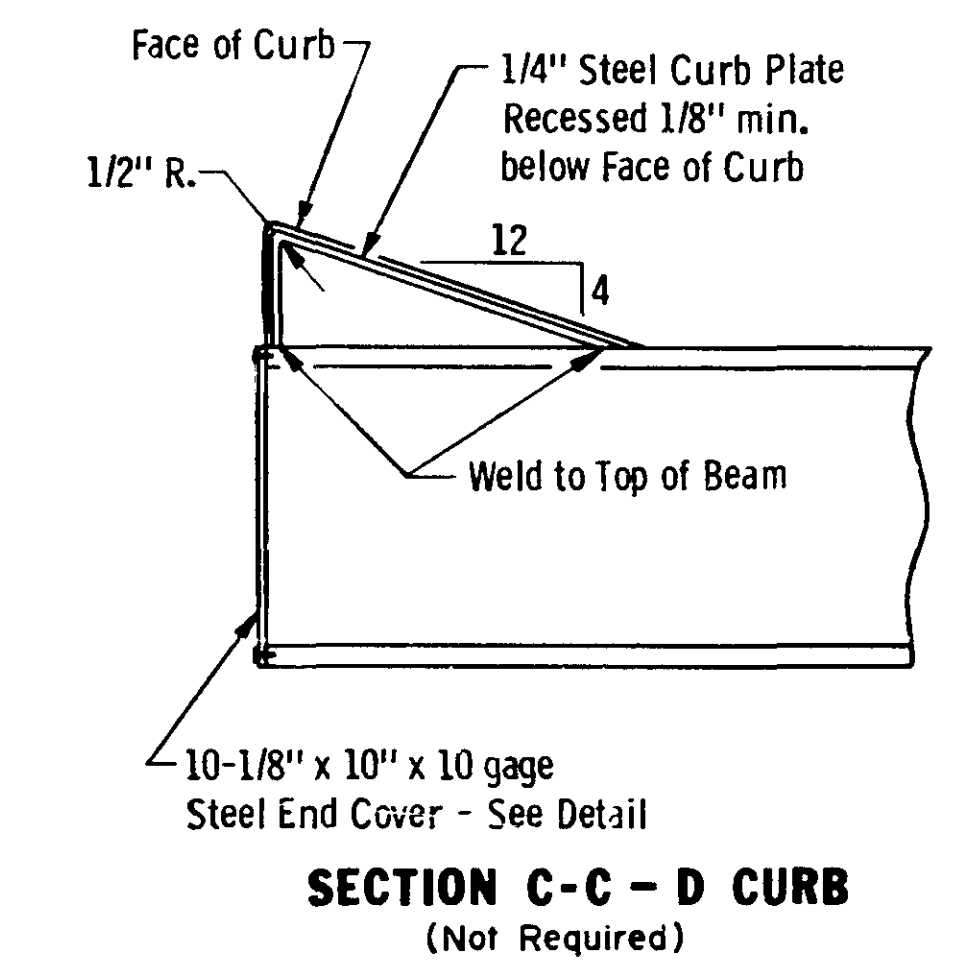
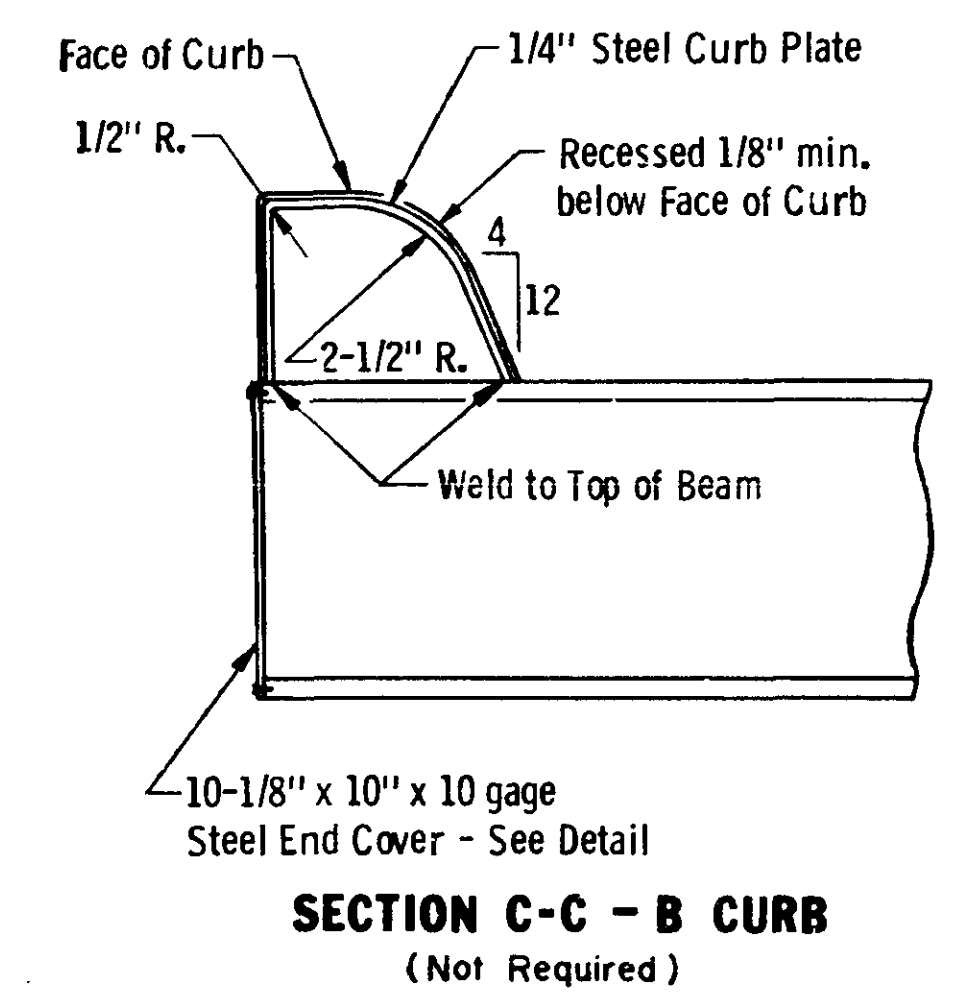
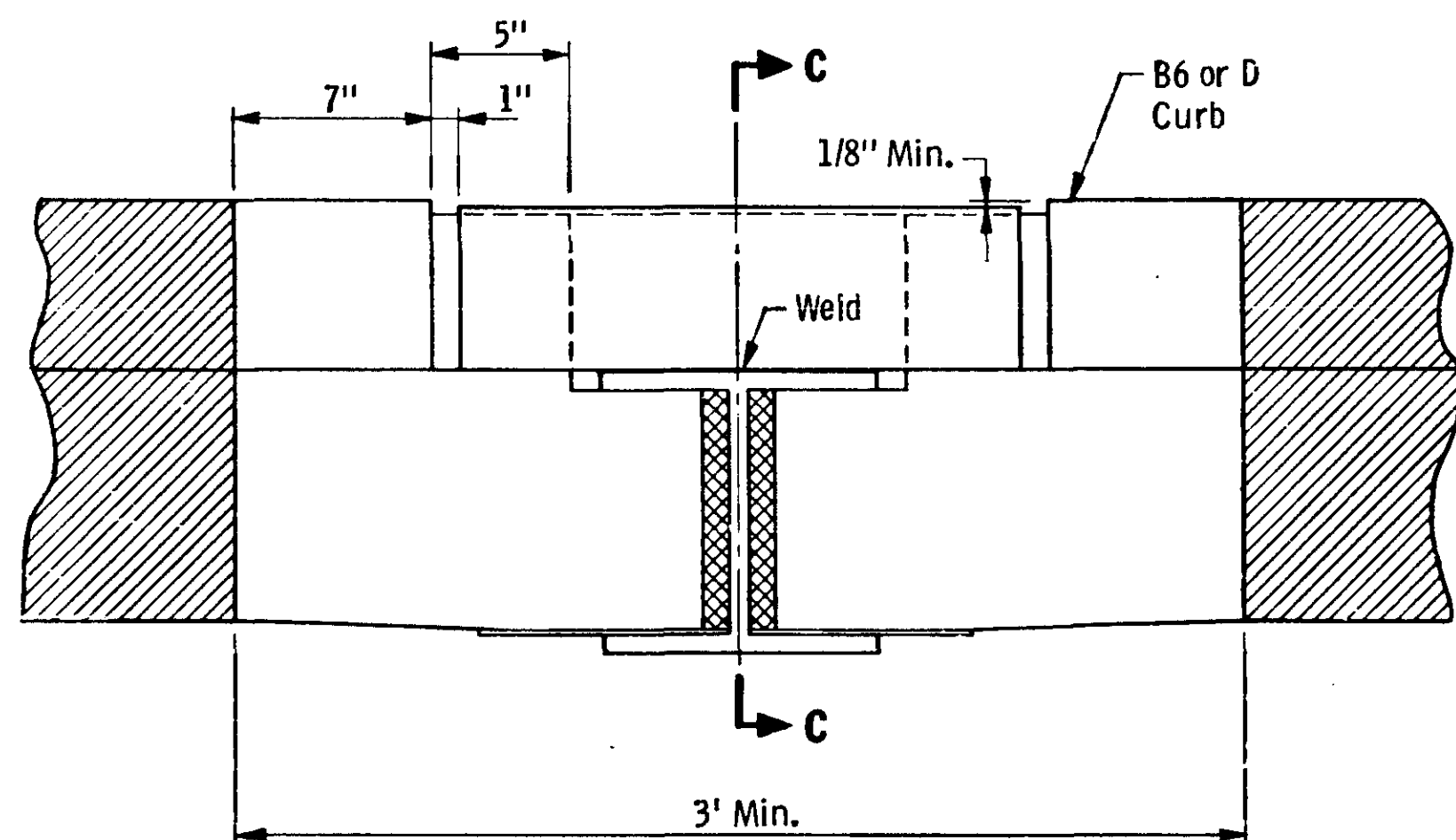
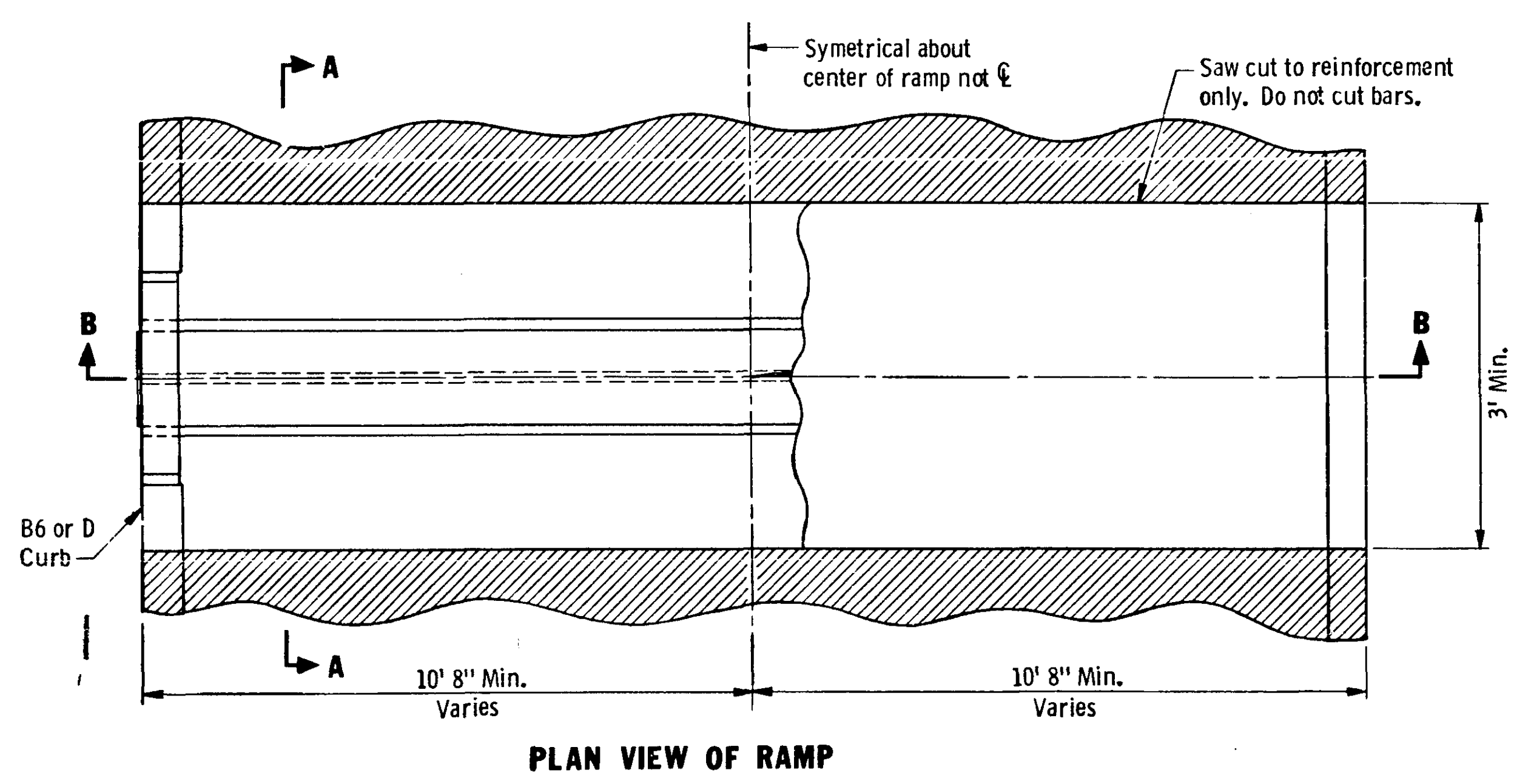
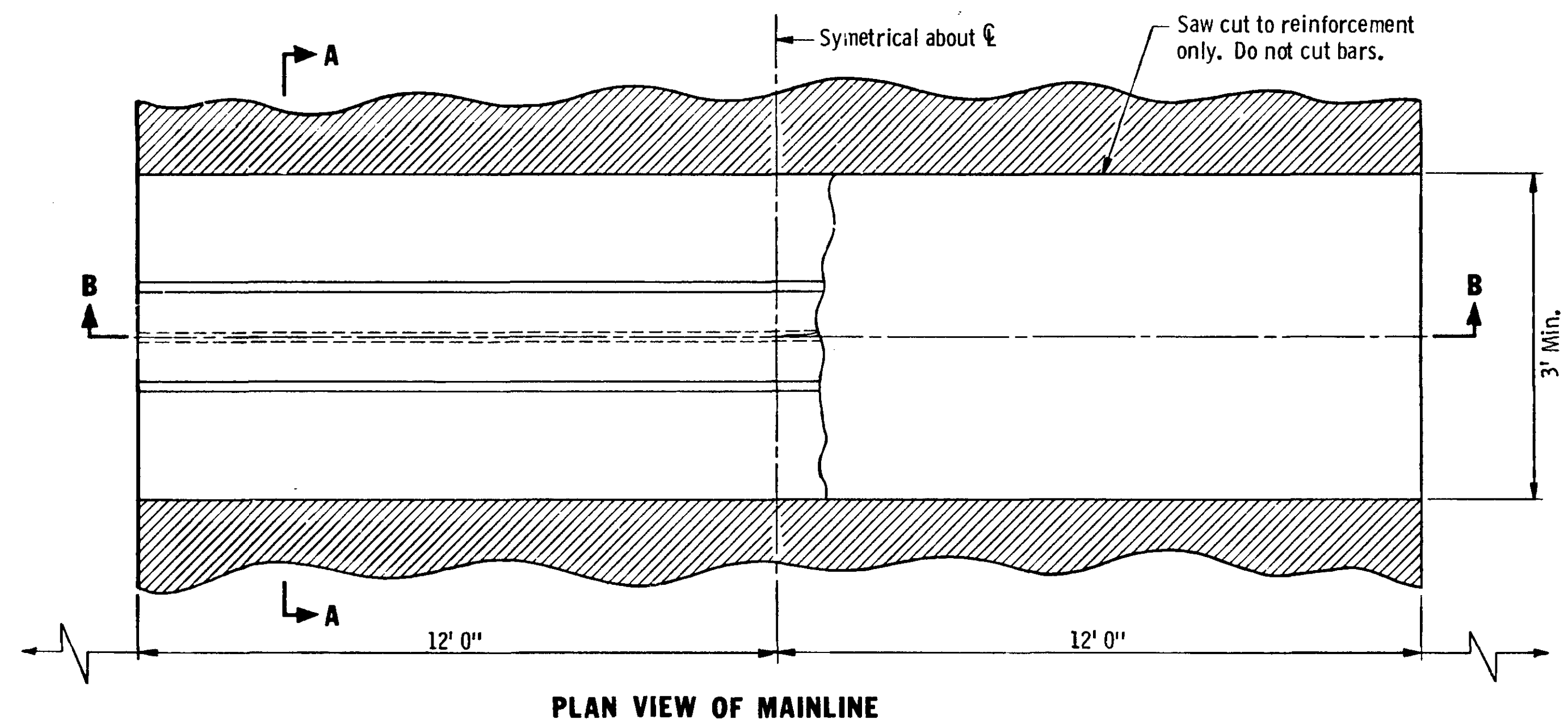
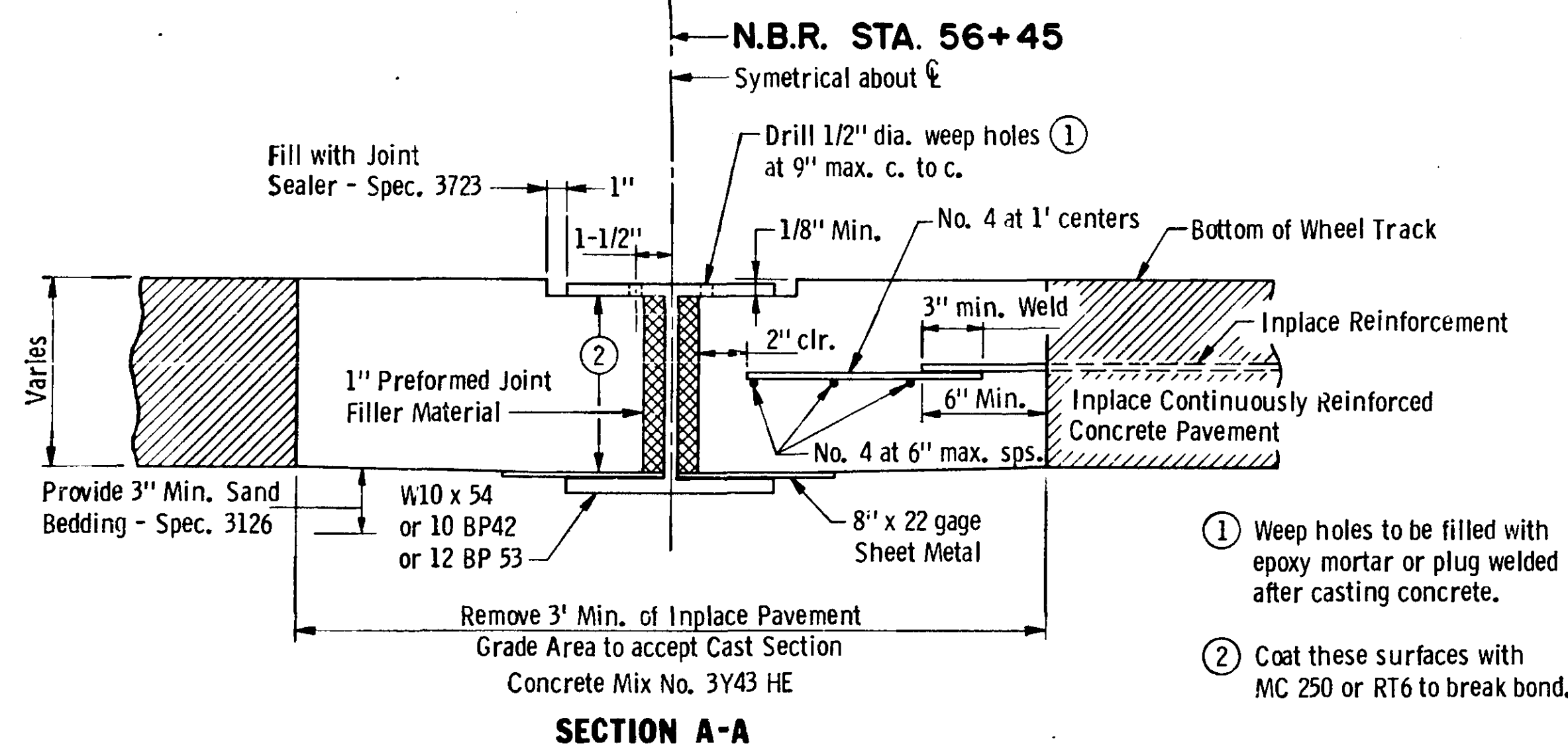
APPROVED Oct. 1, 1961
W. P. Egan
 ASST. CHIEF ENGINEER
 ENGINEERING STANDARDS

STATE OF MINNESOTA
 DEPARTMENT OF HIGHWAYS

Spec. Ref.
 2531

STANDARD
 PLATE
 NO.
7106D

WJH BLD 2-22-77



GENERAL NOTES

For mainline repair, sections shall be cast in 12 ft. lengths to facilitate installation of each lane separately.

For ramp repair, cast each half of ramp separately up to a maximum of 12 ft. sections.

Final position of curb expansion assembly shall be 1/8" min. below top surface of curb.

All steel shall comply with Spec. 3306.

Fabricate Wide Flange Beam in Accordance with Spec. 2471

Concrete placement shall comply with Spec. 2301

DOUBLE ACTING WIDE FLANGE JOINT DETAILS