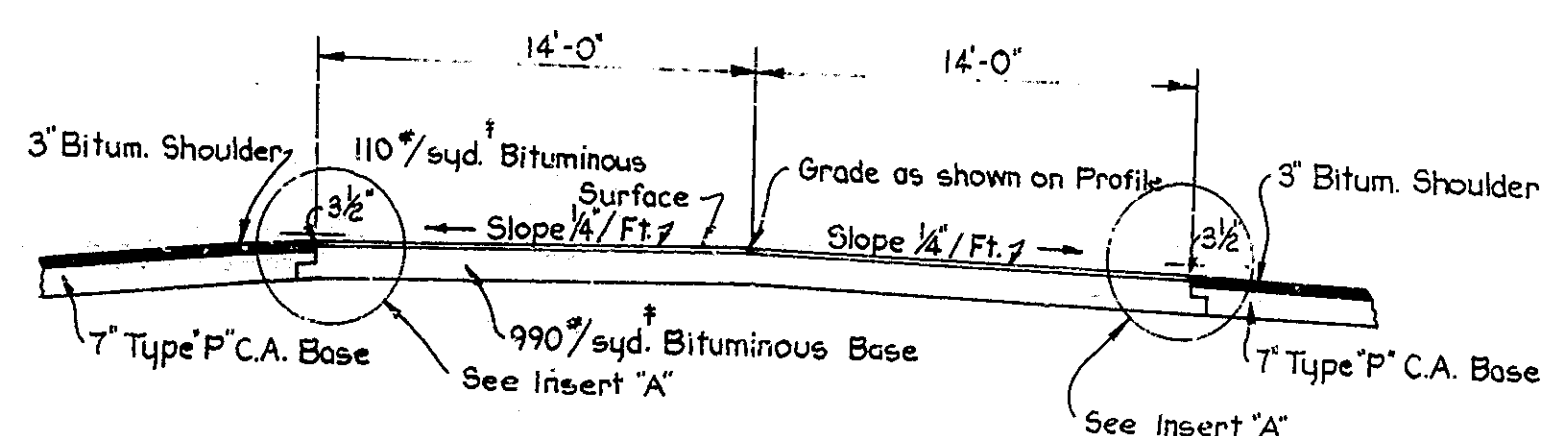
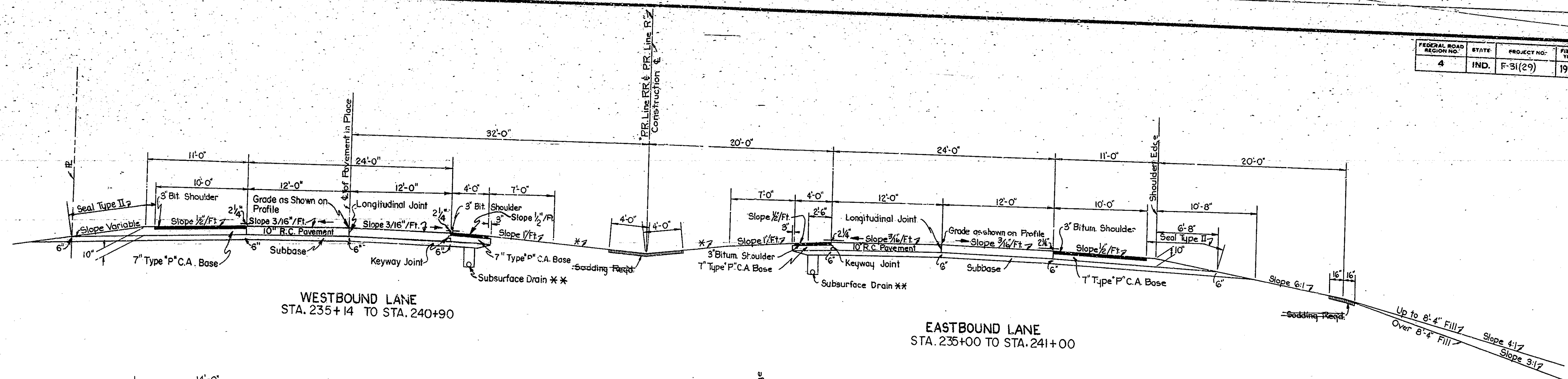
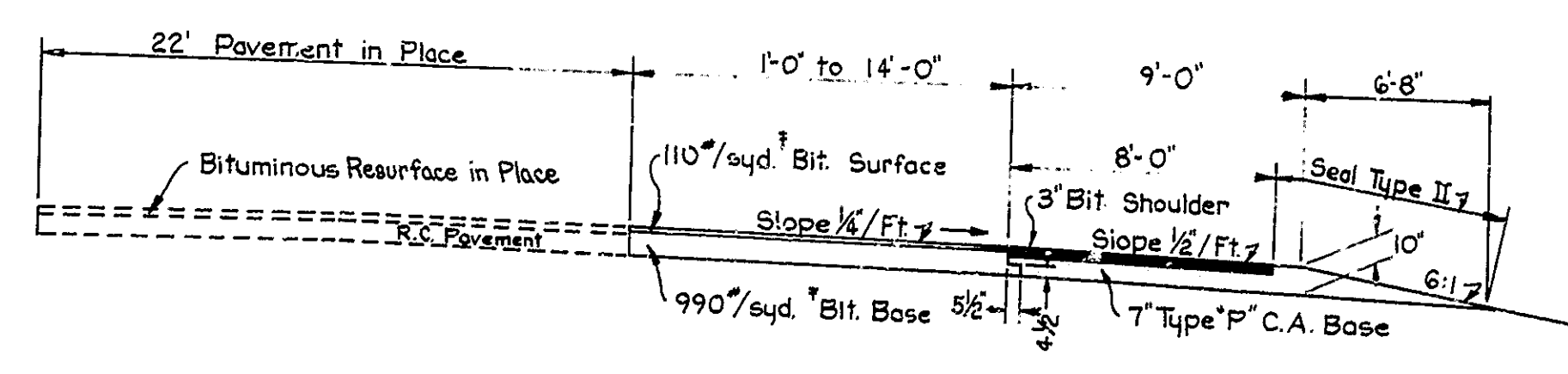
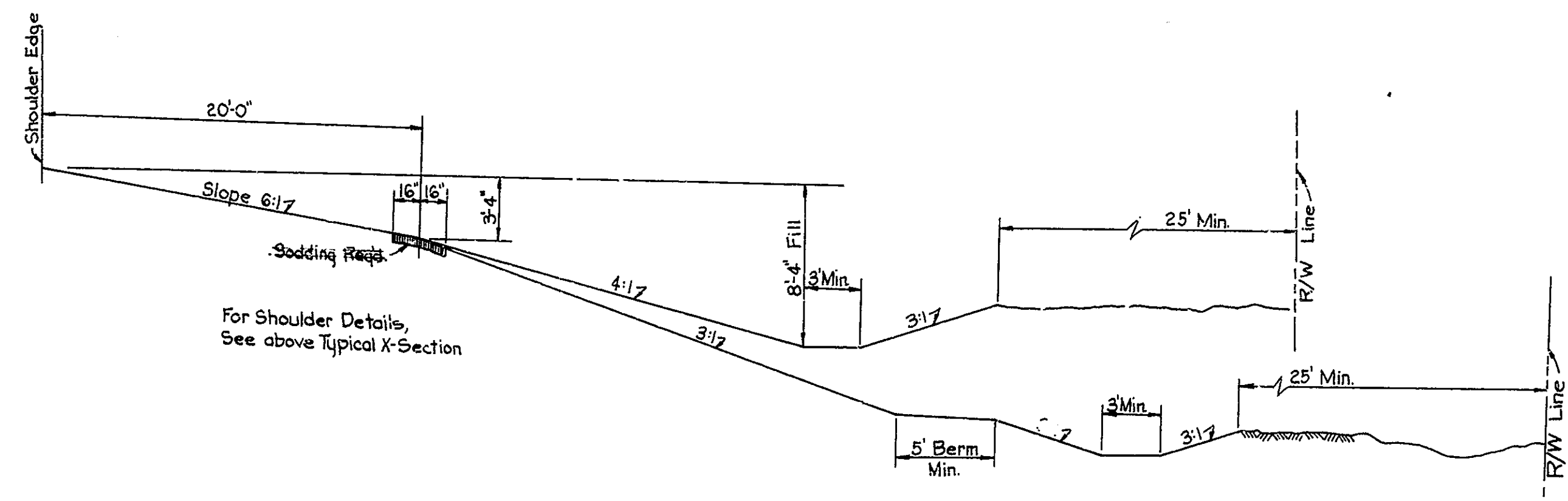


FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-31(29)	1970	3	63

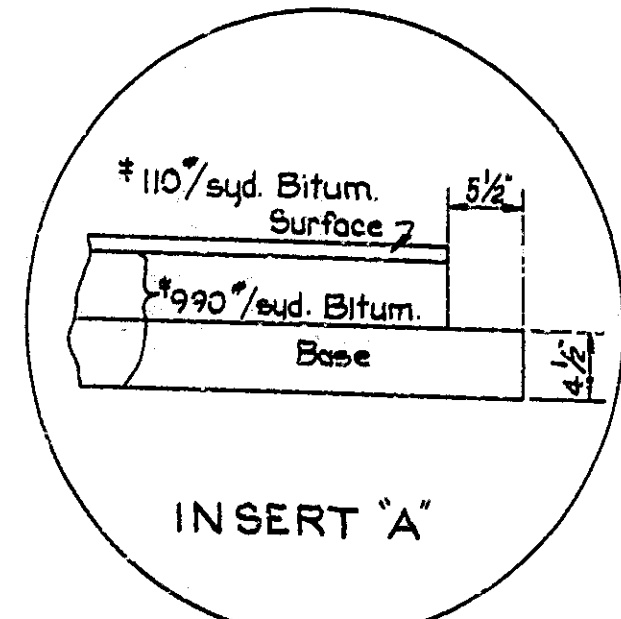


TEMPORARY CROSSOVERS
(See Detail and Cross-Sections for Shoulder)

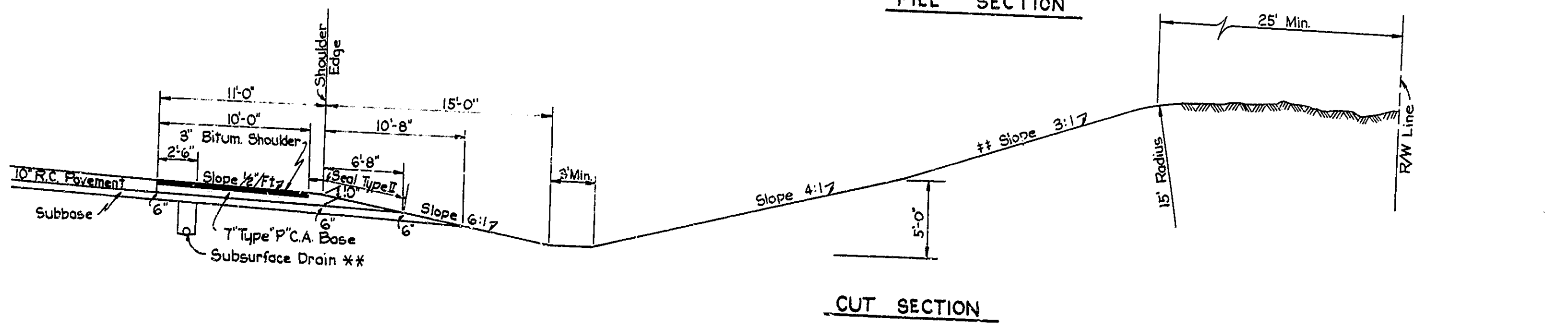
* Minimum Slope 1/ft. For Special Maximum Slope 2/ft. Center Ditch.
 ** For Details of Subsurface Drain - See Miscellaneous Std. Sheet "MN" For Details of R.C. Pavement - See Std. Pavement Joints, Sheet "A"
 †† This Slope may be increased to a 2:1 Maximum where R/W conditions warrant.



STA. 220+68.13 TO STA. 225+68.13
(FOR INFORMATION ONLY)



† 110"/sqyd. of H.A.C. Surface Type "B" on 990"/sqyd. of H.A.C. Base
 or
 110"/sqyd. of H.A.E. Surface Type III on 990"/sqyd. of H.A.E. Base



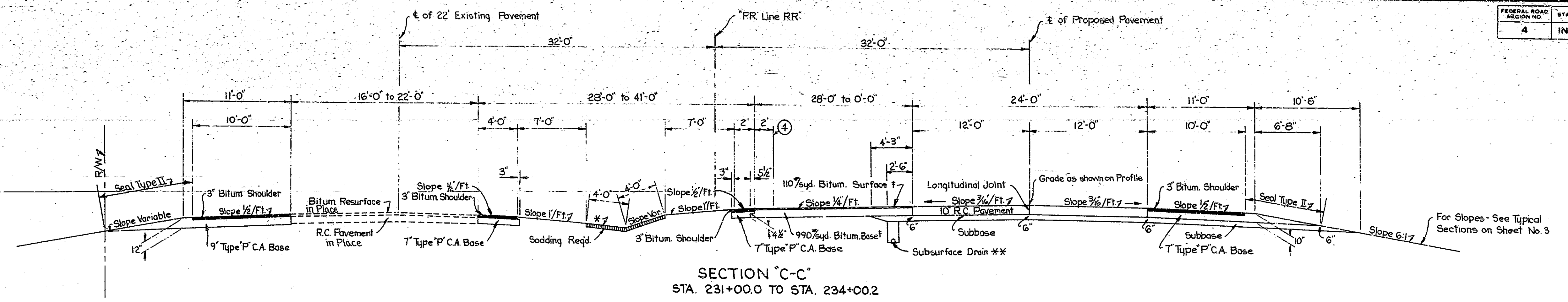
TYPICAL CROSS SECTIONS

SCALE: 3/16" = 1'-0" JANUARY 12, 1970

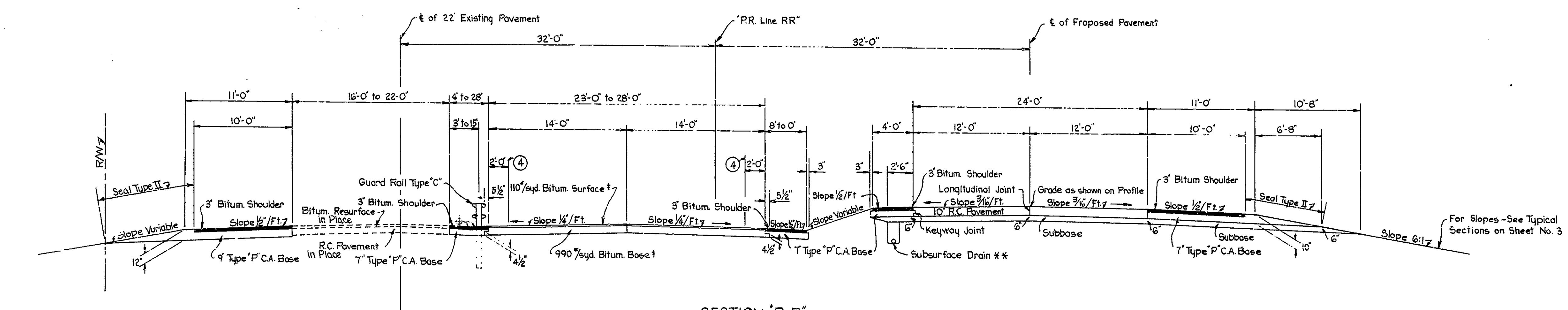
RECOMMENDED FOR APPROVAL

Byron R. Burch

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-31(29)	1970	4	63

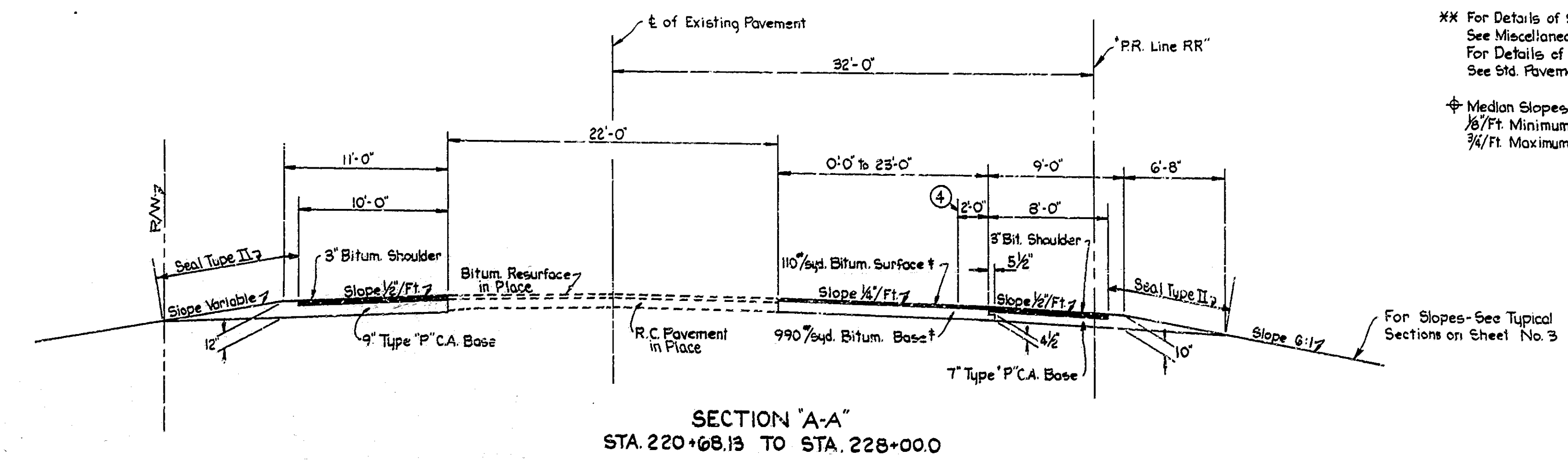


SECTION "C-C"
STA. 231+00.0 TO STA. 234+00.2



SECTION "B-B"
STA. 228+00.0 TO STA 231+00.0

- ④ 4" White Edge Stripe
- † 110% H.A.C. Surface Type "B" on 990% H.A.C. Base or 110% H.A.E. Surface Type III on 990% H.A.E. Base
- * Minimum Slope 1/4 ft. For Special Maximum Slope 2/7 ft.
- ** For Details of Subsurface Drain, - See Miscellaneous Std. Sheet "MN" For Details of R.C. Pavement, - See Std. Pavement Joints, Sheet "A"
- ⊕ Median Slopes - 1/8 ft. Minimum 3/16 ft. Maximum



SECTION "A-A"
STA. 220+68.13 TO STA. 228+00.0

THIS SHEET FOR INFORMATION ONLY
TYPICAL CROSS SECTIONS

SCALE: 3/16" = 1'-0" JANUARY 12, 1970

RECOMMENDED FOR APPROVAL

Byron R. Anderson

PLAN
 NOTE BOOK ATTACHMENT CHECKED
 No. 37651, P. 1 of 10, CHECKED
 INKEL, T.L. FAULKENBERG 9-69

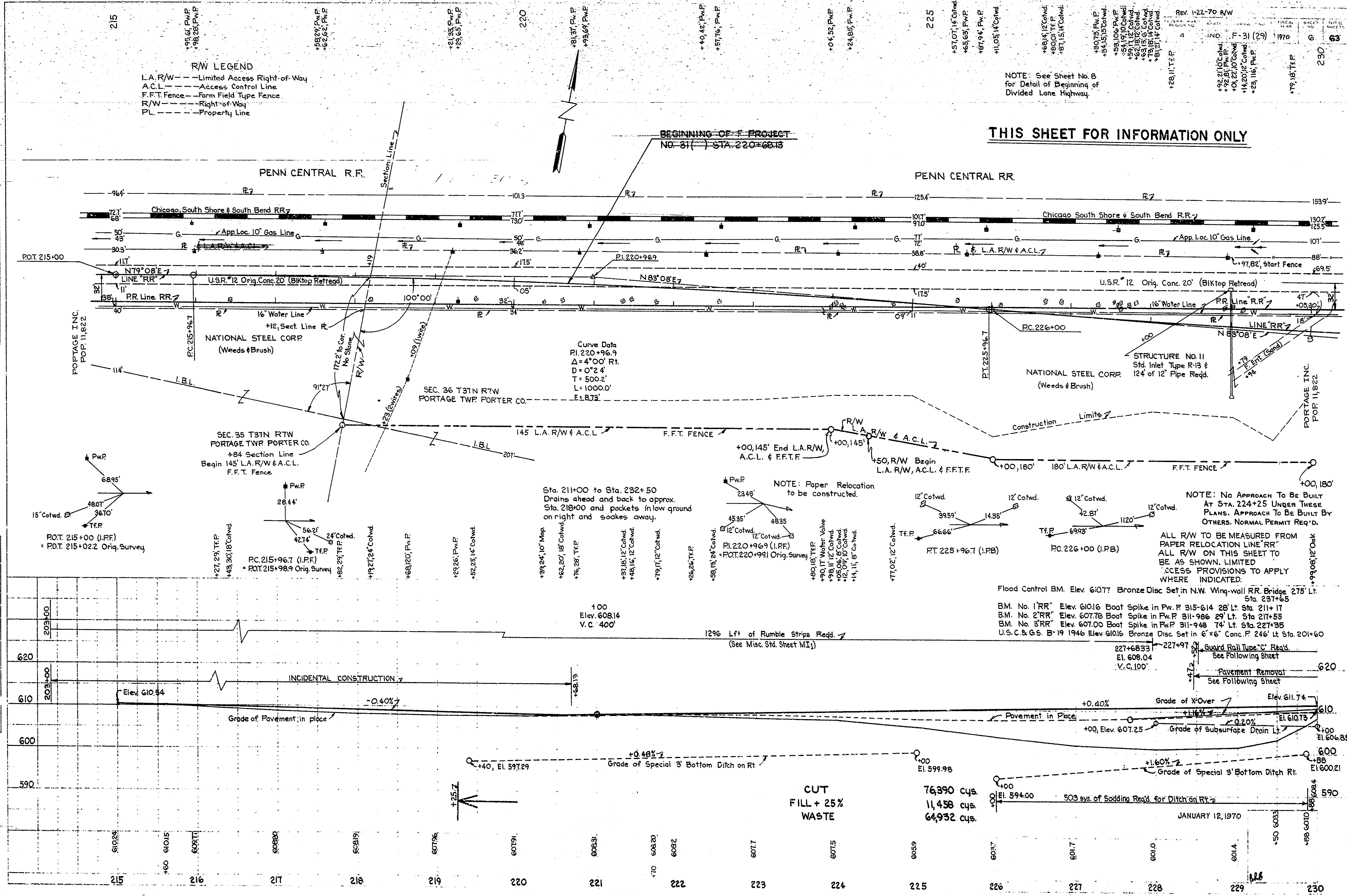
PROFILE
 NOTE BOOK ATTACHMENT CHECKED
 No. 3766, P. 1 of 10, CHECKED
 ALLEN, H. J. 9-69

R/W LEGEND
 L.A.R/W --- Limited Access Right-of-Way
 A.C.L. --- Access Control Line
 F.F.T. Fence --- Farm Field Type Fence
 R/W --- Right-of-Way
 P.L. --- Property Line

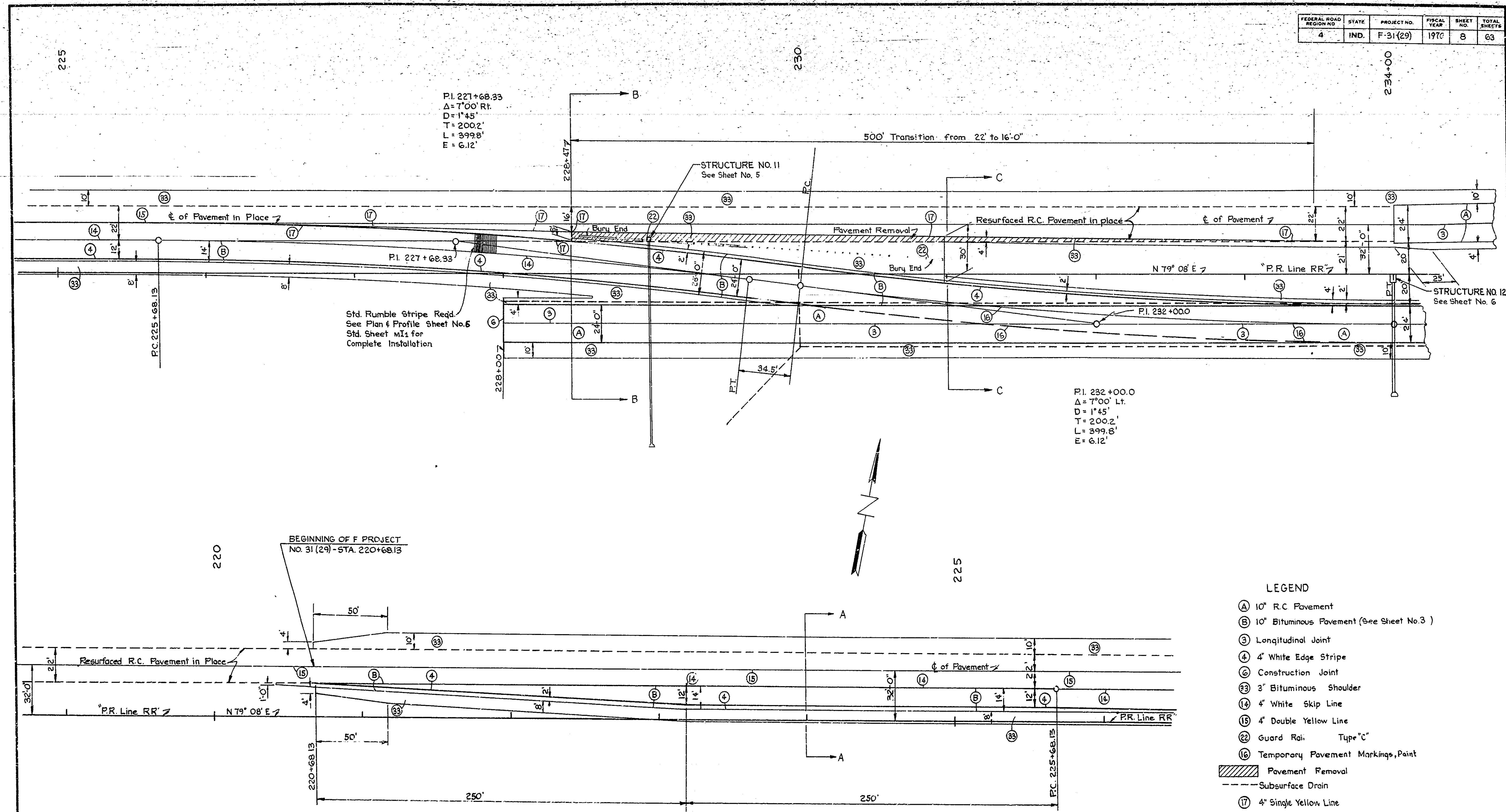
THIS SHEET FOR INFORMATION ONLY

NOTE: See Sheet No. B
 for Detail of Beginning of
 Divided Lane Highway.

REV. 1-22-70 R/W
 31 (29) 1970
 6 63
 230
 +23, 16', P.W.P.
 +23, 16', T.F.P.
 +19, 18', T.F.P.



FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-31(29)	1970	8	63



- LEGEND**
- (A) 10' R.C. Pavement
 - (B) 10' Bituminous Pavement (See Sheet No. 3)
 - (3) Longitudinal Joint
 - (4) 4' White Edge Stripe
 - (6) Construction Joint
 - (33) 3' Bituminous Shoulder
 - (14) 4' White Skip Line
 - (15) 4' Double Yellow Line
 - (22) Guard Rail, Type "C"
 - (16) Temporary Pavement Markings, Paint
 - ▨ Pavement Removal
 - - - Subsurface Drain
 - (17) 4' Single Yellow Line

THIS SHEET FOR INFORMATION ONLY

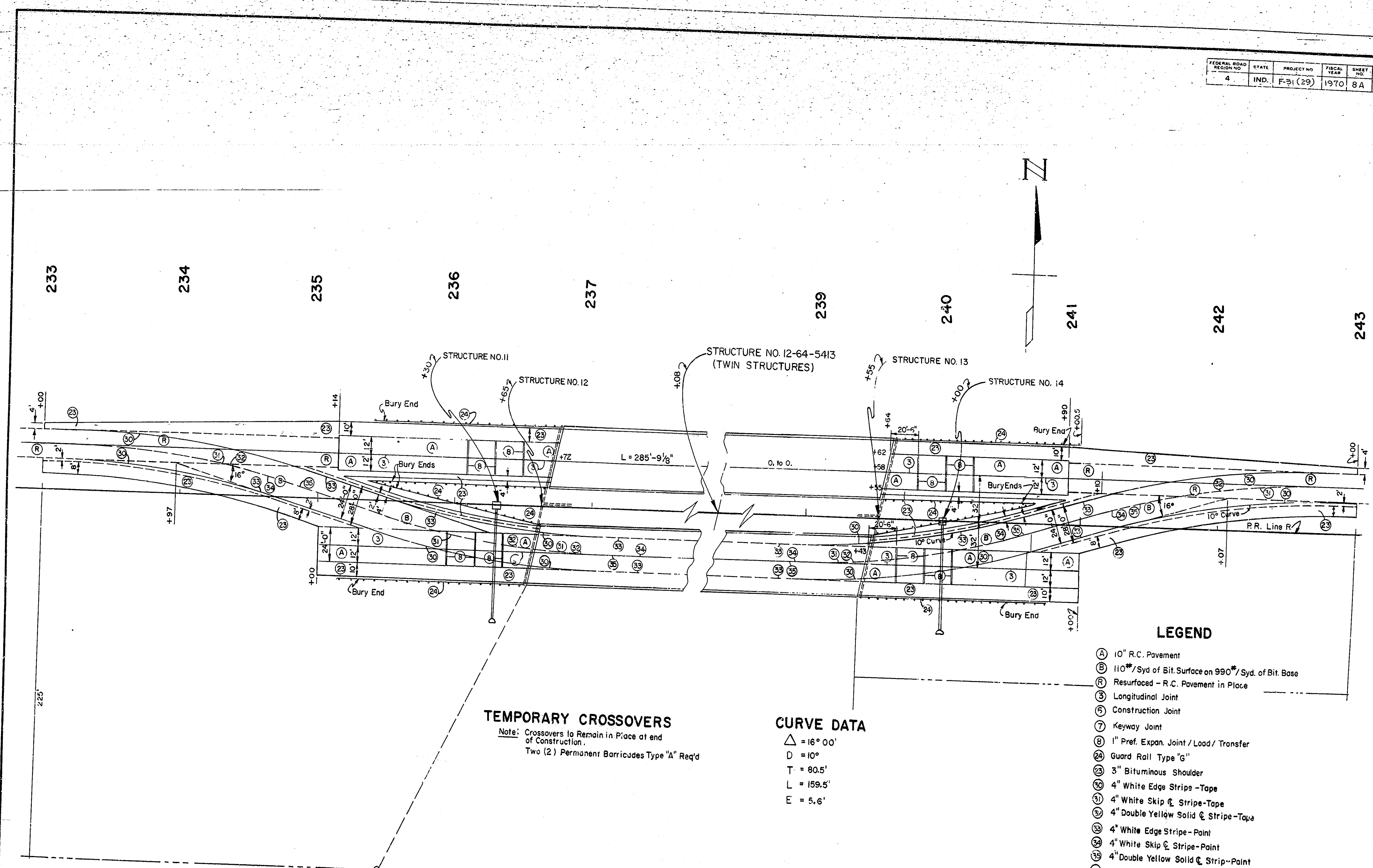
JANUARY 12, 1970

DETAILS

Scale: 1" = 30'

686

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-31 (29)	1970	8A	63



TEMPORARY CROSSOVERS
 Note: Crossovers to Remain in Place at end of Construction.
 Two (2) Permanent Barricades Type "A" Req'd

CURVE DATA
 $\Delta = 16^{\circ} 00'$
 $D = 10^{\circ}$
 $T = 80.5'$
 $L = 159.5'$
 $E = 5.6'$

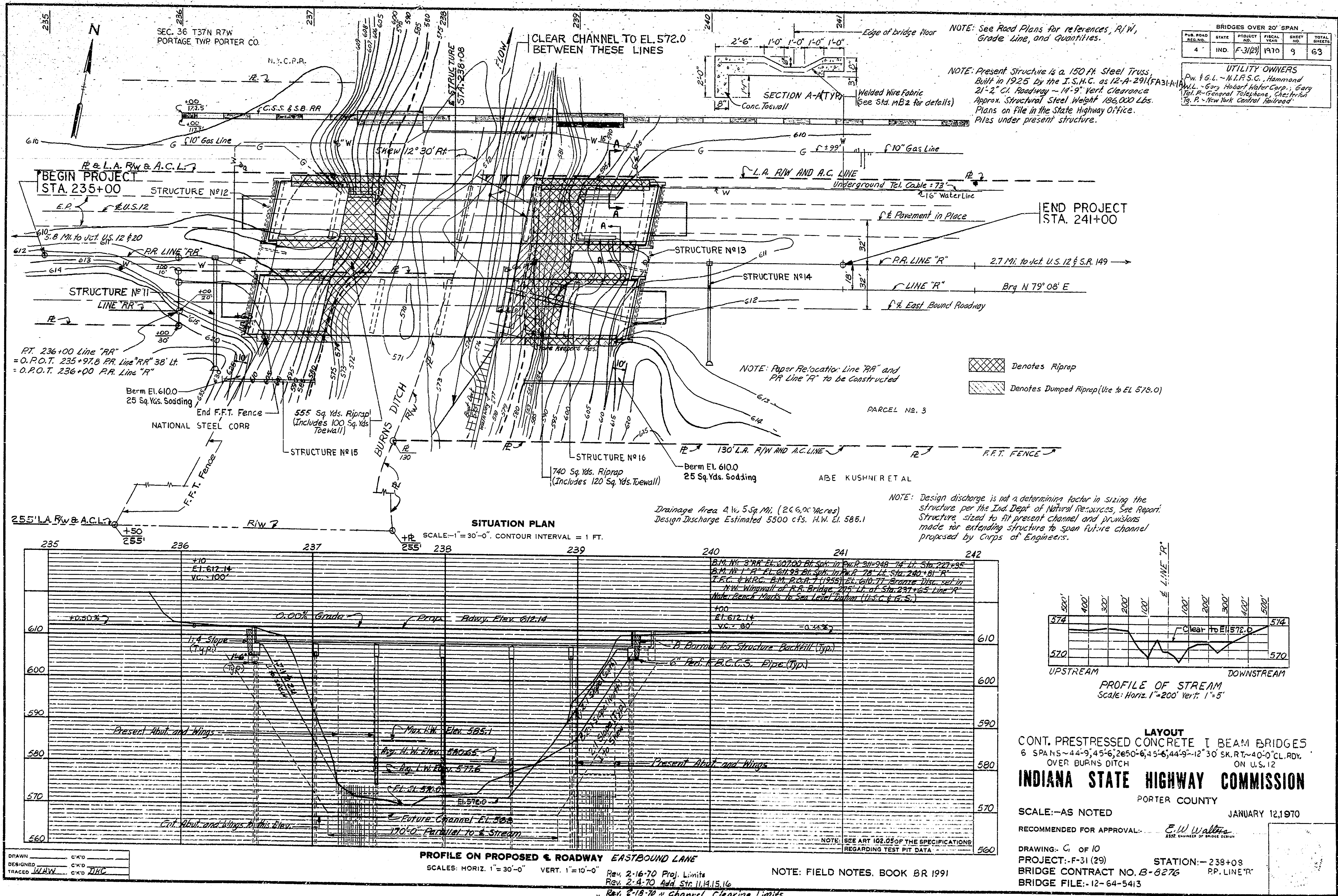
LEGEND

- (A) 10" R.C. Pavement
- (B) 110#/Syd of Bit. Surface on 990#/Syd. of Bit. Base
- (R) Resurfaced - R.C. Pavement in Place
- (3) Longitudinal Joint
- (E) Construction Joint
- (7) Keyway Joint
- (8) 1" Pref. Expan. Joint / Load / Transfer
- (24) Guard Rail Type "G"
- (23) 3" Bituminous Shoulder
- (30) 4" White Edge Strips - Tape
- (31) 4" White Skip & Stripe - Tape
- (32) 4" Double Yellow Solid & Stripe - Tape
- (33) 4" White Edge Stripe - Paint
- (34) 4" White Skip & Stripe - Paint
- (35) 4" Double Yellow Solid & Stripe - Paint

DETAILS

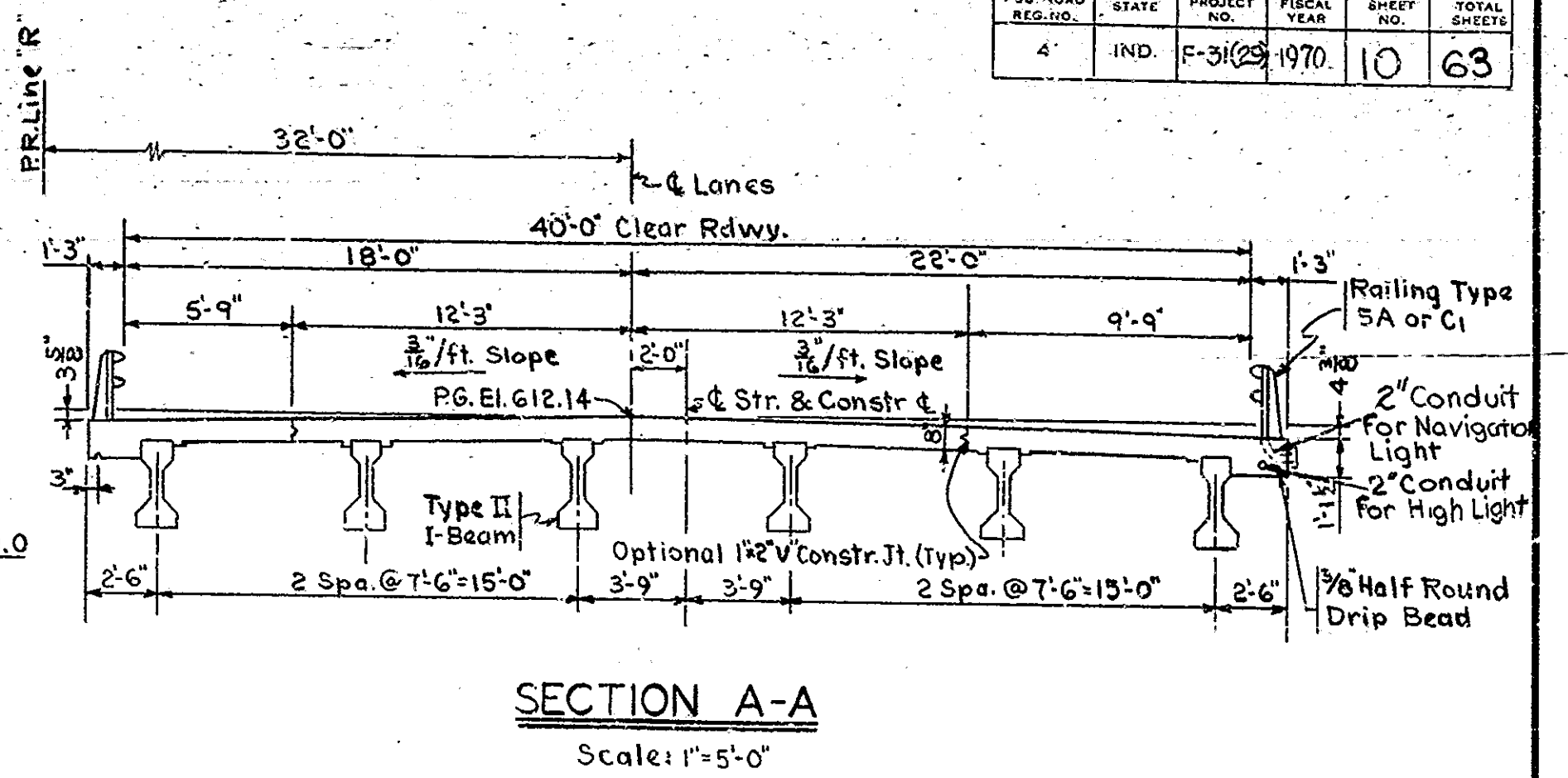
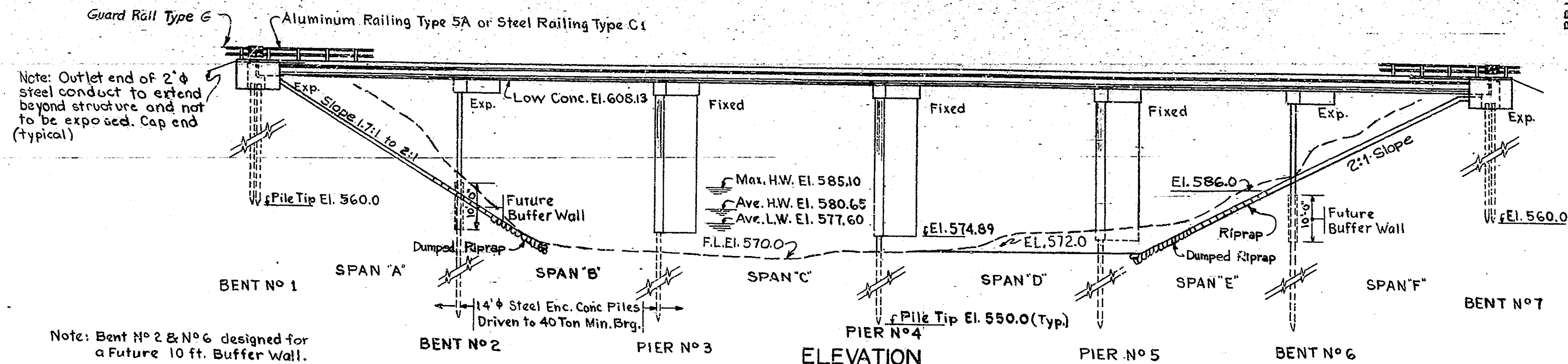
FEBRUARY 16, 1970

PROJECT: F-31 (29)
 BRIDGE CONTRACT NO. B-8276
 BRIDGE FILE: 12-64-5413



STRUCTURE TO BE BUILT LEVEL ~ P.G. EL. 612.14

BRIDGES OVER 20' SPAN					
PUR. ROAD	STATE	PROJECT	FISCAL	SHEET	TOTAL
NO.	NO.	NO.	YEAR	NO.	SHEETS
4	IND	F-31(29)	1970	10	63



GENERAL NOTES

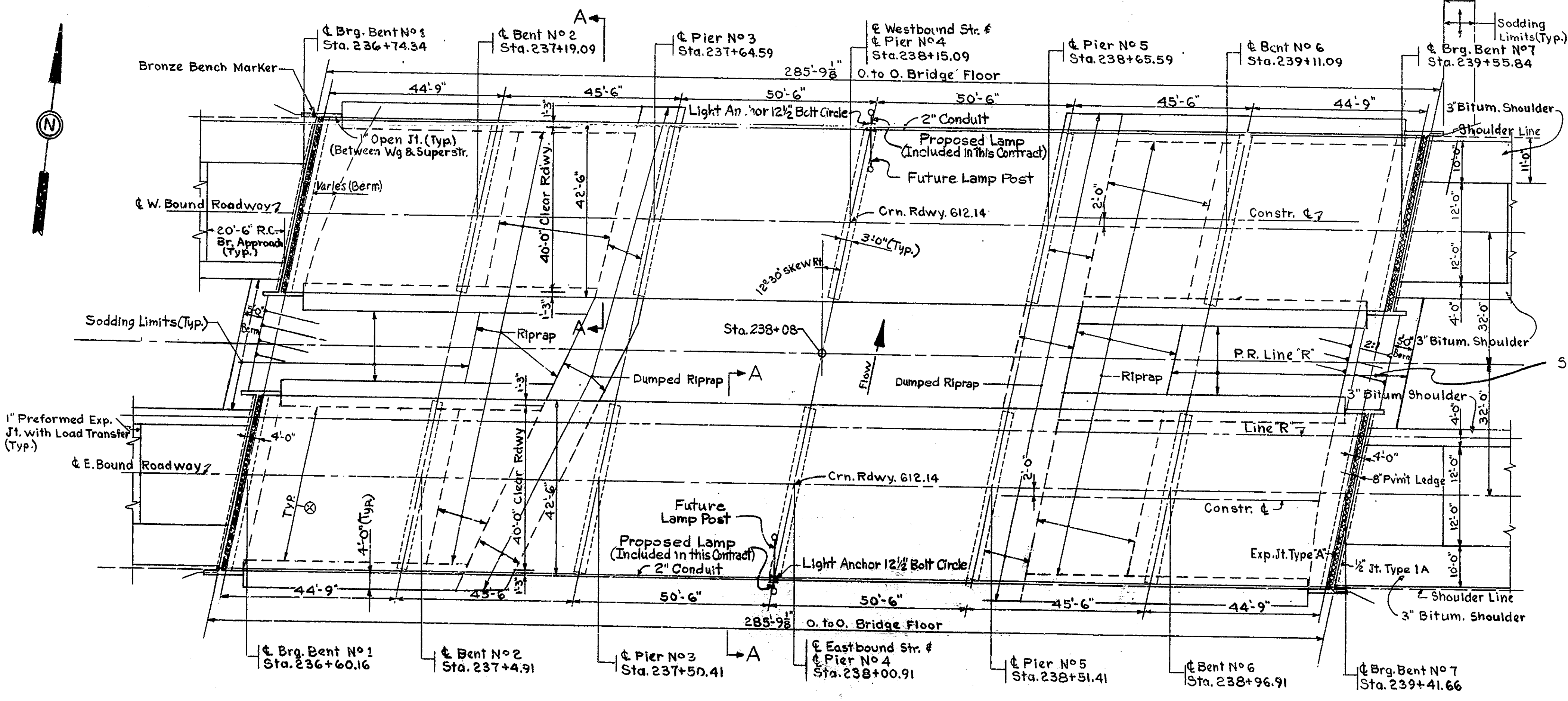
Piles shall have minimum bearing value shown on detail drawings. Determine pile lengths by Art. 701 of Specifications. For details of steel encased concrete piles see Bridge Standard C1, and applicable articles in the Specifications.

Piles shall be driven to elevation shown on plans or below if necessary to obtain desired bearing. Reinforcing steel covering shall be 2 inches in bottom of floor slabs, and 2 inches in all other parts unless noted. Concrete in superstructure, bent caps, and pier stems to be class "A". Continuous concrete pours shall be required between construction joints as shown on detail plans. Bevel forms 1/4" under copings; and chamfer exposed edges 1 inch unless noted.

Stream banks to be riprapped. Construct riprap at locations shown on layout. Tolerance in position of pile head maximum 2 inches. Three 1/2 inch Expansion joints with Load Transfer to be placed in the pavement as shown on Std. MA. All railing posts to be constructed vertical. Top of end bent caps, front face of mudwalls, face of diaphragms face of deck coping, outside face of exterior concrete beams to be coated with epoxy. See Special Provisions. For pay items covering this structure See Bridge Summary. See Special Provisions for items included in this contract.

STANDARD DRAWINGS

Br. Std. Rd. Std.	PURPOSE
C1	Reinf. bar notes, bar bending details, splicing pile shells, type 1A joint.
PB2	Type II I-Beams
PB10	Tolerances for Fabrication of Prestressed Beams.
PB11	Elastomeric Bearing Pad Details
BR1	Aluminum Bridge Railing
BR2	Aluminum Bridge Railing Details
BR3	Steel Bridge Railing
BR4	Steel Bridge Railing Details
S1	Typ. Details for Placing "B" Borrow
MB2	Riprap
R2A	Bridge Lighting Details



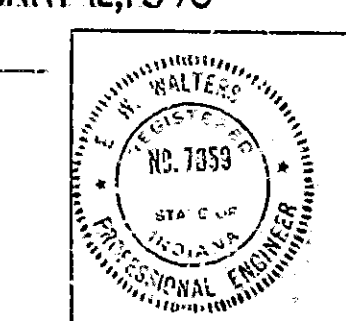
GENERAL PLAN

CONT. PRESTRESSED CONCRETE I BEAM BRIDGES
 6 SPANS - 44'-9", 45'-6", 2@50'-6", 45'-6", 44'-9", 12'-3" SKEW RT. - 40'-0" CL. RDWY.
 OVER BURNS DITCH ON U.S. 12
INDIANA STATE HIGHWAY COMMISSION
 PORTER COUNTY

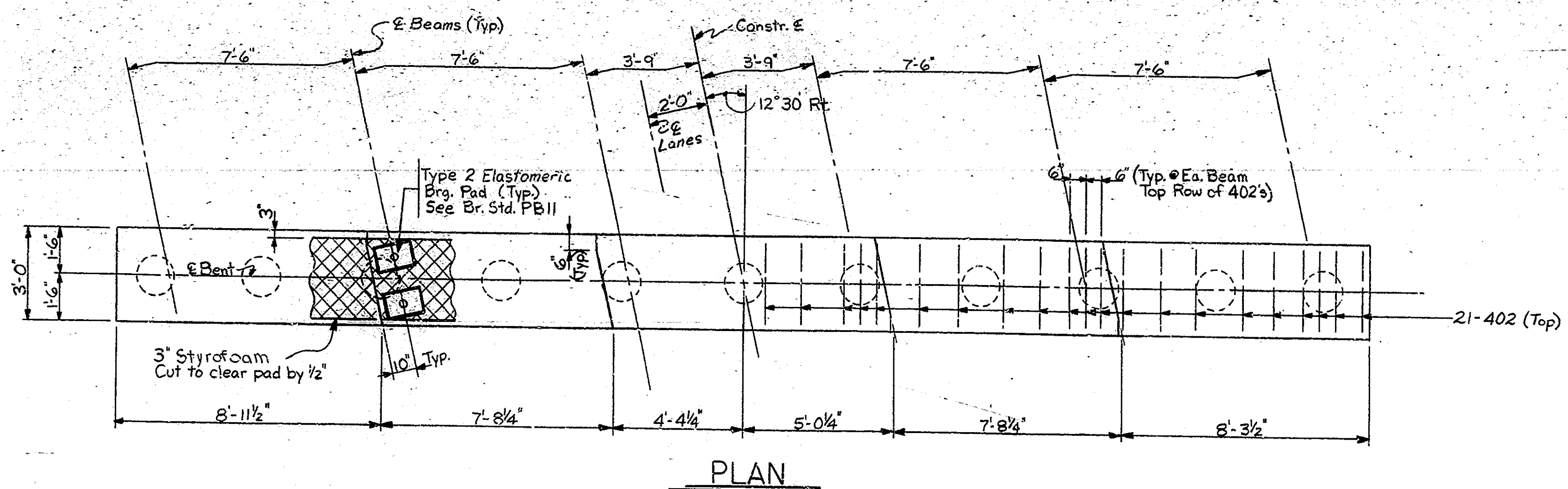
SCALE: 1/16" = 1'-0" JANUARY 12, 1970

RECOMMENDED FOR APPROVAL: *E. W. Walker*
 ASSIST. ENGINEER OF BRIDGE CONSTRUCTION

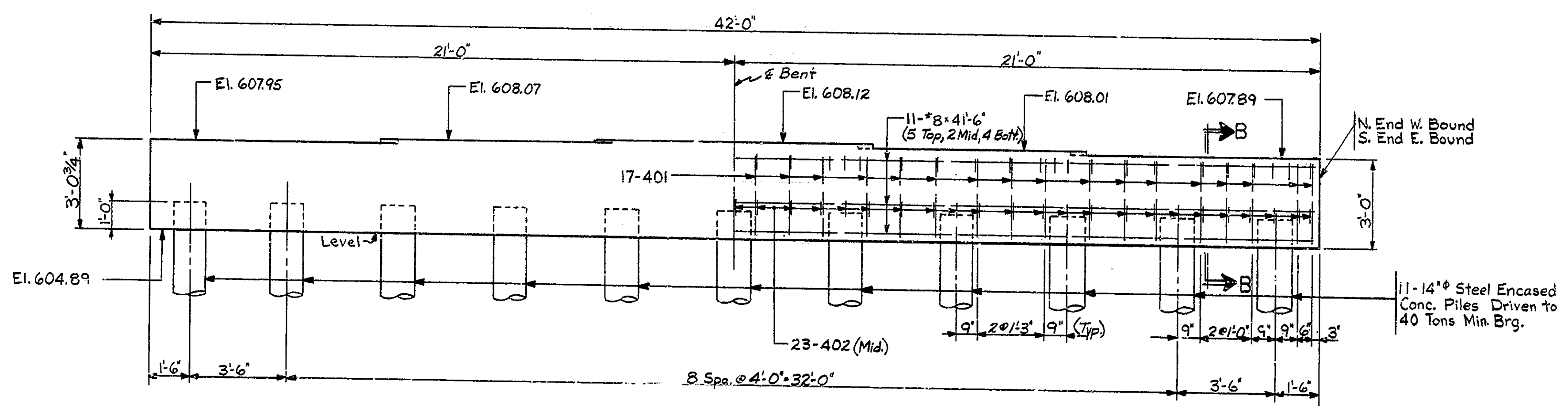
DRAWING: C2 OF 10
 PROJECT: F-31(29) STA. 238+08
 BRIDGE CONTRACT NO. B-8276 P.R. Line "R"
 BRIDGE FILE: 12-64-5413



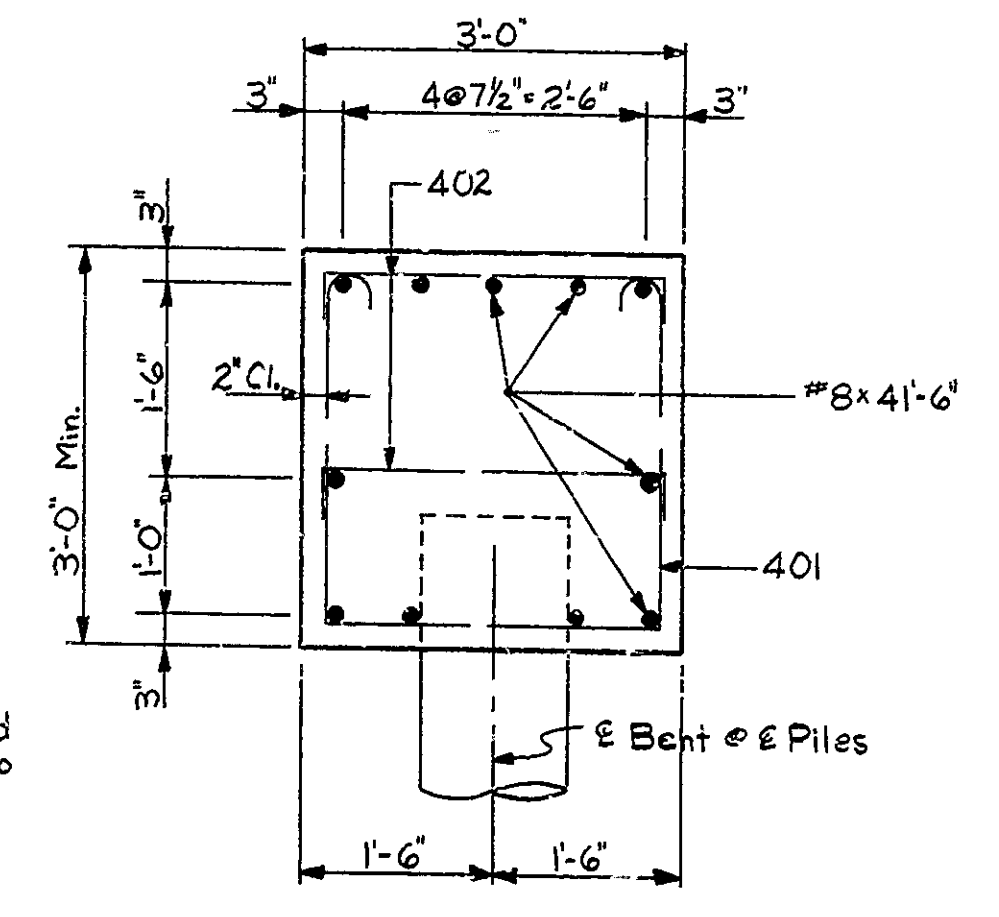
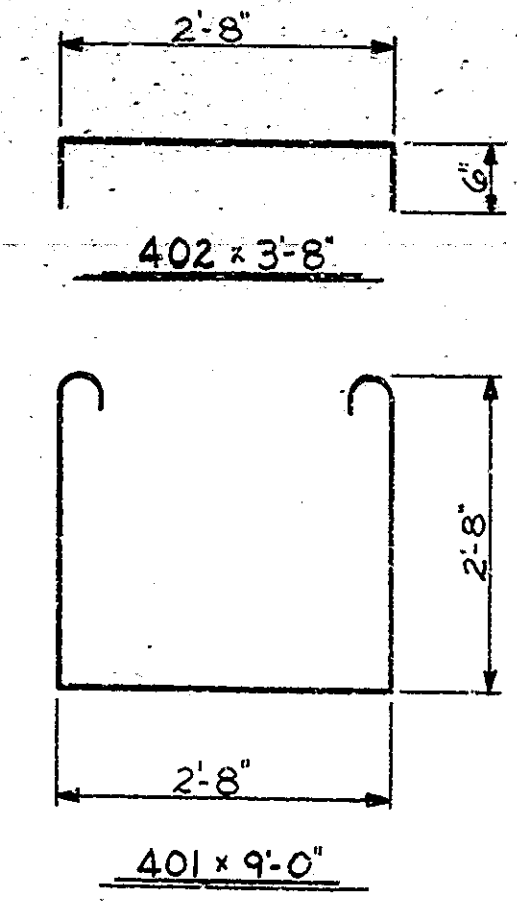
DESIGNED	CKD
DRAWN	ELM
TRACED	CKD



PLAN



ELEVATION



SECTION B-B
Scale: 3/4"=1'-0"

BRIDGES OVER 20' SPAN					
PUB. ROAD RES. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-31(29)	1970	12	63

BILL OF MATERIALS
BENT No 2 of 6

REINFORCING STEEL			
SIZE MARK	NO. OF BARS	LENGTH	WEIGHT
#8	11	41'-6"	1,219*
401	34	9'-0"	
402	87	3'-8"	
Total * 4			418*
~ CONCRETE ~			
Class 'A' in Substructure 14.1 cys.			
~ MISCELLANEOUS ~			
11-14" Steel Encased Conc. Piles (7 Co)			
@ 80'-0" Ea. 880 LF			

DESIGNED: UHW CKD: DKC
 DRAWN: DKC CKD: JST
 TRACED: _____ CKD: _____

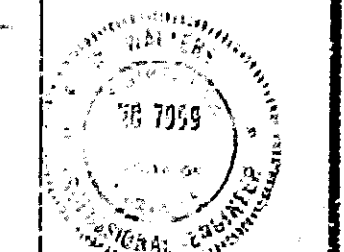
See Br. Std. C1 for Reinf. Bar Notes

BENT No 2 of 6 DETAILS
INDIANA STATE HIGHWAY COMMISSION

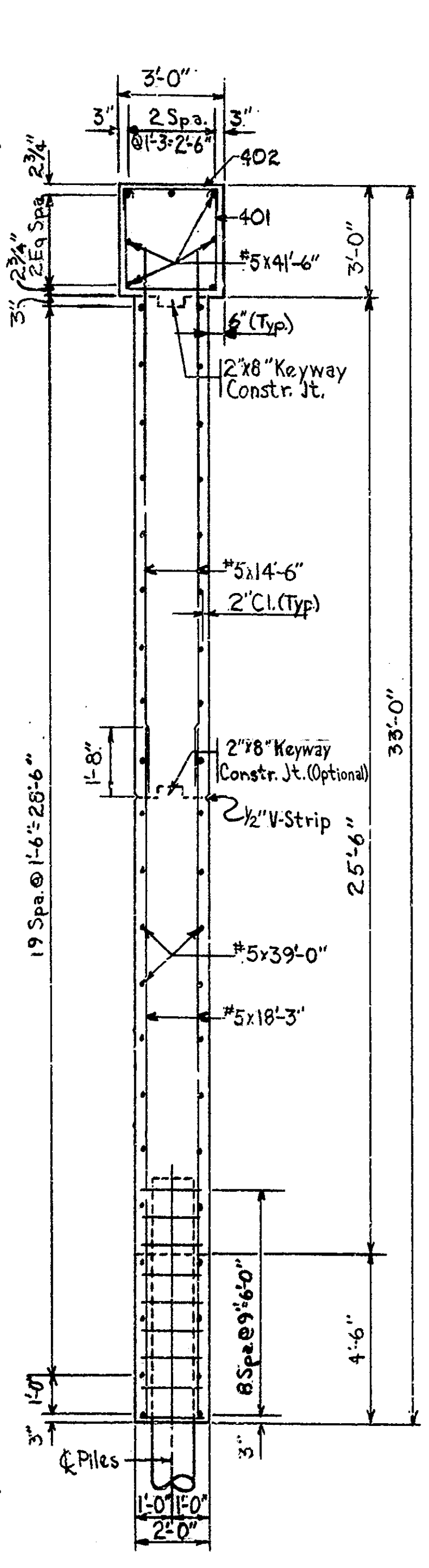
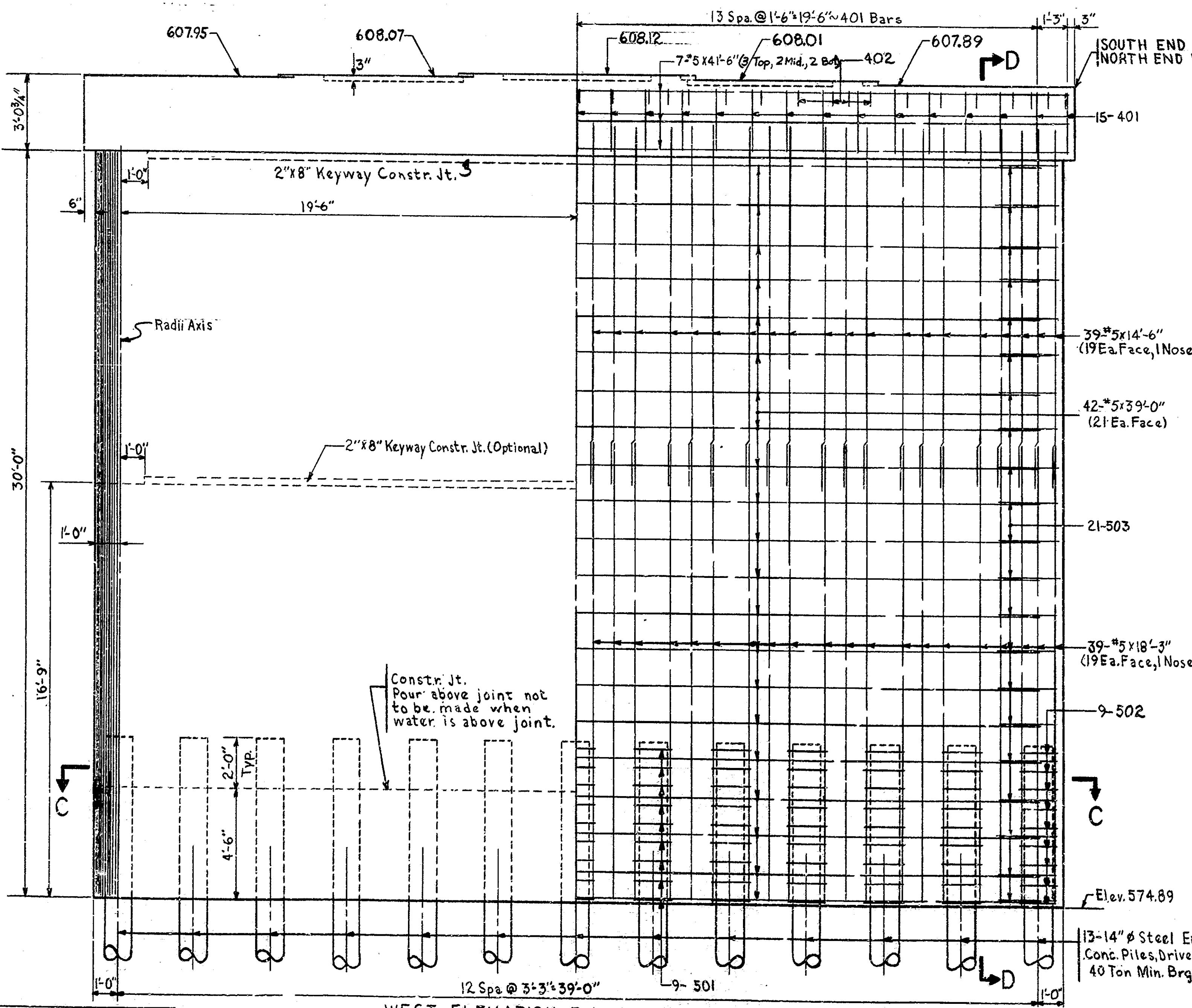
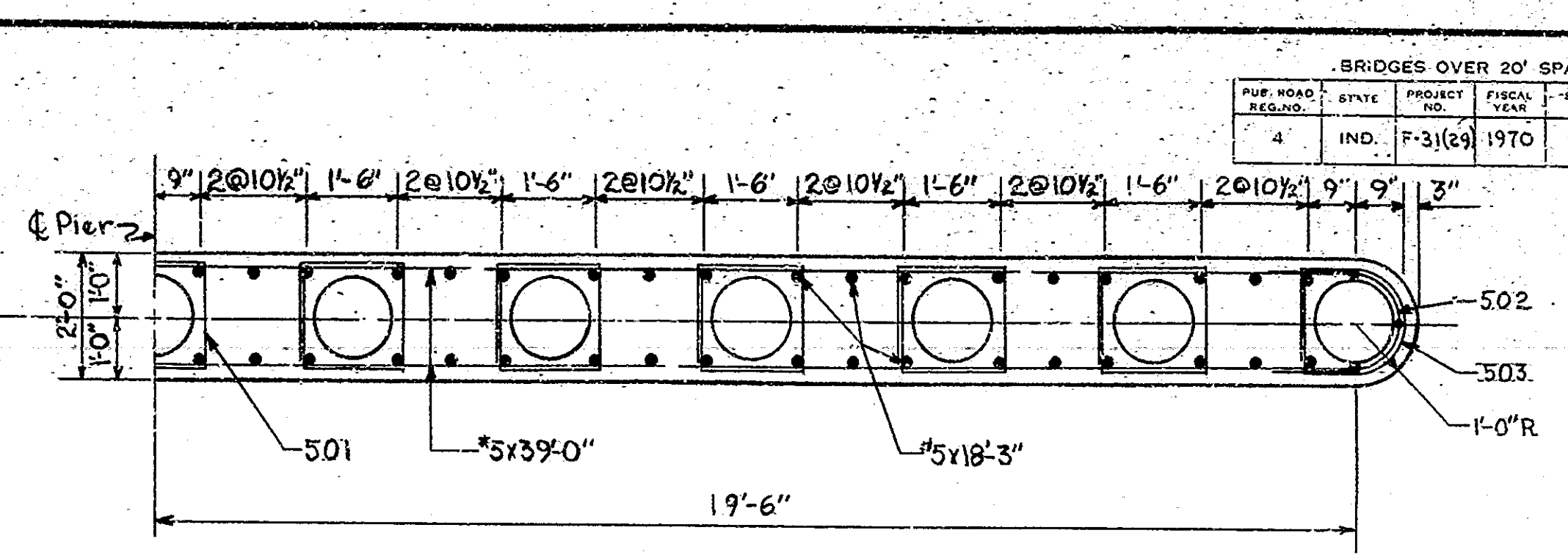
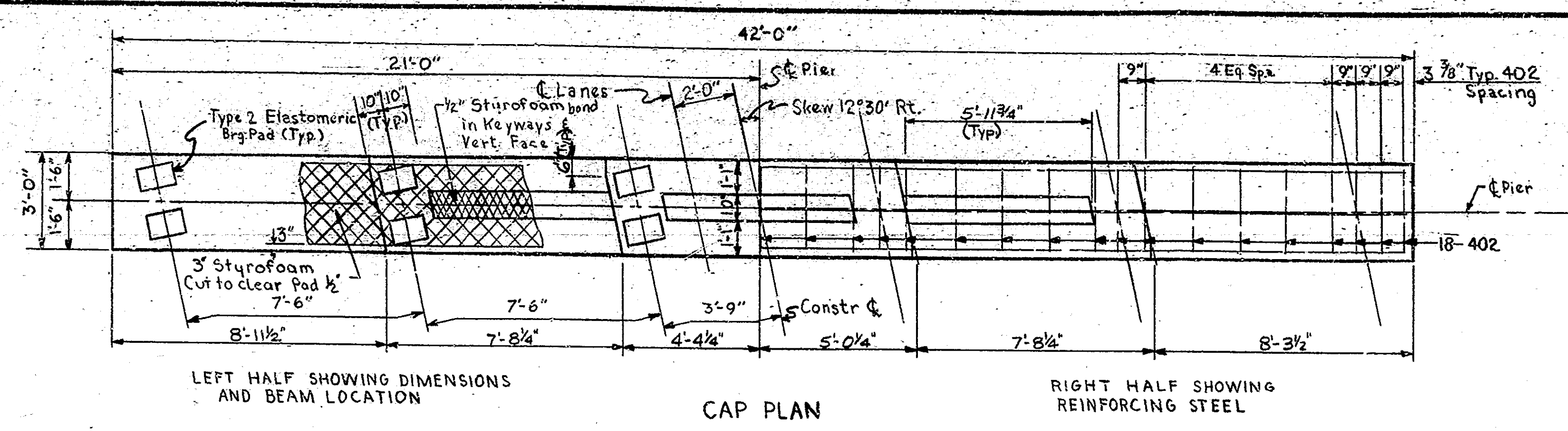
SCALE: 3/8"=1'-0" UNLESS NOTES
 JANUARY 12, 1970

RECOMMENDED FOR APPROVAL: *E. W. Walters*
 ASST. ENGINEER OF BRIDGE DESIGN

DRAWING: C4 OF 10
 PROJECT: F-31(29)
 BRIDGE CONTRACT NO. B-8276
 BRIDGE FILE: 12-64-5413



BRIDGES OVER 20' SPAN					
PUR. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-31(29)	1970	13	63



**BILL OF MATERIALS
BENT # 3,4 or 5**

REINFORCING STEEL			
SIZE or MARK	NO of BARS	LENGTH	WEIGHT
501	99	8'-4"	
502	18	7'-8"	
503	42	6'-0"	
#5	7	41'-6"	
#5	42	39'-0"	
#5	78	18'-3"	
#5	78	14'-6"	
Total # 5			5,943*
401	29	9'-0"	
402	35	3'-8"	
Total # 4			260*
Total Steel			6,203*
~ CONCRETE ~			
Class 'A' in Substructure			
Bottom Stem to Constr. Jt.		11.2 cys.	
Stem to Constr. Jt.		35.8 cys.	
Constr. Jt. to Cap		39.8 cys.	
Cap		14.6 cys.	
Total Class 'A'		101.4 cys.	
~ MISCELLANEOUS ~			
13-14" Steel Encased			
C-nc. Piles (76) @ 55 Ea. 715 LB			

**PIER # 3,4 & 5 DETAILS
INDIANA STATE HIGHWAY COMMISSION**

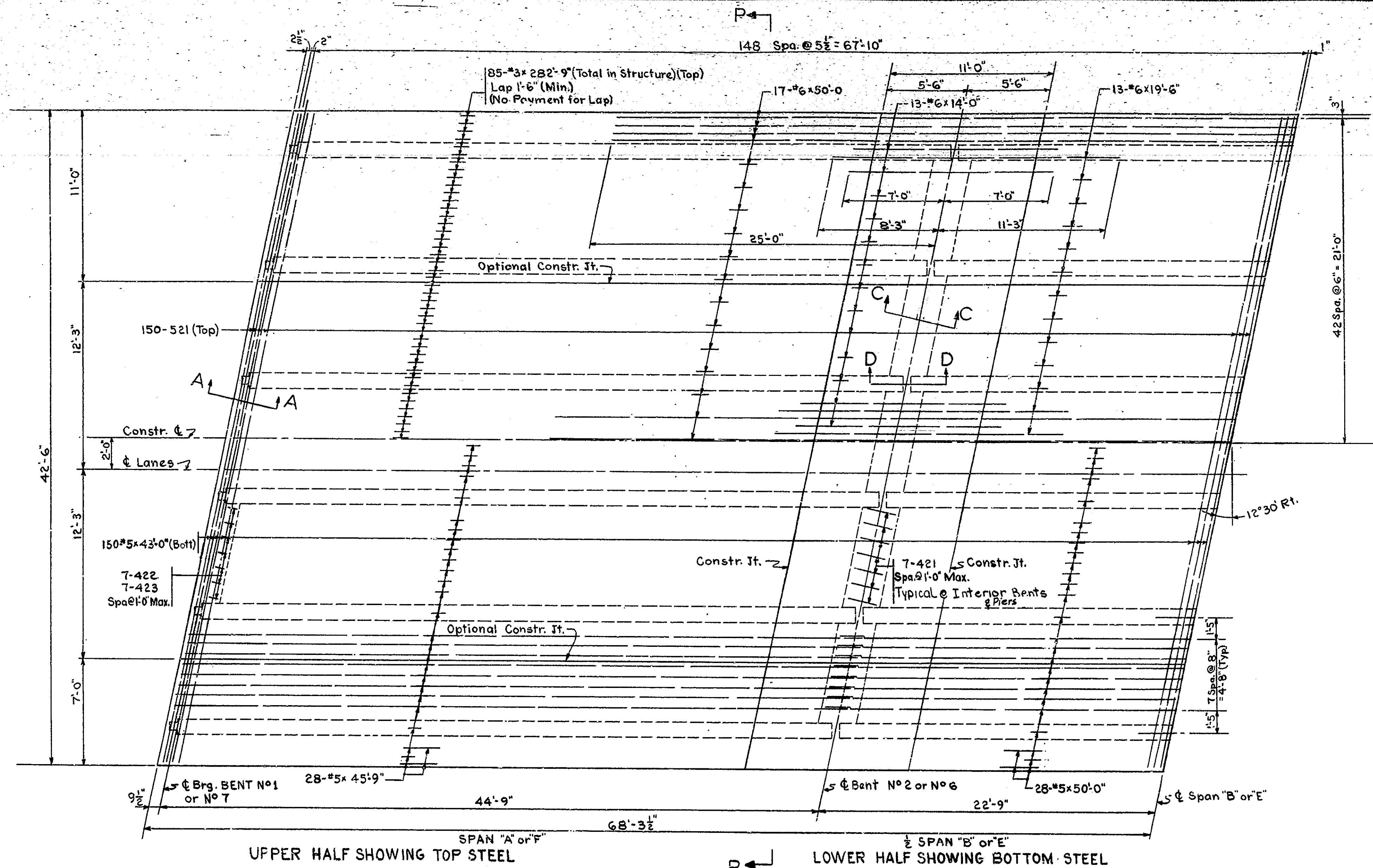
SCALE: 3/8"=1'-0" UNLESS NOTED
 JANUARY 12, 1970
 RECOMMENDED FOR APPROVAL: *E. W. Walter*
 DRAWING: CS OF 10
 PROJECT: F-31(29)
 BRIDGE CONTRACT NO. B-8276
 BRIDGE FILE: 12-64-5413

DESIGNED: WBA C/KD: MWW
 DRAWING: S27949 C/KD: MWW & DKC
 TRACED: C/KD

WEST ELEVATION EASTBOUND LANES
 EAST ELEVATION WESTBOUND LANES

NOTE: See Br. Std. C1 for Reinf. Bar Notes.

BRIDGES OVER 20' SPAN					
PUB. ROAD RECORD	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-31(29)	1970	14	63

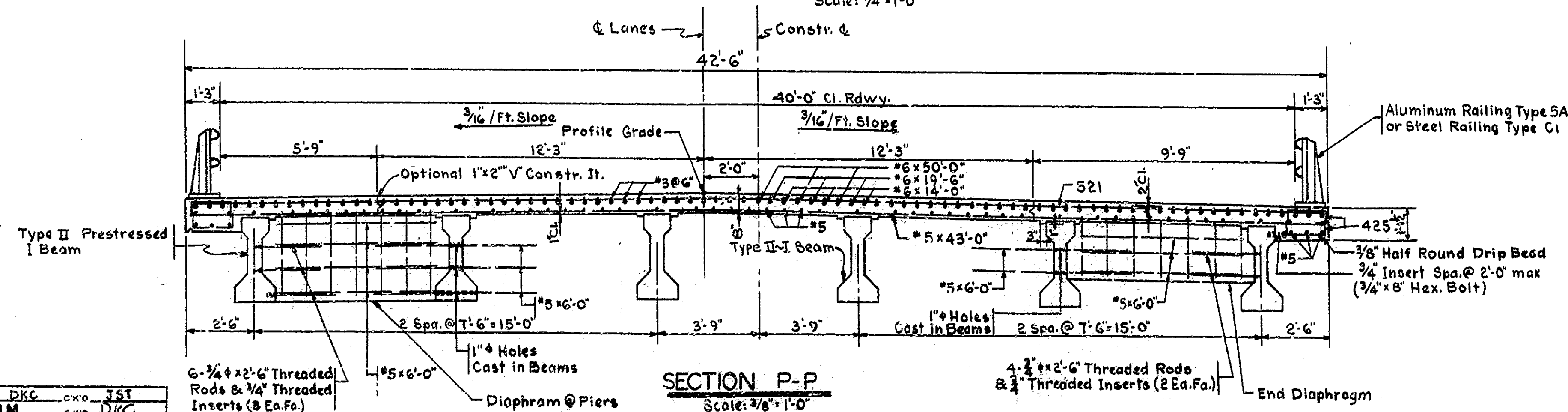


Notes: Top reinforcing shall be supported on chairs under the top transverse reinforcing bars.
Welded deformed steel wire fabric may be used in place of #3 bars in top of the slab. See the Special Provisions.
See Br. Std. C1 for Reinforcing Bar Notes.
See Drawing C7 for Sections A-A, C-C, & D-D

DESIGN DATA

Reinforced Concrete:
Unit Stresses - $f_s = 20,000$ psi $f_c = 1200$ psi
Live Load - HS 20-44 with impact and Distribution of loads in accordance with 1969 A.A.S.H.O.
Dead Load - Increased 35 psf. of roadway width for future wearing surface. Slab designed with 1" wearing surface.

PART PLAN W.B. LANE (E.B. LANE SAME BY 180° ROTATION) Scale: 1/4" = 1'-0"



SUPERSTRUCTURE DETAILS INDIANA STATE HIGHWAY COMMISSION

SCALE: AS NOTED

JANUARY 12, 1970

RECOMMENDED FOR APPROVAL:

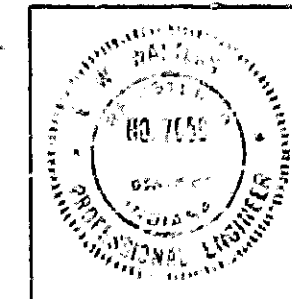
E. W. Walters
ASST. CHIEF OF BRIDGE DESIGN

DRAWING: C6 OF 10

PROJECT: F-31(29)

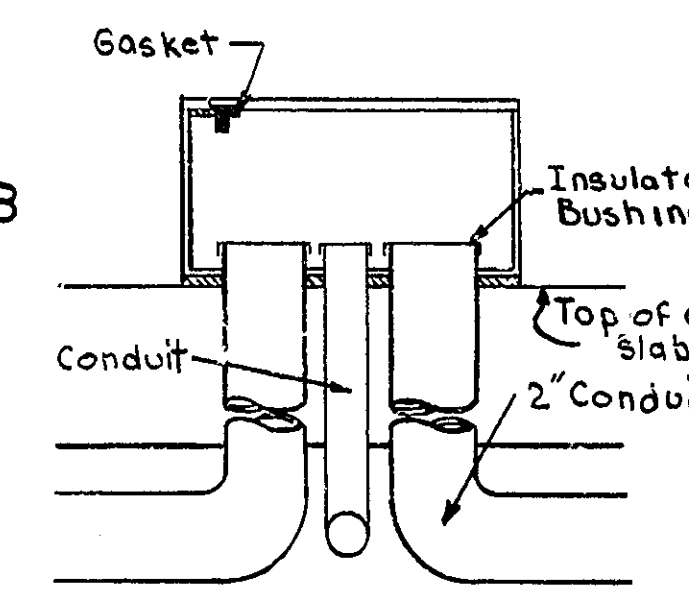
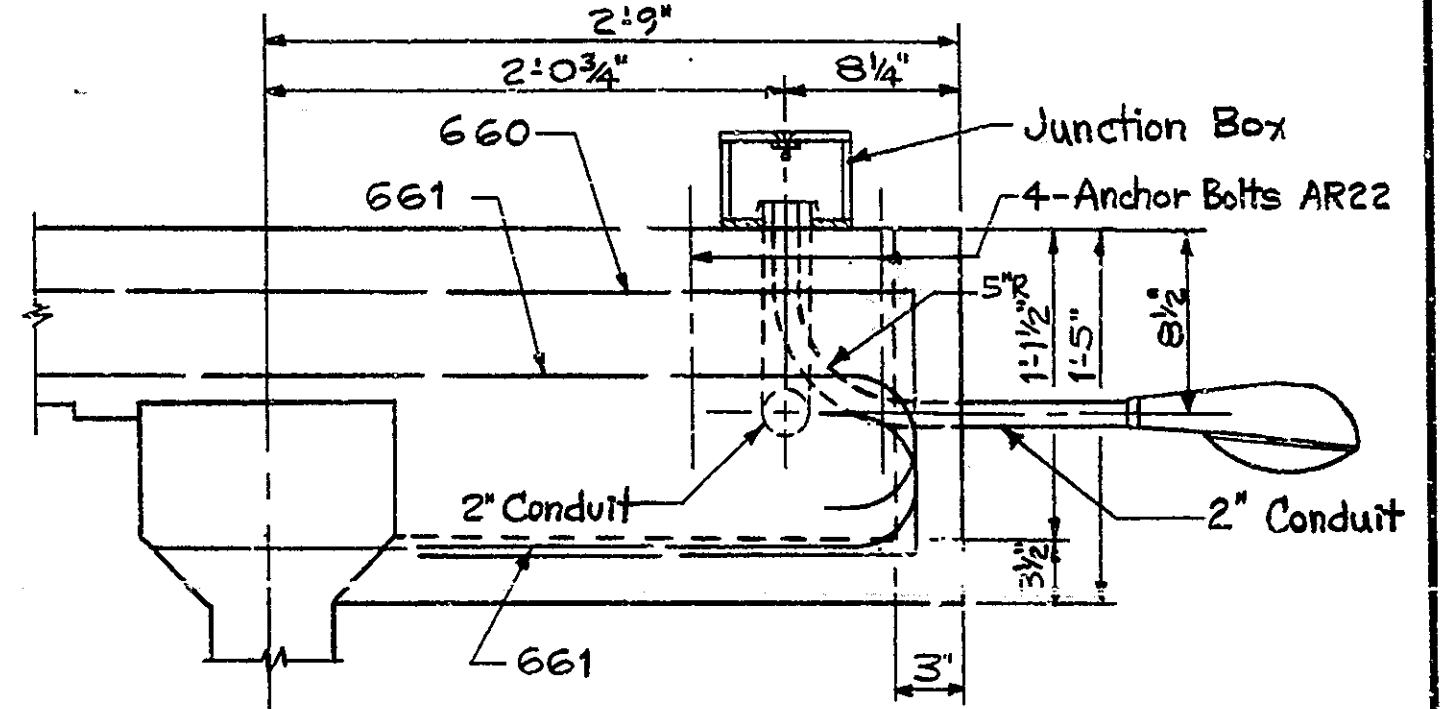
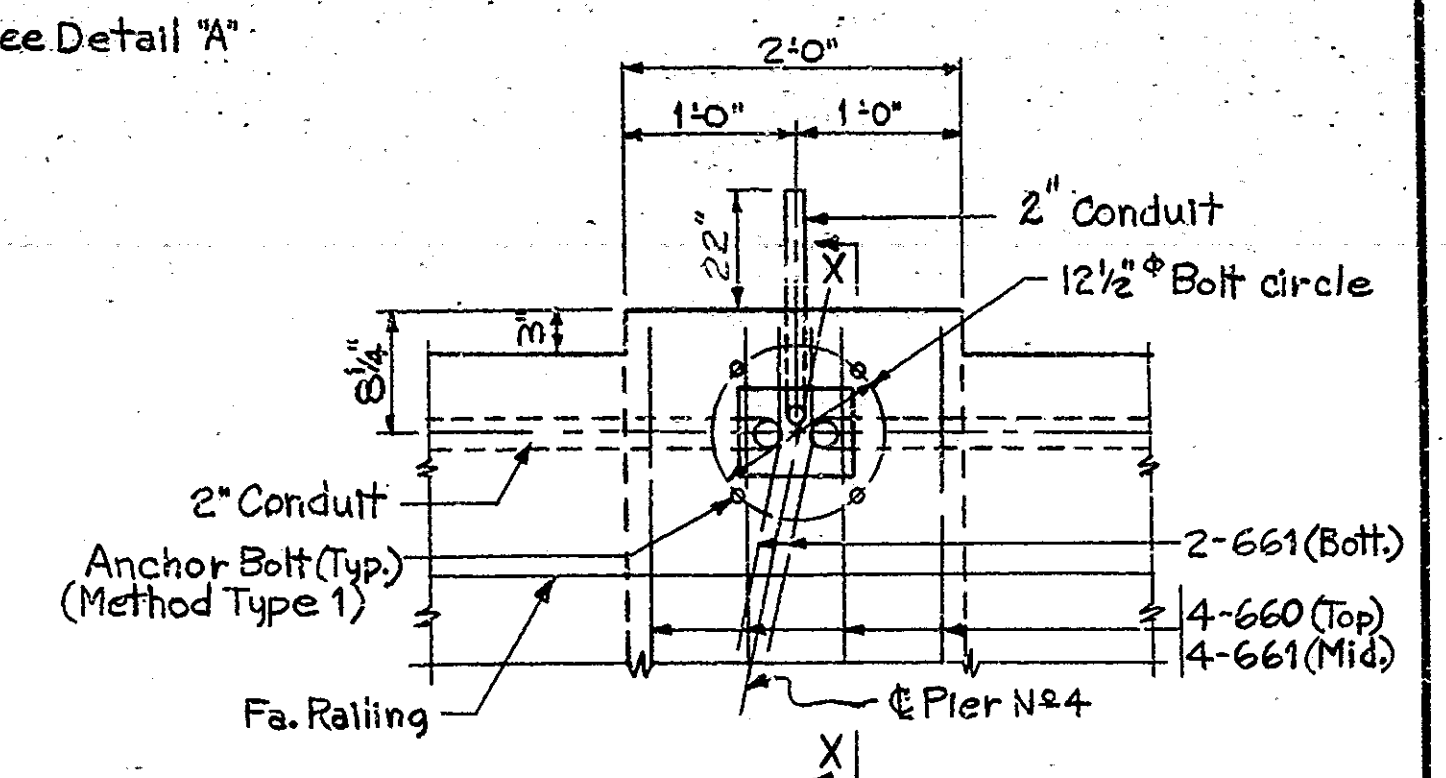
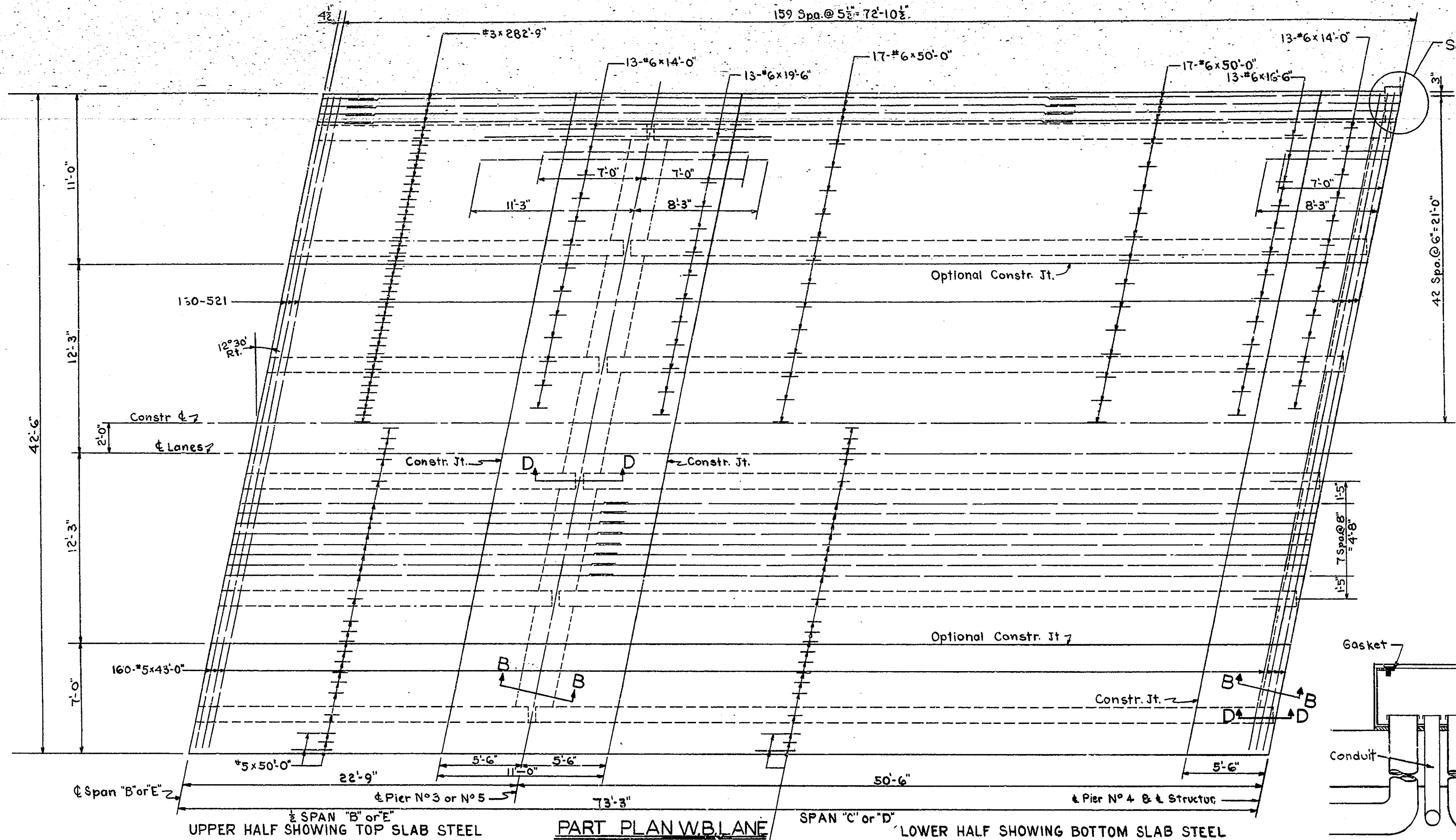
BRIDGE CONTRACT NO. B-8276

BRIDGE FILE: 12-64-5413



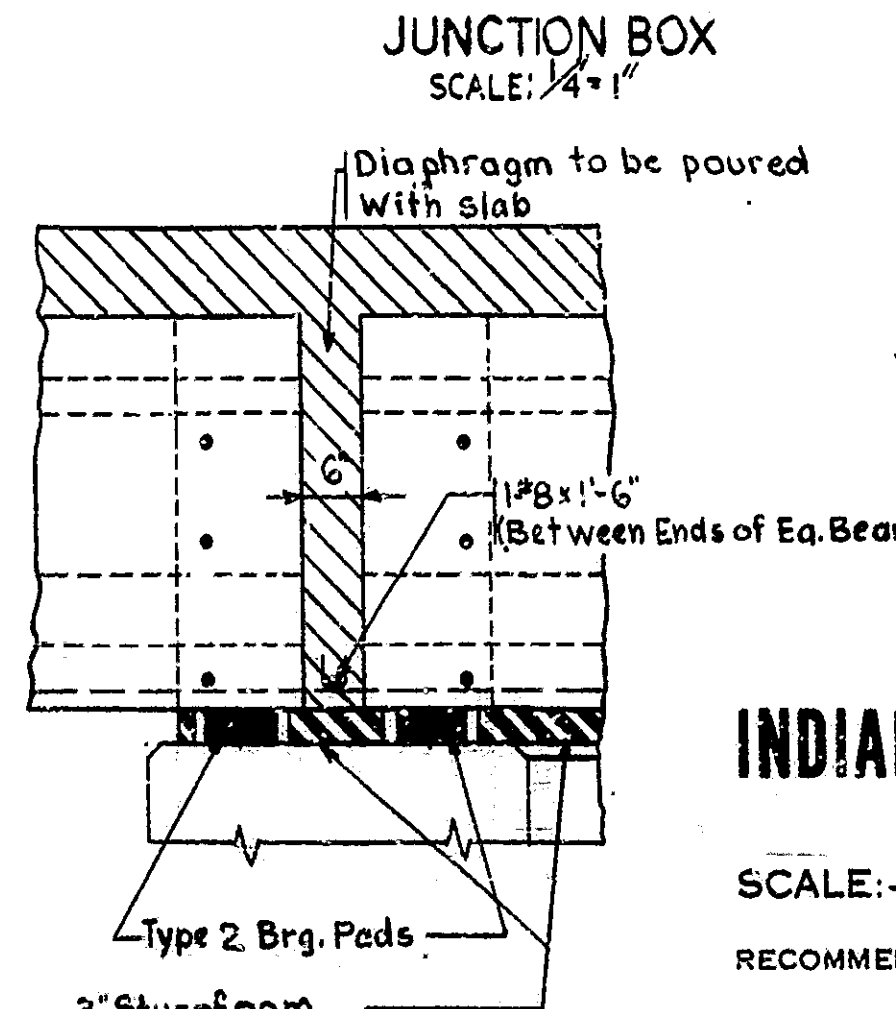
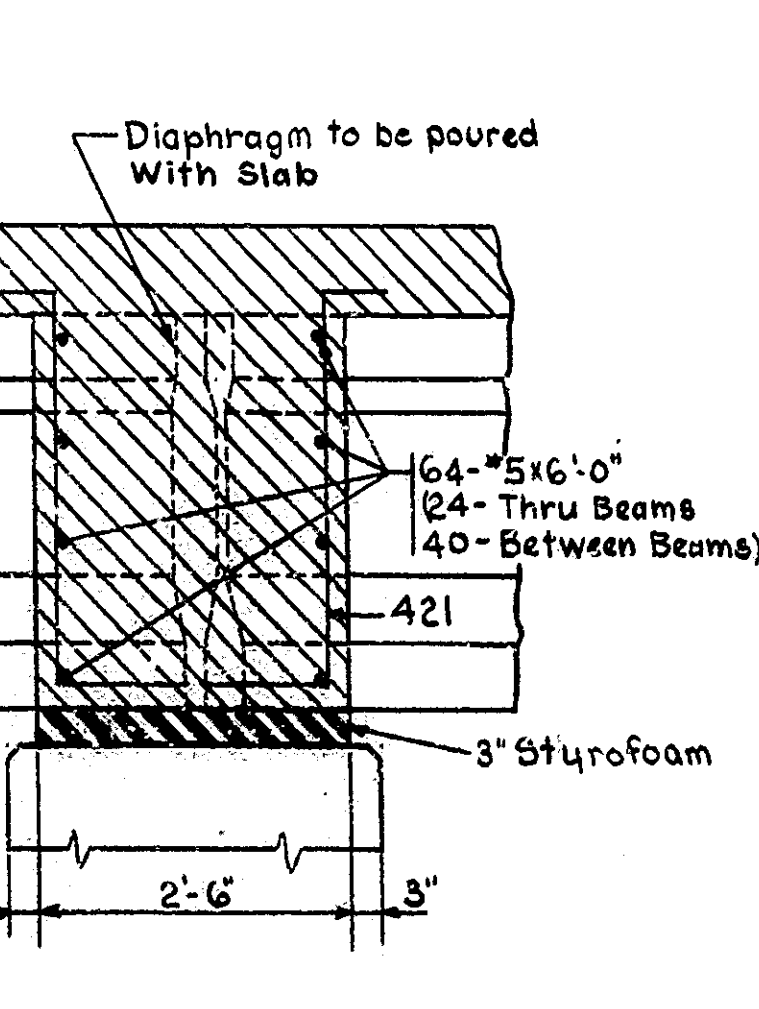
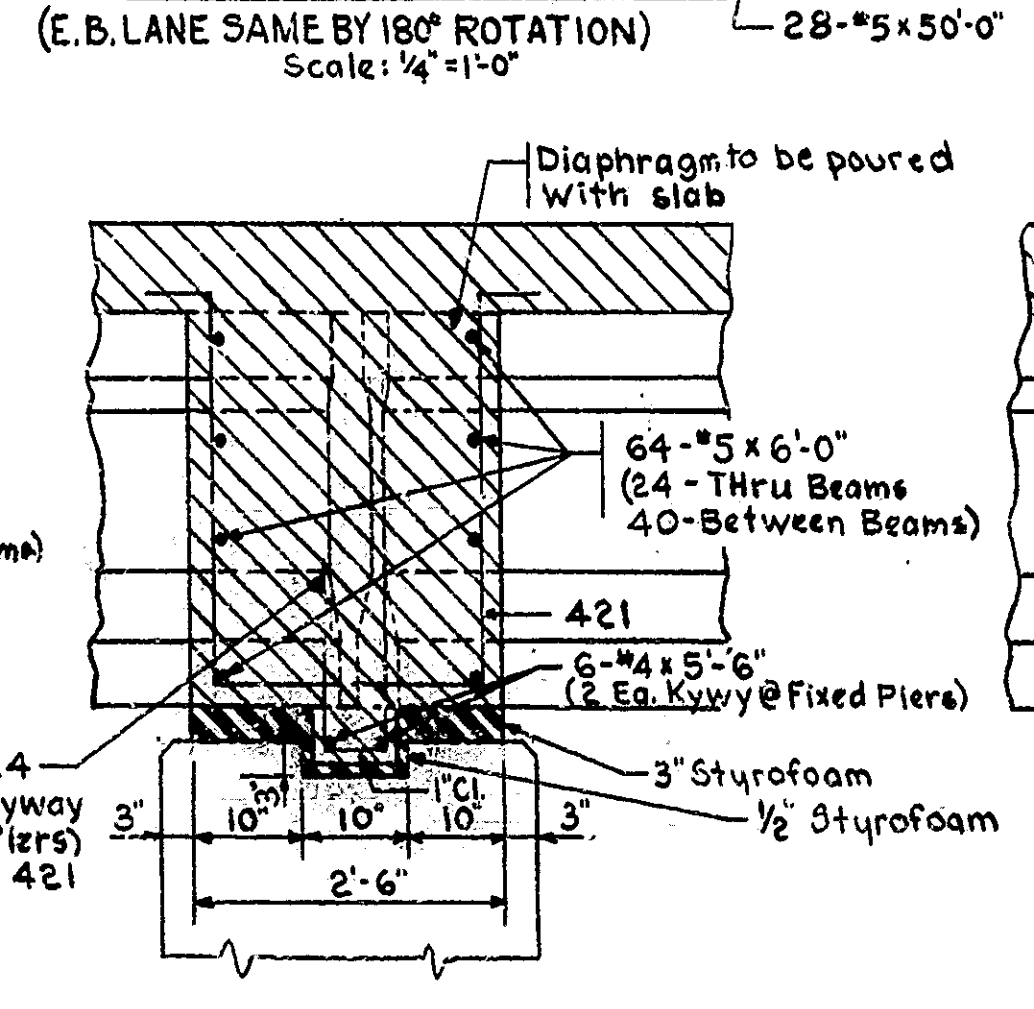
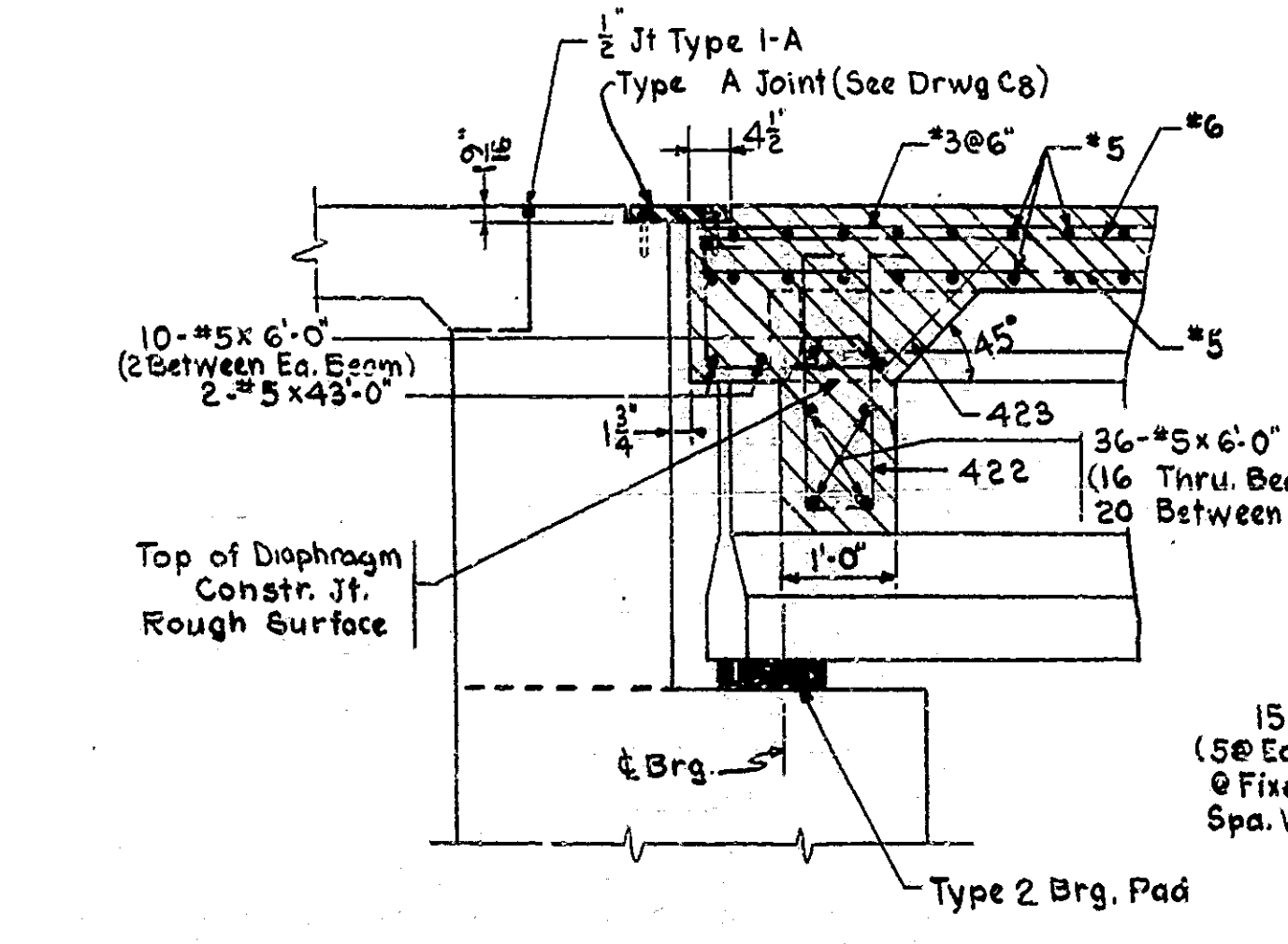
DESIGNED: DKC C.K.D. JST
DRAWN: SLM C.K.D. DKC
TRACED: C.K.D.

BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-31(29)	1970	15	63



Note: Box, Junction, unflanged, weatherproof, cast al. 8" x 6" x 4" with cover, neoprene gasket, and tamper proof stainless steel screws. Junction box to be provided with neoprene gasket to provide seal between Junction box and conc. slab. OZ Elect. MFG. Co. Cat. #YS 080604-A. Anderson Elect. Corp. 6H-684 or approved equal.

Note: Tamper proof screws to operate with 1/4" unbrako wrench, allen (special) 1/4" with approx. 1/8 dia. hollow center for removing cover from Junction box.



NOTES: See Br. Std. C1 for Reinf. Bar Notes. See Drwg. C6 for location of Sect. A-A & C-C. See Br. Std. R2A for additional Lighting Details. See Drwg. C10 for Bending Dia. & Bill of Mat'l for Lighting. See Drwg. C2 for location of Lighting.

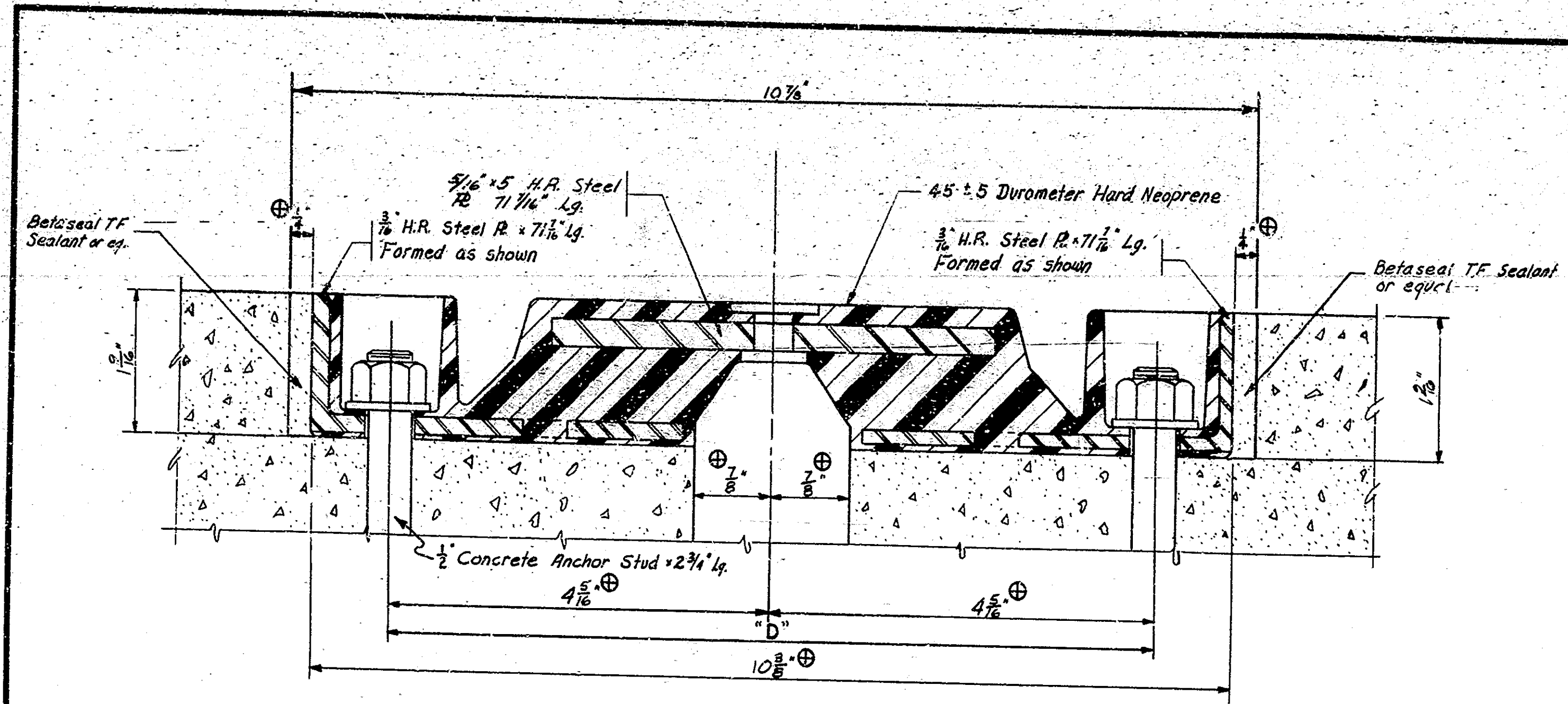
SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE: 3/4" = 1'-0" UNLESS NOTED
 JANUARY 12 1970

RECOMMENDED FOR APPROVAL: *E.W. Walters*
 DESIGNER: C7 OF 10
 PROJECT: F 31(29)
 BRIDGE CONTRACT NO. B-8276
 BRIDGE FILE: 12-64-5413

DESIGNED	DKC	CHK	JST
DRAWN	EJM	CKD	DKC
TRACED		CKD	

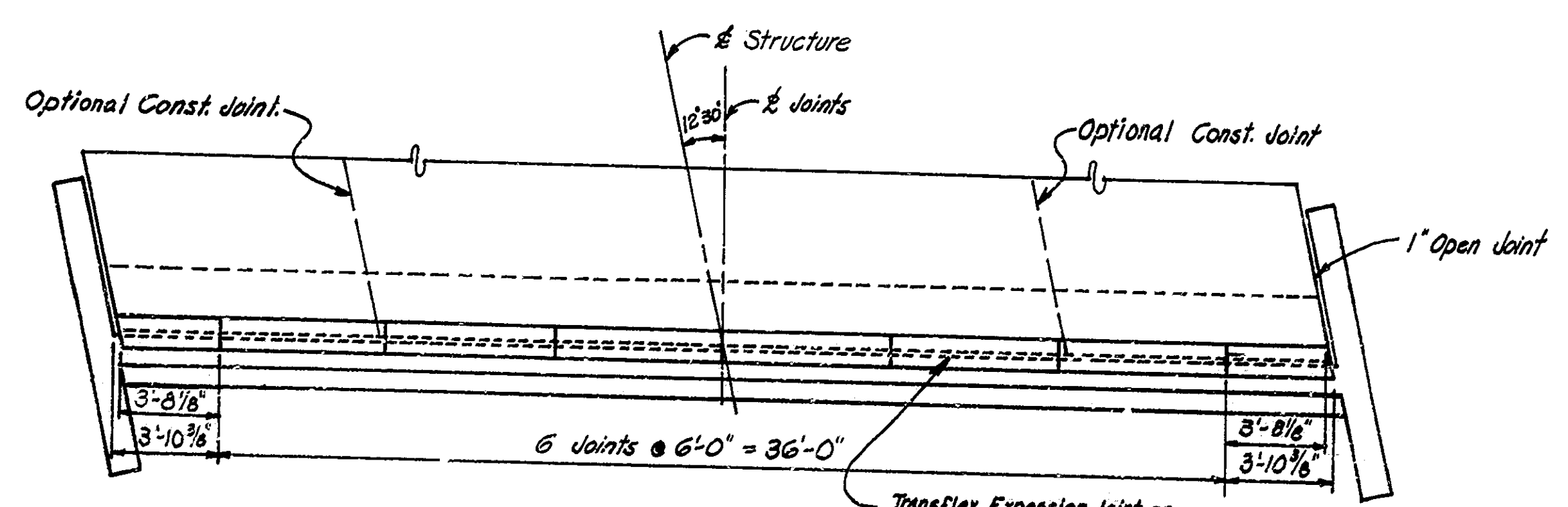
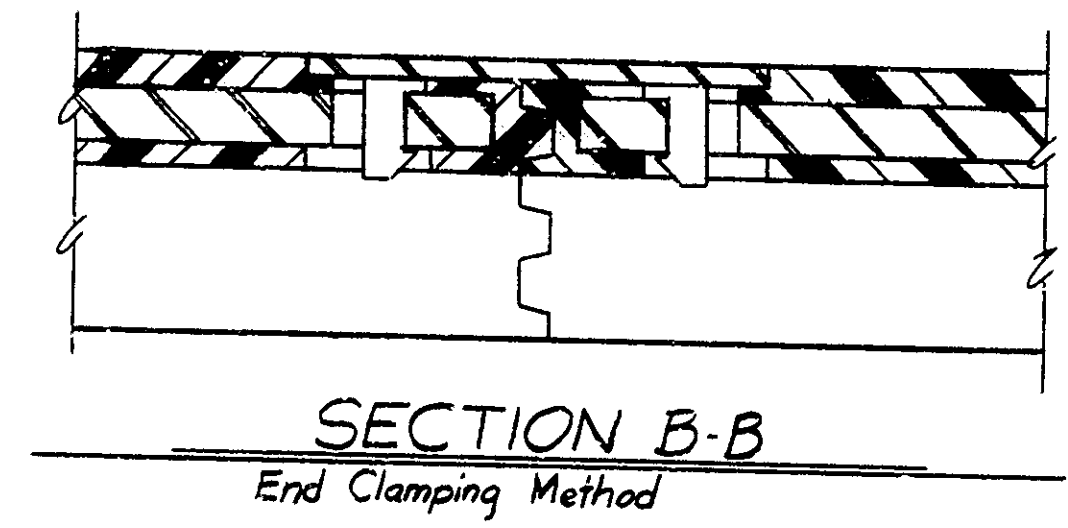
BRIDGES OVER 20' SPAN				
PUB. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	TOTAL SHEETS
4	IND.	F-31(23)	1970	16
				65



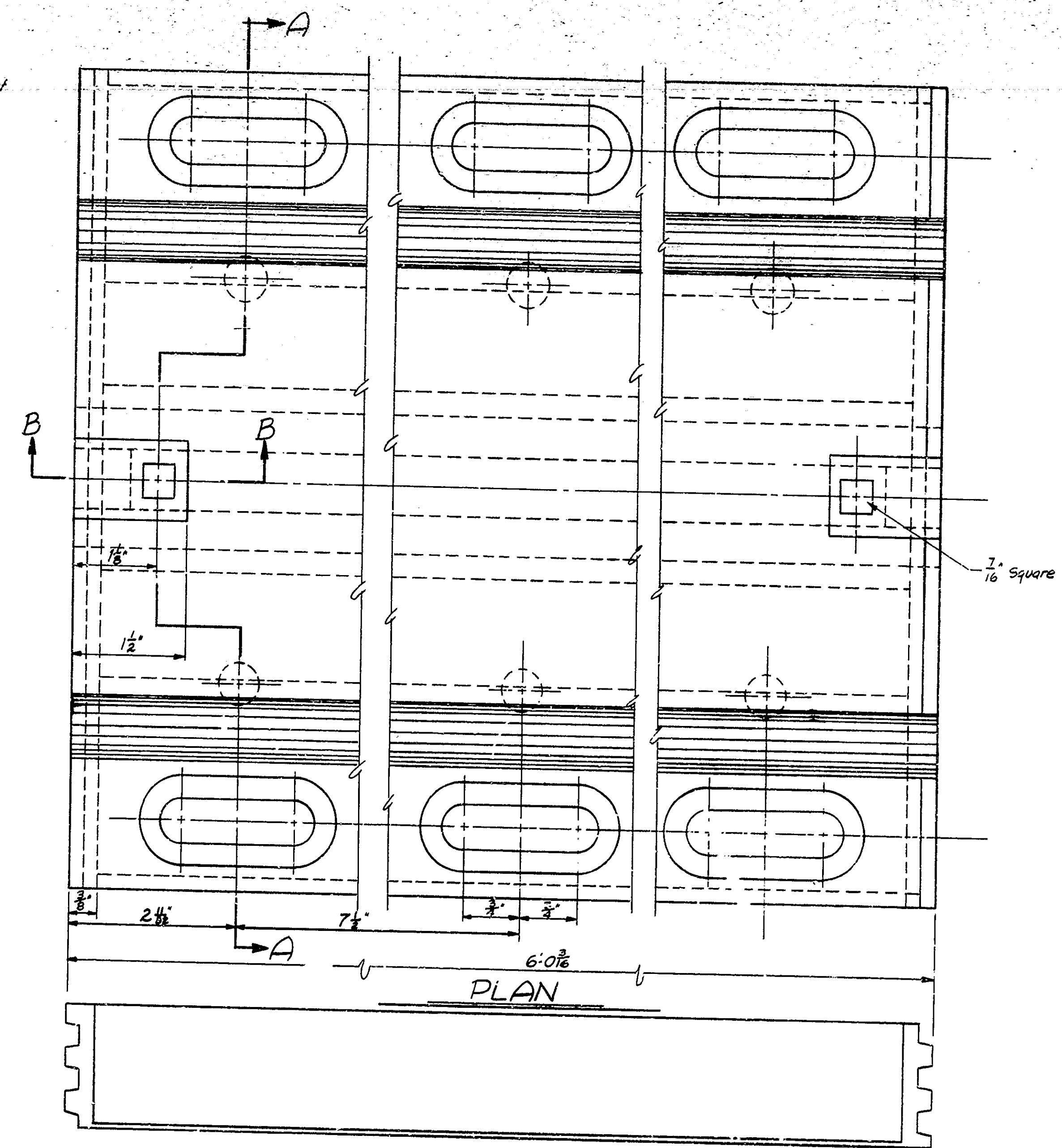
⊕ Dimensions as shown when temperature is below 60°F.

TEMPERATURE AT TIME STUDS ARE SET	DIMENSION "D"
100°F	7 3/8"
90°F	7 5/8"
80°F	7 7/8"
70°F	8 1/8"
60°F	8 1/4"
Below 60°F	8 5/8"

NOTES:
 Material
 Rubber - 45 ± 5 Durometer Hardness
 Steel - A.S.T.M. A36 H.R.S.
 Anchors - Expanding Concrete Anchors
 1/2" dia. x 2 3/4" long. Threaded Stud 7/8" long



Scale 1/4" = 1'-0"

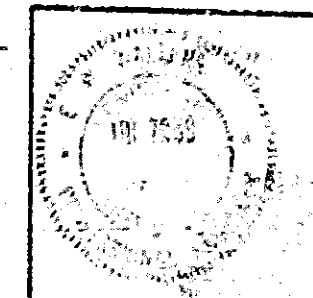


ELEVATION

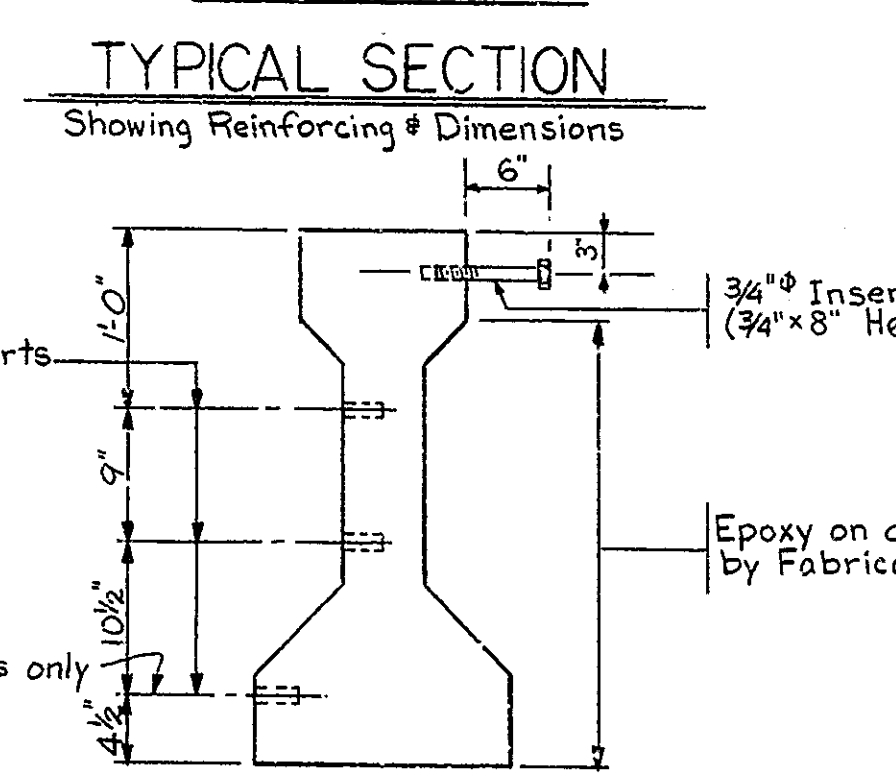
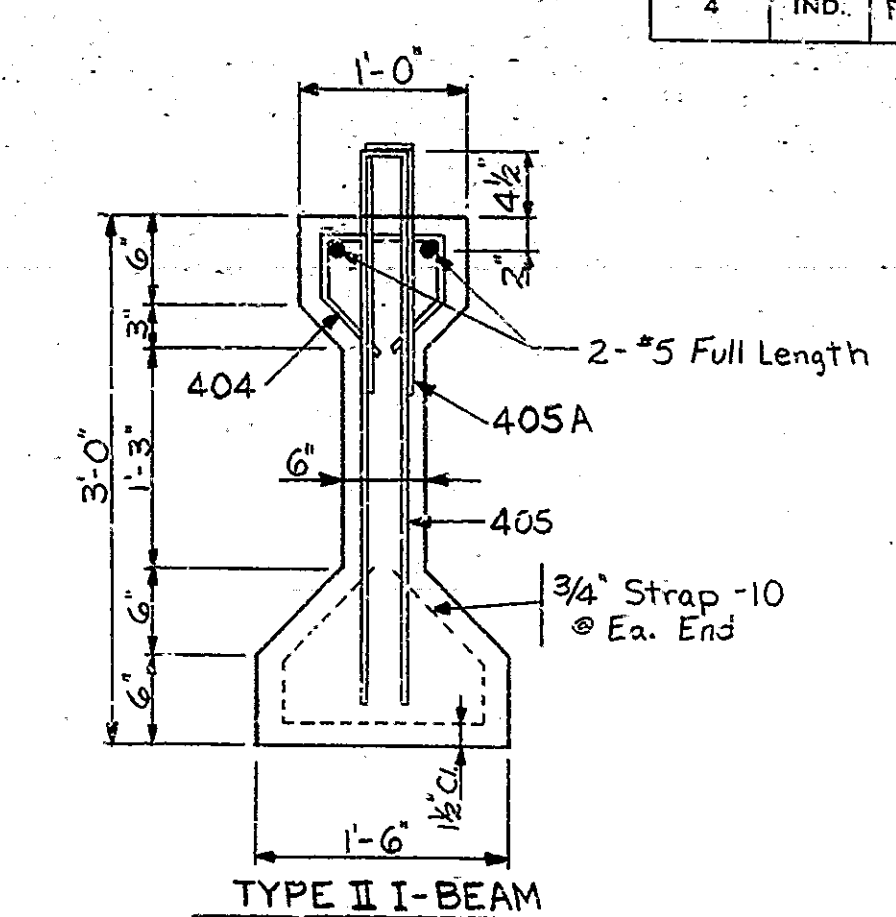
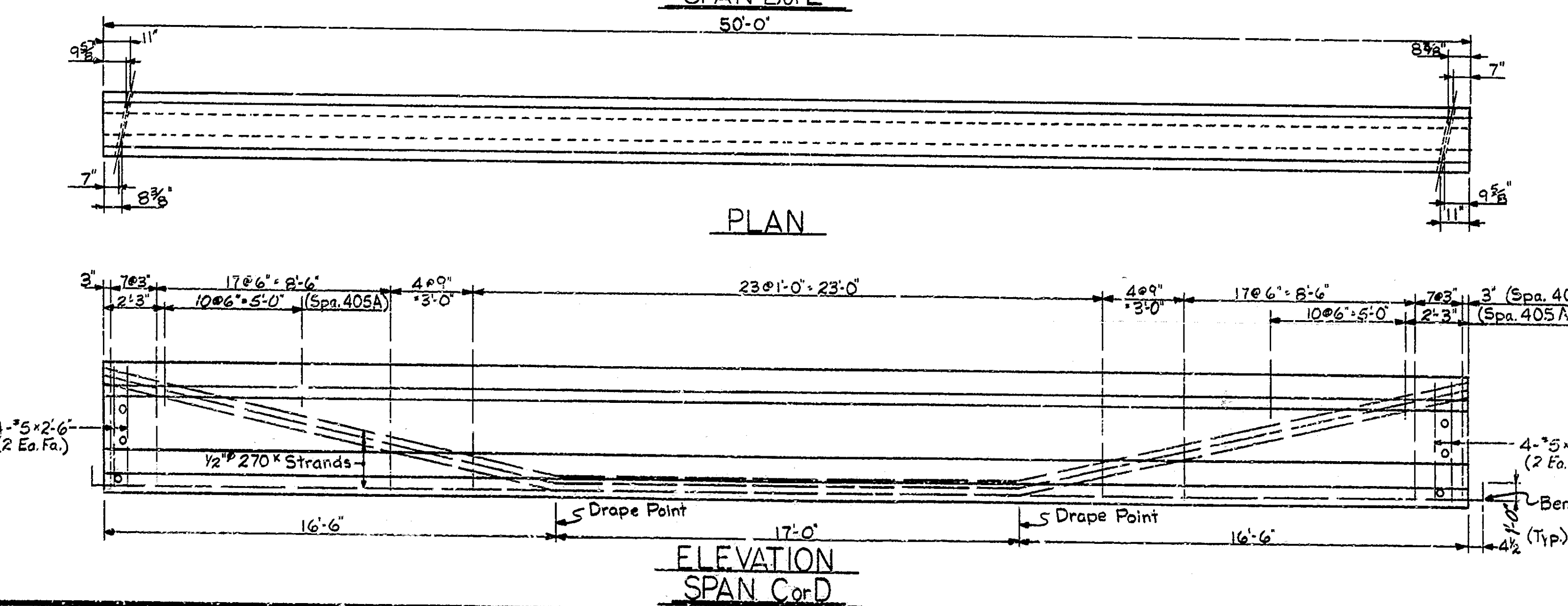
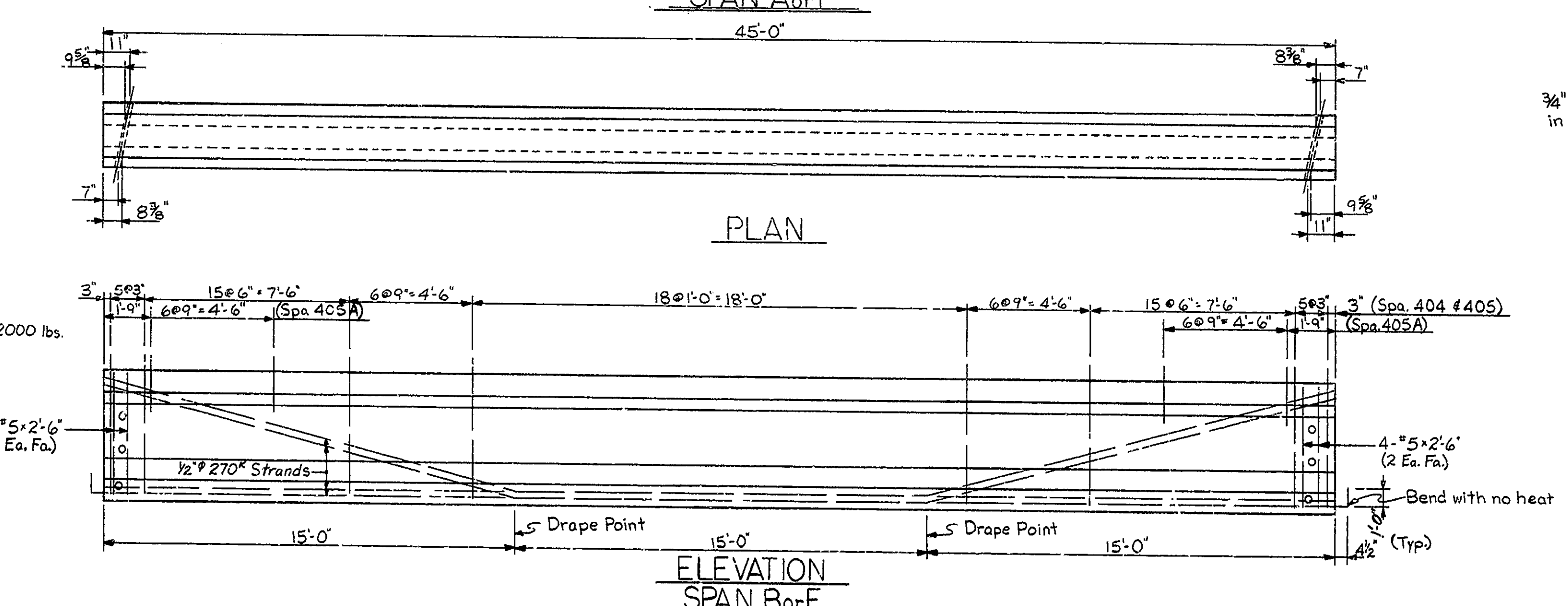
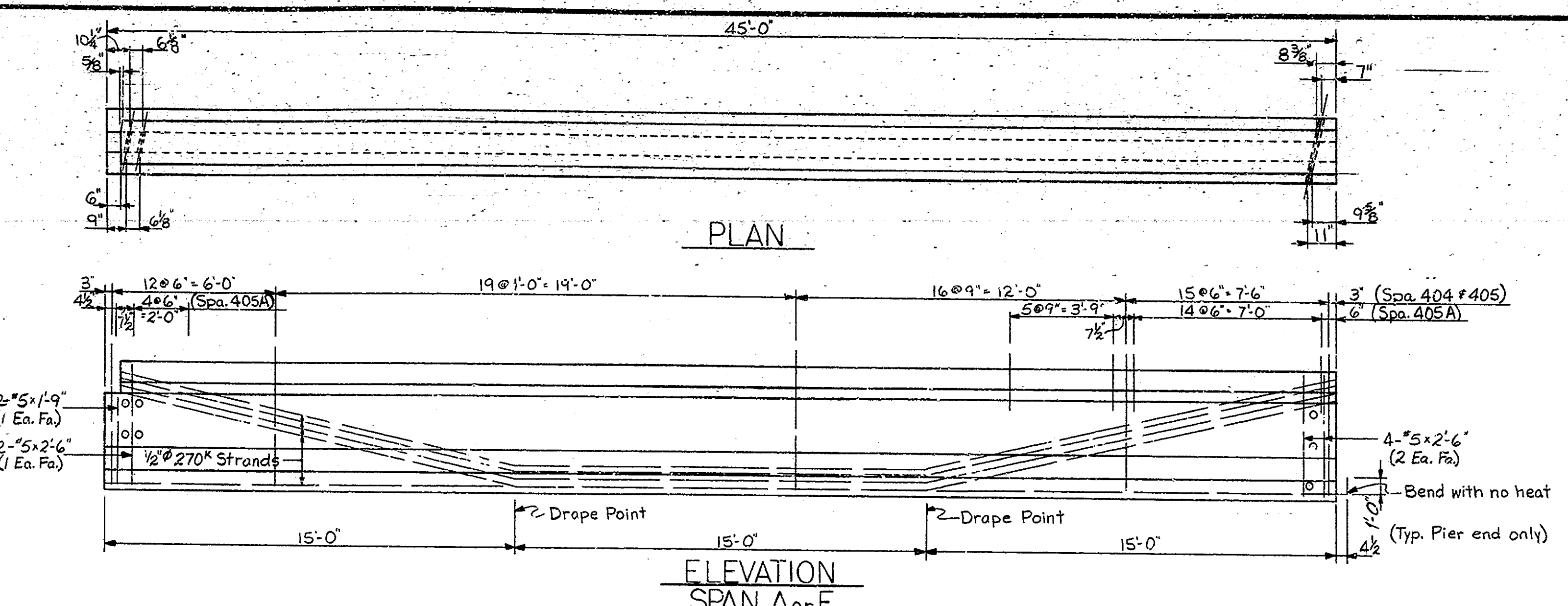
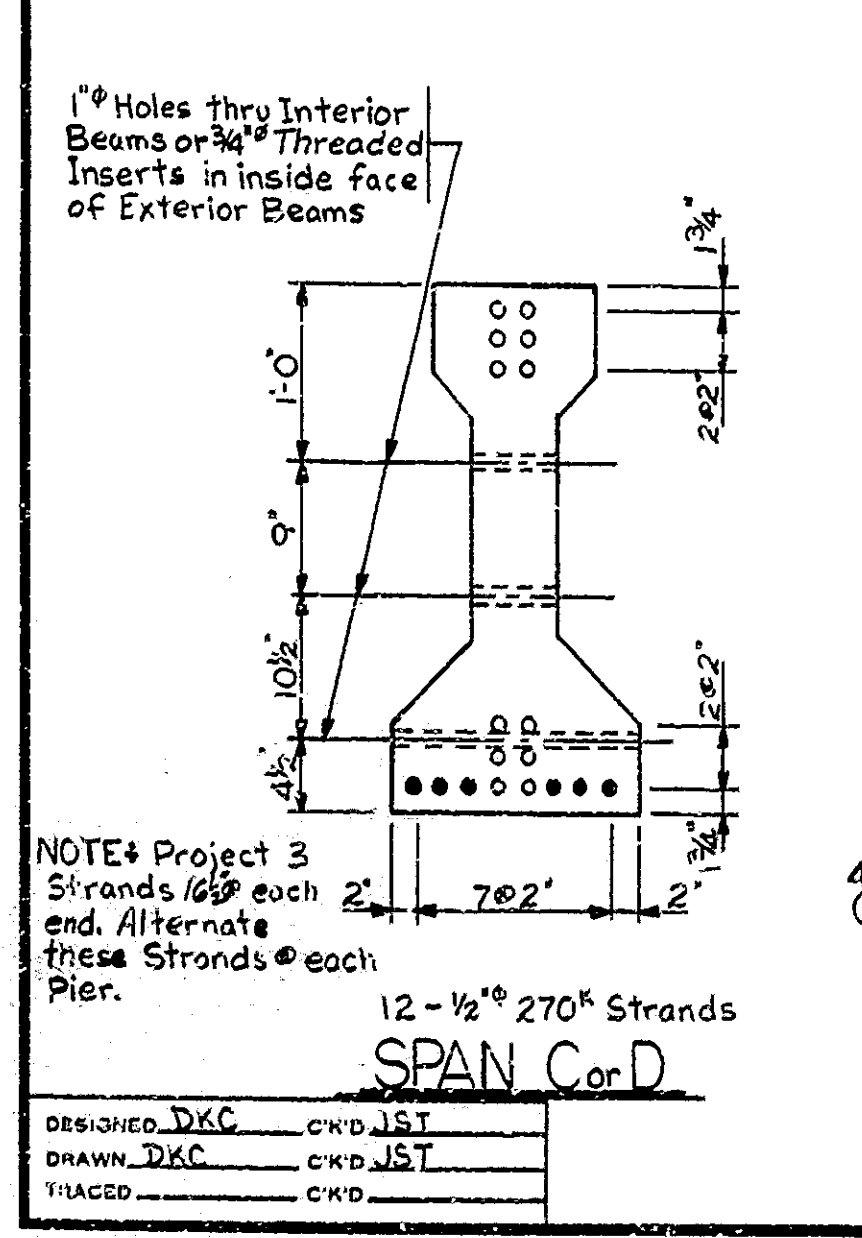
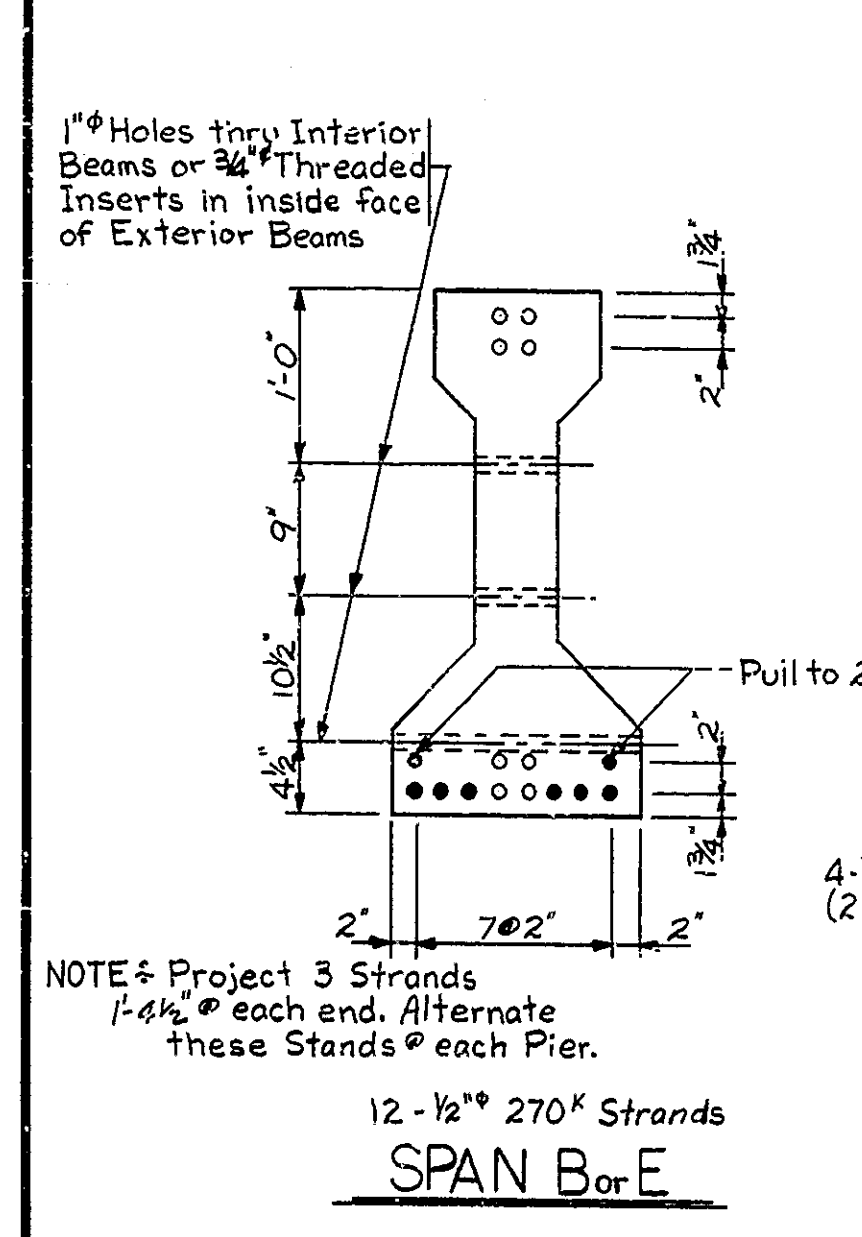
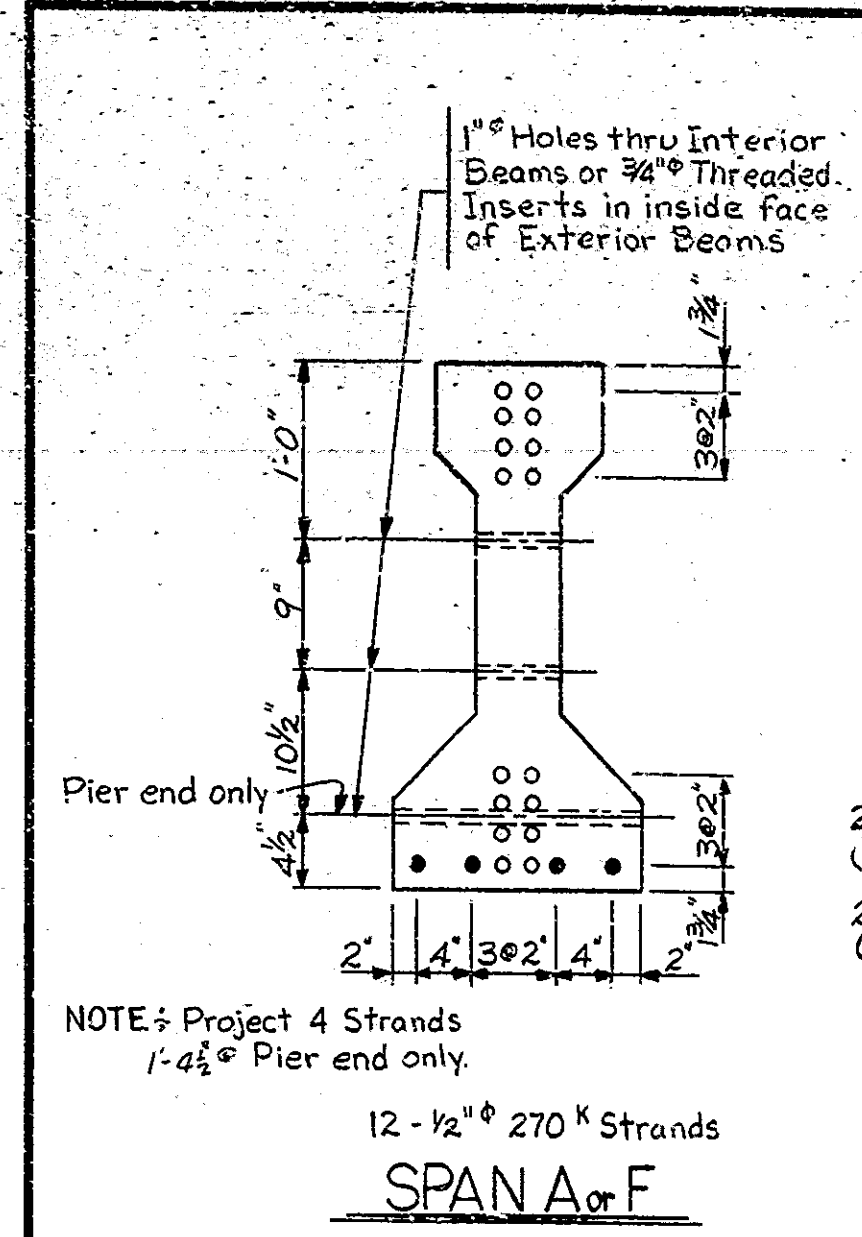
EXPANSION JOINT TYPE "A"
INDIANA STATE HIGHWAY COMMISSION

SCALE: 1" = 1' Unless Noted
 JANUARY 12, 1970
 RECOMMENDED FOR APPROVAL: *E. W. Walters*
 DRAWING: C of 10
 PROJECT: F-31(23)
 BRIDGE CONTRACT NO. B-8276
 BRIDGE FILE: 12-64-5413

DESIGNED: CWD	CHKD: CWD
DRAWN: WHW	CHKD: DKC
TRACED: CWD	



BRIDGES OVER 20' SPAN				
PUB. ROAD	STATE	PROJECT	FISCAL	TOTAL
FILE NO.	NO.	NO.	YEAR	SHEETS
4	IND.	F-31(2)	1970	17 63



DESIGN DATA

All Beams shall be Type II as shown on Br. Std. PB2

SPAN	A or F	B or E	C or D
Computed beam camber as erected	+0.4384"	+0.4619"	+0.6292"
Dead load deflection of beam caused by slab and diaphragm	-0.3009"	-0.3111"	-0.4753"
Residual beam camber with slab in place	+0.1375"	+0.1708"	+0.1539"

GENERAL NOTES

Screed data to be furnished upon request.

The cost of Elastomeric Bearing Pads, 3/4" x 2'-6" Threaded Rods, 3/4" Threaded Inserts in Exterior Beams, 3" x 1/2" styrofoam, 3/4" x 8" Threaded Hex Bolt, Epoxy on outside face of Exterior Beams, and Prestressed Concrete I-Beams to be included in the Lump Sum bid for Concrete Structural Members.

Epoxy on outside face of Exterior Beams to be done by the Fabricator in shop as shown on Detail Plans. Do not rub.

Bridge Seat Elevations were set using design camber and dead load deflection of slab, so that top of Beam will be at bottom of slab elevation at centerline of span. Fillet depth to vary along length of beam to compensate for camber. Actual cambers which are greater than design cambers will be taken care of by permitting the top of beam to extend into the slab. Actual cambers which are less than design cambers will require slightly higher filllets.

NOTE: See Br. Std. C1 for Reinforcing Bar Notes.
 See Br. Std. PB2 for General Notes & Design Notes for Type II I-Beams.
 See Br. Std. PB10 for Tolerance of Prestressed Beams.
 See Br. Std. PB11 for Type 2 Bearing Pads.

BEAM DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE: - NO SCALE
 JANUARY 12, 1970
 RECOMMENDED FOR APPROVAL: *E. W. Wallace*
 DRAWING: C9 of 10
 PROJECT: F-31(2)
 BRIDGE CONTRACT NO. B-8276
 BRIDGE FILE: 12-64-5413

DESIGNED: DKC	CWD: JST
DRAWN: DKC	CWD: JST
TRACED: CWD	

ESTIMATE OF QUANTITIES (CON'T.)

STRUCTURE SUMMARY

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-31(29)	1970	22	63

KIND	SIZE	CIRCULAR PIPE: LINEAL FEET																									
		4"	6"	8"	10"	12"	24"																				
GAGE STRUCT. TOP & SIDES	STEEL		16																								
PLATES STEEL	BOTTOM																										
GROUP A						154																					
GROUP B																											
GROUP C																											
GROUP D																											
GROUP E																											
GROUP F																											
GROUP G																											
GROUP H																											
REINFORCED CONCRETE																											
EXTRA STRENGTH REINF. CONC.																											
HEAVY DUTY REINF. CONC.																											
VITRIFIED CLAY CULVERT																											
CORR. STEEL																											
FULLY BITUM. COATED CORR. STEEL																											
FULLY BITUM. COAT'D CORR. STEEL WITH PAVED INVERT						158																					
FULLY BITUM. COATED CORR. STEEL WITH PAVED INVERT																											
FULLY BITUMINOUS COATED PERFORATED CORR. STEEL						260																					
DRAINTILE, CLASS STANDARD																											
DRAINTILE, CLASS EXTRA																											
DRAINTILE, CLASS HEAVY DUTY																											
* STRUTTED																											

STRUCTURE SUMMARY (CON'T.)

KIND	MIN AREA SQ. FT. #	PIPE ARCHES: LINEAL FEET																					
		STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	
GAGE STRUCT. TOP & SIDES																							
PLATES STEEL	BOTTOM																						
GAGE																							
GROUP G																							
GROUP S																							
GROUP Q																							
GROUP H																							
GROUP H																							
GROUP H																							
GROUP H																							
CORR. STEEL PIPE ARCH																							
STRUCT. PLATE STEEL PIPE ARCH																							
BIT. COAT. CORR. STEEL PIPE ARCH																							
BIT. COAT. CORR. STEEL PIPE ARCH WITH PAVED INVERT																							
REINF. ELLIPTICAL CONCRETE																							

(*) SPAN AND RISE WHEN OTHER THAN GROUP "G" OR GROUP "H" IS SPECIFIED.

PIPE GROUP "K" FOR UNDERDRAINS	6"	918	LN. FT.
PIPE FULLY BIT. COATED NON PERFORATED CORR. STEEL (GAGE 16)	6"	3,236	LN. FT.
AGGREGATE FOR UNDERDRAINS		188	CYS

AUTO DRAINAGE GATES		
SIZE	HEAD	EACH
CASTINGS ADJUSTED TO GRADE		REINFORCED CONCRETE SPRING BOXES
EACH		EACH

ITEM	UNIT	QUANTITY
CONCRETE CLASS "A" IN STRUCTURES	CYS	7.5
REINFORCING STEEL FOR STRUCTURES	LB	
CONCRETE CLASS "A" IN STRUCTURES	CYS	
CONCRETE CLASS "A" FOR INTEGRAL CURB WALK	CYS	

CASTINGS FURNISHED AND ADJUSTED TO GRADE		
TYPE	"	EACH
TYPE	"	EACH

INLETS				CATCH BASINS	
TYPE	EACH	TYPE	EACH	TYPE	EACH
P-12A	2				

INLETS USING CASTING IN PLACE		CATCH BASINS USING CASTING IN PLACE	
TYPE	EACH	TYPE	EACH

MANHOLES		PIPE CATCH BASINS		RECONSTRUCTED	
TYPE	EACH	SIZE	EACH		LN. FT.
				MANHOLE	
				CATCH BASIN	
				INLET	

PIPE END SECTION			
SIZE	EACH	SIZE	EACH
12"	2	18"x11"	
15"		22"x33"	
18"		24"x16"	
24"		36"x18"	
30"		36"x22"	
36"		48"x27"	

Rev. 2-16-70 Quantities, Change in Proj. Limits
 Rev. 2-4-70 12" Pipe & End Sec., P-12A Inlet; Add 24" Pipe, Class "A" in Str.

END S