

CONTRACT No. B-8835

INDEX					
PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION
I-UT-465-4(176)149	I-465-149-2221A I-465-149-3602A I-465-150-2220A	DECK RECONSTRUCTION AND OVERLAY	3 SPANS 3 SPANS 3 SPANS	REYNOLDS CREEK BIG EAGLE CREEK B. & O. R.R.	
SHEET NO.	SHEET DESIGNATION	SUBJECT	C.I.W.A. APPROVAL		
1	INDEX & TITLE SHEET				
2	TRAFFIC MAINTENANCE DETAILS				
3	TRAFFIC MAINTENANCE DETAILS				
4	GUARD RAIL DETAILS				
5 D 1	GENERAL PLAN I-465-149-2221A				
6 D 2	GENERAL PLAN I-465-149-3602A				
7 D 3	GENERAL PLAN I-465-149-2220A				
8 D 4	DETAILS				
9 D 5	DETAILS				
10 D 6	TYPE S.R. 4.0 EXPANSION JOINT DETAILS				
11 D 7	DETAILS & SUMMARY				
10A D 6A	TYPE S.R. 4.0 EXPANSION JOINT DETAILS				
11A D 7A	DETAILS				
11B D 7B	DETAILS				

STATE OF INDIANA
INDIANA STATE HIGHWAY COMMISSION

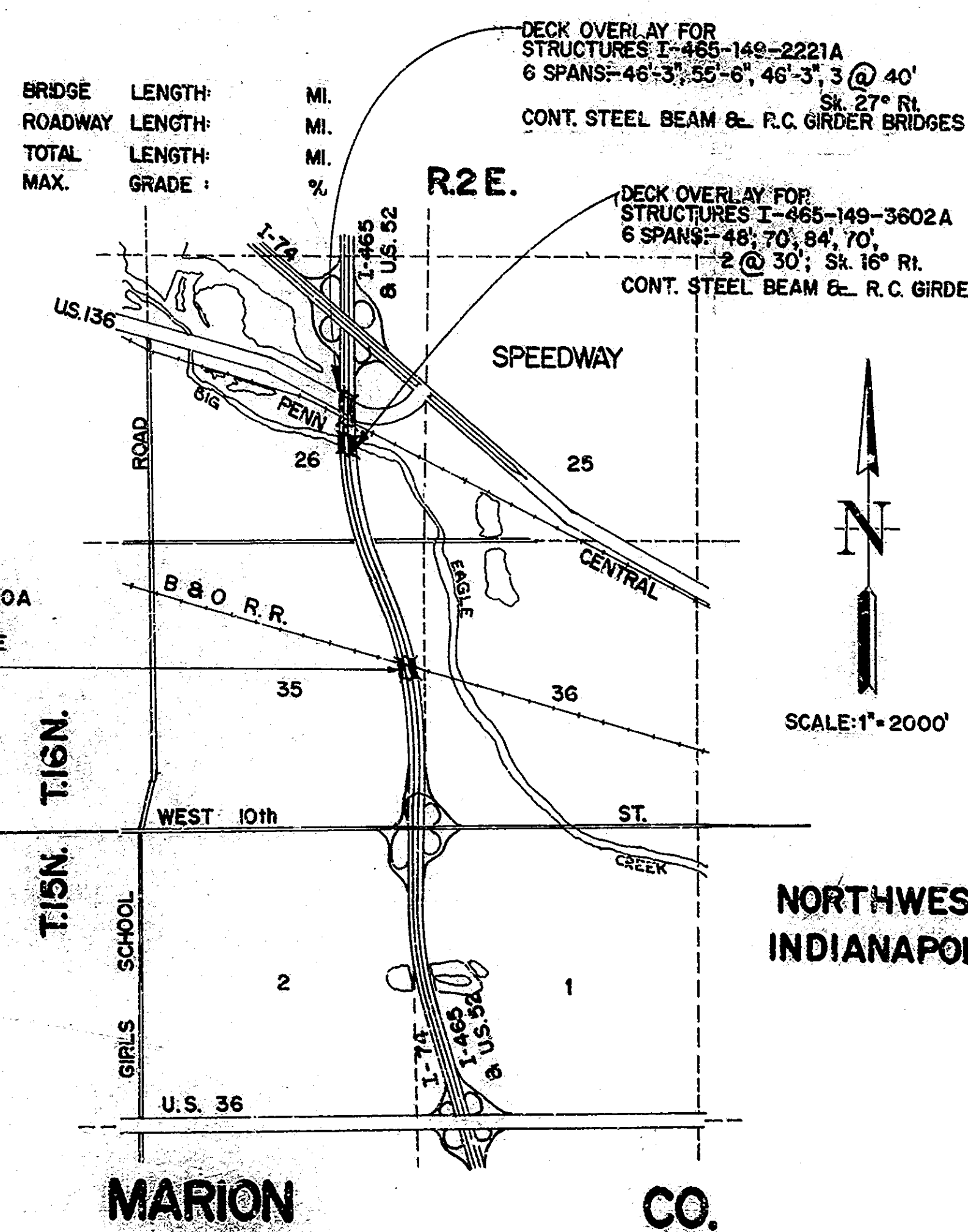
BRIDGE PLANS FOR SPANS OVER 20 FEET ON STATE ROAD NO. I-465 PROJECT NO. I-UT-465-4

(176) P.E.
(176) CONST.

BRIDGES OVER 20' SPAN					
FEDERAL ROAD DIST.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	IND.	I-465-4(176)149	1974	1	27

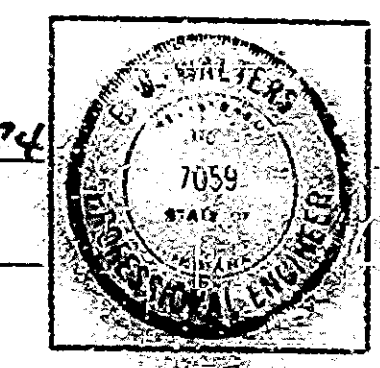
INDEX CONTINUED STANDARD DRAWINGS					
SHEET NO.	SHEET DESIGNATION	SUBJECT	DATE	REVISION	BY
12	BRIDGE STD. BR1	ALUMINUM BRIDGE RAILING	10-11-73	R-8-1-73	
13	BRIDGE STD. BR2	ALUMINUM BRIDGE RAILING DETAILS	10-11-73	R-8-1-73	
14	BRIDGE STD. BR3	STEEL BRIDGE RAILING			
15	BRIDGE STD. BR4	STEEL BRIDGE RAILING DETAILS			
16	BRIDGE STD. C1	MISCELLANEOUS DETAILS			
17	BRIDGE STD. C2	MISCELLANEOUS DETAILS			
18	BRIDGE STD. C3	MISCELLANEOUS DETAILS			
19	BRIDGE STD. D	CASTING DETAILS ROADWAY DRAINS			
20	BRIDGE STD. PB	PRESTRESSED CONCRETE TYPE I-BEAMS			
21	BRIDGE STD. PB	PRESTRESSED CONCRETE TYPE I-BEAMS			
22	BRIDGE STD. PB	PRESTRESSED BOX BEAMS			
23	BRIDGE STD. PB	PRESTRESSED COMPOSITE BOX BEAMS WIDE			
24	BRIDGE STD. PB	PRESTRESSED COMPOSITE BOX BEAMS WIDE			
25	BRIDGE STD. PB10	TOLERANCES FOR FABRICATION OF PRESTRESSED BEAMS			
26	BRIDGE STD. PB11	ELASTOMERIC BEARING PAD DETAILS			
27	BRIDGE STD.				
28	BRIDGE STD. R2A	BRIDGE LIGHTING DETAILS			
29	BRIDGE STD. S1	MISCELLANEOUS DETAILS			
30	BRIDGE STD. SH1	STEEL SHOE DETAILS			
31	BRIDGE STD. T SHEET A	STANDARD TEMPORARY BRIDGE			
32	BRIDGE STD. T SHEET B	STANDARD TEMPORARY BRIDGE			
33	BRIDGE STD.				
34	ROAD STD. SHEET ACRC	STANDARD CONT. REINF. CONC. PAVEMENT			
35	ROAD STD. SHEET BCR	STANDARD CONT. REINF. CONC. PAVEMENT			
36	ROAD STD. SHEET CCR	STANDARD CONT. REINF. CONC. PAVEMENT			
37	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS			
38	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS			
39	ROAD STD. SHEET MB	MISCELLANEOUS STANDARDS			
40	ROAD STD. SHEET MC	MISCELLANEOUS STANDARDS	6-14-74	R-1-2-74	
41	ROAD STD. SHEET MD	MISCELLANEOUS STANDARDS			
42	ROAD STD. SHEET ME	MISCELLANEOUS STANDARDS			
43	ROAD STD. SHEET MF	MISCELLANEOUS STANDARDS			
44	ROAD STD. SHEET MG	MISCELLANEOUS STANDARDS			
45	ROAD STD. SHEET MH	MISCELLANEOUS STANDARDS			
46	ROAD STD. SHEET MI	MISCELLANEOUS STANDARDS			
47	ROAD STD. SHEET MJ	MISCELLANEOUS STANDARDS			
48	ROAD STD. SHEET MK	MISCELLANEOUS STANDARDS			
49	ROAD STD. SHEET ML	MISCELLANEOUS STANDARDS			
50	ROAD STD. SHEET MM	MISCELLANEOUS STANDARDS			
51	ROAD STD. SHEET MN	MISCELLANEOUS STANDARDS			
52	ROAD STD. SHEET MO	MISCELLANEOUS STANDARDS			
53	ROAD STD. SHEET MP	MISCELLANEOUS STANDARDS			
54	ROAD STD. SHEET MQ	MISCELLANEOUS STANDARDS			
55	ROAD STD. SHEET MR	MISCELLANEOUS STANDARDS			
56	ROAD STD. SHEET MS	MISCELLANEOUS STANDARDS			
57	ROAD STD.	STANDARD REINF. CONC. BOX CULVERTS			
58	ROAD STD.	STANDARD REINF. CONC. CULVERTS			
59	ROAD STD. SHEET GR2	GUARD RAIL	7-19-74	A-2-1-74	
60	ROAD STD. SHEET GR3	GUARD RAIL CLASS			
61	ROAD STD. SHEET GR4	GUARD RAIL CLASS GA OR GST	7-30-74	A-2-1-74	
62	ROAD STD. SHEET GR5	ALUMINUM GUARD RAIL DETAILS	8-2-74	R-2-1-74	
63	ROAD STD. SHEET GR6	STEEL TUBE GUARD RAIL DETAILS	8-1-74	R-2-1-74	
64	ROAD STD. SHEET GR7	GUARD RAIL CONNECTION DETAILS	7-12-74	R-2-1-74	
65	ROAD STD. SHEET GR10	GUARD RAIL BURED ENDS			
66	ROAD STD. SHEET 2A DETOURS	STANDARD DETOUR SIGNS			
67	ROAD STD. SHEET 2B DETOURS	STANDARD DETOUR SIGNS			
68	ROAD STD. SHEET 2C DETOURS	STANDARD DETOUR SIGNS			
69	ROAD STD. SHEET 2D DETOURS	STANDARD DETOUR SIGNS			
70	ROAD STD. SHEET 2E DETOURS	STANDARD DETOUR SIGNS			
71	ROAD STD. SHEET 2F DETOURS	STANDARD DETOUR SIGNS			
72	ROAD STD. SHEET 2G DETOURS	STANDARD DETOUR SIGNS			
73	ROAD STD. SHEET 2H DETOURS	STANDARD DETOUR SIGNS			
74	ROAD STD. SHEET 2I DETOURS	STANDARD DETOUR SIGNS			
75	ROAD STD. SHEET 2J DETOURS	STANDARD DETOUR SIGNS			
76	ROAD STD. SHEET 2K DETOURS	STANDARD DETOUR SIGNS			
77	ROAD STD. SHEET 2L DETOURS	STANDARD DETOUR SIGNS			
78	ROAD STD. SHEET 2M DETOURS	STANDARD DETOUR SIGNS			
79	ROAD STD. SHEET 2N DETOURS	STANDARD DETOUR SIGNS			
80	ROAD STD. SHEET 2O DETOURS	STANDARD DETOUR SIGNS			
81	ROAD STD. SHEET 2P DETOURS	STANDARD DETOUR SIGNS			
82	ROAD STD. SHEET 2Q DETOURS	STANDARD DETOUR SIGNS			
83	ROAD STD. SHEET 2R DETOURS	STANDARD DETOUR SIGNS			
84	ROAD STD. SHEET 2S DETOURS	STANDARD DETOUR SIGNS			
85	ROAD STD. SHEET 2T DETOURS	STANDARD DETOUR SIGNS			
86	ROAD STD. SHEET 2U DETOURS	STANDARD DETOUR SIGNS			
87	ROAD STD. SHEET 2V DETOURS	STANDARD DETOUR SIGNS			
88	ROAD STD. SHEET 2W DETOURS	STANDARD DETOUR SIGNS			
89	ROAD STD. SHEET 2X DETOURS	STANDARD DETOUR SIGNS			
90	ROAD STD. SHEET 2Y DETOURS	STANDARD DETOUR SIGNS			
91	ROAD STD. SHEET 2Z DETOURS	STANDARD DETOUR SIGNS			

DECK OVERLAY FOR PRESENT STRUCTURE LOCATED IN MARION CO. OVER THE B & O R.R. IN SEC. 35-T.16N.-R.2E.



TRAFFIC DATA	
A.D.T. (1970)	70600 V.P.D.
A.D.T. (1990 PROJECTED)	108790 V.P.D.
D.H.V. (19 PROJECTED)	V.P.D.
TRUCKS	DHV. 7 % ADI. 16 %
DESIGN SPEED	70 M.P.H.
ACCESS CONTROL	NONE

APPROVED 7-30-74
R.K. Hallmark
CHIEF HIGHWAY ENGINEER—INDIANA STATE HIGHWAY COMMISSION



FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION
APPROVED: _____
DIVISION ENGINEER _____ DATE _____

INDIANA STATE HIGHWAY COMMISSION
STANDARD SPECIFICATIONS DATED 1974
TO BE USED WITH THESE PLANS.

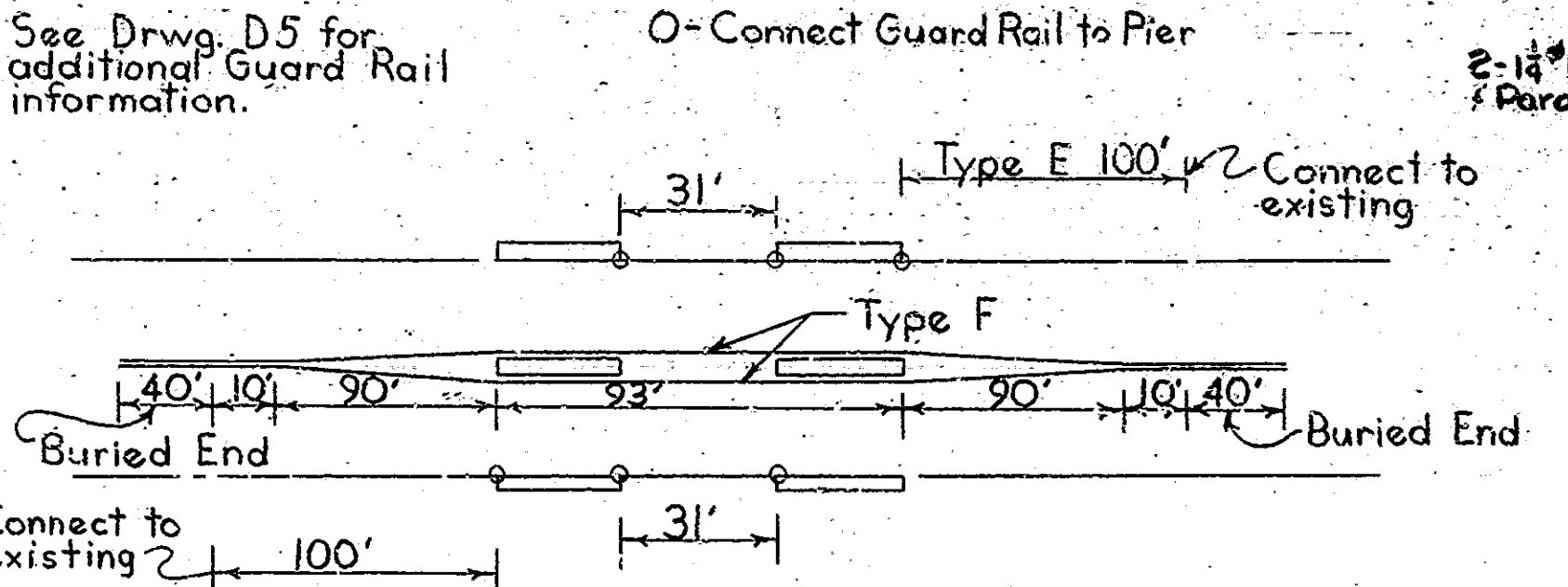
REVISIONS	
DATE	SHEET NO.
6-7-74	3, 6, 7 & 11
12-17-74	3, 4, 5, 6, 7, 8, 11 & 26; SHEET 17 DELETED; SHEETS 10A, 11A, 11B ADDED
1-20-75	3, 7 & 11; SHEET 27A ADDED
2-18-75	5, 11 & 24; SHEET 24A & 24B ADDED

RECOMMENDED FOR APPROVAL 7-23-74
F.W. Walker
CHIEF OF BRIDGE DESIGN, INDIANA STATE HIGHWAY COMMISSION

BRIDGE FILE: I-465-149-2221A
I-465-149-3602A
I-465-150-2220A

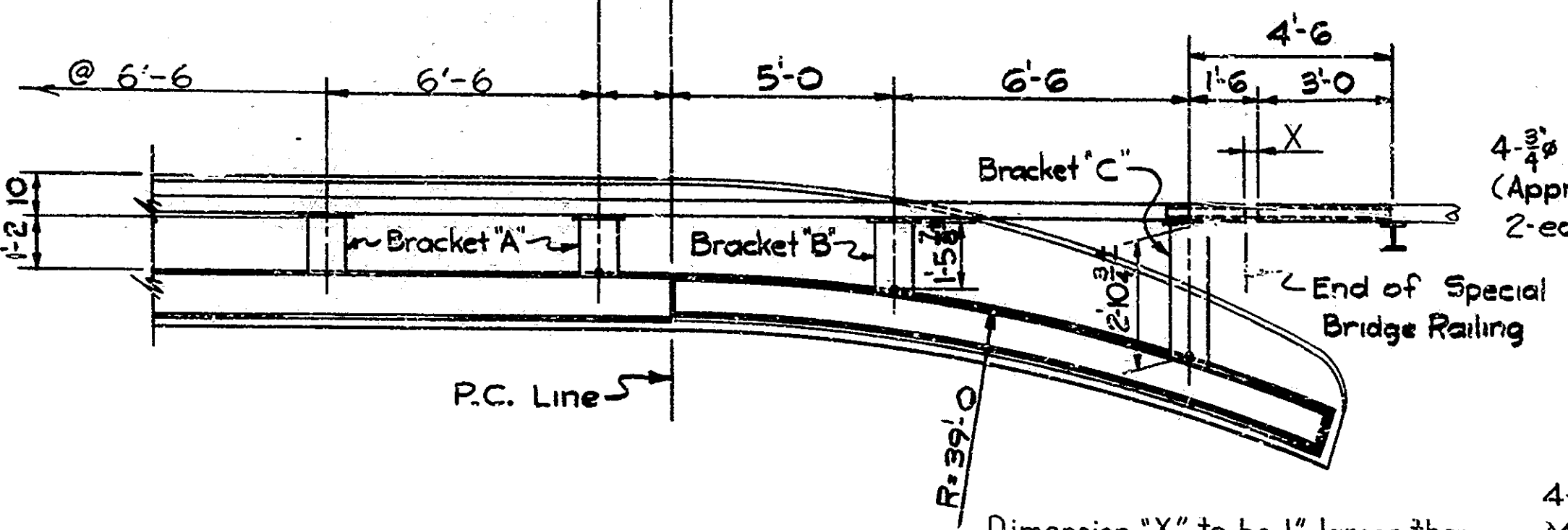
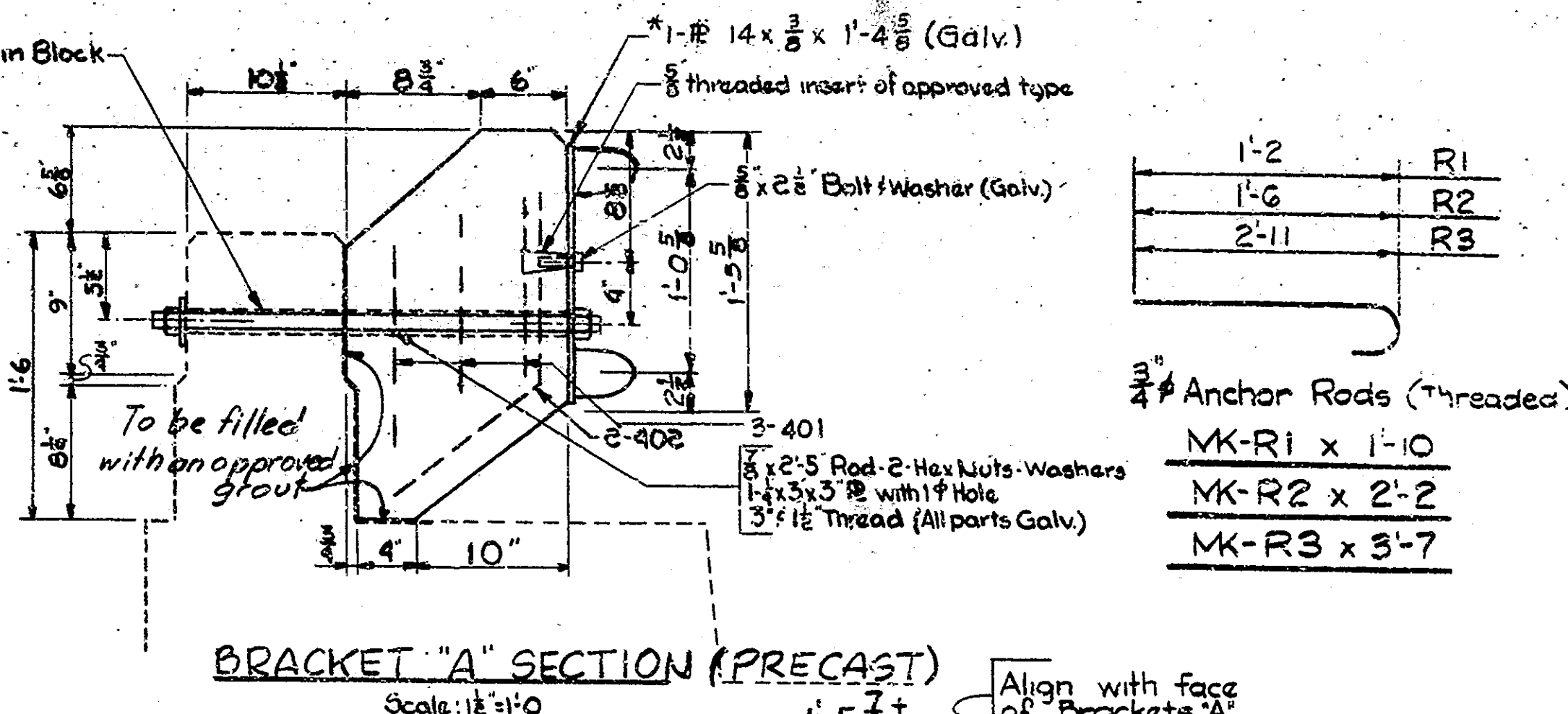


2221 Lt. Side N.B.L. and S.B.L.	1'-3 1/2"
2221 Rt. Side N.B.L. and S.B.L.	1'-0 3/4"
3602 Lt. Side N.B.L. and S.B.L.	0'-11 1/2"
3602 Rt. Side N.B.L. and S.B.L.	1'-1 3/4"
2220 Lt. and Rt. Side N.B.L. and S.B.L.	1'-1 1/2"

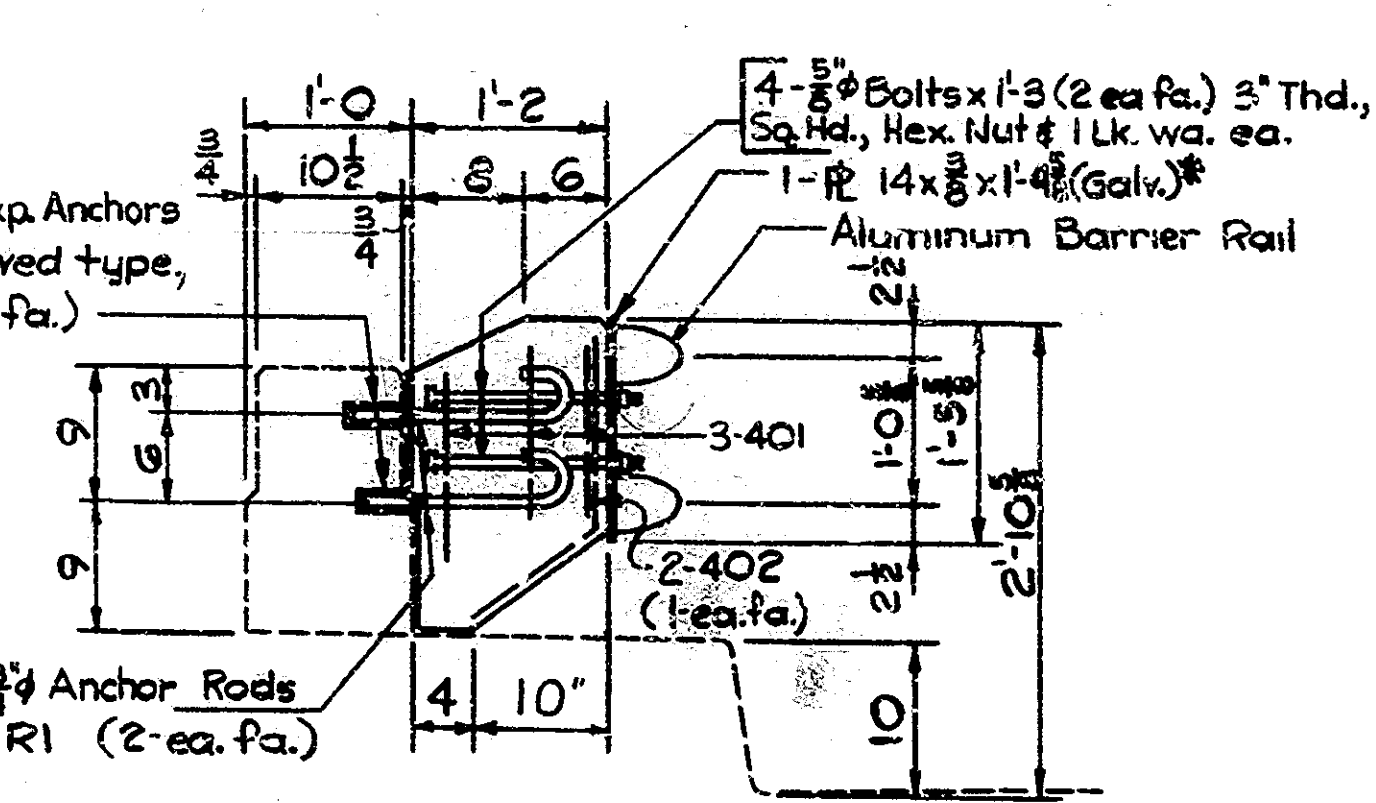


Railing Update on US Rt. 136
 Guard Rail Type E = 2(13) = 262 Lin. ft.
 Guard Rail Type F = 2(375) = 746 Lin. ft.
 Remove 372 Lin. ft. Existing Guard Rail (Including 110 Lin. ft. Double Faced).

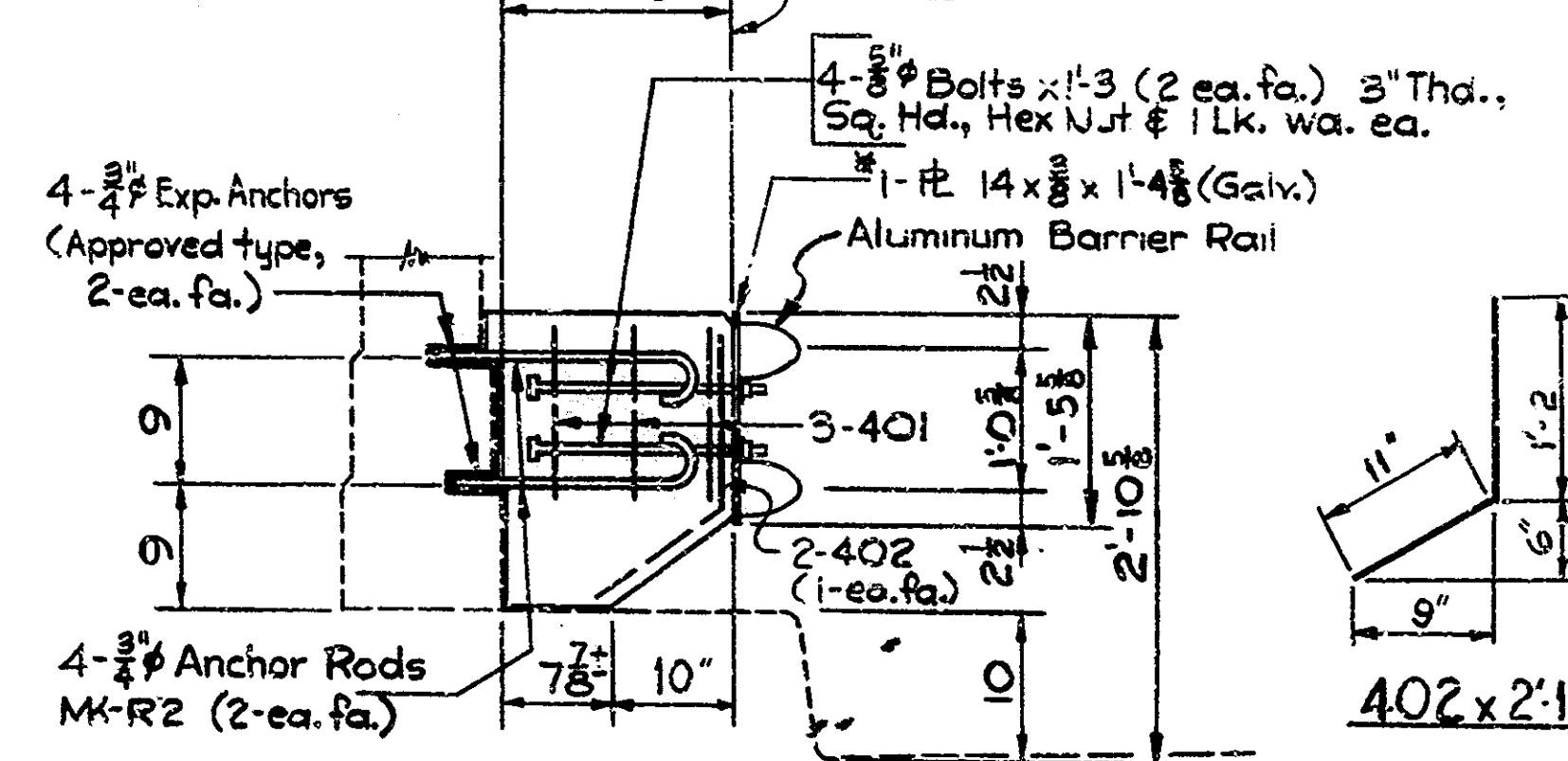
GUARD RAIL REVISION ON USR 136 (2221A)
 Scale: None



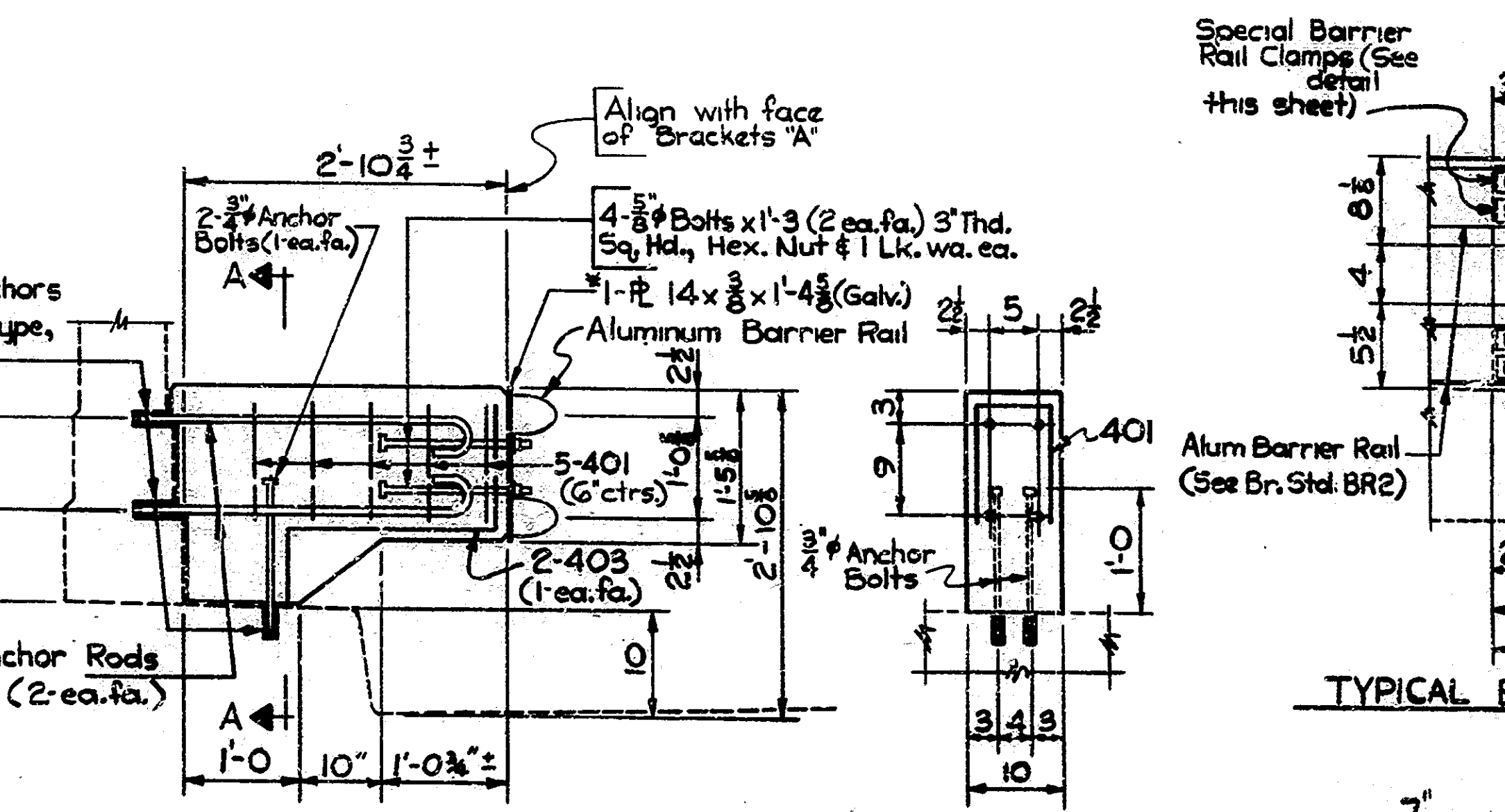
GUARD RAIL PLAN @ WING
 Scale: 3/8" = 1'-0"



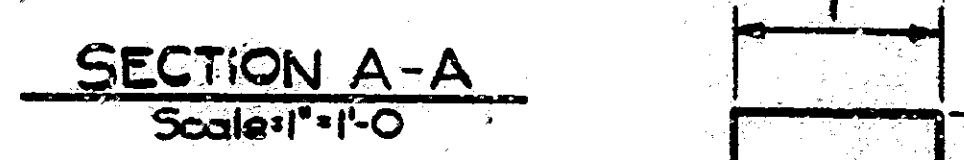
BRACKET 'A' SECTION (CAST IN PLACE)
 Scale: 1" = 1'-0"



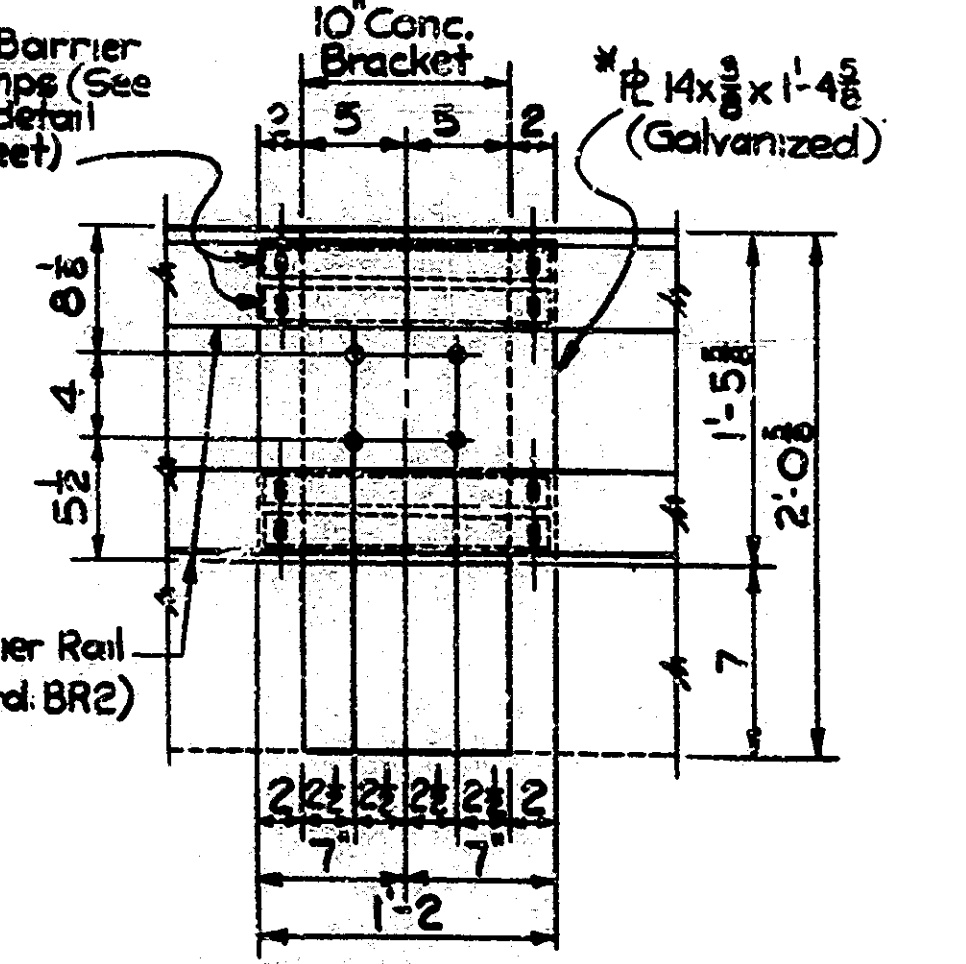
BRACKET 'B' SECTION (CAST IN PLACE)
 Scale: 1" = 1'-0"



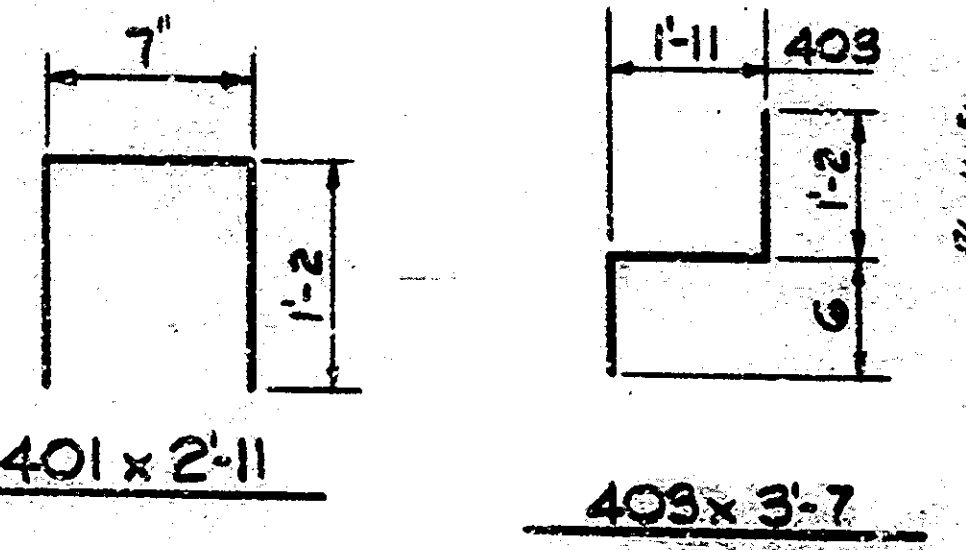
BRACKET 'C' SECTION (CAST IN PLACE)
 Scale: 1" = 1'-0"



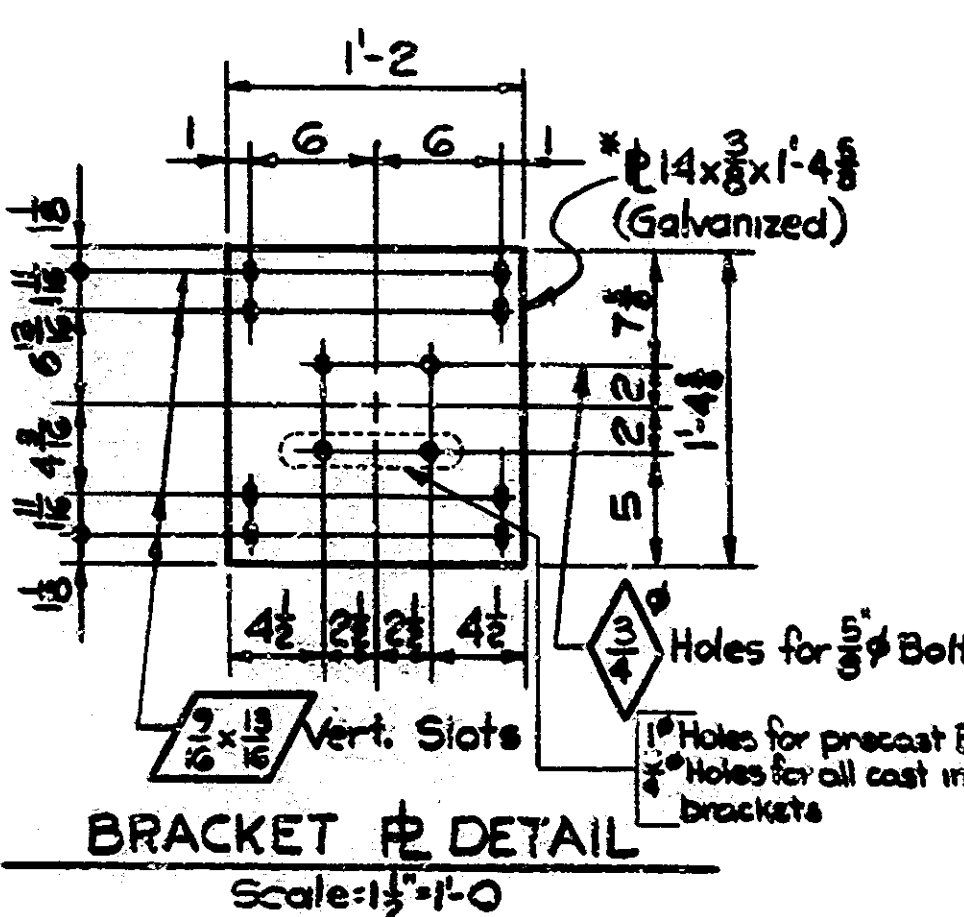
SECTION A-A
 Scale: 1" = 1'-0"



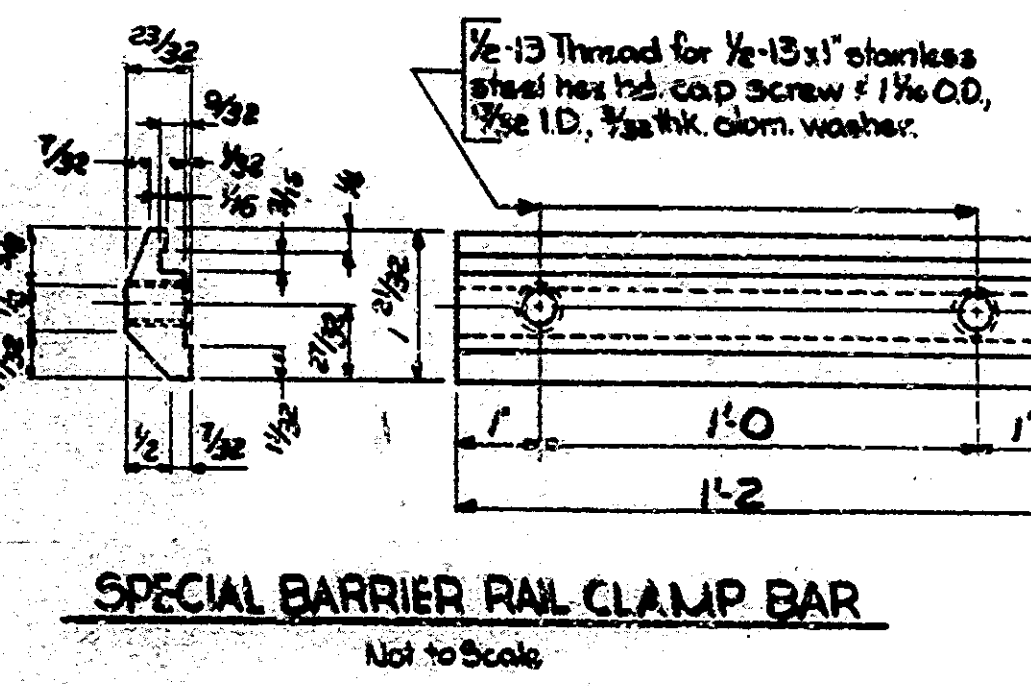
TYPICAL BRACKET ELEVATION
 Scale: 1/2" = 1'-0"



401 x 2'-11"
403 x 3'-7"



BRACKET 'B' DETAIL
 Scale: 1/2" = 1'-0"



SPECIAL BARRIER RAIL CLAMP BAR
 Not to Scale

NOTES

3/4" Expansion Anchors shall be of a type approved by the Engineer. They shall be a minimum of 3 inches in length and capable of a pull-out test of 10,000 pounds.

Concrete in Brackets to be Class 'A'.

Chamfer exposed concrete edges 3/8" inch.

See Br. Stds. BR1 & BR2 for Guard Rail notes and details.

Alternate Pre-cast Brackets may be used. If the Pre-cast Bracket is used, details of the proposed Bracket shall be submitted to the Engineer for approval.

*As an alternate, an aluminum plate may be used. If used, it shall be a minimum 6061-T6 conforming to ASTM B-209. Plates shall be free of sharp edges and irregularities.

Standard drawings reqd.: BR1, BR2, C1.

PAY ITEMS

REMOVAL OF PRESENT RAILING = 2999 Lin. Ft.
 BARRIER RAILING, TYPE "X" = 3356 Lin. Ft.

GUARD RAIL DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE: As Noted DATE: MARCH 1, 1974
 RECOMMENDED FOR APPROVAL: [Signature]
 DRAWING: OF SHEETS: 4 OF 27
 PROJECT: I-U-465-4(176)149
 CONTRACT NO. B-8835
 BRIDGE FILE: I-465-149-2221A, I-465-149-3602A, I-465-149-2220A

DESIGNED: RDS:3/17/74:WV:WE6:17-74
 DRAWN: R.D.H.:ckd.:N.B.S.
 TRACED: CKD

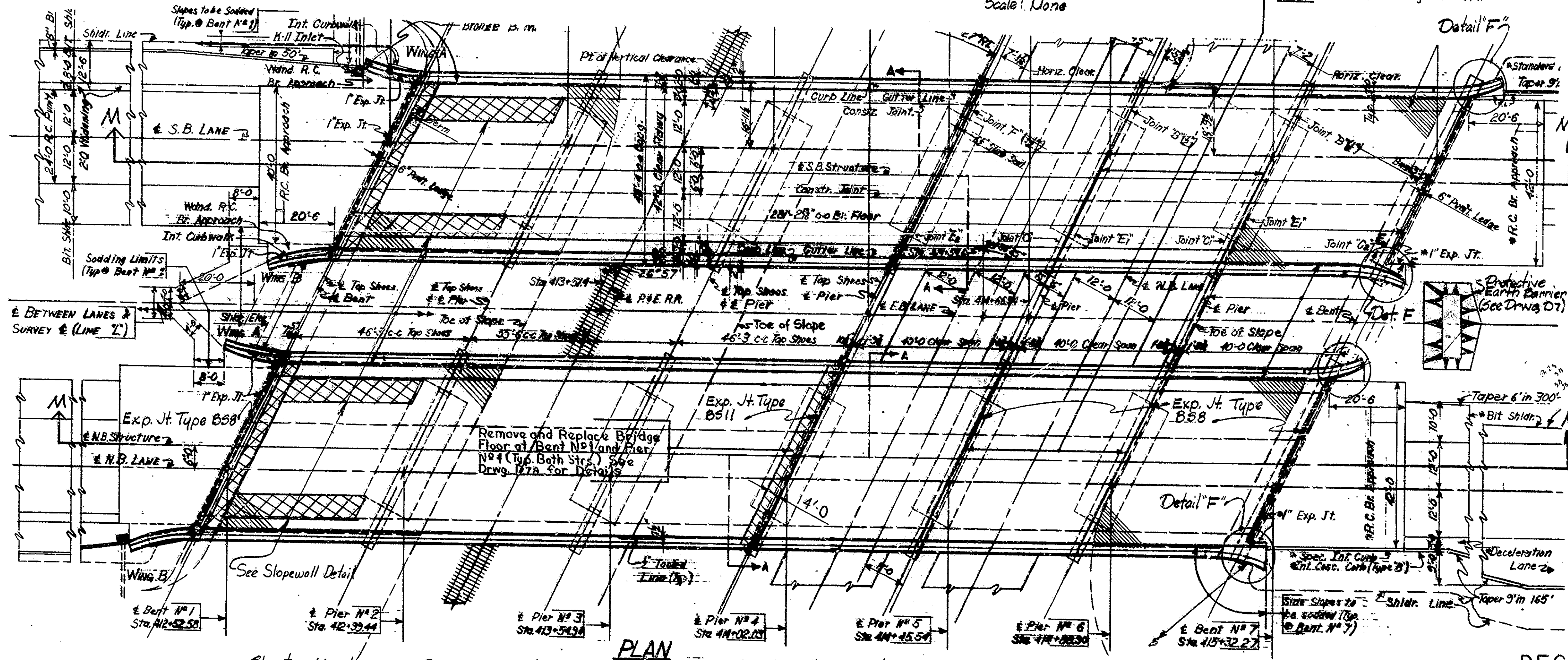
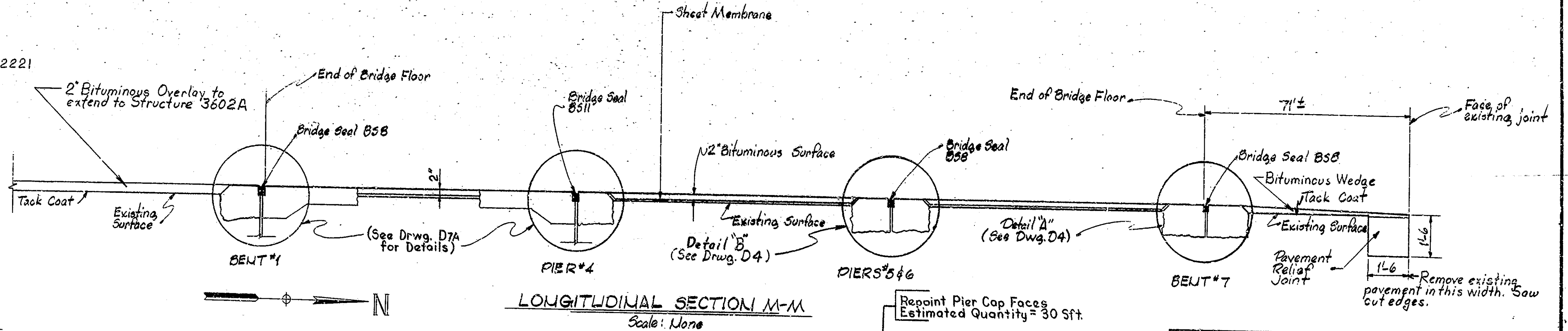
Rev. 12-17-74 Bracket Dimensions, 402 Bars



Plans for this structure are on file in the Central Office as Bridge File I-465-149-2221 and are available on request.

Where new work is to be fitted to old work the contractor shall check all dimensions and conditions in the field and report any errors or discrepancies to the Engineer and assume responsibility for their correctness and the fit of the new part to the old.

The hand chipping and cleaning of deteriorated deck areas shall be as directed by this Engineer. It is the intent of these plans that all such deteriorated concrete be removed and should there be any doubt as to the quality of the concrete the removal shall continue until **PERFECTLY SOUND** concrete is exposed.



STANDARD DRAWINGS		
Rd. Std.	Br. Std.	Purpose
	BR1	Aluminum Bridge Railing
	BR2	Aluminum Bridge Railing
	C1	Bar Bending Details
MB2		Sloped Wall Details
GR2		Guard Rail Class E _s & F _s
GR3		Guard Rail Class E _a , E _s , F _a , & F _s
GR4		Earth Barrier Details & Guard Rail Class G _a
GR5		Aluminum Guard Rail Details
GR6		Steel Tube Guard Rail Details
GR7		Pier Connection Details
GR10		Buried Ends
Det. Sh. #1		Detour Signs
Det. Sh. #2		Detour Signs
Det. Sh. #3		Signs
Det. Sh. #4		Signs
Det. Sh. #A		Wiring Details for Temporary Lights
Det. Sh. #B		Standard Barricades
Det. Sh. #C		Detour Signs

Note: Earth Barrier to be built upward from existing Ditch Grade. No inlet pipe on excavation req'd.

ESTIMATE OF MUDJACKING QUANTITIES					
STR.	BENT No	NB. LANE		SB. LANE	
		Mudjacking Material	Cored Holes	Mudjacking Material	Cored Holes
3602A/2221A	1	2.0 Cys.	6	3.0 Cys.	6
	7	2.0 Cys.	6	2.0 Cys.	6
	1	2.0 Cys.	6	1.5 Cys.	6
	7	2.0 Cys.	6	1.5 Cys.	6

Note: R.C. Br. Approach Slabs to be mudjacked. See Sp. Provisions

DECK RECONSTRUCTION & OVERLAY GENERAL PLAN

CONTINUOUS STEEL BEAM & R.C. GIRDER BRIDGES
 6 SPANS - 46'3", 55'6", 46'3", 30'40", 51'27" FT.; 420 Q. ROW
 OVER PENN. CEN. & U.S. RT. #136 ON U.S. INTERSTATE RT.

INDIANA STATE HIGHWAY COMMISSION
 MARION COUNTY

SCALE: 1/8" = 1'-0" unless noted DATE: MARCH 1, 1974

DRAWING: D1 OF 7 SHEET: 5 OF 27
 PROJECT: I-UI-465-4(176)149
 CONTRACT NO. B-8835
 BRIDGE FILE: I-465-149-2221A

DESIGNED: CKD
 DRAWN: D.A.H. CKD
 TRACED: CKD

Rev. 2-18-75. Std. Drawgs.
 SECTION A-A
 Scale: 3/4" = 1'-0"

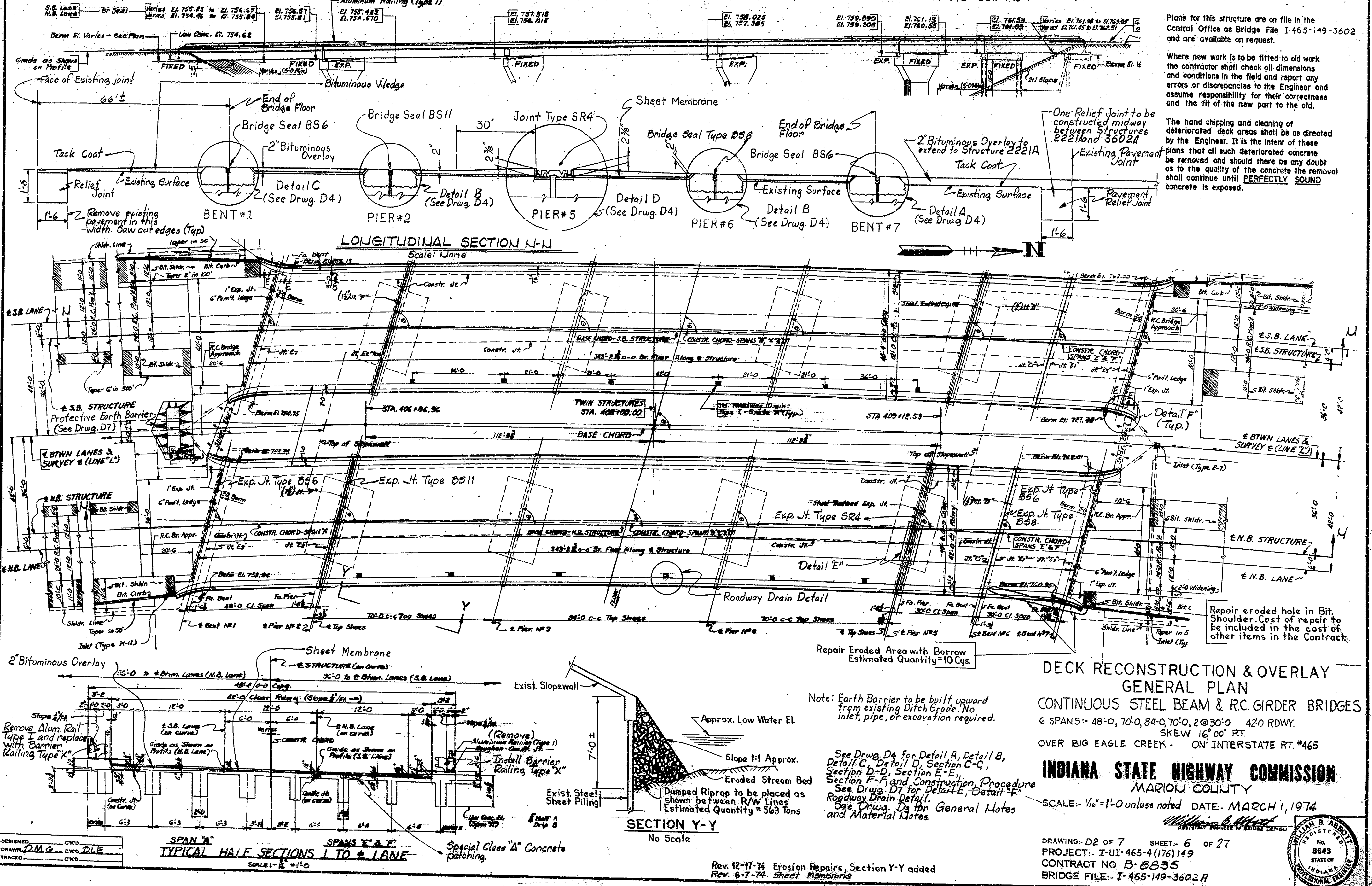
Rev. 1-20-75. Std. Drawgs.
 Rev. 12-17-74. Floor Repair, Sections D-D & C-C deleted, Std. Drawgs.,
 Section M-M, Mudjacking Quantities, Notes, Repointing

Install two end bent drains at the south end of the northbound and southbound lanes. Construct at points of existing erosion or where no erosion, place symmetrically. Remove six feet wide sections (or as required) of the existing sloped wall to expose the eroded slope beneath. Remove loose soil and install drain pipes under the Bent. Backfill with 3" borrow and repair sloped wall in areas where removed. Also extend sloped wall to the edge of Bent as shown. Sawcut edges of removal areas. See Drawg. D₃ for additional details (Installation of drains and backfill to be included in cost of Reshaping Spoil Slopes)

See Drawg. D₄ for Detail A, Detail B, and Section E-E
 See Drawg. D₅ for Sloped Wall Detail.
 See Drawg. D₆ for General Notes and Material Notes
 See Drawg. D₇ for Construction Procedure
 See Drawg. D₈ for Detail F
 See Drawg. D₉ for Superstructure Details at Bent #1 and Pier #4
 Rev. 6-7-74. Sheet Membrane.



NOTE: STRUCTURES TO BE BUILT TO A 1600' VERTICAL CURVE & A 0°48' HORIZONTAL CURVE



Plans for this structure are on file in the Central Office as Bridge File I-465-149-3602 and are available on request.

Where new work is to be fitted to old work the contractor shall check all dimensions and conditions in the field and report any errors or discrepancies to the Engineer and assume responsibility for their correctness and the fit of the new part to the old.

The hand chipping and cleaning of deteriorated deck areas shall be as directed by the Engineer. It is the intent of these plans that all such deteriorated concrete be removed and should there be any doubt as to the quality of the concrete the removal shall continue until PERFECTLY SOUND concrete is exposed.

DECK RECONSTRUCTION & OVERLAY GENERAL PLAN
CONTINUOUS STEEL BEAM & R.C GIRDER BRIDGES
 6 SPANS: 48'-0", 70'-0", 84'-0", 70'-0", 2 @ 30'-0" 42'0" RDWY.
 SKEW 16° 00' RT.
 OVER BIG EAGLE CREEK - ON INTERSTATE RT. #465

INDIANA STATE HIGHWAY COMMISSION
 MARION COUNTY
 SCALE: 1/4" = 1'-0" unless noted DATE: MARCH 1, 1974

Note: Earth Barrier to be built upward from existing Ditch Grade. No inlet, pipe, or excavation required.

See Drawg. D4 for Detail A, Detail B, Detail C, Detail D, Section C-C, Section E-E, Section F-F and Construction Procedure. See Drawg. D7 for Detail E, Detail F, Roadway Drain Detail. See Drawg. D8 for General Notes and Material Notes.

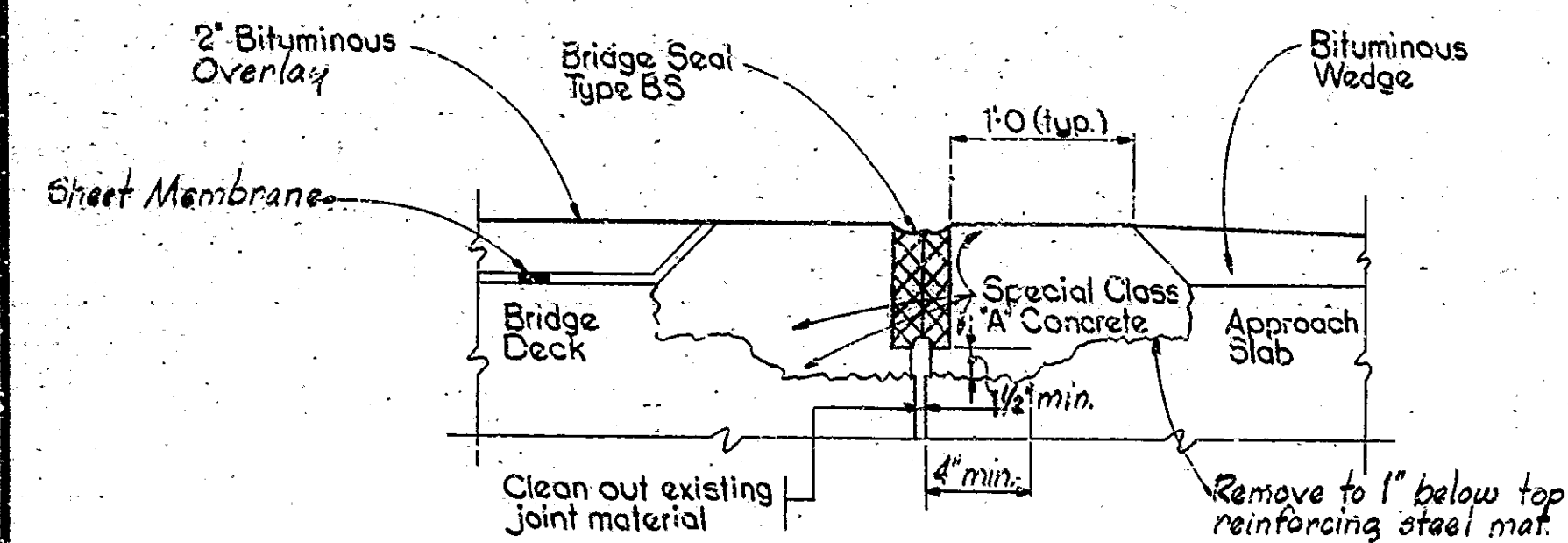
DESIGNED: C.V.D.
 DRAWN: D.M.G. C.V.D. D.L.E.
 TRACED: C.V.D.

SPAN "A" TYPICAL HALF SECTIONS I TO 4 LANE
 SCALE: 1/4" = 1'-0"

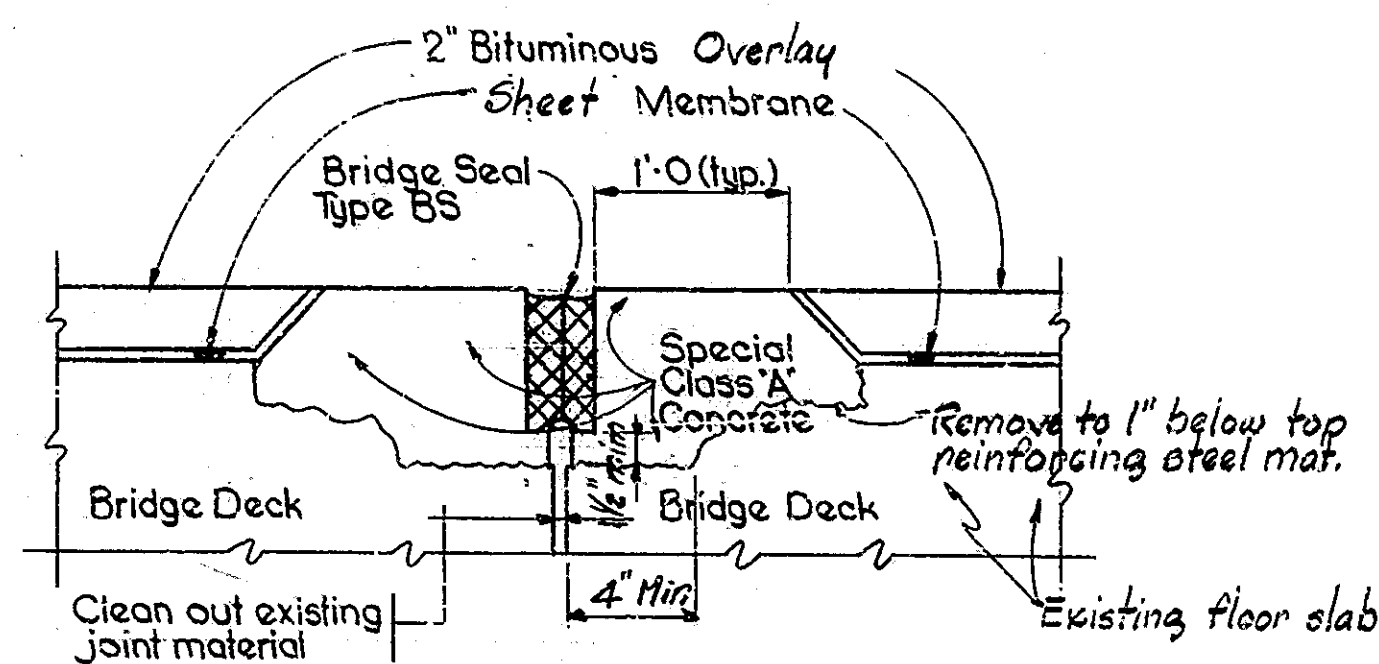
Rev. 12-17-74 Erosion Repairs, Section Y-Y added
 Rev. 6-7-74 Sheet Membranes

DRAWING: D2 OF 7 SHEET: 6 OF 27
 PROJECT: I-UI-465-4(176)149
 CONTRACT NO B-8835
 BRIDGE FILE: I-465-149-3602 A

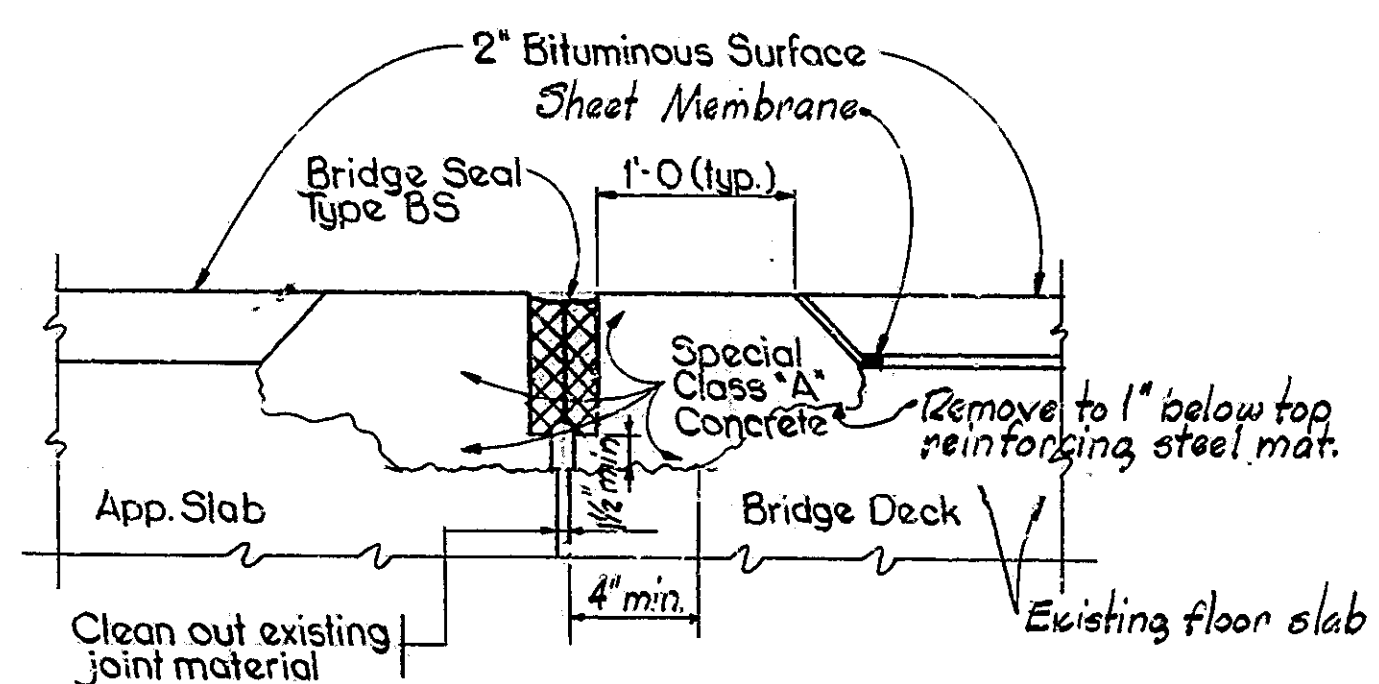




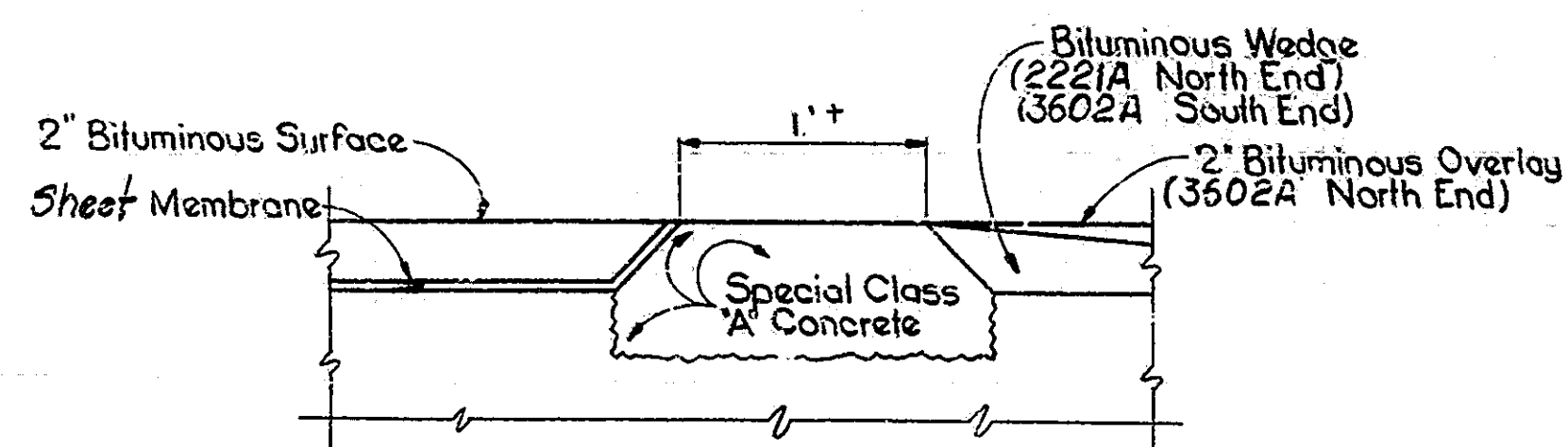
DETAIL A
(See Drwg. D1, D2)



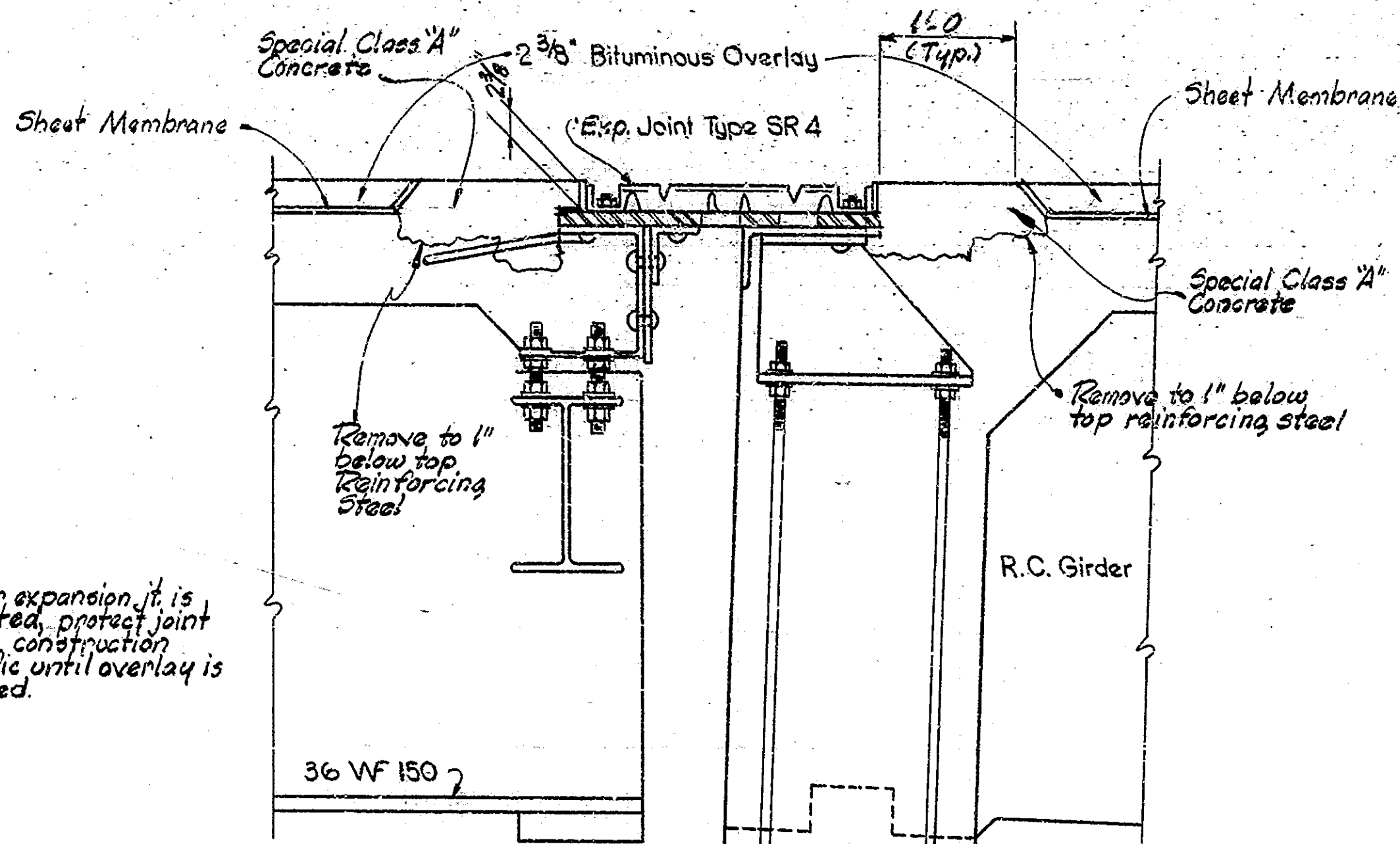
DETAIL B
(See Drwg. D1 and D2)



DETAIL C
(See Drwg. D2)



SECTION E-E
(See Drwg. D1, D2 and D7)



Existing steel expansion joint to be sandblasted and cleaned. Portion of existing joint under new Expansion Joint Type SR4 to be painted prior to joint installation. Cost of sandblasting, cleaning, and painting to be included in cost of Expansion Joint Type SR4.

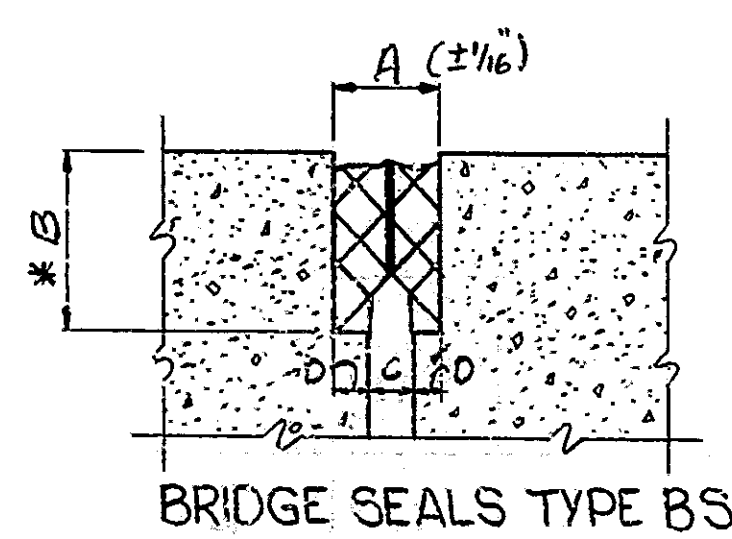
DETAIL D (3602A)
(See Drwg. D2 and D6)

Note: After expansion joint is erected, protect joint from construction traffic until overlay is placed.

CONSTRUCTION PROCEDURE

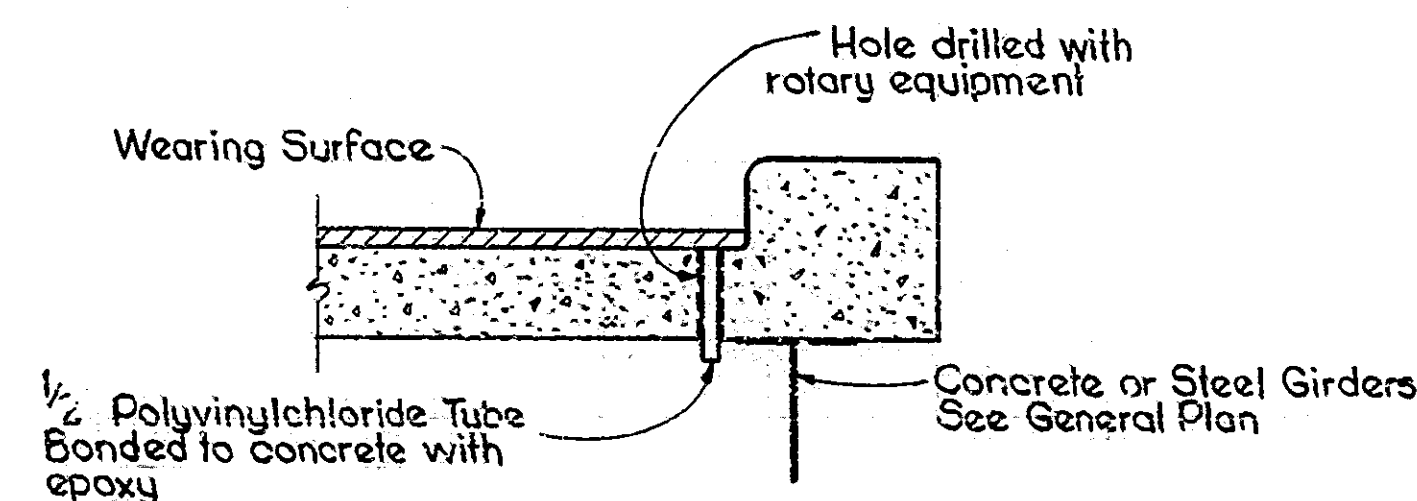
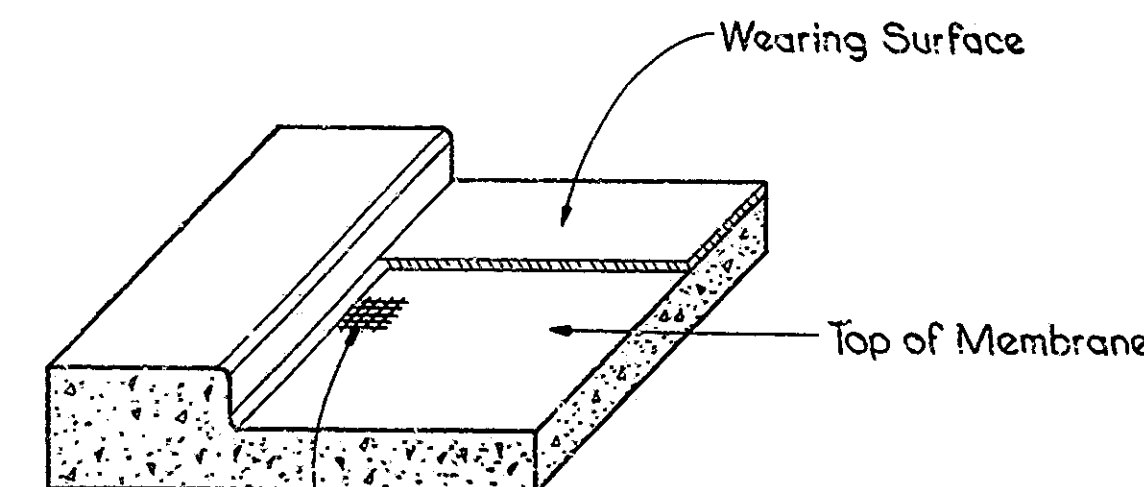
- 1 Construct all bituminous widening. Install temporary barrier railing and other traffic control devices to divert traffic to two lanes of travel in each direction throughout the entire project (Phase I).
- 1A Remove and replace portions of bridge floors as shown on the details (2220A & 2221A).
- 2 Remove all deteriorated concrete from all spalled areas of the bridge floors and around all exposed reinforcing as directed by the Engineer and in accordance with the Special Provisions.
- 3 Place Special Class A Concrete bonded with epoxy in the areas to be patched. Finish smooth to level of adjacent concrete.
- 4 Remove the broken section of Steel Toothed Expansion Joint on the North Bound Structure of 3602 and repair as shown in plans.
- 5 Remove the existing bituminous wedges on the approach slabs of 2220
- 6 Remove the broken section of the approach slab at the North end of the North Bound Structure and the cracked portion of pavement at the South end of the South Bound Structure of 2220 as shown on plans. Restore these sections to original dimensions with bituminous base.
- 7 Reshape spill slopes, install pipes, and construct or repair slopewalls on 2220 and 2221 as shown on the plans.
- 8 Construct Special Class A Concrete dams at locations shown on the plans. Install expansion joints and deck drains.
- 9 Fill all existing voids and irregularities in the bridge floors with a neat cement paste or a mortar of two parts sand to one part cement.
- 10 Apply the sheet membranes to the bridge floors and for a distance of two inches up the face of curbs and place the bituminous overlays.
- 11 Clean and seal the roadway face and tops of curbs, parapet walls, concrete railings, tops of overlay dams, and all surfaces of new concrete brackets. Remove existing metal railing and install new bridge railing.
- 12 Construct pavement relief joints, bituminous wedges, earth barriers, and all other work shown on the plans including the removal and installation of guard rail.
- 13 Reset traffic control devices to divert traffic to Phase II control and repeat steps 1A, through 12. Again reset traffic control devices to Phase III control and repeat steps 1A through 12. When all work is completed open structures to traffic.

NOTE: The numbers do not necessarily indicate the sequence of operations. Pneumatic hammers 30 lbs. maximum weight to be used for removals.



Bridge Seal	A"	B"	C"	D"
BS6	1 3/8	*	7/16	3/8
BS8	2"	*	1 1/4	5/8
BS9	2 3/8	*	1 9/16	1/2
BS11	3 1/8	*	2 1/8	1/2

* To be determined in the field, see the Special Provisions.



DECK DRAIN DETAILS (2220, 2221, 3602)

(Place adjacent to overlay dams and at 20' maximum spacing along gutter lines except that no drains shall be placed closer than 12' perpendicular to E Tracks)

Clean out and rebuild existing curb joints to accommodate joint seal. Such work to be included in cost of Expansion Joint Type BS2, BS6, BS8

For General Notes and Material Notes See Drwg D5

DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE: NONE

DATE: MARCH 1, 1974

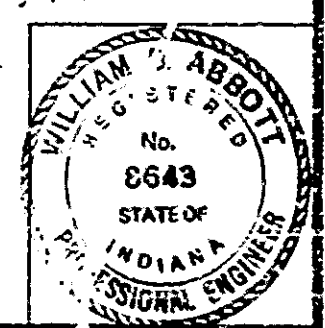
William B. Wood

DRAWING: D4 OF 7 SHEET: 8 OF 27

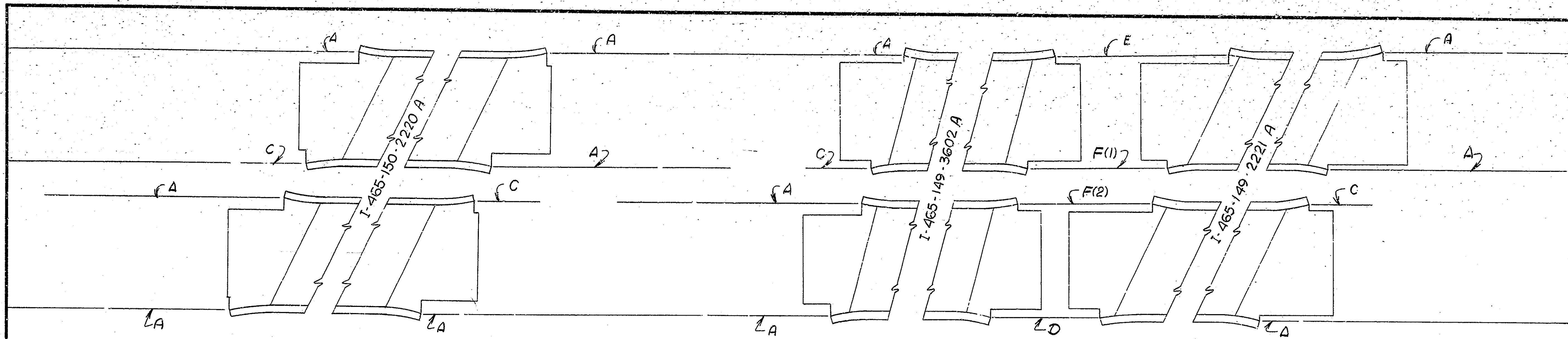
PROJECT: I-41-465-4-(176)149

CONTRACT NO. B-3835

BRIDGE FILE: I-465-149-2221A, I-465-149-3602A, I-465-150-2220A



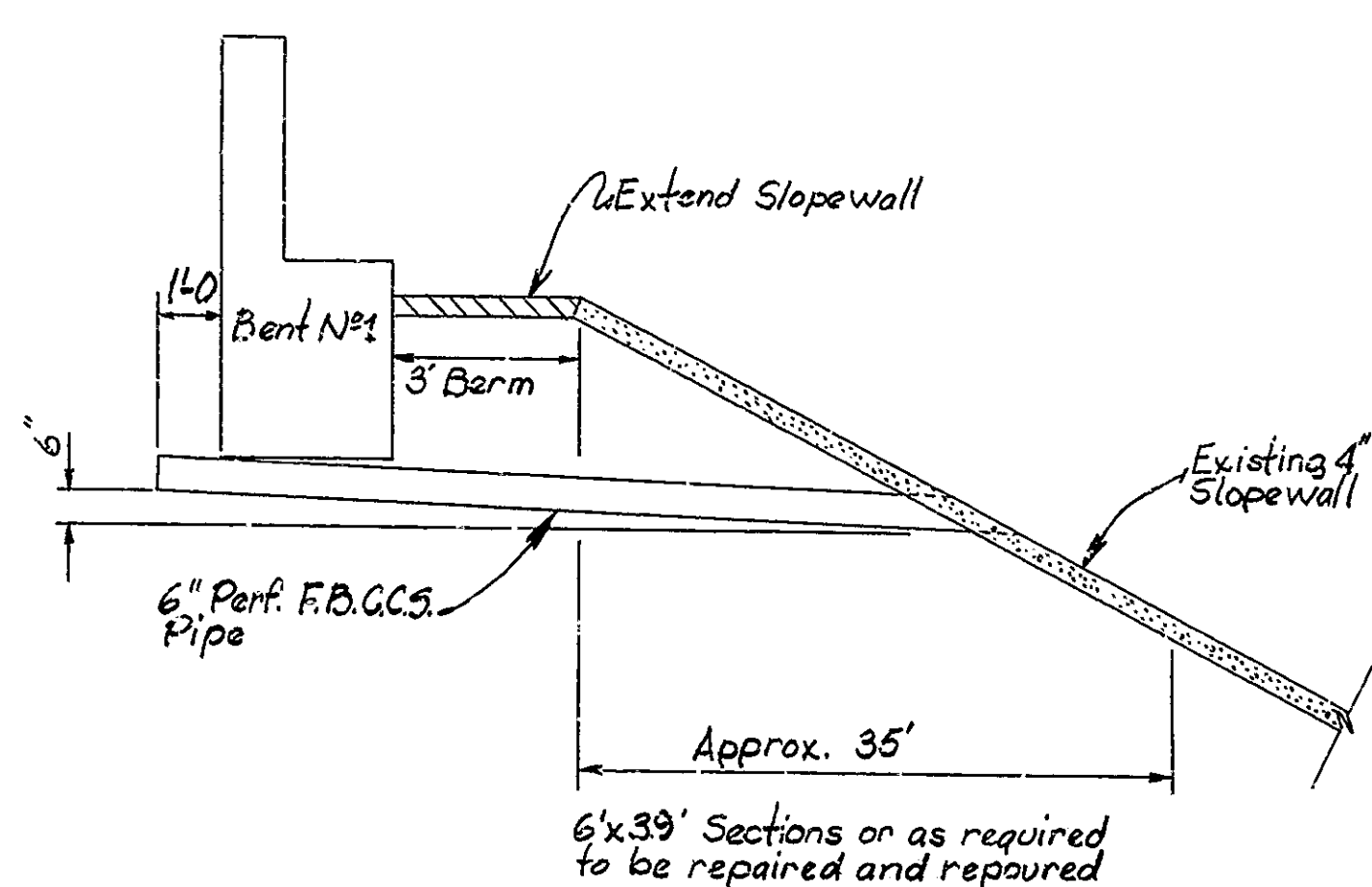
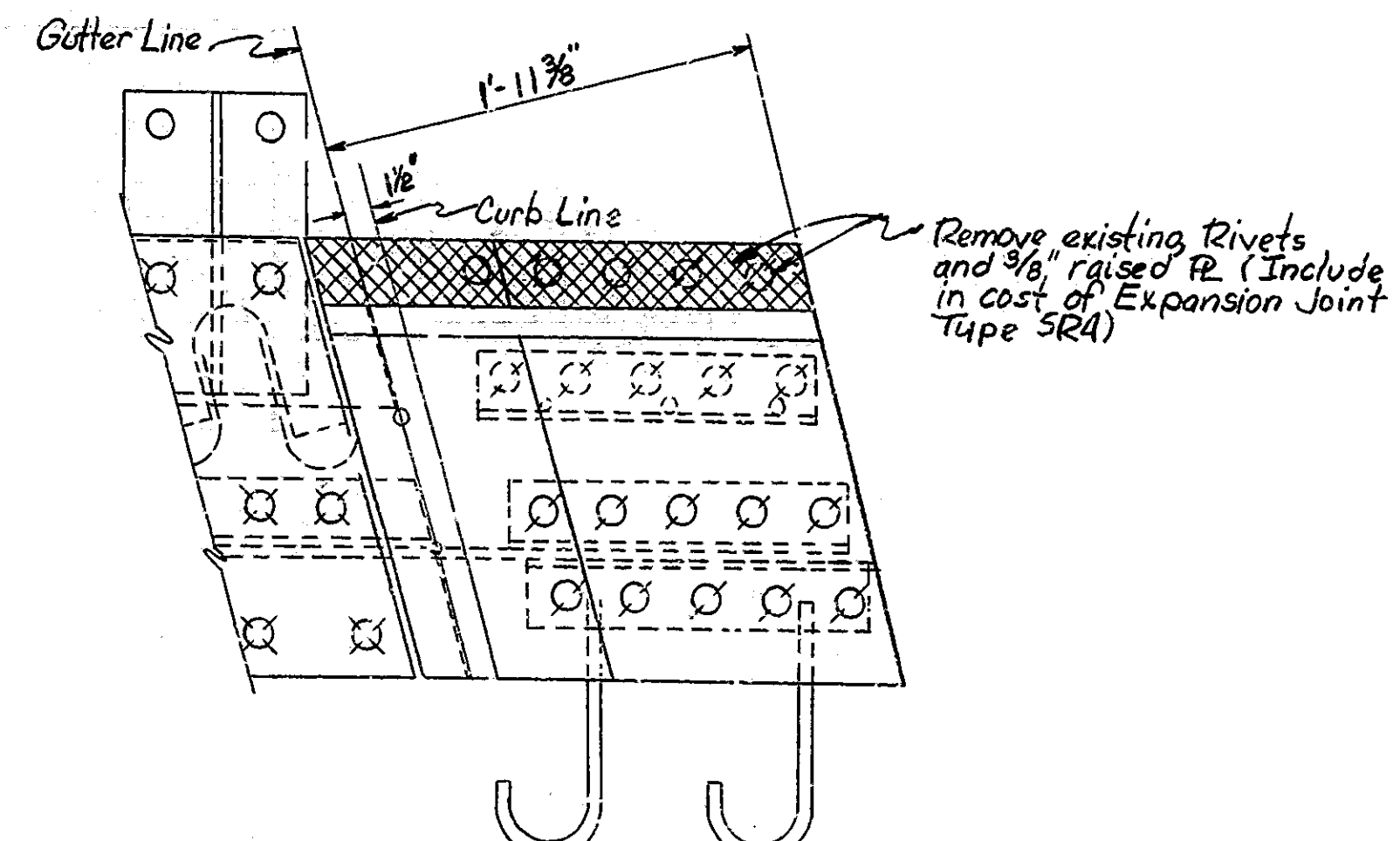
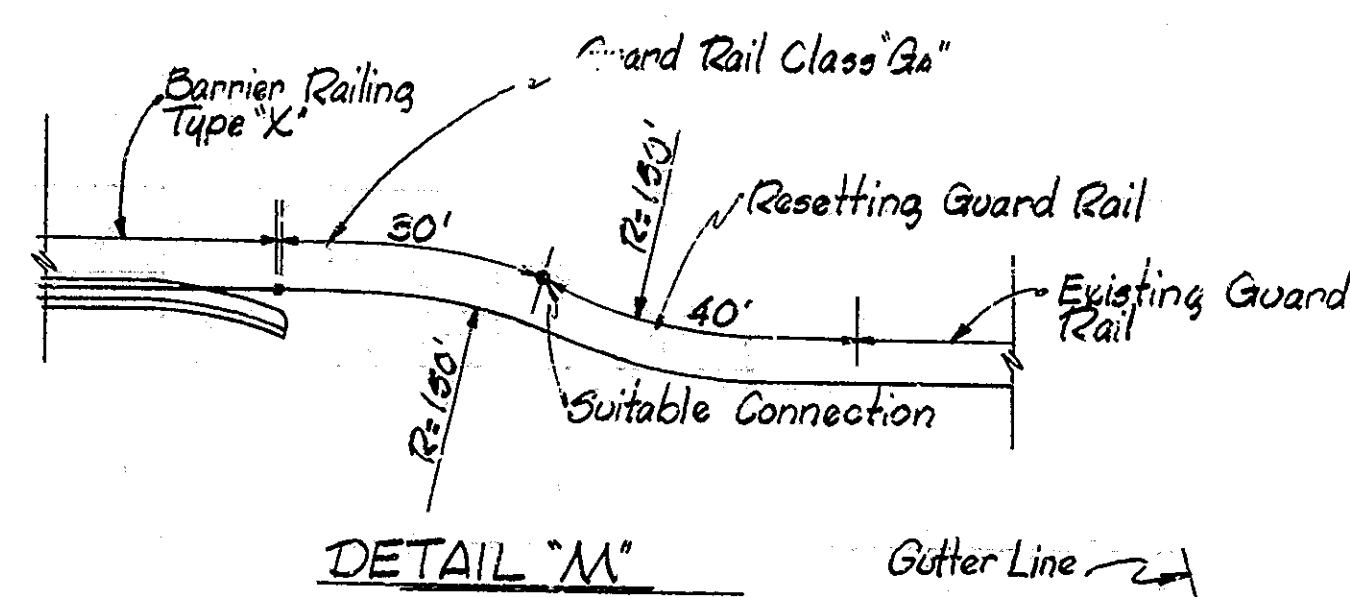
DESIGNED: CKD
DRAWN: J.H. CKD DLE
TRACED: CKD



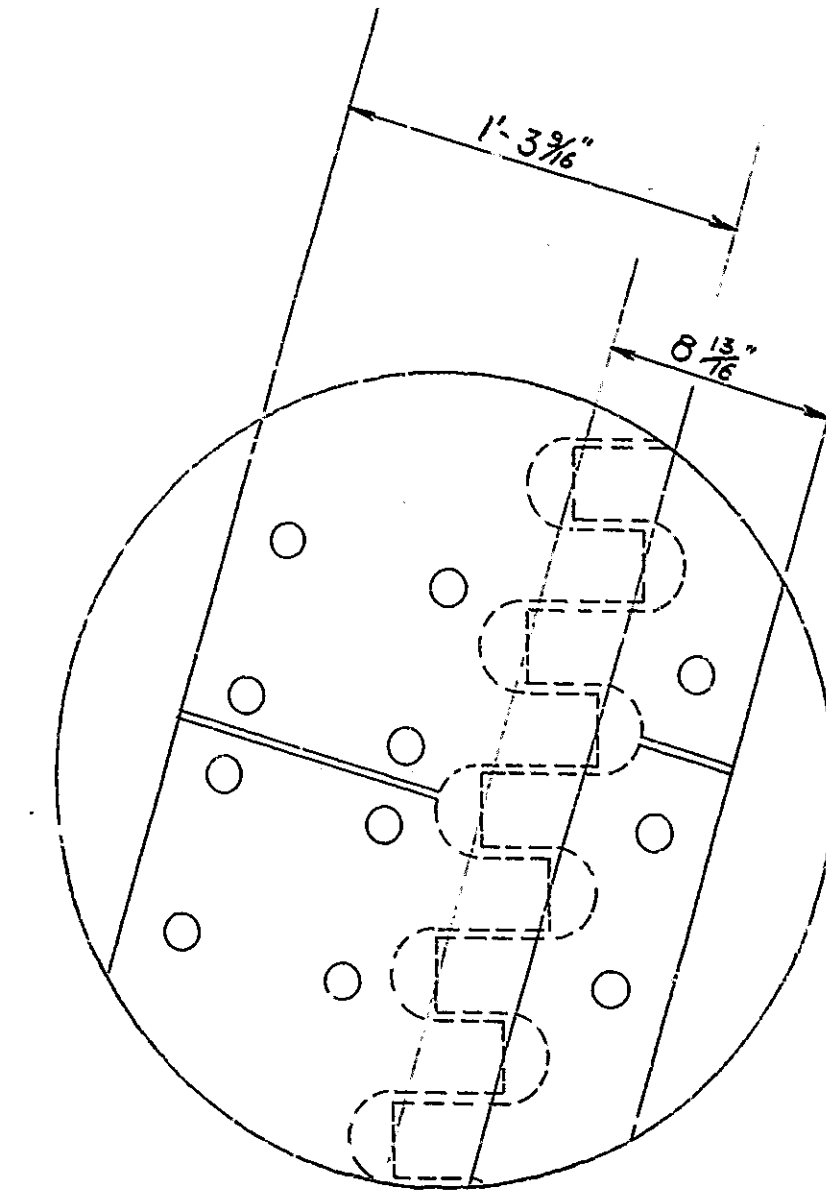
- (A) Remove 30 lin. ft. of existing Guard Rail. Required 30 lin. ft. of Guard Rail Class "Ga". Reset 40 lin. ft. of existing Guard Rail (See detail "M"). Connect to existing Guard Rail with suitable connection.
 - (C) Required 52 lin. ft. of Guard Rail Class "Ga". Terminal end.
 - (D) Remove 264 lin. ft. of existing Guard Rail. Required 264 lin. ft. of Guard Rail Class "Ga".
 - (E) Remove 288 lin. ft. of existing Guard Rail. Required 288 lin. ft. of Guard Rail Class "Ga".
 - (F) Required 280 lin. ft. of Guard Rail Class "Ga". (2) Required 272 lin. ft. of Guard Rail Class "Ga". Remove 302 lin. ft. of existing Guard Rail. (Includes 252 lin. ft. double faced Guard Rail.)
- Note: See Sheet 4 for Bridge Railing and Guard Rail Class "Ga" Connection Details. Guard Rail Class "Ga" to be continuous between Structures. 3602 A & 2221 A.

GUARD RAIL SUMMARY

	2221A	3602A	2220A	TOTAL
Removal of Guard Rail	517	517	210	1244
Guard Rail Class "Ga"	694	694	262	1650
Resetting Guard Rail	120	120	240	480

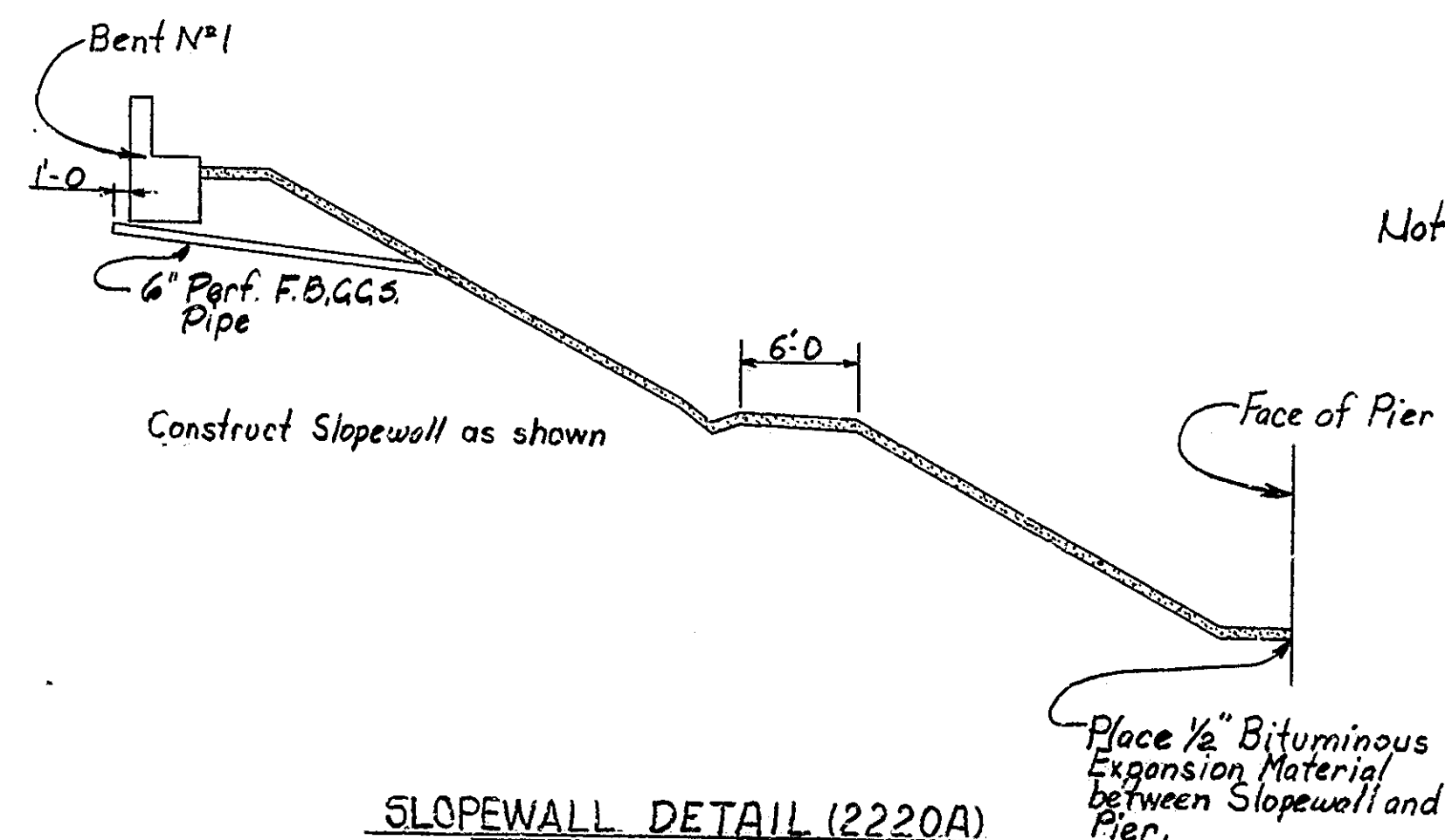


SLOPEWALL DETAIL (2221A)
Scale: None



Expansion Teeth to be cut as shown. (Include in cost of Expansion Joint Type SR4).

EXPANSION JOINT TOOTH CUTTING DETAIL (3602A)
Scale: None



SLOPEWALL DETAIL (2220A)

Note: For General Notes and Material Notes See Drawg Ds

DETAILS
INDIANA STATE HIGHWAY COMMISSION

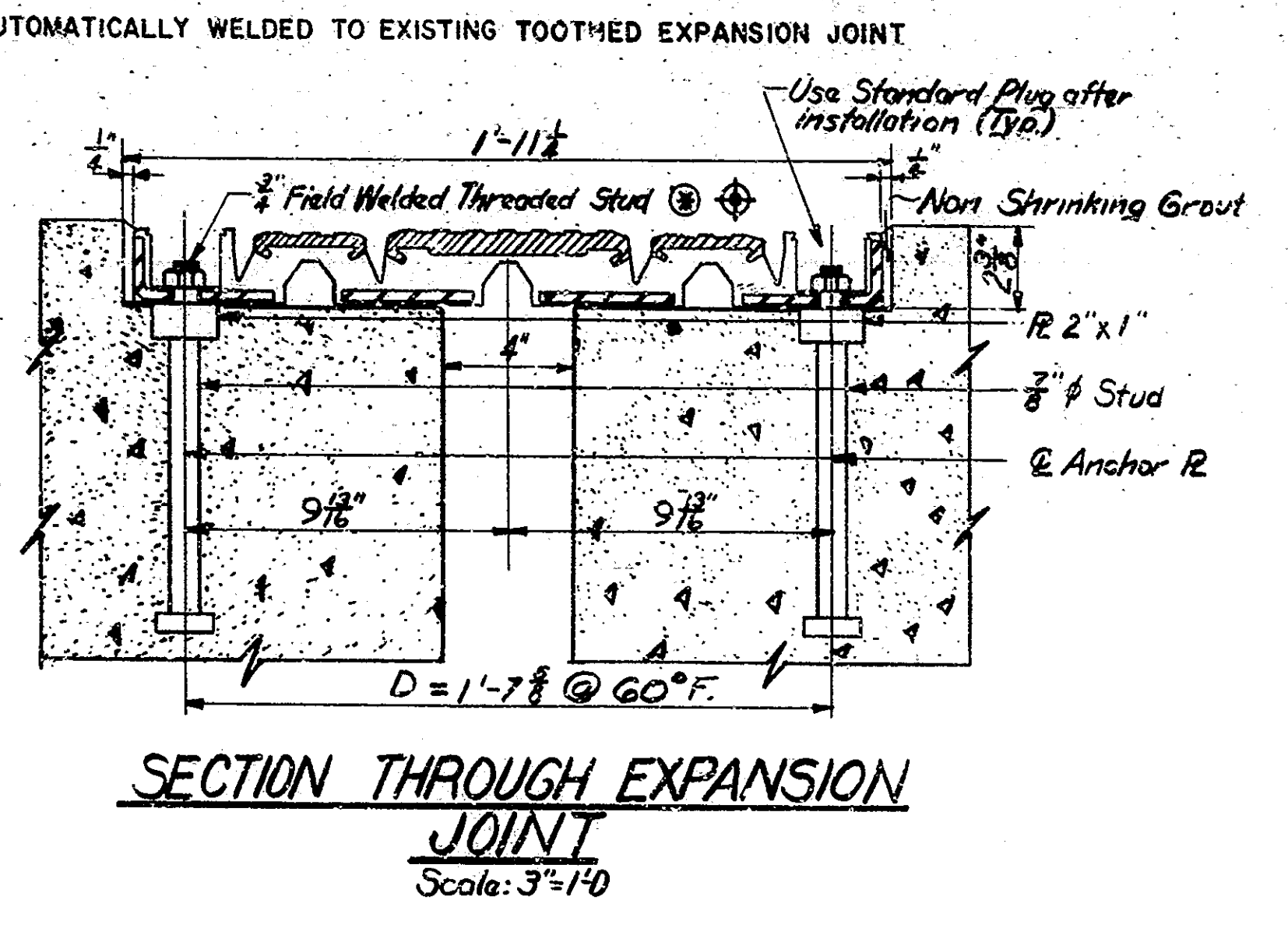
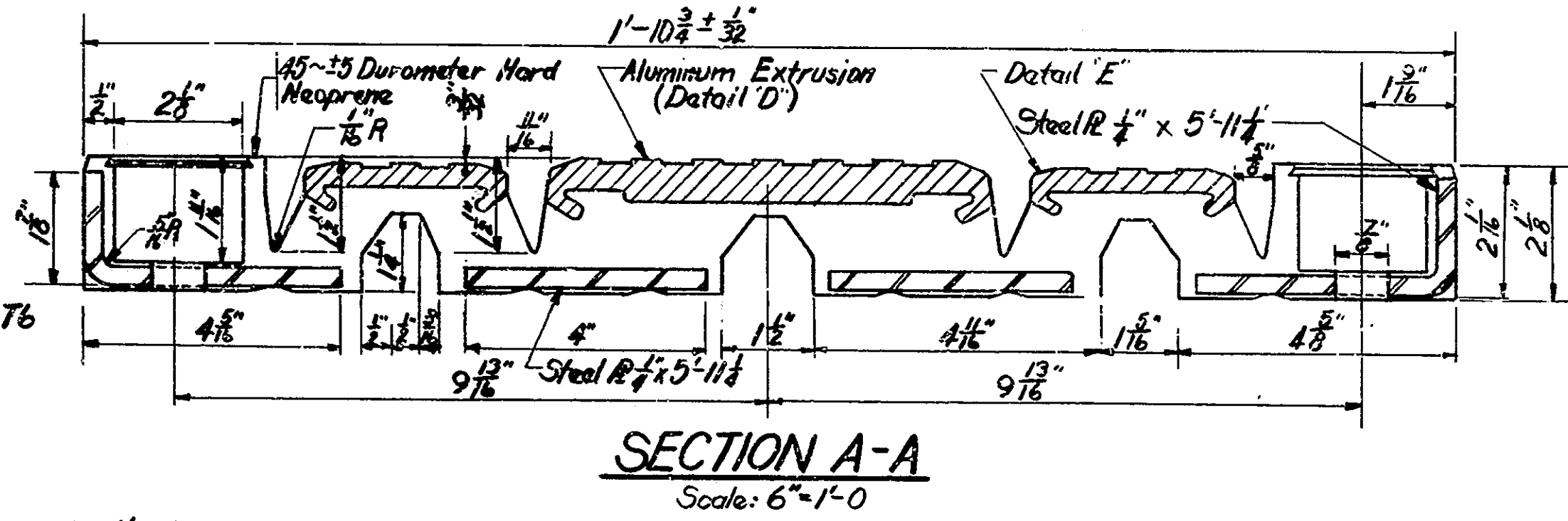
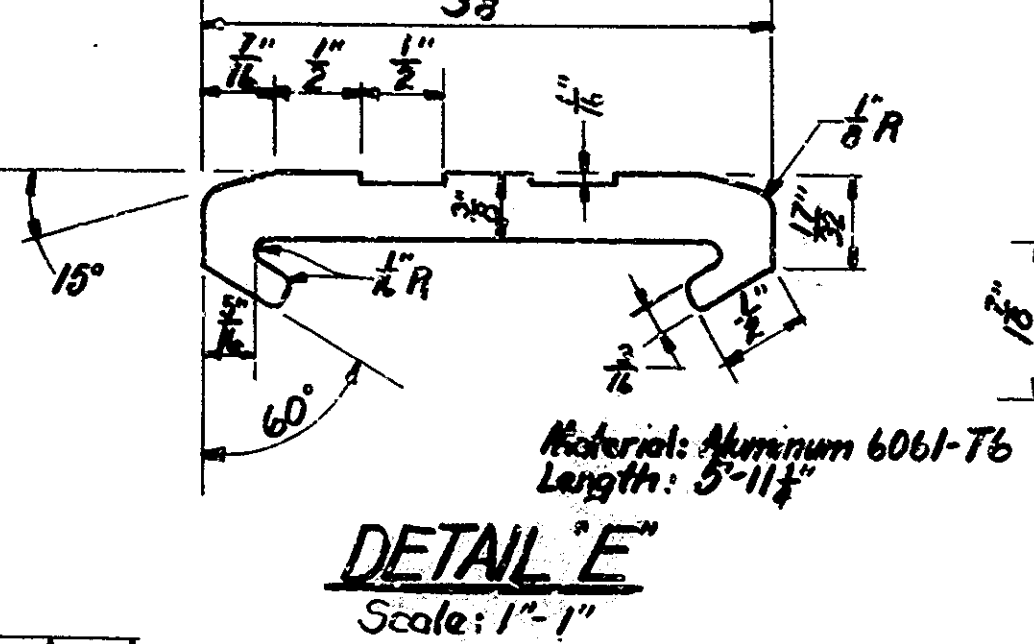
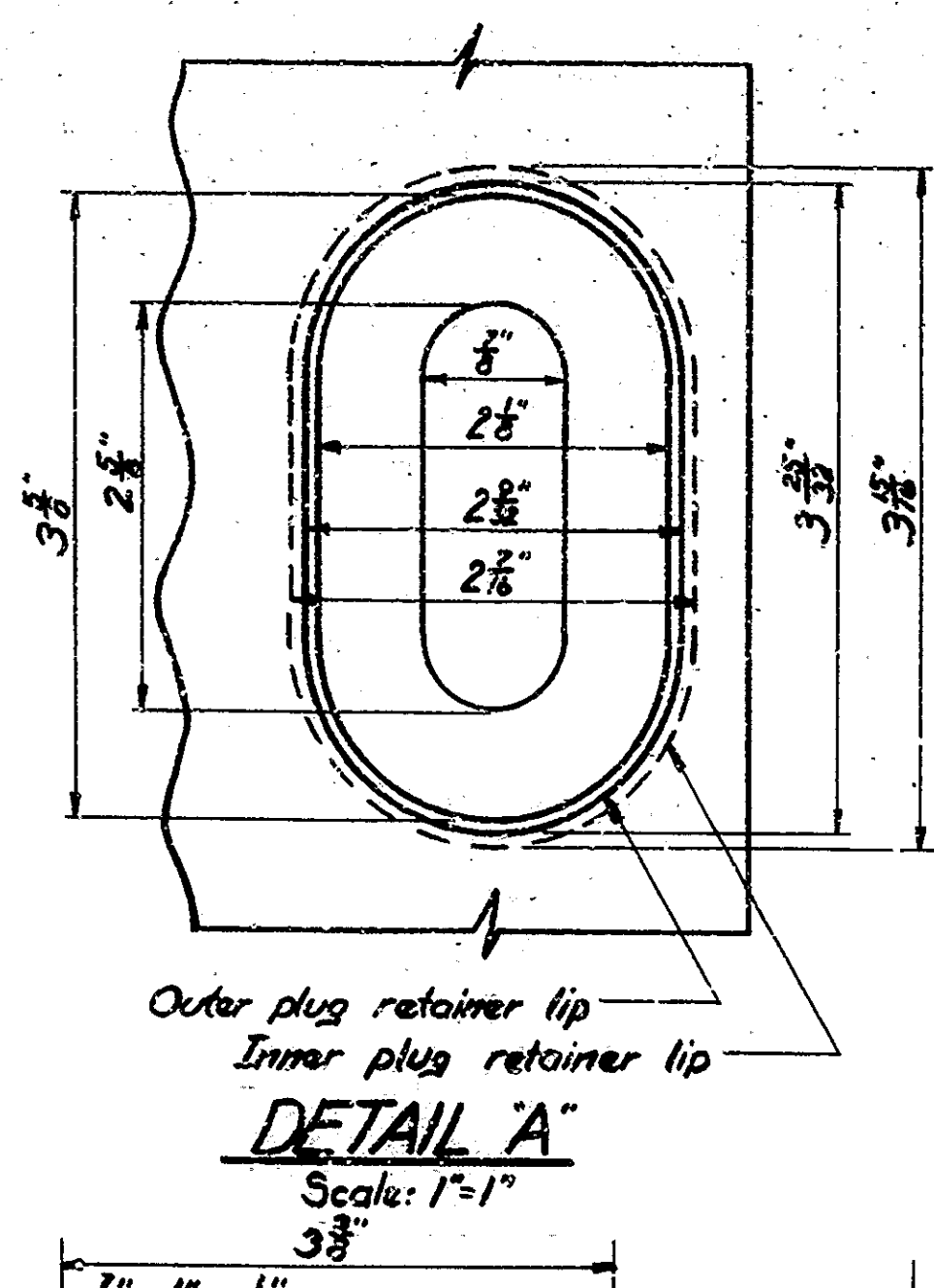
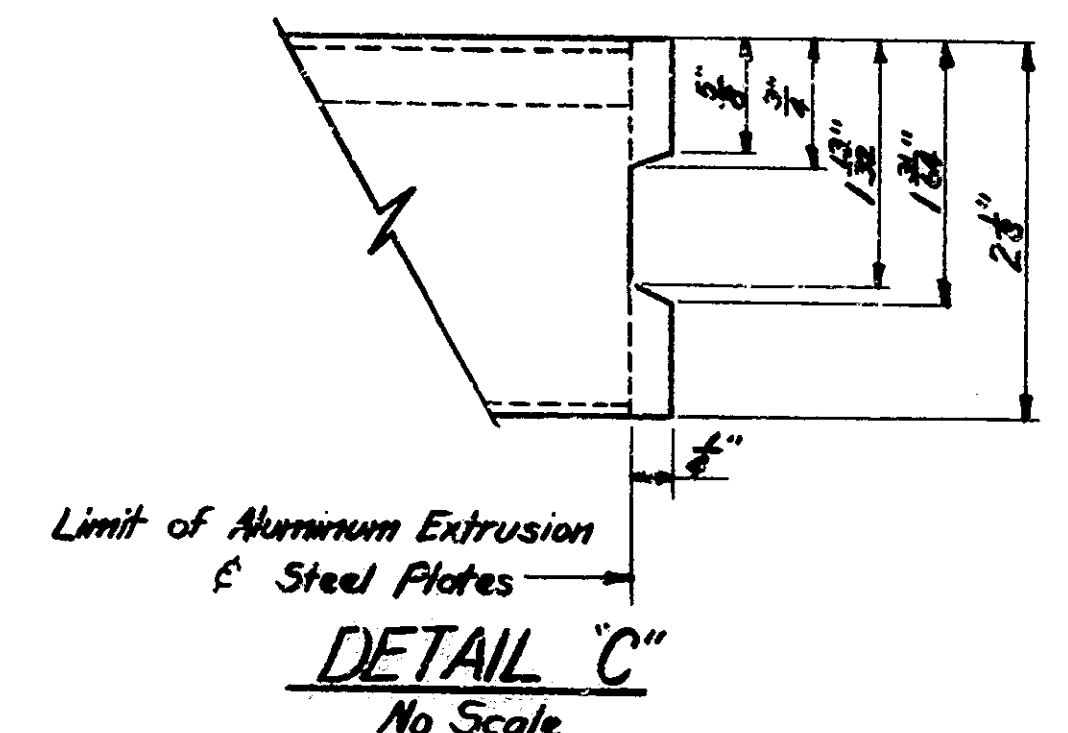
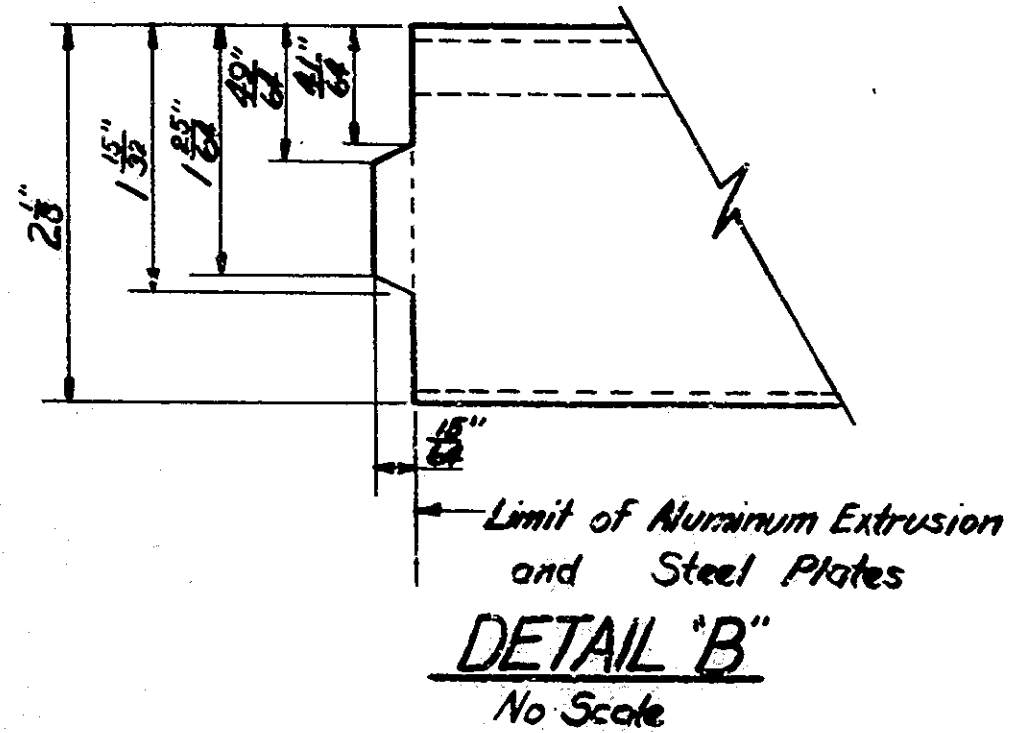
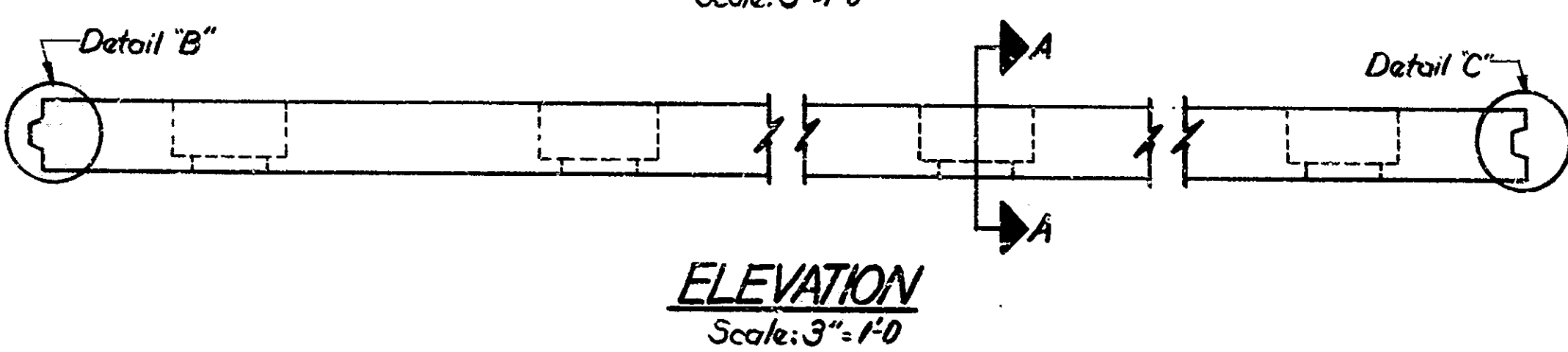
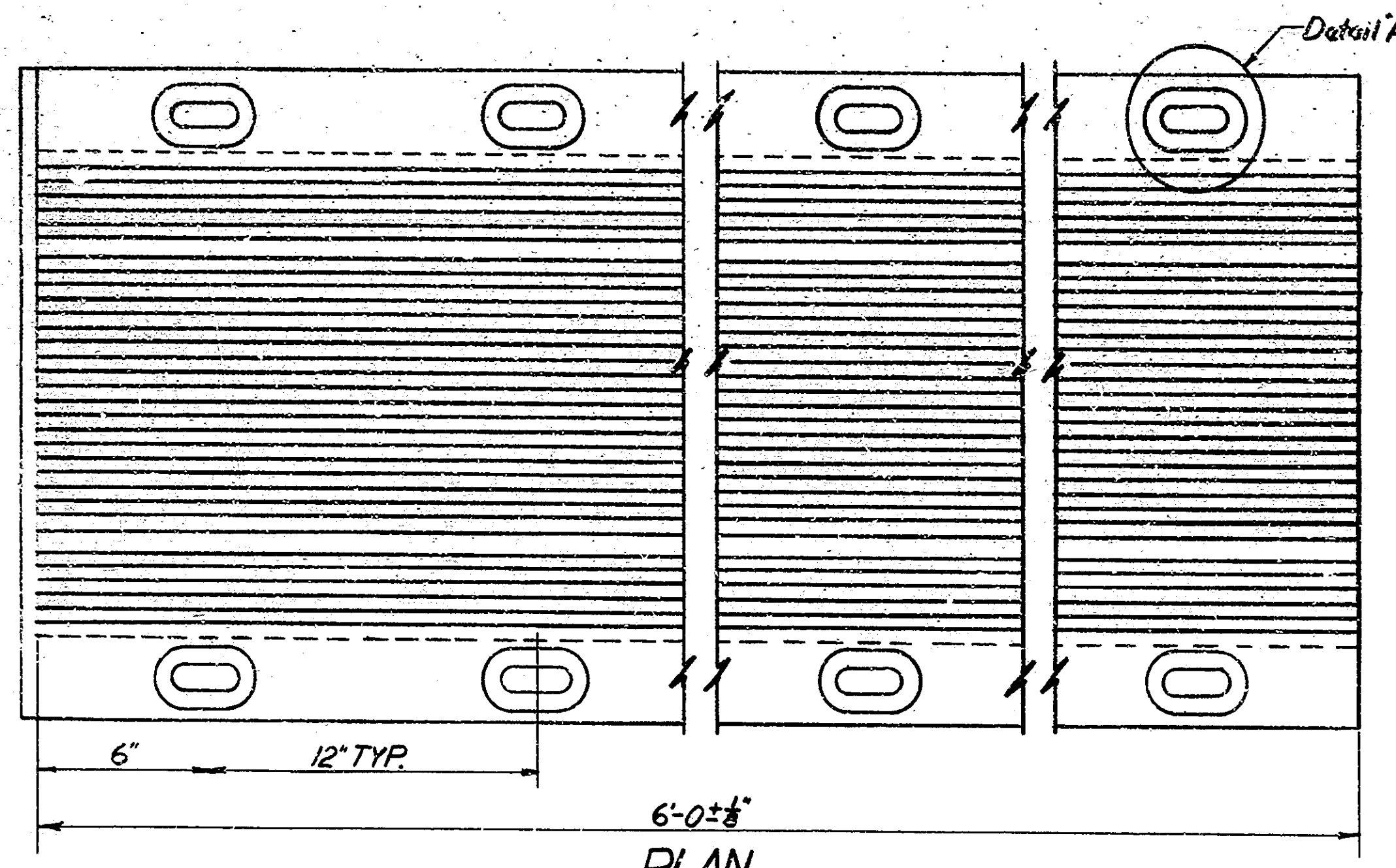
SCALE: NONE DATE: MARCH 1, 1974

DRAWING: D5 OF 7 SHEET: 9 OF 27
PROJECT: I-465-4(175)149
CONTRACT NO. B-6635
BRIDGE FILE: I-465-149-2221A, I-465-149-3602A, I-465-150-2220A

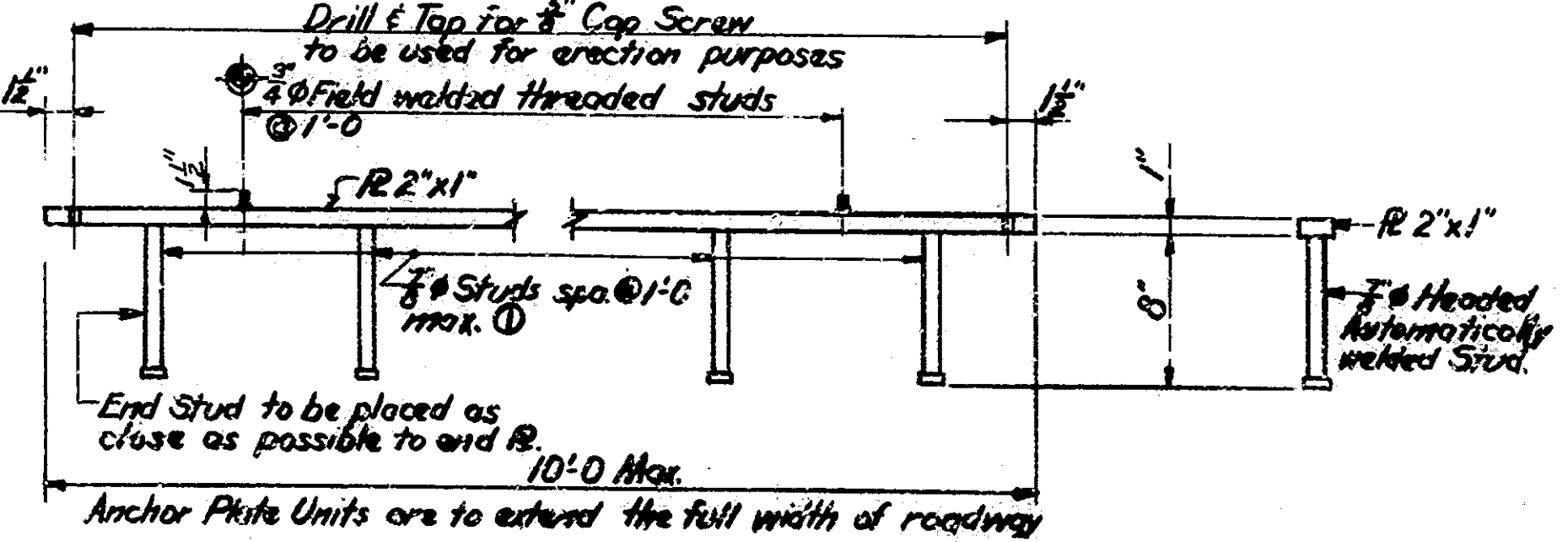


DESIGNED: CKD
DRAWN: DLE CKD H.B.S.
TRACED: CKD

EXPANSION JOINT DETAIL AT CURBS (3602A)



TEMPERATURE AT TIME STUDS ARE SET	DIMENSION "D"
100° F	18 1/8"
90° F	18 1/2"
80° F	18 3/4"
70° F	19 1/4"
60° F	19 3/8"
50° F	20"
40° F	20 1/2"



NOTES:
 Rubber ~45±5 Durometer Hardness.
 Steel for Anchor Plates and Joint to be ASTM A36, A570, or Merchant Quality 1010, 1020.
 Maximum of 2 studs in 10'-0" length may be cut off to length to clear I-beam or girder flanges.
 Curved Section Detail to be as determined by the Fabricator with the approval of the Engineer.
 Refer to Special Provisions for physical properties of materials and construction methods.
 The cost of the Anchor Plates, Threaded Studs, Concrete Anchor, and all materials needed to erect the expansion joint shall be included in the cost of the "Type SR4 Expansion Joint".
 Tighten nuts on 3/8" Threaded Studs to 85 Ft.-lbs torque.
 An alternate anchor system may be used with the approval of the Engineer.

INSTALLATION NOTES
 The bed for the joint shall be formed as near to a true plane as possible. The bed shall then be smoothed to a true plane with a neat portland cement grout which shall be cured before the joint is set. The manufacturer's recommendations for joint installation, proper bolt torque, sealant application, bolt protection shall be followed.
 flush with top of anchor plate when used.

TYPE SR4 EXPANSION JOINT DETAILS
INDIANA STATE HIGHWAY COMMISSION

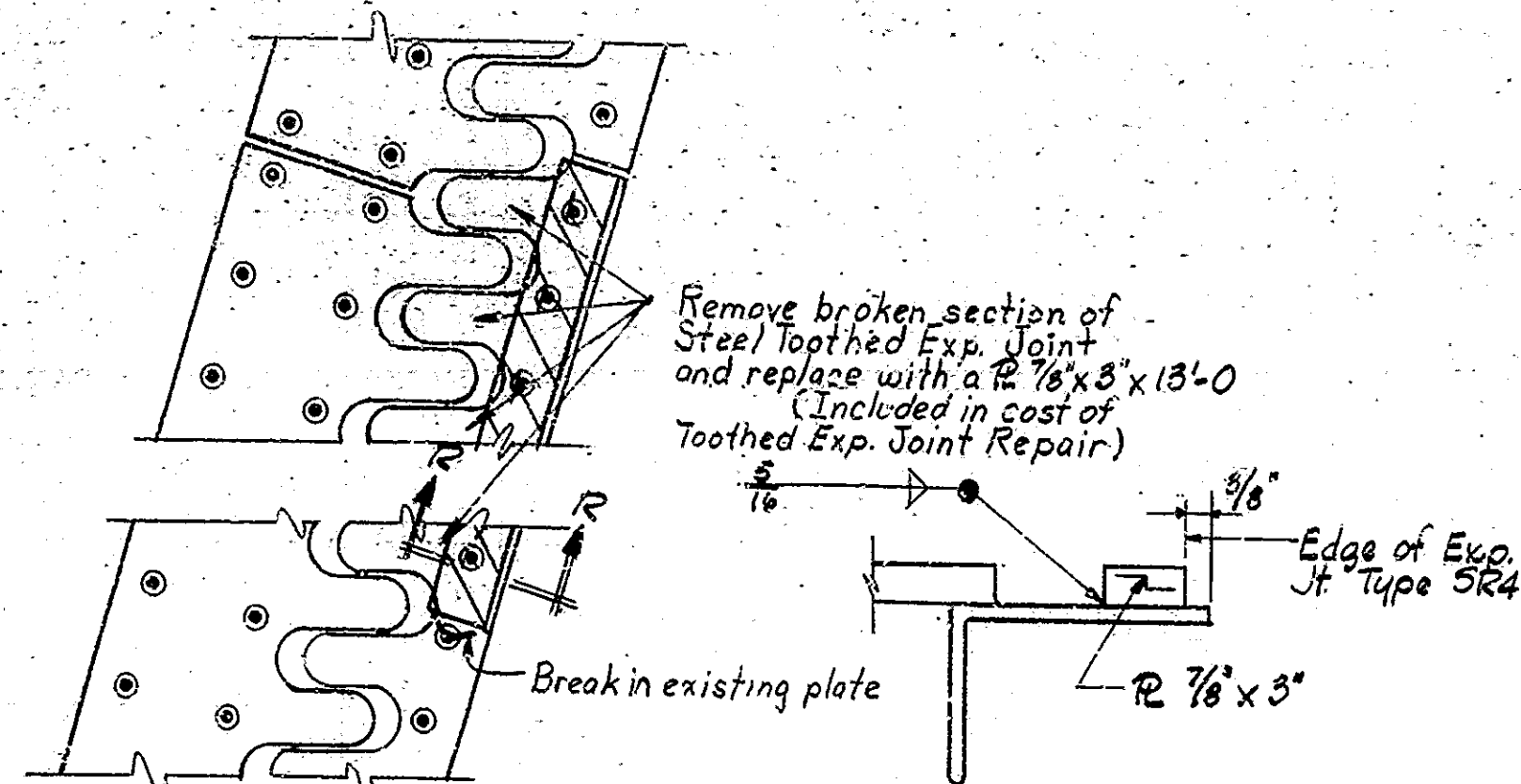
SCALE: AS NOTED DATE: DECEMBER 17, 1974

William R. Offutt
 REGISTERED PROFESSIONAL ENGINEER

DRAWING: D6A OF 7 SHEET: 10A OF 27
 PROJECT: I-UI-465-4(176)149
 CONTRACT NO. B-8835
 BRIDGE FILE: I-465-149-3602A

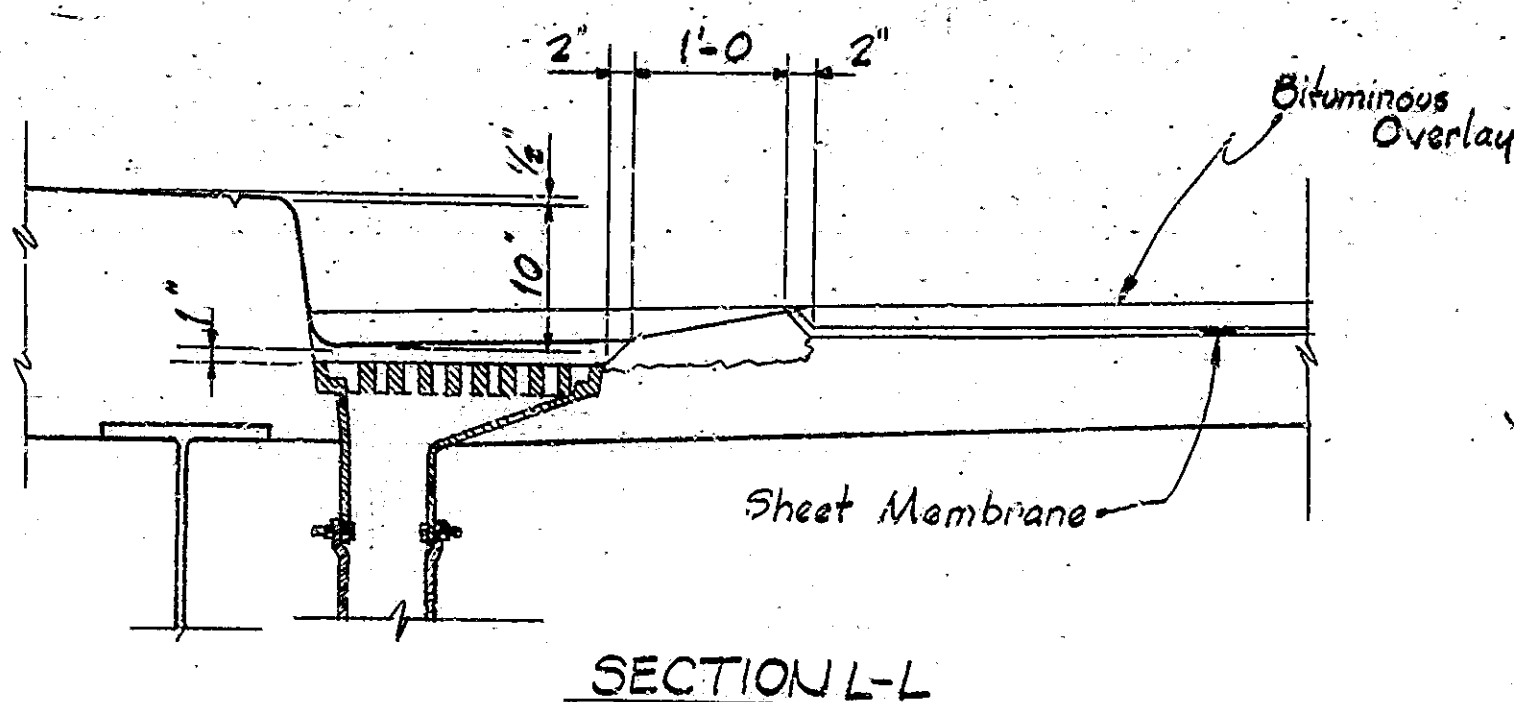


DESIGNED: CWD
 DRAWN: JLD
 CHECKED: JLD
 TRACED: CWD
 CHM 11-1-74

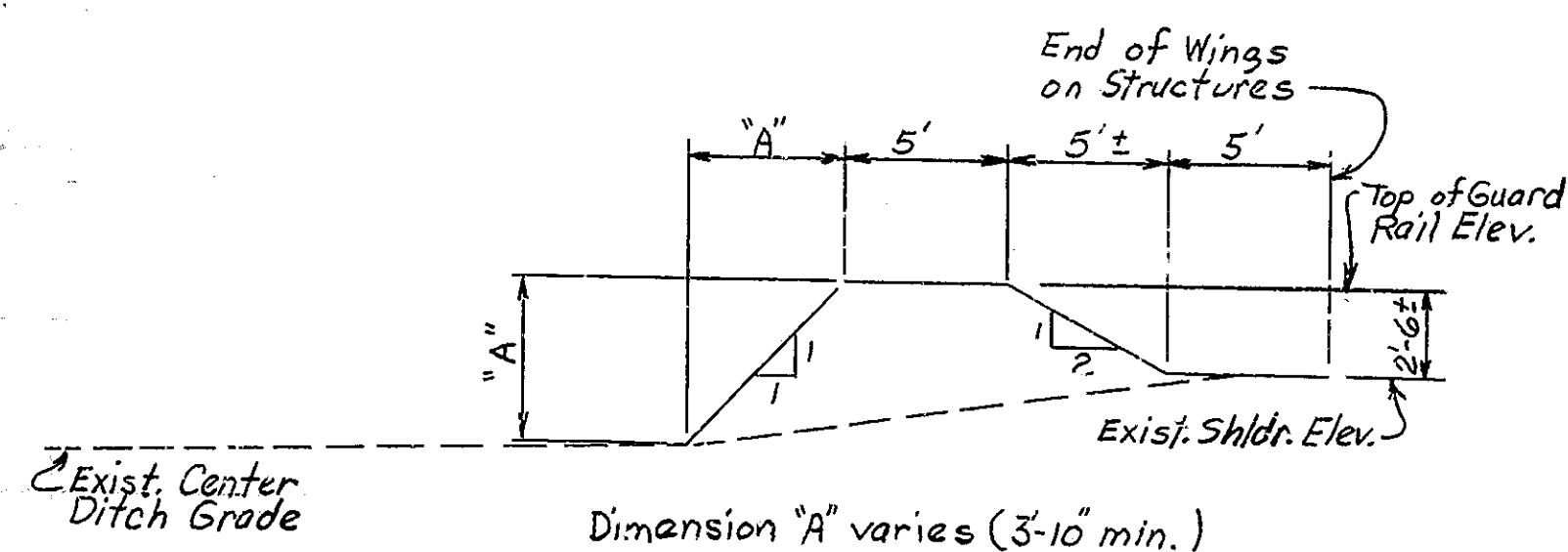


DETAIL E (3602A)
Scale: None (See Drwg. D2)

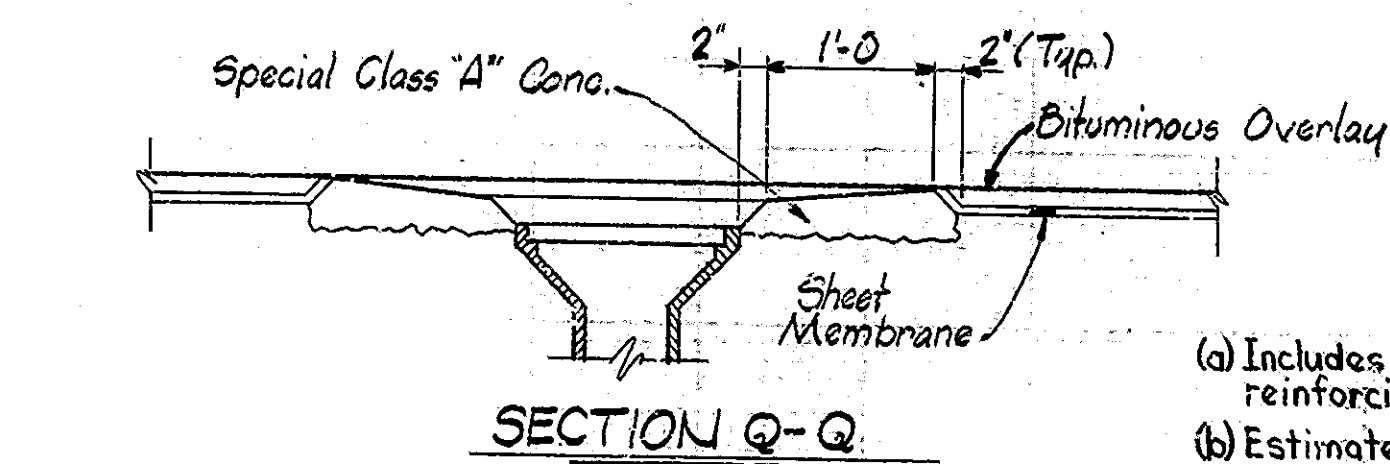
SECTION R-R



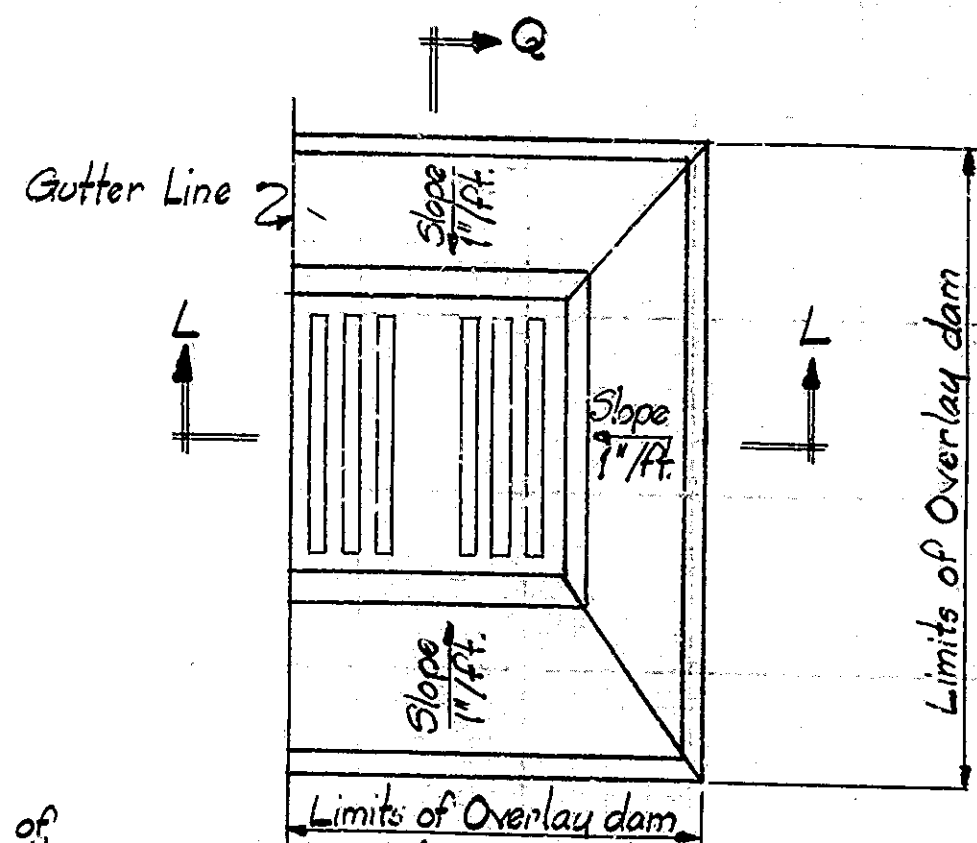
SECTION L-L



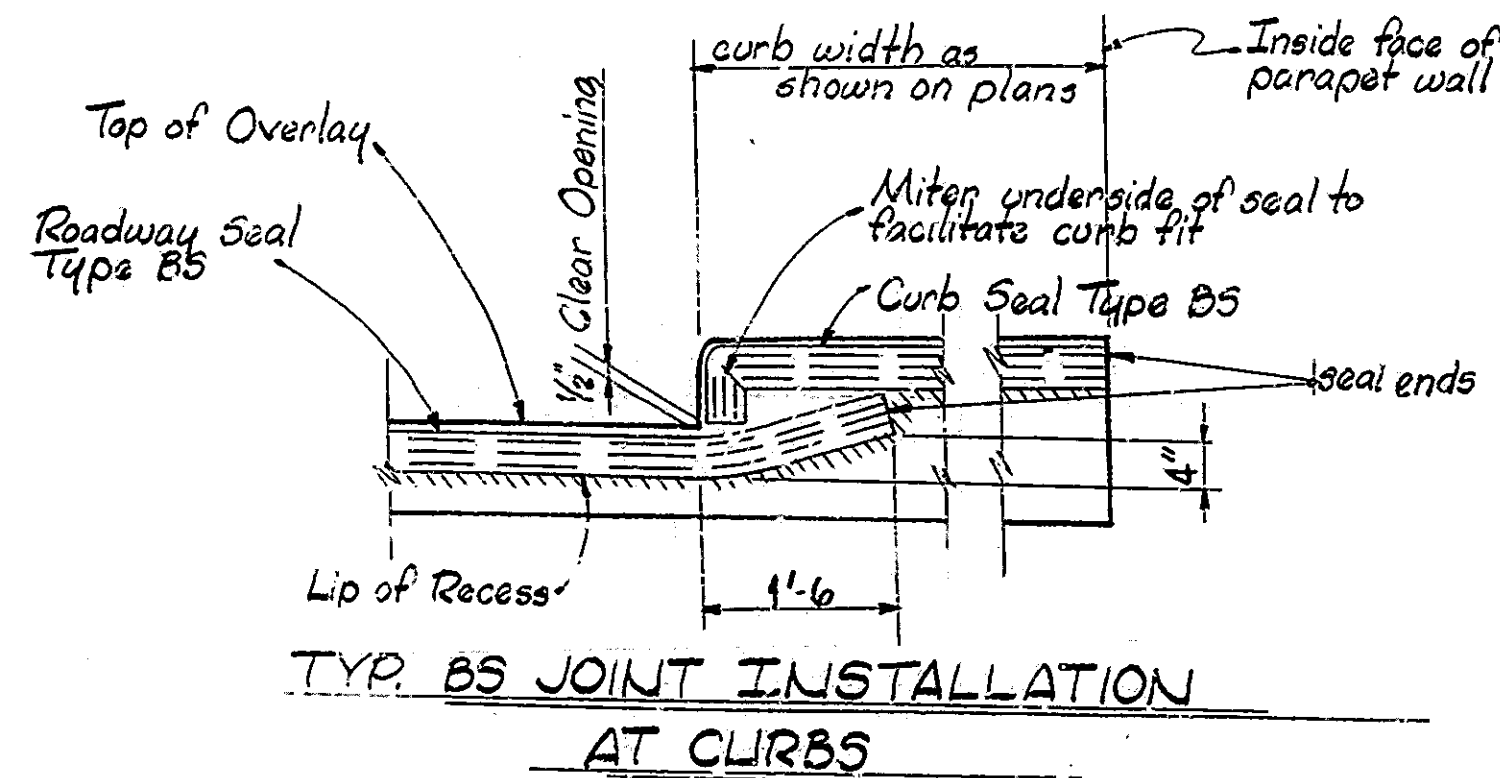
MODIFIED EARTH BARRIER DETAIL
(2221A & 3602A)
See Drwg. D1 and D2



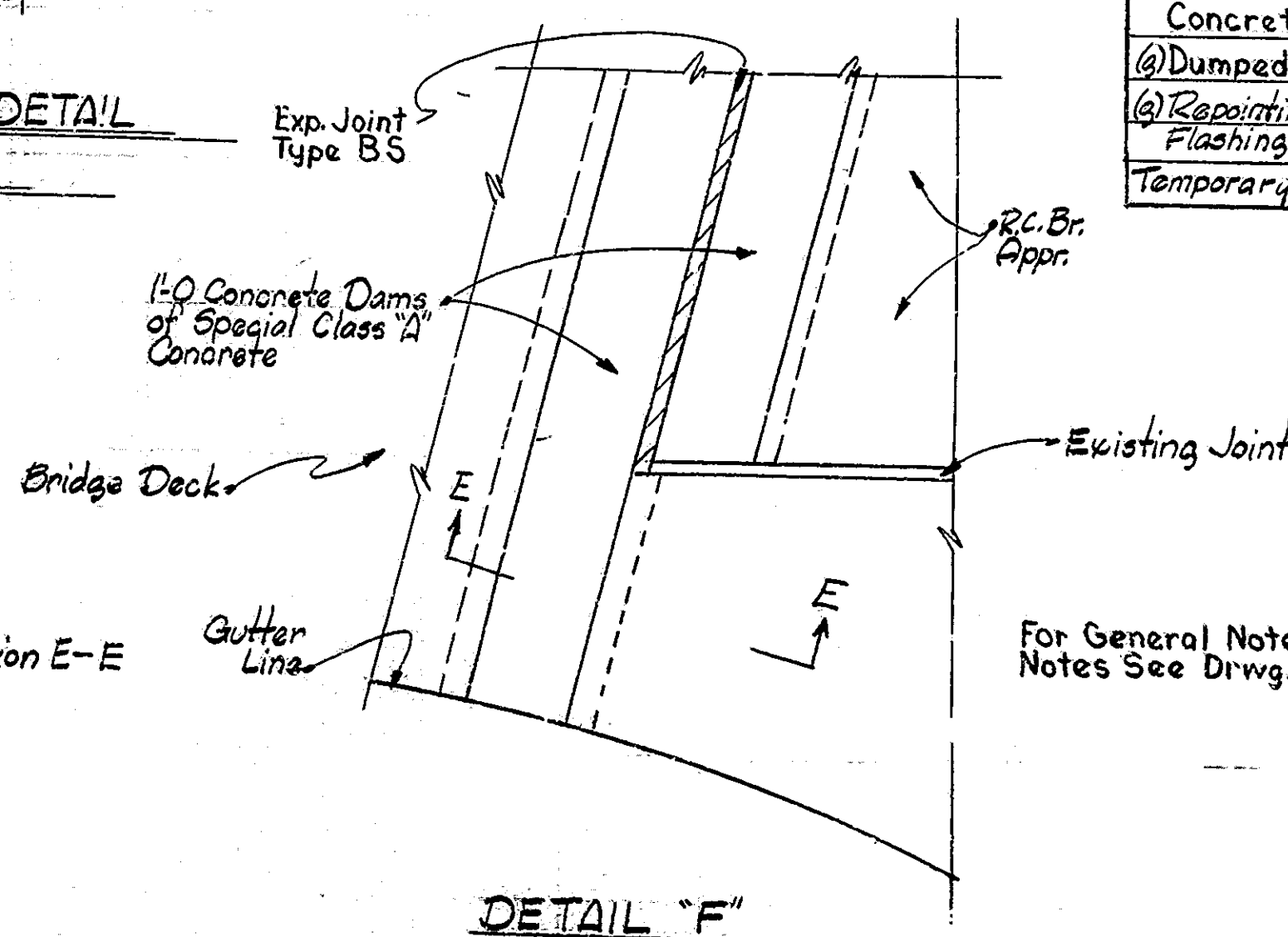
SECTION Q-Q



ROADWAY DRAIN DETAIL
3602A
See Drwg. D2



TYP. BS JOINT INSTALLATION
AT CURBS



DETAIL 'F'

Rev. 2-18-75 Summary
Rev. 1-20-75 Summary
Rev. 6-7-74 Note, Summary

SUMMARY

Item	Unit	Funding			Structures			Total
		%/10	%/50	%/100	2221A	3602A	2220A	
(a) Special Class 'A' Concrete	Sq.ft.	✓	✓	✓	4448	5900	5975	16,323
(b) Sheet Applied Membrane (2221A)	L.S.	✓			1			1
(c) Sheet Applied Membrane (3602A)	L.S.	✓				1		1
(d) Sheet Applied Membrane (2220A)	L.S.	✓					1	1
Surface Seal	Sq.ft.	✓			8547	10,335	5325	24,405
Deck Drains	each	✓			68	76	96	180
Expansion Joint Type 5R4	Lin.ft.	✓				87.5		87.5
(e) Expansion Joint Type B56	Lin.ft.	✓				176		176
(a) Expansion Joint Type B58	Lin.ft.	✓			425	101.5		526.5
(e) Expansion Joint Type B59	Lin.ft.	✓					219	219
Guard Rail Class 'Ga'	Lin.ft.	✓			694	694	262	1,650
(j) Removal of Guard Rail	Lin.ft.	✓			889	517	216	1,244
(j) Removal of Present Railing	Lin.ft.	✓			1086	1297	616	2,999
Barrier Railing Type 'X'	Lin.ft.	✓			1205.5	1412.5	737.5	3355.5
Bituminous Mixture for Approaches	Tons	✓	✓		458	522	280	1,260
Removal of Pavement	Sys.	✓			13	26	77	116
(g) Bituminous Surface Removal	L.S.	✓					1	1
(m) Borrow	Cu.yd.	✓			24	34		58
Sodding	Sq.yd.	✓			32	32		64
Guard Rail Type 'E'	Lin.ft.	✓				262		262
Guard Rail Type 'F'	Lin.ft.	✓			746			746
Construction Signs Type 'A'	each	✓	✓					62
Standard Barricade Type III	each	✓	✓					2
(a) Toothed Expansion Joint Repair	L.S.	✓					1	1
Temporary Pvm't. Marking Tape	Lin.ft.	✓	✓					10,676
(h) Maintaining Traffic	L.S.	✓	✓					1
Removal of Slope Wall	Sys.	✓			104.0			104.0
(a) Reshaping Spill Slopes (2221A)	L.S.	✓					1	1
(a) Reshaping Spill Slopes (2220A)	L.S.	✓					1	1
4" Concrete Slope Wall	Sys.	✓	✓		137		828	965
Temporary Light	Each	✓	✓					4
(k) Reinforcing Steel	Lbs.	✓			5,506	500	10,804	16,810
Guard Rail Reset	L.Ft.	✓			120	120	240	480
Expansion Joint Type B511	Lin.ft.	✓			112	101.5		213.5
Removal of Present Str. Portions (2220A)	L.S.	✓					1	1
Removal of Present Str. Portions (2221A)	L.S.	✓					1	1
Class 'A' Concrete for Guard Rail	Cu.yd.	✓			1.5			1.5
(a) Materials for Mudjacking	Cu.yd.	✓			9.0	7.0		16.0
(a) Drilled Holes for Mudjacking	each	✓			24	24		48
Concrete Class 'A' in Superstructure	Cu.yd.	✓			22.2		39.6	61.8
Concrete Class 'A' in Railing	Cu.yd.	✓			0.4		0.4	0.8
(a) Dumped Riprap	Tons	✓				563		563
(a) Repairing Masonry in Structures	Sq.ft.	✓			30		60	90
Flashing Arrow Sign	Each	✓	✓					2
Temporary Impact Attenuation Device	Each	✓	✓					2

DETAILS & SUMMARY

INDIANA STATE HIGHWAY COMMISSION

SCALE: NONE

DATE: MARCH 1, 1974

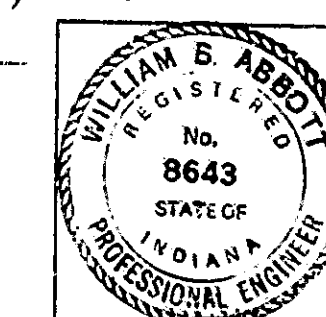
William B. Abbott
REGISTERED PROFESSIONAL ENGINEER

DRAWING: D-7 OF 7 SHEET: 11 OF 27

PROJECT: I-465-4(176)149

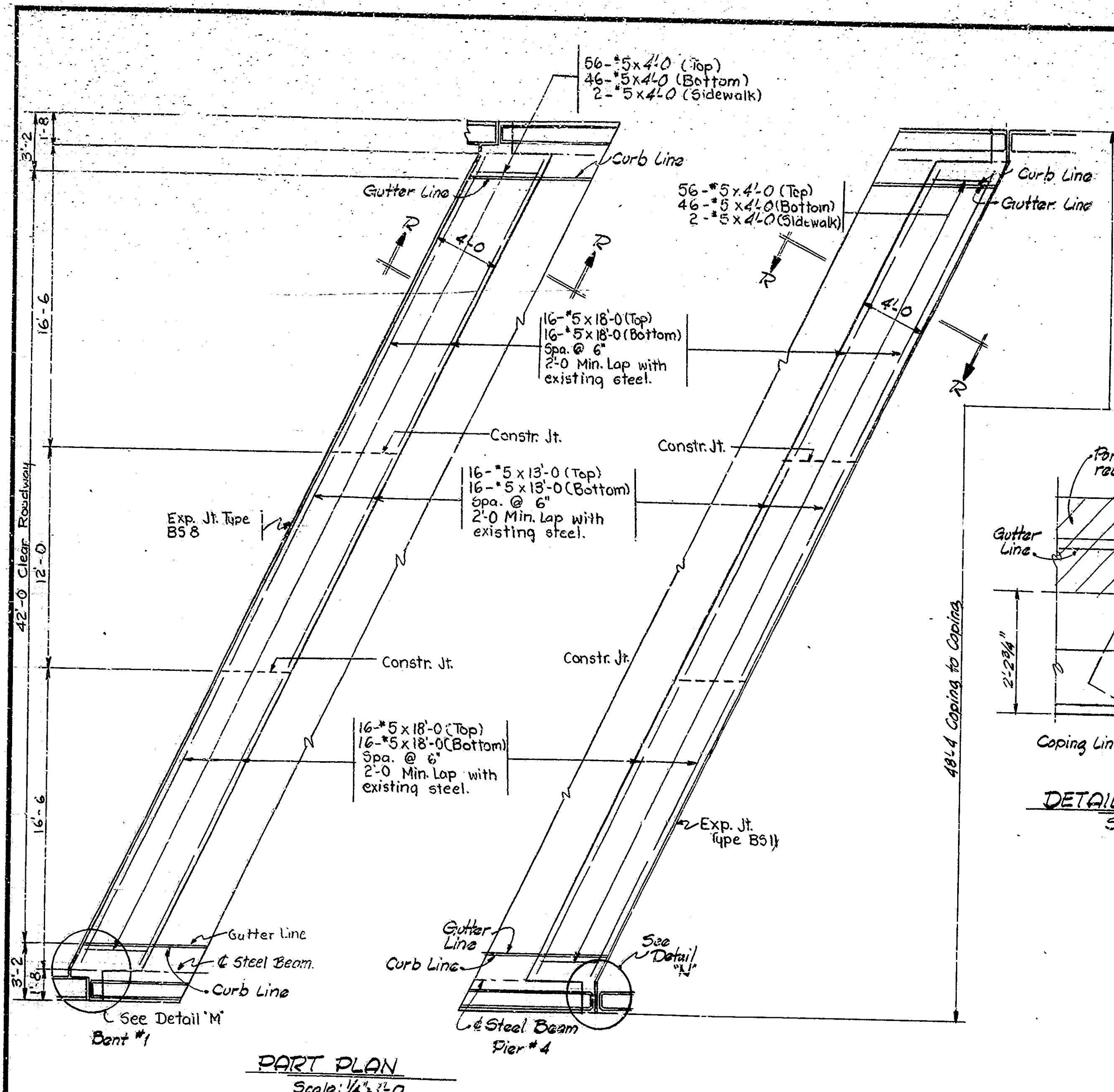
CONTRACT NO. B-8835

BRIDGE FILE: I-465-149-2221A, I-465-149-3602A, I-465-150-2220A

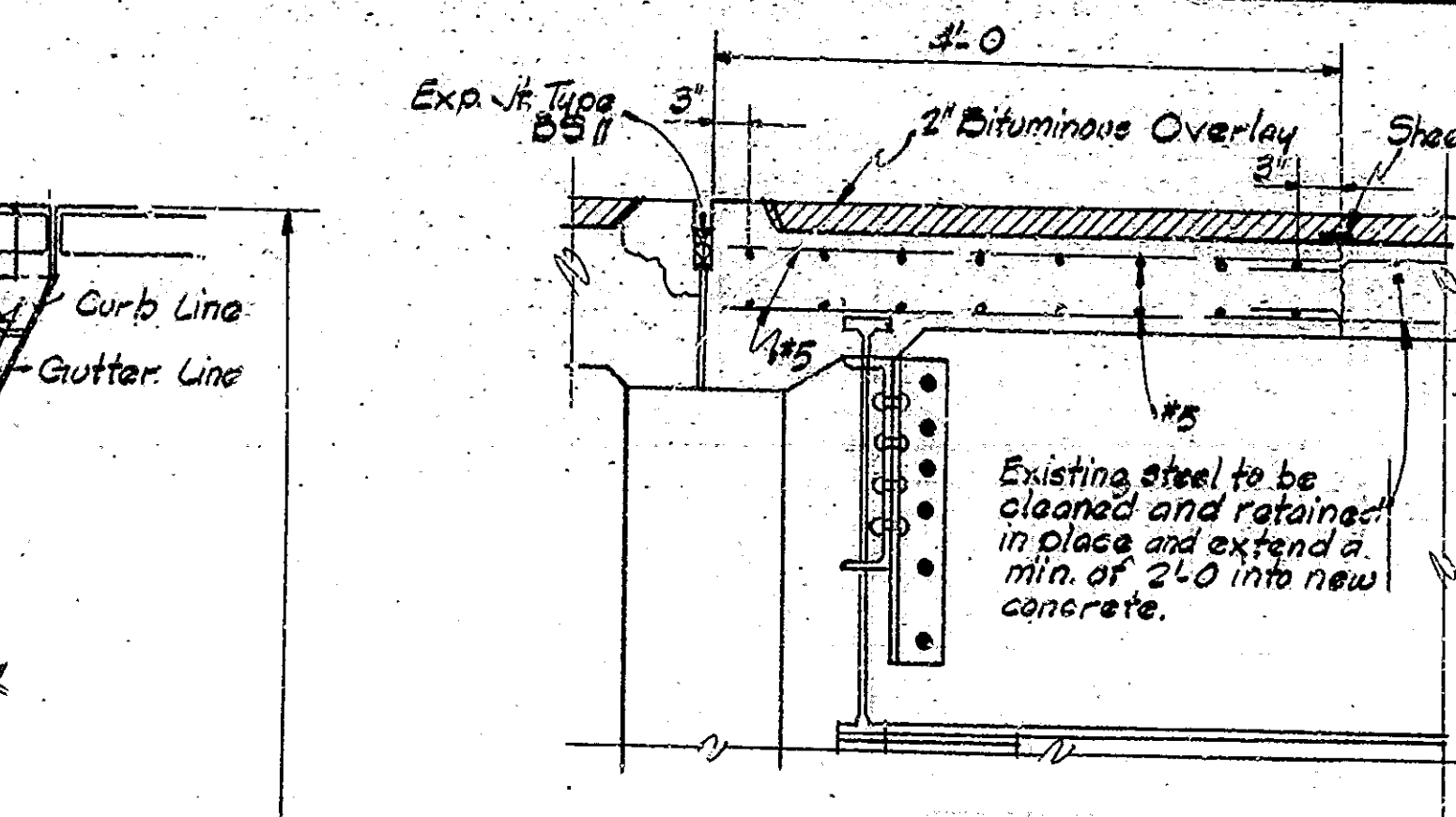


DESIGNED: CKD
DRAWN: D.A.L. CKD D.L.E.
TRACED: CKD

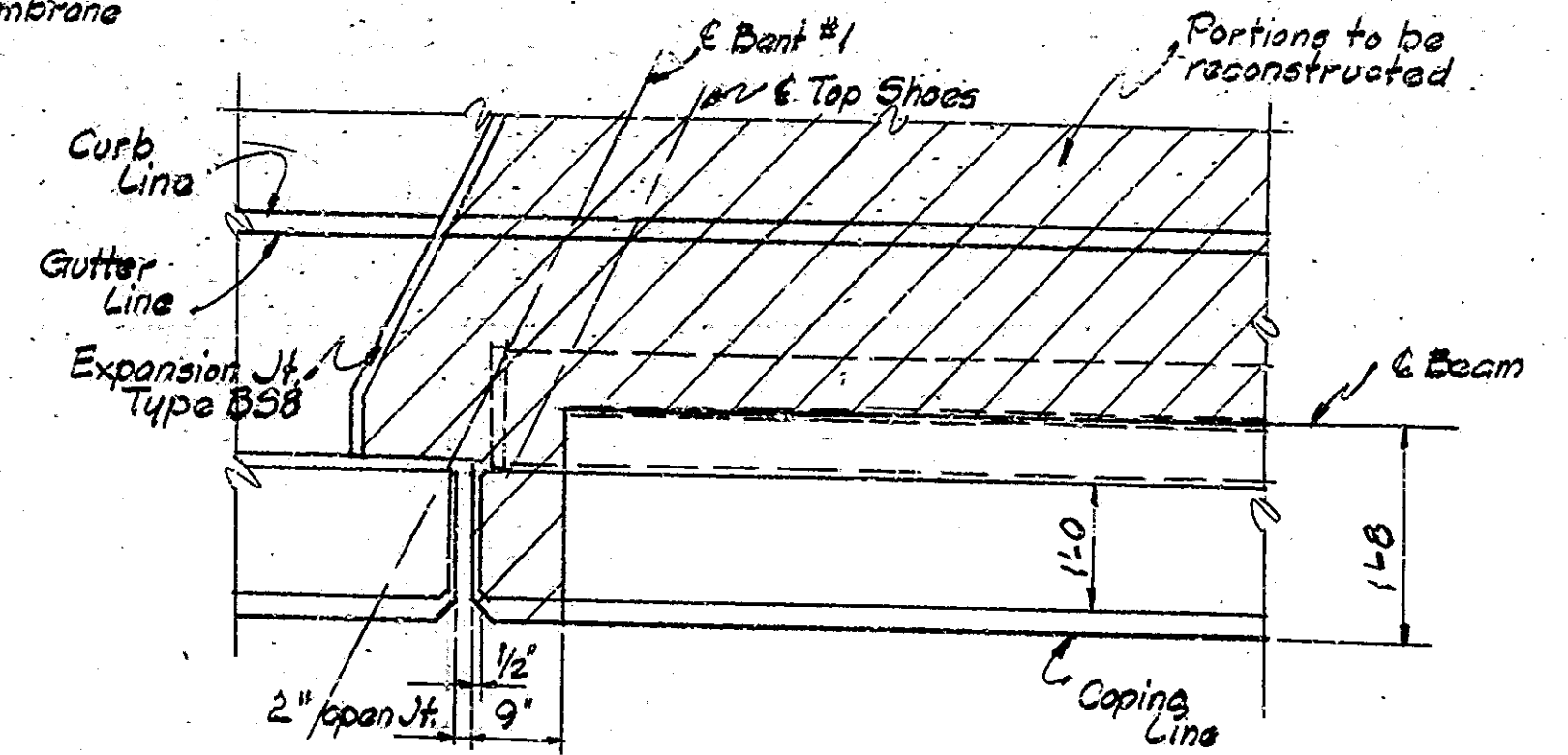
Rev. 12-17-74. B.S. Joint at Curbs, Summary



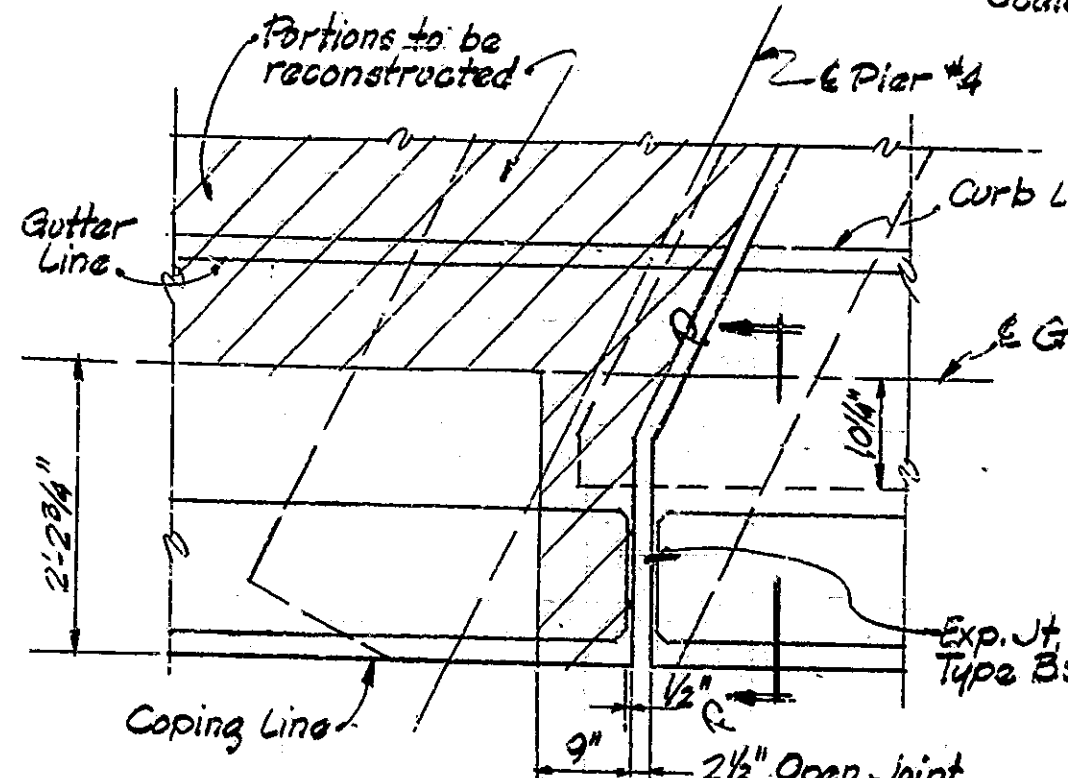
PART PLAN
Scale: 1/4" = 1'-0"



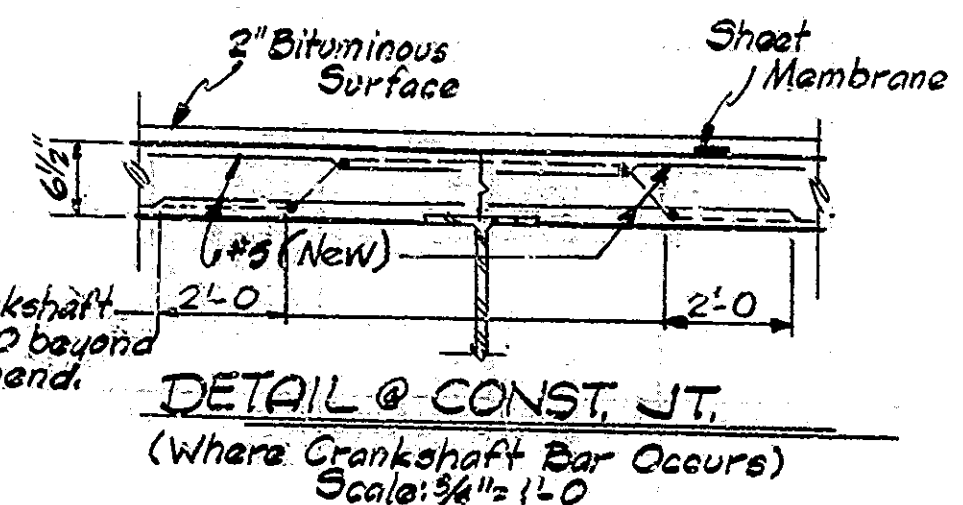
SECTION R-R
Scale: 1" = 1'-0"



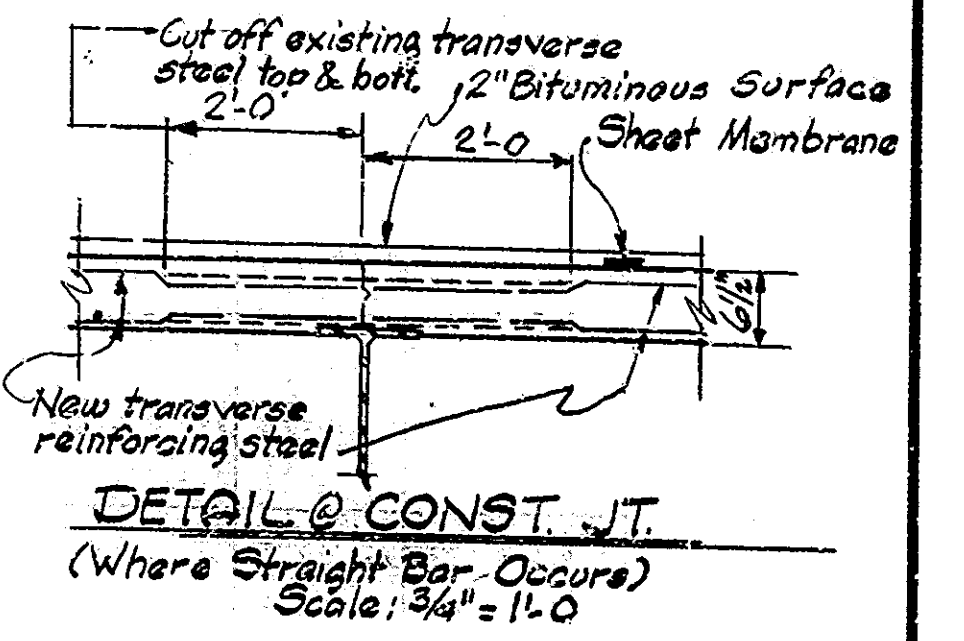
DETAIL M @ BENT #1
Scale: 3/4" = 1'-0"



DETAIL N @ PIER #4
Scale: 3/4" = 1'-0"



DETAIL @ CONST. JT.
(Where Crankshaft Bar Occurs)
Scale: 3/4" = 1'-0"



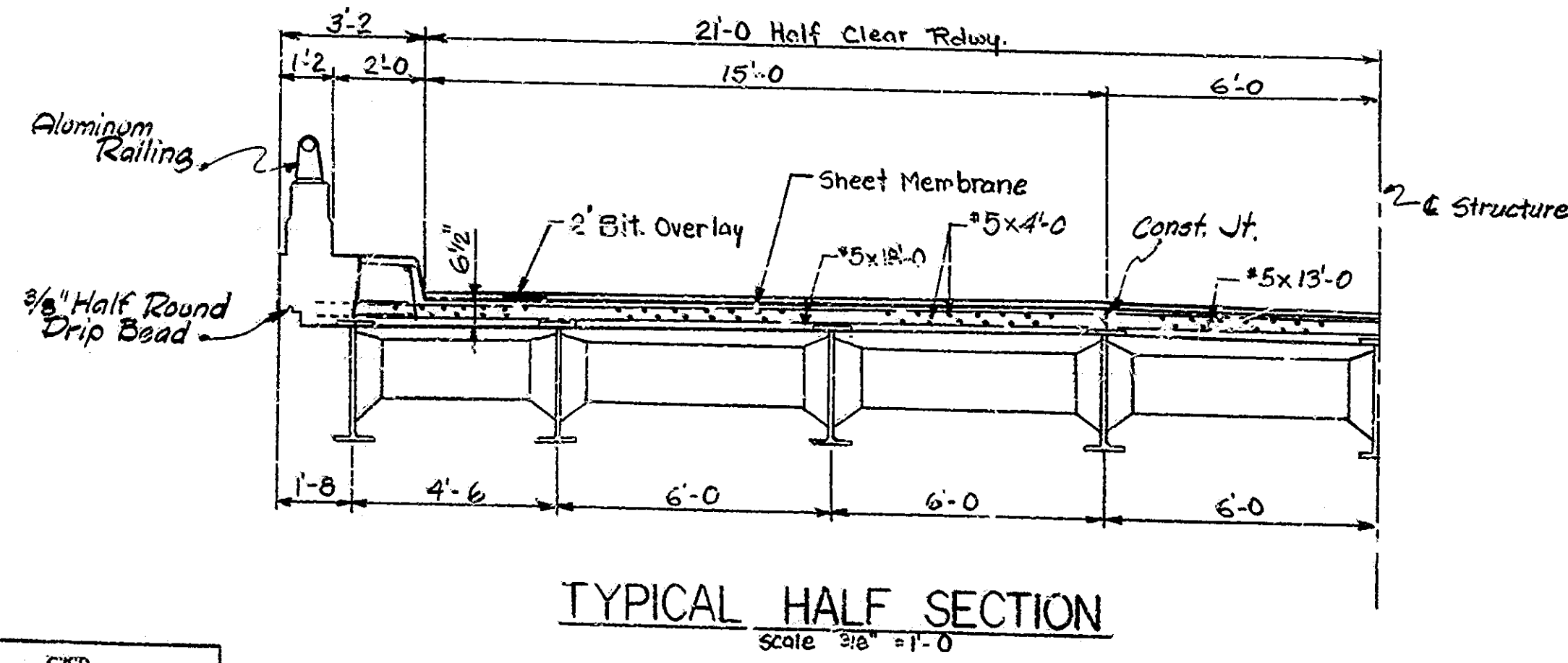
DETAIL @ CONST. JT.
(Where Straight Bar Occurs)
Scale: 3/4" = 1'-0"

NOTE: Existing transverse slab reinforcing steel thru constr. joints is to remain in place and be cut as shown above.

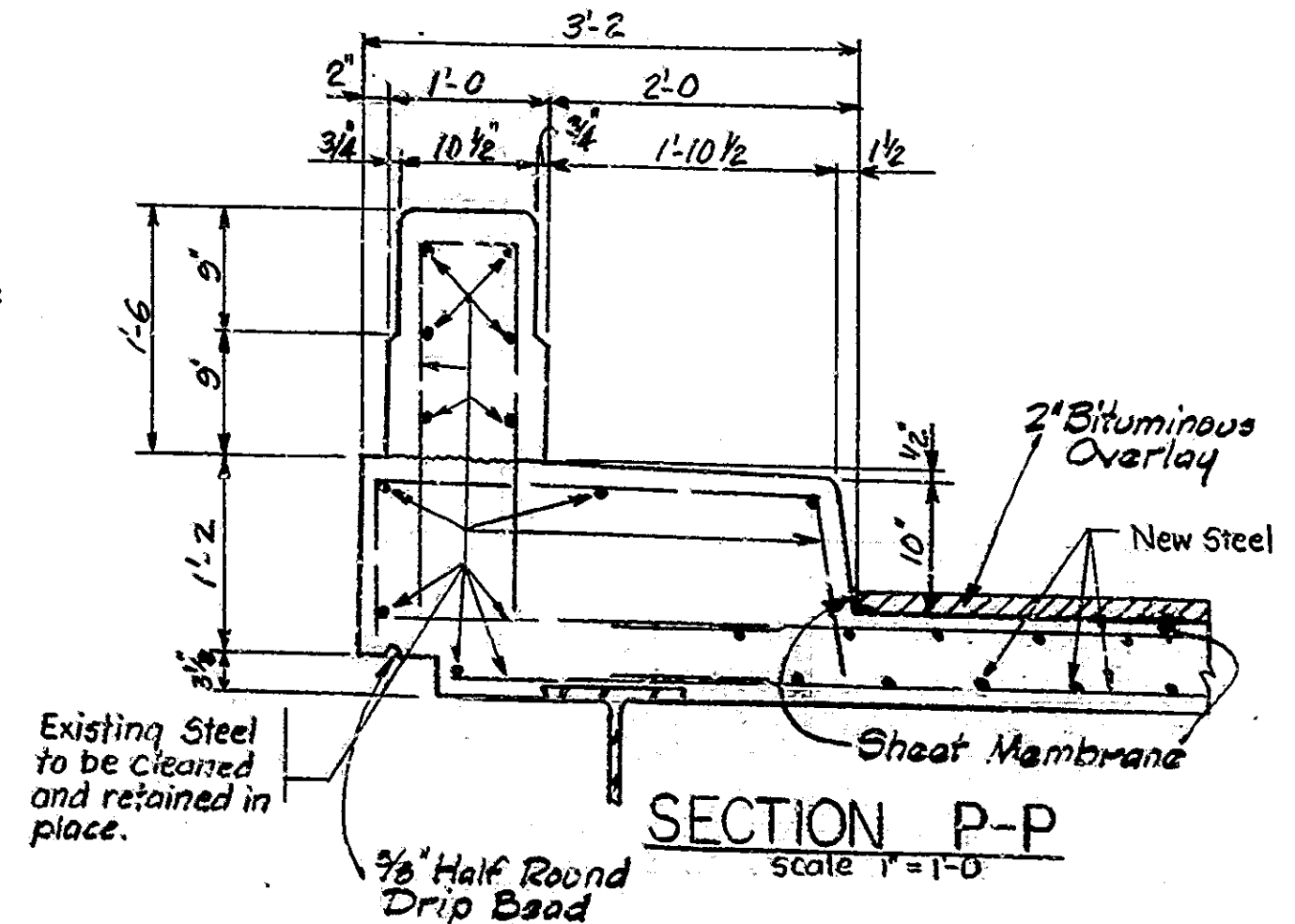
BILL OF MATERIALS

ONE STRUCTURE

SIZE & MARK	NB. OF BARS	LENGTH	WEIGHT (Lbs.)
#5	64	18'-0	
#5	32	13'-0	
#5	208	4'-0	
Total #5			2503*
CONCRETE			
Class "A" Conc. in Superstr.			11.1 cys.
Class "A" Conc. in Railing			0.2 cys.



TYPICAL HALF SECTION
Scale: 3/8" = 1'-0"



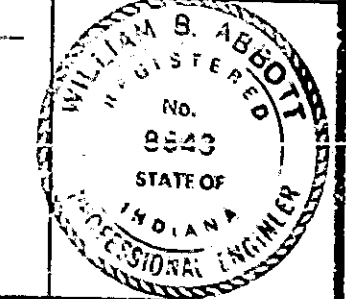
SECTION P-P
Scale: 1" = 1'-0"

INDIANA STATE HIGHWAY COMMISSION

SCALE: AS NOTED DATE: DECEMBER 17, 1974

DRAWING: D7A OF SHEET: IIA OF 27
PROJECT: I-UI-465-4 (176) 149
CONTRACT NO. B-8835
BRIDGE FILE: I-465-149-2221A

William C. Abbott
REGISTERED ENGINEER OF BRIDGE DESIGN



DESIGNED: CKD
DRAWN: M. J. D. 3/8" CKD
TRACED: CKD