CONTRACT No. B-12316

BRIDGES OVER 20' SPAN					
FEDERAL REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	I-FRI-70-1(55)7	1979	1	46

INDEX

PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION
I-FRI-70-1 (55)7	I-70-7-4712A	DECK RECONSTRUCTION & OVERLAY	AS NOTED	U.S. 41	370+02.62 (LINE "A")
	I-70-7-5039A			7th ST.	390+54.1 (LINE "A")
	I-70-8-2341A			N.Y.C. RR.	399+90.2 (LINE "A")
	I-70-8-2342A			C.M. ST.P & P R.R. & CANAL ST.	425+48.8 (LINE "A")
	I-70-9-2343A			C. & E.I. RR.	443+84.0 (LINE "A")
	I-70-9-2344A			THOMPSON DITCH & MIL. R.R.	470+15.2 (LINE "A")
	I-70-9-5189A			25th ST.	480+50 (LINE "A")
	I-70-9-5189JA			25th ST.	480+50 (LINE "A")

SHEET NO.	SHEET DESIGNATION		F.H.W.A. APPROVAL
1	ONE SHEET	TITLE SHEET	
2	ONE SHEET	TRAFFIC MAINTENANCE DETAILS WESTBOUND STRUCTURES	
3	ONE SHEET	TRAFFIC MAINTENANCE DETAILS EASTBOUND STRUCTURES	
4	D1	GENERAL NOTES & CONSTRUCTION PROCEDURES	
5	D2	GENERAL PLAN STRUCTURE I-70-7-4712A	
6	D3	BRIDGE DECK RECONSTRUCTION DETAILS	
7	D4	SUPERSTRUCTURE REPAIR DETAILS	
8	D5	R.C. BRIDGE APPROACH DETAILS	
9	D6	GENERAL PLAN STRUCTURE I-70-7-5039A	
10	D7	GENERAL PLAN STRUCTURE I-70-8-2341A	
11	D8	GENERAL PLAN STRUCTURE I-70-8-2342A	
12	D9	FLOOR SLAB REPAIR DETAILS	
13	D10	FLOOR SLAB REPAIR DETAILS AND BILL OF MATERIALS	
14	D11	GENERAL PLAN STRUCTURE I-70-9-2343A	
15	D12	FLOOR SLAB REPAIR DETAILS AND BILL OF MATERIALS	
16	D13	GENERAL PLAN STRUCTURE I-70-9-2344A	
17	D14	EXPANSION JOINT RECONSTRUCTION DETAILS	
18	D15	EXPANSION JOINTS CLASS S-S	
19	D16	GENERAL PLAN STRUCTURE I-70-9-5189A & 5189JA	
20	D17	BARRIER RAILING TYPE X DETAILS	
21	D18	GUARD RAIL BRACKET DETAILS	
22	D19	GUARD RAIL INSTALLATION & REMOVAL	
23	D20	DETAILS AND ESTIMATE OF QUANTITIES	

TRAFFIC DATA			
A.D.T. (1978)		19,600	V.P.D.
A.D.T. (19 PROJECTED)			V.P.D.
D.H.V. (19 PROJECTED)			V.P.D.
TRUCKS		D.H.V.	% A.D.T. %
DESIGN SPEED			M.P.H.
ACCESS CONTROL			

NOTE:-
WHENEVER I-FI-70-1(55)7 APPEARS IN THESE PLANS OR CONTRACT DOCUMENTS IT SHALL BE INTERPRETED AS I-FRI-70-1(55)7.

STATE OF INDIANA

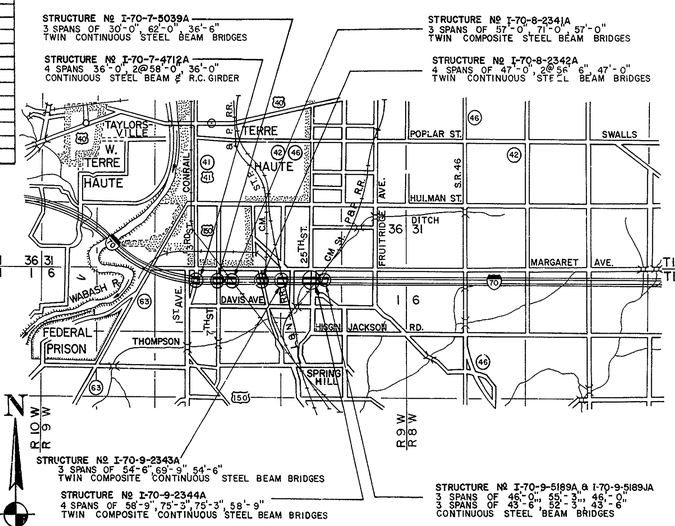
INDIANA STATE HIGHWAY COMMISSION

BRIDGE PLANS

FOR SPANS OVER 20 FEET ON INTERSTATE ROAD № 70

PROJECT NO. I-FRI-70-1(55)7

BEGINNING AT A POINT APPROXIMATELY 1120 FEET SOUTH AND 496.56 FEET EAST OF THE NORTHWEST CORNER OF THE NORTHEAST QUARTER OF SECTION 4, T-11-N, R-9-W, THENCE RUNNING EASTERLY ALONG INTERSTATE 70 APPROXIMATELY 11,220 FEET INCLUDING 7 TWIN BRIDGE STRUCTURES, ALL IN SECTIONS 2, 3 & 4, T-11-N, R-9-W, VIGO COUNTY, INDIANA.



SCALE 1" = 1 MILE

VIGO COUNTY

INDEX CONTINUED

STANDARD DRAWINGS

SHEET NO.	SHEET DESIGNATION	SUBJECT	F.H.W.A. APPROVAL	ADOPTED "A" REVISION "A"
24	BRIDGE STD. BR1	ALUMINUM BRIDGE RAILING	5-10-79	R-12-1-78
25	BRIDGE STD. BR2	ALUMINUM BRIDGE RAILING DETAILS	5-10-79	R-12-1-78
	BRIDGE STD. BR3	STEEL BRIDGE RAILING		
	BRIDGE STD. BR4	STEEL BRIDGE RAILING DETAILS		
	BRIDGE STD. BR5	RAILING CONNECTION DETAILS		
	BRIDGE STD. BR6	RAILING CONNECTION DETAILS		
26	BRIDGE STD. C1	MISCELLANEOUS DETAILS	6-13-77	R-6-1-77
	BRIDGE STD. C2	MISCELLANEOUS DETAILS		
27	BRIDGE STD. C3	MISCELLANEOUS DETAILS		R-11-15-78
	BRIDGE STD. C4	MISCELLANEOUS DETAILS		
	BRIDGE STD. D	CASTING DETAILS ROADWAY DRAINS		
28	BRIDGE STD. D1	ADJUSTING FRAME DETAILS FOR ROADWAY DRAINS		R-7-1-77
	BRIDGE STD.			
	BRIDGE STD. PB	PRESTRESSED CONCRETE TYPE I-BEAMS		
	BRIDGE STD. PB	PRESTRESSED CONCRETE TYPE I-BEAMS		
	BRIDGE STD. PB6	PRESTRESSED BOX BEAMS		
	BRIDGE STD. PB	PRESTRESSED COMPOSITE BOX BEAMS WIDE		
	BRIDGE STD. PB	PRESTRESSED COMPOSITE BOX BEAMS WIDE		
	BRIDGE STD. PB10	TOLERANCES FOR FABRICATION OF PRESTRESSED BEAMS		
	BRIDGE STD. PB11	ELASTOMERIC BEARING PAD DETAILS		
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD. R2A	BRIDGE LIGHTING DETAILS		
	BRIDGE STD. R2B			
	BRIDGE STD. S1	MISCELLANEOUS DETAILS		
	BRIDGE STD. SH1	STEEL SHOE DETAILS		
	BRIDGE STD. T SHEET A	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD. T SHEET B	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
29	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS	11-29-76	R-7-1-76
	ROAD STD. SHEET B	STANDARD PAVEMENT JOINTS		
	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS		
30	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS	9-29-71	R-1-4-71
31	ROAD STD. SHEET MB	MISCELLANEOUS STANDARDS	5-10-78	R-5-1-78
	ROAD STD. SHEET MB2	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
32	ROAD STD. SHEET MC	MISCELLANEOUS STANDARDS	9-14-78	R-8-1-78
	ROAD STD. SHEET MC1	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MD	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MD	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MD	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET ME	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET ME	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MH	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MH	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MI	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MM	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MP	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MQ	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MR	MISCELLANEOUS STANDARDS		
33	SHEET 9	TRAFFIC SIGN DETAILS		R-4-79
	ROAD STD.	STANDARD REINF. CONCRETE BOX CULVERTS		
	ROAD STD.	STANDARD REINF. CONCRETE CULVERTS		
34	ROAD STD. SHEET GR4	GUARD RAIL CLASS Ga	5-17-79	R-2-1-79
35	ROAD STD. SHEET GR8	STEEL BEAM GUARD RAIL DETAILS		R-9-4-79
36	ROAD STD. SHEET GR9	ALUMINUM BEAM GUARD RAIL DETAILS	5-17-79	R-2-1-79
37	ROAD STD. SHEET GR5	ALUMINUM GUARD RAIL DETAILS	12-6-76	R-9-1-75
38	ROAD STD. SHEET GR6	STEEL TUBE GUARD RAIL DETAILS	11-2-78	R-8-1-78
39	ROAD STD. SHEET GR10A	BREAKAWAY CABLE TERMINAL	5-10-79	R-4-1-79
40	ROAD STD. SHEET GR10	GUARD RAIL BURIED ENDS	2-15-79	R-2-1-79
41	ROAD STD. CB2	TEMPORARY CONCRETE BARRIER	12-7-79	R-11-1-79
	ROAD STD.			
	ROAD STD.	STANDARDS FOR SUPERELEVATION		
42	ROAD STD. SHEET 1 DETOURS	STANDARD DETOUR SIGNS		R-12-3-79
	ROAD STD. SHEET 1A DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 2 DETOURS	STANDARD DETOUR SIGNS		
43	ROAD STD. SHEET 2A DETOURS	STANDARD DETOUR SIGNS		R-8-1-79
44	ROAD STD. SHEET 3 DETOURS	STANDARD DETOUR SIGNS	5-18-77	R-4-1-77
	ROAD STD. SHEET 3A DETOURS	STANDARD DETOUR SIGNS		
45	ROAD STD. SHEET 4 DETOURS	STANDARD DETOUR SIGNS	5-18-77	R-4-1-77
	ROAD STD. SHEET 5 DETOURS	STANDARD DETOUR SIGNS		
46	ROAD STD. SHEET 5A DETOURS	STANDARD DETOUR SIGNS		R-8-1-79

PLANS PREPARED BY

AMERICAN CONSULTING ENGINEERS, INC.

CERTIFIED BY: Edward Spencer DATE: 6-20-79

APPROVED 10-24-79

H. K. Hallock

CHIEF HIGHWAY ENGINEER—INDIANA STATE HIGHWAY COMMISSION

RECOMMENDED FOR APPROVAL 10-5

S. W. Williams

ENGINEER OF BRIDGE DESIGN, INDIANA STATE HIGHWAY COMMISSION

FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION

APPROVED:-

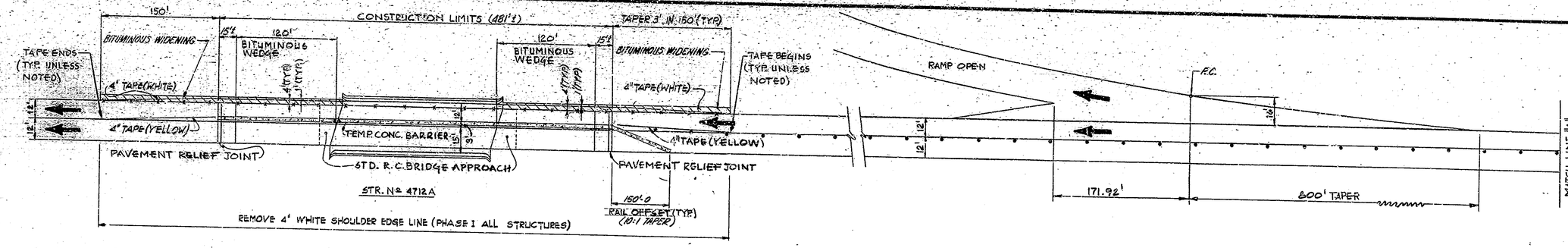
DIVISION ADMINISTRATOR DATE

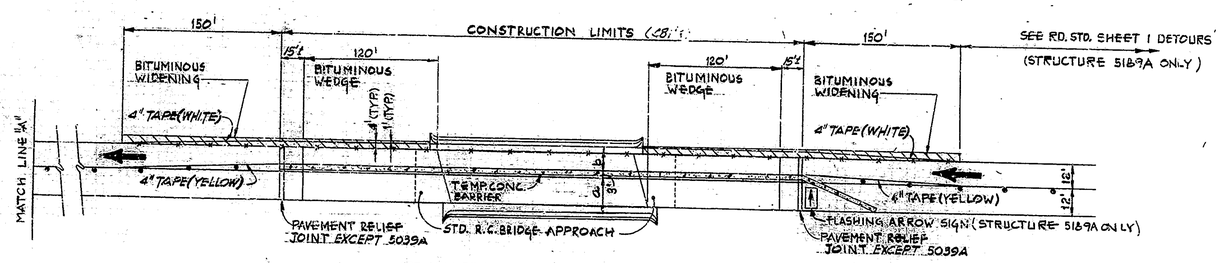
BRIDGE FILE:- I-70, 4712A, 5039A, 2341A, 2342A, 2343A, 2344A, 5189A & 5189JA

INDIANA STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS DATED 1978 TO BE USED WITH THESE PLANS.

REVISIONS	
DATE	SHEET NO.

REVISIONS	
DATE	SHEET NO.
10-30-79	4, 23
1-2-80	41, 42
1-16-80	23





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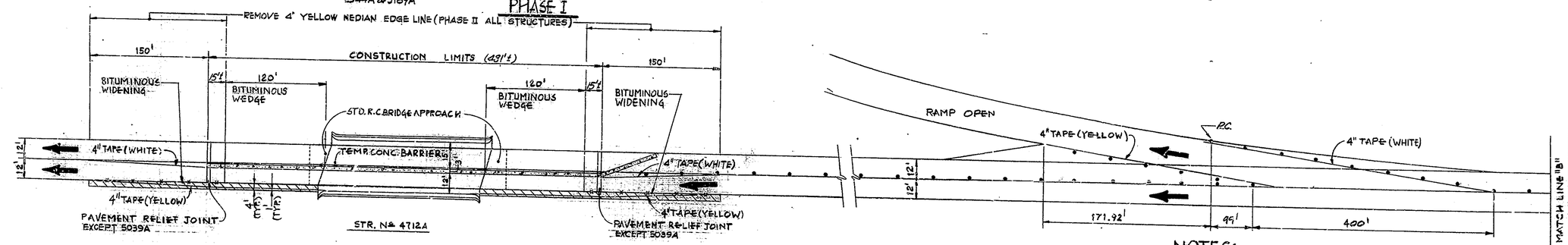
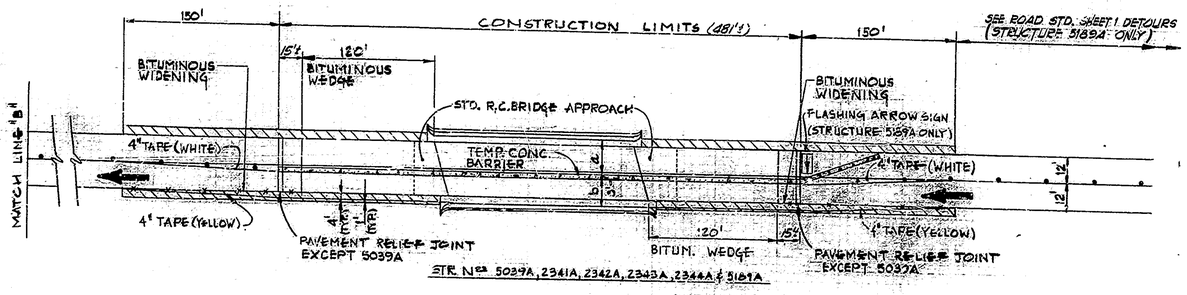
PHASE I





STR. Nos 5039A, 2341A, 2342A, 2343A, 2344A & 5189A

PHASE II

LANE DIMENSIONS				
STRUCTURE No	a		b	
	PHASE I	PHASE II	PHASE I	PHASE II
5039A	17'-6	22'-0	19'-0	14'-6
2341A	17'-6	22'-0	19'-0	14'-6
2342A	17'-6	22'-0	19'-0	14'-6
2343A	17'-6	22'-0	19'-0	14'-6
2344A	15'-0	15'-0	12'-0	12'-0
5189A	17'-6	22'-0	19'-0	14'-6

NOTES:

INDICATES PAVEMENT EDGE LINE TO BE REMOVED.

• INDICATES METAL DRUM OR TYPE I OR II BARRICADE WITH TYPE "C" STEADY BURNING LIGHT. (NOT A PAY ITEM)

BITUMINOUS WIDENING: 990 LBS/SYS BITUMINOUS BASE TYPE 5D. BITUMINOUS WIDENING TO REMAIN IN PLACE.

TEMPORARY CONCRETE BARRIER

NOTE: SEE ROAD STD. DETOUR SHEET 1 FOR ADVANCE SIGNING AND MERGING FROM 2 LANES TO 1 LANE. THE 4" SKIP WHITE CENTERLINE SHALL BE REMOVED IN MERGE AREAS AND 4" WHITE TAPE PLACED ADJACENT TO METAL DRUMS OR TYPE I OR II BARRICADES THROUGH THE MERGE AREA IN PHASE II. 4" YELLOW TAPE SHALL BE USED AT THE CORRESPONDING LOCATION IN PHASE I.

TEMPORARY PAVEMENT EDGE MARKING TAPE TO BE CONTINUED OVER BRIDGE DECK ON ALL STRUCTURES EXCEPT STR. No 4712A AND STR. No 2344A.

ONE LANE OF TRAFFIC SHALL BE MAINTAINED EACH WAY THROUGHOUT THE LENGTH OF THE PROJECT.

BITUMINOUS BASE TYPE 5D PAID FOR AS "BITUM. MIXTURE IN APPRS."

TRAFFIC MAINTENANCE DETAILS

WESTBOUND STRUCTURES

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE DATE: 6-20-79

SUBMITTED FOR APPROVAL John E. Spencer

DRAWING:- OF SHEET:- 2 OF 46

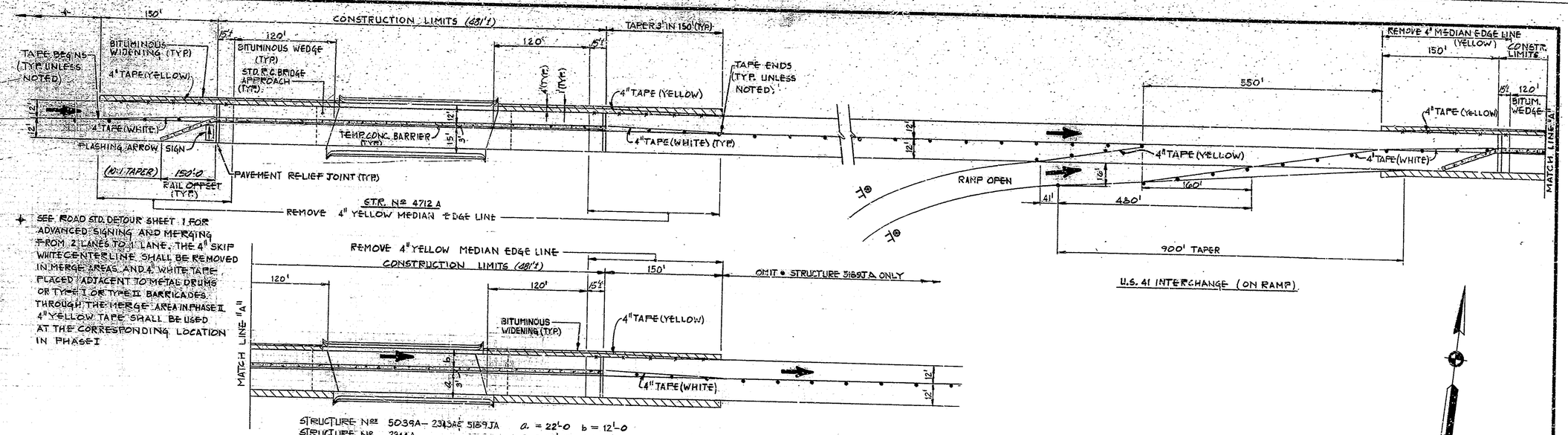
PROJECT:- I-FI-70-1(55)7

CONTRACT NO. B-12316

BRIDGE FILE: I-70-4712A, 5039A, 2341A, 2342A, 2343A, 2344A & 5189A

JOHN E. SPENCER REGISTERED No. 7140 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED	SPG 8-2-78	C'K'D	WRC 8-10-78
DRAWN	SPG 8-2-78	C'K'D	WRC 8-10-78
TRACED		C'K'D	



✦ SEE ROAD STD. DETOUR SHEET 1 FOR ADVANCED SIGNING AND MERGING FROM 2 LANES TO 1 LANE. THE 4" SKIP WHITE CENTERLINE SHALL BE REMOVED IN MERGE AREAS, AND 4" WHITE TAPE PLACED ADJACENT TO METAL DRUMS OR TYPE I OR TYPE II BARRICADES THROUGH THE MERGE AREA IN PHASE II. 4" YELLOW TAPE SHALL BE USED AT THE CORRESPONDING LOCATION IN PHASE I

NOTES:

- • INDICATES METAL DRUM OR TYPE I OR II BARRICADE WITH TYPE "C" STEADY BURNING LIGHT. (NOT A PAY ITEM)
- BITUMINOUS WIDENING: 990 LBS/SYS BITUMINOUS BASE TYPE 5D. BITUMINOUS WIDENING TO REMAIN IN PLACE.
- INDICATES PAVEMENT EDGE LINE TO BE REMOVED.
- TEMPORARY CONCRETE BARRIER
- CONSTR. SIGN XW-1A WITH LOW INTENSITY FLASHING YELLOW LIGHT (TYPE A)

ONE LANE OF TRAFFIC SHALL BE MAINTAINED EACH WAY THROUGHOUT THE LENGTH OF THE PROJECT.

BITUMINOUS BASE TYPE 5D PAID FOR AS "BITUM. MIXTURE FOR APPRS."

NOTE: TEMPORARY PAVEMENT EDGE MARKING TAPE TO BE CONTINUED OVER BRIDGE DECK ON ALL STRUCTURES EXCEPT STR. Nº 4712A AND STR. Nº 2344A.

TRAFFIC MAINTENANCE DETAILS
EASTBOUND STRUCTURES

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE DATE:- 6-20-79

SUBMITTED FOR APPROVAL John L. Spence

DRAWING:- OF SHEET:- 3 OF 46

PROJECT:- ~~I-FL-70-1(55)7~~

CONTRACT NO. B-123/16

BRIDGE FILE:- I-70-4712A, 5039A, 2341A, 2342A, 2343A, 2344A & 5189JA

DESIGNED SPO 8-9-78 CK'D WRC 8-10-78
DRAWN SPO 8-9-78 CK'D WRC 8-10-78
TRACED CK'D

JOHN L. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

CONSTRUCTION PROCEDURE

1. CONSTRUCT ALL BITUMINOUS WIDENING. ERECT SIGNS AND INSTALL TEMPORARY BARRIER RAILING AND OTHER TRAFFIC CONTROL DEVICES TO DIVERT TRAFFIC TO ONE LANE OF TRAVEL IN EACH DIRECTION THROUGHOUT THE ENTIRE PROJECT.

2. REMOVE PORTIONS OF EXISTING BRIDGE FLOOR AS SHOWN ON THE PLANS. CONSTRUCT NEW CLASS "A" CONCRETE SLAB TO THE LEVEL OF SCARIFICATION AND FINISH WITH A ROUGH SURFACE. (STRUCTURE NUMBERS 4712A, 2342A & 2343A ONLY).

3. SCARIFY THE REMAINING EXISTING BRIDGE FLOOR ½ INCH. SCARIFY ADDITIONAL AREAS OF THE BRIDGE FLOOR AN ADDITIONAL ½ INCH AS DIRECTED BY THE ENGINEER. REMOVE SCARIFIED DUST.

4. REMOVE ALL DETERIORATED CONCRETE BELOW THE LEVEL OF SCARIFICATION AND REMOVE CONCRETE AROUND REINFORCING ALONG CURBS INACCESSIBLE TO SCARIFYING EQUIPMENT AND AS REQUIRED FOR INSTALLATION OF EXPANSION JOINT TO HANDCHIPPING AND CLEANING IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

5. BLAST AND CLEAN ALL REMOVAL AND SCARIFIED AREAS AND THE SURFACE OF THE PERMANENT CLASS "A" CONCRETE SLAB. CONSTRUCT OVERLAY DAMS ON ALL STRUCTURES AND INSTALL CLASS B-S JOINT STRUCTURE NUMBER 2342A.

6. PLACE THE BRIDGE DECK PATCHING MATERIAL AND PLACE THE BRIDGE DECK OVERLAY TO THE LEVEL INDICATED ON THE PLANS AND IN ACCORDANCE WITH THE SPECIAL PROVISIONS. INSTALL BS EXPANSION JOINTS.

7. REMOVE ALUMINUM BRIDGE RAILING AND INSTALL BARRIER RAILING TYPE "A". (STRUCTURE NUMBERS 4712A & 2344A ONLY)

8. CLEAN AND SEAL THE TOPS AND ROADWAY FACE OF CURBS, TOP AND BOTH FACES OF PARAPET WALLS AND ALL FACES OF NEW RAILING BRACKETS AND THE FACE OF DECK COPING. ALSO THE UNDERSIDE OF BRIDGE FLOOR FROM COPING TO DRIP BEAD.

9. REMOVE EXISTING R.C. APPROACH SLABS AT STRUCTURE NUMBER 4712A AND STRUCTURE NUMBER 2344A ONLY. CONSTRUCT NEW R.C. APPROACHES AS SHOWN ON PLANS.

10. CONSTRUCT THE BITUMINOUS WEDGES, PAVEMENT RELIEF JOINTS, AND ALL OTHER WORK SHOWN ON THE PLANS INCLUDING THE REMOVAL AND INSTALLATION OF GUARD RAIL.

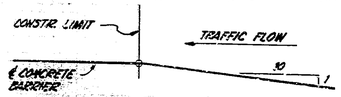
11. FOR STRUCTURE NUMBER 2342A: PLACE FILL AND SOD ON ERODED AREAS ALONG NORTH SIDE OF EAST SIDEWALL OF ABUT. FOR STRUCTURE NUMBER 2341A: PLACE DUMPED RIP-RAP OR CONCRETE FROM R.C. APPROACH SLAB ON ERODED AREAS IN THOMPSON DITCH.

12. RESET TRAFFIC CONTROL DEVICES TO DIVERT TRAFFIC TO COMPLETED LANES AND REPEAT STEPS 2-11. WHEN ALL WORK IS COMPLETED OPEN STRUCTURES TO TRAFFIC.

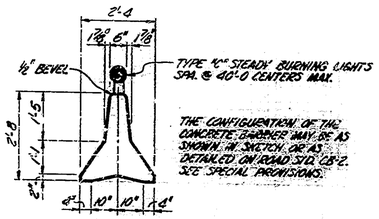
THE NUMBERS DO NOT NECESSARILY INDICATE THE SEQUENCE OF OPERATIONS.

PNEUMATIC HAMMERS 30 lbs. MAXIMUM WEIGHT SHALL BE USED FOR ALL REMOVALS WITHIN 18 INCHES OF THE FINAL REMOVAL LIMIT AND FOR ALL DECK PATCHING AND OVERLAY DAM REMOVAL.

USE PORTIONS OF EXISTING CONCRETE DECK TO REPAIR EROSION IN SPILL SLOPES. (STRUCTURE NUMBERS 2342A AND 2343A ONLY) (NOT A PAY ITEM)



BARRIER RAIL OFFSETS



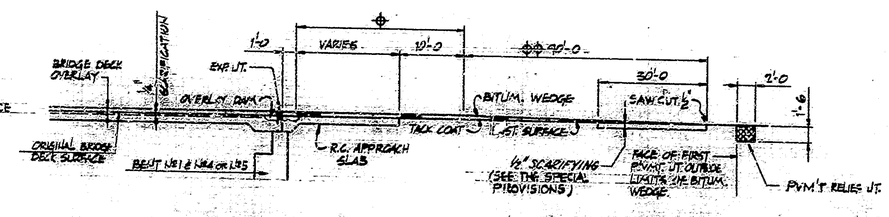
TEMPORARY CONCRETE BARRIER

NOTE: ALL BITUM. MATERIAL REQ'D IN THIS CONTRACT TO BE INCLUDED IN THE PAY ITEM "BITUMINOUS MIXTURE FOR APPROACHES" EXCEPT TACK COAT WHICH IS TO BE PAID FOR AS "BITUMINOUS MATERIAL FOR TACK COAT" IN SQ. YDS.

LENGTH AND QUANTITIES OF BITUM. WEDGES SHOWN ON THE PLANS ARE BASED ON THE USE OF MODIFIED P.C.C. OVERLAY (1¾"). SEE SPECIAL PROVISIONS.

⊕ WEDGE TO BE A CONTINUATION OF BRIDGE DECK PROFILE.

⊕⊕ TAPER WEDGE UNIFORMLY TO MEET EXISTING ROADWAY SURFACE



SECTION B-B

NOTE: FOR STRUCTURE NO. 5039A ONLY, PAVEMENT RELIEF JOINTS ALREADY EXIST AND ARE APPROXIMATELY LOCATED AT THE ENDS OF THE R.C. BRIDGE APPROACHES.

STANDARD DRAWINGS		
ROAD STD.	BR. STD.	DESCRIPTION
CB 2		TEMP. CONC. BARRIER
GR. 4		GUARD RAIL POSTS & GA.
GR. 5		ADJUSTING GUARD RAIL DETAILS
GR 8		STEEL BEAM GUARD RAIL
GR 9		ALUMINUM BEAM GUARD RAIL
GR 10		GUARD RAIL FLARED ENDS
GR 10A		BREAKAWAY CABLE TERMINAL
MA		MISCELLANEOUS DETAILS
MB		" " "
SHEET 1 DETOURS		STANDARD DETOUR SIGNS
SHEET 2A DETOURS		" " "
SHEET 3A DETOURS		" " "
SHEET 4 DETOURS		" " "
SHEET 5A DETOURS		TRAFFIC SIGN DETAILS
SHEET 9		SIGN DETAILS
	C1	REINFORCING BAR NOTES
	C3	NOTCH AT END OF BEAMS
	D1	ADJUSTING FRAME DETAILS FOR ROADWAY DRAINS
	BR1	ALUMINUM BRIDGE RAILING
	BR2	ALUMINUM BRIDGE RAILING DETAILS
A		WIRE FABRIC
GR6		POST PADDLE
MC		CASTING TYPE 7

GENERAL NOTES

ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION THROUGHOUT THE LENGTH OF THE PROJECT.

PLANS OF EXISTING STRUCTURES ARE ON FILE IN THE BRIDGE DEPT.; INDIANA STATE HIGHWAY COMMISSION AS

BRIDGE FILE Nº I-70-7-4712
I-70-7-5039
I-70-8-2341
I-70-8-2342
I-70-9-2343
I-70-9-2344
I-70-9-5189
I-70-9-5189 J

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 FIT OF THE NEW PART TO THE OLD.

THE HANDCHIPPING 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, REMOVAL SHALL CONTINUE UNTIL PERFECTLY SOUND CONCRETE IS EXPOSED. ALL EXISTING NON-FULL DEPTH DECK PATCHING TO BE REMOVED.

CONCRETE FOR PATCHING OF DETERIORATED DECK AREAS TO BE SPECIAL CLASS "A" CONCRETE OR MODIFIED P.C. CONCRETE. SEE SPECIAL PROVISIONS.

SOME ADDITIONAL BITUM. WEDGING WILL BE REQUIRED FOR LEVELING DUE TO SETTLEMENT OF BRIDGE APPROACHES. ALL BITUM. MATERIALS REQUIRED IN THE CONTRACT TO BE INCLUDED IN THE COST OF "BITUMINOUS MIXTURE FOR APPROACHES", UNLESS OTHERWISE NOTED.

SEAL ALL JOINTS AND CRACKS IN THE APPROACH PAVEMENT WITHIN THE LIMITS OF BITUM. WEDGES, WITH A HOT POURED JOINT SEALER BEFORE PLACING THE BITUM. WEDGE.

* REINFORCING STEEL COVERING SHALL BE 1½" BELOW THE TOP AND 1" MINIMUM ABOVE THE BOTTOM OF THE CLASS "A" CONCRETE PORTION OF THE FLOOR SLAB.

* CONCRETE IN THE FLOOR SLAB TO BE CLASS "A".

* CONTINUOUS CONCRETE POURS SHALL BE REQUIRED BETWEEN CONSTRUCTION JOINTS AS SHOWN IN DETAIL PLANS.

* THE BOUNDARIES OF ALL FULL DEPTH DECK REMOVAL AREAS SHALL BE SAW CUT. ALL CUTS FOR REMOVALS SHALL BE MADE TO A MINIMUM DEPTH OF 1 INCH BELOW ORIGINAL SURFACE OR TO THE TOP OF REINFORCING IF COVER IS LESS THAN 1 INCH, UNLESS NOTED.

FOR COMPOSITION OF CONCRETE IN OVERLAY DAMS, SEE SPECIAL PROVISIONS.

OVERLAY DAM PAID FOR ONLY WITHIN THE LIMITS OF CLEAR ROADWAY. COST OF RECONSTRUCTION AT CURBS AND WALKS IS INCLUDED IN COST OF BS JOINT.

ALL REMOVED GUARD RAIL AND BRIDGE RAILING SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF OFF THE R/W.

PATCH CURBS, WALKS AND PARAPETS WITH SPECIAL CONCRETE. (5 SFT EA. STRUCTURE)

* APPLIES TO STRUCTURE Nº 2342A, Nº 2343A & 2344A.

MATERIAL NOTES

BITUMINOUS WIDENING

950 #/SYS. BITUM. BASE (TYPE SD)

BITUM. WEDGE & LEVELING

110 #/SYS. BITUM. SURFACE TYPE 11-B OVER VARIABLE DEPTH BITUM. BINDER OR BASE.

PAVEMENT RELIEF JOINT

110 #/SYS BITUMINOUS SURFACE TYPE 11-B OVER 1870 #/SYS BITUMINOUS BASE.

BRIDGE DECK OVERLAY

1¾" MODIFIED PORTLAND CEMENT CONCRETE
OR
2½" DENSE PORTLAND CEMENT CONCRETE
(1½" OR 2¼" RESPECTIVELY ABOVE ORIGINAL SURFACE)

GENERAL NOTES & CONSTRUCTION PROCEDURES

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

DATE:- 6-20-79

SUBMITTED FOR APPROVAL John L. Spencer

DRAWING:- D1 OF D20 SHEET:- 4 OF 46

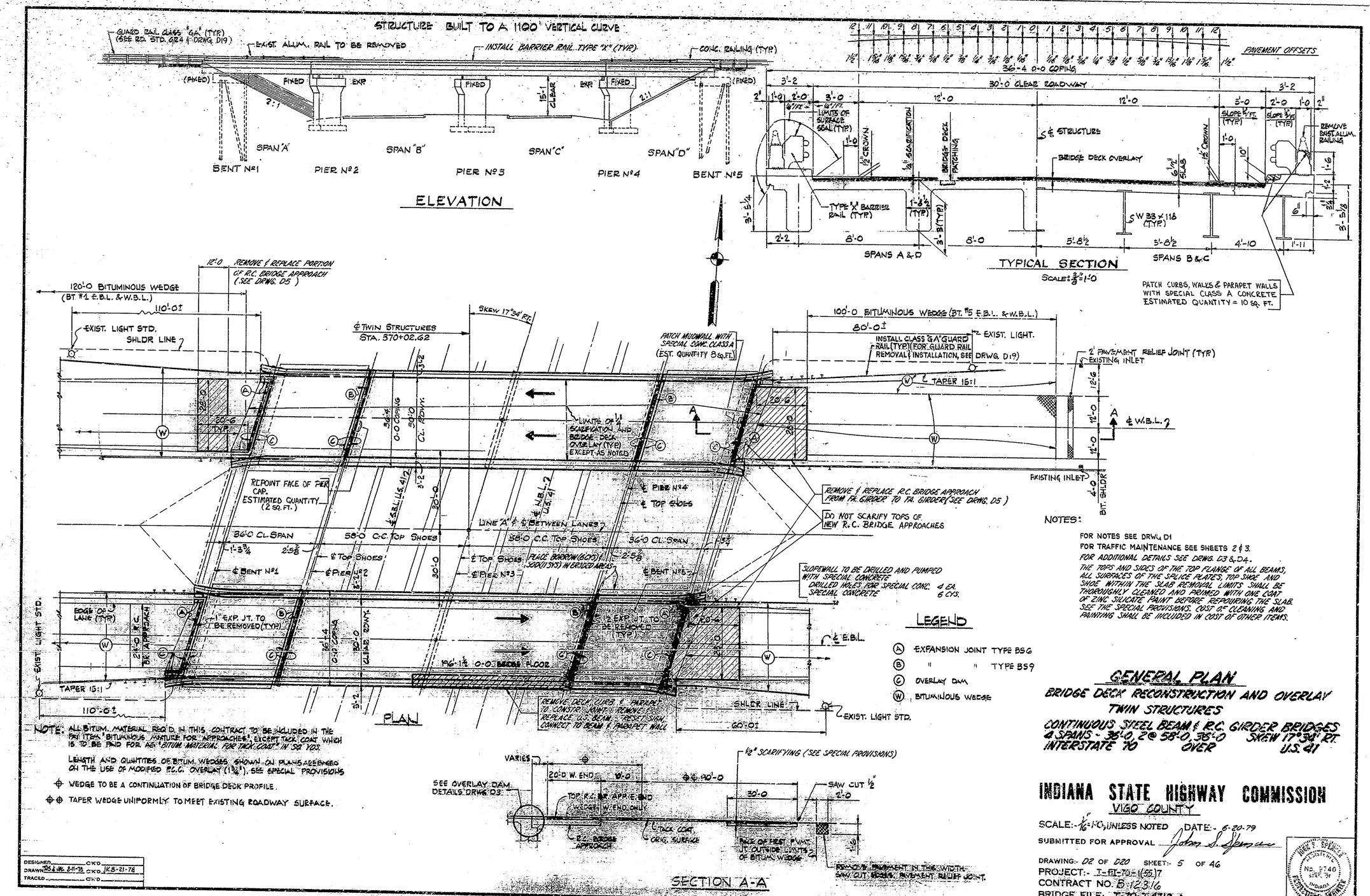
PROJECT:- I-FI-70-1(55)7

CONTRACT NO. B-12316

BRIDGE FILE:- I-70, 4712A, 5039A, 2341A, 2342A, 2343A, 2344A, 5189A & 5189JA

JOHN L. SPENCER REGISTERED No. 9760 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED _____ C'K'D _____
DRAWN TJS 8-10-78 C'K'D SEO 8-11-78
TRACED _____ C'K'D _____



NOTE: ALL BITUM. MATERIAL REQ'D IN THIS CONTRACT TO BE INCLUDED IN THE PAY ITEM "BITUMINOUS MIXTURE FOR APPROACHES", EXCEPT TACK COAT WHICH IS TO BE PAID FOR AS "BITUM. MATERIAL FOR TACK COAT" IN SP. 105.

LENGTH AND QUANTITIES OF BITUM. WEDGES SHOWN ON PLANS ARE BASED ON THE USE OF MODIFIED P.C.C. OVERLAY (1 3/4"). SEE SPECIAL PROVISIONS

⊕ WEDGE TO BE A CONTINUATION OF BRIDGE DECK PROFILE.

⊕⊕ TAPER WEDGE UNIFORMLY TO MEET EXISTING ROADWAY SURFACE.

NOTES:

FOR NOTES SEE DRWG. D1

FOR TRAFFIC MAINTENANCE SEE SHEETS 2 & 3.

FOR ADDITIONAL DETAILS SEE DRWG. D3 & D4.

THE TOPS AND SIDES OF THE TOP FLANGE OF ALL BEAMS, ALL SURFACES OF THE SPLICE PLATES, TOP SHOE AND SHOE WITHIN THE SLAB REMOVAL LIMITS SHALL BE THOROUGHLY CLEANED AND PRIMED WITH ONE COAT OF ZINC SILICATE PAINT BEFORE REPOURING THE SLAB. SEE THE SPECIAL PROVISIONS. COST OF CLEANING AND PAINTING SHALL BE INCLUDED IN COST OF OTHER ITEMS.

GENERAL PLAN

BRIDGE DECK RECONSTRUCTION AND OVERLAY

TWIN STRUCTURES

CONTINUOUS STEEL BEAM & R.C. GIRDER BRIDGES
4 SPANS - 38'-0, 2 @ 58'-0, 38'-0 SKEW 17°34' RT.
INTERSTATE 70 OVER U.S. 41

INDIANA STATE HIGHWAY COMMISSION

VIGO COUNTY

SCALE:- 1/16" = 1'-0, UNLESS NOTED DATE:- 6-20-79

SUBMITTED FOR APPROVAL John S. Spencer

DRAWING:- D2 OF D20 SHEET:- 5 OF 46

PROJECT:- I-FI-70-1(55)7

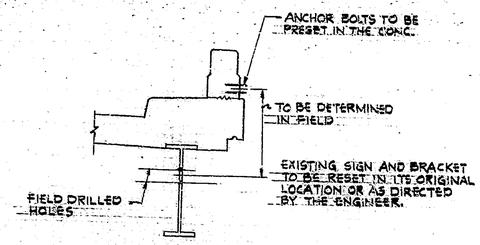
CONTRACT NO. B-123-6

BRIDGE FILE:- I-70-7-4712 A

DESIGNED _____ CK'D _____

DRAWN JDS & JRC 8-11-78 CK'D JKB 8-21-78

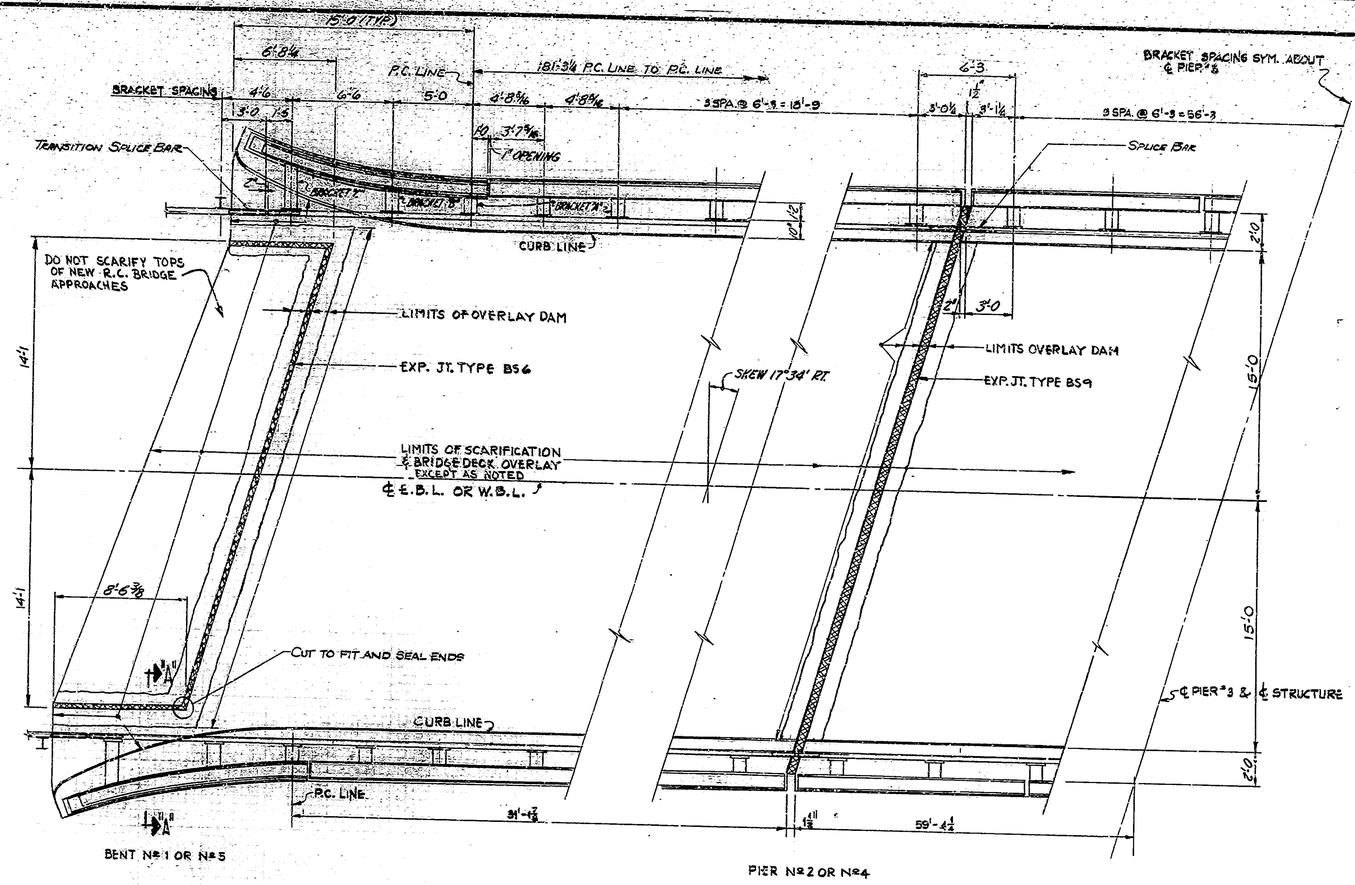
TRACED _____ CK'D _____



NOTE: ALL WORK OF REMOVING AND RESETTING SIGN IS INCLUDED IN THE PAY ITEM "REMOVING AND RESETTING SIGN" (L. SUM.)

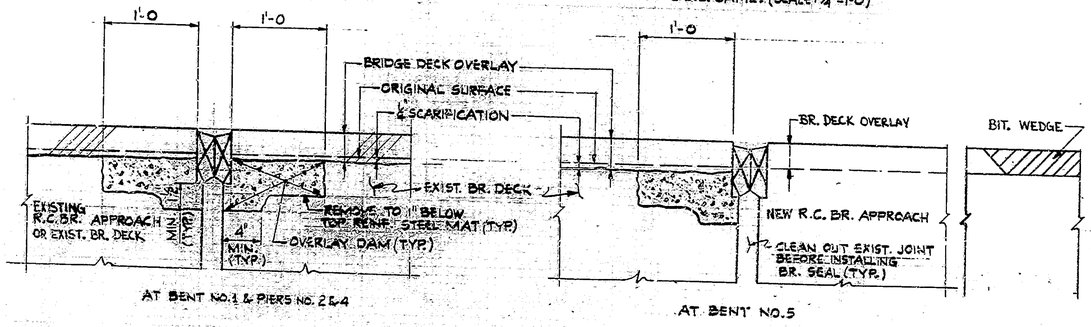
SECTION AT SIGN BRACKET

NOT TO SCALE



HALF PLAN W.B.L.

SYM. ABOUT ℄ STR. BY 180° ROTATION EXCEPT AS NOTED ON GENERAL PLAN. E.B.L. SAME. (SCALE: ¼"=1'-0)



AT BENT No. 1 & PIERS No. 2 & 4

AT BENT No. 5

TYP. OVERLAY DAM DETAILS

SCALE: NONE

NOTE:

FOR "EXPANSION JOINT TYPE BS" DETAIL AND "TYPICAL BS JOINT INSTALLATION AT CURBS" DETAIL, SEE DRWG. D20.
FOR BARRIER RAILING TYPE "X" DETAILS SEE DRWG. D17.

BR. DECK RECONSTR. DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED DATE:- 6-20-79

SUBMITTED FOR APPROVAL John S. Spencer

DRAWING:- D3 OF D20 SHEET:- 6 OF 46

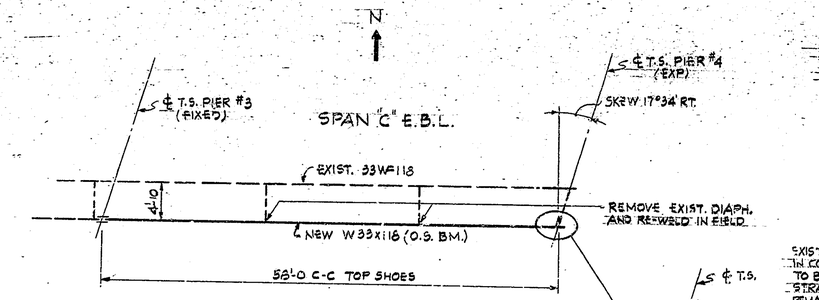
PROJECT:- I-FI-70-1(55)7

CONTRACT NO. B-123-6

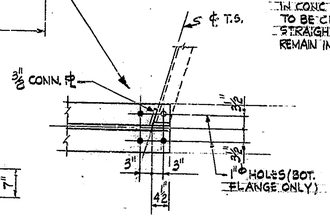
BRIDGE FILE:- I-70-7-4712A

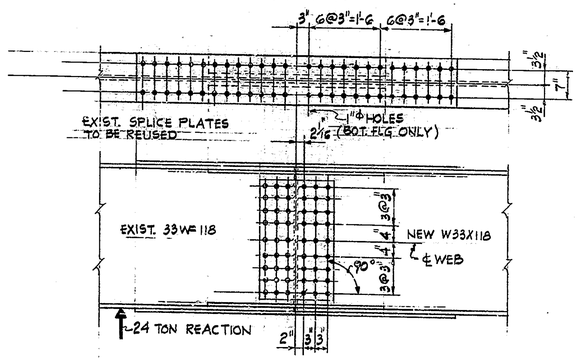
JOHN S. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED _____ C'K'D _____
DRAWN WA 10-18-78 C'K'D JPO 10-23-78
TRACED _____ C'K'D _____

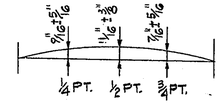


PART FRAMING PLAN
SCALE: 1/8"=1'-0

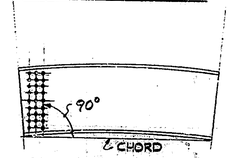




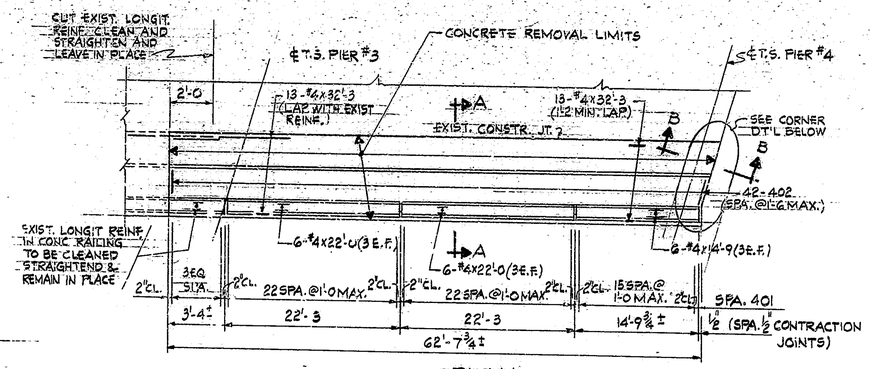
FIELD SPLICE DETAIL
SCALE: 3/4"=1'-0



CAMBER DIAGRAM



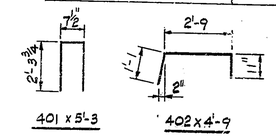
SKETCH SHOWING PUNCHING OF BEAM WEB

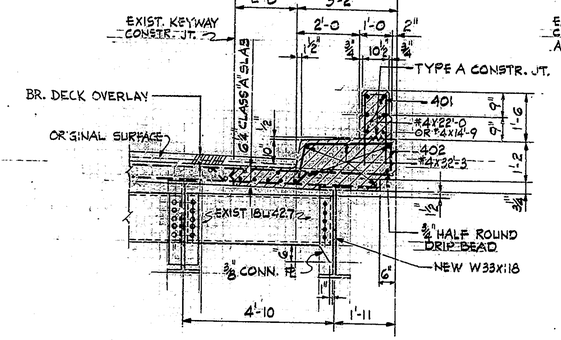


PLAN
NOT TO SCALE

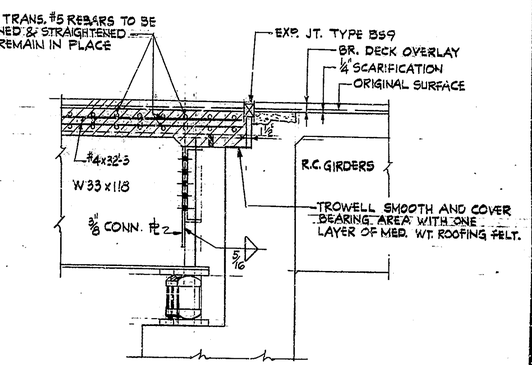
BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT
401	66	4'-9	
402	42	5'-3	
#4	26	32'-3	
#4	18	22'-0	
#4	6	14'-9	
TOTAL #4			1152#
CONCRETE			
CLASS "A" IN SUPERSTR.			12.5 CYS
CLASS "A" IN RAILING			3.3 CYS

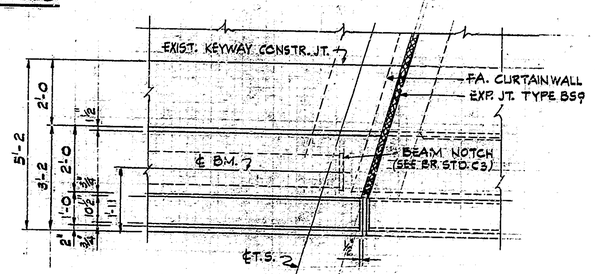




SECTION A-A



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



CORNER DETAIL
SCALE: 1/2"=1'-0

FABRICATION NOTES

1. HIGH STRENGTH BOLTS TO BE 7/8" DIA. UNLESS NOTED; OPEN HOLES 15/16" DIA. UNLESS NOTED.
2. ALL PAINT SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS. SHOP PAINT: ZINC SILICATE PAINT. FIELD PAINT: VINYL FINISH COAT.
3. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36.
4. THE CONTRACTOR SHALL PREPARE DETAILED WORKING OR SHOP DRAWINGS TO ENABLE HIM TO FABRICATE, ERECT, AND CONSTRUCT ALL PARTS OF THE WORK IN CONFORMITY WITH THE ENGINEER'S DRAWINGS AND SPECIFICATION AND SHALL SUBMIT 5 COPIES TO THE ENGINEER. SEE ARTICLE 711.04 OF THE SPEC'S.
5. THE SHOP PLANS SHALL INDICATE THAT REAMING IS TO BE DONE IN THE FIELD.
6. BEAM MUST BE CAMBERED TO A SMOOTH CURVE. SEE CAMBER DIAGRAM.
7. HOLES FOR BEAM SPLICES SHALL BE SUBPUNCHED OR SUBDRILLED. SEE ARTICLE 711.24 OF THE SPEC'S.
8. MATERIALS AS LISTED ON THE SHOP DRAWINGS WHICH DO NOT REQUIRE MILL TEST REPORTS MAY BE CHANGED FROM THAT SHOWN ON THE CONTRACT PLANS SUBJECT TO APPROVAL. THE MATERIAL SPECIFICATION SHALL BE GIVEN ON THE SHOP DRAWINGS IF DIFFERENT THAN THAT ON CONTRACT PLANS. SEE ARTICLE 711.07 OF THE SPEC'S.
9. RIVETS SHALL NOT BE USED IN THE ASSEMBLY OF STRUCTURAL STEEL.
10. AS SOON AS THE ENGINEER HAS APPROVED THE FIELD WELDS, ALL WELDS AND ANY SURFACE FROM WHICH THE SHOP COAT HAS BEEN OMITTED OR BECOMES WORN OFF OR HAS OTHERWISE BECOME DEFECTIVE SHALL BE THOROUGHLY CLEANED OF ALL CHARRED PAINT OR ANY FOREIGN MATTER AND COMPLETELY COVERED WITH ONE COAT OF SHOP PAINT.

ESTIMATED WEIGHT OF STRUCTURAL STEEL = 6900 LBS

NOTES:
FOR REINFORCING BAR NOTES, SEE BR. STD. C1.

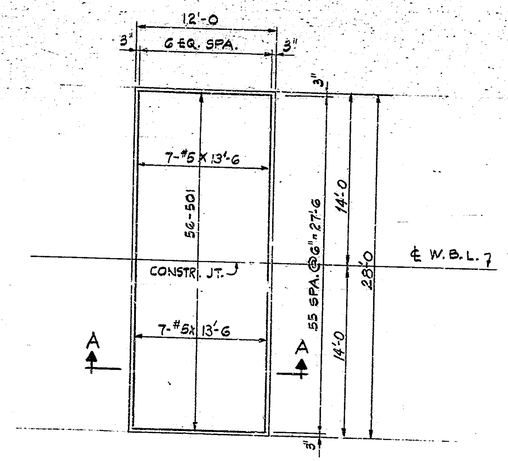
DESIGNED _____ CK'D _____
DRAWN K 6-11-79 CK'D RAP 6-12-79
TRACED _____ CK'D _____

SUPERSTRUCTURE REPAIR DETAILS

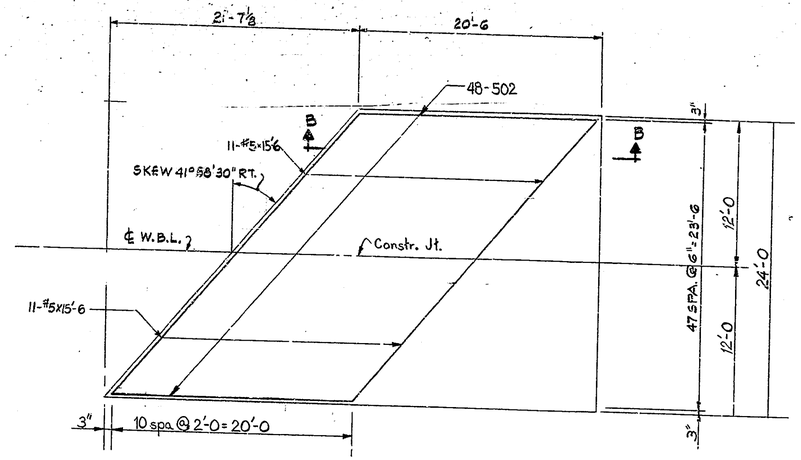
INDIANA STATE HIGHWAY COMMISSION

SCALE: AS NOTED DATE: 6-20-79
SUBMITTED FOR APPROVAL John S. Spencer
DRAWING: D6 OF D20 SHEET: 7 OF 46
PROJECT: I-FBI-70-1 (__) 7
CONTRACT NO. B-12316
BRIDGE FILE: I-70-7-4712A

JOHN S. SPENCER REGISTERED NO. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

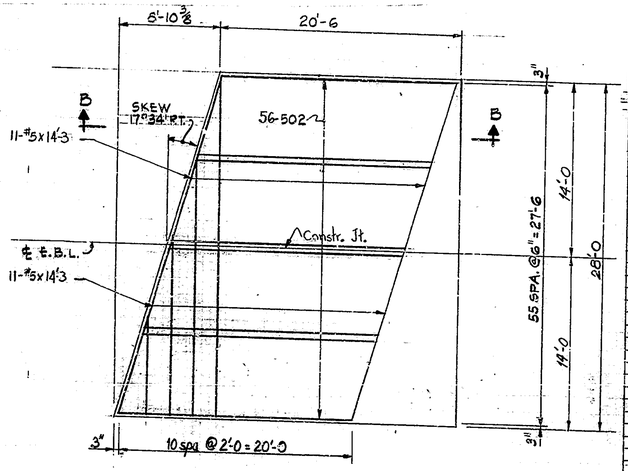


PLAN AT BENT #1 W.B.L. (4712A)



PLAN AT BENT #5 W.B.L. (2344A)

PLAN AT BT. #4 E.B.L. (2344A) SAME BY 180° ROTATION.



PLAN AT BENT #5 E.B.L. (4712A)

PLAN AT BENT #5 W.B.L. (4712A) SAME

BILL OF MATERIALS

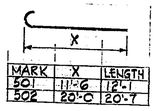
4712A

REINFORCING STEEL			
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT
BENT #1 W.B.L.			
501	56	12'-1	
#5	14	13'-6	
SUB-TOTAL			903#
BENT #5 W.B.L.			
502	56	20'-7	
#5	22	14'-3	
SUB-TOTAL			1529#
BENT #5 E.B.L.			
502	56	20'-7	
#5	22	14'-3	
SUB-TOTAL			1529
TOTAL REINF.			3961
CONCRETE			
CONC. P.V.M.T. REINF. (10")			
BENT #1 W.B.L.			37.3 SYS
#5 W.B.L.			17.6 "
#5 E.B.L.			17.6 "
TOTAL			92.5 "
TYPE O COMPACTED AGGREGATE FOR BASE (SIZE NO. 73B)			
BENT #1 W.B.L.			3 TONS
" #5 W.B.L.			26 "
" #5 E.B.L.			26 "
TOTAL			85 "

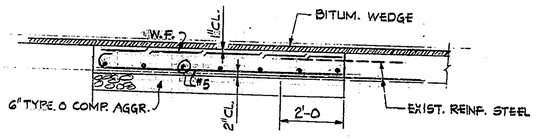
2344A BENT #5 W.B.L.

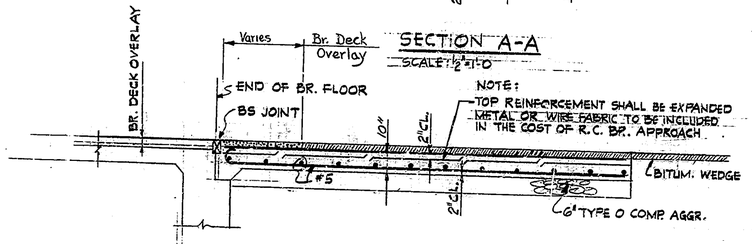
BENT #4 E.B.L. SAME

REINFORCING STEEL			
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT
502	48	20'-7	
#5	22	15'-6	
TOTAL REINF.			1379
CONCRETE			
CONC. P.V.M.T. REINF. (10")			83.5 SYS
TYPE O COMPACTED AGGREGATE FOR BASE (SIZE NO. 73B)			
TOTAL			28 TONS



MARK	X	LENGTH
501	11'-6	12'-1
502	20'-0	20'-7





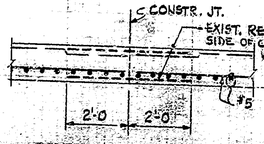
SECTION A-A

SCALE: 1/2" = 1'-0

NOTE:
TOP REINFORCEMENT SHALL BE EXPANDED METAL OR WIRE FABRIC TO BE INCLUDED IN THE COST OF R.C. BR. APPROACH.

SECTION B-B

SCALE: 1/2" = 1'-0



TYP. SECTION AT CONSTR. JT.

SCALE: 1/2" = 1'-0

DESIGNED _____ CK'D _____
DRAWN JK 6-7-79 CK'D RAP 6-11-79
TRACED _____ CK'D _____

R.C BRIDGE APPROACH DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED DATE:- 6-20-79

SUBMITTED FOR APPROVAL John L. Spencer

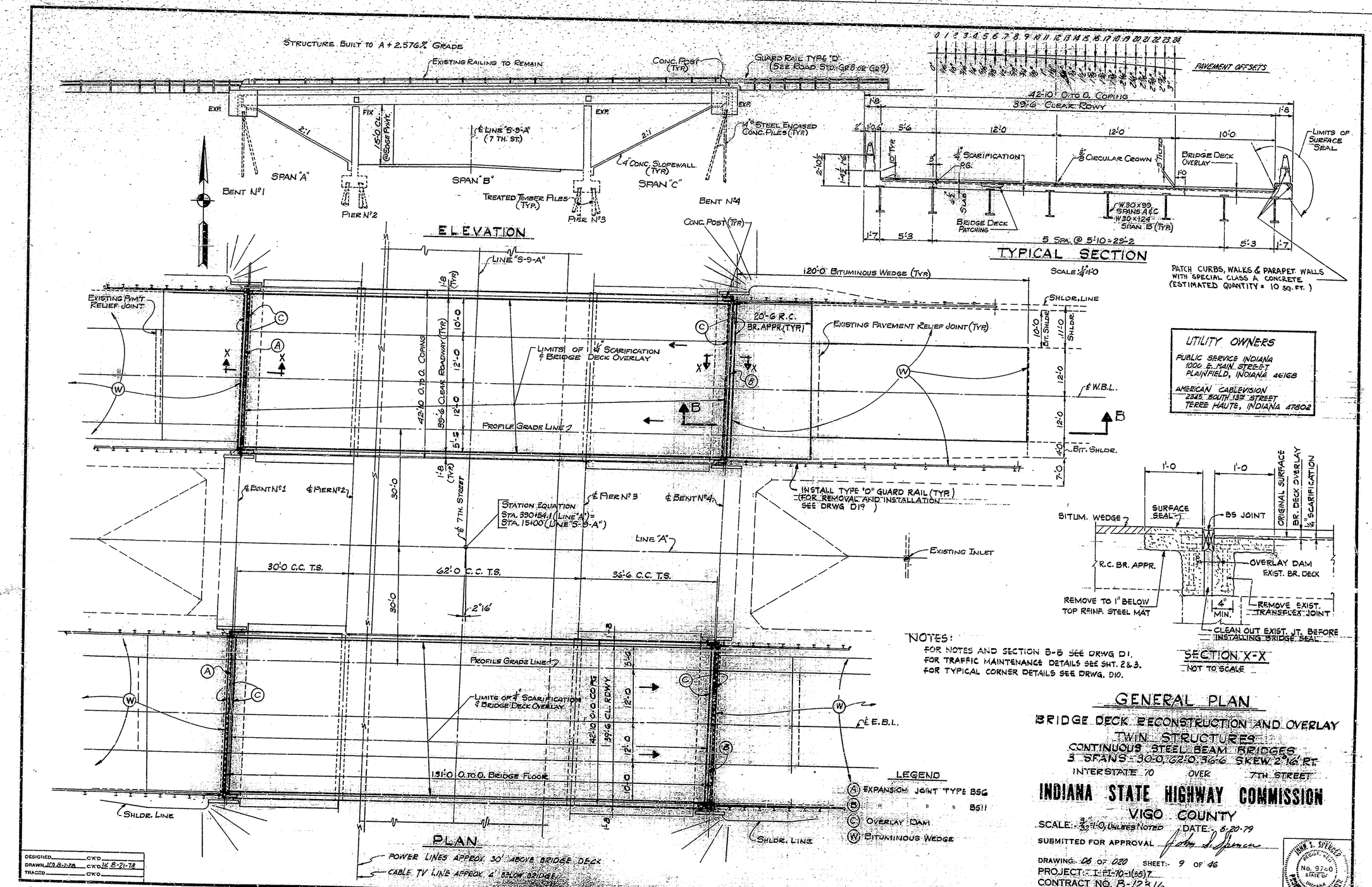
DRAWING:- D5 OF D20 SHEET:- 8 OF 46

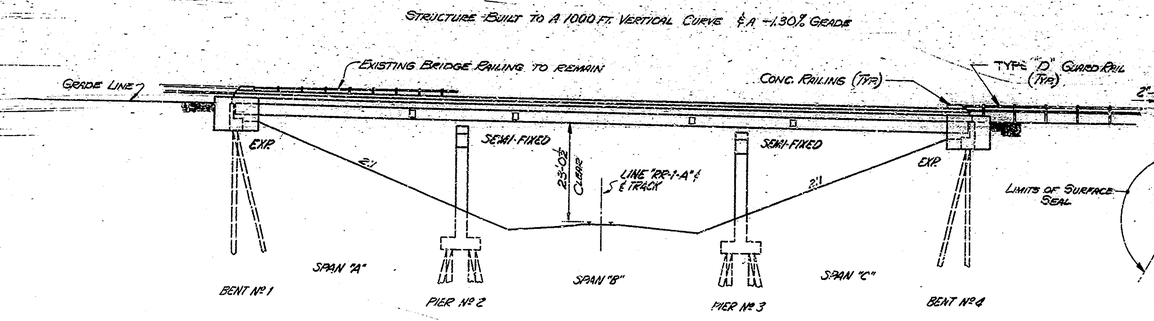
PROJECT:- I-FI-70-1(65)7

CONTRACT NO. B-12316

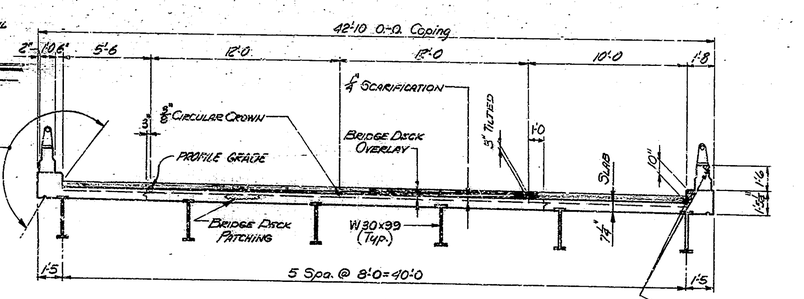
BRIDGE FILE:- I-70-7-4712A & 2344A

JOHN L. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER


STRUCTURE BUILT TO A + 2.576% GRADE
EXISTING RAILING TO REMAIN
CONC. POST (TYP.)
GUARD RAIL TYPE "D" (SEE ROAD. STD. GR8 & GR9)
EXP.
FIX
1'-5.0 C.L. @ BEDGE PVMT.
℄ LINE "S-9-A" (7 TH. ST.)
2:1
14" STEEL ENCASED CONC. PILES (TYP.)
4" CONC. SLOPEWALL (TYP.)
SPAN "A"
SPAN "B"
SPAN "C"
BENT Nº1
PIER Nº2
PIER Nº3
BENT Nº4
TREATED TIMBER PILES (TYP.)
ELEVATION
PAVEMENT OFFSETS
42'-10" O.TO O. COPING
39'-6" CLEAR ROWY
1/4" SCARIFICATION
3/8" CIRCULAR CROWN
BRIDGE DECK OVERLAY
LIMITS OF SURFACE SEAL
BRIDGE DECK PATCHING
W30x99 SPANS A & C
W30x124 SPAN B (TYP.)
5 SPA. @ 5'-10 = 29'-2
TYPICAL SECTION
SCALE: 1/4" = 1'-0
PATCH CURBS, WALKS & PARAPET WALLS WITH SPECIAL CLASS A CONCRETE (ESTIMATED QUANTITY = 10 SQ. FT.)
LINE "S-9-A"
120'-0" BITUMINOUS WEDGE (TYP.)
SHLDR. LINE
EXISTING PVMT. RELIEF JOINT
20'-6" R.C. BR. APPR. (TYP.)
EXISTING PAVEMENT RELIEF JOINT (TYP.)
LIMITS OF 1/4" SCARIFICATION & BRIDGE DECK OVERLAY
42'-10" O.TO O. COPING
39'-6" CLEAR ROADWAY (TYP.)
PROFILE GRADE LINE
℄ W.B.L.
BIT. SHLDR.
℄ BENT Nº1
℄ PIER Nº2
℄ PIER Nº3
℄ BENT Nº4
℄ 7TH STREET
STATION EQUATION
STA. 390+54.1 (LINE "A") = STA. 15+00 (LINE "S-9-A")
INSTALL TYPE "D" GUARD RAIL (TYP.) (FOR REMOVAL AND INSTALLATION SEE DRWG D19)
LINE "A"
EXISTING INLET
30'-0 C.C. T.S.
62'-0 C.C. T.S.
36'-6 C.C. T.S.
2°16'
BITUM. WEDGE
SURFACE SEAL
BS JOINT
ORIGINAL SURFACE
BR. DECK OVERLAY
1/4" SCARIFICATION
R.C. BR. APPR.
OVERLAY DAM
EXIST. BR. DECK
REMOVE TO 1" BELOW TOP REINF. STEEL MAT
4" MIN.
REMOVE EXIST. TRANSFLEX JOINT
CLEAN OUT EXIST. JT. BEFORE INSTALLING BRIDGE SEAL
SECTION X-X
NOT TO SCALE
℄ E.B.L.
131'-0 O.TO O. BRIDGE FLOOR
SHLDR. LINE
PLAN
POWER LINES APPROX. 30' ABOVE BRIDGE DECK
CABLE TV LINE APPROX. 4' BELOW BRIDGE
LEGEND
A EXPANSION JOINT TYPE BS6
B " " " BS11
C OVERLAY DAM
W BITUMINOUS WEDGE
UTILITY OWNERS
PUBLIC SERVICE INDIANA
1000 E. MAIN STREET
PLAINFIELD, INDIANA 46168
AMERICAN CABLEVISION
2345 SOUTH 13TH STREET
TERRE HAUTE, INDIANA 47802
NOTES:
FOR NOTES AND SECTION B-B SEE DRWG D1.
FOR TRAFFIC MAINTENANCE DETAILS SEE SHT. 2 & 3.
FOR TYPICAL CORNER DETAILS SEE DRWG. D10.
GENERAL PLAN
BRIDGE DECK RECONSTRUCTION AND OVERLAY
TWIN STRUCTURES
CONTINUOUS STEEL BEAM BRIDGES
5 SPANS - 30'-0, 62'-0, 36'-6 SKEW 2°16' RT.
INTERSTATE 70 OVER 7TH STREET
INDIANA STATE HIGHWAY COMMISSION
VIGO COUNTY
SCALE: 3/32" = 1'-0, UNLESS NOTED
DATE: 8-20-79
SUBMITTED FOR APPROVAL
DRAWING: 06 OF 020 SHEET: 9 OF 46
PROJECT: I-FI-70-1(65)7
CONTRACT NO. B-12316
BRIDGE FILE: I-70-7-5039 A
DESIGNED
DRAWN JCG 8-21-78
TRACED
C'K'D
C'K'D JK 8-21-78
C'K'D
JOHN L. SPENCER
REGISTERED
No. 9740
STATE OF INDIANA
PROFESSIONAL ENGINEER



ELEVATION

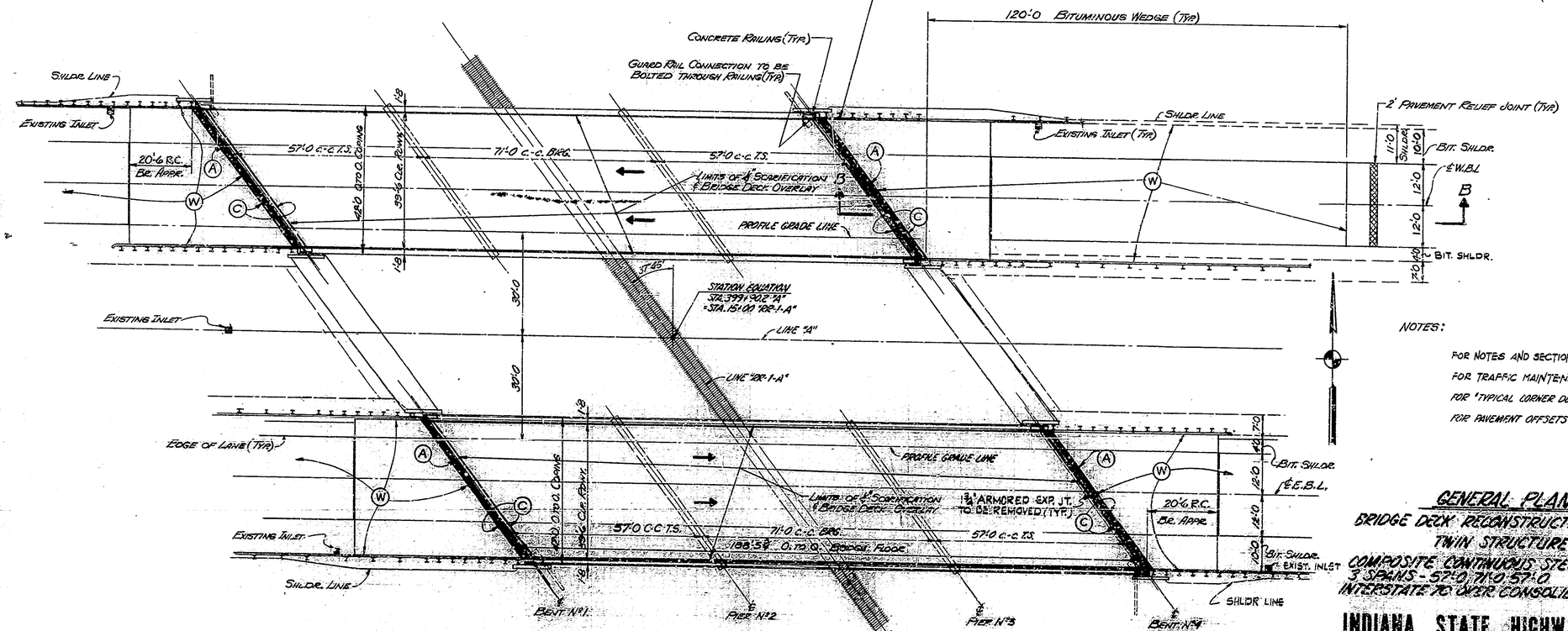


TYPICAL SECTION

SCALE - ½" = 1'-0

PATCH CURBS, WALKS & PARAPET WALLS WITH SPECIAL CLASS A CONCRETE. (ESTIMATED QUANTITY = 10 SQ. FT.)

INSTALL TYPE "D" GUARD RAIL (TYP.) (SEE RD. STD. GR 8 OR GR 9)
(FOR GUARD RAIL REMOVAL & INSTALLATION SEE DRAWING D19)



PLAN

NOTES:

FOR NOTES AND SECTION B-B SEE DRAWING D1.
FOR TRAFFIC MAINTENANCE SEE SHEETS 2 & 3.
FOR "TYPICAL CORNER DETAILS" SEE DRAWING D10.
FOR PAVEMENT OFFSETS SEE DRAWING D6.

LEGEND

- (A) EXP. JOINT TYPE BS11
- (C) OVERLAY DAM
- (W) BITUMINOUS WEDGE

GENERAL PLAN

BRIDGE DECK RECONSTRUCTION AND OVERLAY

TWIN STRUCTURES

COMPOSITE CONTINUOUS STEEL BEAM BRIDGES
3 SPANS - 57'-0 71'-0 57'-0 SKEW 37°45' LEFT
INTERSTATE 70 OVER CONSOLIDATED RAIL CORPORATION

INDIANA STATE HIGHWAY COMMISSION

VIGO COUNTY

SCALE:- 1/16" = 1'-0, UNLESS NOTED DATE:- 6-20-79

SUBMITTED FOR APPROVAL John S. Spencer

DRAWING:- D7 OF D20 SHEET:- 10 OF 46

PROJECT:- I-FI-70-1(55)7

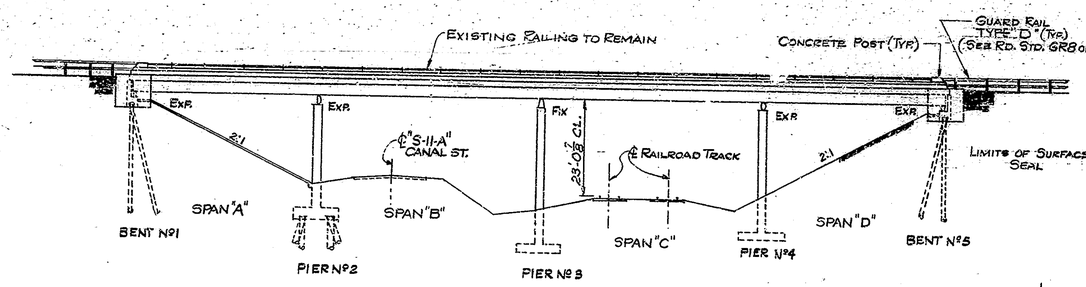
CONTRACT NO. B-12316

BRIDGE FILE:- I-70-8-2361 A

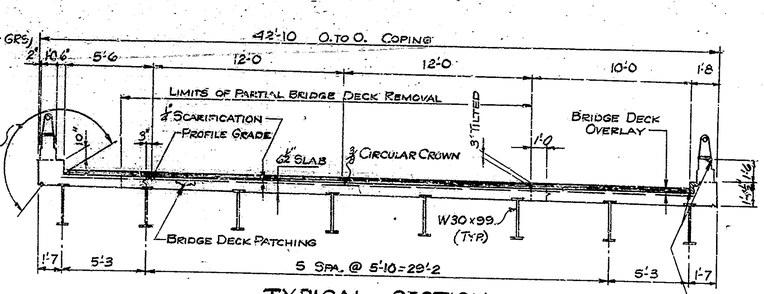
JOHN S. SPENCER REGIST. No. 0740 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED _____ C'K'D _____
DRAWN W.A.B. 9-2-78 C'K'D K 8-21-78
TRACED _____ C'K'D _____

STRUCTURE BUILT TO A 400 FT. VERTICAL CURVE



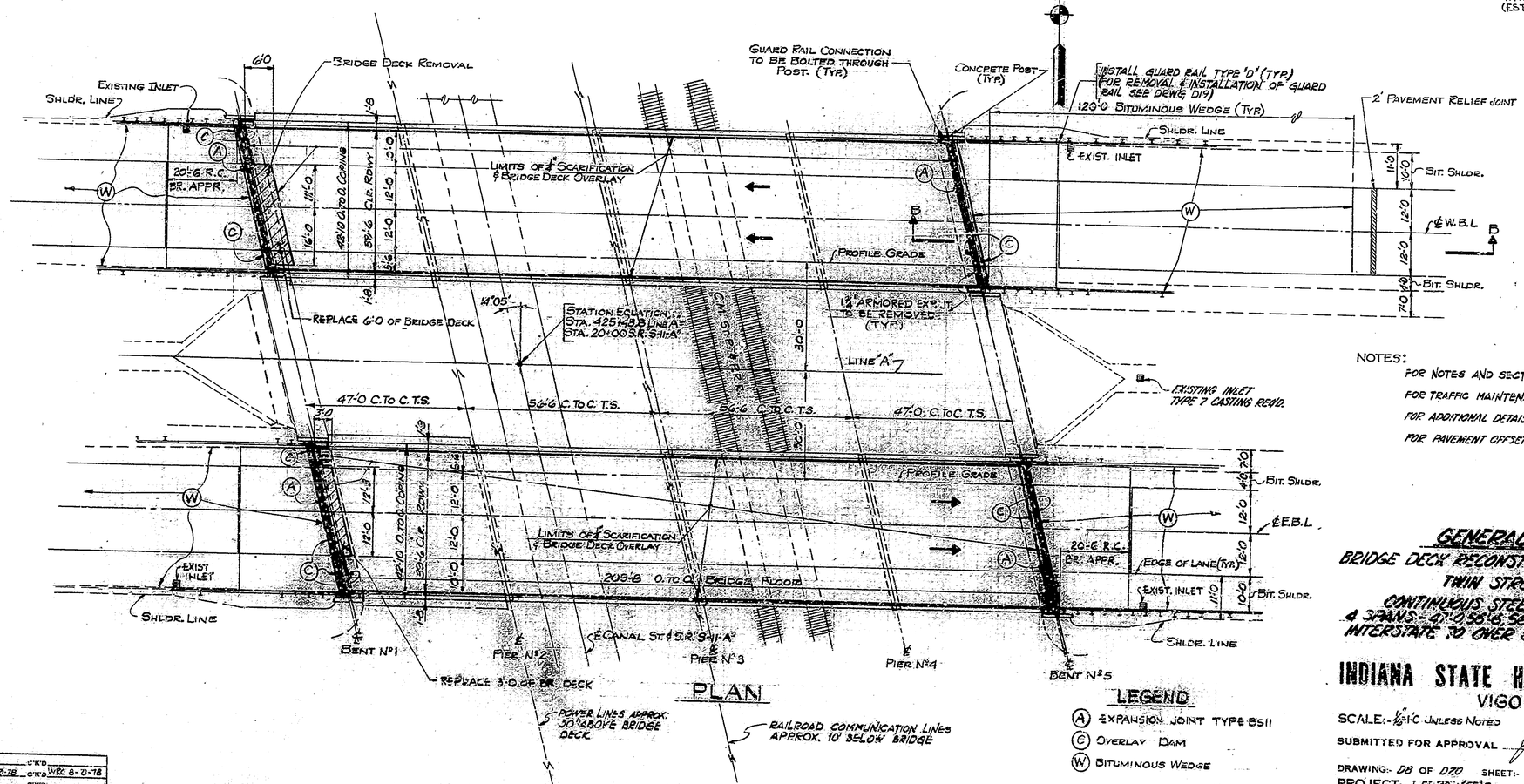
ELEVATION



TYPICAL SECTION

SCALE: 1/4" = 1'-0

PATCH CURBS, WALKS & PARAPET WALLS WITH SPECIAL CLASS A CONCRETE (ESTIMATED QUANTITY = 10 SQ. FT.)



PLAN

LEGEND

- (A) EXPANSION JOINT TYPE BS11
- (C) OVERLAY DAM
- (W) BITUMINOUS WEDGE

UTILITY OWNERS

PUBLIC SERVICE INDIANA
1000 E. MAIN STREET
PLAINFIELD, INDIANA 46168

C.M. ST. P&P. RAILROAD COMMUNICATION LINES

NOTES:

FOR NOTES AND SECTION B-B SEE DRWG. D1.
FOR TRAFFIC MAINTENANCE SEE SHEETS 2 & 3.
FOR ADDITIONAL DETAILS SEE DRWGS D9 & D10.
FOR PAVEMENT OFFSETS SEE DRWG. D6.

GENERAL PLAN

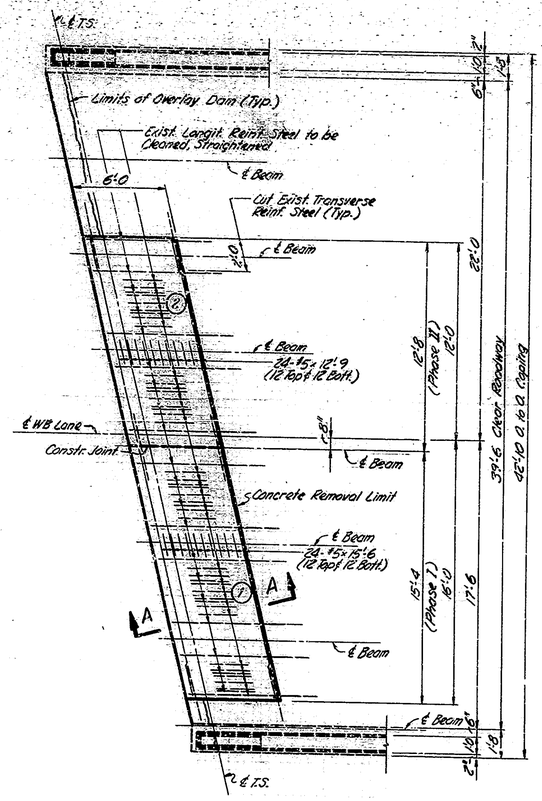
BRIDGE DECK RECONSTRUCTION AND OVERLAY
TWIN STRUCTURES
CONTINUOUS STEEL BEAM BRIDGES
4 SPANS - 47'-0 56'-6 56'-6 47'-0 SKEW 14°05' LEFT
INTERSTATE 70 OVER CANAL ST. & C.M. ST. P&P. R.R.

INDIANA STATE HIGHWAY COMMISSION
VIGO COUNTY

SCALE:- 1/8" = 1'-0 UNLESS NOTED DATE:- 5-20-79
SUBMITTED FOR APPROVAL John L. Spencer
DRAWING:- D8 OF D20 SHEET:- 11 OF 46
PROJECT:- I-FI-70-1(55)7
CONTRACT NO. B-12316
BRIDGE FILE:- I-70-8-2342.A

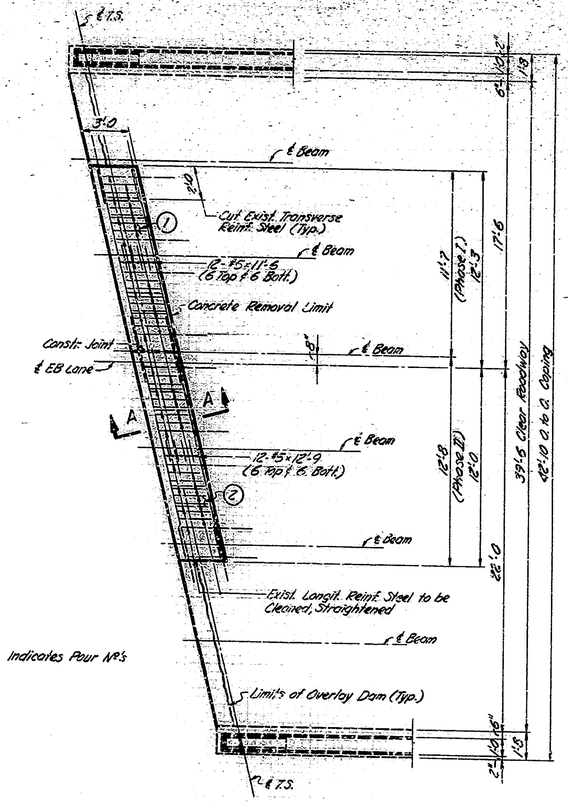
JOHN L. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED ____ C'K'D ____
DRAWN JFA 8-8-78 C'K'D WRC 8-21-78
TRACED ____ C'K'D ____

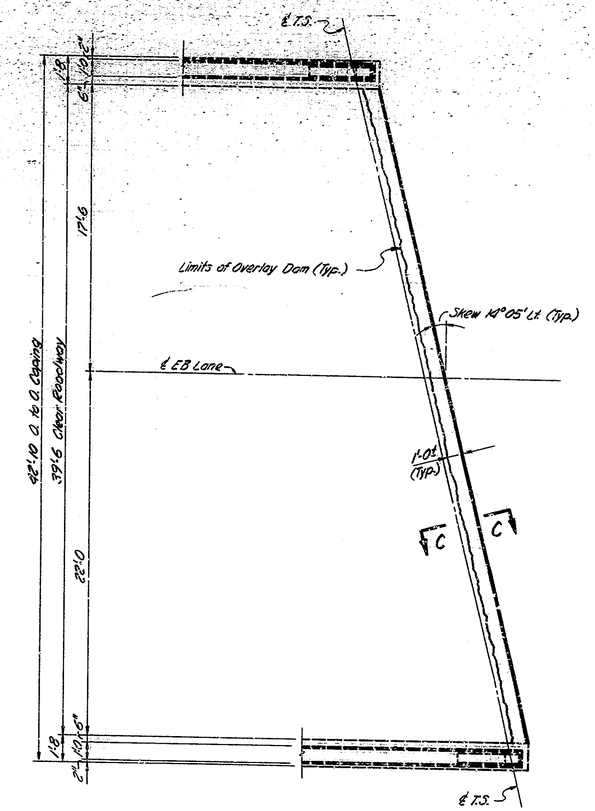


PLAN @ BENT Nº 1 - WBL

(X) Indicates Pour Nº's

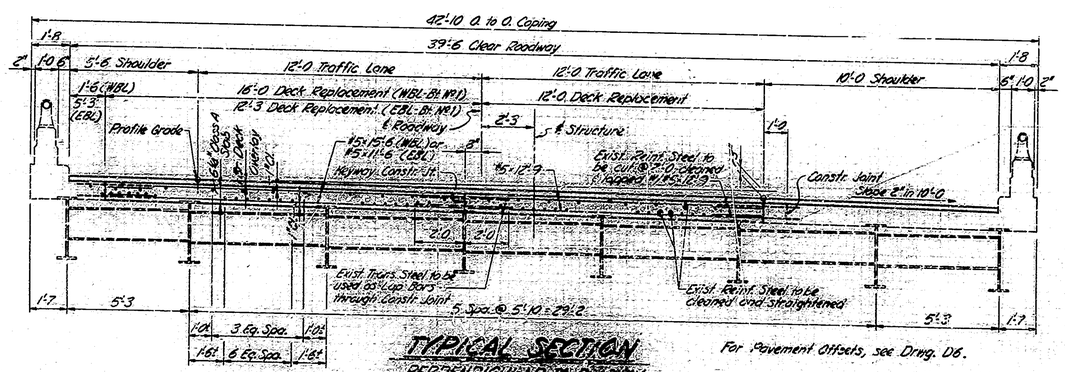


PLAN @ BENT Nº 1 - EBL



PLAN @ BENT Nº 5 - EBL

BENT Nº 5-WBL SIMILAR



TYPICAL SECTION

PERPENDICULAR TO ROADWAY

SCALE: 1/4" = 1'-0

For Pavement Offsets, see Drwg. D6.

NOTES: For additional Details & Bills of Materials, see Drwg. D10.

The tops and sides of the top flange of all beams within the slab removal area shall be thoroughly cleaned and primed with one coat of Zinc Silicate paint before repouring the slab. See the Special Provisions.

For Reinf. Bar Notes, see Bi. Std. C1.

FLOOR SLAB REPAIR DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- 1/4" = 1'-0 UNLESS NOTED DATE:- 6-20-79

SUBMITTED FOR APPROVAL John S. Spencer

DRAWING:- D9 OF D20 SHEET:- 12 OF 46

PROJECT:- I-FI-70-1(55)7

CONTRACT NO. B-12316

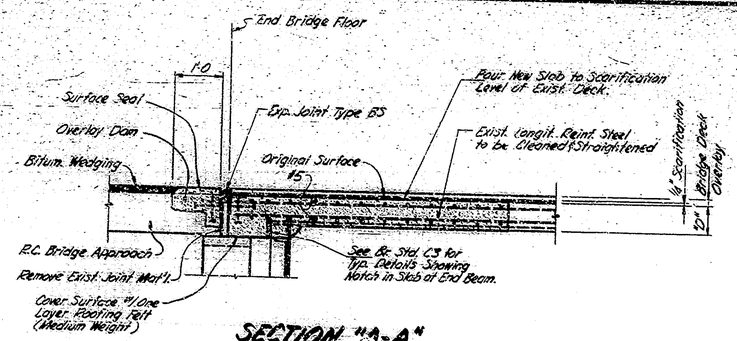
BRIDGE FILE:- I-70-B-2342A

JOHN S. SPENCER RECIST. NO. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED JSH 10-17-78 C'K'D

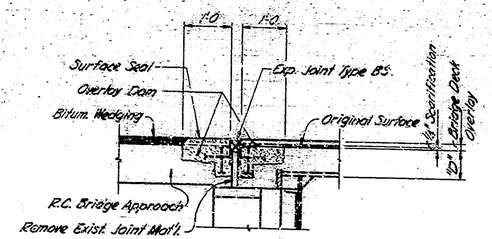
DRAWN JSH 10-17-78 C'K'D SFO 10-26-78

TRACED C'K'D



SECTION "A-A"

Str. No. I-70-8-2342A and Str. No. I-70-9-2343A Only.



SECTION "C-C"

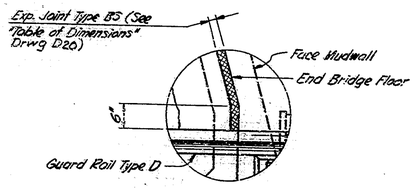
BILL OF MATERIALS
BENT No. 1 - WBL

REINFORCING STEEL			
SIZE OR MARK	No. OF BARS	LENGTH (FEET)	WEIGHT (LBS.)
15	24	5'-6	
15	24	12'-9	
TOTAL REINFORCING STEEL			708
CONCRETE			
CONC. CLASS A IN SUPERSTR.			
POUR No. 1			2.0 CYS
POUR No. 2			1.7 CYS
TOTAL CLASS A IN SUPERSTR.			3.7 CYS

BILL OF MATERIALS
BENT No. 1 - EBL

REINFORCING STEEL			
SIZE OR MARK	No. OF BARS	LENGTH (FEET)	WEIGHT (LBS.)
15	12	12'-9	
15	12	11'-6	
TOTAL REINFORCING STEEL			304
CONCRETE			
CONC. CLASS A IN SUPERSTR.			
POUR No. 1			0.8 CYS
POUR No. 2			0.9 CYS
TOTAL CLASS A IN SUPERSTR.			1.7 CYS

(STRUCTURE No. I-70-8-2342A ONLY)

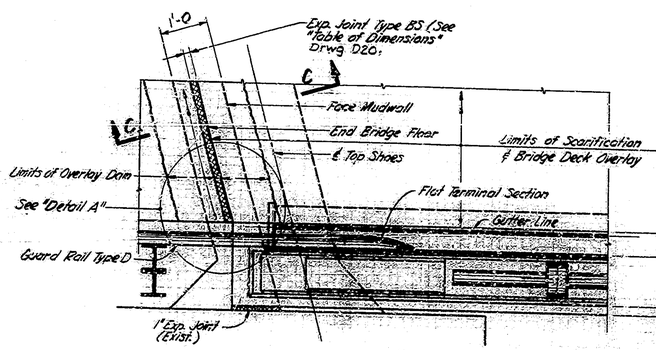


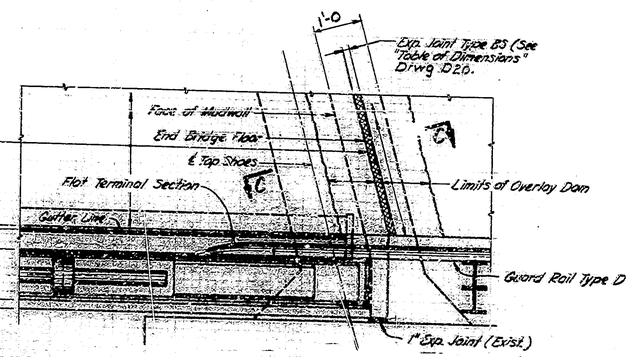
DETAIL "A"

Str. No. I-70-9-5089A and Str. No. I-70-9-5089-JA Only.

TABLE OF DIMENSIONS

Description	I-70-7-5039A	I-70-8-2341A	I-70-8-2342A	I-70-9-2343A	I-70-9-5089A & JA
Skew	2°16'00" Rt.	37°45'00" Lt.	14°05'00" Lt.	13°44'30" Lt.	00°00' Lt.
Exp. Jt. Type BS					
East End	BS11	BS11	BS11	BS11	BS8
West End	BS6	BS11	BS11	BS11	BS11
Dimension "D"	6 1/4"	7"	6 1/4"	7"	6 1/4"





TYPICAL CORNER DETAILS

NOTE: For Reinforcing Bar Notes, see Bridge Std. C1.

DESIGNED ____ C'K'D ____
DRAWN DSH 10-18-78 C'K'D SPO 10-25-78
TRACED ____ C'K'D ____

FLOOR SLAB REPAIR DETAILS & BILLS OF MATERIALS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- 3/4" = 1'-0 UNLESS NOTED DATE:- 6-20-79

SUBMITTED FOR APPROVAL John D. Johnson

DRAWING:- D10 OF D20 SHEET:- 13 OF 46

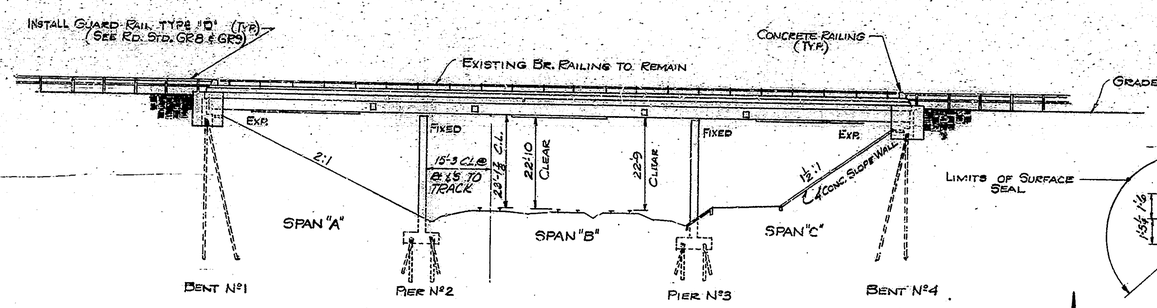
PROJECT:- I-FT-70-1(65)7

CONTRACT NO. B-12316

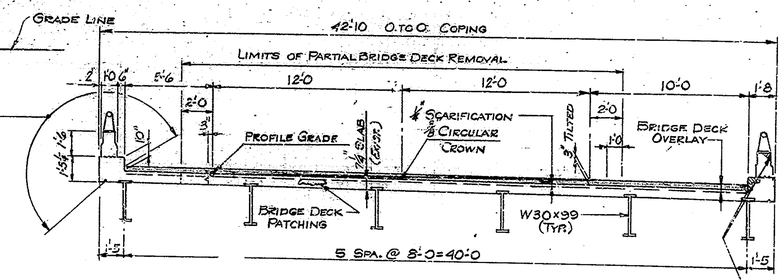
BRIDGE FILE:- I-70-5039A, 2341A, 2342A, 2343A, 5089A & 5089JA

JOHN T. SPENCER
REGISTERED
No. 9780
STATE OF INDIANA
PROFESSIONAL ENGINEER

STRUCTURE BUILT TO A 600 FT. VERTICAL CURVE & A -0.6146% GRADE



ELEVATION



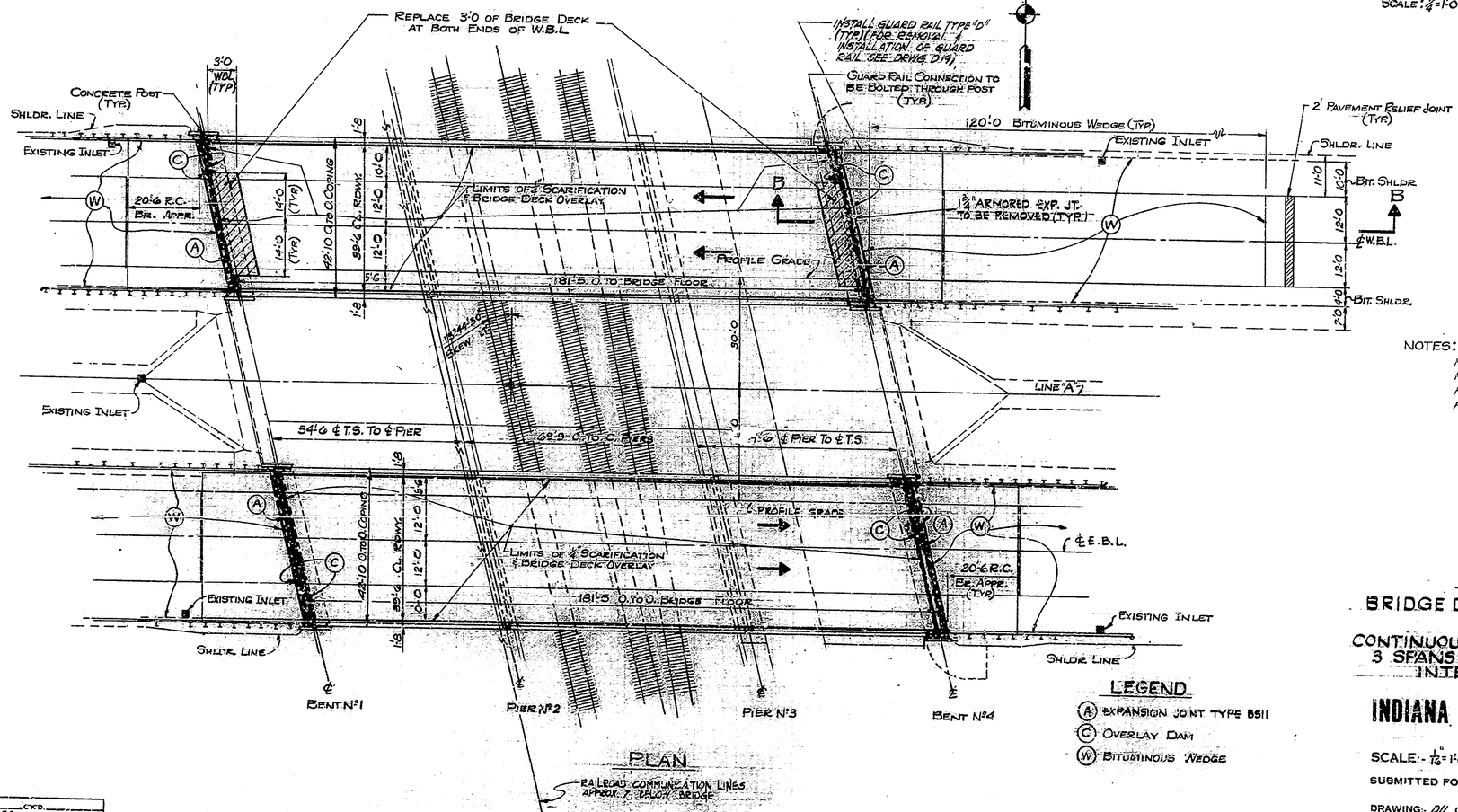
TYPICAL BRIDGE SECTION

SCALE: ¼"=1'-0

UTILITY OWNERS

L&N RAILROAD COMMUNICATION LINES

PATCH CURBS, WALKS & PARAPET WALLS WITH SPECIAL CLASS A CONCRETE (ESTIMATED QUANTITY - 10 SQ. FT.)



PLAN

RAILROAD COMMUNICATION LINES APPROX. 7' BELOW BRIDGE

NOTES:

FOR NOTES AND SECTION B-B SEE DRWG. D1.
FOR TRAFFIC MAINTENANCE SEE SHEETS 2 & 3.
FOR ADDITIONAL DETAILS SEE DRWGS. D10 & D12.
FOR PAVEMENT OFFSETS SEE DRWG. D6.

LEGEND

(A) EXPANSION JOINT TYPE B511
(C) OVERLAY DAM
(W) BITUMINOUS WEDGE

GENERAL PLAN

BRIDGE DECK RECONSTRUCTION AND OVERLAY
TWIN STRUCTURES
CONTINUOUS COMPOSITE STEEL BEAM BRIDGES
3 SPANS - 54'-6, 69'-9, 54'-6 SKEW 15°44'30" LEFT
INTERSTATE 70 OVER L&N R.R.

INDIANA STATE HIGHWAY COMMISSION

VIGO COUNTY

SCALE:- 1/16"=1'-0, UNLESS NOTED DATE:- 5-20-79

SUBMITTED FOR APPROVAL John S. Spencer

DRAWING:- D11 OF D20 SHEET:- 14 OF 46

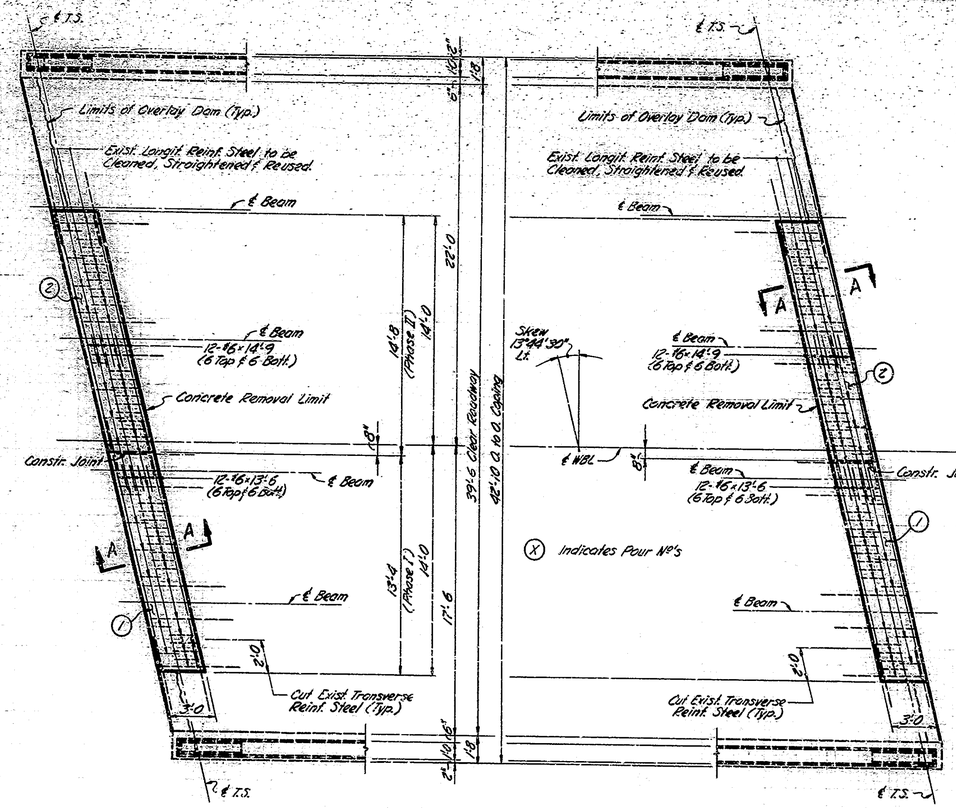
PROJECT:- I-FI-70-1(55)Z

CONTRACT NO. B-12316

BRIDGE FILE:- I-70-9-1.943 A

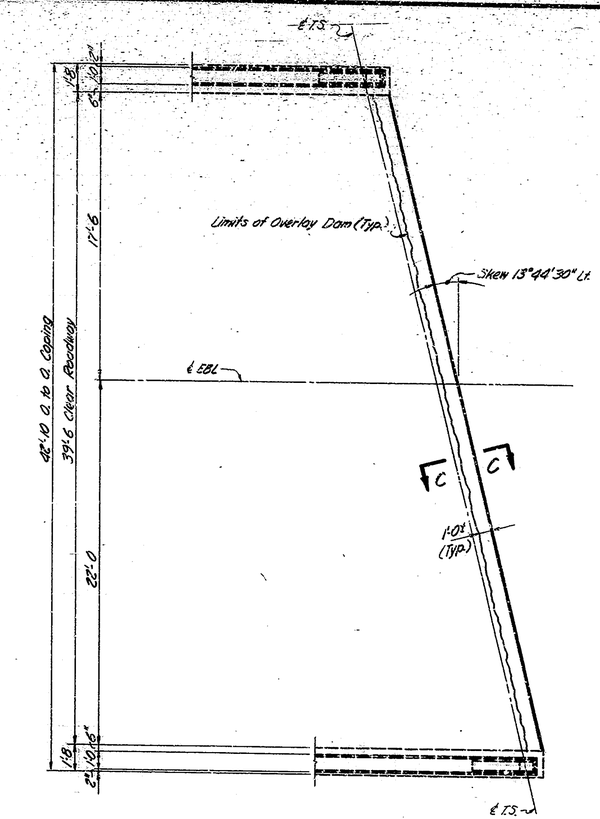
JOHN S. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED _____ C'K'D. _____
DRAWN HA 8-1-78 C'K'D WRC 8-21-78
TRACED _____ C'K'D. _____



PLAN @ BENT Nº 1 - WBL

PLAN @ BENT Nº 4 - WBL



PLAN @ BENT Nº 4 - EBL

BENT Nº 1 - EBL SIMILAR

BILL OF MATERIALS

BENT Nº 1 - WBL

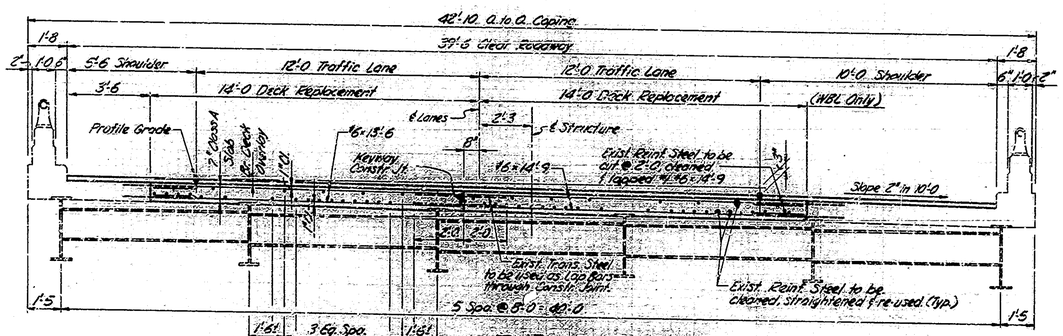
(BENT Nº 4 - WBL SAME)

REINFORCING STEEL			
SIZE OR MARK	Nº OF BARS	LENGTH (FEET)	WEIGHT (LBS.)
#6	12	14'-9	
#6	12	13'-6	
TOTAL REINFORCING STEEL			510
CONCRETE			
CONC. CLASS A IN SUPERSTR.			
POUR 1			1.0 CYS
POUR 2			1.3 CYS
TOTAL CLASS A IN SUPERSTR.			2.3 CYS

NOTES: For Section "A-A", Section "C-C" and Corner Details, see Drwg. D10.

The tops and sides of the top flange of all beams within the slab removal area shall be thoroughly cleaned and primed with one coat of Zinc Silicate paint before repouring the slab. See the Special Provisions.

For Reint. Bar Notes, see Bridge Std. C1.



TYPICAL SECTION

PERPENDICULAR TO ROADWAY

Scale: 3/8" = 1'-0

DESIGNED ____ C'K'D ____
DRAWN DSH 10-23-78 C'K'D JPO 10-27-78
TRACED ____ C'K'D ____

FLOOR SLAB REPAIR DETAILS & BILL OF MATERIALS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- 1/4" = 1'-0 UNLESS NOTED DATE:- 6-20-79

SUBMITTED FOR APPROVAL John S. Spencer

DRAWING:- D12 OF D20 SHEET:- 15 OF 45

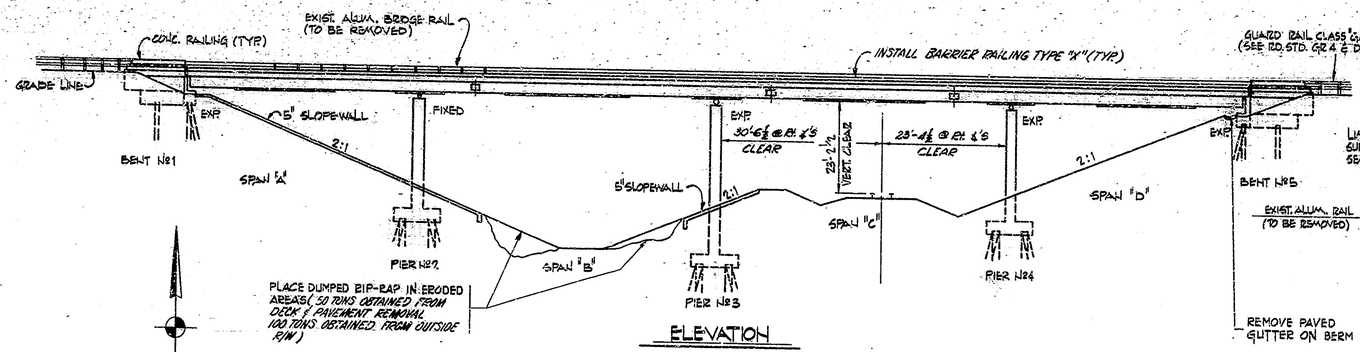
PROJECT:- I-FI-70-1(55)7

CONTRACT NO. B-12316

BRIDGE FILE:- I-70-9-2343A

JOHN S. SPENCER No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

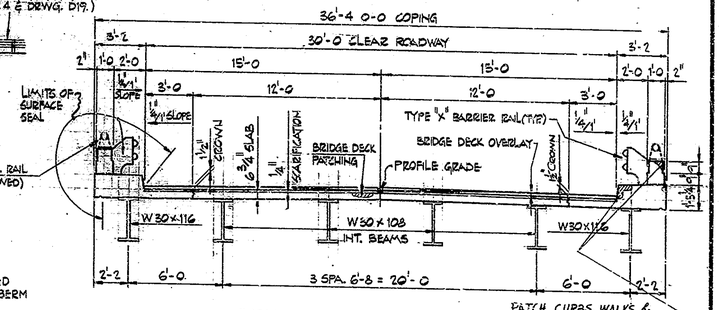
STRUCTURE BUILT TO A 600' VERT. CURVE.



ELEVATION

UTILITY OWNERS

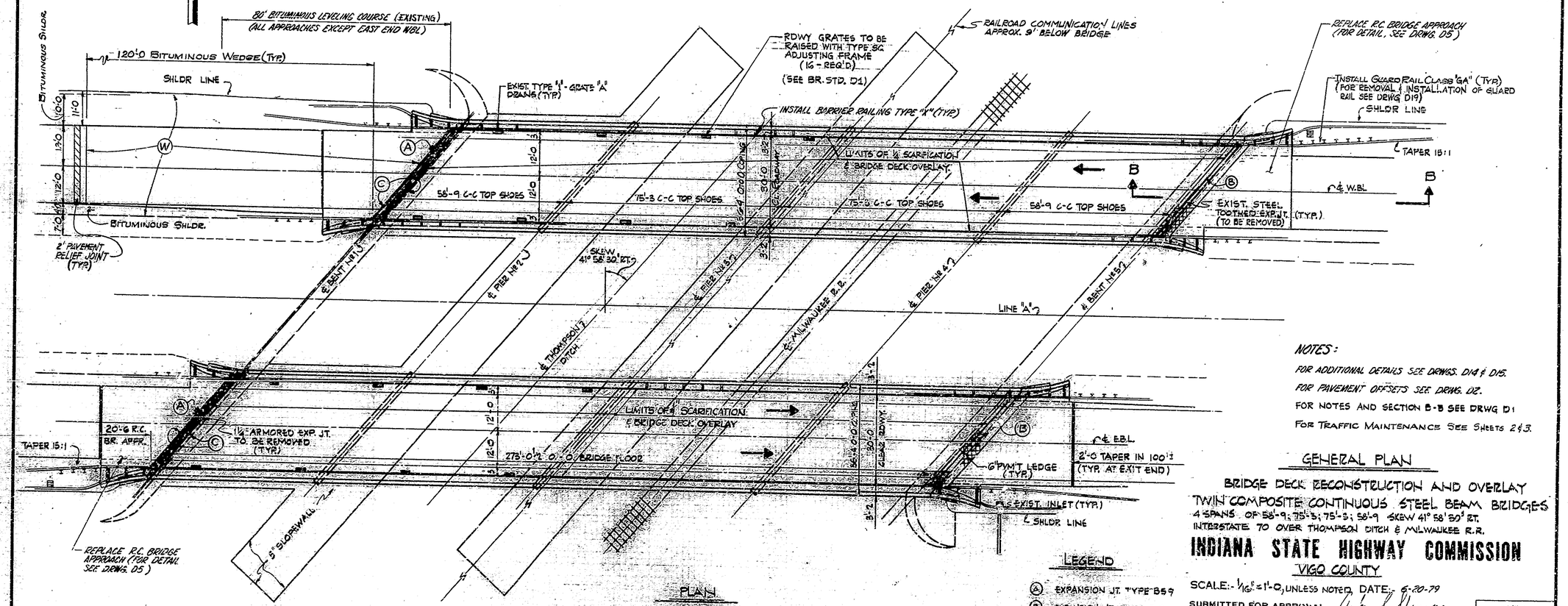
MILWAUKEE RAILROAD COMMUNICATION LINES



TYPICAL SECTION

SCALE: ¼" = 1'-0

PATCH CURBS, WALKS & PARAPET WALLS WITH SPECIAL CLASS A CONCRETE. (ESTIMATED QUANTITY 10 SQ. FT.)



PLAN

NOTES:

FOR ADDITIONAL DETAILS SEE DRWGS. D14 & D15.

FOR PAVEMENT OFFSETS SEE DRWG. D2.

FOR NOTES AND SECTION B-B SEE DRWG D1

FOR TRAFFIC MAINTENANCE SEE SHEETS 2 & 3.

LEGEND

- (A) EXPANSION JT. TYPE B59
- (B) EXPANSION JT. CLASS S-S
- (C) OVERLAY DAM
- (W) BITUMINOUS WEDGE

GENERAL PLAN

BRIDGE DECK RECONSTRUCTION AND OVERLAY

TWIN COMPOSITE CONTINUOUS STEEL BEAM BRIDGES

4 SPANS OF 58'-9; 75'-3; 75'-3; 58'-9 SKEW 41° 58' 30" RT.

INTERSTATE TO OVER THOMPSON DITCH & MILWAUKEE R.R.

INDIANA STATE HIGHWAY COMMISSION

VIGO COUNTY

SCALE:- 1/16" = 1'-0, UNLESS NOTED DATE:- 6-20-79

SUBMITTED FOR APPROVAL [signature]

DRAWING:- D13 OF D20 SHEET:- 16 OF 46

PROJECT:- I-FL-70-1(55)17

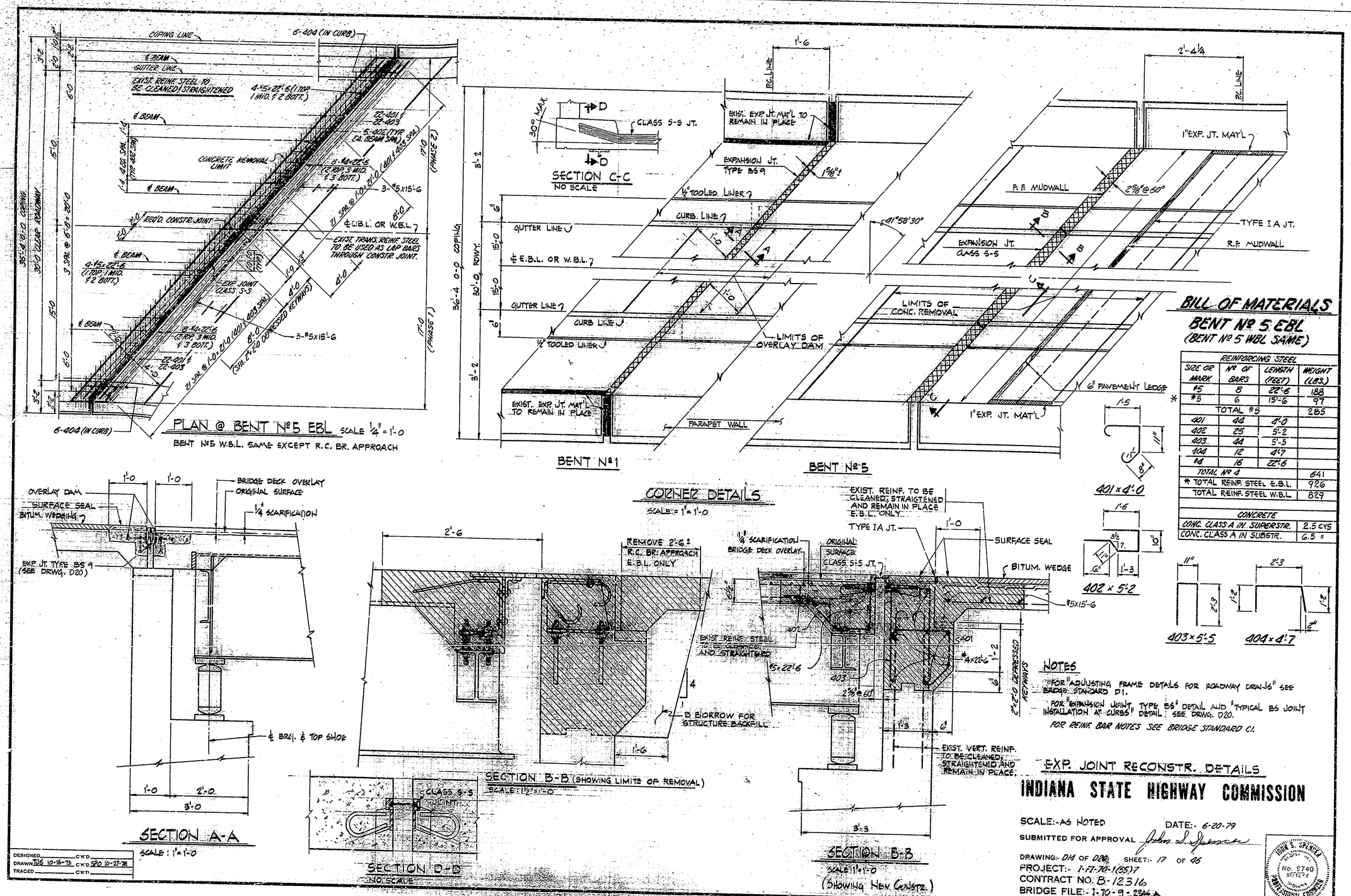
CONTRACT NO. B-12316

BRIDGE FILE:- I-70-9-23.61A

DESIGNED _____ C'K'D _____

DRAWN JJG 8-8-78 C'K'D SPG 8-21-78

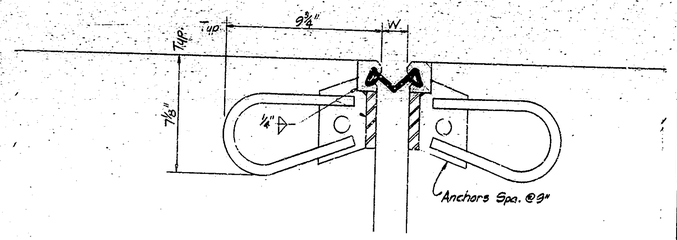
TRACED _____ C'K'D _____



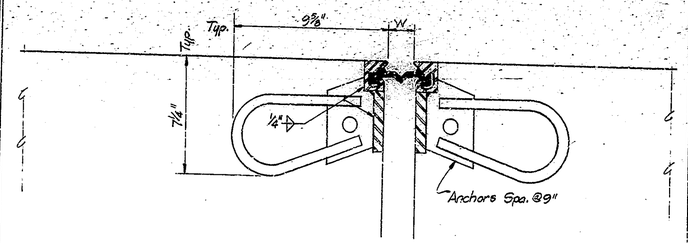
BILL OF MATERIALS

BENT Nº 5 EBL
(BENT Nº 5 WBL SAME)

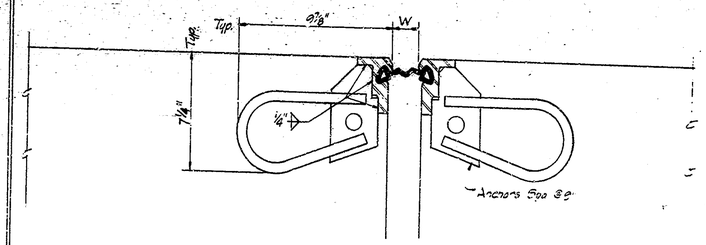
REINFORCING STEEL			
SIZE OR MARK	Nº OF BARS	LENGTH (FEET)	WEIGHT (LBS.)
#5	8	22'-6	188
#5	6	15'-6	97
TOTAL #5			285
401	44	4'-0	
402	25	5'-2	
403	44	5'-5	
404	12	4'-7	
#4	16	22'-6	
TOTAL Nº 4			641
* TOTAL REINF. STEEL E.B.L.			926
TOTAL REINF. STEEL W.B.L.			829
CONCRETE			
CONC. CLASS A IN SUPERSTR.			2.5 CYS
CONC. CLASS A IN SUBSTR.			6.5 "



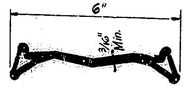
TYPICAL SECTION



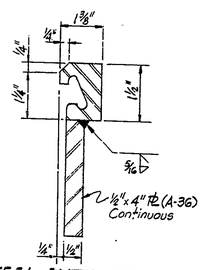
TYPICAL SECTION



TYPICAL SECTION

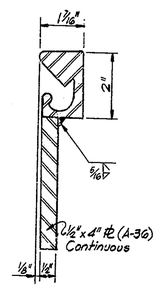


STRIP SEAL S-400E

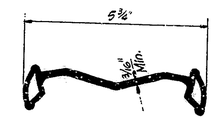


STEEL EXTRUSION
TYPE E

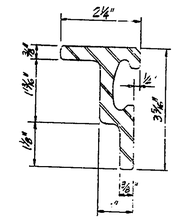
NEOPRENE SEAL



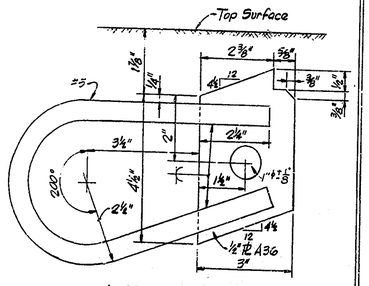
STEEL EXTRUSION



STRIP SEAL AS400

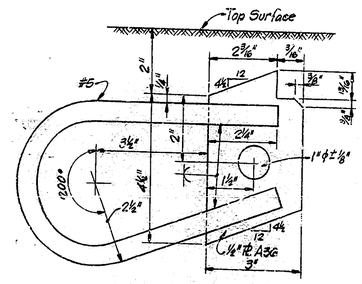


STEEL EXTRUSION
TYPE C



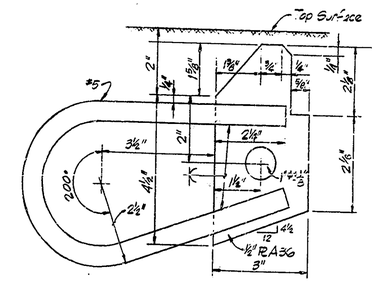
ANCHOR DETAIL

JOINT WA30 S-400E



ANCHOR DETAIL

JOINT DELASTIFLEX ®



ANCHOR DETAIL

JOINT ACMA AS 400 C

NOTES

SEE THE SPECIAL PROVISIONS FOR PROPERTIES OF MATERIALS.
THE COST OF EXTRUSIONS, ELASTOMERIC SEAL ELEMENTS, SEALANTS, ADHESIVE, CEMENT GROUT, ANCHOR SYSTEM AND INSTALLATION OF JOINT SHALL BE INCLUDED IN THE COST OF EXPANSION JOINT.
THE PROFILE OF THE JOINT IS TO CONFORM TO THE ROADWAY CROSS SECTION.
THE SEAL ELEMENT SHALL BE MOULDED AND FURNISHED IN A CONTINUOUS LENGTH EQUAL TO THAT REQUIRED FOR THE JOINT.
AT CHANGES IN DIRECTION (AT CURBS, MEDIAN BARRIERS, ETC.) THE SECTIONS OF JOINT ARE TO BE CUT TO THE BEVEL REQUIRED TO PRODUCE THE SAME CROSS SECTION ON EACH PIECE BEING JOINED.
THE JOINT, INCLUDING ANCHOR ASSEMBLY, IS TO BE SHOP FABRICATED AND DELIVERED TO THE JOB SITE AS A COMPLETE CONTINUOUS UNIT FOR JOINT LENGTHS UP TO 40 FEET. JOINTS ABOVE LENGTHS OF 40 FEET OR JOINTS USED WITH STAGE CONSTRUCTION SHALL BE FIELD WELDED WITH ENDS TO BE SHOP PREPARED.
ALL WORK, BOTH SHOP AND FIELD, SHALL BE IN ACCORDANCE WITH 711.03.
ALL EXPOSED STRUCTURAL STEEL SURFACES WILL BE PAINTED IN ACCORDANCE WITH ISHC STANDARD SPECIFICATIONS.
THE CONTRACTOR SHALL SUBMIT 3 COPIES OF SHOP DRAWINGS FOR ALL JOINTS INVOLVING CURBS OR OTHER SPECIAL FEATURES.

JOINT SETTING TABLE

Ambient Temperature	DIMENSION "W" Expansion Length: 100'-200'	200'-300'	300'-400'
120°	2⅝"	1⅝"	½"
100°	2⅞"	1⅞"	1⅛"
80°	3⅛"	2⅜"	1⅝"
60°	3"	2⅝"	2⅛"
40°	3⅜"	3¼"	2¾"
20°	3⅝"	3¾"	3⅜"
0°	3⅞"	3⅞"	4"

DESIGNED ____ C'K'D ____
DRAWN JS C'K'D ____
TRACED ____ C'K'D ____

Rev. 4-26-76 Bar and Anchor Spacing
Rev. 6-28-76 Joint Acma AS 400 C
Rev. 9-2-76 Joint S-400E
Rev. 11-22-76 Notes
Rev. 3-9-78 Joint Delastiflex
Rev. 5-6-79 Joint Detail Plates

EXPANSION JOINTS CLASS S-S

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

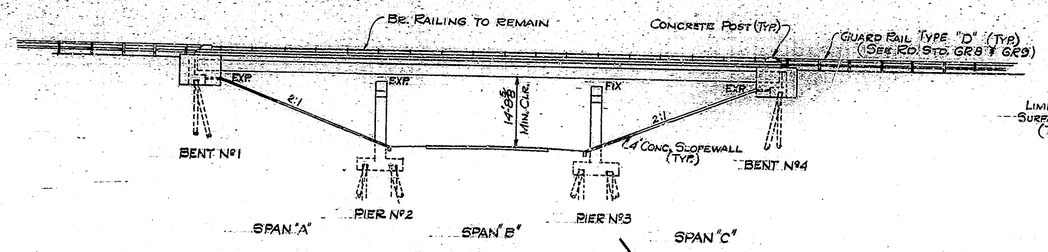
DATE:- 5-30-79

John D. Spencer

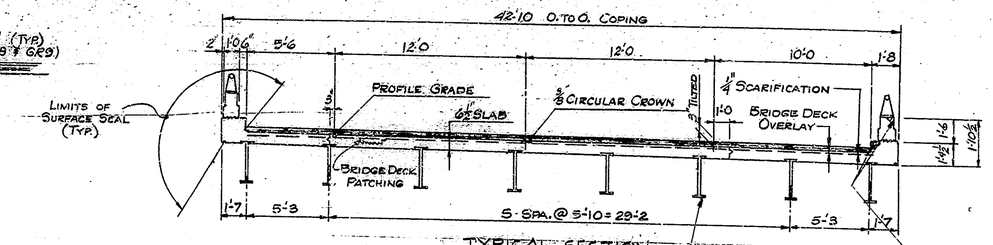
DRAWING:- D15 OF D20 SHEET:- 18 OF 26
PROJECT:- I-FI-70-1(55)7
CONTRACT NO. B-12316
BRIDGE FILE:- I-70-9-23A4A

JOHN D. SPENCER REGISTERED No. 9740 STATE OF INDIANA

STRUCTURE BUILT TO A -0.120% GRADE



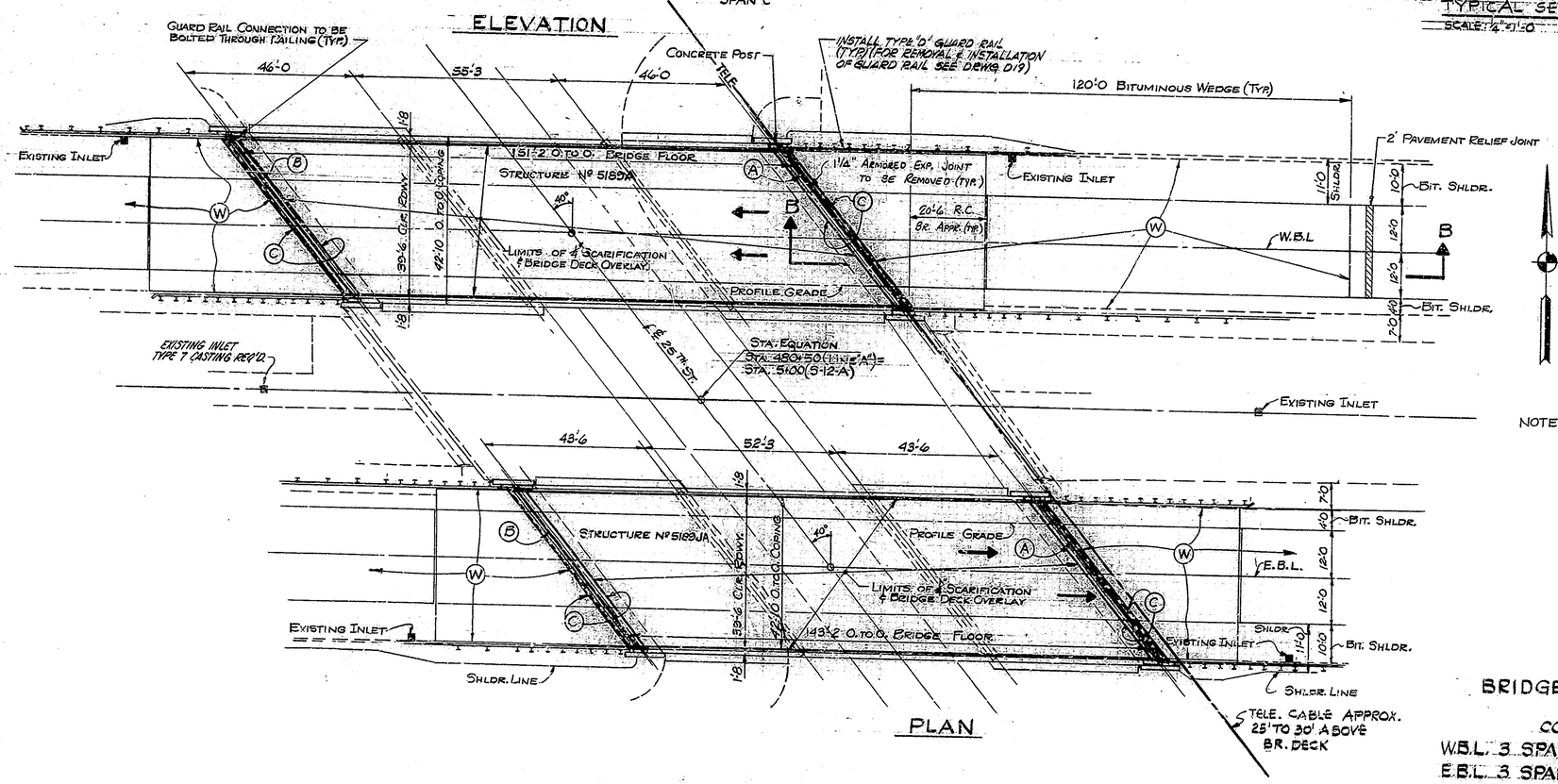
ELEVATION



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

W30x99 (5189A)
W27x94 (5189JA)

PATCH CURBS, WALKS & PARAPET WALLS WITH SPECIAL CLASS A CONCRETE (ESTIMATED QUANTITY = 10 SQ. FT.)



PLAN

UTILITY OWNERS

GENERAL TELEPHONE COMPANY OF INDIANA
8001 US 24 WEST
FORT WAYNE, INDIANA 46801

NOTES:

FOR NOTES AND SECTION B-B SEE DRWG. D1
FOR TRAFFIC MAINTENANCE SEE SHEETS 2 & 3.
FOR "TYPICAL CORNER DETAILS" SEE DRWG. D10.
FOR PAVEMENT OFFSETS SEE DRWG. D6

LEGEND

- (A) EXPANSION JOINT TYPE BS8
- (B) EXPANSION JOINT TYPE BS11
- (C) OVERLAY DAM
- (W) BITUMINOUS WEDGE

GENERAL PLAN

BRIDGE DECK RECONSTRUCTION AND OVERLAY

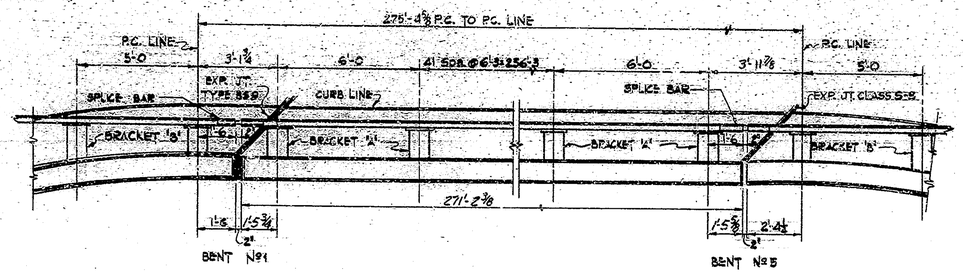
CONTINUOUS STEEL BEAM BRIDGES
W.B.L. 3 SPANS OF 46'-0, 55'-3, 46'-0 & 39'-6 C.L. RDWY (5189A)
E.B.L. 3 SPANS OF 43'-6, 52'-3, 43'-6 & 39'-6 C.L. RDWY (5189JA)
INTERSTATE 70 OVER 25TH ST., SKEW 40° LT.

INDIANA STATE HIGHWAY COMMISSION
VIGO COUNTY

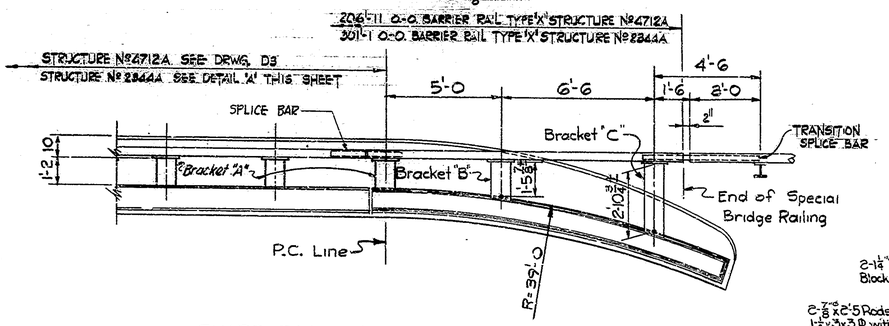
SCALE: - 1/16" = 1'-0, UNLESS NOTED DATE: - 6-20-79
SUBMITTED FOR APPROVAL John S. Spencer
DRAWING: - D14 OF D20 SHEET: - 13 OF 46
PROJECT: - I-FI-70-1(55)7
CONTRACT NO. B-12316
BRIDGE FILE: - I-70-9-5189A & 5189JA

JOHN S. SPENCER REGIST. No. 9740 STATE OF IND. PROFESSIONAL ENGINEER

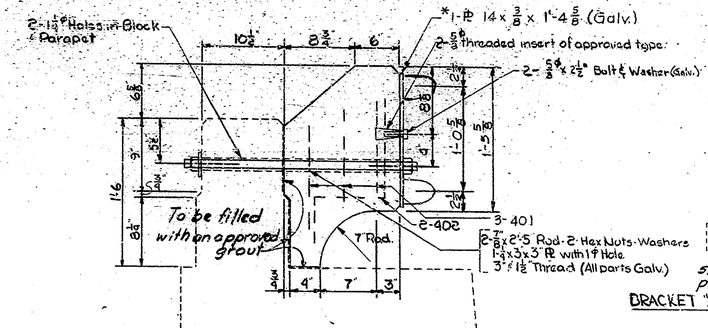
DESIGNED _____ C'K'D _____
DRAWN JFA 8-2-78 C'K'D SPO 8-21-78
TRACED _____ C'K'D _____



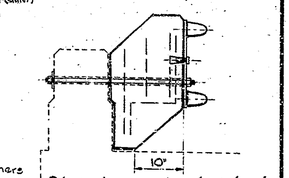
DETAIL 'A'
Scale: 3/8" = 1'-0



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

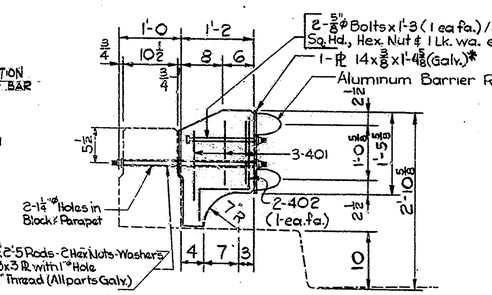


BRACKET "A" SECTION (PRECAST)
Scale: 1½" = 1'-0

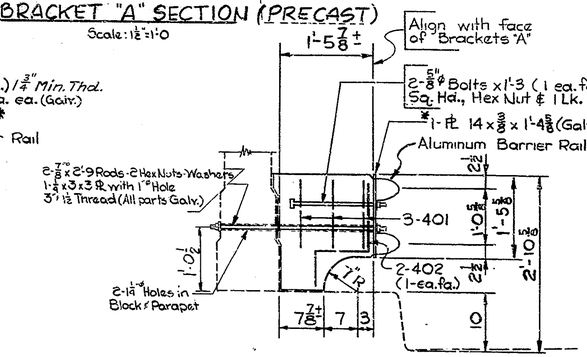


Dimensions and material not shown are the same as shown on precast detail.

BRACKET "A" SECTION (PRECAST-ALTERNATE)
Scale: 1" = 1'-0



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



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

NOTES:

Material in 7/8" Steel Rods and ¾" PL's to be A-36. 5/8" ϕ and ¾" ϕ bolts shall conform to ASTM A-307.

¾" ϕ 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 12,000 pounds.

Concrete in Brackets to be Class "A".

Chamfer exposed concrete edges ¾ inch.

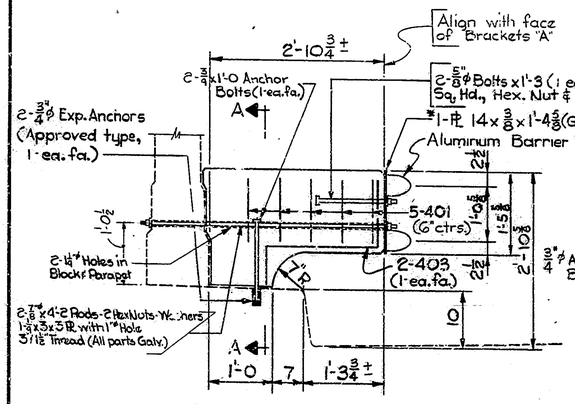
See Br. Stds. BR1 & BR2 for Guard Rail notes and details.

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

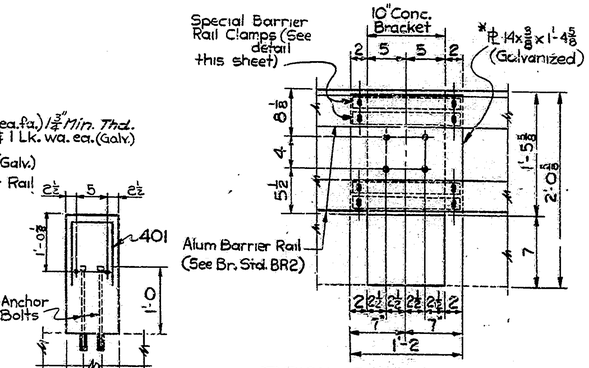
*As an alternate, an aluminum plate may be used. If used, it shall be aluminum alloy 6061-T6 conforming to ASTM B-209. Plates shall be free of sharp edges and irregularities.

For details of allowable alternate aluminum bracket, see Drwg D18.

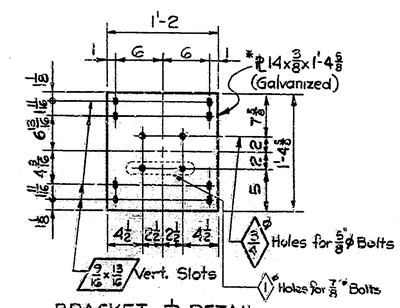
Standard drawings reqd. : BR1, BR2, C1.



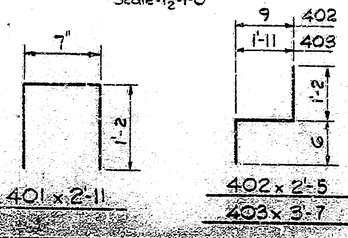
BRACKET "C" SECTION (CAST IN PLACE)
Scale: 1" = 1'-0

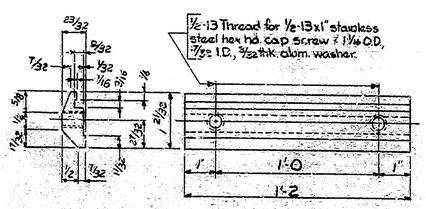


TYPICAL BRACKET ELEVATION
Scale: 1½" = 1'-0



BRACKET PL DETAIL
Scale: 1½" = 1'-0





SPECIAL BARRIER RAIL CLAMP BAR
Not to Scale

PAY ITEMS

REMOVAL OF PRESENT RAILING.	=	716 LFT. STR. No 4712A 1084 LFT. STR. No 2344A
BARRIER RAILING, TYPE "X"	=	828 LFT. STR. No 4712A 1205 LFT. STR. No 2344A

BARRIER RAILING, TYPE "X" DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- As Noted DATE:- 6-20-79

SUBMITTED FOR APPROVAL John S. Spencer

DRAWING:- D17 OF D20 SHEET:- 20 OF 46

PROJECT:- I-I-I-70-1(55)17

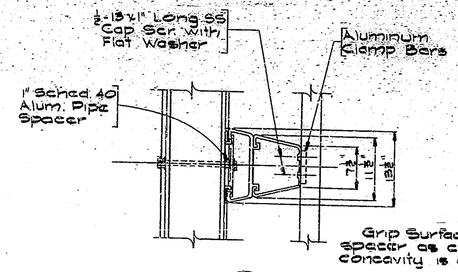
CONTRACT NO. B-12316

BRIDGE FILE:- I-70-7-4712A & I-70-9-2344A

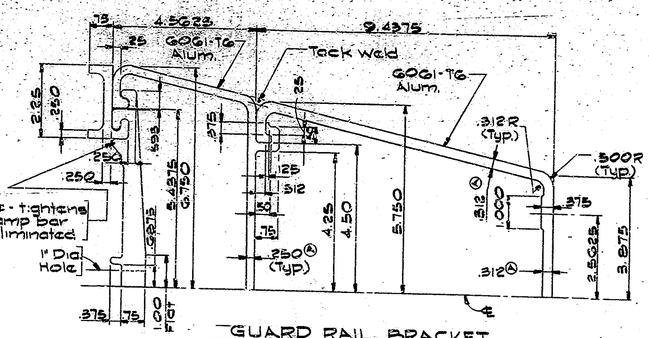
DESIGNED RDS 2-17-72 CK'D WFG 2-17-72
DRAWN EDZ 12-19-72 CK'D RDS 12-15-72
TRACED CK'D

Rev. 1-31-74 Railing Height Rev. 6-14-74 Anchor Rods Deleted Rev. 4-1-77 Material Notes

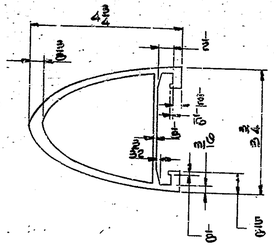
Rev 1-31-74 RWB/rwhe
6-14-74 RWB/rwhe/WFG



PLAN
Scale: 1" = 1'-0



GUARD RAIL BRACKET
Scale: 6" = 1'-0



RAIL SECTION
No Scale

Clamp bar is extruded with a 1/8" concavity (.875 at mid. point) to be eliminated by assembly pull down on anchor.

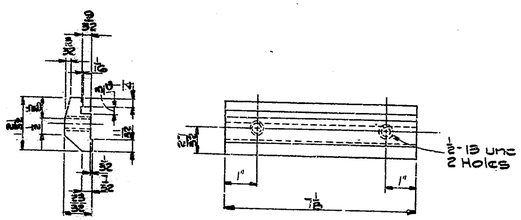
NOTES

Mat'l. except as noted 6061-T6 Alum.
Bracket may be used as an alternate to precast or cast in place concrete bracket.
See Bridge Standards BR1 and BR2 for Guard Rail notes and details.
Standard Drawings required BR1 and BR2.

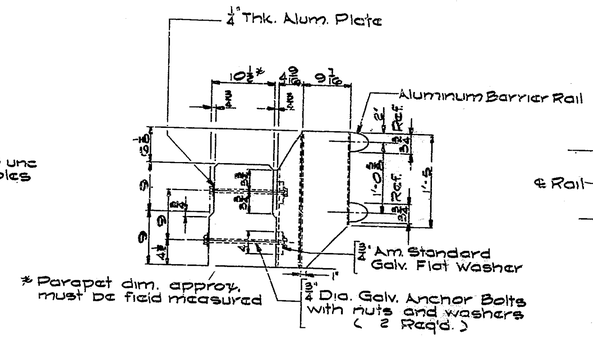
PAY ITEMS

Removal of Present Railing
Barrier Railing, Type 7*

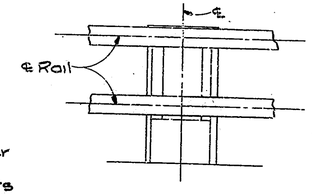
116 Lft.	Str. Nr. 4712A
109 Lft.	Str. Nr. 2344A
226 Lft.	Str. Nr. 4712A
205 Lft.	Str. Nr. 2344A



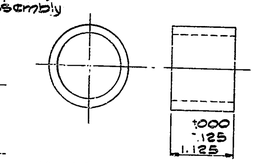
CLAMP BAR
Scale 6" = 1'-0



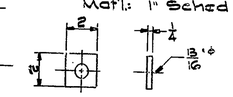
SIDE
Scale: 1" = 1'-0



FRONT
Scale: 1" = 1'-0



ANCHOR SPACER TUBE
Mat'l.: 1" Sched 40 Pipe



ALUM. PLATE
6061-T6

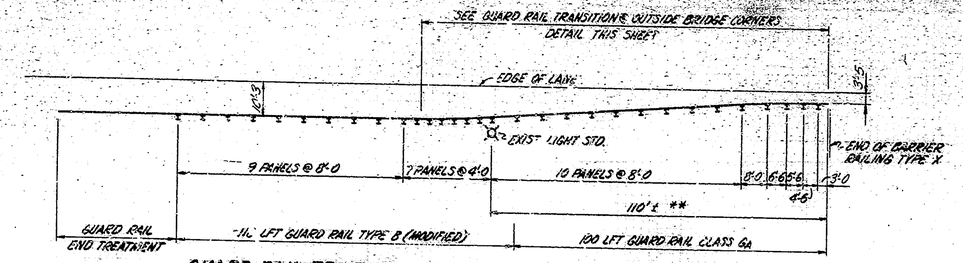
GUARD RAIL BRACKET DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED DATE:- 6-20-79
SUBMITTED FOR APPROVAL John L. Spencer
DRAWING:- 018 OF D20 SHEET:- 21 OF 46
PROJECT:- I-FI-70-1(52)7
CONTRACT NO. B-12316
BRIDGE FILE:- I-70-7-4712A & I-70-9-2344A

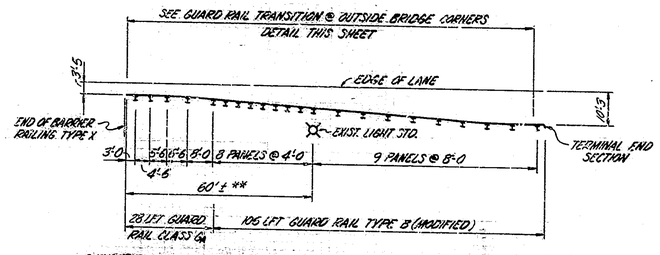
DESIGNED ____ CK'D ____
DRAWN LAS 5-75 CK'D ____
TRACED ____ CK'D ____

JOHN L. SPENCER No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER



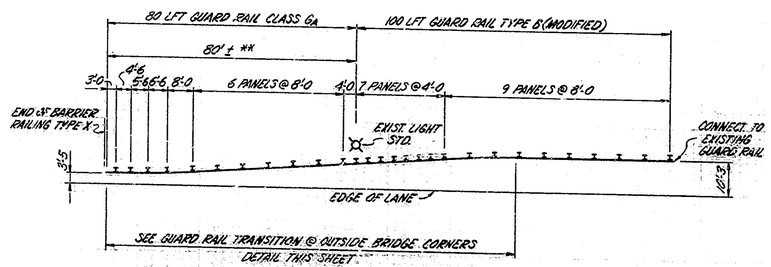
GUARD RAIL TREATMENT AT LIGHT STANDARD - STR. Nº 4712A

SW CORNER E.B. LANE



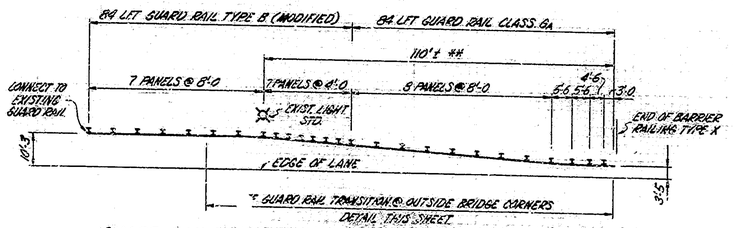
GUARD RAIL TREATMENT AT LIGHT STANDARD - STR. Nº 4712A

SE CORNER E.B. LANE



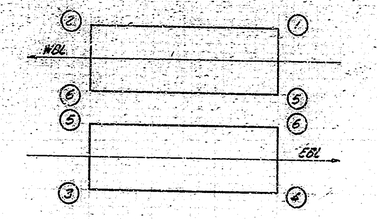
GUARD RAIL TREATMENT AT LIGHT STANDARD - STR. Nº 4712A

NE CORNER W.B. LANE



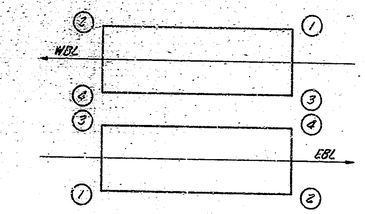
GUARD RAIL TREATMENT AT LIGHT STANDARD - STR. Nº 4712A

NW CORNER W.B. LANE



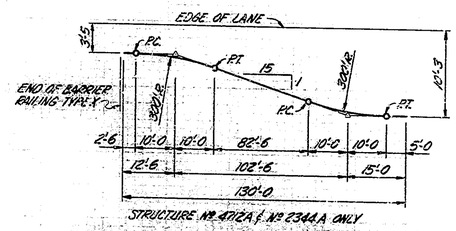
1. REMOVE 180' EXISTING GUARD RAIL. INSTALL 80' GUARD RAIL CLASS Ga AND 100' GUARD RAIL TYPE B (MODIFIED). CONNECT TO EXISTING GUARD RAIL.
2. REMOVE 158' EXISTING GUARD RAIL. INSTALL 84' GUARD RAIL CLASS Ga AND 114' GUARD RAIL TYPE B (MODIFIED). CONNECT TO EXISTING GUARD RAIL.
3. REMOVE 210' EXISTING GUARD RAIL. INSTALL 100' GUARD RAIL CLASS Ga AND 110' GUARD RAIL TYPE B (MODIFIED) WITH GUARD RAIL END TREATMENT.
4. REMOVE 125' EXISTING GUARD RAIL. INSTALL 28' GUARD RAIL CLASS Ga AND 105' GUARD RAIL TYPE B (MODIFIED) WITH TERMINAL END.
5. * REMOVE 202' EXISTING GUARD RAIL. INSTALL 375' GUARD RAIL CLASS Ga WITH GUARD RAIL END TREATMENT.
6. INSTALL 53' GUARD RAIL CLASS Ga WITH TERMINAL END.

STRUCTURE Nº 4712A



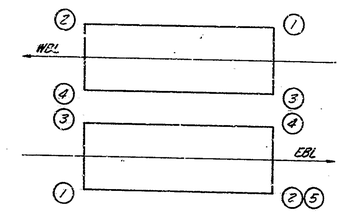
1. REMOVE 130' EXISTING GUARD RAIL. INSTALL 100' GUARD RAIL CLASS Ga AND 30' GUARD RAIL TYPE B. CONNECT TO EXISTING GUARD RAIL.
2. REMOVE 130' EXISTING GUARD RAIL. INSTALL 50' GUARD RAIL CLASS Ga AND 80' GUARD RAIL TYPE B. CONNECT TO EXISTING GUARD RAIL.
3. * REMOVE 202' EXISTING GUARD RAIL. INSTALL 375' GUARD RAIL CLASS Ga WITH GUARD RAIL END TREATMENT.
4. INSTALL 53' GUARD RAIL CLASS Ga WITH TERMINAL END.

STRUCTURE Nº 2344A



STRUCTURE Nº 4712A & Nº 2344A ONLY

GUARD RAIL TRANSITION @ OUTSIDE BRIDGE CORNERS



1. REMOVE 100' EXISTING GUARD RAIL. INSTALL 100' GUARD RAIL TYPE D. CONNECT TO EXISTING GUARD RAIL.
2. REMOVE 50' EXISTING GUARD RAIL. INSTALL 50' GUARD RAIL TYPE D. CONNECT TO EXISTING GUARD RAIL.
3. REMOVE 202' EXISTING GUARD RAIL. INSTALL 371' GUARD RAIL TYPE D WITH GUARD RAIL END TREATMENT.
4. INSTALL 52' GUARD RAIL TYPE D WITH TERMINAL END.
5. REMOVE 120' EXISTING GUARD RAIL. INSTALL 50' GUARD RAIL TYPE D AND 100' GUARD RAIL TYPE B. CONNECT TO EXISTING GUARD RAIL. STRUCTURE Nº 5039A ONLY.

STRUCTURE Nº'S 5039A, 2341A, 2342A, 2343A, 5187A & 5189A

* ALIGNMENT AND LENGTH OF GUARD RAIL CLASS Ga AT LOCATIONS NOTED TO BE AS SHOWN ON ROD STD. GR9 FOR CLASS Ga GUARD RAIL TRANSITIONAL DOUBLE BAR IS REQ'D. BRACKET CONNECTIONS ARE NOT REQ'D.

** LIGHT STANDARD LOCATIONS TO BE VERIFIED BY CONTRACTOR IN THE FIELD BEFORE GUARD RAIL IS INSTALLED.

GUARD RAIL INSTALLATION & REMOVAL

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

DATE:- 6-20-79

SUBMITTED FOR APPROVAL John S. Spencer

DRAWING:- D19 OF D20 SHEET:- 22 OF 46

PROJECT:- I-FI-70-1-(55) 7

CONTRACT NO. B-12316

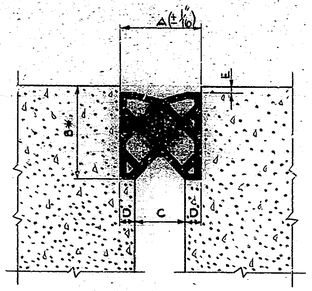
BRIDGE FILE:- I-70-4712A, 5039A, 2341A, 2342A, 2343A, 2344A, 5187A & 5189A

JOHN S. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED _____ C'K'D _____

DRAWN DSH 6-12-79 C'K'D WRC 6-13-79

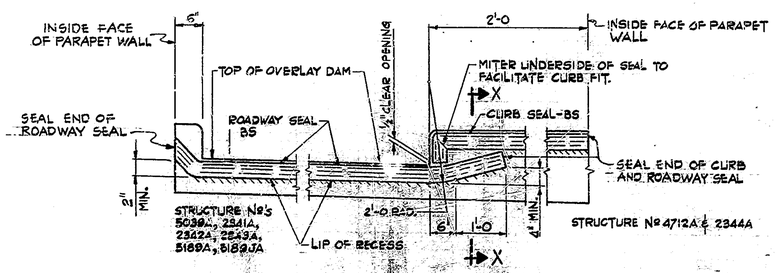
TRACED _____ C'K'D _____



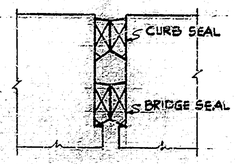
* TO BE DETERMINED IN THE FIELD, SEE THE SPECIAL PROVISIONS

BRIDGE SEAL	A	B	C	D	E
BS 6	1 5/8"	*	3/8" ±	3/8"	1/2"
BS. 8	2"	*	1 1/4" ±	3/8"	1/2"
BS 9	2 3/8"	*	1 5/8" ±	1/2"	3/4"
BS 11	3 1/8"	*	2 1/8" ±	1/2"	3/4"

EXPANSION JOINT TYPE BS



TYPICAL BS JOINT INSTALLATION AT CURBS



SECTION X-X

ESTIMATE OF QUANTITIES

	CODE Nº	DESCRIPTION	FUNDING 100% STATE	90/10 FED/STATE	75/25 FED/STATE	UNIT	TOTAL QUANTITY 4712A	5039A	2341A	2342A	2343A	2344A	5189A & 5189JA	GRAND TOTAL
(a)	5270	BITUMINOUS MIXTURE FOR APPROACHES		✓		TONS	700	702	765	735	735	749	769	5,176
(b)	5193	CONCRETE SCARIFYING			✓	SYS.	1935	1677	2151	2340	2100	2327	1819	14,279
	5242	ROCK CUT SCRIPT		✓		SYS.	1430	1150	1654	1840	1592	1820	1292	10,778
	5036	SURFACE CLEANING			✓	SYS.	8100	3600	3990	5871	5170	11,373	8121	43,634
	5250	[illegible] FOR ROCK CUT		✓		SYS.	1670	2109	2390	2303	2300	2640	2007	13,573
	5193	[illegible] AND CURBS		✓	✓	SYS.	1430	1150	1654	1840	1592	1820	1292	10,778
	5193	FINISHING [illegible] CURBS		✓		SYS.	1430	1150	1654	1840	1592	1820	1292	10,778
		OVERLAY DAM		✓		SFT.	519	318	402	272	268	181	413	2,348
	5140	MINOR CONCRETE SCARIFYING			✓	SYS.	282	230	331	368	318	364	258	2,151
	5144	MINOR CONCRETE PATCHING			✓	SFT.	1267	918	704	2484	1791	819	1163	8,786
	5204	[illegible] LADDER TYPE 3S6		✓		EFT.	179	81						259
	5139	REMOVAL OF PRESENT STRUCTURE												
		(FRACTIONS) STR. Nº 2342A			✓	L.SUM				1				1
	5255	REMOVAL OF GUARD RAIL		✓		LFT.	1087	804	704	704	704	924	704	5,631
	5257	GUARD RAIL TYPE 6		✓		LFT.	1148					1156		2,304
	5205	[illegible]		✓		CYS.	6							6
	5280	SODDING		✓		SYS.	11							11
	5151	[illegible] DRILLING TYPE X		✓		LFT.	828					1205		2,033
	5134	REMOVAL OF PRESENT DRILLING		✓		LFT.	718					1084		1,802
	5138	EXPANSION JOINT TYPE BS9		✓		LFT.	181					100		281
	5288	TREATMENT OF PAVEMENT MARKING TAPE		✓		LFT.	8500	9010	4350	4360	4250	5590	5400	32,470
	0676	REMOVAL OF LINE SOLID WHITE 4"		✓		LFT.	1800	1400	1580	1580	1530	1740	1500	10,930
	0677	REMOVAL OF LINE SOLID YELLOW 4"		✓		LFT.	600	600	600	600	600	600	600	4,200
	5256	TEMPORARY CONCRETE BARRIER		✓		LFT.	1270	1110	1280	1280	1230	1440	1200	8,810
	5203	REMOVAL OF PAVEMENT		✓	✓	SYS.	205 (3)		21 (2)	21 (2)	21 (2)	137 (3)	21 (2)	486
	0674	LINE SOLID WHITE 4"		✓		LFT.	1800	1400	1580	1580	1530	1740	1500	10,930
	0674	LINE SOLID YELLOW 4"		✓		LFT.	1800	1400	1580	1580	1530	1740	1500	10,930
	0678	REMOVAL OF LINE SOLID WHITE 4"		✓		LFT.	225						225	450
	5138	REMOVAL OF PRESENT STRUCTURE												
		(FRACTIONS) STR. Nº 2343A			✓	L.SUM								1
	5100	CONCRETE CLASS A SUBSTRUCTURE	✓	✓	✓	CYS.	12.5 (1)			54 (3)	46 (3)	50 (2)		172.5
(c)	5030	REINFORCING STEEL	✓	✓	✓	LBS.	5113 (1)			10118 (3)	10120 (3)	4416 (2)		11,561
	5105	CONCRETE CLASS A SUBSTRUCTURE		✓		CYS.						130		130
	5102	CLASS A CONCRETE DRILLING	✓			CYS.	3.3							3.3
	5300	CONCRETE PAVEMENT REINFORCED (10")			✓	SYS.	192.5					176		368.5
	5075	CONCRETE PAVEMENT CLASS S-S		✓		LFT.						92		92
	5175	SPALL REPAIR CLASS A CONCRETE			✓	SFT.	18	10	10	10	10	10	10	78
		SPECIAL CONCRETE	✓			CYS.	6							6
		DRILLED HOLES FOR SPECIAL CONCRETE	✓			EA.	4							4
	5138	REMOVAL OF PRESENT STRUCTURE												
		CONDITIONS STR. Nº 2344A		✓		L.SUM						1		1
	5090	EXPANSION JOINT TYPE BS11		✓		LFT.		81	205	167	167		106	706
	5187	EXPANSION JOINT TYPE BS8		✓		LFT.							106	106
	5255	GUARD RAIL TYPE D		✓		LFT.		1146	1146	1146	1146		1146	5,730
	5240	CONSTRUCTION SIGNS (TYPE A)		✓		EA.								30
	5245	CONSTRUCTION SIGNS (TYPE B)		✓		EA.								8
	5261	REMOVING ARROW SIGN		✓		EA.	1						1	2
	5240	MAINTENANCE OF TRAFFIC		✓		L.SUM								2
	5120	REMOVAL OF PRESENT STRUCTURE												
		(FRACTIONS) STR. Nº 4712A	✓			L.SUM	1							1
		FULL DEPTH PATCHING			✓	SFT.	20							20
		REPOINTING MASONRY IN STRUCTURES	✓			SFT.	2							2
	5038	STRUCTURAL STEEL	✓			L.SUM	1							1
	5110	CASTING, INLETS, BASINS & FITTINGS		✓		LBS.						1392		1,392
		CASTING TYPE 7			✓	EA.				1			1	2
	5172	[illegible]			✓	TONS						100		100
	5275	PLACING PRESTRUCTURE BACKFILL		✓		CYS.						8		8
	5203	TYPE [illegible] ASSEMBLY												
		TOP COAT (SIZE 1A) (3)			✓	TONS	65					56		121
	5255	GUARD RAIL TYPE B		✓		LFT.		100				220		320
		GUARD RAIL [illegible] (SPECIAL)		✓		LFT.	400							400
		GUARD RAIL [illegible] ATTACHMENT		✓		EA.	3	2	2	2	2	2	2	15
		REMOVING [illegible] SIGN			✓	L.SUM	1							1
		LINE, SKIP, WHITE 4"		✓		LFT.	225						225	450

			4712A	5039A	2341A	2342A	2343A	2344A	5189A & 5189JA	GRAND TOTAL
(a)	BITUMINOUS WIDENING	(TONS)	497	492	466	466	466	466	466	3,293
	MIXING & LEVEL	(TONS)	195	236	270	248	248	270	282	1,759
	PLANT RELIEF JOINTS	(TONS)	21	0	21	21	21	21	21	126
(b)	INCLUDES SYS. OF APPROACH SCARIFYING		427	527	527	527	527	507	527	3,582
(c)	INCLUDES LBS. OF REINF. STEEL FOR R/C DEC. APPROACHES		3961					2758		6719

(1) 100% State Funds
(2) 90/10 Federal/State
(3) 75/25 " "

Rev 1-16-80 Funding
Rev 10-30-79 Add LINE, SKIP, WHITE 4"

DESIGNED ____ C'K'D ____
DRAWN DP 10-17-78 C'K'D SPO 10-30-78
TRACED ____ C'K'D ____

DETAILS AND ESTIMATE OF QUANTITIES

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE DATE:- 6-20-79
SUBMITTED FOR APPROVAL John D. Spencer
DRAWING:- D20 OF D20 SHEET:- 23 OF 46
PROJECT:- I-PI-70-1(55)7
CONTRACT NO. B-123/6
BRIDGE FILE:- I-70-4712A, 5039A, 2341A, 2342A, 2343A, 2344A, 5189A & 5189JA

JOHN S. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

EN STR

A5141-1-CX I