CONTRACT NO. B-20137

No Change

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE PLANS

FOR SPANS OVER 20 FEET ON STATE ROAD NO. 71

PROJECT NO. RS-3983 (2) P.E. ( ) R/W (2) CONST.

THIS STRUCTURE IS LOCATED ON STATE ROAD NO. 71 OVER LITTLE VERMILLION RIVER APPROXIMATELY 6.5 MILES NORTH OF U.S. ROUTE NO. 36 IN SECTION 30, T-17-N, R-9-W, VERMILLION TOWNSHIP, VERMILLION COUNTY, INDIANA.

BRIDGES OVER 20' SPAN

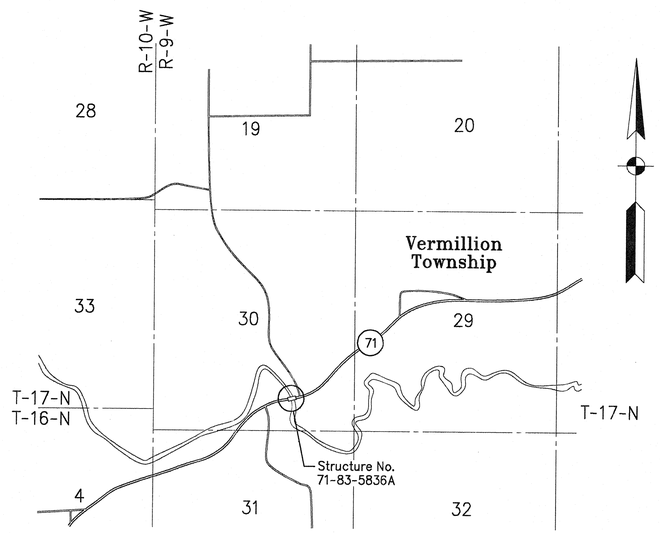
FEDERAL REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	RS-3983(2)		1	23

INDEX

PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION
RS-3983(2)	71-83-5836A	BRIDGE DECK RECONSTRUCTION AND OVERLAY	4 SPANS : 49'-9; 50'-6; 50'-6; 49'-9	LITTLE VERMILLION RIVER	

SHEET NO.	SHEET DESIGNATION	SUBJECT	F. H. W. A. APPROVAL
1	ONE SHEET	INDEX AND TITLE SHEET	
2	ONE SHEET	TRAFFIC MAINTENANCE DETAILS	
3	R1	GENERAL PLAN	
4	R2	NOTES AND DETAILS	
5	R3	RAILING DETAILS	
6	R4	GUARDRAIL TRANSITION TYPE WGB	

TRAFFIC DATA		
A. D. T. (1990)		500 V.P.D.
A. D. T. (19 PROJECTED)		V.P.D.
D. H. V. (19 PROJECTED)		V.P.H.
TRUCKS		D.H.V. % A.D.T. %
DESIGN SPEED		55 M.P.H.
ACCESS CONTROL		None
FUNCTIONAL CLASSIFICATION		Rural Major Collector



Vermillion County

INDEX CONTINUED
STANDARD DRAWINGS

SHEET NO.	SHEET DESIGNATION	SUBJECT	F. H. W. A. APPROVAL	ADOPTED "A" REVISION "R"
	BRIDGE STD. BR5	RAILING CONNECTION DETAILS		
7	BRIDGE STD. C1	MISCELLANEOUS DETAILS	PENDING	R 10-01-91
	BRIDGE STD. C2	MISCELLANEOUS DETAILS		
	BRIDGE STD. C3	MISCELLANEOUS DETAILS		
	BRIDGE STD. C4	MISCELLANEOUS DETAILS		
	BRIDGE STD. C5	PRECAST DECK PANEL DETAILS		
	BRIDGE STD. D	CASTING DETAILS, ROADWAY DRAINS		
	BRIDGE STD. D1	ADJUSTING FRAME DETAILS FOR ROADWAY DRAINS		
	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 LIGHTING DETAILS		
	BRIDGE STD. S1	MISCELLANEOUS DETAILS		
	BRIDGE STD. SH1	STEEL SHOE DETAILS		
	BRIDGE STD. SS1	STRUCTURAL EXPANSION JOINTS CLASS SS, SHEET 1		
	BRIDGE STD. SS2	STRUCTURAL EXPANSION JOINTS CLASS SS, SHEET 2		
	BRIDGE STD. T SHEET A	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD. T SHEET B	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS		
	ROAD STD. SHEET B	STANDARD PAVEMENT JOINTS		
	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MB2	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
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	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MH	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MH1	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MH2	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MH2A	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MN	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MN1	MISCELLANEOUS STANDARDS		
8	ROAD STD. SHEET MT3	MISCELLANEOUS STANDARDS	9-05-88	R 8-01-88
9	ROAD STD. SHEET MT7	MISCELLANEOUS STANDARDS	7-19-83	R 5-02-83
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
10	GUARDRAIL SHEET G-1	W-BEAM GUARDRAIL COMPONENTS	PENDING	A 12-13-91
11	GUARDRAIL SHEET G-2	THRIE-BEAM GUARDRAIL COMPONENTS	PENDING	A 12-13-91
12	GUARDRAIL SHEET G-3	W-BEAM GUARDRAIL ASSEMBLIES	PENDING	A 12-13-91
13	GUARDRAIL SHEET B-1	TYPICAL BRIDGE APPROACH GUARDRAIL	PENDING	A 12-13-91
14	GUARDRAIL SHEET E-1	GUARDRAIL END TREATMENT TYPE I	PENDING	A 12-13-91
	GUARDRAIL SHEET E-2	GUARDRAIL END TREATMENT TYPE OS		
	GUARDRAIL SHEET E-3	GUARDRAIL END TREATMENT TYPE MS		
15	GUARDRAIL SHEET T-1	GUARDRAIL TRANSITION TYPE GB	PENDING	A 12-13-91
	GUARDRAIL SHEET T-2	GUARDRAIL TRANSITION TYPE GP		
	GUARDRAIL SHEET T-3	GUARDRAIL TRANSITION TYPE VH		
	GUARDRAIL SHEET T-4	PIER CONNECTION DETAILS		
16	ROAD STD. SHEET GR10B	W-BEAM GUARD RAIL TERMINAL SECTION	PENDING	R 4-04-88
	ROAD STD. SHEET CB1	CONCRETE MEDIAN BARRIER		
17	ROAD STD. SHEET CB2	TEMPORARY CONCRETE BARRIER	1-11-89	R 9-01-88
18	ROAD STD. SHEET 1 DETOURS	STANDARD DETOUR SIGNS	PENDING	A Sept., 1988
	ROAD STD. SHEET 1A DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 1B DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 2 DETOURS	STANDARD DETOUR SIGNS		
19	ROAD STD. SHEET 2A DETOURS	STANDARD DETOUR SIGNS	PENDING	A Sept., 1988
20	ROAD STD. SHEET 3 DETOURS	STANDARD DETOUR SIGNS	PENDING	R 9-01-88
21	ROAD STD. SHEET 3A DETOURS	STANDARD DETOUR SIGNS	PENDING	R 9-01-88
22	ROAD STD. SHEET 4 DETOURS	STANDARD DETOUR SIGNS	1-11-89	R 9-01-88
23	ROAD STD. SHEET 5 DETOURS	STANDARD DETOUR SIGNS	PENDING	R 9-01-88
	ROAD STD. SHEET 5A DETOURS	STANDARD DETOUR SIGNS		

PLANS PREPARED BY :

AMERICAN CONSULTING ENGINEERS, INC.

CERTIFIED BY Michael H. Wenning Feb. 19, 1992 DATE

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL 3-17-92

BRIDGE REHABILITATION ENGINEER, INDOT

JAMES C. RAMP REGISTERED No. 16000 STATE OF INDIANA PROFESSIONAL ENGINEER

APPROVED 3-17-92

CHIEF, DIVISION OF DESIGN

RECOMMENDED FOR APPROVAL 3-17-92

DESIGN CONSULTANT SERVICES ENGINEER, INDOT

DAVID R. PLUCKEBAUM REGISTERED No. 20674 STATE OF INDIANA PROFESSIONAL ENGINEER

FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION

APPROVED:-

DIVISION ADMINISTRATOR DATE

BRIDGE FILE:- 71-83-5836A

REVISIONS	
DATE	SHEET NO.

REVISIONS	
DATE	SHEET NO.

INDIANA DEPARTMENT OF HIGHWAYS
STANDARD SPECIFICATIONS DATED 1988
TO BE USED WITH THESE PLANS.
DES. NO. 16705

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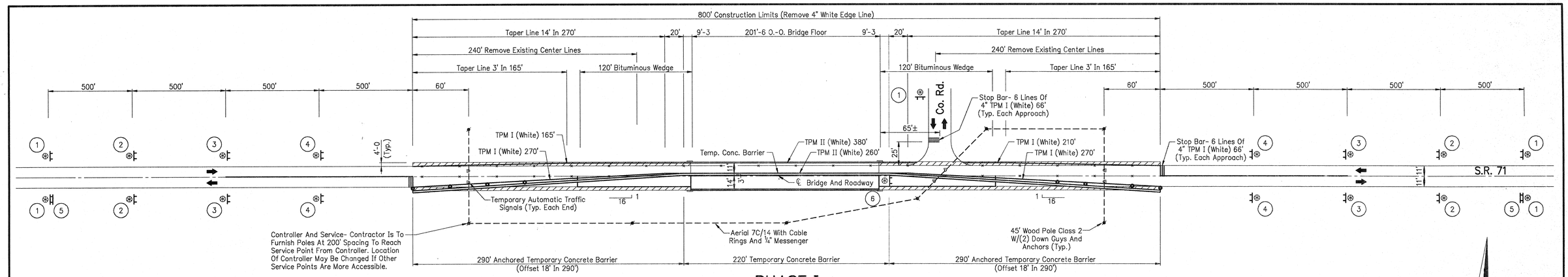

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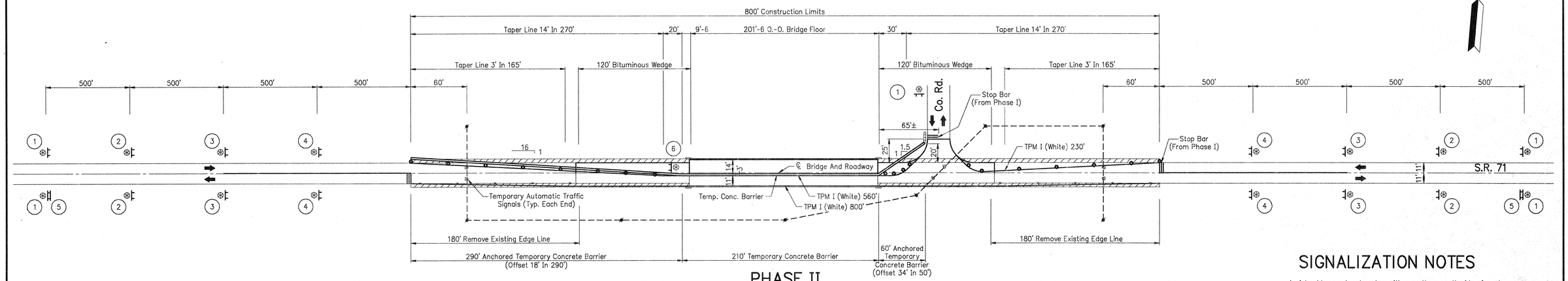

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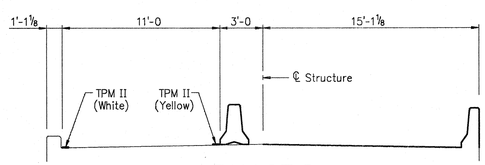

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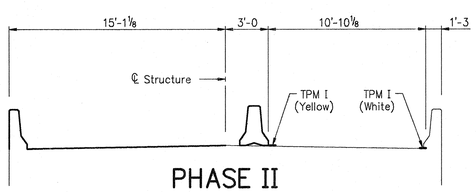
Scale- 1"= 5'-0



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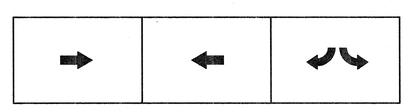
Scale- 1"= 5'-0



SIGNAL PHASE DIAGRAM

LEGEND

- Indicates Removal Of Existing Lane Markings
- Indicates Bituminous Widening (4'-0 Width) 990 Lbs./Sys. Bituminous Base No.5D. Bituminous Widening To Remain In Place. To Be Paid For As Bitum. Mixture For Approaches.
- Indicates Drums Or Type II Barricades With Steady Burning Light Type C
- Indicates 3-Bay G.R.E.A.T. cz
- Indicates Temporary Concrete Barrier
- TPM I — Indicates Temporary Pavement Marking Type I
- TPM II — Indicates Temporary Pavement Marking Type II
- Indicates Low Intensity Flashing Yellow Light Type A
- (1) Road Construction Ahead Sign XW20-1
- (2) One Lane Road Ahead Sign XW20-4 And Advisory Speed Sign XW13-1-A
- (3) Do Not Pass Sign R4-1
- (4) Signal Ahead Sign XW3-3a-B
- (5) End Construction Sign XG20-2
- (6) Reverse Curve Sign XW1-4-A(R)

Notes :
One Lane Of Traffic Shall Be Maintained Each Way Throughout The Length Of The Project.

SIGNALIZATION NOTES

Aerial cable may be placed on either north or south side of road at option of contractor.

Temporary wood poles for traffic signals should be placed as far from the edge of pavement as possible within the R/W.

All signal equipment to remain the property of the contractor. Cost of all equipment, materials and labor (including poles, cables, signal equipment and hardware) needed to install, operate, maintain and remove traffic signal system shall be included in the pay item "Temporary Traffic Signals".

Notes:

White edge lines and yellow centerline striping to be placed within construction limits upon completion of project.

Two "Lane Closure Notice" Signs (XG20-5) to be placed as directed by the engineer prior to construction. See the special provisions.

"Wide Load Exit" signs and "(10/11) Foot Lane Ahead" signs shall be placed in advance of the construction area at the nearest state or federal routes. These signs will be located, furnished, installed and removed by the District Traffic Dept.

TRAFFIC MAINTENANCE DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE: - 1"= 50', UNLESS NOTED DATE: - FEBRUARY 19, 1992

SUBMITTED FOR APPROVAL Michael H. Mennig

DRAWING: - OF SHEET: - 2 OF 23

PROJECT: - RS-3983(2)

CONTRACT NO. B-20137

BRIDGE FILE: - 71-83-5836A

MICHAEL H. MENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED		C'K'D	
DRAWN	DSH 12/12/91	C'K'D	MHW 12/17/91
TRACED		C'K'D	

DWG FILE: \TI\9133802 PROF(E): 02/10/92
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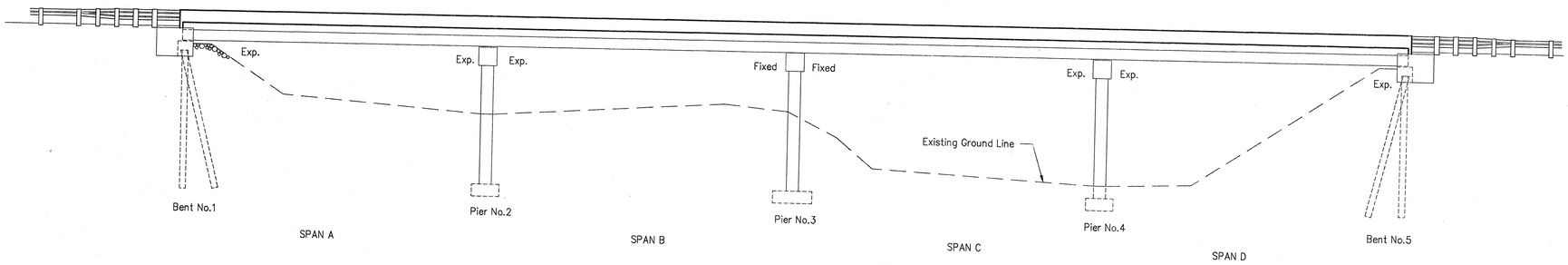
CHECKED: D: E:

No change

No Change

STRUCTURE BUILT TO A +0.247% GRADE



ELEVATION

LEGEND

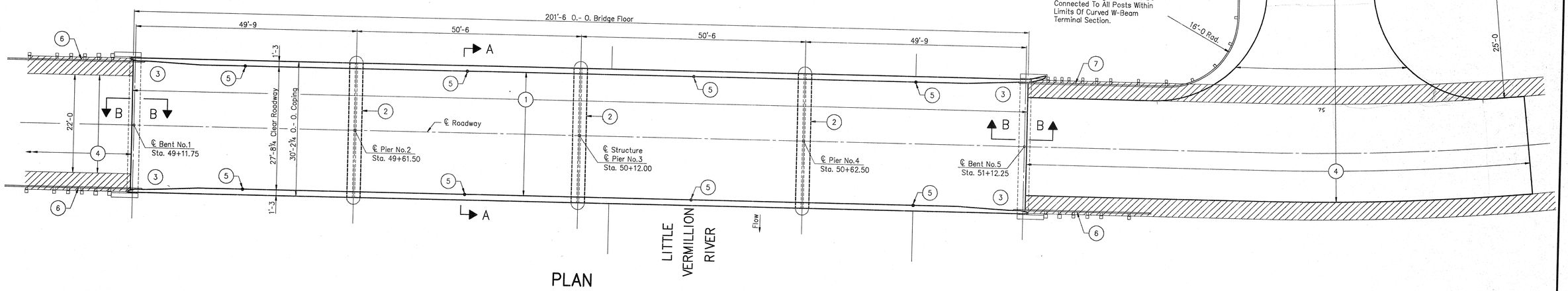
1. Limits Of ¼" Surface Milling And Bridge Deck Overlay.
2. Remove 3'-0 Of Existing Bridge Deck To Top Of Box Beams And Entire Diaphragm. See Detail On Drawing R2.
3. Construct Modified Bridge Railing Transition.
4. Construct 120' Bituminous Wedge.
5. Construct Drain Scupper At Location Of Existing Drains. See Detail On Drawing R2.
6. Remove 37.5 Lft. Of Existing Guard Rail And Install GB Transition, 75 Lft. of Guard Rail @ 6'-3 Post Spacing And Guard Rail End Treatment, Type I.
7. Remove 69 Lft. Of Existing Guard Rail And Install WGB Transition And Special W-Beam Guard Rail Terminal Section.

UTILITIES

Bell Telephone Company

Public Service Company of Indiana

NOTE :
W-Beam Railing Section To Be Connected To All Posts Within Limits Of Curved W-Beam Terminal Section.



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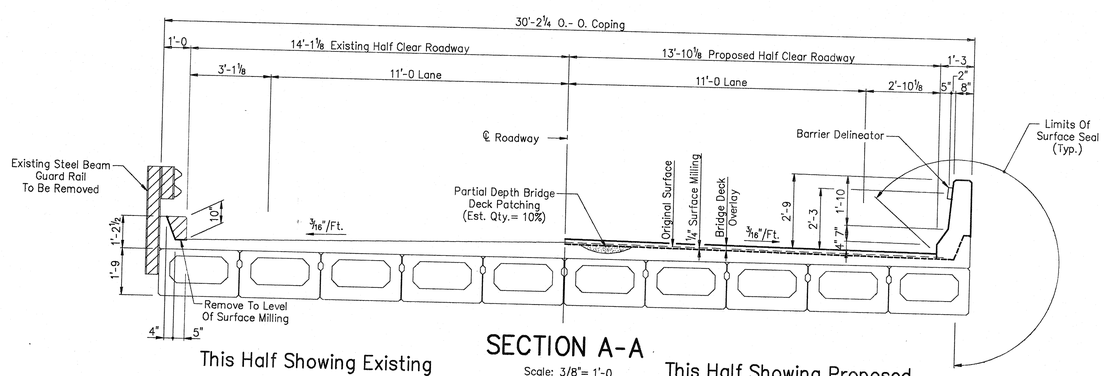
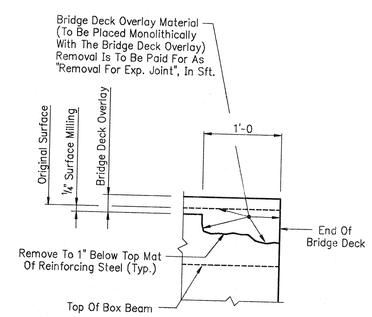


This Half Showing Existing

SECTION A-A

Scale: 3/8"= 1'-0

This Half Showing Proposed



SECTION B-B

Scale: 1"= 1'-0

NOTES :

For General Notes, Standard Drawings and additional details, see Drawing R2.

The Obstruction Free Zone is 10' from the edge of pavement.

GENERAL PLAN

BRIDGE DECK RECONSTRUCTION AND OVERLAY

PRESTRESSED CONCRETE BOX BEAM BRIDGE

4 SPANS: 49'-9, 2 @ 50'-6, 49'-9 27'-8¼ CLEAR ROADWAY

S.R. 71 OVER LITTLE VERMILLION RIVER

INDIANA DEPARTMENT OF TRANSPORTATION

VERMILLION COUNTY

SCALE:- 3/32"= 1'-0 UNLESS NOTED DATE:- FEBRUARY 19, 1992

SUBMITTED FOR APPROVAL Michael H. Wenning

DRAWING:- R1 OF R4 SHEET:- 3 OF 23

PROJECT:- RS-3983(2)

CONTRACT NO. B-20137

BRIDGE FILE:- 71-83-5836A

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED		C'K'D	
DRAWN	DDG 5/10/91	C'K'D	MHW 12/17/91
TRACED		C'K'D	

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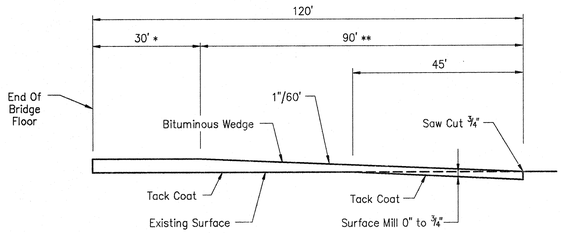

* Wedge to be a continuation of bridge deck profile.

** Taper wedge uniformly to meet existing roadway surface.

TYPICAL WEDGE DETAIL

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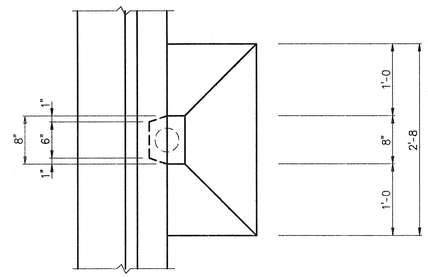
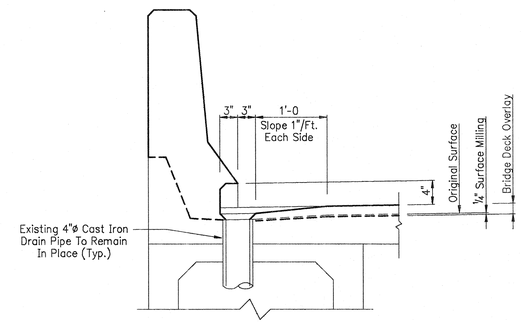


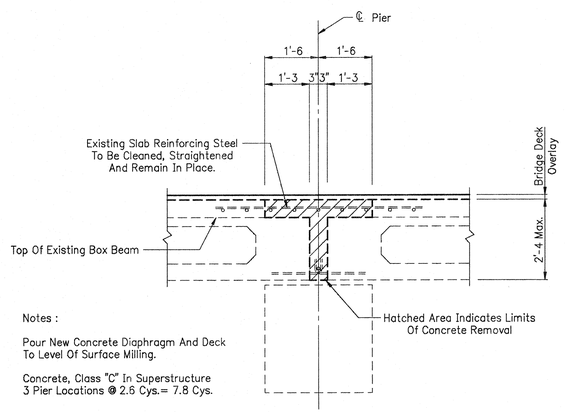
PLAN



SECTION

DRAIN SCUPPER DETAILS

Scale- 1"= 1'-0



Notes :

Pour New Concrete Diaphragm And Deck To Level Of Surface Milling.

Concrete, Class "C" In Superstructure
3 Pier Locations @ 2.6 Cys.= 7.8 Cys.

DIAPHRAGM DETAILS

Scale- ½"= 1'-0

GENERAL NOTES

Plans of the existing structure are on file in the Bridge Department, Indiana Department of Transportation, as Bridge No. 71-83-5836.

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 the 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 patching is to be removed.

All bituminous materials required in the contract to be included in the pay item "Bituminous Mixture For Approaches, L.V.", except for tack coat which is to be paid for as "Bituminous Material For Tack Coat" in Sys.

Reinforcing steel covering to be 2", unless noted.

Continuous concrete pours shall be required between construction joints as shown in the detail plans.

Seal all joints and cracks in the approach pavement within the limits of the bituminous wedges with a joint sealer before placing the bituminous wedge.

Chamfer exposed edges 1", unless noted.

Concrete in deck, diaphragm and railing to be Class "C".

Length and quantities of the bituminous wedge shown in the plans are based on the use of Modified Portland Cement Concrete overlay (1¾"). See the Special Provisions.

For concrete removal equipment, see Article 202.03(b) of the Specifications.

Barrier delineators on the structure shall be placed at the interior end of railings and at 20 feet spacing (maximum) thereafter. The color of the reflectors shall match the adjacent lane edge line.

Embed bar in field drilled holes in concrete with approved anchor system.

Paint lane lines and double yellow centerlines within project limits upon completion of the project.

STANDARD DRAWINGS

BRIDGE STANDARD	ROAD STANDARD	DESCRIPTION
C1		Reinforcing Bar Notes
	MT3	Traffic Sign Details
	MT7	Controller Mounted On Wood Poles
	GR10B	W-Beam Terminal Section
	G-1	W-Beam Guard Rail
	G-2	Thrie-Beam Guard Rail
	G-3	W-Beam Guard Rail
	B-1	Bridge Approach Guard Rail
	E-1	G.R.E.T. Type I
	T-1	Guard Rail Transition Type GB
	CB2	Temporary Concrete Barrier
	Detours 1, 2A, 3, 3A, 4 & 5	Standard Detour Signs

MATERIAL NOTES

BRIDGE DECK OVERLAY :	1 3/4" Modified Portland Cement Concrete Or 2 1/4" Dense Portland Cement Concrete (1 1/2" Or 2" Respectively Above Original Surface)
BITUMINOUS WEDGE :	110 Lbs./Sys. Bituminous Surface Type 11, LV Over Variable Depth Bituminous Binder, LV Or Base, LV
BITUMINOUS WIDENING :	990 Lbs./Sys. Bituminous Base Type 5D, LV

NOTES AND DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- NONE, UNLESS NOTED DATE:- FEBRUARY 19, 1992

SUBMITTED FOR APPROVAL Michael H. Weaving

DRAWING:- R2 OF R4 SHEET:- 4 OF 23

PROJECT:- RS-3983(2)

CONTRACT NO. B-20137

BRIDGE FILE:- 71-83-5836A

MICHAEL H. WEAVING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED		C'K'D	
DRAWN	DSH 12/13/91	C'K'D	MHW 12/17/91
TRACED		C'K'D	

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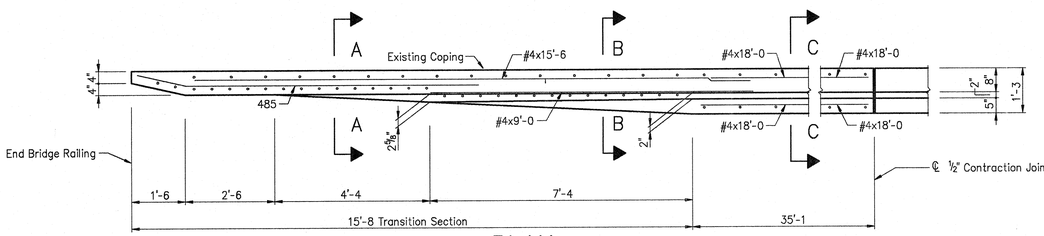

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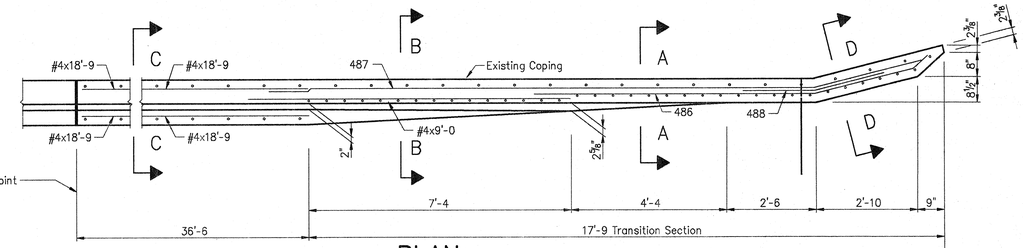

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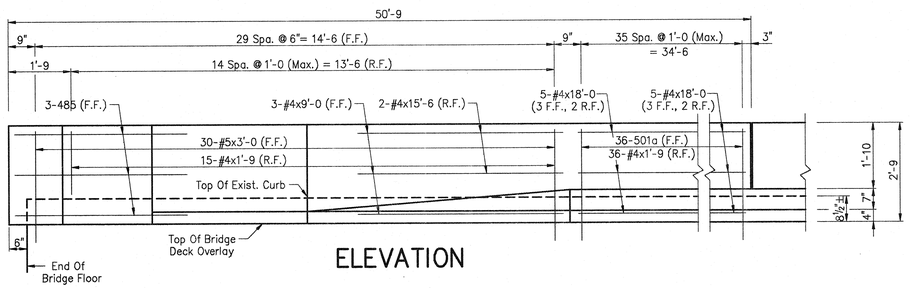
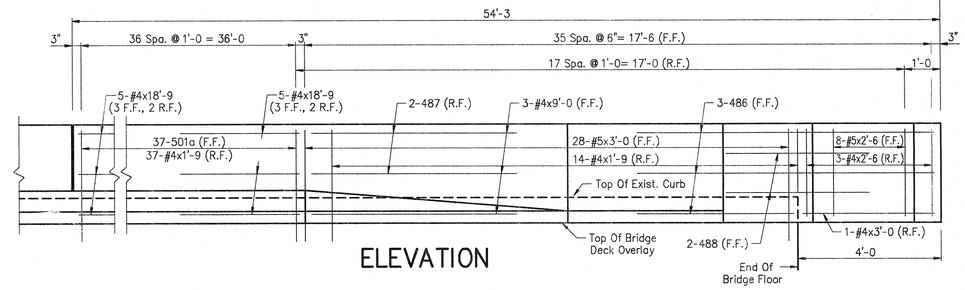


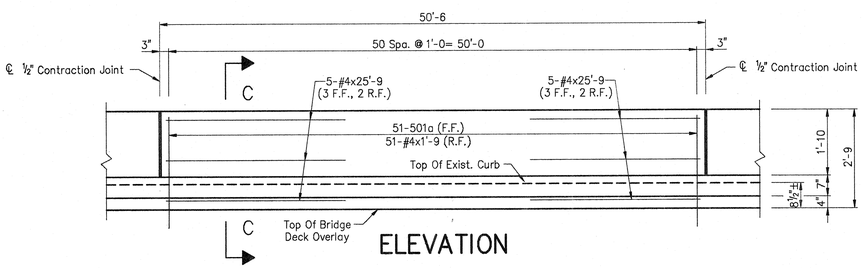
ELEVATION

END RAILING PANEL
(3 Required)



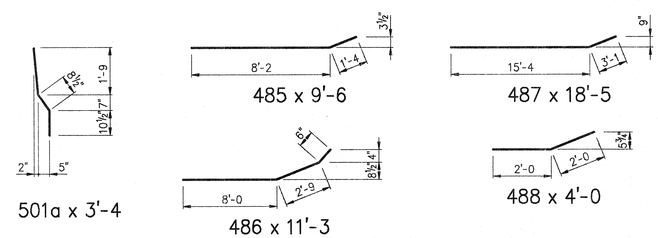
ELEVATION

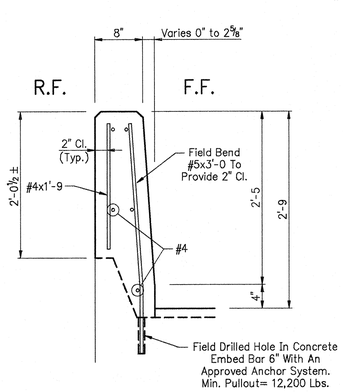
END RAILING PANEL
(1 Required)



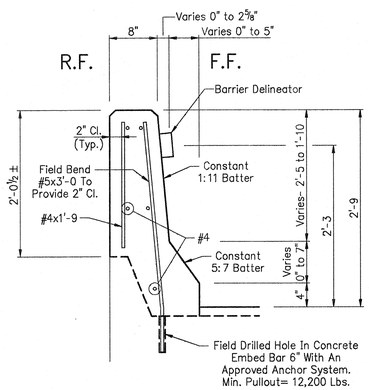
ELEVATION

INTERIOR RAILING PANEL
(4 Required)

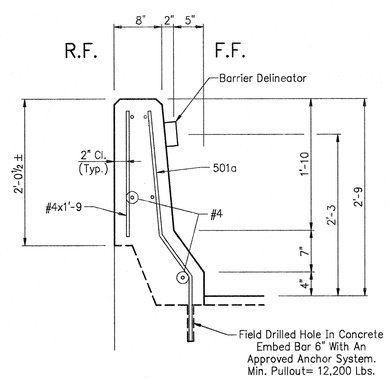




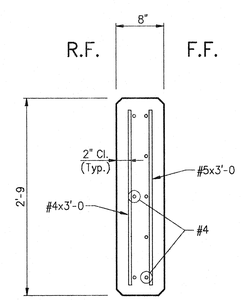
SECTION A-A
Scale- 1"= 1'-0



SECTION B-B
Scale- 1"= 1'-0



SECTION C-C
Scale- 1"= 1'-0



SECTION D-D
Scale- 1"= 1'-0

BILL OF MATERIALS

Epoxy Coated Reinforcing Steel			
Size And Mark	No. Of Bars	Length (Feet)	Weight (Lbs.)
501a	349	3'-4	
#5	118	3'-0	
#5	8	2'-6	
Total No.5			1,603
485	9	9'-6	
486	3	11'-3	
487	2	18'-5	
488	2	4'-0	
#4	40	25'-9	
#4	10	18'-9	
#4	30	18'-0	
#4	6	15'-6	
#4	12	9'-0	
#4	1	3'-0	
#4	3	2'-6	
#4	408	1'-9	
Total No.4			1,902
Total Epoxy Coated Reinforcing Steel			3,505
Concrete			
Concrete Railing Class "C"			408.5 Lft.
Miscellaneous			
Surface Seal			3,700 Sft.
Field Drilled Holes In Concrete			467 Each
Barrier Delineators			22 Each

NOTES :

All reinforcing steel to be epoxy coated.

For reinforcing bar notes, see Bridge Standard C1.

RAILING DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE: - 1/2"= 1'-0, UNLESS NOTED DATE: - FEBRUARY 19, 1992

SUBMITTED FOR APPROVAL Michael H. Wenning

DRAWING: - R3 OF R4 SHEET: - 5 OF 23

PROJECT: - RS-3983(2)

CONTRACT NO. B-20137

BRIDGE FILE: - 71-83-5836A

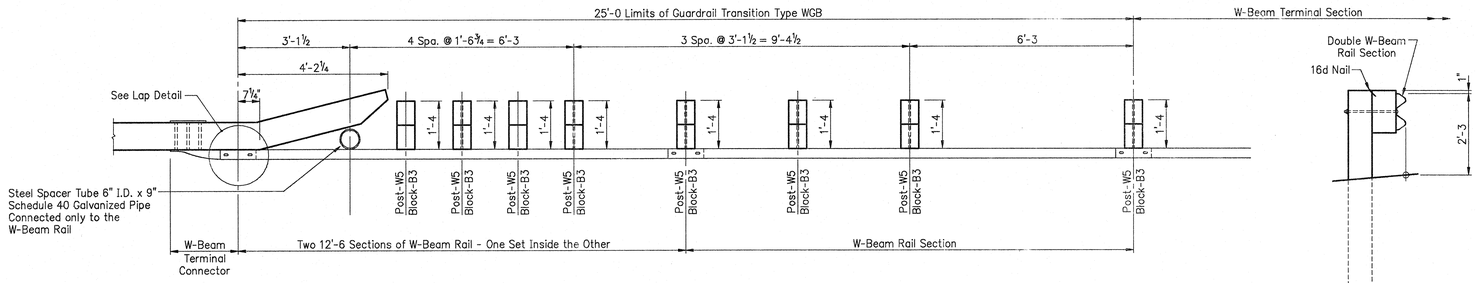
MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED		C'K'D	
DRAWN	DSH 12/16/91	C'K'D	MHW 12/19/91
TRACED		C'K'D	

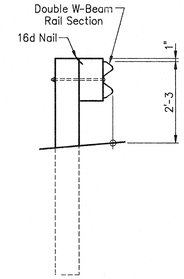
DWG FILE: \91\91333804 PROPOSTED: 02/10/92
PLOT SCALE: 1=24 EDIT DATE: 02/19/92
PLOT ORIGIN: 0.00,0.00 EDITED BY: DSH
CHECKED: D: E:

No Change

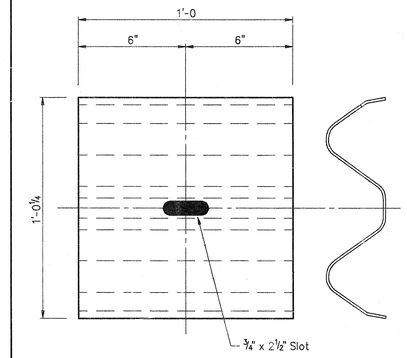
No Change



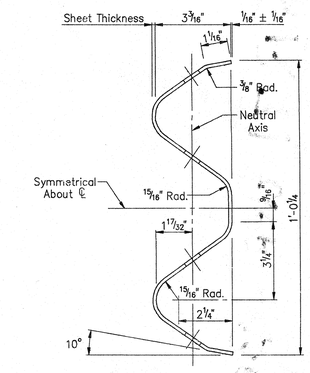
PLAN



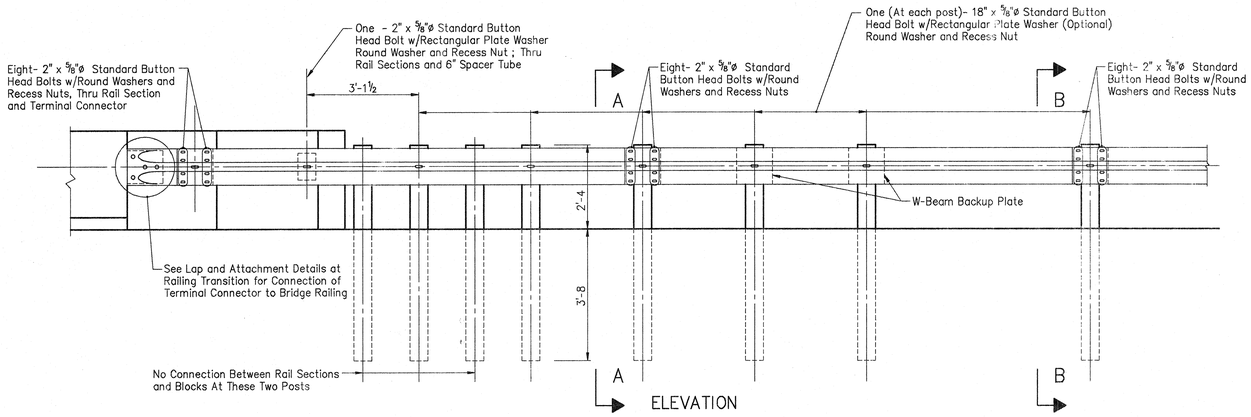
SECTION A-A



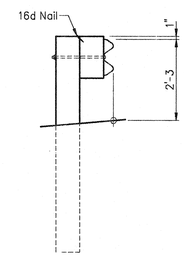
W-BEAM BACKUP PLATE



SECTION THRU BEAM ELEMENT

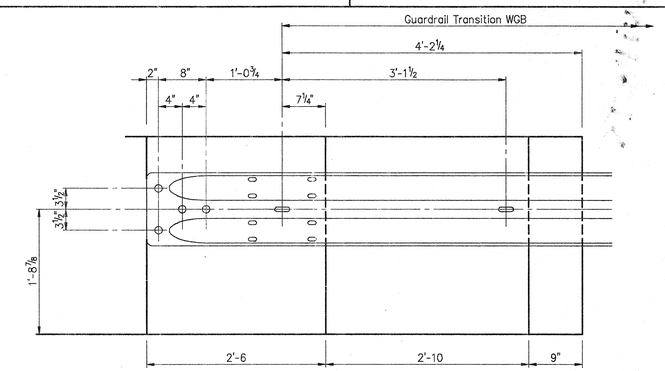


ELEVATION

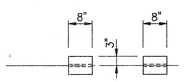


SECTION B-B

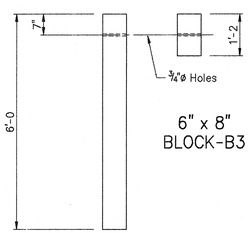
TRANSITION TYPE WGB DETAILS



ATTACHMENT TO CONCRETE BRIDGE RAILING



PLAN



6" x 8" BLOCK-B3

6" x 8" POST-W5 ELEVATION

POST AND BLOCK DETAILS

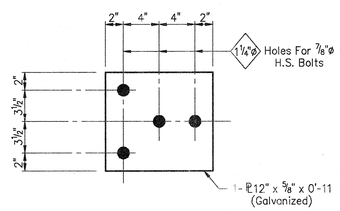
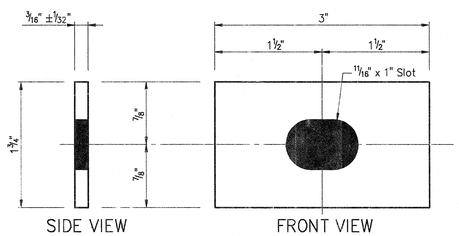
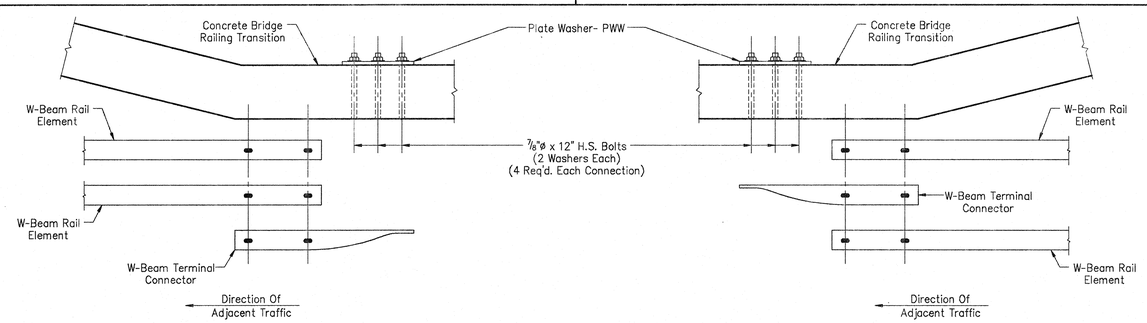


PLATE WASHER- PWW



RECTANGULAR PLATE WASHER



LAP DETAIL AT BRIDGE RAILING TRANSITION

GUARDRAIL TRANSITION TYPE WGB

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- NO SCALE DATE:- FEBRUARY 19, 1992

SUBMITTED FOR APPROVAL Michael H. Wenning

DRAWING:- R4 OF R4 SHEET:- 6 OF 23

PROJECT:- RS-3983(2)

CONTRACT NO. B-20137

BRIDGE FILE:- 71-83-5836A

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED		CK'D	
DRAWN	DSH 2/14/92	CK'D	MHW 2/18/92
TRACED		CK'D	

DWG FILE: \91\91233805
PLOT SCALE: 1=24
PLOT ORIGIN: 0.00,0.00
CHECKED: D:

PROOFED: 02/14/92
EDIT DATE: 02/18/92
EDITED BY: DSH
E:

No Change