CONTRACT No. B-16367

INDIANA DEPARTMENT OF HIGHWAYS

BRIDGE PLANS
FOR SPANS OVER 20 FEET
ON
STATE ROAD NO. 135
PROJECT NO. FR-141-1(3)

DECK RECONSTRUCTION AND OVERLAY ON STRUCTURE NO.135-31-5763A CARRYING S.R.135 OVER LICK RUN CREEK IN SECTION 34, T-5-S, R-3-E, HETH TOWNSHIP, HARRISON CO., INDIANA.

BRIDGES OVER 20' SPAN

FEDERAL REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	FR-141-1(3)	198	1	28

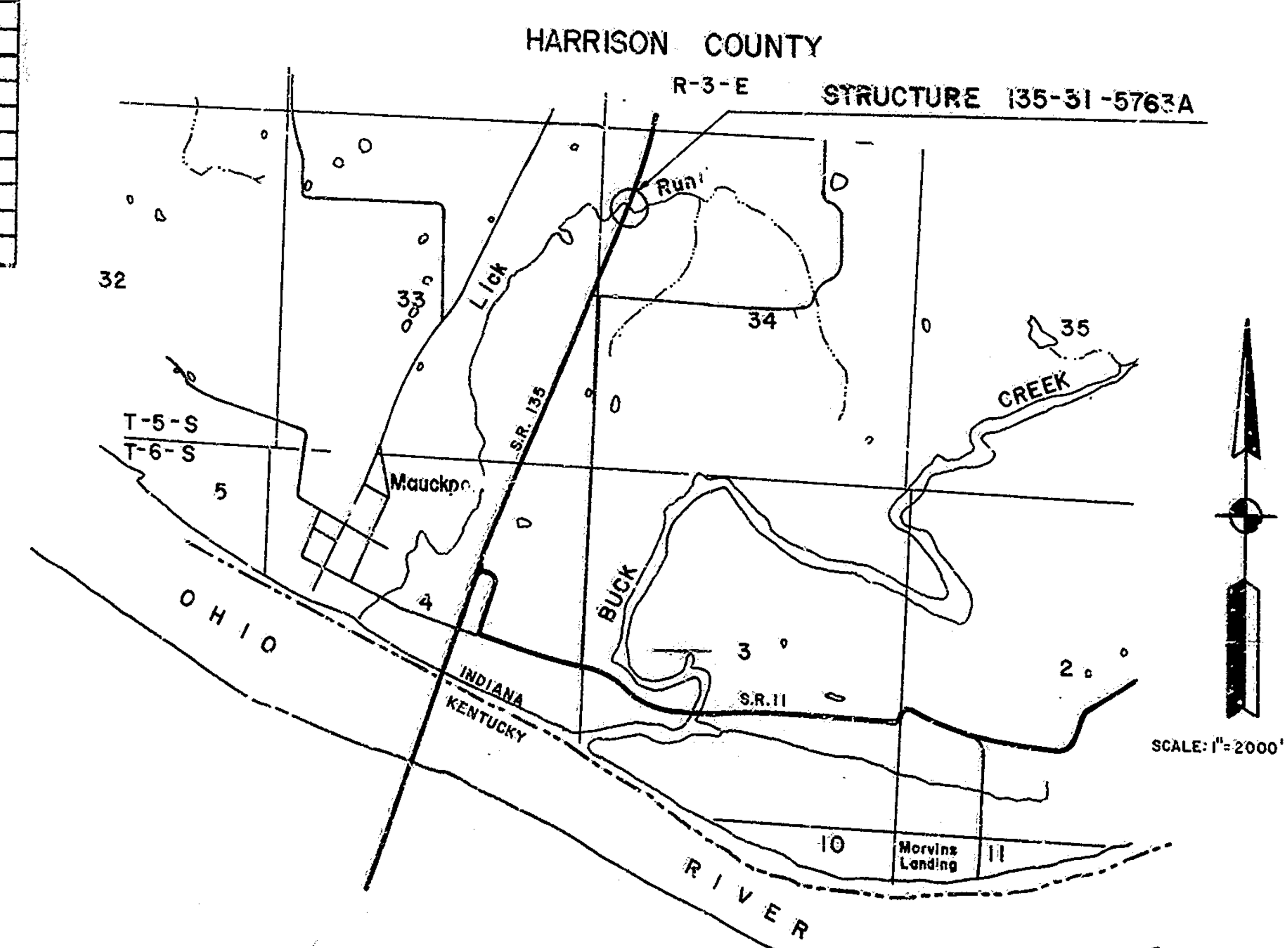
INDEX

PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION
FR-141-1(3)	135-31-5763A	DECK RECONSTRUCTION AND OVERLAY	1 @ 127'-0" 6 @ 161'-0" 1 @ 127'-0"	LICK RUN CREEK	

SHEET NO.	SHEET DESIGNATION	SUBJECT	F.H.W.A. APPROVAL
1		INDEX & TITLE SHEET	
2		TRAFFIC MAINENANCE DETAILS	
3		PAVEMENT WIDENING DETAILS	
4-6	D1-D3	GENERAL PLAN	
7	D-4	APPROACH DETAILS	
8	D-5	END BENT RECONSTRUCTION	
9	D-6	EXPANSION JOINT RECONSTRUCTION	
10	D-7	EXPANSION JOINT RECONSTRUCTION & BILL OF MATERIALS	
11	D-8	CONCRETE RAILING DETAILS	
12		BRIDGE ESTIMATE OF QUANTITIES	

NOTE: WHEREVER "INDIANA STATE HIGHWAY COMMISSION" APPEARS IN THESE PLANS, IT SHALL BE INTERPRETED AS "INDIANA DEPARTMENT OF HIGHWAYS."

TRAFFIC DATA		
A.D.T. (1978)		1700 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		



INDEX CONTINUED
STANDARD DRAWINGS

SHEET NO.	SHEET DESIGNATION	SUBJECT	F.H.W.A. APPROVAL	ADOPTED "A" REVISION "R"
	BRIDGE STD. BR1	ALUMINUM BRIDGE RAILING		
	BRIDGE STD. BR2	ALUMINUM BRIDGE RAILING DETAILS		
	BRIDGE STD. BR3	STEEL BRIDGE RAILING		
	BRIDGE STD. BR4	STEEL BRIDGE RAILING DETAILS		
13	BRIDGE STD. BR5	RAILING CONNECTION DETAILS		
	BRIDGE STD. BR6	RAILING CONNECTION DETAILS		R-12-1-86
14	BRIDGE STD. C1	MISCELLANEOUS DETAILS		
	BRIDGE STD. C2	MISCELLANEOUS DETAILS		R-12-1-86
15	BRIDGE STD. C3	MISCELLANEOUS DETAILS		
	BRIDGE STD. C4	MISCELLANEOUS DETAILS		R-12-1-86
	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. T SHEET A	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD. T SHEET B	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
16	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS		
	ROAD STD. SHEET B	STANDARD PAVEMENT JOINTS	9-24-85	R 6-03-85
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
17	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS	*	R 9-04-84
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
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	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
18	ROAD STD. SHEET MT3	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS	8-30-82	A Jul.1982
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
19	ROAD STD. SHEET GR 2	GUARD RAIL CLASS "Hs"		
	ROAD STD. SHEET GR	GUARD RAIL CLASS		R 4-02-84
	ROAD STD. SHEET GR	GUARD RAIL CLASS		
20	ROAD STD. SHEET GR 4A	GUARD RAIL CLASS "Hs"		
	ROAD STD. SHEET GR5	ALUMINUM GUARD RAIL DETAILS	*	R 4-02-84
	ROAD STD. SHEET GR6	STEEL TUBE GUARD RAIL DETAILS		
21	ROAD STD. SHEET GR7	GUARD RAIL PIER CONNECTION DETAILS		
	ROAD STD. SHEET GR8	STEEL BEAM GUARD RAIL	5-21-82	R 4-01-82
	ROAD STD. SHEET GR9	ALUMINUM BEAM GUARD RAIL		
22	ROAD STD. SHEET GR10	GUARD RAIL BURIED ENDS		
	ROAD STD. SHEET GR10A	GUARD RAIL BREAKAWAY CABLE TERM.	*	R 2-01-85
	ROAD STD.			
23	ROAD STD. SHEET CB2	TEMPORARY CONCRETE BARRIER		
	TRAFFIC STD. SHEET 9	TRAFFIC SIGN DETAILS	*	R 6-01-84
	ROAD STD. SHEET 1 DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 1A DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 1B DETOURS	STANDARD DETOUR SIGNS		
24	ROAD STD. SHEET 2 DETOURS	STANDARD DETOUR SIGNS		
25	ROAD STD. SHEET 2A DETOURS	STANDARD DETOUR SIGNS		R 2-01-85
26	ROAD STD. SHEET 3 DETOURS	STANDARD DETOUR SIGNS		2-01-85
	ROAD STD. SHEET 3A DETOURS	STANDARD DETOUR SIGNS	4-10-84	R 2-01-84
27	ROAD STD. SHEET 4 DETOURS	STANDARD DETOUR SIGNS		
28	ROAD STD. SHEET 5 DETOURS	STANDARD DETOUR SIGNS	12-08-83	R 10 03-83
	ROAD STD. SHEET 5A DETOURS	STANDARD DETOUR SIGNS	4-10-84	R 2-01-84

* PENDING APPROVAL

APPROVED 1-13-87

CHIEF, DIVISION OF DESIGN

PLANS PREPARED BY
UNITED CONSULTING ENGINEERS INC.
INDIANAPOLIS INDIANA
CERTIFIED Jerry D. Ritchie DATE 12-8-86

JERRY D. RITCHIE REGISTERED No. 12868 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL 1-12-87
James D. Mattis
BRIDGE ENGINEER

JAMES D. MATTIS REGISTERED No. ... PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL 1-13-87
Gregory L. Hannah
CONSULTANT SERVICES MANAGER, I.D.O.H.

GREGORY L. HANNAH REGISTERED No. 18318 STATE OF INDIANA PROFESSIONAL ENGINEER

FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION
APPROVED:
DIVISION ADMINISTRATOR DATE

REVISIONS	
DATE	SHEET NO.
1-24-87	1,4,5,6,9,11,12
01-27-87	1,7,12

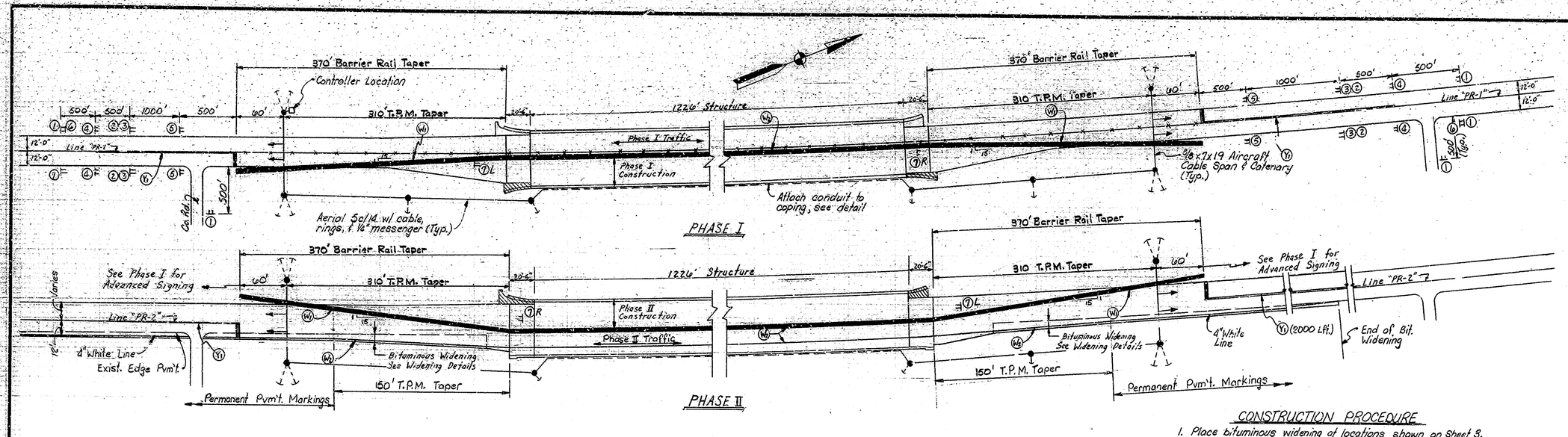
REVISIONS	
DATE	SHEET NO.

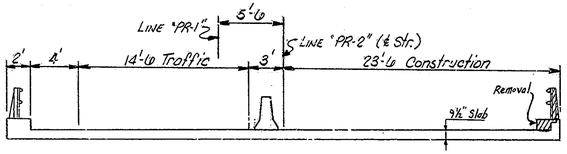
INDIANA DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS DATED 1985 TO BE USED WITH THESE PLANS.

BRIDGE FILE- 135-31-5763A

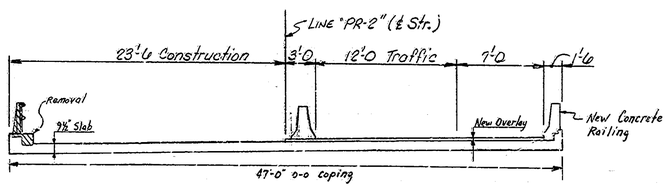
B 16367 PART 2 OF 2

TP100

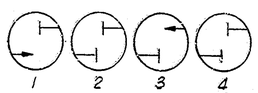




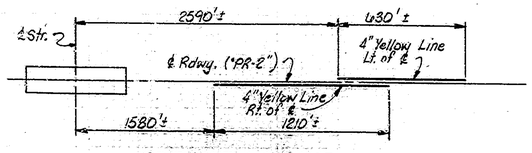
TYPICAL SECTION-PHASE I



TYPICAL SECTION-PHASE II



SIGNAL PHASING DIAGRAM

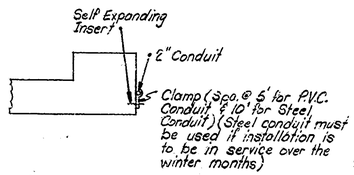


PAVEMENT MARKINGS

LEGEND

- ① Road Construction Ahead (W20-1)
- ② One Lane Road Ahead (W20-4)
- ③ Advisory Speed Sign (XW13-1-A)
- ④ Do Not Pass (R4-1-A)
- ⑤ Signal Ahead (W3-3-B)
- ⑥ End Construction (G20-2)
- ⑦R Reverse Turn Right (XW1-3-B)(R)
- ⑦L Reverse Turn Left (XW1-3-B)(L)
- Construction Sign w/ Low Intensity Flashing Yellow Light (Type "A")
- Temporary Concrete Barrier (See Rd. Std. CB2 ~ Est. Quantity = 2010 Lft.)
- Temporary Traffic Signal Head (12" Lenses)
- Wood Pole W/ Guy Wire and Anchor
- Removal of Existing Pavement Marking
- (W) 4" White Temporary Pavement Marking ~ Type I
- (Wb) 4" White Temporary Pavement Marking ~ Type II
- (Y) 4" Yellow Temporary Pavement Marking ~ Type I
- 24" Stop Bar (6 strips of 4" White T.P.M. ~ Type I)

Note: Wooden poles shall be placed as far as possible from the edge of pavement within the R/W.



CONDUIT CONNECTION

CONSTRUCTION PROCEDURE

1. Place bituminous widening at locations shown on Sheet 3.
2. Patch cracks and underseal the existing pavement within the limits of resurfacing, as directed by the Engineer. Maintain traffic as shown on Sheet 2 Detours (Method of Marking Construction Under Traffic).
3. Install temporary traffic signals, temporary concrete barrier, and other traffic control devices to close the northbound lane and divert all traffic to the southbound lane in accordance with these details.
4. Complete all work on the northbound lane (including concrete barrier and overlay).
5. Complete the bituminous resurfacing of the northbound lane using flagmen to aid in the control of traffic.
6. Reset traffic control devices to close southbound lane and divert all traffic to the northbound lane in accordance with these details.
7. Repeat steps 4 & 5 for the southbound lane.
8. Open structure to traffic.

CONTROLLER AND SERVICE

The Contractor shall furnish sufficient poles to reach a service point from controller. Location of controller may be changed if other service points are more accessible.

Cost of materials, labor, and equipment (including poles, cables, 2" conduit, signal equipment and hardware) needed to install, operate, and remove the traffic signal system shall be included in the pay item "Temporary Traffic Signals" (Lump Sum).

TRAFFIC MAINTENANCE DETAILS
INDIANA DEPARTMENT OF HIGHWAYS

SCALE:- NO SCALE DATE:- DECEMBER 8, 1986

Jerry D. Ritchie

DRAWING:- OF SHEET:- 2 OF 28

PROJECT:- FR-141-1(3)

BRIDGE CONTRACT NO. B-16367

BRIDGE FILE:- 135-31-5783A

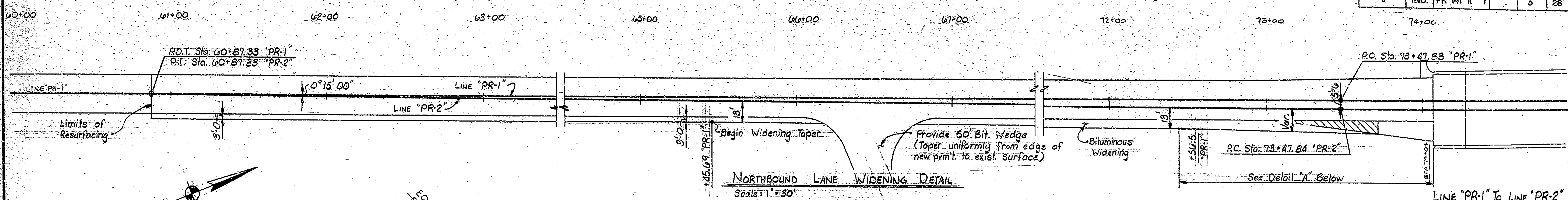
JERRY D. RITCHIE REGISTERED No. 7858 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED	WEH	CK'D	DR
DRAWN	WEH	CK'D	DR
TRACED	WEH	CK'D	DR

SF-22317

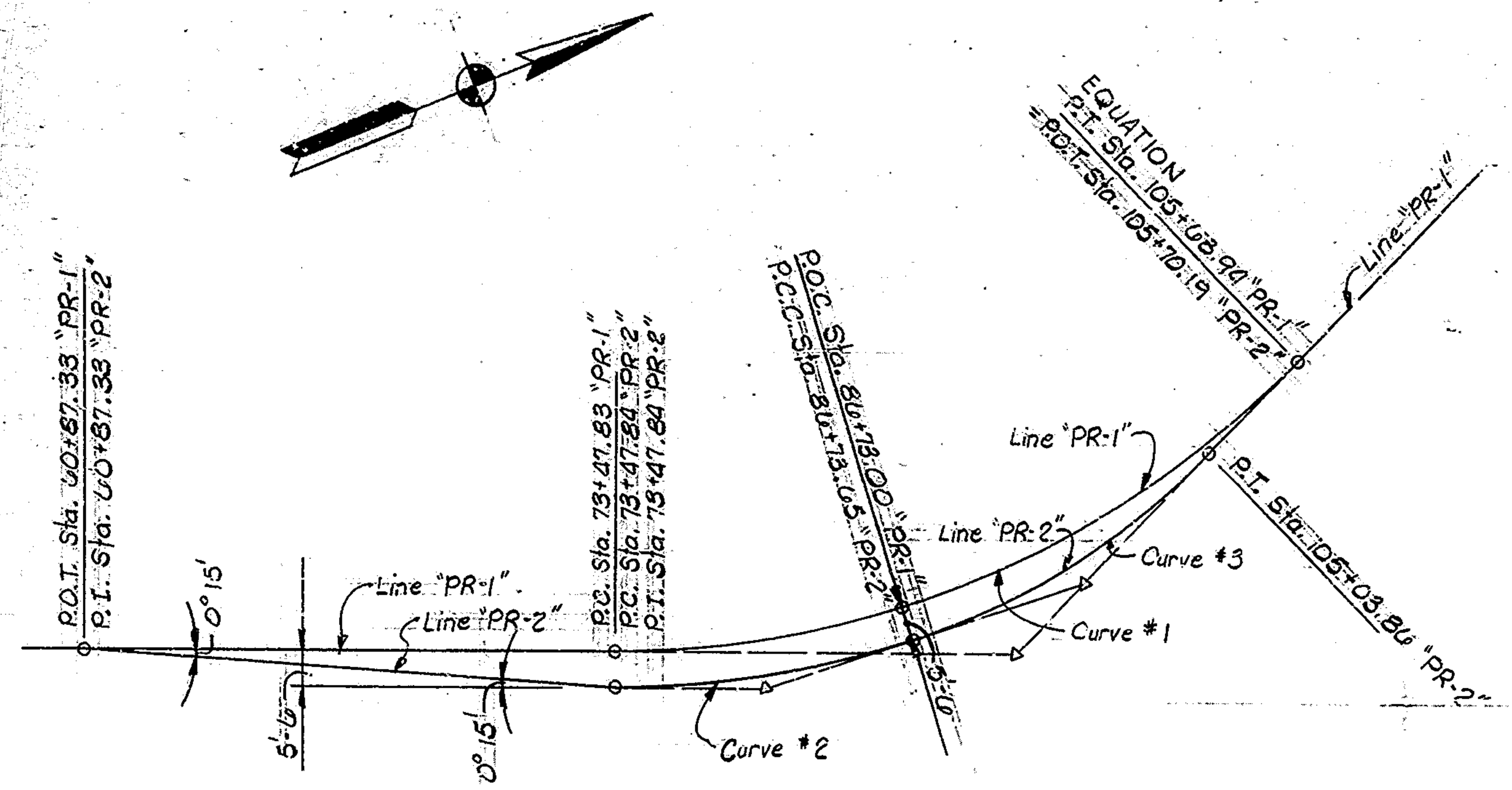
TP118

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	FR-141-1( )		3	28

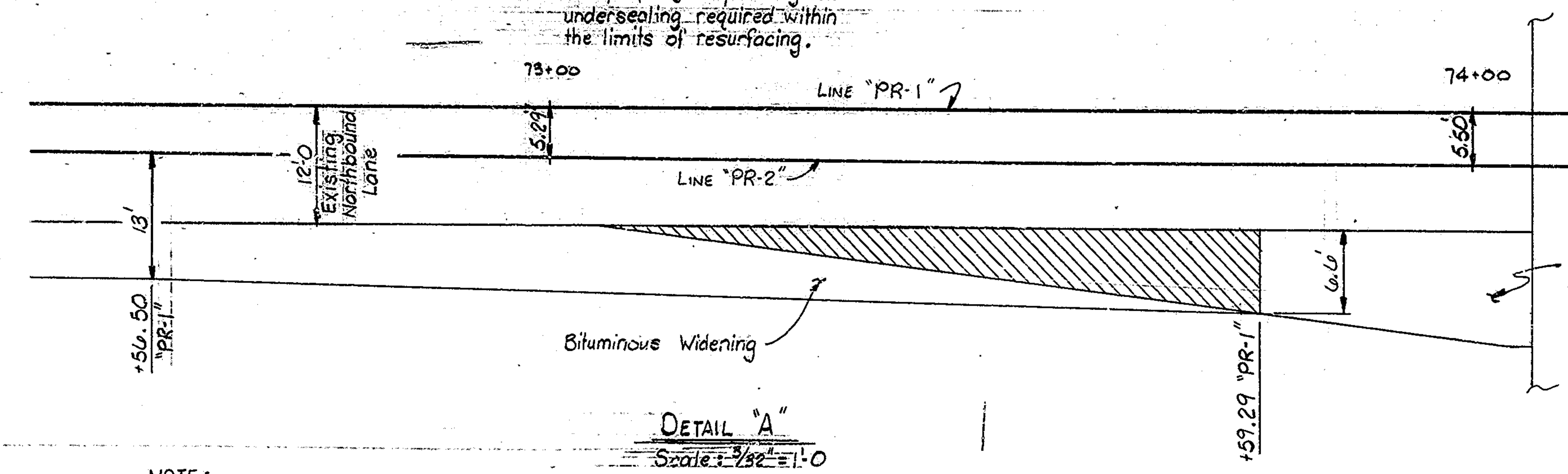


NORTHBOUND LANE WIDENING DETAIL
Scale: 1" = 30'

NOTE: Special joint patching and undersealing required within the limits of resurfacing.



CONSTRUCTION GEOMETRICS
No Scale

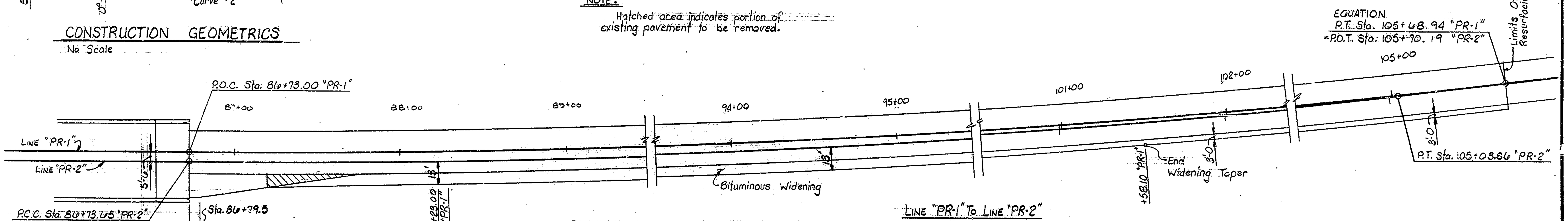


DETAIL "A"
Scale: 3/32" = 1'-0

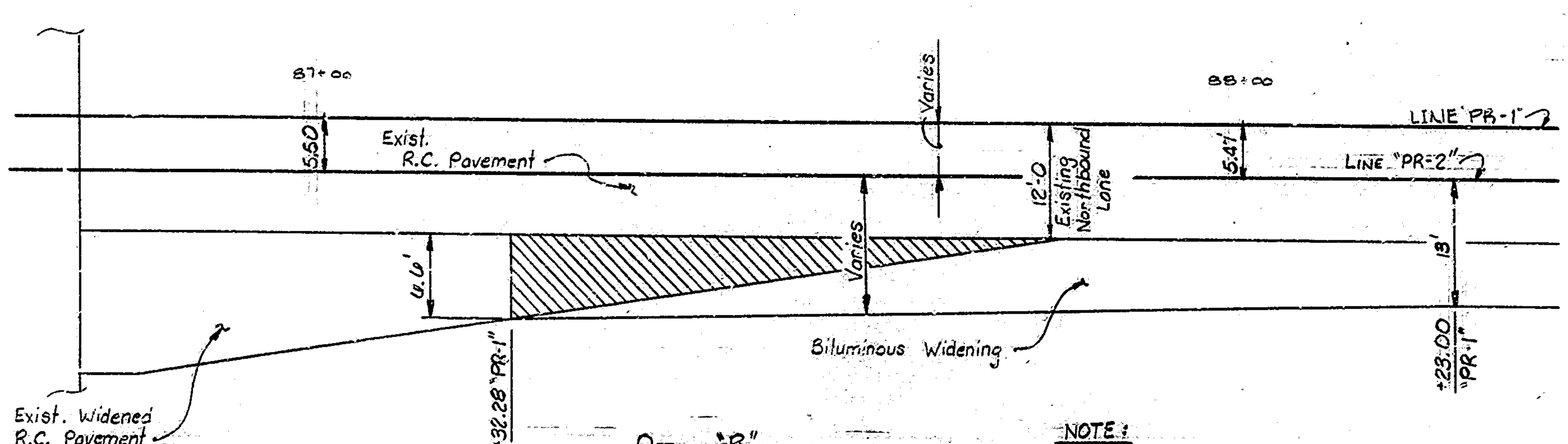
NOTE: Hatched area indicates portion of existing pavement to be removed.

Line "PR-1" To Line "PR-2"	
Offset Dimensions	
61+00	0.06'
62+00	0.49'
63+00	0.93'
64+00	1.36'
65+00	1.80'
66+00	2.24'
67+00	2.67'
68+00	3.11'
69+00	3.55'
70+00	3.98'
71+00	4.42'
72+00	4.85'
73+00	5.29'

Offsets are measured perpendicular from Line "PR-1"



NORTHBOUND LANE WIDENING DETAIL
Scale: 1" = 30'



DETAIL "B"
Scale: 3/32" = 1'-0

NOTE: Hatched area indicates portion of existing pavement to be removed.

Line "PR-1" To Line "PR-2"	
Offset Dimensions	
87+00	5.50'
88+00	5.47'
89+00	5.42'
90+00	5.33'
91+00	5.21'
92+00	5.06'
93+00	4.88'
94+00	4.66'
95+00	4.41'
96+00	4.14'
97+00	3.82'
98+00	3.48'
99+00	3.11'
100+00	2.70'
101+00	2.27'
102+00	1.80'
103+00	1.30'
104+00	0.77'
105+00	0.21'

Offsets are measured radially from Line "PR-1"

CURVE DATA

Curve #1 ("PR-1")	Curve #2 ("PR-2")	Curve #3 ("PR-2")
P.I. = 89+69.07	P.I. = 80+11.48	P.I. = 95+90.85
P.C. = 73+47.83	P.C. = 73+47.84	P.C. = 86+73.65
P.T. = 105+68.94	P.T. = 86+73.65	P.T. = 105+03.86
I = 16° 06' 20.0"	I = 6° 37' 33.13"	I = 9° 28' 46.87"
D = 0° 30' 00.0"	D = 0° 29' 59.14"	D = 0° 31' 04.64"
T = 1621.25'	T = 663.65'	T = 917.20'
L = 3221.11'	L = 1325.81'	L = 1830.21'
E = 114.12'	E = 19.19'	E = 37.96'
R = 11459.16'	R = 11464.66'	R = 11061.90'
C = 3210.52'	C = 1325.07'	C = 1828.12'

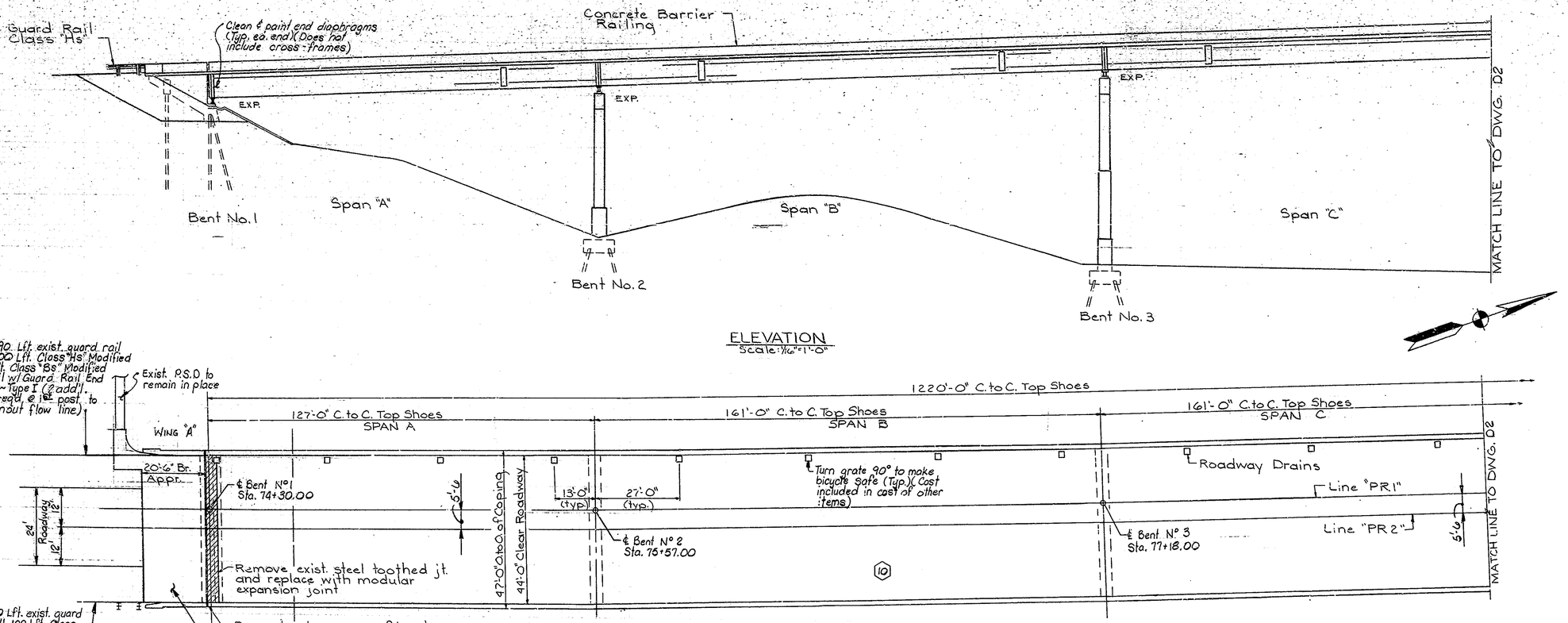
NOTE: For "SPECIAL JOINT PATCHING", see Special Provisions. The cost of the tack coat in the cleaned area shall be included in the cost of "Special Joint Patching Material". For location of field drilled holes for undersealing, see sheet 10.

PAVEMENT WIDENING DETAILS

DETAILS

SHEET Nº 3 OF 28
PROJECT Nº: FR-141-1(3)
BRIDGE FILE Nº: 135-31-5763A
Contr. No. B-16367

12-8-86



ELEVATION
Scale: 1/16"=1'-0"

PLAN
Scale: 1/16"=1'-0"

Note: For Typical Section see Dwg. 03:
For Standard Drawing and Half Longitudinal Section see Dwg. 02.
O - Percentage of Bridge Deck Patching

MATERIAL NOTES

BITUMINOUS WEDGE
110*/Syd. H.A.C. Surface Type II on Variable depth Bit. Binder or Base

BRIDGE DECK OVERLAY
1¾" Modified Portland Cement Concrete or 2½" Portland Cement Concrete (Dense) (1½" or 2¼" Above Existing plus ¼" Surface Milling)

PAVEMENT RELIEF JOINTS
110*/Syd. H.A.C. Surface Type II on 1870*/Syd. Bituminous Base

BITUMINOUS WIDENING
990*/Syd. Bit. Base Type 5D

BITUMINOUS RESURFACING
110*/syd. Bit. Surface Type II on 220*/syd. Bit Binder

GENERAL NOTES

Plans for this structure are on file in the Central Office as Bridge File 135-31-5763 and are available on request.

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

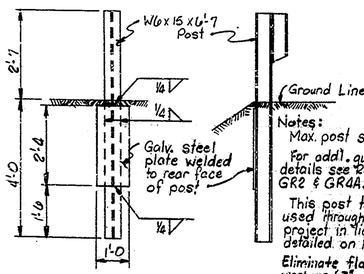
The hand chipping and cleaning of deteriorated concrete areas shall be as directed by the Engineer. It is the intent of these plans that all such deteriorated concrete be removed and should there be any doubt as to the quality of the concrete removed, shall continue until PERFECTLY SOUND CONCRETE is exposed. All existing non-full depth patches shall be removed.

Concrete in the patches for deteriorated concrete areas up to milled surface to be Special Class "A" Concrete bonded with epoxy bonding compound or Modified P.C. Concrete.

All bituminous material required in this contract to be included in the pay item "Bituminous Mixture for Approaches". (Except tack Coat to be paid for as a separate item.)

The length and quantity of bit. wedging shown is based on the use of Modified P.C.C. Overlay. See the Spl. Provisions.

Surface seal exposed faces of barrier rail, coping and underside of slab to drip bead.



MODIFIED GUARD RAIL POST

Rev. 1-24-87 Surface Milling.

GENERAL PLAN

DECK RECONSTRUCTION AND OVERLAY
CONTINUOUS WELDED PLATE GIRDER BRIDGE
8 SPANS: 127'-0, 6 @ 161'-0, 127'-0
44'-0 CLEAR ROADWAY; 0° 30' CURVE LT.
STATE ROAD 135 OVER LICK RUN CREEK

INDIANA DEPARTMENT OF HIGHWAYS

HARRISON COUNTY

SCALE:— AS NOTED DATE:- DECEMBER 8, 1986 19

Jerry D. Ritchie

DRAWING:- DI OF D8 SHEET:- 4 OF 28
PROJECT:- FR-141-1(3)
BRIDGE CONTRACT NO. B-16367
BRIDGE FILE:- 135-31-5763A

JERRY D. RITCHIE REGISTERED No. 11286B STATE OF INDIANA PROFESSIONAL ENGINEER

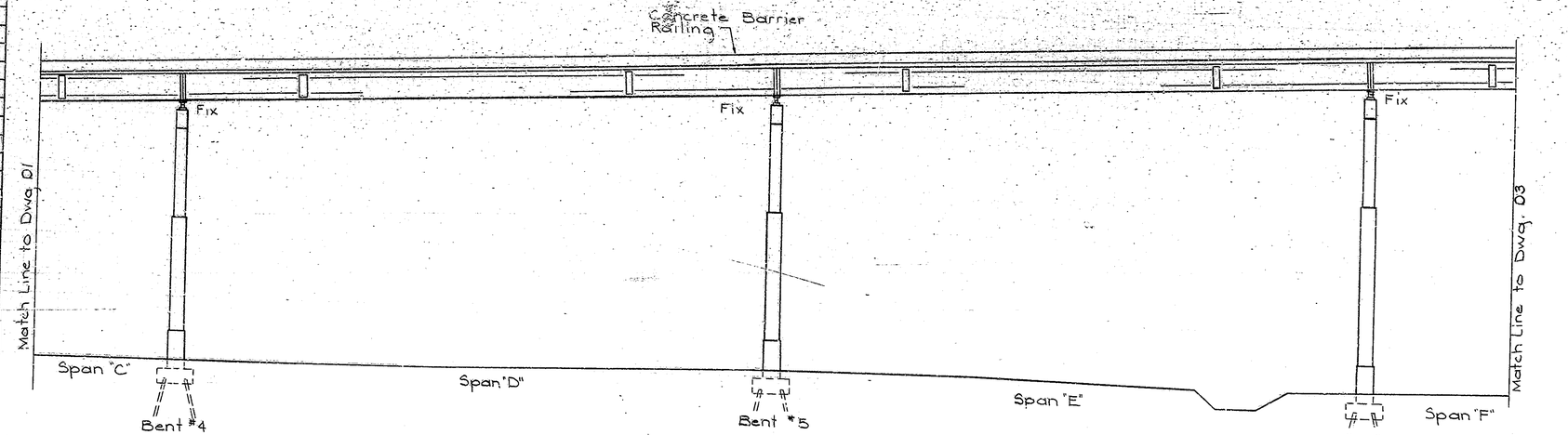
DESIGNED	D.R.	CK'D	J.D.R.
DRAWN	W.K.S.	CK'D	D.R.
TRACED	W.K.S.	CK'D	D.R.

SF-22317

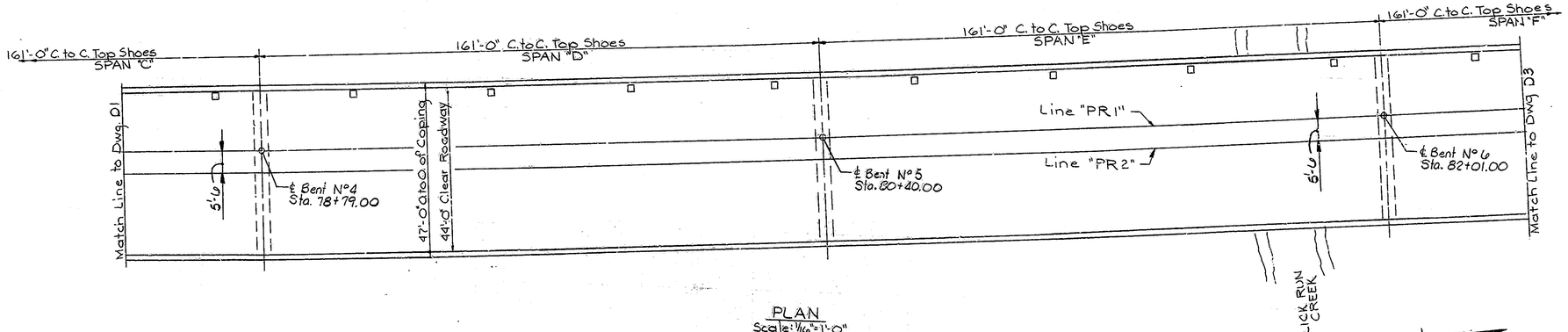
TP118

STANDARD DRAWINGS

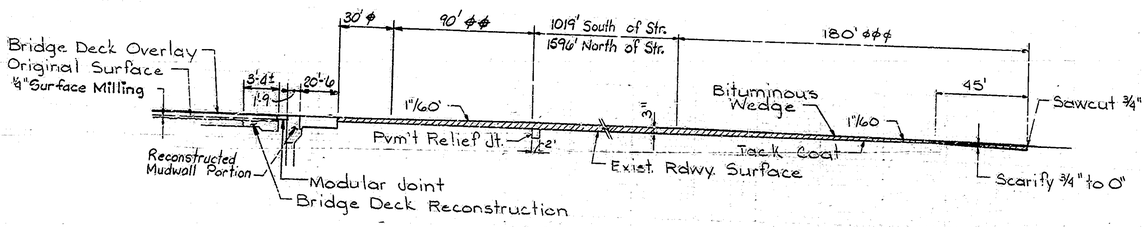
Bridge	Road	Purpose
BR5		Railing Conn. Details
C1		Reinf. Bar Notes
C3		Constr. Jt. Type "A"
	A	Standard Pavement Joints
	MA	R.C. Bridge Approach
	MT3	Traffic Sign Details
	GR2	Guard Rail Class "Hs" & "Bs"
	GR4A	Guard Rail Class "Hs"
	GR7	Steel Offset Bracket
	GR10	Guard Rail End Treatment ~ Type I
	CB2	Temporary Concrete Barrier
	Sht. 2	Standard Detour Signs
	Sht. 2A	Standard Detour Signs
	Sht. 3	Standard Detour Signs
	Sht. 4	Standard Detour Signs
	Sht. 5	Standard Detour Signs



ELEVATION
Scale 1/16" = 1'-0"



PLAN
Scale: 1/16" = 1'-0"



HALF LONGITUDINAL SECTION
NO SCALE

℄ Wedge to be a continuation of the Bridge Deck Profile.

℄℄ Taper wedge uniformly to a depth of 3" Pavement relief joint to be placed at first pavement joint into full depth resurfacing, or as directed by the Engineer.

℄℄℄ Taper wedge uniformly to meet existing roadway surface.

NOTE: Seal all cracks and joints in the approach pavement with a hot poured joint sealer prior to placing the bituminous wedge and resurfacing

DESIGNED D.R. C'K'D JDR
DRAWN W.K.S. C'K'D DR
TRACED W.K.S. C'K'D DR

SF-22317

Rev. 1-24-87. Surface Milling

TP118

GENERAL PLAN (CON'T)

INDIANA DEPARTMENT OF HIGHWAYS

HARRISON COUNTY

SCALE:- AS NOTED

DATE:- DECEMBER 8, 1988

Jerry D. Ritchie

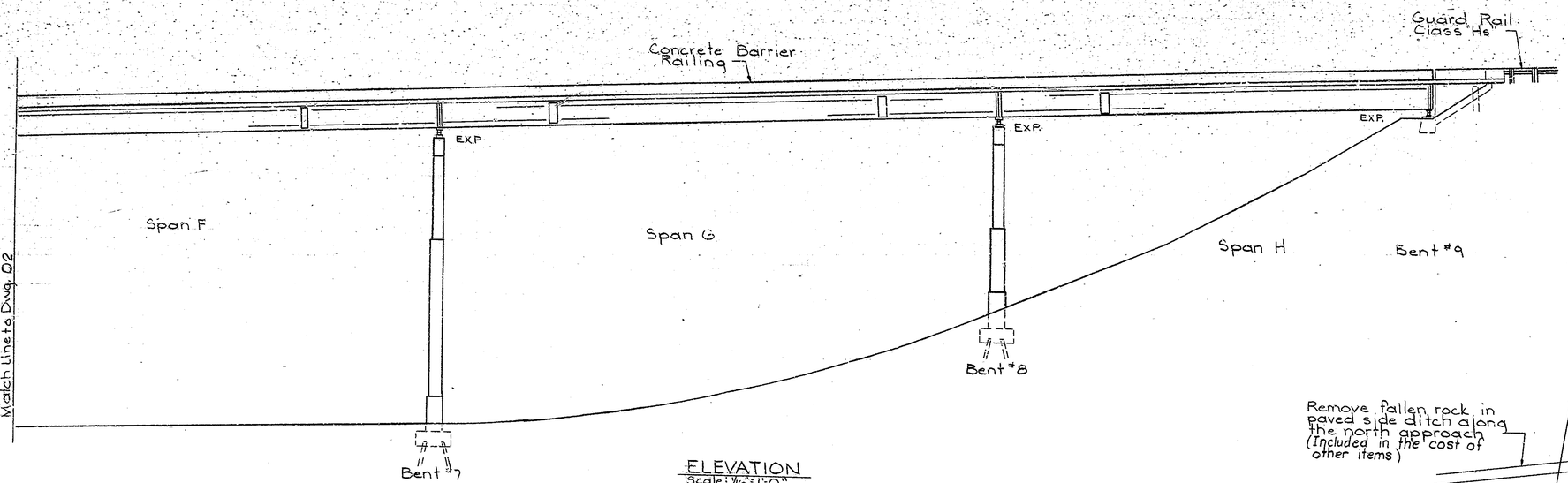
DRAWING:- D2 OF D8 SHEET:- 5 OF 28

PROJECT:- FR-141-1(3)

BRIDGE CONTRACT NO. B-16367

BRIDGE FILE:- 135-31-2763A

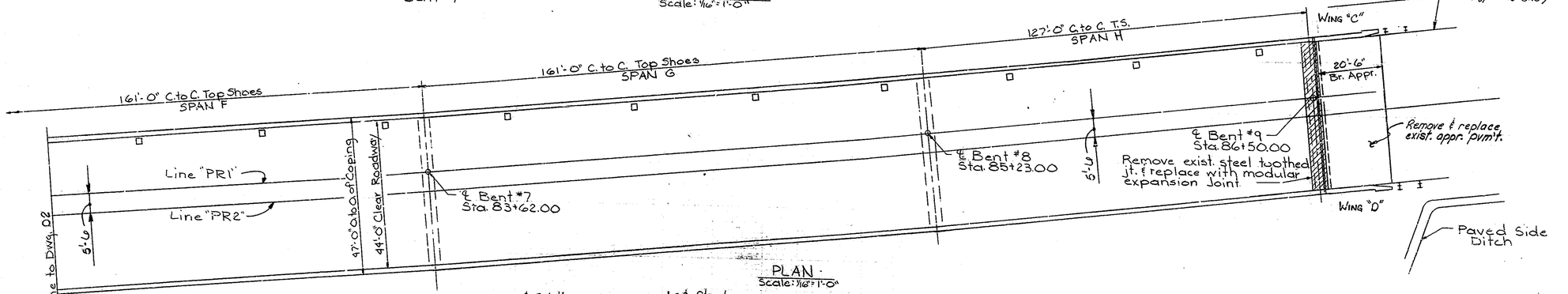
JERRY D. RITCHIE REGISTERED No. 12863 STATE OF INDIANA PROFESSIONAL ENGINEER



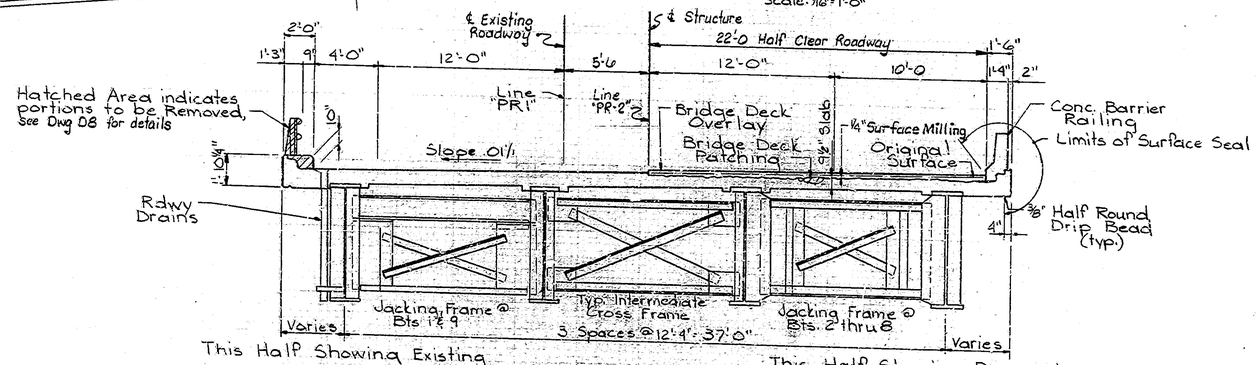
ELEVATION
Scale: 1/16"=1'-0"

Remove fallen rock in paved side ditch along the north approach (Included in the cost of other items)

Remove 190 Lft. exist. guard rail & install 190 Lft. Class 'Hs' Modified Guard Rail. Guard Rail End Treatment - Type I (Typ. this end)



PLAN
Scale: 1/16"=1'-0"



TYPICAL CROSS SECTION
Scale: 1"=1'-0"

Rev. 1-24-87 Surface Milling.

DESIGNED	D.R.	C'K'D	J.D.K.
DRAWN	W.K.S.	C'K'D	D.R.
TRACED	W.K.S.	C'K'D	D.R.

SF-22317

GENERAL PLAN (CON'T)

INDIANA DEPARTMENT OF HIGHWAYS

HARRISON COUNTY

SCALE:- AS NOTED DATE:- DECEMBER 8, 1986

Jerry D. Ritchie

DRAWING D3 OF D3 SHEET: 6 OF 28

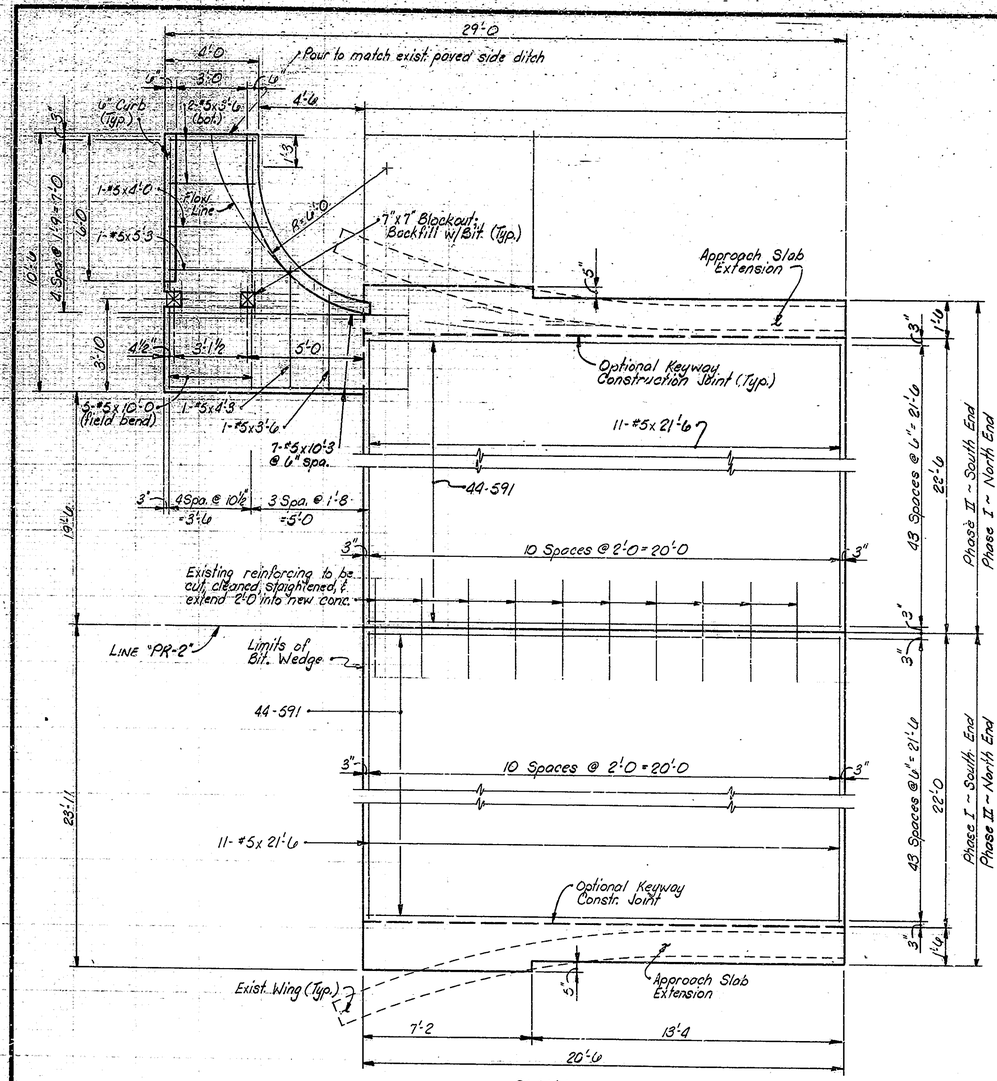
PROJECT:- FR-141-1(3)

BRIDGE CONTRACT NO. 8-16367

BRIDGE FILE:- 135-31-5763A

JERRY D. RITCHIE No. 12563 STATE OF INDIANA REGISTERED PROFESSIONAL ENGINEER

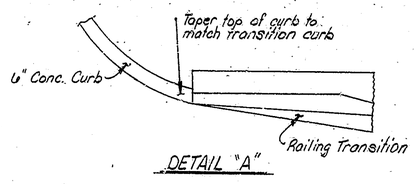
TP118



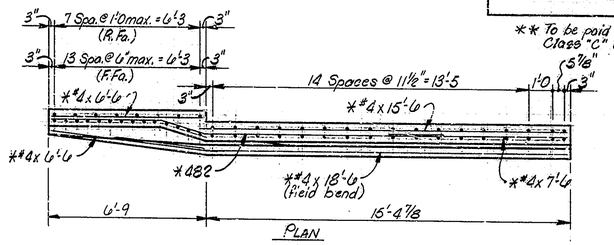
PLAN

South Appr. Shown; North Appr. Similar As Noted

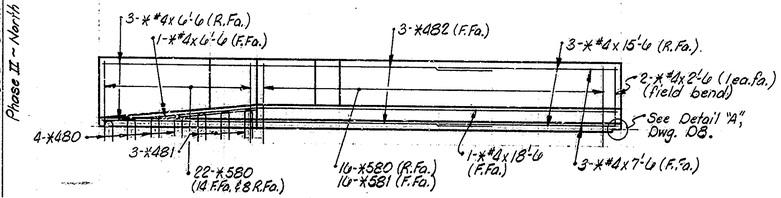
Scale: 3/8" = 1'-0



DETAIL "A"



PLAN



ELEVATION

TRANSITION DETAILS

Scale: 3/8" = 1'-0

Note: For additional transition details, see Br. Std. BR5.

BILL OF MATERIALS
Concrete Railing Transitions

EPOXY COATED REINFORCING			
Size & Mark	No. of Bars	Length	Weight (Lbs.)
*580	152	3'-9	
*581	64	3'-11	
	Total of *#5		856
*480	14	1'-9	
*481	12	2'-5	
*482	12	16'-7	
*#4	1	18'-6	
*#4	12	15'-6	
*#4	12	7'-6	
*#4	16	6'-6	
*#4	8	2'-6	
	Total of *#4		488
* Total E.C. Reinforcing			1344

MISCELLANEOUS	Quantity
Class "C" Conc. Railing	8.6 Cys.
Surface Seal	500 SFt.

** To be paid for as 89 Lft. of Class "C" Concrete Railing.

BILL OF MATERIALS
Approach Slabs

REINFORCING STEEL			
Size & Mark	No. of Bars	Length	Weight (Lbs.)
591	170	20'-6	
#5	44	21'-6	
#5	7	10'-3	
#5	5	10'-0	
#5	1	5'-3	
#5	1	4'-3	
#5	1	4'-0	
#5	3	3'-6	
	Total #5		4902
Approach Slab Extensions 2 @ 128*			256
Total Reinforcing			5158

EPOXY COATED REINFORCING	
Approach Slab Extensions 2 @ 813*	1626
*Total E.C. Reinforcing	1626

MISCELLANEOUS	Quantity
10" R.C. Pavement	224 Sys.
Type "O" Compacted Aggregate for Base	75 Tons
Removal of "O" Pavement	250 Sys.
Concrete Curb	18 Lft.

NOTES:

For "Reinforcing Bar Notes," see Br. Std. C1.
For "Approach Slab Extension" Details, see Br. Std. BR5.
For additional approach details, see Rd. Std. MA.
* - Indicates epoxy coated reinforcing.

APPROACH DETAILS
INDIANA DEPARTMENT OF HIGHWAYS

SCALE: — AS NOTED

DATE: DECEMBER 8, 1986

Jerry D. Ritchie

DRAWING: D4 OF D8 SHEET: 7 OF 28

PROJECT: FR-141-1(3)

BRIDGE CONTRACT NO. B-16367

BRIDGE FILE: 135-31-5763A

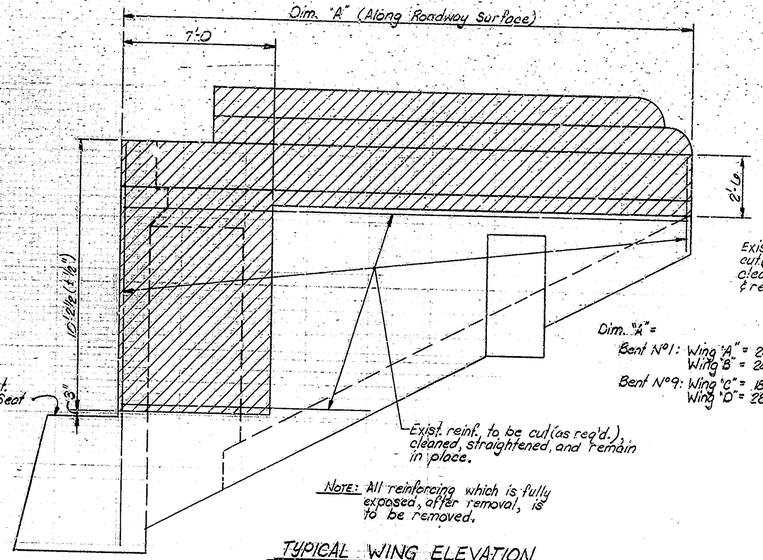
TERRY D. RITCHIE REGISTERED No. 12869 STATE OF INDIANA PROFESSIONAL ENGINEER

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

SF-22317

Rev.: 01-27-87; Bill of Materials (Class "C" Conc. Railing).

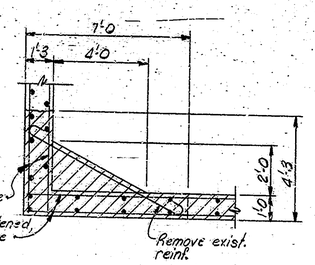
TP118



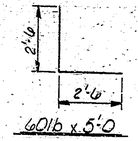
Dim. "A" =
Bent N°1: Wing "A" = 24'-4½
Wing "B" = 24'-4½
Bent N°9: Wing "C" = 18'-4½
Wing "D" = 28'-4½

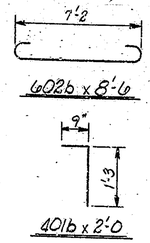
NOTE: All reinforcing which is fully exposed, after removal, is to be removed.

TYPICAL WING ELEVATION
Showing Limits Of Removal
Scale: 3/8" = 1'0



PART PLAN
Showing Limits Of Removal
Scale: 3/8" = 1'0

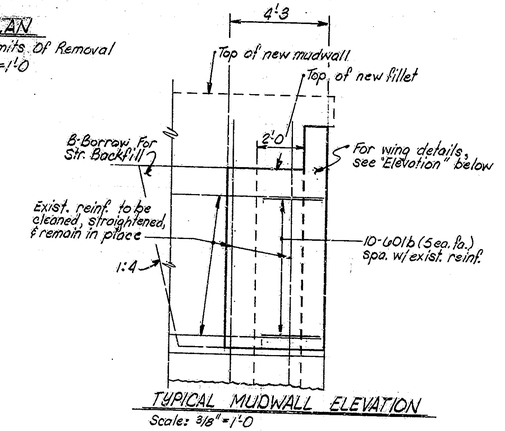




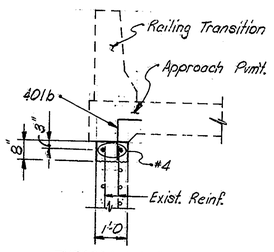
BILL OF MATERIALS
Includes all corners

Reinforcing Steel			
Size & Mark	N° Of Bars	Length	Weight (Lbs.)
601b	40	5'-0	
602b	28	8'-6	
	Total #6		658
401b	64	2'-0	
#4	2	22'-0	
#4	4	24'-0	
#4	2	18'-0	
	Total #4		211
Total Reinforcing			869
Concrete			Cys.
Class "A" In Substructure			
4 Corners @ 5.0 =			20.0
Miscellaneous			Quantity
B-Borrow For Str. Backfill			40 Cys.

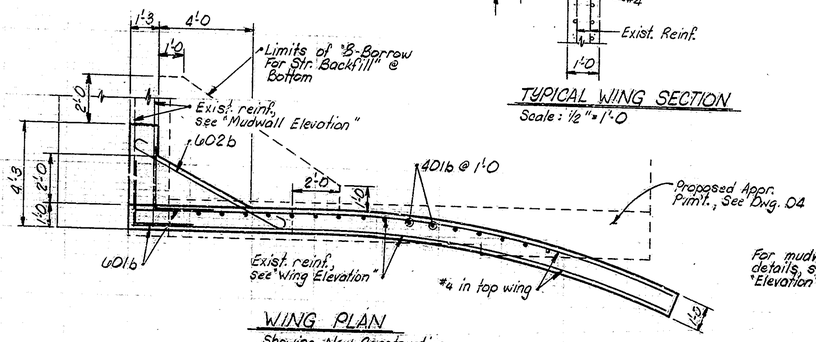
NOTES:
For "Reinf. Bar Notes", see Br. Std. C1.
For locations of Wings "A", "B", "C", & "D", see "General Plan" Dwgs. D1 - D3.



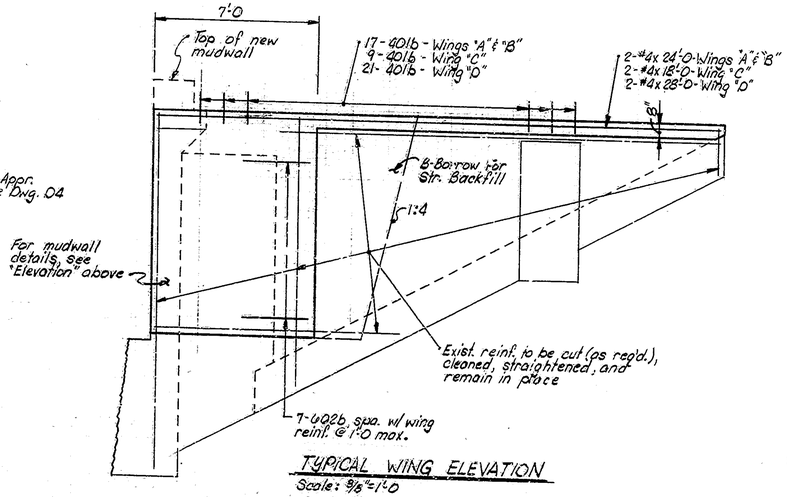
TYPICAL MUDWALL ELEVATION
Scale: 3/8" = 1'-0



TYPICAL WING SECTION
Scale: 1/2" = 1'-0



WING PLAN
Showing New Construction
Scale: 3/8" = 1'-0



TYPICAL WING ELEVATION
Scale: 3/8" = 1'-0

DESIGNED	DR	CK'D	JDR
DRAWN	JE	CK'D	DR
TRACED		CK'D	

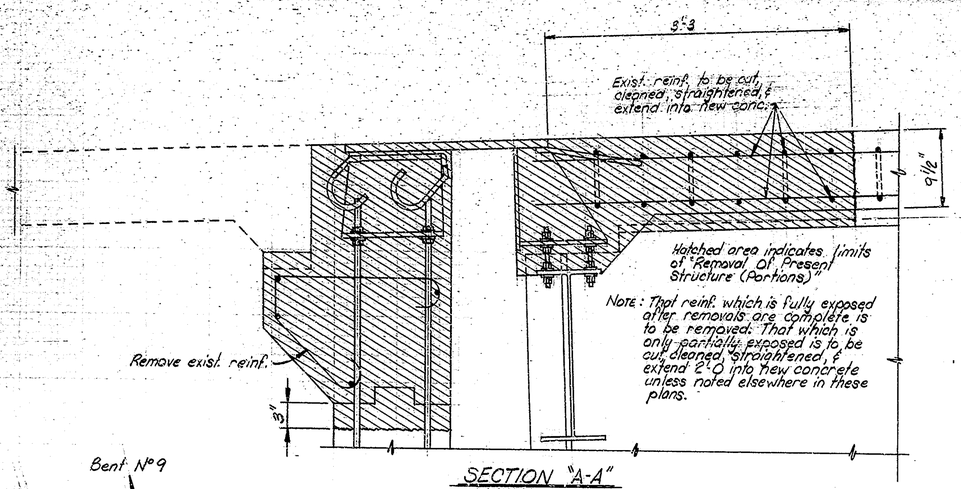
SF-22317

END BENT RECONSTRUCTION
INDIANA DEPARTMENT OF HIGHWAYS

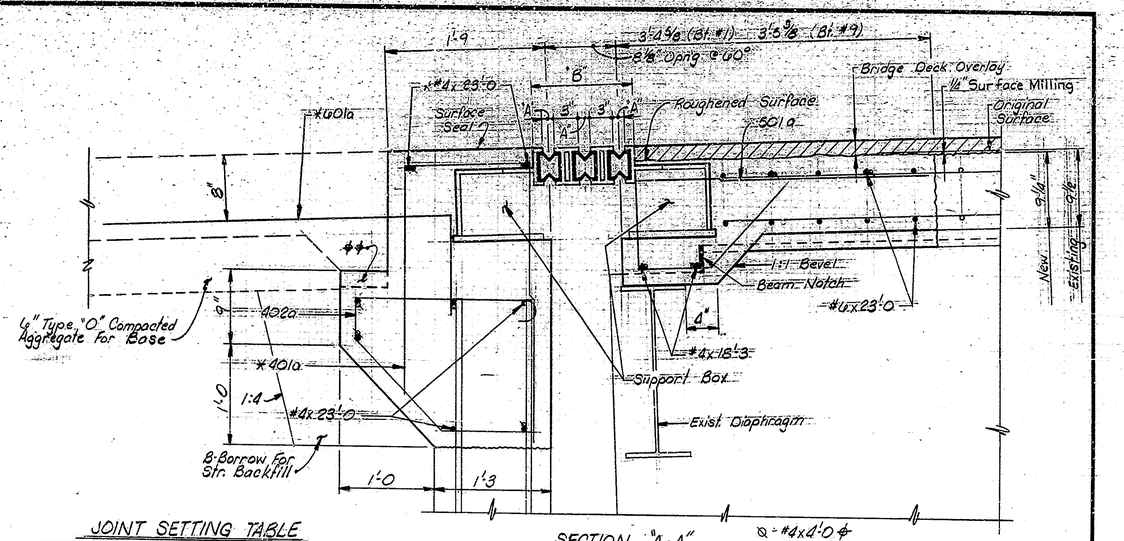
SCALE:- AS NOTED
DATE:- DECEMBER 8, 1986
Jerry D. Ritchie
DRAWING:- D5 OF D8 SHEET:- 8 OF 28
PROJECT:- FR-141-1(3)
BRIDGE CONTRACT NO. B-16367
BRIDGE FILE:- 135-31-5763A

JERRY D. RITCHIE REGISTERED No. 12868 STATE OF INDIANA PROFESSIONAL ENGR.

TP118

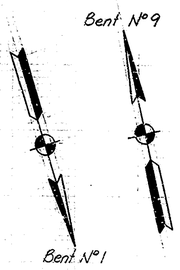


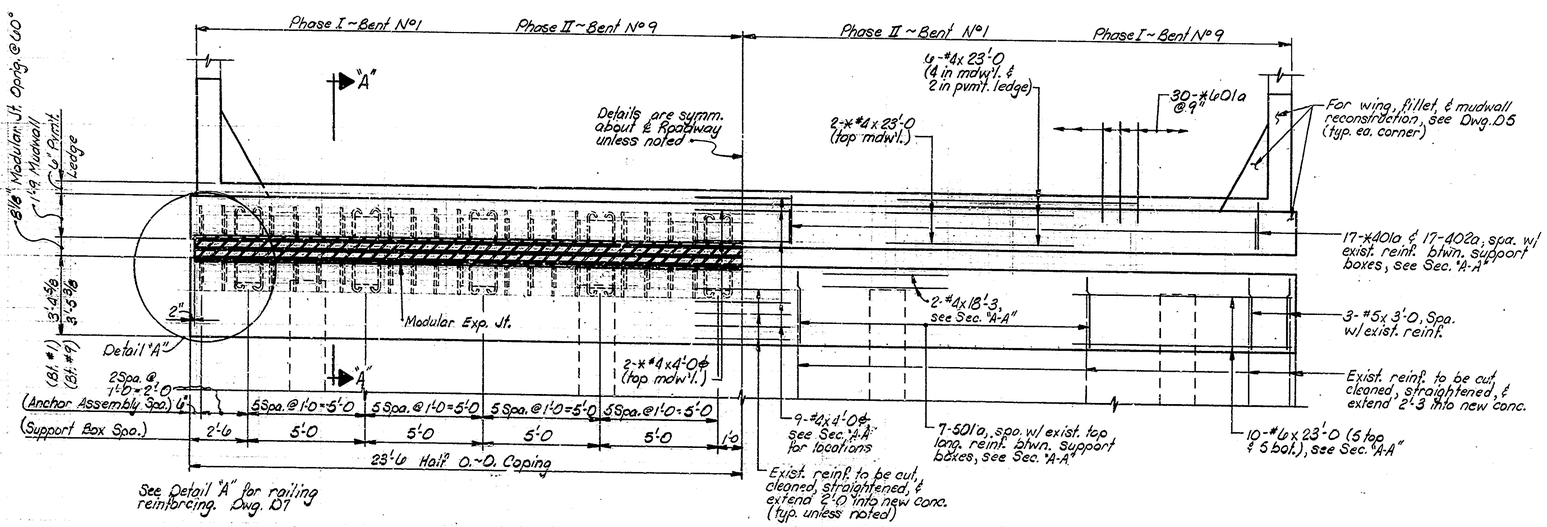
SECTION "A-A"
Scale: 1½"=1'-0
Showing limits of removal



SECTION "A-A"
Scale: 1½"=1'-0
Showing new construction

⊠ - #4x4'-0 ⊄
⊠-* #4x4'-0 ⊄
⊄⊄ - 2"x 2'-0 Depressed Keyway (Spa. @ 10' centers) to be troweled smooth





PLAN
Scale: 3/8"=1'-0

JOINT SETTING TABLE

Temp (F°)	0°	20°	40°	60°	80°	100°	120°
"A"	2 3/16"	1 7/8"	1 9/16"	1 3/16"	0 7/8"	0 9/16"	0 1/4"
"B"	15"	14 1/16"	13 1/8"	12'-8"	11 3/16"	10 1/4"	9 5/16"

NOTES:

For "Reinforcing Bar Notes", see Br. Std. C1.
For Type IA Joint & Beam Notch, see Br. Std. C3.
*-Indicates epoxy coated reinforcing.
⊄-Indicates reinforcing to be bent 90° and placed during Phase I Construction. These bars are to be straightened during Phase II Construction to lap with new reinforcing.

The top and sides of the top flange of all beams and diaphragms within the slab removal area shall be thoroughly cleaned and primed with one coat of zinc silicate paint, before repouring the slab. Cost of cleaning and painting to be included in the cost of other items.

The top of the modular expansion joint shall conform to the top of the roadway surface. The joint shall be capable of 7.8 inches total movement. See "Special Provisions."

EXPANSION JOINT RECONSTRUCTION
INDIANA DEPARTMENT OF HIGHWAYS

SCALE:- AS NOTED
DATE:- DECEMBER 8, 1986
Jerry D. Ritchie

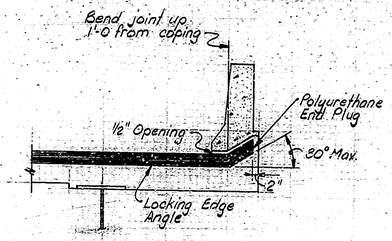
DESIGNED DR C'K'D JDR
DRAWN LF C'K'D DR
TRACED C'K'D
SF-22317

DRAWING:- D6 OF D8 SHEET:- 9 OF 28
PROJECT:- FR-141-1(3)
BRIDGE CONTRACT NO. B-16367
BRIDGE FILE:- 135-31-5763A

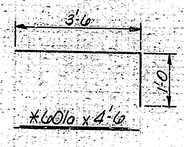
JERRY D. RITCHIE REGISTERED No. 12868 STATE OF INDIANA PROFESSIONAL ENGINEER

Rev. 1-21-87 Surface Milling

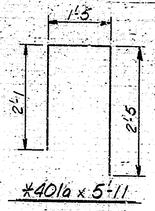
TP118



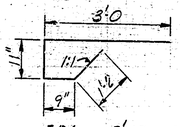
MODULAR JOINT INSTALLATION @ CURB
Scale: 1/2" = 1'-0



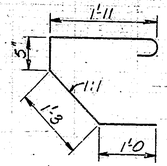
*401a x 4'-6



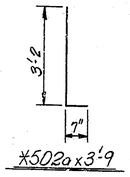
*401a x 5'-11



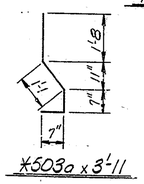
501a x 5'-10



402a x 4'-7



*502a x 3'-9

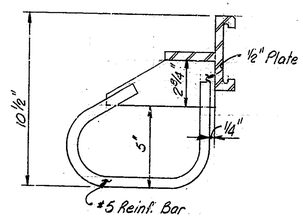


*503a x 3'-11

BILL OF MATERIALS

Bent N°1 Shown, Bent N°9 Same U.N.

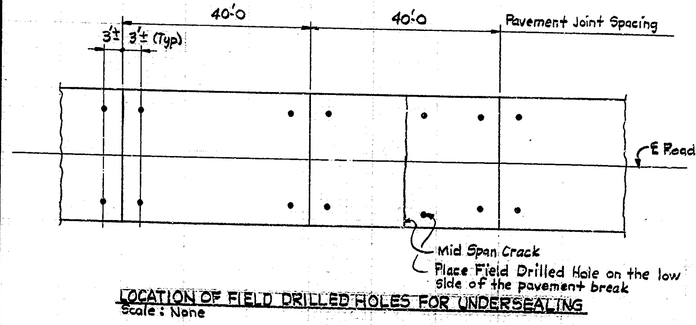
Size & Mark	No. Of Bars	Length	Weight (Lbs.)
REINFORCING STEEL			
#6	20	28'-0	
Total #6			491
501a	14	5'-10	
#5	6	3'-0	
Total #5			104
402a	34	4'-7	
#4	12	83'-0	
#4	1	18'-3	
#4	9	4'-0	
Total #4			361
Total: Reinforcing			1,156
EPOXY COATED REINFORCING STEEL			
*601a	60	4'-0	
Total **6			401
*502a	8	3'-9	
*503a	8	3'-11	
Total **5			64
*401a	34	5'-11	
**4	4	23'-0	
**4	2	4'-0	
Total **4			201
Total E.C. Reinforcing			671
CONCRETE			CUS.
Class 'A' In Superstructure			15.2
MISCELLANEOUS			Quantity
Modular Expansion Joint			47 LIN. FT.
Surface Seal (Est.)			70 SQ. FT.



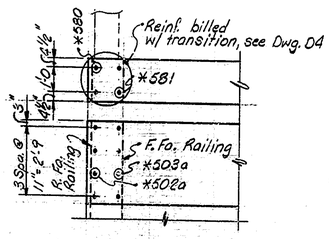
ANCHOR ASSEMBLY DETAIL
Scale: 3" = 1'-0

This anchor is optional and the contractor may use another subject to the approval of the engineer.

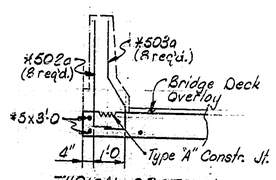
NOTES:
For "Reinforcing Bar Notes," see Br. Std. C1.
* - Indicates epoxy coated reinforcing.
For Type "A" Constr. Jt., see Br. Std. C3.



LOCATION OF FIELD DRILLED HOLES FOR UNDERSEALING
Scale: None



DETAIL "A"
Scale: 3/4" = 1'-0



TYPICAL SECTION
Showing railing reinf.
Scale: 1/2" = 1'-0

EXPANSION JOINT RECONSTRUCTION & BILL OF MATERIALS
INDIANA DEPARTMENT OF HIGHWAYS

SCALE:- AS NOTED

DATE:- DECEMBER 8, 1986

Jerry D. Ritchie

JERRY D. RITCHIE REGISTERED No. 12868 STATE OF INDIANA PROFESSIONAL ENGINEER

DRAWING:- D7 OF D8 SHEET:- 10 OF 26

PROJECT:- FR-141-1(3)

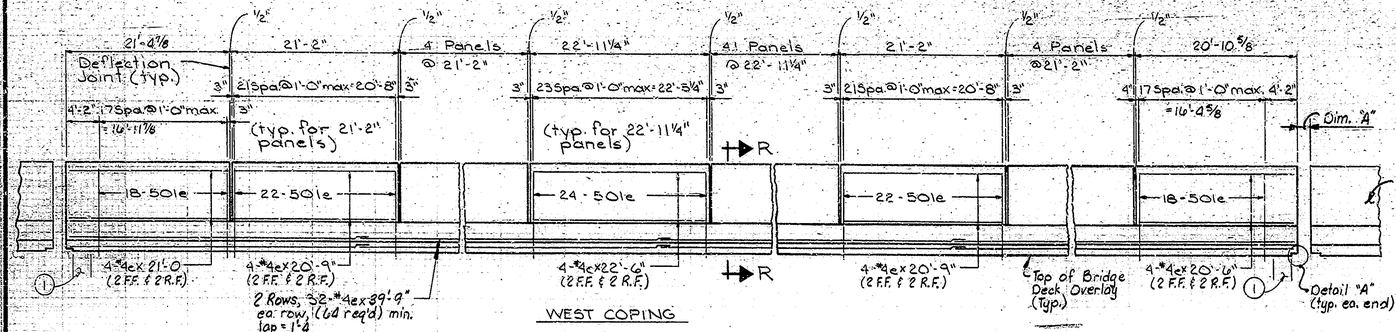
BRIDGE CONTRACT NO. B-16367

BRIDGE FILE:- 135-31-5763A

DESIGNED	DR	C'K'D	JDR
DRAWN	JF	C'K'D	DR
TRACED		C'K'D	

SF-22317

TP118



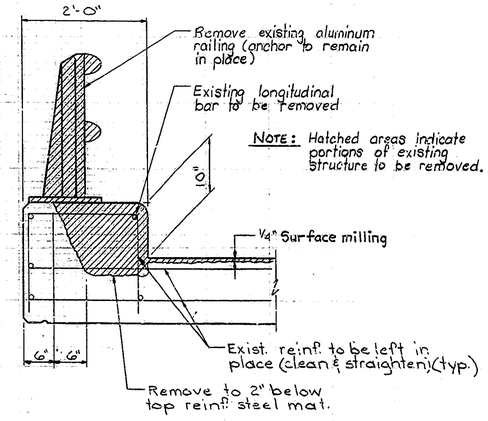
CONCRETE RAILING ELEVATIONS

Scale: Hor.: ⅛" = 1'-0"; Vert.; ½" = 1'-0"

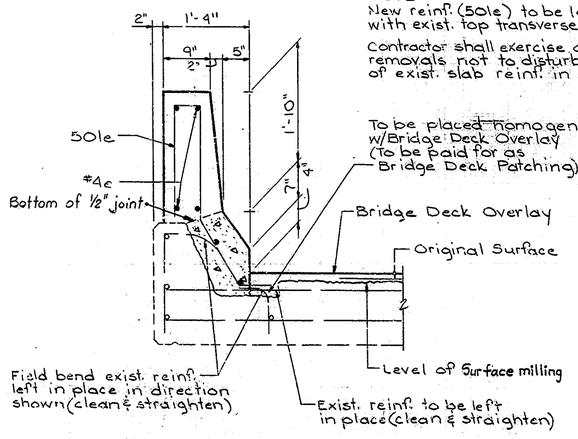
Dim. "A" = 7⅝" @ 0°
6⅝" @ 20°
5¾" @ 40°
4⅝" @ 60°
3⅝" @ 80°
2¾" @ 100°
1¾" @ 120°

CONCRETE RAILING BILL OF MATERIALS

Epoxy Coated Reinforcing Steel			
Size & Mark	No. of Bars	Length	Weight (lbs.)
501e	2529	5'-6"	
	Total #5		14508
#4e	128	39'-9"	
#4e	336	22'-6"	
#4e	4	21'-3"	
#4e	44	21'-0"	
#4e	44	20'-9"	
#4e	4	20'-6"	
	Total #4		9,788
Total Epoxy Coated Reinf.			22,596
CONCRETE			
Class "C" Conc. Railing			2444 Lft.
MISCELLANEOUS			
Surface Seal			19625 sft.



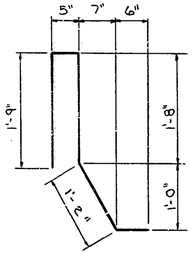
REMOVAL SECTION
Scale: 1" = 1'-0"
Showing limits of removal



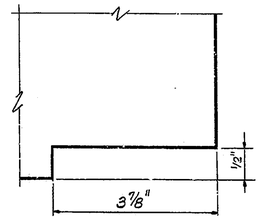
SECTION "R-R"
Scale: 1" = 1'-0"
Showing new construction

NOTE:
New reinf. (501e) to be lapped with exist. top transverse slab reinf.

Contractor shall exercise care during removals not to disturb embedment of exist. slab reinf. in coping.



501e x 5'-6"



DETAIL "A"

NOTES:
For "Reinforcing Bar Notes", see Br. Std. C1.

CONCRETE RAILING DETAILS
INDIANA DEPARTMENT OF HIGHWAYS

SCALE:—AS NOTED
DATE:- DECEMBER 6, 1986
Jerry D. Ritchie

DRAWING:- D8 OF D8 SHEET:- 11 OF 28
PROJECT:- FR-141-1(3)
BRIDGE CONTRACT NO. B-16367
BRIDGE FILE:- 135-31-5763A

JERRY D. RITCHIE REGISTERED (No. 12868) STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED	DR	C'K'D	JDR
DRAWN	WAS	C'K'D	JF
TRACED	WAS	C'K'D	PDBE

SF-22317

Rev. 1-24-87 Surface Milling;

STRUCTURE PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE		TOTAL QUANTITY
51103	MOBILIZATION AND DEMOBILIZATION	LSUM			
51002	CONCRETE, CLASS C IN				
	SUPERSTRUCTURE	CYS.			
51001	CONCRETE, CLASS A IN				
	SUPERSTRUCTURE	CYS.			30.4
51005	CONCRETE, CLASS A IN				
	SUBSTRUCTURE	CYS.			20.0
51010	CONCRETE, CLASS B ABOVE				
	FOOTINGS	CYS.			
51015	CONCRETE, CLASS B IN FOOTINGS	CYS.			
51873	SPECIAL CONCRETE	CYS.			
51046	CONCRETE FOUNDATION SEAL	CYS.			
51045	CONCRETE STRUCTURAL MEMBERS	LSUM			
51813	PNEUMATICALLY PLACED MORTAR	SFT.			
51814	WELDED STEEL WIRE FABRIC	SFT.			
51870	REPOINTING MASONRY IN STRUCTURES	SFT.			
51875	SPECIAL CLASS A CONCRETE	SFT.			
51030	REINFORCING STEEL	LBS.			8,339
51032	EPOXY COATED REINFORCING STEEL	LBS.			28,408
51035	STRUCTURAL STEEL	LBS.			
51038	STRUCTURAL STEEL	LSUM			
51070	ANCHOR PLATES (MK-AP 1)	EACH			
51075	ANCHOR PLATES (MK-AP 2)	EACH			
51080	ANCHOR PLATES (MK-AP 3)	EACH			
51085	ANCHOR PLATES (MK-AP 4)	EACH			
51112	ANCHOR BOLTS	EACH			
51114	ANCHOR BOLT AR-22	EACH			
51100	CAST IRON DRAIN PIPE, 6 INCH	LBS.			
51110	CAST IRON, GRATES, BASINS AND FITTINGS	LBS.			
51092	STEEL PIPE CONDUIT (2 INCH)	LFT.			
51020	CLASS C, CONCRETE RAILING	CYS.			
51014	CLASS A, CONCRETE RAILING	CYS.			
51025	CLASS C, CONCRETE RAILING	LFT.			2,533
51115	RAILING (TYPE 5 or C)	LFT.			
51120	RAILING (TYPE 5A or C1)	LFT.			
51125	RAILING (TYPE 6 or D)	LFT.			
51130	RAILING (TYPE 7 or E)	LFT.			
51131	BARRIER RAILING TYPE X	LFT.			
51127	BARRIER RAILING TYPE V	LFT.			
51132	RAILING RESET	LFT.			
51134	REMOVAL OF PRESENT RAILING	LFT.			
51128	ALUMINUM BARRIER RAIL	LFT.			
51129	ALUMINUM PEDESTRIAN RAIL	LFT.			
	ALUMINUM POST (TYPE)	EACH			
	ALUMINUM POST AND ANCHORAGE (TYPE)	EACH			
51881	EXPANSION JOINT, TYPE BS2	LFT.			
51885	EXPANSION JOINT, TYPE BS6	LFT.			
51887	EXPANSION JOINT, TYPE BS8	LFT.			
51888	EXPANSION JOINT, TYPE BS9	LFT.			
51890	EXPANSION JOINT, TYPE BS11	LFT.			
51925	EXPANSION JOINT, CLASS S-S	LFT.			
51926	EXPANSION JOINT, CLASS T-S	LFT.			
51927	EXPANSION JOINT, MODULAR	LFT.			92
51859	PAINTING OLD STEEL BRIDGE	LSUM			
51861	PAINTING BEARING ASSEMBLIES	LSUM			
51215	CLASS X EXCAVATION	CYS.			
51220	WET EXCAVATION	CYS.			
51223	WATERWAY EXCAVATION	CYS.			
51225	DRY EXCAVATION	CYS.			
51230	FOUNDATION EXCAVATION (UNCLASSIFIED)	CYS.			
	SURFACE SEAL (5763A)	LSUM			1 A)

STRUCTURE PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE		TOTAL QUANTITY
51135	TIMBER PILES FURNISHED, UNTREATED	LFT.			
51140	TIMBER PILES DRIVEN, UNTREATED	LFT.			
51145	TIMBER PILES FURNISHED, TREATED	LFT.			
51150	TIMBER PILES DRIVEN, TREATED	LFT.			
51155	PILE SHELLS FURNISHED AND DRIVEN (12 INCH)	LFT.			
51160	PILE SHELLS FURNISHED AND DRIVEN (14 INCH)	LFT.			
51185	STEEL H PILES FURNISHED AND DRIVEN (8 BP 36)	LFT.			
51190	STEEL H PILES FURNISHED AND DRIVEN (10 BP 42)	LFT.			
51195	STEEL H PILES FURNISHED AND DRIVEN (12 BP 53)	LFT.			
51156	EPOXY COATED PILE SHELLS FURNISHED AND INSTALLED (12 IN)	LFT.			
51157	EPOXY COATED PILE SHELLS FURNISHED AND INSTALLED (14 IN)	LFT.			
51210	PILE ENCASEMENT (CONCRETE)	LFT.			
	REMOVAL OF PRESENT STRUCTURE (PORTIONS) (5763A)	LSUM			1
51330	REMOVAL OF PRESENT STRUCTURE	LSUM			
51366	CONCRETE SLOPEWALL, 5 INCH	SYS.			
51367	CONCRETE SLOPEWALL, 4 INCH	SYS.			
51369	REMOVAL OF CONCRETE SLOPEWALL	SYS.			
51365	SLOPEWALL	SYS.			
51370	RIPRAP	SYS.			
51375	REVEMENT RIPRAP	TON			
51372	DUMPED RIPRAP	TON			
52603	NO. 2 AGGREGATE (CLASS A, B OR C)	TON			
51374	PLASTIC FILTER CLOTH	SYS.			
51500	RESHAPING SPILL SLOPES	LSUM			
51861	FIELD DRILLED HOLES IN CONCRETE	EACH			
51864	FIELD DRILLED HOLES	EACH			
51866	RIVETS REMOVED	EACH			
51867	STRUCTURAL STEEL CUTTING	STN.			
97525	SURFACE MILLING, PORTLAND CEMENT CONCRETE	SYS.			6,042
51813	CONCRETE SCARIFYING	SYS.			5,971
51837	BLASTING AND CLEANING	SYS.			5,971
51843	BRIDGE DECK PATCHING	SFT.			5,222
51401	FULL DEPTH PATCHING	SFT.			
51842	BRIDGE DECK OVERLAY	SYS.			5,971
51845	BRIDGE DECK SURFACE	SYS.			
51838	FINISHING AND CURING	SYS.			5,971
51846	ADDITIONAL BRIDGE DECK OVERLAY	CYS.			49.5
52412	REMOVAL OF BITUMINOUS OVERLAY	SYS.			
51874	OVERLAY DAM	SFT.			
04305	DRILLED HOLES FOR UNDERSEAL	EACH			482
04515	ASPHALT MAT'L. FOR UNDERSEAL	TON			40
	SPECIAL JOINT PATCHING MATERIAL	TON			55
	PAINTING END DIAPHRAGMS (5763A)	LSUM			1

A) Estimated Quantity = 20,331 SM. It shall be the contractor's responsibility to determine the quantity upon which he bases his bid.

B) Includes 732 Tons for Bit. Widening, 210 Tons for Bit. Wedge, 1842 Tons for Bit. Resurfacing, and 11 Tons for Pavement Relief Joint.

APPROACH PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE		TOTAL QUANTITY
52370	CLEARING RIGHT-OF-WAY	LSUM			
02020	UNCLASSIFIED EXCAVATION	CYS.			
52240	CORE EXCAVATION	CYS.			
02045	EXCAVATION FOR SUBGRADE TREATMENT	CYS.			
52245	BORROW	CYS.			
52250	B BORROW	CYS.			
52255	B BORROW FOR STRUCTURE BACKFILL	CYS.			
52280	CONCRETE PAVEMENT REINFORCED (7 INCH)	SYS.			
52285	CONCRETE PAVEMENT REINFORCED (8 INCH)	SYS.			
52290	CONCRETE PAVEMENT REINFORCED (9 INCH)	SYS.			
52300	CONCRETE PAVEMENT REINFORCED (10 INCH)	SYS.			221
	PLAIN CONCRETE PAVEMENT (INCH)	SYS.			
52303	REMOVAL OF PAVEMENT	SYS.			250
02235	BREAKING PAVEMENT	SYS.			
52490	TERMINAL JOINT	LFT.			
52495	CONTRACTION JOINT, TYPE D-1	LFT.			
52711	CONCRETE SIDEWALK	SYS.			
52710	REMOVAL OF CONCRETE SIDEWALK	SYS.			
52605	AGGREGATE FOR SHOULDER DRAINS	TON			
52610	AGGREGATE FOR UNDER DRAINS	CYS.			
52305	TYPE P COMPACTED AGGREGATE FOR BASE (SIZE NO. 53)	TON			
52308	TYPE O COMPACTED AGGREGATE FOR BASE (SIZE NO. 53)	TON			75
52310	SUBBASE	CYS.			
52311	SPECIAL SUBBASE	TON			
52444	OPEN GRADED BITUMINOUS BASE NO. 5	TON			
52445	BITUMINOUS BASE	TON			
52452	BITUMINOUS BASE (SIZE NO. 5D)	TON			
52451	BITUMINOUS BINDER	TON			
52450	BITUMINOUS SURFACE	TON			
52470	BITUMINOUS MIXTURE FOR APPROACH	TON			2315
52456	BITUMINOUS MATERIAL FOR TACK COAT	SYS.			10,336
52461	BITUMINOUS MATERIAL FOR PRIME COAT	SYS.			
04348	SEAL COAT TYPE 2	SYS.			
04351	SEAL COAT TYPE 5	SYS.			
52413	REMOVAL OF BITUMINOUS SURFACE	SYS.			
52500	GUARD RAIL, TYPE A	LFT.			
	GUARD RAIL, TYPE B MODIFIED	LFT.			1,400
52510	GUARD RAIL, TYPE C	LFT.			
52515	GUARD RAIL, TYPE D	LFT.			
52520	GUARD RAIL, TYPE E	LFT.			
52525	GUARD RAIL, TYPE F	LFT.			
52530	GUARD RAIL, TYPE G	LFT.			
	GUARD RAIL, TYPE H MODIFIED	LFT.			400
52538	GUARD RAIL END TREATMENT TYPE I	EACH			4
52539	GUARD RAIL END TREATMENT TYPE II	EACH			
52496	RESET GUARD RAIL	LFT.			
52535	REMOVAL OF GUARD RAIL	LFT.			1,940
52841	IMPACT ATTENUATOR, SAND BARREL ARRAY AND END	EACH			
52360	RIGHT-OF-WAY MARKERS	EACH			
06500	MONUMENT, TYPE A	EACH			
06505	MONUMENT, TYPE B	EACH			
06510	MONUMENT, TYPE C	EACH			
06515	MONUMENT, TYPE D	EACH			
52851	SECTION CORNER MONUMENT	EACH			

B.)

APPROACH PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE		TOTAL QUANTITY
07025	PIPE: GR. A(0.064" FBCCS) 12"	LFT.			
07075	PIPE: GR. A(0.064" FBCCS) 15"	LFT.			
07125	PIPE: GR. A(0.064" FBCCS) 18"	LFT.			
07175	PIPE: GR. A(0.064" FBCCS) 24"	LFT.			
07225	PIPE: GR. A(0.064" FBCCS) 30"	LFT.			
07275	PIPE: GR. A(0.064" FBCCS) 36"	LFT.			
07325	PIPE: GR. A(0.064" FBCCS) 42"	LFT.			
10000	PIPE: GR. D(0.064" CS) 12"	LFT.			
10025	PIPE: GR. D(0.064" CS) 15"	LFT.			
10050	PIPE: GR. D(0.064" CS) 18"	LFT.			
10075	PIPE: GR. D(0.064" CS) 24"	LFT.			
10100	PIPE: GR. D(0.064" CS) 30"	LFT.			
10125	PIPE: GR. D(0.064" CS) 36"	LFT.			
10150	PIPE: GR. D(0.064" CS) 42"	LFT.			
44255	PIPE: GR. K FOR UNDERDRAINS 6"	LFT.			
52852	PIPE: 0.052" FBCCS 6"	LFT.			
34000	PIPE: 0.052" FBC PERF. CS 6"	LFT.			
29000	PIPE: 0.064" FBCCS 12"	LFT.			
44275	TYPE: FBCCS 0.052" FOR UNDERDRAINS 6"	LFT.			
46000	PIPE END SECTION 12"	EACH			
46005	PIPE END SECTION 15"	EACH			
46010	PIPE END SECTION 18"	EACH			
46015	PIPE END SECTION 21"	EACH			
46020	PIPE END SECTION 24"	EACH			
46025	PIPE END SECTION 27"	EACH			
46030	PIPE END SECTION 30"	EACH			
46035	PIPE END SECTION 33"	EACH			
46040	PIPE END SECTION 36"	EACH			
52375	CONCRETE CLASS A IN STRUCTURE	CYS.			
52376	CONCRETE CLASS C IN STRUCTURE	CYS.			
06335	PAVED SIDE DITCH TYPE A	LFT.			
06340	PAVED SIDE DITCH TYPE B	LFT.			
06345	PAVED SIDE DITCH TYPE C	LFT.			
06350	PAVED SIDE DITCH TYPE D	LFT.			
06355	PAVED SIDE DITCH TYPE E	LFT.			
06360	PAVED SIDE DITCH TYPE F	LFT.			
06365	PAVED SIDE DITCH TYPE G	LFT.			
53071	REMOVAL OF PAVED SIDE DITCH	SYS.			
52836	CASTING ADJUSTED TO GRADE	EACH			
52831	DRILLED HOLES FOR MUDJACKING	EACH			
52830	MATERIALS FOR MUDJACKING	CYS.			
52418	"DO NOT SPRAY" SIGNS	EACH			
52380	SODDING	SYS.			
52381	SODDING (NURSERY)	SYS.			
52392	MULCHED SEEDING (LEGUME)	SYS.			
52398	SEED MIXTURE "CV"	LBS.			
52391	SEED MIXTURE (GRASS)	LBS.			
52400	MULCHING MATERIAL	TON			
52405	FERTILIZER	TON			
52410	WATER	MG.			
52415	AGRICULTURAL LIMESTONE	TON			
52401	MULCHING MATERIAL (WOOD CELLULOSE FIBER)	TON			
52447	STRAW BALES IN PLACE	EACH			
06770	DELINEATOR POST	EACH			
06040	47" FENCE, FARM FIELD	LFT.			
06045	48" FENCE, CHAIN LINK	LFT.			

TRAFFIC PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE		TOTAL QUANTITY
	MAINTAINING TRAFFIC (5763A)	LSUM			1
51335	TEMPORARY BRIDGE AND APPROACHES	LSUM			
52818	TEMPORARY CROSSOVER TYPE A	EACH			
52819	TEMPORARY CROSSOVER TYPE B	EACH			
	TEMPORARY TRAFFIC SIGNAL (5763A)	LSUM			1
52536	TEMPORARY CONCRETE BARRIER	LFT.			2010
52845	TEMPORARY IMPACT ATTENUATION DEVICE	EACH			
52340	CONSTRUCTION SIGNS TYPE A	EACH			22
52345	CONSTRUCTION SIGNS TYPE B	EACH			2
52346	STANDARD BARRICADES (TYPE III-A)	EACH			
52347	STANDARD BARRICADES (TYPE III-B)	EACH			
76020	SHEET SIGNS-TYPE I WITH LEGEND (0.080 in. THICKNESS)	SFT.			
76025	SHEET SIGNS-TYPE II WITH LEGEND (0.080 in. THICKNESS)	SFT.			
76030	SHEET SIGNS-TYPE I WITH LEGEND (0.100 in. THICKNESS)	SFT.			
76035	SHEET SIGNS-TYPE II WITH LEGEND (0.100 in. THICKNESS)	SFT.			
76040	SHEET SIGNS-TYPE I WITH LEGEND (0.125 in. THICKNESS)	SFT.			
76045	SHEET SIGNS-TYPE II WITH LEGEND (0.125 in. THICKNESS)	SFT.			
76055	TYPE "A" POSTS	LFT.			
76060	TYPE "Abb" POSTS	LFT.			
76065	TYPE "B" POSTS	LFT.			
76075	TYPE "C" POSTS	LFT.			
52361	TEMPORARY PAVEMENT MARKING TYPE I	LFT.			9,240
52362	TEMPORARY PAVEMENT MARKING TYPE II	LFT.			4,100
52821	FLASHING ARROW SIGN	MKS.			
53001	LINE, SOLID, WHITE, 4"	LFT.			8,965
53012	LINE, SOLID, YELLOW, 4"	LFT.			1,840
53035	LINE, SKIP, YELLOW, 4"	LFT.			1,130
53066	LINE, SKIP, WHITE, 5"	LFT.			
53059	THERMOPLASTIC LINE, SKIP, WHITE, 5"	LFT.			
53020	REMOVAL OF LINE, SOLID, WHITE, 4"	LFT.			
53030	REMOVAL OF LINE, SOLID, YELLOW, 4"	LFT.			
53041	REMOVAL OF LINE, SKIP, YELLOW, 4"	LFT.			755
53026	REMOVAL OF LINE, SKIP, WHITE, 5"	LFT.			
53055	REMOVAL OF THERMOPLASTIC LINE, SKIP, WHITE, 5"	LFT.			
06725	DELINEATOR WITH POST, TYPE D-1, 3 INCH	EACH			
06740	DELINEATOR WITH POST, TYPE D-2, 3 INCH	EACH			

BRIDGE ESTIMATE OF QUANTITIES

INDIANA DEPARTMENT OF HIGHWAYS

END STR

135-31-5763A

SUMMARIZED JF C'K'D DR

TRACED JF C'K'D DR

SF-223B4 MARCH 1984

REVISIONS	
DATE	ITEM
1-24-87	Delete 51833, Added 97525, Str. Nos for LSUM items.
01-27-87	Delete 51020 ; Rev. 51025

DATE: DECEMBER 8, 1986

Jerry D. Ritchie

SHEET 12 OF 28

PROJECT: FR-141-1(3)
CONTRACT NO: B-16367
BRIDGE FILE: 135-31-5763A

STATE OF INDIANA REGISTERED No. 12855 PROFESSIONAL ENGINEER