BRIDGE CONTRACT No. 3940

INDEX

PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION	CONTRACT NO.
F-427(2)	52-F-527A	R.C. SLAB & R.C. GIRDER	14', 3@31'-6", 14'	LITTLE BLUE RIVER	382+80	3940
	52-F-4004	CONTINUOUS R.C. SLAB	24', 32', 24'	MUD CREEK	436+17	

SHEET NO.	SHEET DESIGNATION	SUBJECT
1		INDEX & TITLE SHEET
2	ONE SHEET	TYPICAL CROSS SECTIONS
3	C1 (STRUCTURE 52-F-527A)	LAYOUT
4	C2	GENERAL PLAN
5	C3	SUBSTRUCTURE DETAILS
6	C4	SUBSTRUCTURE DETAILS
7	C5	SUPERSTRUCTURE DETAILS SPAN 'A' SPAN 'E' SAME
8	C6	SUPERSTRUCTURE DETAILS SPANS 'B' 'C' & 'D'
9	C7	BILL OF MATERIALS & BEND DIAGS.
10	C1 (STRUCTURE 52-F-4004)	LAYOUT
11	C2	GENERAL PLAN
12	C3	SUBSTRUCTURE DETAILS
13	C4	SUPERSTRUCTURE DETAILS
14	ONE SHEET	SUMMARY
15	BRIDGE STD. C1	STANDARD MISCELLANEOUS DETAILS (10-6-52)
16	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS (REV. 10-6-55
17	BRIDGE STD. C1	STANDARD THICKENED PAVEMENT DETAILS (REV. 9-20-55)
18	BRIDGE STD. M1	MISCELLANEOUS APPROACH DETAILS (REV. 4-15-55)
19	BRIDGE STD. M2	MISCELLANEOUS APPROACH DETAILS (REV. 9-7-54)
20	BRIDGE STD. S1	TYP. DETAILS FOR PLACING SPECIAL FILLING MATERIAL (REV. 9-20-52)
21	BRIDGE STD. T SHEET A	STANDARD TEMPORARY BRIDGE (REV. 9-26-43)
22	BRIDGE STD. T SHEET B	STANDARD TEMPORARY BRIDGE (REV. 11-13-39)
23	SHEET 1 DETOURS	STANDARD DETOUR SIGNS (REV. 2-11-54)
24	SHEET 2 DETOURS	STANDARD DETOUR SIGNS (REV. 5-1-51)

STATE OF INDIANA

STATE HIGHWAY DEPARTMENT

BRIDGE PLANS

FOR SPANS OVER 20 FEET ON STATE ROAD NO. 52 SECTION F

F.A. PROJECT NO. F-427(2)

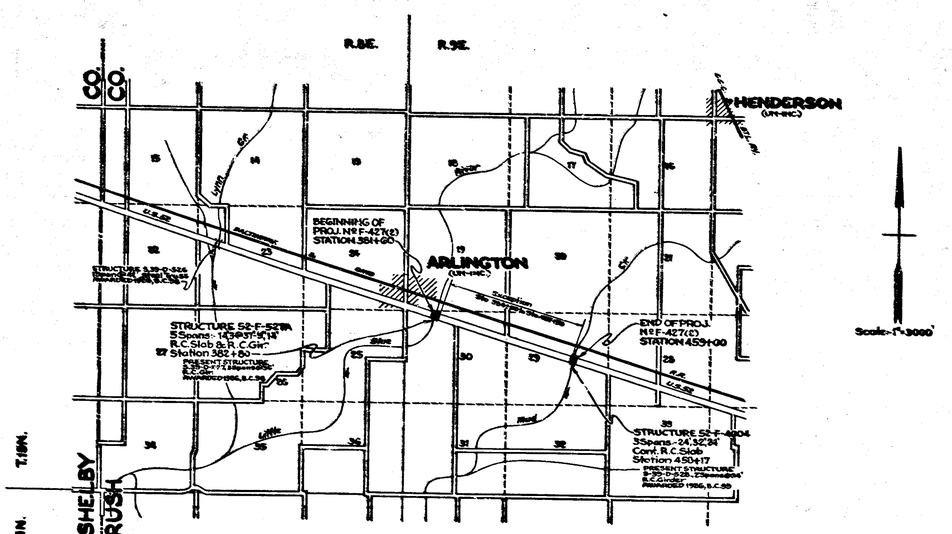
INDIANAPOLIS-RUSHVILLE ROAD

BEGINNING AT A POINT IN SECTION 30 ON U.S.52 APPROX. 416' SOUTHEAST OF THE NORTH LINE OF SECTION 30 AND EXTENDING SOUTHEAST A DISTANCE OF APPROX. 7740' TO A POINT IN SECTION 29 ON U.S.52 APPROX. 1687' NORTH WEST OF THE EAST LINE OF SECTION 29, ALL IN T.15N.-R.9E., RUSH COUNTY.

GROSS LENGTH= 1.465MI.

NET LENGTH= 0.073MI.

STRUCTURE NO	ROADWAY LENGTH	BRIDGE LENGTH	TOTAL LENGTH
52-F-527A	0.016MI.	0.029MI.	0.045 MI.
52-F-4004	0.013MI.	0.015MI.	0.028MI.



BRIDGES OVER 20' SPAN					
FUR. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-427(2)	1953	1	24

APPROVED AND ADOPTED BY STATE HIGHWAY DEPARTMENT OF INDIANA DATE 10/28/54

Neil R. Godwin
COMMISSIONER, STATE HIGHWAY DEPARTMENT OF INDIANA

APPROVED DATE 10-11-54

Carl E. Vogelgesang
CHIEF ENGINEER, STATE HIGHWAY DEPARTMENT OF INDIANA

RECOMMENDED FOR APPROVAL DATE 10-6-54

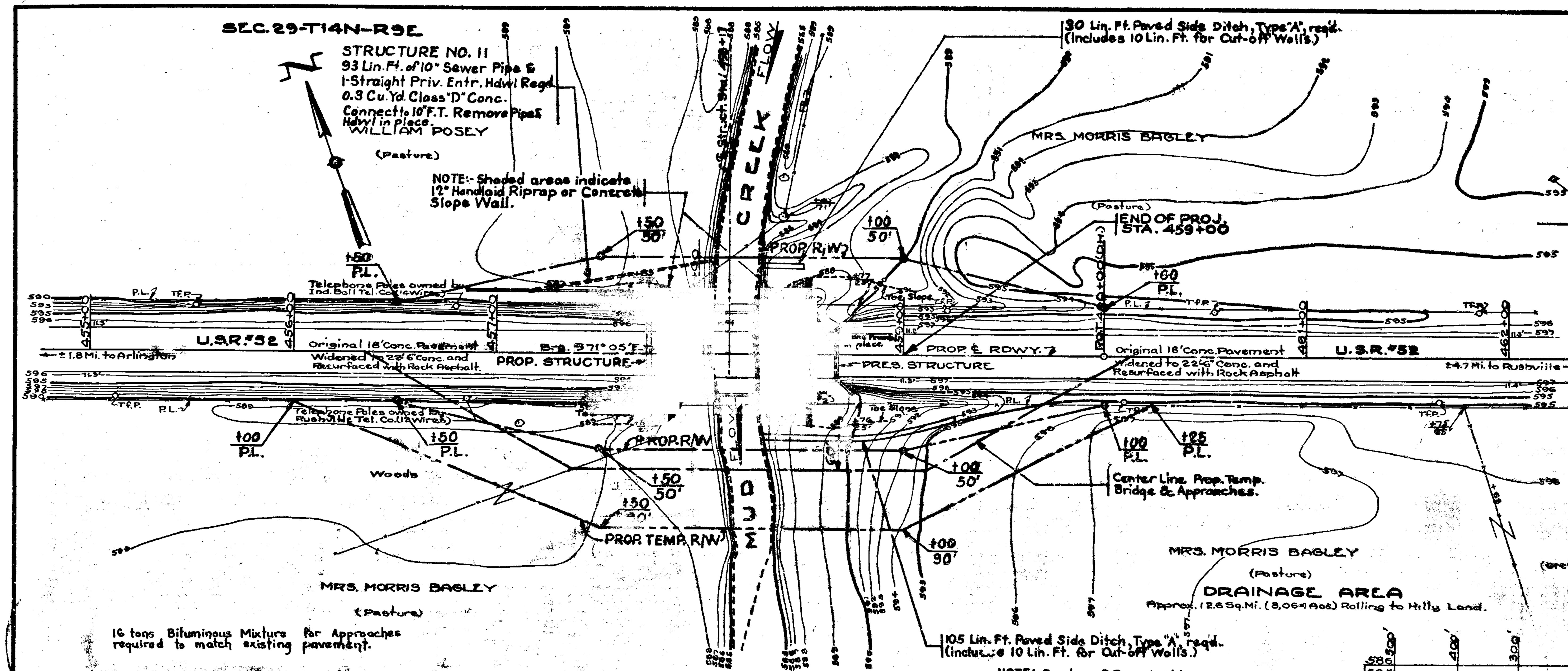
CHIEF ENGINEER, STATE HIGHWAY DEPARTMENT OF INDIANA

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED:
DISTRICT ENGINEER DATE

STATE HIGHWAY COMMISSION OF INDIANA
1952 STANDARD ROAD AND BRIDGE SPECIFICATIONS
TO BE USED WITH THESE PLANS

BRIDGE FILE: 52-F-527A & 4004

BRIDGES OVER 20' SPAN					
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR		TOTAL SHEETS
4	IND.	F-427(4)	1955		14

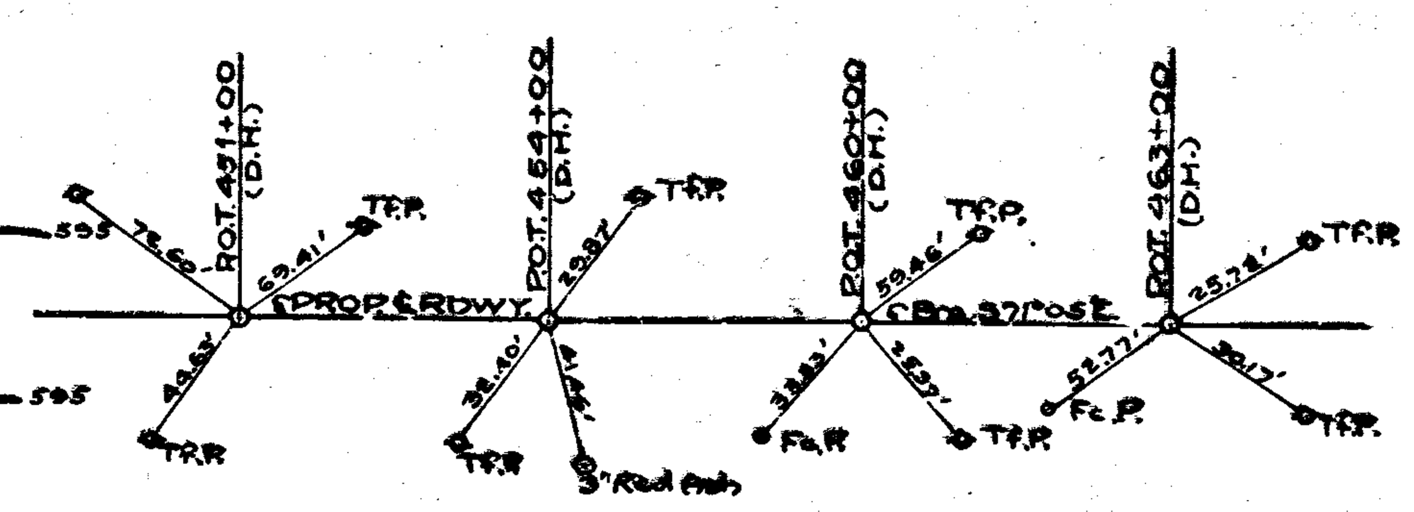


SEC. 29-T14N-R9E
STRUCTURE NO. 11
93 Lin. Ft. of 10" Sewer Pipe & 1-Straight Priv. Entr. Hdwl Reqd. 0.3 Cu. Yd. Class "D" Conc. Connect to 10" F.T. Remove Pipe & Hdwl in place.
WILLIAM POSEY
(Pasture)
NOTE:- Shaded areas indicate 12" Handlaid Riprap or Concrete Slope Wall.
30 Lin. Ft. Paved Side Ditch, Type "A" reqd. (Includes 10 Lin. Ft. for Cut-off Walls.)
MRS. MORRIS BAGLEY
END OF PROJ. STA. 459+00
MUD CREEK
FLOW
PROP. R/W
Telephone Poles owned by Ind. Bell Tel. Co.
U.S.R. #52
Original 18' Conc. Pavement Widened to 22'6" Conc. and Resurfaced with Rock Asphalt
Brg. S71°05'E
PROP. STRUCTURE
PRES. STRUCTURE
PROP. ℄ RDWY.
±1.8 Mi. to Arlington
±4.7 Mi. to Rushville
Telephone Poles owned by Rushville Tel. Co.
Woods
PROP. TEMP. R/W
Center Line Prop. Temp. Bridge & Approaches.
MRS. MORRIS BAGLEY
(Pasture)
(Orchard)
DRAINAGE AREA
Approx. 12.6 Sq. Mi. (8,064 Acs.) Rolling to Hilly Land.
16 tons Bituminous Mixture for Approaches required to match existing pavement.
105 Lin. Ft. Paved Side Ditch, Type "A" reqd. (Includes 10 Lin. Ft. for Cut-off Walls.)

SITUATION PLAN

Scale:- 1"=30'-0", Contour Interval = 1 Ft.

NOTE: Grade of Paved Side Ditches to be determined in field.

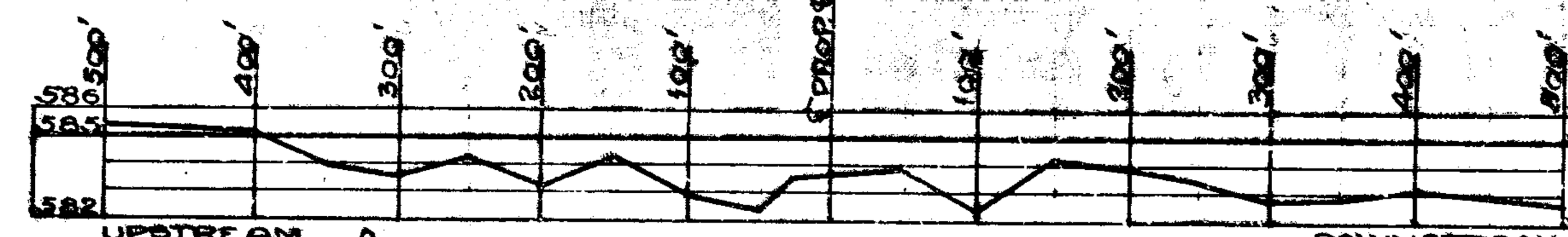


REFERENCES

Not to Scale
Set by Br. Dept.

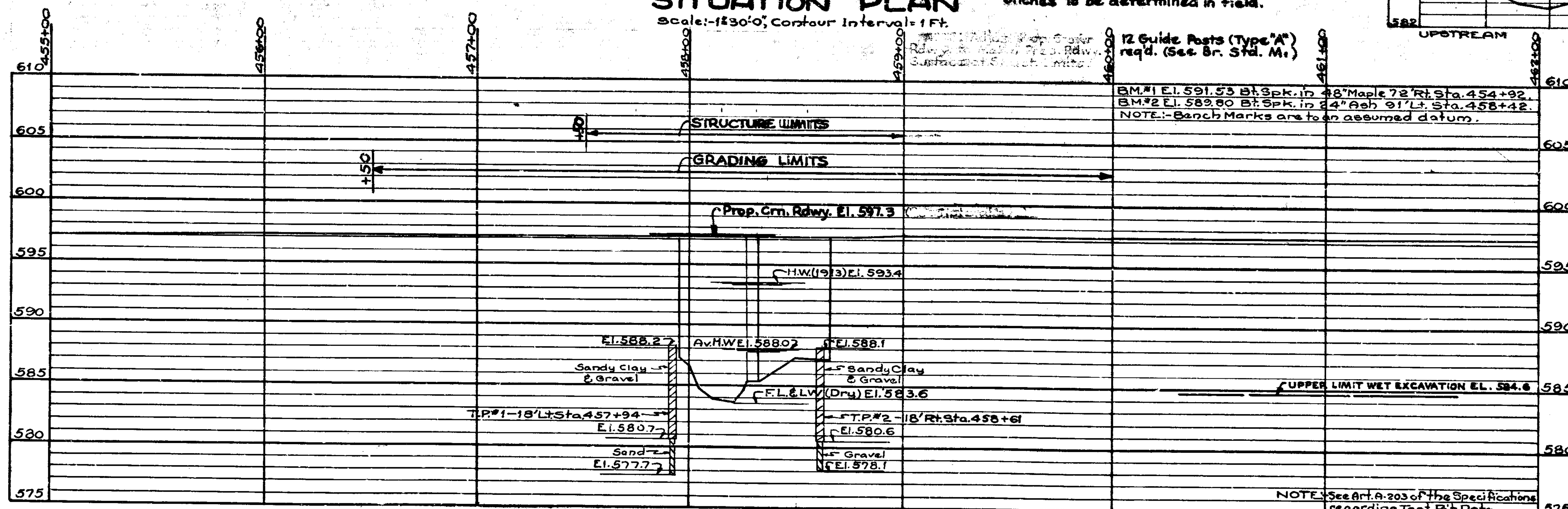
PRESENT STRUCTURE

Built by the Indiana State Highway Commission in 1926 as Structure No. S-390-528, Contract No. 99. 2 Spans @ 34'-0. R.C. Girder, Square. Clear Rdwy. 19'-4". Plans on File in Bridge Design Office.
Piling called for on original Plans was eliminated during construction. Foundations on hard blue clay.



PROFILE OF STREAM

Scales:- Horiz. 1"=100'-0", Vert. 1"=5'-0"



12 Guide Posts (Type "A") reqd. (See Br. Std. M.)
B.M. #1 El. 591.53 Bt. Spk. in 48" Maple 72' Rt. Sta. 454+92.
B.M. #2 El. 589.80 Bt. Spk. in 24" Ash 91' Lt. Sta. 458+42.
NOTE:- Bench Marks are to an assumed datum.
STRUCTURE LIMITS
GRADING LIMITS
Prop. Crn. Rdwy. El. 597.3
H.W. (1913) El. 593.4
El. 588.2
Av. H.W. El. 588.02
El. 588.1
Sandy Clay & Gravel
F.L. & L.W. (Dry) El. 583.6
T.P. #1 - 18' Lt. Sta. 457+94
T.P. #2 - 18' Rt. Sta. 458+61
El. 580.7
El. 580.6
Sand
Gravel
El. 577.7
El. 578.1
UPPER LIMIT WET EXCAVATION EL. 584.6
NOTE:- See Art. A-203 of the Specifications regarding Test Pit Data.

PROFILE ON PROPOSED ℄ ROADWAY

Scales:- Horiz. 1"=30'-0", Vert. 1"=5'-0"

NOTE:- FIELD NOTES, BOOK BR. 1181 Pages 30 to 59

FILL + 20% = 1075 CU. YDS.
SURPLUS EXCAVATION = 75 " "
COMMON EXCAVATION = 80 " "
SPECIAL BORROW = 920 " "

LAYOUT
CONTINUOUS REINF. CONC. SLAB BRIDGE
3 SPANS: 24'-0", 32'-0", 24'-0" 41'-0" ROADWAY
OVER MUD CREEK ON STATE ROAD:- 52-F

STATE HIGHWAY DEPARTMENT OF INDIANA
RUSH COUNTY

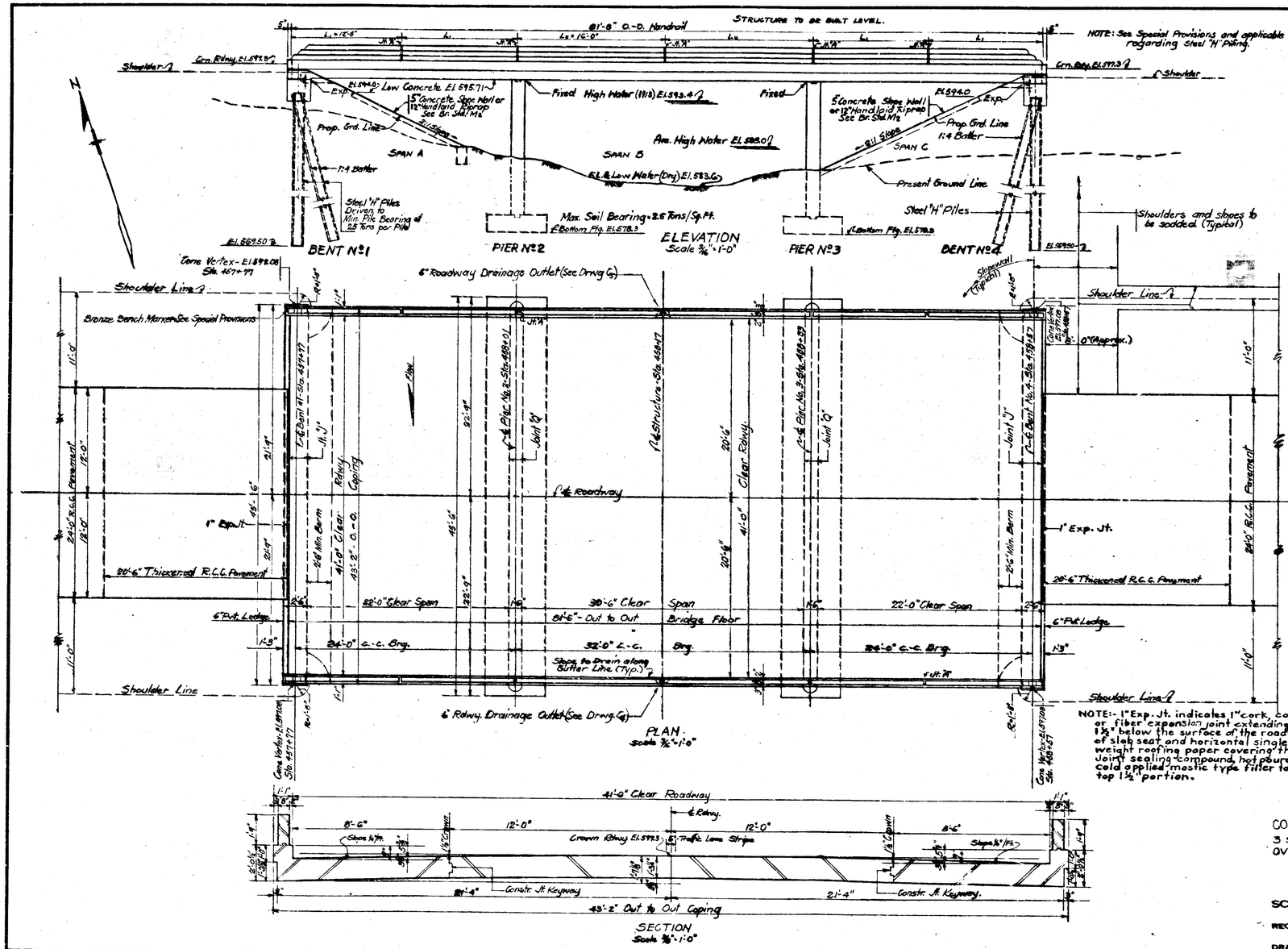
SCALE:- As Noted SEPTEMBER 25, 1954

RECOMMENDED FOR APPROVAL:-

DRAWING:- C1 OF 4
PROJECT:- F-427(2) STATION:- 458+17
BRIDGE CONTRACT NO. 3340
BRIDGE FILE:- 52-F-4004

DESIGNED ____ CK'D ____
DRAWN C.R.B. 3-2-54 CK'D B.R. 3-9-54
TRACED W.F.B. 5-20-54 CK'D A.P.T. 6-22-54

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-427(1)	1955	11	24



GENERAL NOTES

Depth of footings to be extended if found necessary. See Art. B-403.02(a) of Specifications.
Piles shall have minimum bearing value shown on detail drawings. Determine pile lengths by Arts. F-393 of Specifications.
Pile's shall be driven to elevation shown on plans or lower if necessary to obtain desired bearing.
Reinforcing steel covering shall be 1½" in floor slabs, 3 inches in footings except bottom steel which shall be 4 inches, and 2" in all other parts unless noted.
Dimensions on bending diagrams for reinforcing bars are measured out to out of bars.
Concrete in footings and pier stems to be Class "E".
Concrete in superstructure including railing and bent caps to be Class "A".
Continuous concrete pours shall be required between construction joints as shown on detail plans.
Bevel forms ¾" under copings and chamfer exposed edge 1 inch unless noted.
Two Roadway Drainage Outlets to be placed as shown on this drawing.
Construct 5" concrete slope wall, or alternate 12" handlaid riprap slopewalls at locations as shown on this drawing and on Layout.
Tolerance in position of pile head, max. 2 inches.
6" Traffic Lane Stripe to be placed along centerline of roadway on bridge floor and pavement.
See Special Provisions for items included in this contract.
Concrete not noted above to be Class "D".

DESIGN DATA

Designed for H-20, S-16, 44 loading with distribution in accordance with 1953 A.A.S.H.O. Specifications.

JOINT LEGEND

Joint "A" indicates a vertical ¾" open joint in railings only.
Joint "J" indicates ½" preformed expansion material under front 6" of slab bearing area and two layers of medium weight roofing felt under remainder of bearing area.
Joint "Q" indicates ½" preformed expansion material placed longitudinally on outer 3" portions of the pier bearing area, with concrete to concrete bearing under the remaining portion.
For description of 1" Exp. Jt. see Note below.

STANDARD DRAWINGS.

Br. Std.	Road Std.	Purpose	Date
C1		Bar Bending Details, Test Bar Samples, Rebef.	Oct. 6-1952
S1		Standard Thickened Pavement	Rev. 3-20-53.
M1		Paved Side Ditch, R/W Markers, Guide Posts, Sodded Shoulders, Pvt. C Posts	Rev. 4-15-53.
M2		Temporary Runaround & Slope Walls	Rev. 3-7-38.
S1		Placing Grade "B" Special Borrow	Rev. 9-20-52.
F-Sheet "A"		Standard Temporary Bridge	Rev. 3-26-43.
F-Sheet "B"		Standard Temporary Bridge	Rev. 11-13-39.
	A	Standard Pavement Joints	Rev. 10-6-53
	Sheet #1 Detours	Std. Detour Signs	Rev. 2-11-44.
	Sheet #2 Detours	Std. Detour Signs.	Rev. 3-1-51.

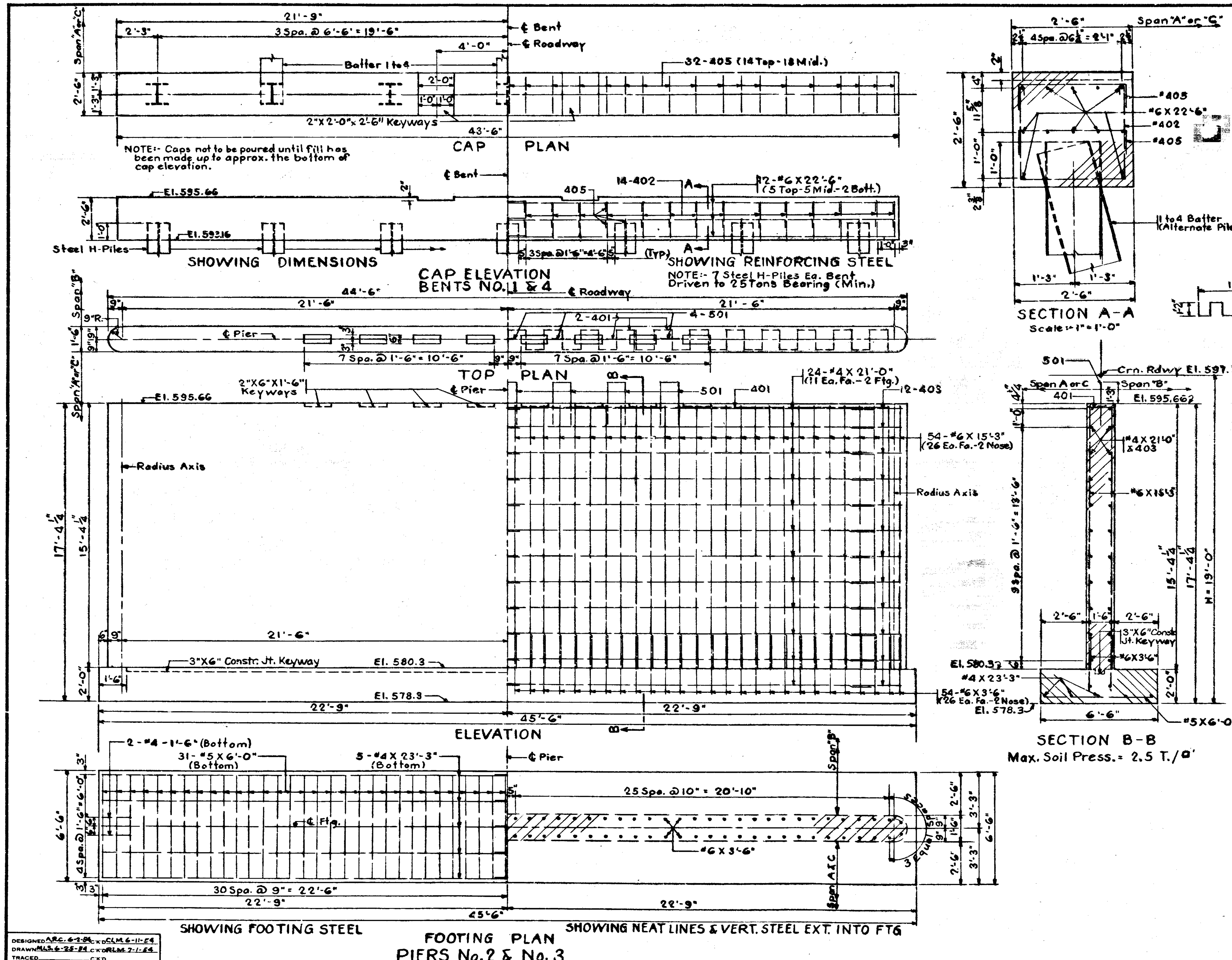
NOTE:- 1" Exp. Jt. indicates 1" cork, cork-rubber or fiber expansion joint extending from approx. 1½" below the surface of the roadway to bottom of slab seat and horizontal single layer of medium weight roofing paper covering the slab seat. Joint sealing compound, hot poured joint sealer or cold applied mastic type filler to be placed in the top 1½" portion.

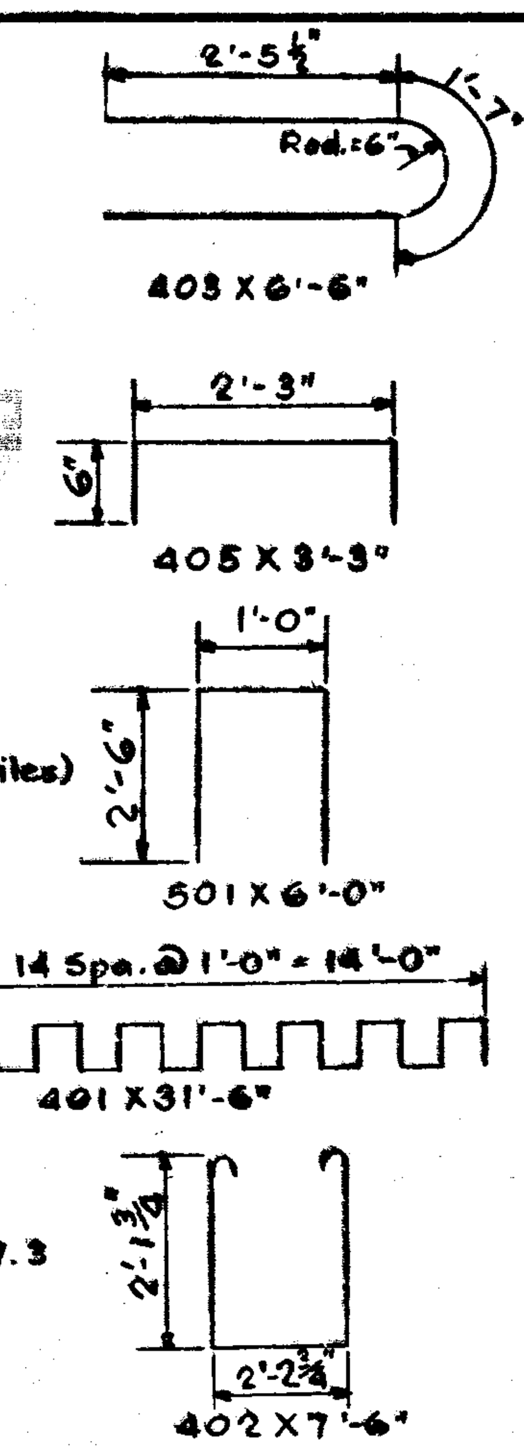
TYPICAL CROSS SECTION
See Sheet #2.

GENERAL PLAN
CONTINUOUS REINFORCED CONCRETE SLAB BRIDGE
3 SPANS, 24'-32'-24' 41'-0" ROADWAY
OVER MUD CREEK ON STATE ROAD:-52-F
STATE HIGHWAY DEPARTMENT OF INDIANA
RUSH COUNTY

SCALE:- AS NOTED SEPTEMBER 25, 1954
RECOMMENDED FOR APPROVAL:-
DRAWING:-C2 OF 4
PROJECT:-F-427(1) STATION:- 458+17
BRIDGE CONTRACT NO. 3940
BRIDGE FILE:-52-F-4004

DESIGNED J.P.C. 6-7-54 C'K'D J.L.H. 6-16-54
DRAWN R.V.M. 6-28-54 C'K'D A.R.C. 6-28-54
TRACED C'K'D





BRIDGES OVER 20' SPAN					
PUB ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-427(2)	1955	12	24

BILLS OF MATERIALS

BENT NO. 1 (BENT NO. 4 SAME)

REINFORCING STEEL			
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT LBS.
#6	24	22'-6"	811
402	28	7'-6"	
405	63	3'-3"	
	Total	#4	277
	TOTAL	STEEL	1088
CONCRETE			
Class "F" Cap = 10.1 Cu. Yds.			
MISCELLANEOUS			
7 Steel H-Piles 10"x42#			
(@ 25'-0" Long Approx.) = 1751 Lf.			

PIER NO. 2 (PIER NO. 3 SAME)

REINFORCING STEEL			
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT LBS.
#6	108	15'-3"	
#6	108	3'-6"	
	Total	#6	3042
501	7	6'-0"	
#5	61	6'-0"	
	Total	#5	426
401	3	31'-6"	
403	24	6'-6"	
#4	10	23'-3"	
#4	48	21'-0"	
#4	4	1'-6"	
	Total	#4	1000
	TOTAL	STEEL	4468
CONCRETE			
Class "E" above Ftg. = 37.7 Cu. Yds.			
Class "E" Ftg. = 21.9 Cu. Yds.			

REINFORCING BAR NOTES

All dimensions on bending diagrams are measured out to out of bars.
All dimensions on details are measured on centerlines of bars, except where "cover" is indicated.
Bent bars are given a three or four digit bar mark.
The last two digits, 01 to 93, indicate the mark. The digit or digits preceding the last two indicate the size of the bar.
Straight bars will be designated by size and length.
Standard size hooks as shown on Br. Std. C1 are to be used on all hooked bars unless noted.
See summary sheet for Bill of Splice Bars.
See Br. Std. C1 for Bar Bending Details, Test Bar Samples, Std. Bar Laps and Embedment.

SUBSTRUCTURE DETAILS

STATE HIGHWAY DEPARTMENT OF INDIANA

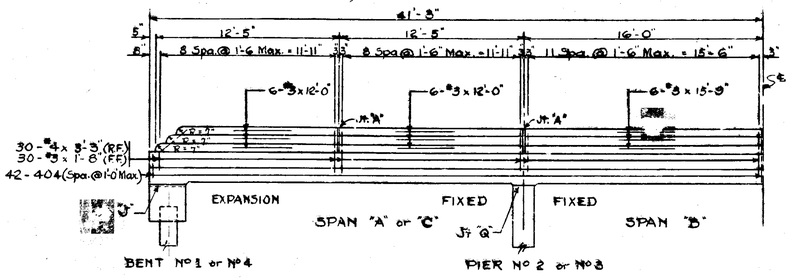
SCALE:- 3/8" = 1'-0" (UNLESS NOTED) SEPTEMBER 25, 1954

RECOMMENDED FOR APPROVAL:- [signature] ENGINEER OF BRIDGE DESIGN

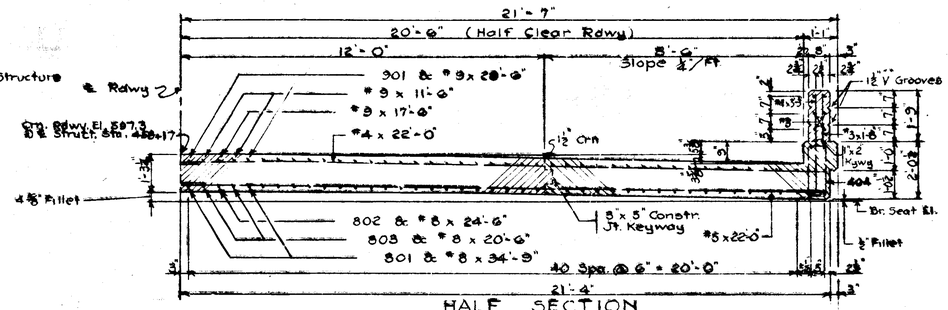
DRAWING:- C3 OF 4
PROJECT:- F-427(2) STATION:- 458+17
BRIDGE CONTRACT NO. 3940
BRIDGE FILE:- 52-F-4004

DESIGNED A.R.C. 6-2-54 CKD C.L.M. 6-11-54
DRAWN H.L.S. 6-28-54 CKD R.L.M. 7-1-54
TRACED ____ CKD ____

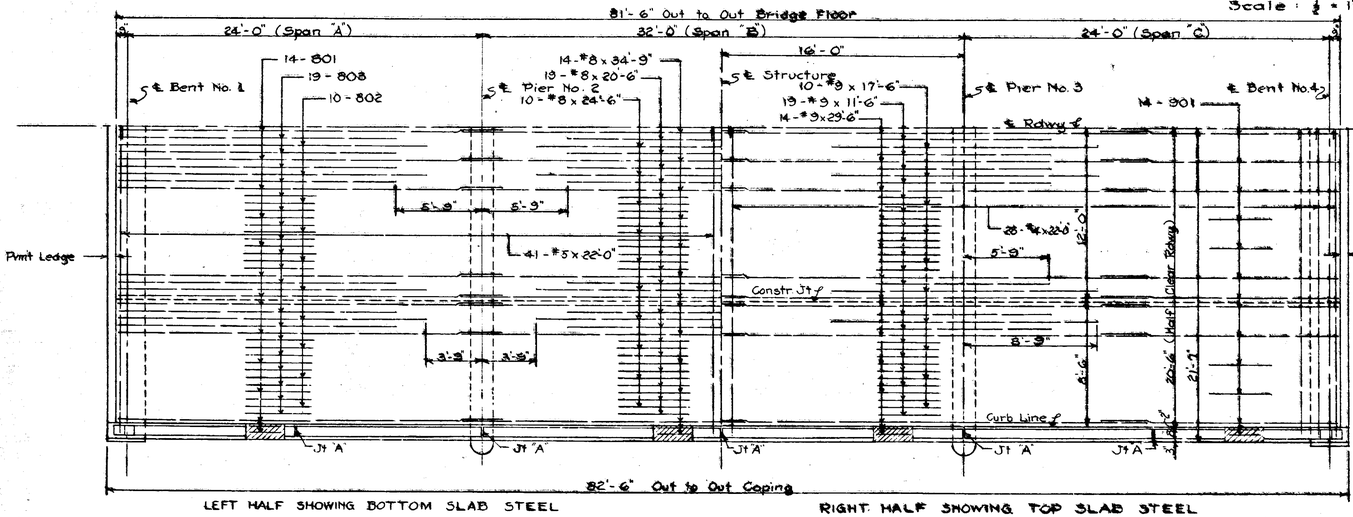
BRIDGES OVER 20' SPAN					
PUB ROAD DIV NO	STATE	PROJECT NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
4	IND.	F-427(6)	1955	19	24



HALF ELEVATION

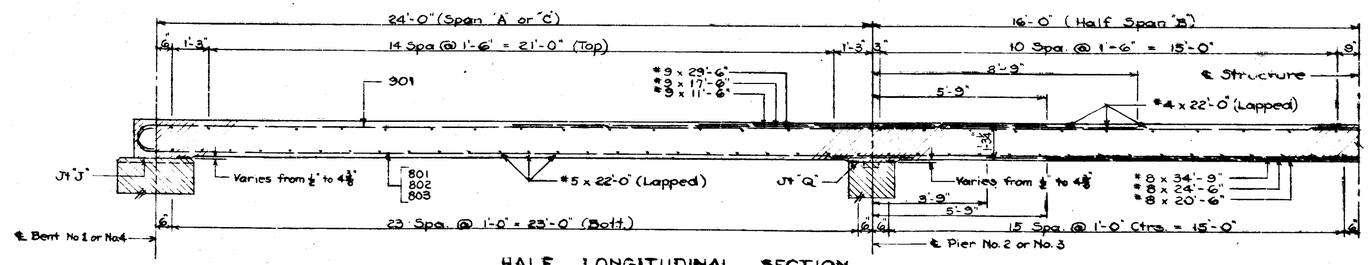


HALF SECTION
Scale: ½" = 1'-0"



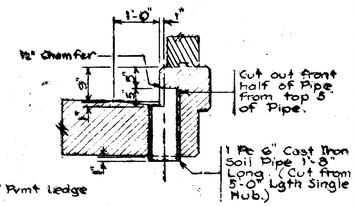
LEFT HALF SHOWING BOTTOM SLAB STEEL — RIGHT HALF SHOWING TOP SLAB STEEL

HALF PLAN

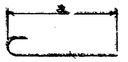


HALF LONGITUDINAL SECTION
Scale: ½" = 1'-0"

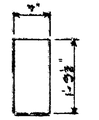
Note: See Drwg C 2 for location of Drainage Outlets.



SECTION THRU DRAINAGE OUTLET
Scale: ¾" = 1'-0"



SIZE & MARK	a	b	LENGTH
901	15'-9"	11½"	17'-0"
801	25-11	10"	27-0
802	23-11	10"	25-0"
803	18-11	10	20-0"



4.04 x 5'-3"

BILL OF MATERIALS SUPERSTRUCTURE

REINFORCING STEEL			
SIZE & MARK	NO. BARS	LENGTH	WEIGHT LBS
901	56	17'-0"	
#9	56	29'-6"	
#8	40	17'-6"	
#8	76	11'-6"	
	Total #9 =		14205
801	56	27'-0"	
802	40	22'-0"	
803	76	20'-0"	
#8	28	34'-9"	
#8	68	24'-6"	
#8	38	20'-6"	
	Total #8 =		16431
#5	164	22'-0"	8763
404	166	5'-3"	
#4	112	22'-0"	
#4	120	5'-3"	
	Total #4 =		5488
#3	24	15'-9"	
#3	48	12'-0"	
#3	120	1'-8"	
	Total #3 =		434
TOTAL STEEL = 37322			
CONCRETE			
Class "F" Superstructure			
Center Pour = 33.8 C.Y.			
Outer Pours - (2 @ 38.5 C.Y.) = 77.0 C.Y.			
Total Class F except Railing = 110.9 C.Y.			
Railing Concrete (Cl. "F") (6.9 Cu. Yds.) = 16632 LB.			
MISCELLANEOUS			
* 1 Pc 6" Single Hub C.I. Soil Pipe (1-5'-0 Lgth. cuts 2) = 35			

* Billed on Summary sheet as Cast Iron.

Note: See Drwg C 3 for Reinforcing Bar Notes.

DESIGN DATA:

Unit Stresses: f_s = 20,000#/□"; f_c = 1200#/□".
Live Load H 20-S 16-44 with Impact, with distribution of Loads in accordance with 1953 A.A.S.H.O. Specifications.
Dead Load increased 15 #/Sq. Ft. of Roadway for future wearing surface.
Slab designed with ½" wearing surface.
Maximum dead load deflection = ⅛".

SUPERSTRUCTURE DETAILS
STATE HIGHWAY DEPARTMENT OF INDIANA

SCALE:- ½" = 1'-0" Unless Noted. SEPTEMBER 25, 1954

RECOMMENDED FOR APPROVAL: _____ Engineer of Bridges

DRAWING:- C4 OF 4
PROJECT:- F-427(6) STATION:- 458+17
BRIDGE CONTRACT NO. 3940
BRIDGE FILE:- 52-F-4004

DESIGNED A.R.C. 6-22-54 C'K'D C.L.M. 6-11-54
DRAWN A.R.C. 6-21-54 C'K'D W.L.M. 6-23-54
TRACED _____ C'K'D

STRUCTURE QUANTITIES

ITEM	Concrete Class F Cu.Yds.	Concrete Class D Cu.Yds.	Concrete Class E Above Ftg. Cu.Yds.	Concrete Class E Ftg. Cu.Yds.	Railing Concrete Class F Cu.Yds.	Railing Concrete Class F Lin.Ft.	Reinforcing Steel (1934 Std. Wts.) #11 (1¼") Lbs.	#10 (1⅛") Lbs.	#9 (1") Lbs.	#8 (1") Lbs.	#7 (⅞") Lbs.	#6 (¾") Lbs.	#5 (⅝") Lbs.	#4 (½") Lbs.	#3 (⅜") Lbs.	#2 (¼") Lbs.	Totals Lbs.	Structural Steel Lbs.	Cast Iron Lbs.	Steel Pile Shells No.	Steel Pile Shells Lin.Ft.	Steel H Piles No.	Steel H Piles Lin.Ft.
52-F-527A																							
SUBSTRUCTURE																							
Bent No.1	8.8											789		274			1063			7	175		
Abutment No.2	8.4							1451					38	357			1846						
Pier No.3	13.0						2177						38	356			2571						
Pier No.4	13.0						2177						38	356			2571						
Abutment No.5	8.4							1451					38	357			1846						
Bent No.6	8.0											789		274			1063			7	175		
SUPERSTRUCTURE																							
Span A	29.3				2.7	41.8					2874	135	738	665	146		4558						
Span B	78.0				4.2	81.8	14146					150	6146	2227	263		22932		52				
Span C	75.5				4.2	82.0	14146					300	6113	2159	265		22981		52				
Span D	78.0				4.2	81.8	14146					150	6146	2227	263		22932		52				
Span E	29.3				2.7	41.8					2874	135	738	665	146		4558						
Bill of Splice Bars							175	45			16	34	28	12	6		316						
Reinf. Steel for Thick. Pvmt.													2858				2858						
TOTALS	350.5				18.0	329.2	46967	2947			5764	2482	22919	9929	1087		92,095		156	14	350		
52-F-4004																							
SUBSTRUCTURE																							
Bent No.1	10.1											811		277			1088					7	175
Pier No.2			37.7	21.9								3042	426	1000			4468						
Pier No.3			37.7	21.9								3042	426	1000			4468						
Bent No.4	10.1											811		277			1088					7	175
SUPERSTRUCTURE	171.7				6.9	163.3			14205	16431			3763	2489	434		37322		95				
Bill of Splice Bars									32	23		34	21	12			122						
Reinf. Steel for Thick Pvt.													2592				2592						
TOTALS	191.9		75.4	43.8	6.9	163.3			14237	16454		7740	7228	5055	434		51,148		95			14	350
GRAND TOTALS	542.4		75.4	43.8	24.9	492.5	46967	2947	14237	16454	5764	10222	30147	14984	1,521		143,243		251	14	350	14	350

BILL OF SPLICE BARS

REINFORCING STEEL

Size	No. Pcs.	Length	Location	Weight	Total Weight
			52-F-527A		
#11	3	11'-0"		175#	
#10	1	10'-6"		45#	
#7	1	6'-0"		16#	
#6	3	7'-6"		34#	
#5	4	6'-9"		28#	
#4	3	6'-0"		12#	
#3	3	5'-6"		6#	
			Total (52-F-527A)		316#
			52-F-4004		
#9	1	9'-6"		32#	
#8	1	8'-9"		23#	
#6	3	7'-6"		34#	
#5	3	6'-9"		21#	
#4	3	6'-0"		12#	
			Total (52-F-4004)		122#

Note:- For Test Bar Samples See Br. Std. 'C1'

BILL OF MATERIALS FOR THICKENED PAVEMENT

REINFORCING STEEL

Size	No. Pcs.	Length	Location	Weight	Total Weight
			52-F-527A		
5 Mk-A	104	20'-6"			
5 Mk-B	8	4'-3"			
5 Mk-C	4	27'-6"			
5 Mk-D	18	25'-6"			
5 Mk-E	2	3'-0"			
			Total 52-F-527A		2858#
			52-F-4004		
			See BR. STD. 61		

BARRICADES BARRIERS TRAFFIC SIGNS & LIGHTS

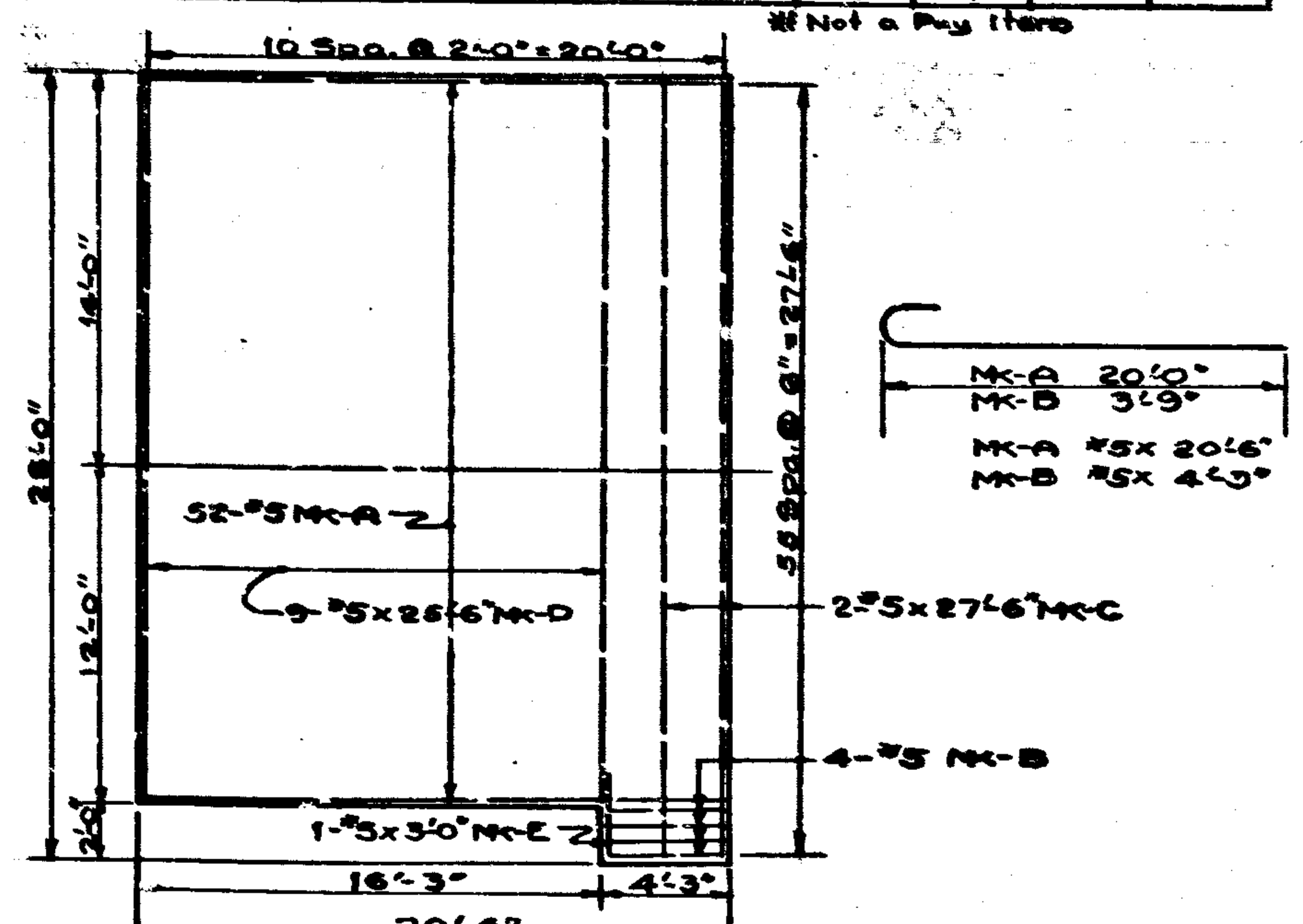
ITEM	UNIT	QUANTITY	ASSEMBLY	52-F 527-A	52-F 4004
Warning Signs	Each	24	Signs 130 R	4	4
			" 123 R		
			" 124 R	4	4
			" 115 R	4	4
			Torches	8	8
Std. Barricades (Type A)	Each	4	Barricades (Type A)	2	2
			Signs 113 R	2	2
			" W11R	2	2
			" 117		
			Lanterns	4	4
Std. 3'-0"x4'-3" Signs	Each		Signs 113		
Suitable Barriers	Each	*	Suitable Barriers	2	2
		*	Lanterns or Torches	4	4

* Not a Pay Item

APPROACH STRUCTURES

Struc. No.	Location	Size	Kind	Length	Cl. D Conc. in Structs. Cu.Yds.	Reinf. Steel Lbs.	Cast Iron Lbs.	Remarks
			52-F-4004					
11	Lt. Sta. 457+15 to Sta. 458+08	10"	Sewer Pipe	93'	0.3			Connect to 10" F.T. Remove 10" Pipe and Hdwl. in place.
				TOTALS	0.3			Total of Reinf. Steel Carried to "Structure Quantities"

Summarized R.L.S. 8-16 Ck'd
Traced W.F.B. 8-20 Ck'd W.W.B. 8-24



52-F-527 A
THICK. PVMT. DETAILS
Scale:- 3/16" = 1'-0"

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-427(2)	1955	14	24

SUMMARY

ITEM	DESCRIPTION	UNIT	QUANTITY 52-F-527A	QUANTITY 52-F-4004		TOTALS
1	Class F Concrete	Cu. Yds.	350.5	191.9		542.4
2	Class D Concrete	Cu. Yds.				
3	Class E Concrete above Footings	Cu. Yds.		75.4		75.4
4	Class E Concrete in Footings	Cu. Yds.		43.8		43.8
5	Railing Concrete	Lin. Ft.	329.2	163.3		492.5
6	Reinforcing Steel	Lbs.	92,095	51,148		143,243
7	Structural Steel	Lbs.				
8	Cast Iron	Lbs.	156	95		251
9	Untreated Timber Piles Furnished	Lin. Ft.				
10	Untreated Timber Piles Driven	Lin. Ft.				
11	Furnishing Equipment for Driving Piles 52-F-527A	Lump Sum	1			1
12	Wet Excavation	Cu. Yds.		221		221
13	Waterway Excavation	Cu. Yds.				
14	Common Excavation	Cu. Yds.	75	80		155
15	Special Borrow	Cu. Yds.	730	920		1650
16	Grade "B" Special Borrow	Cu. Yds.	50	55		105
17	Sodding	Sq. Yds.	300	140		440
18	Mulched Seeding	Sq. Yds.	900	255		1155
19	Cement Concrete Pavement	Sq. Yds.				
20	Reinforced Cement Concrete Pvmt.	Sq. Yds.	117	73		190
21	Thickened Reinf. Cem. Concrete Pavement	Sq. Yds.	120	110		230
22	Aggregate for Compacted Agg. Base	Tons				
23	Removal Portions Pres. Struct. 52-F-527A	Lump Sum	1			1
24	Temporary Bridge and Approaches 52-F-527A	Lump Sum	1			1
25	Warning Signs	Each	12	12		24
26	Std. Barricades (Type A)	Each	2	2		4
27	Class "D" Concrete in Structures	Cu. Yds.		0.3		0.3
28	R/W Markers	Each	8	8		16
29	Steel Pile Shells Furnished	Lin. Ft.	350			350
30	Steel Pile Shells Driven	Lin. Ft.	350			350
31	Steel H-Piles Furnished	Lin. Ft.		350		350
32	Steel H-Piles Driven	Lin. Ft.		350		350
33	Furnishing Equipment for Driving Piles 52-F-4004	Lump Sum		1		1
34	Bituminous Mixture for Approaches	Tons	16	16		32
35	Covering Aggregate	Tons	1	1		2
36	Temp. 6" Plain Cem. Conc. Pavement	Sq. Yds.	889	943		1832
37	Subbase	Cu. Yds.	35	60		95
38	Pavement Removal	Sq. Yds.	295	185		480
39	Paved Side Ditch Type "A"	Lin. Ft.		135		135
40	Pavement Contraction Joints	Lin. Ft.	52	48		100
41	1" Expansion Joint	Lin. Ft.	73	48		121
42	Guide Posts Type "A"	Each	12	12		24
43	Slope Wall	Sq. Yds.		375		375
44	10" Sewer Pipe	Lin. Ft.		93		93
45	Removal Pres. Structure 52-F-4004	Lump Sum		1		1
46	Temporary Bridge and Approaches 52-F-4004	Lump Sum		1		1
47	Paved Side Ditch, Type "B"	Lin. Ft.	35			35

SUMMARY

STATE HIGHWAY DEPARTMENT OF INDIANA

SEPTEMBER 25, 1954

RECOMMENDED FOR APPROVAL:- J.W. Langthe [signature]
ENGINEER OF BRIDGE DESIGN

PROJECT:- F-427(2)
BRIDGE CONTRACT NO. 3940
BRIDGE FILE:- 52-F-527A
52-F-4004

CONTRACT No. B-15908

INDIANA DEPARTMENT OF HIGHWAYS

BRIDGE PLANS

FOR SPANS OVER 20 FEET ON U.S. 52

PROJECT NO. FR-082-2(6)

DECK RECONSTRUCTION AND OVERLAY ON STRUCTURE: 52-70-4004A, U.S. 52 OVER MUD CREEK, LOCATED IN SECTION 29, T.15 N., R.9E., RUSH COUNTY, INDIANA.

BRIDGES OVER 20' SPAN					
FEDERAL REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	FR-082-2(6)	198	1	16

INDEX

PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION
FR-082-2(6)	52-70-4004A	CONTINUOUS R.C. SLAB	3 SPANS @ 24'-0, 32'-0 & 24'-0 NO SKEW	MUD CREEK	458+17

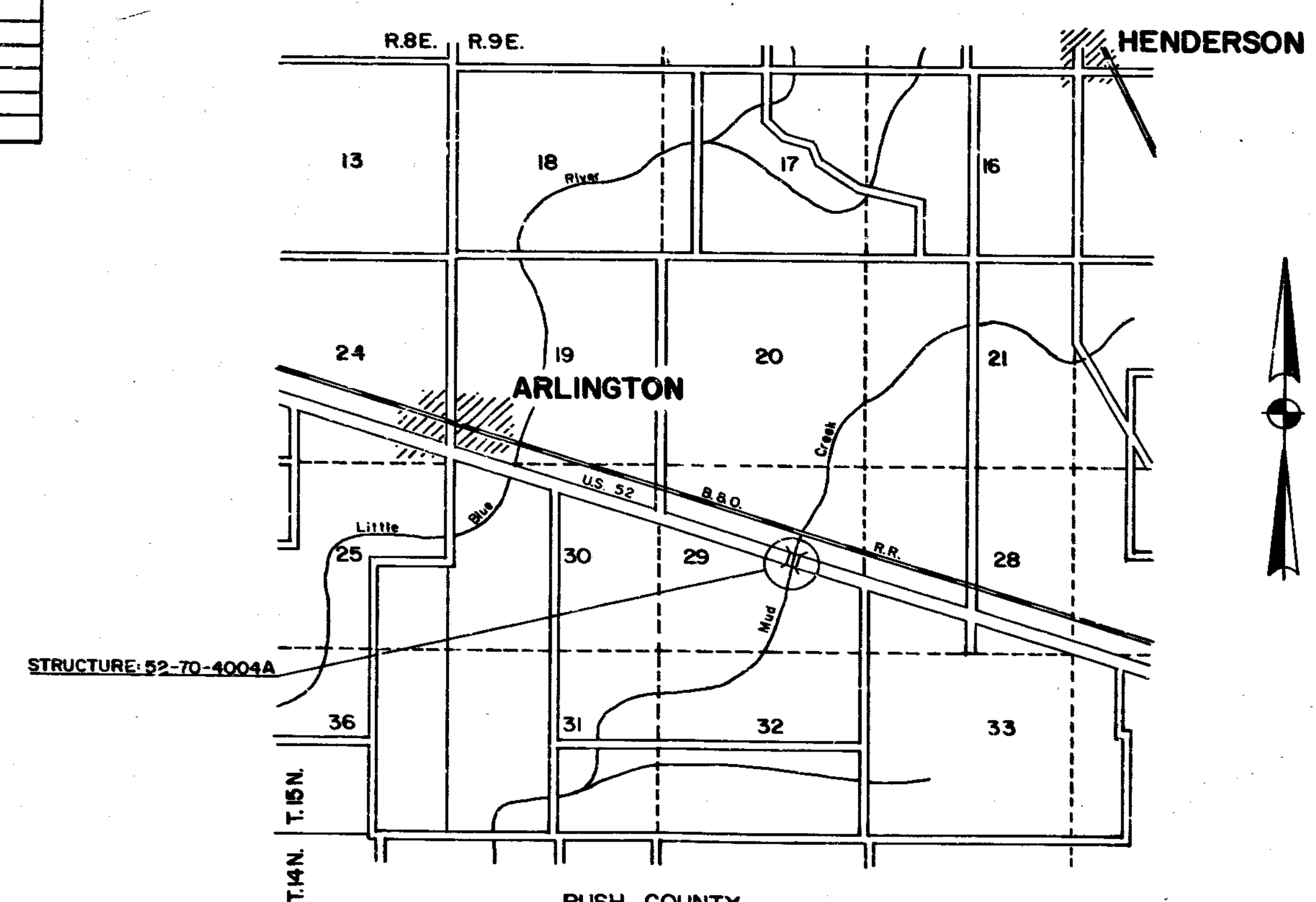
SHEET NO	SHEET DESIGNATION	SUBJECT	F.H.W.A. APPROVAL
1		TITLE AND INDEX	
2		TRAFFIC MAINTENANCE DETAILS	
3	D1	GENERAL PLAN	
4	D2	DETAILS	
*5		BRIDGE ESTIMATE OF QUANTITIES	
4A	D3	CONCRETE BARRIER RAIL DETAILS	

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

TRAFFIC DATA		
A.D.T. (1984)		3800 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		
5A	BRIDGE STD. BR5	RAILING CONNECTION DETAILS		R 12-9-85
	BRIDGE STD. BR6	RAILING CONNECTION DETAILS		
5B	BRIDGE STD. C1	MISCELLANEOUS DETAILS	12-21-81	R 12-7-81
	BRIDGE STD. C2	MISCELLANEOUS DETAILS		
	BRIDGE STD. C3	MISCELLANEOUS DETAILS		
	BRIDGE STD. C4	MISCELLANEOUS 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. T SHEET A	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD. T SHEET B	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS		
	ROAD STD. SHEET B	STANDARD PAVEMENT JOINTS		
	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		
	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		
	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		
	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		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET GR	GUARD RAIL CLASS		
6	ROAD STD. SHEET GR2	GUARD RAIL CLASS Hs	6-4-84	R4-2-84
	ROAD STD. SHEET GR	GUARD RAIL CLASS		
6A	ROAD STD. SHEET GR4A	GUARD RAIL CLASS Hs		R4-2-84
	ROAD STD. SHEET GR5	ALUMINUM GUARD RAIL DETAILS		
	ROAD STD. SHEET GR6	STEEL TUBE GUARD RAIL DETAILS		
6B	ROAD STD. SHEET GR7	GUARD RAIL PIER CONNECTION DETAILS	5-21-82	R4-1-82
7	ROAD STD. SHEET GR8	STEEL BEAM GUARD RAIL		R4-2-84
	ROAD STD. SHEET GR9	ALUMINUM BEAM GUARD RAIL		
8	ROAD STD. SHEET GR10	GUARD RAIL BURIED ENDS		R 2-1-85
	ROAD STD. SHEET GR10A	GUARD RAIL BREAKAWAY CABLE TERM.		
	ROAD STD.			
9	ROAD STD. SHEET CB2	TEMPORARY CONCRETE BARRIER		R6-1-84
10	TRAFFIC STD. SHEET MT3	TRAFFIC SIGN DETAILS	8-30-82	A JUL., 1982
11	ROAD STD. SHEET 1 DETOURS	STANDARD DETOUR SIGNS		R2-1-85
	ROAD STD. SHEET 1A DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 1B DETOURS	STANDARD DETOUR SIGNS		
12	ROAD STD. SHEET 2 DETOURS	STANDARD DETOUR SIGNS	4-1-85	R2-1-85
13	ROAD STD. SHEET 2A DETOURS	STANDARD DETOUR SIGNS	4-1-85	R2-1-85
14	ROAD STD. SHEET 3 DETOURS	STANDARD DETOUR SIGNS	4-10-84	R2-1-84
	ROAD STD. SHEET 3A DETOURS	STANDARD DETOUR SIGNS		
15	ROAD STD. SHEET 4 DETOURS	STANDARD DETOUR SIGNS	12-8-83	R10-3-83
16	ROAD STD. SHEET 5 DETOURS	STANDARD DETOUR SIGNS	4-10-84	R2-1-84
	ROAD STD. SHEET 5A DETOURS	STANDARD DETOUR SIGNS		



RUSH COUNTY
SCALE 1" = 3000'

BUTLER, FAIRMAN & SEUFERT, INC.
ENGINEERS
CARMEL, INDIANA

RECOMMENDED FOR APPROVAL 8-20-85
Stephen F. Weintraut

STEPHEN F. WEINTRAUT REGISTERED NO. 16222 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL 9-17-85
W.B. Abbott (gm)
ENGINEER OF BRIDGE DESIGN

APPROVED 9-17-85
E. Wayne Wallace
CHIEF HIGHWAY ENGINEER

FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION
APPROVED:-
DIVISION ADMINISTRATOR DATE

BRIDGE FILE:- 52-70-4004A

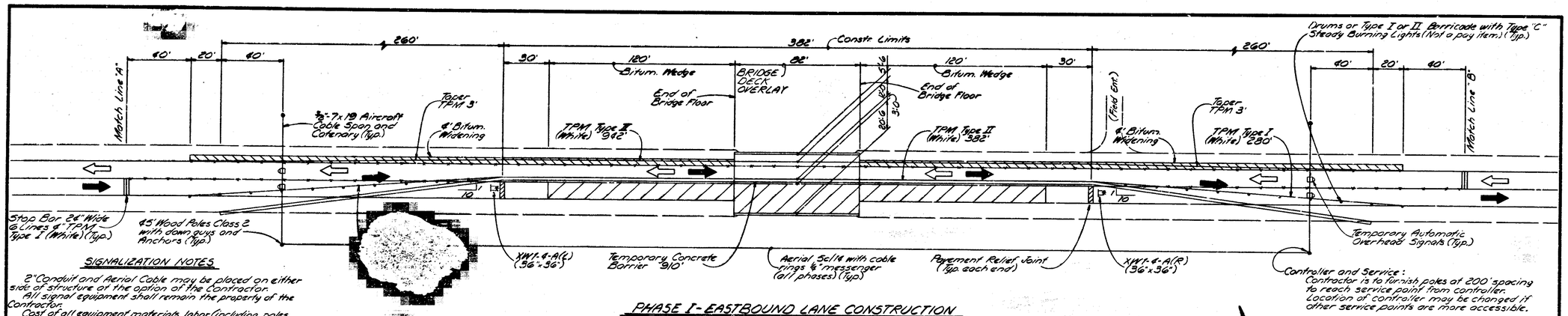
REVISIONS	
DATE	SHEET NO.
1/29/86	1,2,3,4,5 Add 4A

REVISIONS	
DATE	SHEET NO.

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

TP100

1792



PHASE I - EASTBOUND LANE CONSTRUCTION

Scale: 1"=30'-0

Note: Temporary poles to be placed as far from edge of pavement as possible within the right-of-way.

Note: Contractor shall provide access to Field Entrance on an "AS NEEDED" basis during phase II Construction.

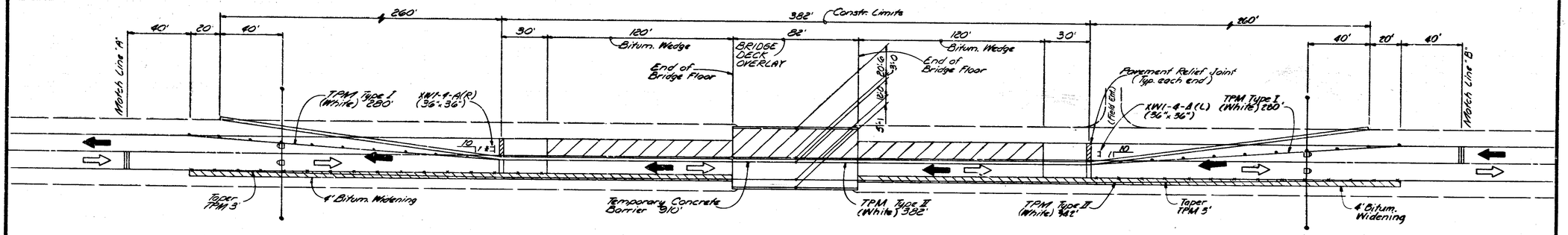
SIGNALIZATION NOTES

2" Conduit and Aerial Cable may be placed on either side of structure at the option of the Contractor.

All signal equipment shall remain the property of the Contractor.

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

Signal equipment may be either new or used. If signal equipment is used, it must be in proper operating condition and meet the approval of the Engineer.



PHASE II - WESTBOUND LANE CONSTRUCTION

Scale: 1"=30'-0

Notes:

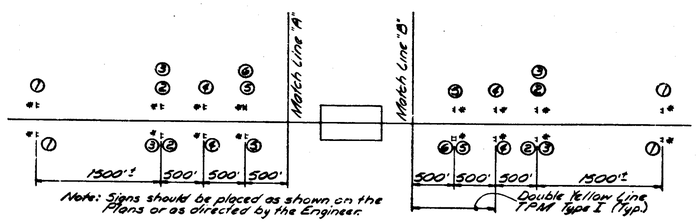
Bituminous widening shall remain in place.

The existing centerline pavement markings at both ends shall be removed between the Stop Bar and the Barrier Rail before one lane traffic is established on the structure.

Maintenance of Temporary Traffic Signals to be by the Contractor during the construction period. See the Special Provisions.

Cost of Drums or Type I or II Barricade with Type "C" Steady Burning Lights to be included in the cost of "Maintaining Traffic" (Lump Sum).

——— indicates Line Removal



Note: Signs should be placed as shown on the Plans or as directed by the Engineer.

PLAN - CONSTRUCTION SIGNS

Not to Scale

TPM = Temporary Pavement Marking (Type and Color as noted)

1. W20-1(48"x48") Road Construction Ahead
2. W20-4(48"x48") One Lane Road Ahead
3. XW13-1-A(24"x24") Speed Advisory
4. R4-1-A(36"x48") Do Not Pass
5. XW3-3a-B(48"x48") Signal Ahead
6. G20-2(60"x24") End Construction
- Indicates Low Intensity Flashing Yellow Light Type "A".

TRAFFIC MAINTENANCE DETAILS

INDIANA DEPARTMENT OF HIGHWAYS

RUSH COUNTY

SCALE:- AS NOTED DATE:- 8-20

SUBMITTED FOR APPROVAL: [signature]

SHEET:- 2 OF 16

PROJECT:- FR-082-2(6)

BRIDGE CONTRACT NO. B-15908

BRIDGE FILE:- 52-70-6006A

DESIGNED S. Stanich C'K'D P.Smith

DRAWN J.McKay C'K'D D.Steele

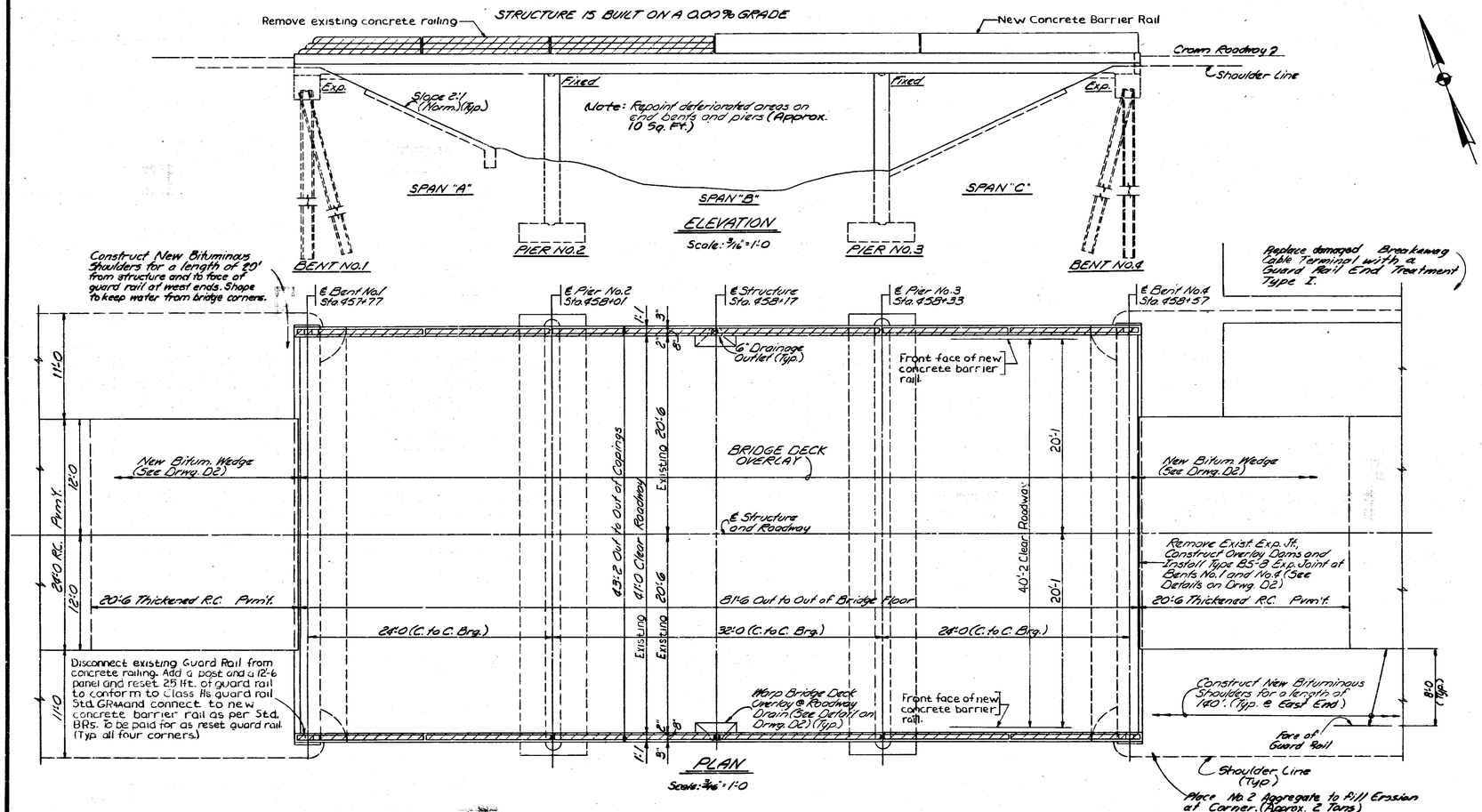
TRACED _____ C'K'D _____

SF-22317

Rev. 1-29-86 Conc. Barrier Rail

TP118

#1762



GENERAL NOTES

Plans for existing structure are on file in the Central Office as Bridge File: 52-F-4004 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 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 patches shall be removed.

Concrete in patches for deteriorated deck areas below scarified depth shall be Modified Portland Cement Concrete or Special Class "A" Concrete. See the Special Provisions.

For the composition of concrete in overlay dams, see the Special Provisions.

All bituminous material required in this contract shall be included in the pay item "Bituminous Mixture for Approaches" except Tack Coat which will be paid for separately.

Surface seal all exposed concrete surfaces as noted on the plans with a penetrating epoxy sealer.

Seal all joints and cracks in the approach pavement with a hot poured joint sealer before placing bituminous wedges.

CONSTRUCTION PROCEDURE

One way traffic on this structure to be maintained during construction by the installation of temporary automatic traffic signals as shown on Sheet 2.

Remove existing concrete railing and replace with new concrete barrier rail.

Scarify the entire Bridge floor to a depth of ¼ inch. Remove scarified dust.

Remove existing patches and all deteriorated concrete below the level of scarification, ground exposed reinforcing, along curbs inaccessible to scarifying equipment and as required for the construction of overlay dams.

Blast and clean all removal and scarified deck areas. Construct overlay dams.

Remove the existing expansion joints and install BS expansion joint seals.

Clean and seal exposed concrete surfaces as noted on the plans including top of overlay dams on R.C. Bridge Approach slabs with penetrating epoxy sealer.

Place the bituminous wedges and level courses and construct all other work shown on the plans.

The sequence of above notes does not necessarily indicate the sequence of operations.

MATERIAL NOTES

BRIDGE DECK OVERLAY: 1¾ Modified Portland cement concrete or 2½" Dense Portland Cement Concrete (1½" or 2¼" respectively above the original surface.)

BITUMINOUS WEDGE: 110 Lbs./Sq. Yd. H.A.C. Surface Type II over Variable Depth Bitum. Binder or Base.

BITUMINOUS SHOULDER: 660 Lbs./Sq. Yd. Bitum. Base Type No. 50.

BITUMINOUS WIDENING: 330 Lbs./Sq. Yd. Bitum. Base Type No. 50.

PAVEMENT RELIEF JOINT: 110 Lbs./Sq. Yd. H.A.C. Surface Type II over 1870 Lbs./Sq. Yd. Bitum. Base.

GENERAL PLAN

DECK RECONSTRUCTION AND OVERLAY

CONTINUOUS REINFORCED CONCRETE SLAB BRIDGE

3 SPANS @ 24'-0, 32'-0, 24'-0; NO SKEW; 41'-0 CLEAR ROADWAY OVER U.S.-52 OVER MUD CREEK

INDIANA DEPARTMENT OF HIGHWAYS

RUSH COUNTY

SCALE:- AS NOTED DATE:- 8-20-85

SUBMITTED FOR APPROVAL: Stephen G. Steinl

DRAWING:- D1 OF 3 SHEET:- 3 OF 16

PROJECT:- FR-082-2(6)

BRIDGE CONTRACT NO. B-15908

BRIDGE FILE:- 52-70-4004A

DESIGNED S. Stanko CK'D R.Smith

DRAWN T.H. / D.N.E. CK'D D. Sheetz

TRACED ____ CK'D ____

SF-22317

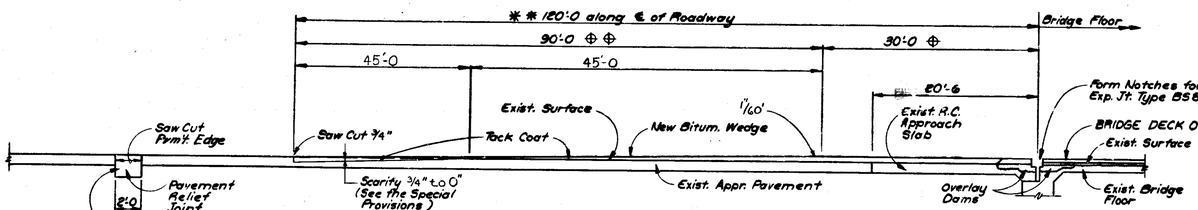
Rev 1-29-86 Conc. Barrier Rail

#1748

TP118

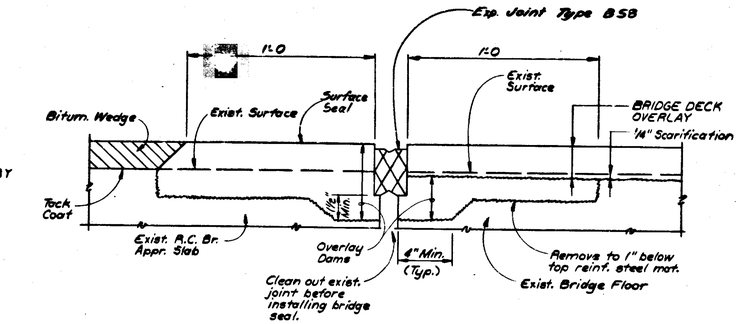
⊕ Top of wedge shall be a continuation of bridge deck profile.
⊕⊕ Top of wedge shall be tapered uniformly to meet existing pavement.
** Dimensions reqd. with 1¾" Bridge Deck Overlay. (See the Special Provisions if 2½" Bridge Deck Overlay is used.)

Note: The pay quantity for "Concrete Scarifying" shall include only the portion of the bridge deck and approaches which are to remain in place. Defined portions of bridge floor and approaches removed for installation of overlay dams or replacement of deteriorated areas are not to be included in this pay item. Those undefined areas requiring full depth removal will still be included in the pay quantity as "Concrete Scarifying."



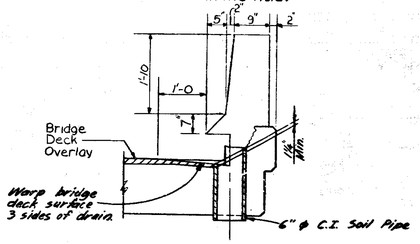
TYPICAL APPROACH SECTION
Not to Scale

Note: The pavement relief joint shall be constructed at the location shown on the plans or at such other location as directed by the Engineer in the field.

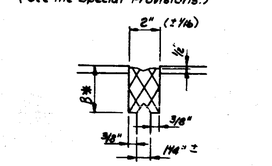


TYPICAL SECTION AT BENTS NO. 1 AND NO. 4
Scale: 3" = 1'-0

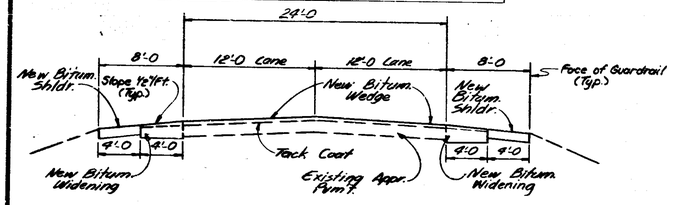
STANDARD DRAWINGS		
BRIDGE	ROAD	DESCRIPTION
	1	Standard Detour Signs
	2	Standard Detour Signs
	2A	Standard Detour Signs
	3	Standard Detour Signs
	4	Standard Detour Signs
	5	Standard Detour Signs
	MT3	Traffic Sign Details
	CB2	Temporary Concrete Barrier
	GR2	Guard Rail Class Hs
	GR4A	Steel Beam Guard Rail
	GR10	Guard Rail Buried Ends
BR5		Railing Connection Details
	GR7	Steel Offset Bracket Details
C1		Reinforcing Bar Details



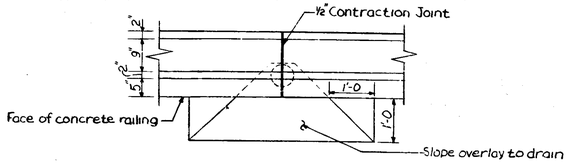
DRAINAGE OUTLET DETAIL
Scale: ¾"=1'-0



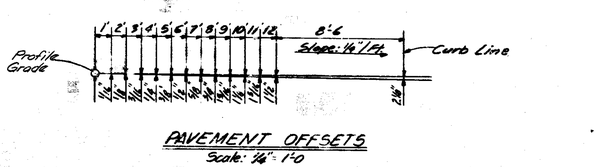
EXP. JOINT TYPE BSB DETAIL
Not to Scale



TYPICAL APPROACH X-SECTION
Not to Scale



PLAN DRAINAGE OUTLET DETAIL
Scale: ¾"=1'-0



PAVEMENT OFFSETS
Scale: ½" = 1'-0

CONCRETE REMOVAL NOTE

All removal equipment used for partial concrete removals of bridge structures shall be hand held Pneumatic hammers 30 lbs. maximum weight shall be used for all removal areas to be patched and all other areas within 24 inches of full depth removal lines. Pneumatic hammers up to 90 lbs maximum weight may be used for all other removals outside these limits. Deck areas that are to be removed full depth shall be completely separated from adjacent concrete before hammers heavier than 30 lbs may be used.

DESIGNED S. Stanich C'K'D N. Smith
DRAWN T. Hutton C'K'D D. Sheetz
TRACED ____ C'K'D ____
SF-22317

Rev. 1-29-86 Conc. Barrier Rail & Bitum. Wedge

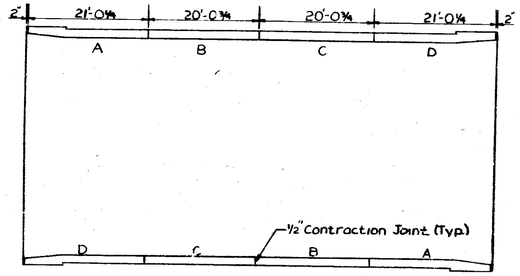
DETAILS
INDIANA DEPARTMENT OF HIGHWAYS
RUSH COUNTY

SCALE:— AS NOTED DATE:- 8-20-85
SUBMITTED FOR APPROVAL: [signature]
DRAWING:- D2 OF 3 SHEET:- 4 OF 16
PROJECT:- FR-082-2(6)
BRIDGE CONTRACT NO. B-15908
BRIDGE FILE:- 52-70-4004A

STEPHEN L. CASON — No. 20830 — STATE OF INDIANA — REGISTERED PROFESSIONAL ENGINEER

TP118

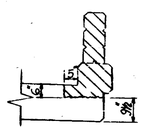
#1742



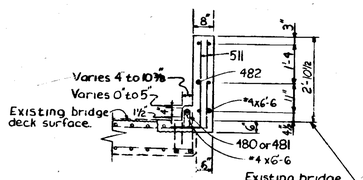
CONCRETE RAILING PLAN
Scale: 3/32"=1'-0

Note: Existing reinforcing steel shown in these details to be cleaned, straightened and remain in place. Cut and bend existing reinforcing steel where necessary to fit new construction.

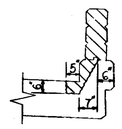
Note: Hatched area indicates removal



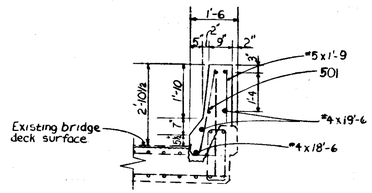
SECTION A-A
REMOVAL LIMITS
Scale: ½"=1'-0



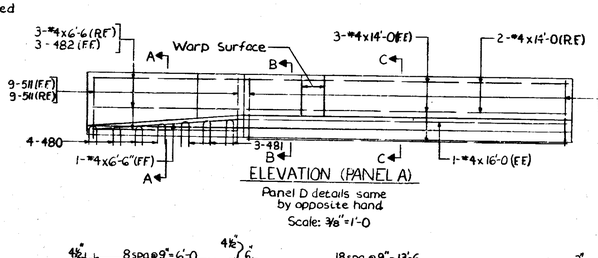
SECTION A-A
CONSTRUCTION
Scale: ½"=1'-0



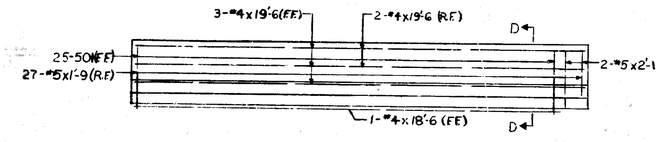
REMOVAL LIMITS
(All sections except A-A)
Scale: ½"=1'-0



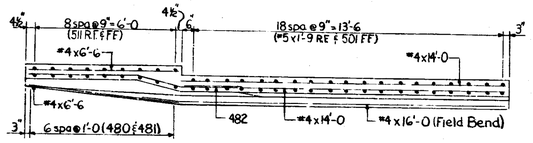
SECTION D-D
Scale: ½"=1'-0



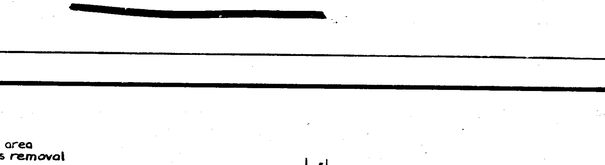
ELEVATION (PANEL A)
Panel D details same by opposite hand.
Scale: ⅜"=1'-0



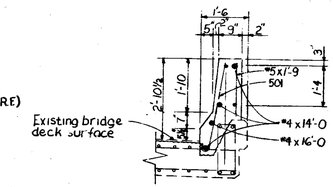
ELEVATION (PANEL B)
Panel C details same by opposite hand.
Scale: ⅜"=1'-0



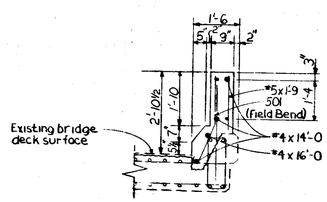
PLAN (PANEL A)
Panel D details same by opposite hand.
Scale: ⅜"=1'-0



PLAN (PANEL A)
Panel D details same by opposite hand.
Scale: ⅜"=1'-0

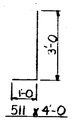


SECTION C-C
Scale: ½"=1'-0



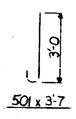
SECTION B-B
Scale: ½"=1'-0

BILL OF MATERIALS			
EPOXY COATED REINFORCING			
MARK	NUMBER	LENGTH	WEIGHT
#4	16	6'-6	
#4	20	14'-0	
#4	4	16'-0	
#4	4	18'-6	
#4	20	19'-6	
480	16	1'-5	
481	12	1'-10	
482	12	8'-7	
		Total #4	708
#5	184	1'-9	
#5	8	2'-1	
501	176	3'-7	
511	72	4'-0	
		Total #5	1311
Total Epoxy Coated Re-Steel			2019
CONCRETE			
Concrete Class "C" in Railing			17.1 cys.

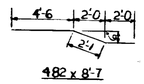


511 x 4'-0

480 x 1'-5
481 x 1'-10



501 x 3'-7



482 x 8'-7

CONCRETE BARRIER RAIL DETAILS
INDIANA DEPARTMENT OF HIGHWAYS

SCALE:— As Noted DATE:- 19

SENIOR DESIGNER

DRAWING:- D3 OF 3 SHEET:- 4A OF 16
PROJECT:- FR-082-2(4) STATION:—
BRIDGE CONTRACT NO. B-15908
BRIDGE FILE:- 52-70-4004A

DESIGNED — C'K'D —
DRAWN — C'K'D —
TRACED — C'K'D —

SF-22317

TP118

STRUCTURE PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE		TOTAL QUANTITY
51003	MOBILIZATION AND DEMOBILIZATION	LSUM			1
51002	CONCRETE, CLASS C IN SUPERSTRUCTURE	CYS.			
51001	CONCRETE, CLASS A IN SUPERSTRUCTURE	CYS.			
51005	CONCRETE, CLASS A IN SUBSTRUCTURE	CYS.			
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.			10
51875	SPECIAL CLASS A CONCRETE	SFT.			5
51030	REINFORCING STEEL	LBS.			
51032	EPOXY COATED REINFORCING STEEL	LBS.			2019
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	STEELPIPE CONDUIT (2 INCH)	LFT.			
51020	CLASS C, CONCRETE RAILING	CYS.			17.1
51014	CLASS A, CONCRETE RAILING	CYS.			
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 Y	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.			48
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.			
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.			
51821	SURFACE SEAL *	LSUM			1

* Estimated Quantity = 1430 Sft.
(See the Special Provisions)

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.			
51328	REMOVAL OF PRESENT STRUCTURE (PORTIONS)	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	REVETMENT RIPRAP	TON			
51372	DUMPED RIPRAP	TON			
52603	NO. 2 AGGREGATE(CLASS A,B OR C	TON			2
51374	PLASTIC FILTER CLOTH	SYS.			
51500	RESHAPING SPILL SLOPES	LSUM			
51863	FIELD DRILLED HOLES IN CONCRETE	EACH			
51864	FIELD DRILLED HOLES	EACH			
51866	RIVETS REMOVED	EACH			
51867	STRUCTURAL STEEL CUTTING	SIN.			
51833	CONCRETE SCARIFYING ⊕	SYS.			601
51837	BLASTING AND CLEANING	SYS.			366
51843	BRIDGE DECK PATCHING	SFT.			840
51401	FULL DEPTH PATCHING	SFT.			
51842	BRIDGE DECK OVERLAY	SYS.			366
51845	BRIDGE DECK SURFACE	SYS.			
51838	FINISHING AND CURING	SYS.			366
51846	ADDITIONAL BRIDGE DECK OVERLAY	CYS.			7
52412	REMOVAL OF BITUMINOUS OVERLAY	SYS.			
51874	OVERLAY DAM	SFT.			96

⊕ Includes 240 Sys. for Approach Scarifying.

APPROACH PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE		TOTAL QUANTITY
52370	CLEARING RIGHT-OF-WAY	LSUM			
02020	UNCLASSIFIED EXCAVATION	CYS.			
52240	COMMON 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.			
	PLAIN CONCRETE PAVEMENT(INCH)	SYS.			
52303	REMOVAL OF PAVEMENT	SYS.			11
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			
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 APPROACHES (SEE TABLE BELOW)	TON			475
52456	BITUMINOUS MATERIAL FOR TACK COAT	SYS.			635
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.			
52505	GUARD RAIL, TYPE B	LFT.			
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.			
52531	GUARD RAIL, TYPE H	LFT.			
52538	GUARD RAIL END TREATMENT TYPE I	EACH			1
52539	GUARD RAIL END TREATMENT TYPE II	EACH			
52496	RESET GUARD RAIL	LFT.			100
52535	REMOVAL OF GUARD RAIL	LFT.			40
52841	IMPACT ATTENUATOR, SAND BARREL ARRAY AND PAD	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			

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	PIPE: 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.			
52448	"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
52640	MAINTAINING TRAFFIC	LSUM			1
51335	TEMPORARY BRIDGE AND APPROACHES	LSUM			
52818	TEMPORARY CROSSOVER TYPE A	EACH			
52819	TEMPORARY CROSSOVER TYPE B	EACH			
53072	TEMPORARY TRAFFIC SIGNAL	LSUM			1
52536	TEMPORARY CONCRETE BARRIER	LFT.			910
52845	TEMPORARY IMPACT ATTENUATION DEVICE	EACH			
52340	CONSTRUCTION SIGNS TYPE A	EACH			20
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.			5264
52362	TEMPORARY PAVEMENT MARKING TYPE II	LFT.			2648
52821	FLASHING ARROW SIGN	WKS.			
53001	LINE, SOLID, WHITE, 4"	LFT.			1814
53010	LINE, SOLID, YELLOW, 4"	LFT.			
53035	LINE, SKIP, YELLOW, 4"	LFT.			256
53066	LINE, SKIP, WHITE, 5"	LFT.			
53059	THERMOPLASTIC LINE, SKIP, WHITE, 5"	LFT.			
53020	REMOVAL OF LINE, SOLID, WHITE, 4"	LFT.			1562
53030	REMOVAL OF LINE, SOLID, YELLOW, 4"	LFT.			
53041	REMOVAL OF LINE, SKIP, YELLOW, 4"	LFT.			160
53036	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			
	FIELD OFFICE	MOS.			

STR

BITUMINOUS MIXTURE FOR APPRS. (TONS)	
WEDGE	38
PVM'T. RELIEF JT.	11
WIDENING	379
SHOULDERS	47
TOTAL	475

REVISIONS	
DATE	ITEM
1-29-86	REV. 51821, 51833, 51837, 51842, 51838, 52470, 52496
1-29-86	ADDED 51020, 51328
1-29-86	DELETED BLAST CONCRETE RAIL, SPECIAL CONNECTION PLATE

SUMMARIZED D. Sheetz C'K'D S. STANICH
TRACED T. Hutton C'K'D D. SHEETZ

SF-223R4 MARCH 1984

BRIDGE ESTIMATE OF QUANTITIES

INDIANA DEPARTMENT OF HIGHWAYS

RUSH COUNTY

DATE 8-26-85

SUBMITTED FOR APPROVAL: [signature]

PROJECT: FR-082-2(4)
CONTRACT NO: B-15908
BRIDGE FILE: 52-70-4004A

SHEET 5 OF 16

STEPHEN E. STANICH REGISTERED No. 20830 STATE OF INDIANA PROFESSIONAL ENGINEER

#1742

TP 104