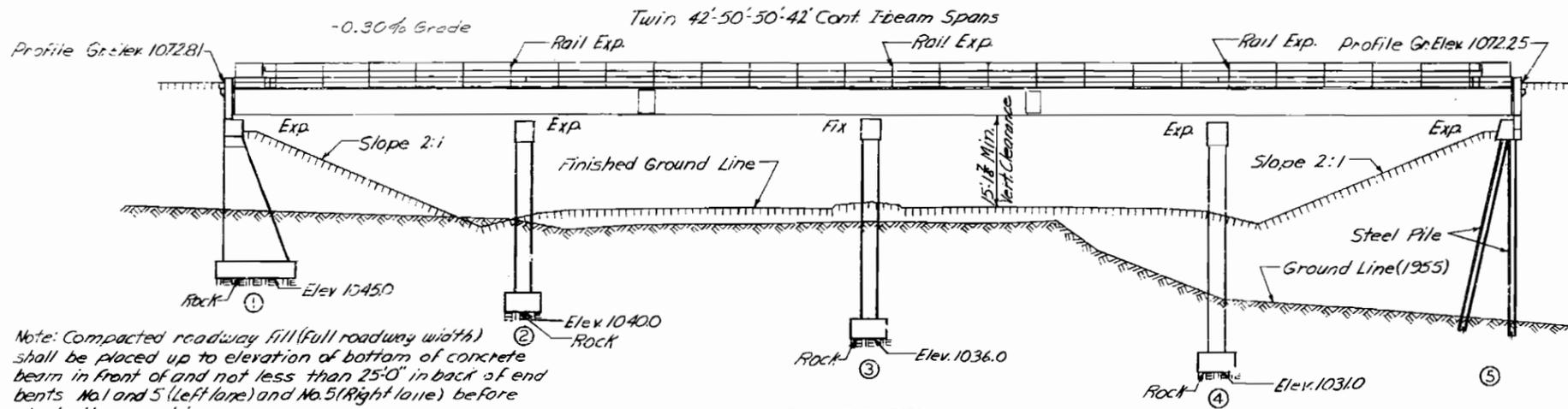


MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STA. IZ	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	100	



Note: Compacted roadway fill (full roadway width) shall be placed up to elevation of bottom of concrete beam in front of and not less than 25'-0" in back of end bents No. 1 and 5 (Left lane) and No. 5 (Right lane) before steel piles are driven.

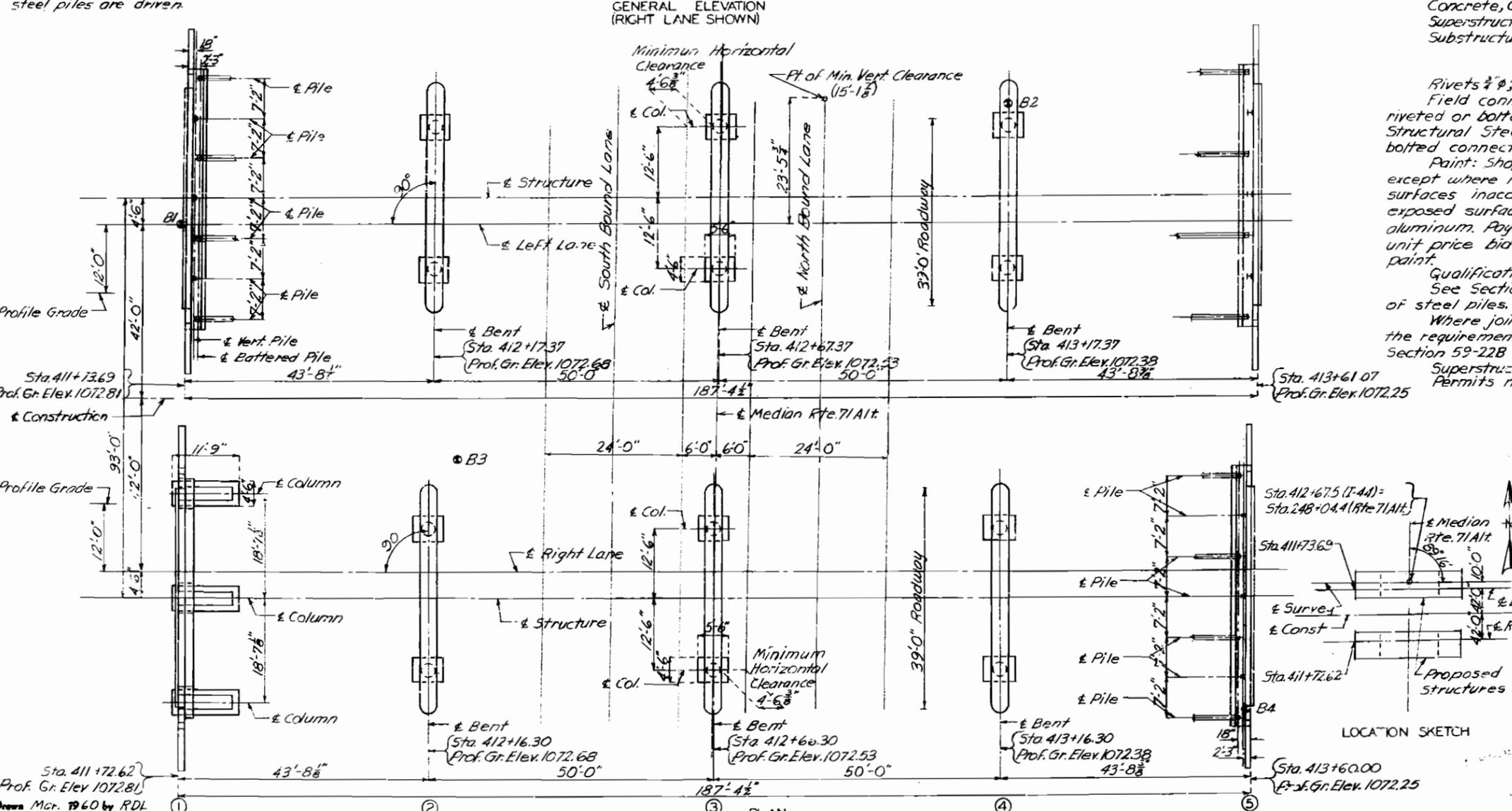
Note: All loose, shelly or disintegrated rock shall be removed and the footings placed on or into hard, solid, undisturbed rock. If soft rock or shale is encountered, the footings shall be carried at least 18" into and cast against vertical faces of same. Bearing of 10.5 tons/sq. ft. used in design.
 All piling shall be 10" bearing piles of 42" and shall conform with details and notes on sheet No. 4 of design plans.
 All steel pile required for this structure will be furnished by the State. (See Special Provisions)

All piles shall be driven to or into solid rock, boulders, shale, or cemented gravel; or to not less than full length authorized and to sustain a load of at least 37.0 ton per pile.
 All piles shall be driven with a steam hammer.

GENERAL NOTES

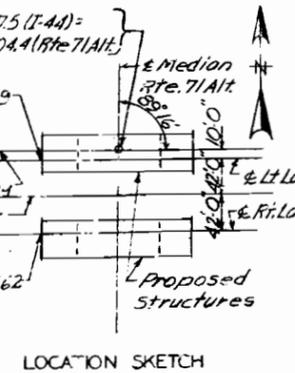
Design Specifications: A.A.S.H.O. 1957
 Loading: H20-516-44 (Modified 24,000 Tandem Axle) (15% Future Wearing Surface)
 Structural Steel Stress: 18,000%
 Reinforcing Steel Stress: 20,000%
 Concrete, Class "B" Stress: 4,200%
 Concrete, Class "BI" Stress: 4,600%
 Superstructure concrete shall be Class "BI" (air-entrained).
 Substructure concrete shall be Class "B" (air-entrained).

Rivets $\frac{3}{4}$ " ϕ ; holes $\frac{13}{16}$ " ϕ , except as noted.
 Field connections except as noted in handrail details may be riveted or bolted with high tensile bolts. Final pay weight for Fabricated Structural Steel will be based on the use of field rivets except for bolted connections specified for handrail.
 Paint: Shop, none; Field, contact surfaces of bolted field connections, except where high tensile bolts are used, one coat of red lead and surfaces inaccessible after erection three coats of red lead. All other exposed surfaces first coat red lead, second coat brown, third coat aluminum. Payment for cleaning and all painting will be made under unit price bid for painting. See Special Provisions for Aluminum paint.
 Qualification of welding operators will be required.
 See Section 22-9C of Standard Specifications for required painting of steel piles.
 Where joint filler is specified on the plans it shall conform with the requirements for Gray Rubber Compound Joints as given in Section 59-22B of the Standard Specifications.
 Superstructure deck to be waterproofed (See Special Provisions)
 Permits must be obtained for all trucks loads over legal lengths.



Sta. 411+72.62
 Prof. Gr. Elev. 1072.81
 Drawn Mar. 1960 by RDL
 Checked June 1960 by G.F.C.

Note: This drawing is not to scale. Follow dimensions.
 Note: Dimensions shown are horizontal dimensions
 Sheet No. 1 of 10



B.M. #57 Elev. 1041.27 Center South Hdwl. Culv.
 87' Lt. Sta. 414+98
BRIDGE OVER ROUTE 71 ALTERNATE
 STATE ROAD FROM EAST OF SCOTLAND TO EAST OF FIDELITY
 ABOUT 50 MILES S.E. OF ATLAS
 PROJECT NO. I-44-K(8) (RTE I-44: STA. 411-72.62 (RT. LANE)
 STA. 411-73.69 (LT. LANE)
 JASPER COUNTY

DESIGNED BY: R.A. Currie
 APPROVED BY: Rex M. Corlison
 DATE: 9-2-60

STDC-11077
 A-630

517

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	101	

COMPLETE BILL OF REINFORCING STEEL

Bending Sketches and Cutting Diagrams

LEFT LANE						RIGHT LANE					
No.	Size	Length	Mark	Location	Location	No.	Size	Length	Mark	Location	Location
Superstructure						Superstructure					
123	#4	13'-0"	U1	Bm		123	#4	13'-0"	U1	Bm	
156	#4	11'-3"	U2	"		156	#4	11'-3"	U2	"	
12	#4	3'-9"	U3	"		12	#4	3'-9"	U3	"	
6	#4	4'-6"	U4	"		6	#4	4'-6"	U4	"	
20	#5	4'-9"	C1	Curb	2	#4	65'-0"	V1	Col. Bt.2		
2	#4	28'-0"	V2	" Bt.3		2	#4	28'-0"	V2	" Bt.3	
2	#4	30'-0"	V3	" Bt.4		2	#4	30'-0"	V3	" Bt.4	
16	#5	22'-0"	C4	"	16	#1	24'-6"	V4	" Bt.2		
18	#1	25'-9"	V5	" Bt.3		18	#1	25'-9"	V5	" Bt.3	
16	#1	33'-3"	V6	" Bt.4		16	#1	33'-3"	V6	" Bt.4	
30	#2	19'-9"	W1	AB Wells		30	#2	19'-9"	W1	AB Wells	
End Bent No 5						End Bent No 5					
16	#6	25'-0"	H1	Bm		16	#6	25'-0"	H1	Bm	
4	#6	24'-0"	H2	"		4	#6	24'-0"	H2	"	
4	#6	23'-0"	H3	Bknll		4	#6	23'-0"	H3	Bknll	
6	#6	9'-3"	H4	Wing		6	#6	9'-3"	H4	Wing	
8	#6	24'-0"	H5	Bknll		8	#6	24'-0"	H5	Bknll	
2	#6	8'-0"	H6	Wing		2	#6	8'-0"	H6	Wing	
2	#6	9'-3"	H4	Wing		2	#6	9'-3"	H4	Wing	
2	#6	7'-6"	H7	"		2	#6	7'-6"	H7	"	
80	#5	6'-6"	V15	Bknll		80	#5	6'-6"	V15	Bknll	
7	#4	10'-0"	V16	"		7	#4	10'-0"	V16	"	
7	#4	7'-9"	V17	"		7	#4	7'-9"	V17	"	
10	#2	19'-9"	W1	AB Wells		10	#2	19'-9"	W1	AB Wells	
Int Bents No 2,3,4						Int Bents No 2,3,4					
48	#11	7'-6"	D1	Flg		48	#11	7'-6"	D1	Flg	
12	#11	18'-5"	G1	Bm		12	#11	18'-5"	G1	Bm	
30	#11	37'-9"	G2	"		30	#11	37'-9"	G2	"	
6	#6	40'-3"	G3	"		6	#6	40'-3"	G3	"	
48	#11	17'-0"	G4	"		48	#11	17'-0"	G4	"	
18	#6	6'-0"	G5	"		18	#6	6'-0"	G5	"	

6-HB-CUT 6

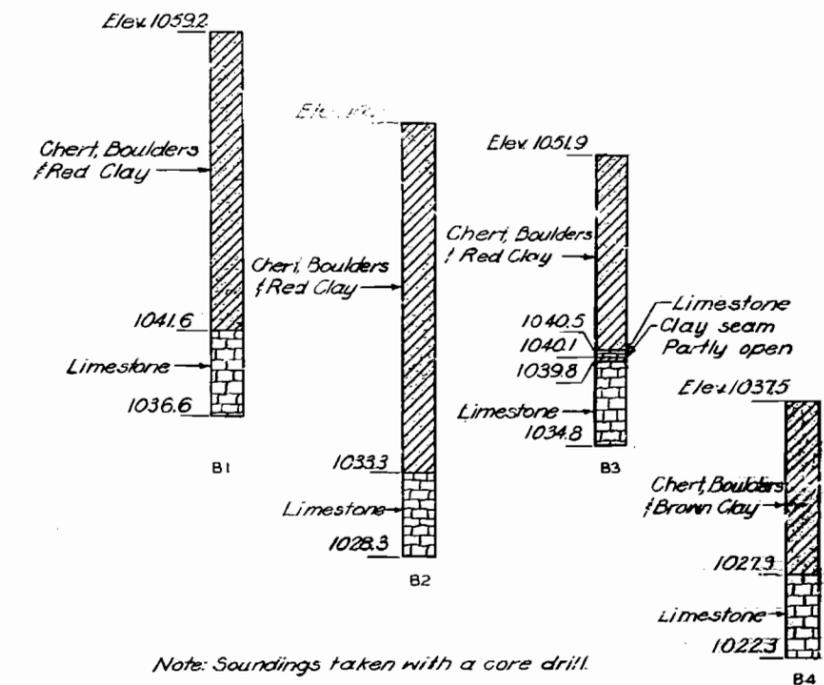
7-VI-CUT 7

17-VII-CUT 51

7-VI6-CUT 21

Bar	A	B	Bar	A	B
C1	2-2 1/2	15 1/2	U4	2-3 1/2	13 1/2
C2	16 1/2	14 1/2	U6	2-2 1/2	6 1/2
R2	5	3-4 1/2	U8	2-5 1/2	6 1/2
U3	2-9	6	V11	2-2 1/2	Varies

CI-C2-R2-U3-U4-U6-U8-VII



ESTIMATED QUANTITIES

Item	Substr.	Superstr.	Total
Class 1 Excavation for Structures	Cu.Yds. 530		530
Class B Concrete	Cu.Yds. 3348		3348
Class B1 Concrete		433.5	433.5
Reinforcing Steel	Lbs. 66,530	143,300	209,830
Fabricated Structural Steel		326,500	326,500
Fabricated Structural Steel (Bearings)		14,390	14,390
Steel Pile in Place (State Furnished)	Lin.Ft. 792		792
Painting	Ton	170.4	170.4

Note: All excavation for bridge will be paid for as Class 1 Excavation for structures

Drawn Apr. 1960 by P.W.D.
Checked June 1960 by Q.T.K.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 2 of 10

BRIDGE OVER ROUTE 71 ALTERNATE
STATE ROAD FROM EAST OF SCOTLAND TO EAST OF FIDELITY
ABOUT 50 MILES S.E. OF ATLAS
PROJECT NO. I-44-108(RTE. I-44) STA. 41+72.62(RT. LANE)
STA. 41+73.69(LT. LANE)

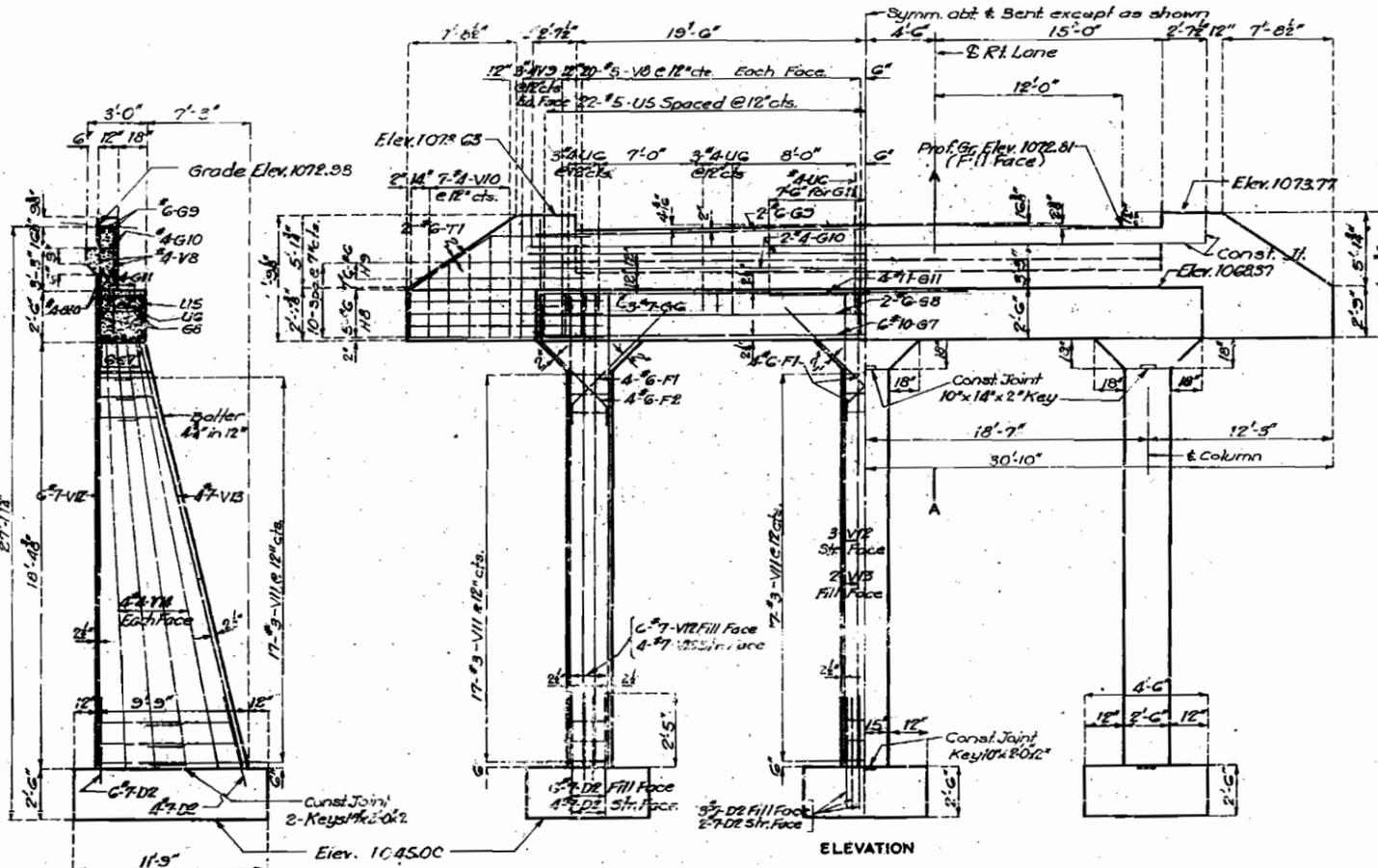
JASPER COUNTY

A-630

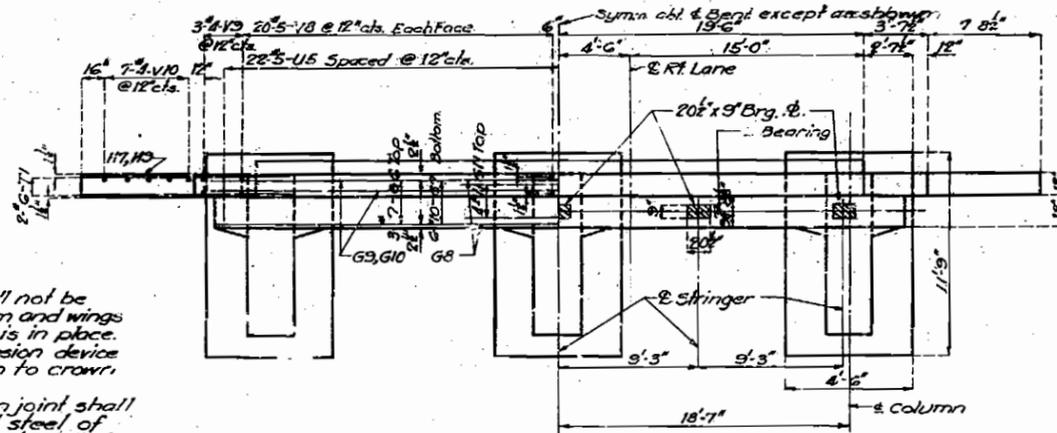
518

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	132	



SECTION A-A



PLAN
DETAILS OF END BENT NO. 1 RT. LANE

Note: Fill at end bent No. 1 shall not be carried above bottom of beam and wings until superstructure span (1-2) is in place.
 Top of backwall and expansion device for end bent No. 1 to conform to crown of roadway.
 Backwall above construction joint shall not be poured until structural steel of the expansion device has been installed and slab has been poured in adjacent span.

FINISHED

BRIDGE OVER ROUTE 71 ALTERNATE
 STATE ROAD FROM EAST OF SCOTLAND TO EAST OF FIDELITY.
 ABOUT 5.0 MILES S. E. OF ATLAS
 PROJECT NO. 1-44-1(18)(RTE. I-44) STA. 411+72.62 (RT. LANE)
 411+73.69 (LT. LANE)
 JASPER COUNTY

FINISHED

FINISHED

Assembled Mar. 1960 by R.D.L. & J.H.K.
 Checked June 1960 by G.F.K.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 3 of 10
 SEE FINAL PLANS BROWN-LINES

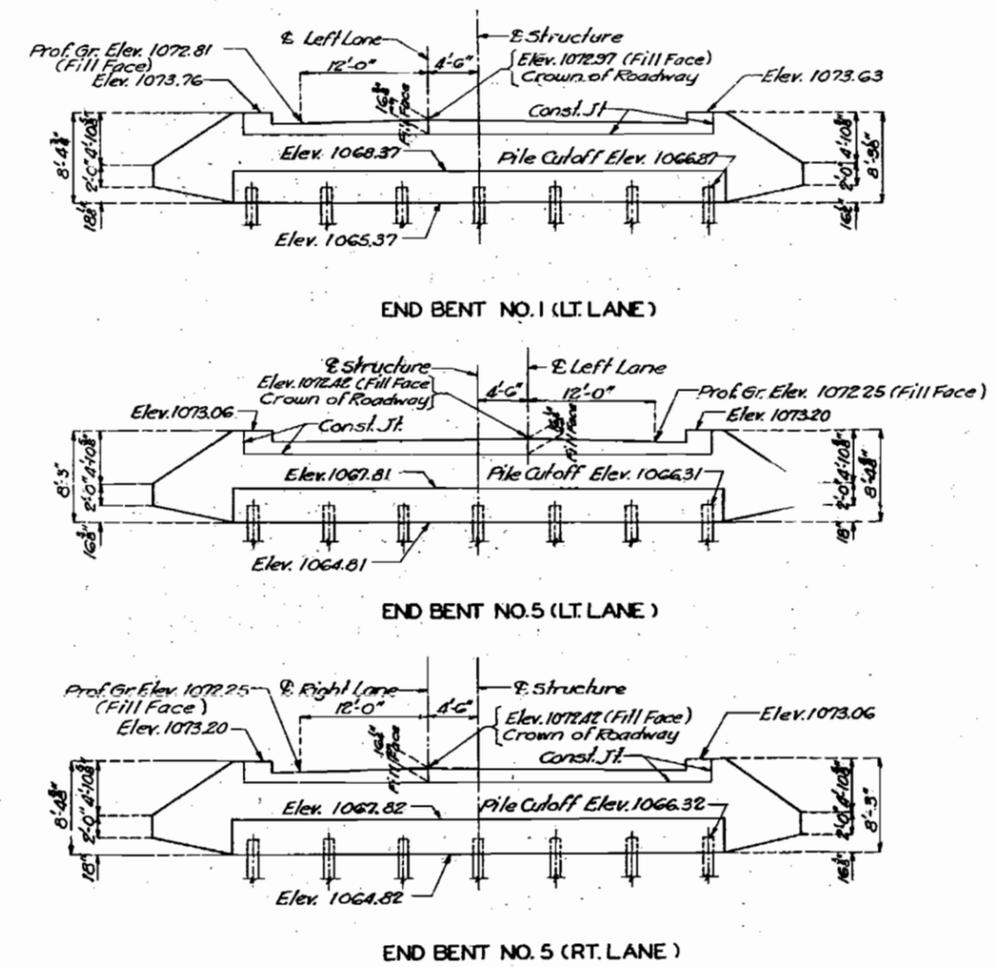
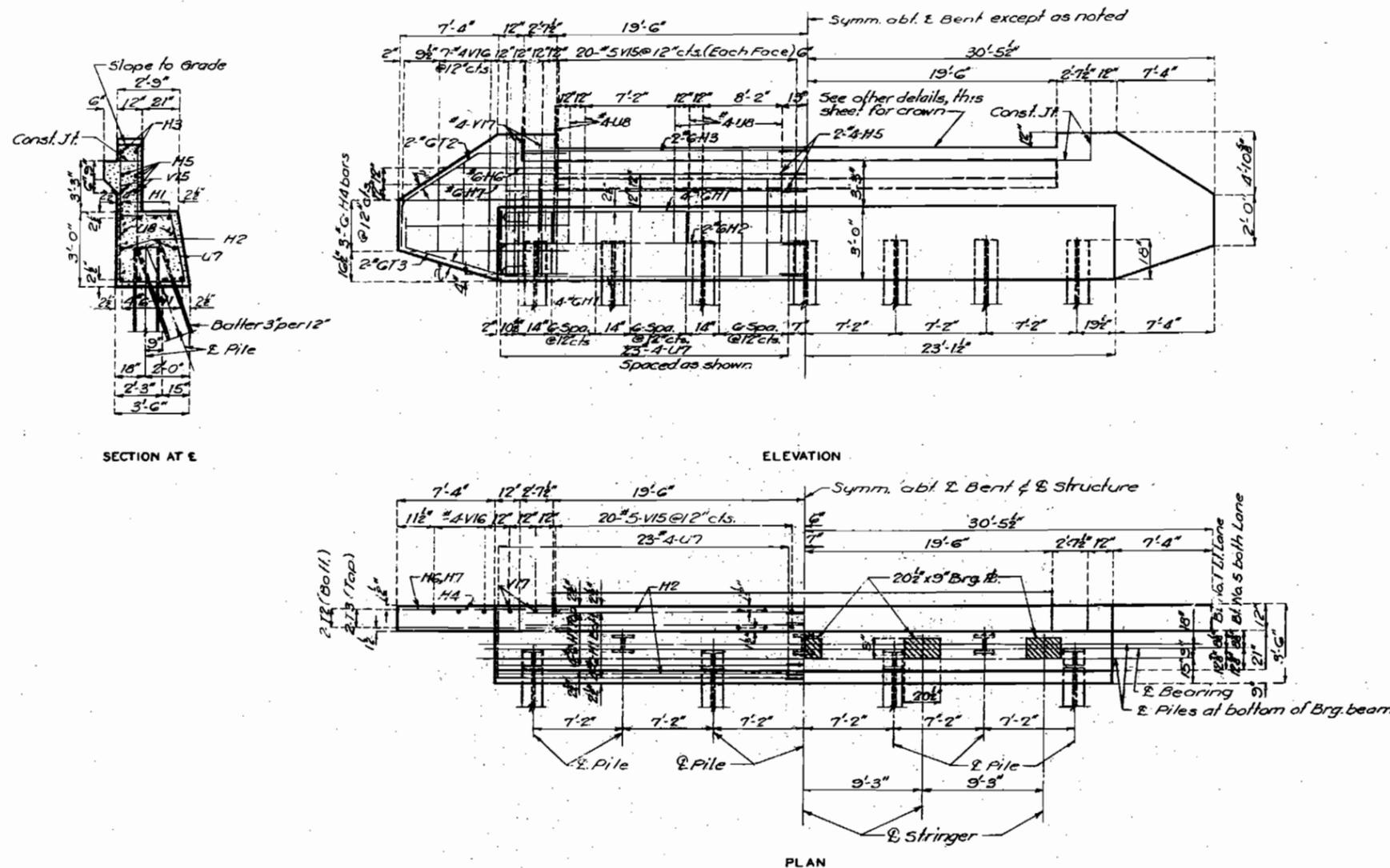
3 Col. End Square or 3/16" } H15, H20 H20-3/16

A-630

519

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO		19	103	

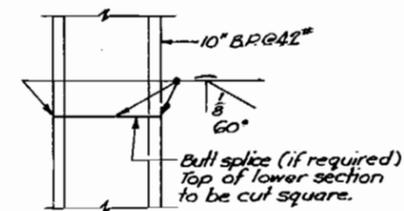


Note: Top of backwall and expansion device for end bent No. 1 and No. 5, left lane and No. 5 right lane to conform to crown of roadway slab.

Backwall above construction joint shall not be poured until the structural steel of the expansion device has been installed and slab has been poured in adjacent span.

Fill at end bent No. 1 and 5 left lane and bent No. 5 right lane shall not be carried above bottom of beam and wings until superstructure spans (1-2) and (3-4) are in place.

DETAILS OF END BENTS NO. 1 & 5 LT. LANE NO. 5 RT. LANE



DETAILS OF STEEL PILE SPLICE

BRIDGE OVER ROUTE 71 ALTERNATE

STATE ROAD FROM EAST OF SCOTLAND TO EAST OF FIDELITY ABOUT 5.0 MILES S.E. OF ATLAS

PROJECT NO. I-44-108 (RTE. I-44) STA. 4117262 (RT. LANE) 4117369 (LT. LANE)

JASPER COUNTY

Assembled Mar. 1960 by R.D.L. & J.H.K.
Checked June 1960 by G.P.K.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 4 of 10

NO CONSTRUCTION CHANGES

Shoved 1-5m. Conc. Cap Type End No Conc. Appr. Slab at End 51.

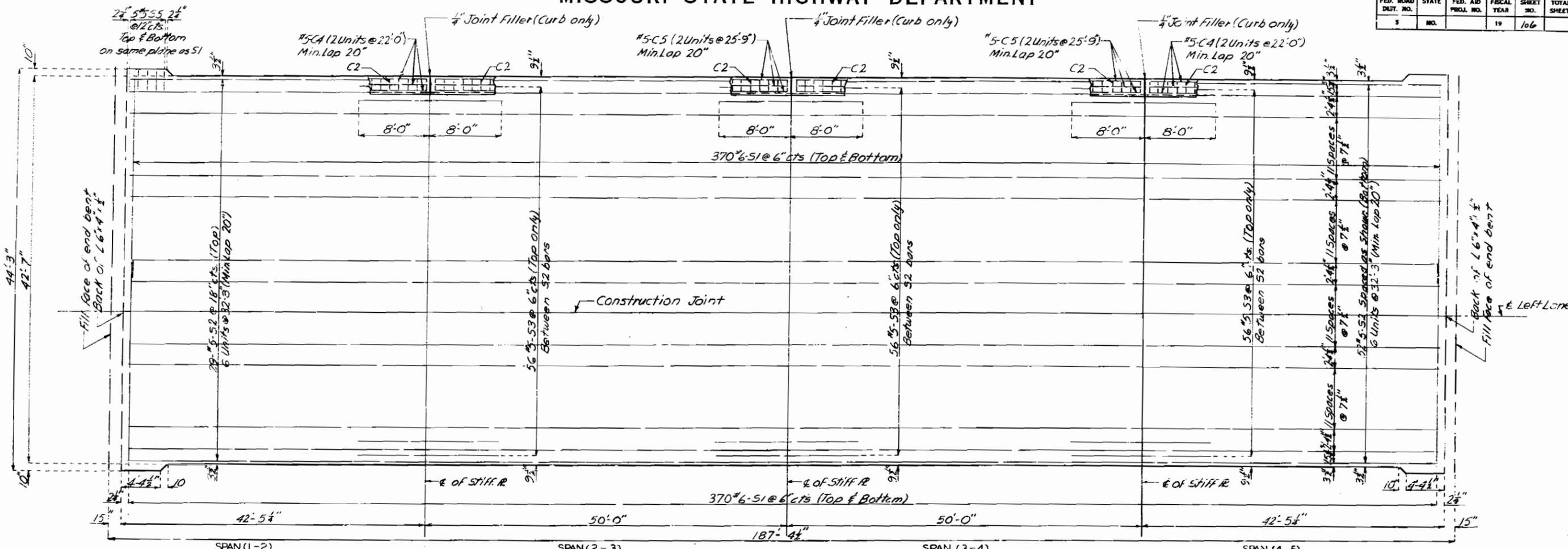
51 or Piles May 58

A-630

520

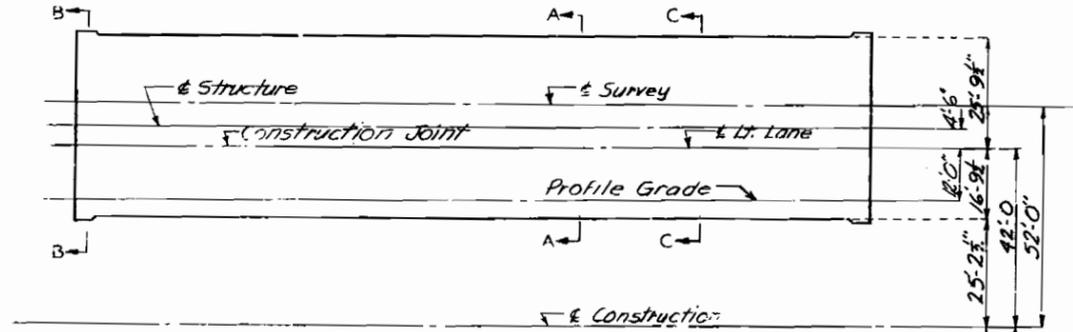
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE NO.	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5			19	106	



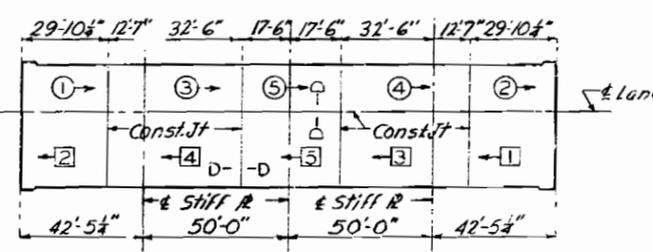
PLAN OF LEFT LANE SLAB SHOWING REINFORCING

Note: Longitudinal dimensions shown are parallel to grade at top of slab.



PLAN OF SLAB RIGHT & LEFT STRUCTURES

Note: See Sheet 8 of 10 For Sections A-A, B-B, and C-C



SLAB POURING SEQUENCE

Note: The slab shall be poured in sections of the lengths shown above and in the sequence indicated by the numbers 1 2 3 4 5 or, as an alternate, by the numbers 1 2 3 4 5. The separate pours shall progress in the direction indicated by the arrows. The above pouring sequence and the number of construction joints may be altered by the Engineer in order to obtain a more satisfactory surface finish. See Section 14-3E of the Supplemental Specifications.



SLAB HAUNCHING DIAGRAM

Note: The slab shall be cast parallel to grade and to a uniform thickness of 7 1/2". Dead load deflection, difference in depth of stringers, and crown shall be taken care of by haunching to stringers by the amounts shown above. This additional concrete is included in Estimated Quantities.

Finish each side of joint with 3/4" radius edging tool. Fill groove with joint seal.



SECTION D-D

Key to extend 6" width of roadway slab.

BRIDGE OVER ROUTE 71 ALTERNATE

STATE ROAD EAST OF SCOTLAND TO EAST OF FIDELITY ABOUT 50 MILES S.E. OF ATLAS PROJECT NO. I-44-1(18) (RTE I-44) STA. 411+72.62 (RT. LANE) STA. 411+70.69 (LT. LANE) JASPER COUNTY

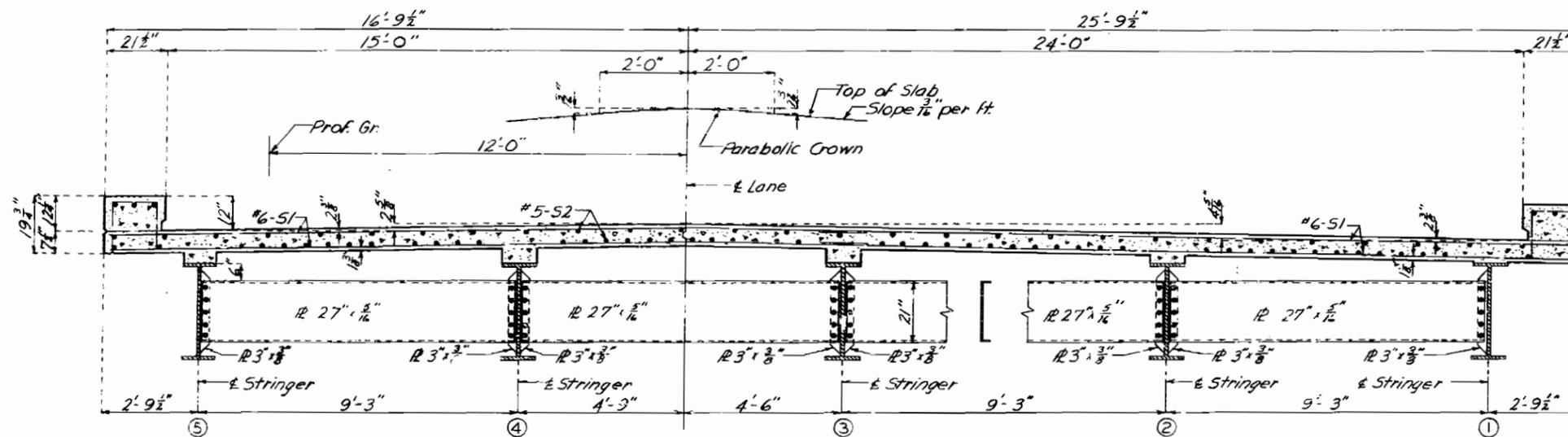
Drawn Mar 1960 by RDL Checked June 1960 by A.F.K.

Note: This drawing is not to scale. Follow dimensions.

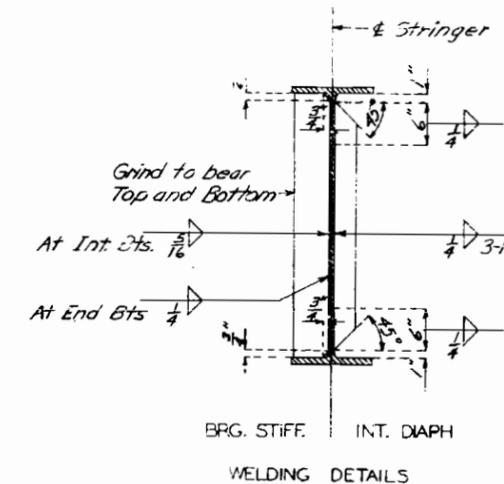
523

MISSOURI STATE HIGHWAY DEPARTMENT

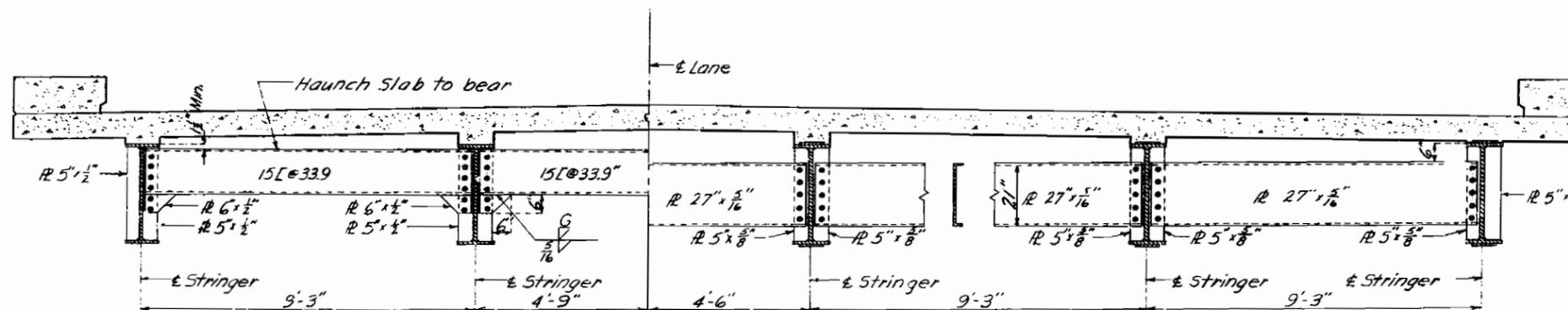
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	107	



SECTION A-A SHOWING INT. DIAPHRAGMS (See Sheet 7 of 10)



Note: Curbs to be cast independently of slab.
 Slab to be constructed to a uniform depth of not less than 7 1/2 or, if desired, bottom of slab may be built on chords between top of haunches at stringers.
 See Sheet 10 of 10 for details of curbs and handrail.



PART SECTION B-B NEAR END BENTS (See Sheet 7 of 10)

PART SECTION C-C SHOWING CROSS FRAMES (See Sheet 7 of 10)

524

Drawn Mar 1960 by RDL
 Checked June 1960 by A.F.K.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 8 of 10

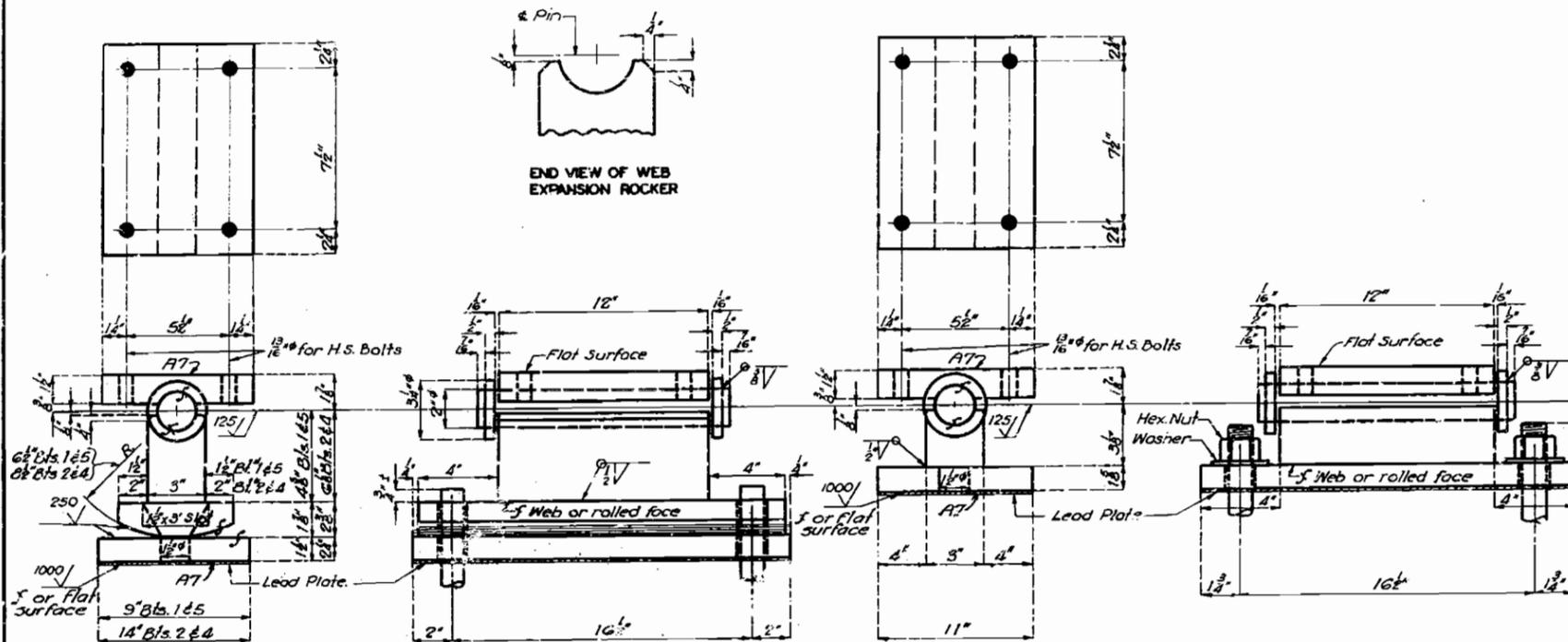
BRIDGE OVER ROUTE 71 ALTERNATE
 STATE ROAD FROM EAST OF SCOTLAND TO EAST OF FIDELITY
 ABOUT 5.0 MILES S.E. OF ATLAS
 PROJECT NO. I-44-105 (RT. I-44) STA. 41+72.62 (RT. LANE)
 STA. 41+73.69 (LT. LANE)
 JASPER COUNTY

A-630

NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

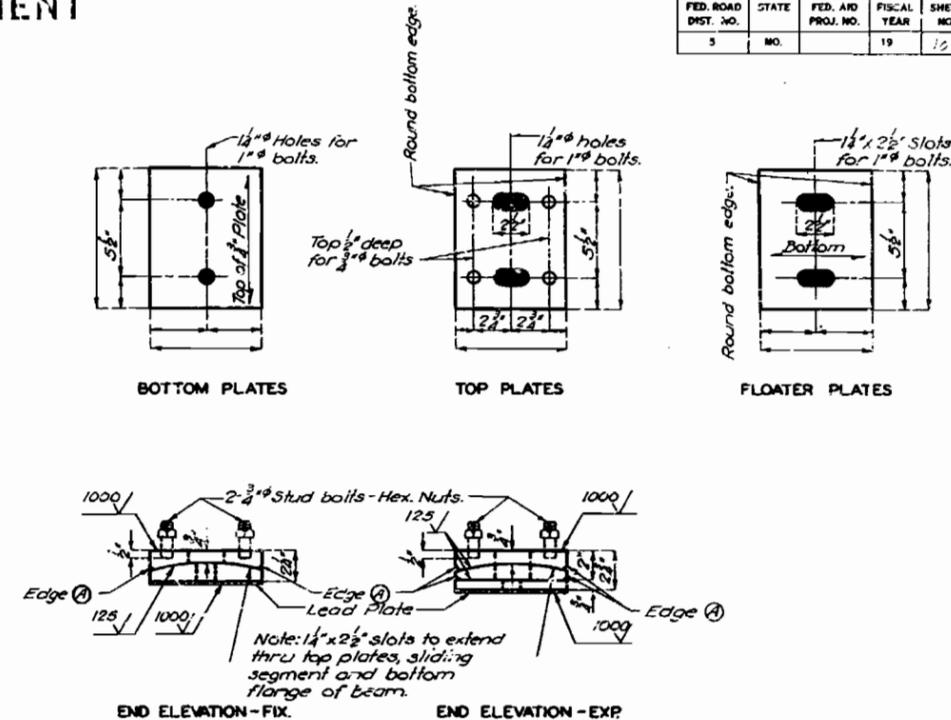
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	122	



EXPANSION 21 - Required Bts 145
20 Required Bts 244

FIXED 10 - Required Bts 3

TYPE 'D' BEARINGS



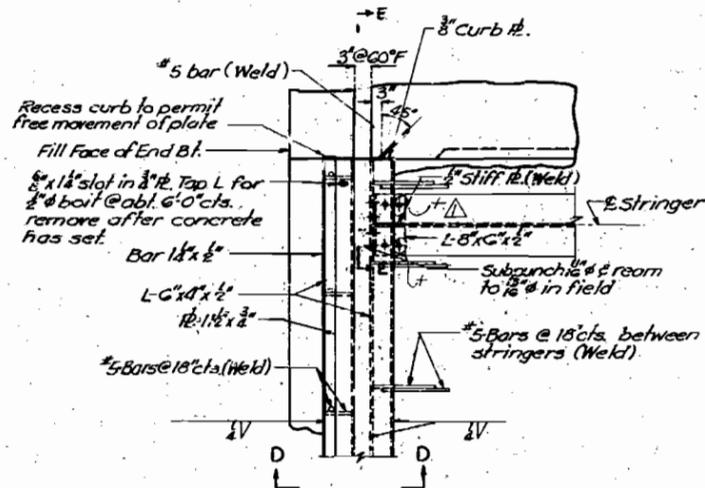
Required: Sets

Each set consists of 5 plates each.

TYPE 'C' BEARINGS

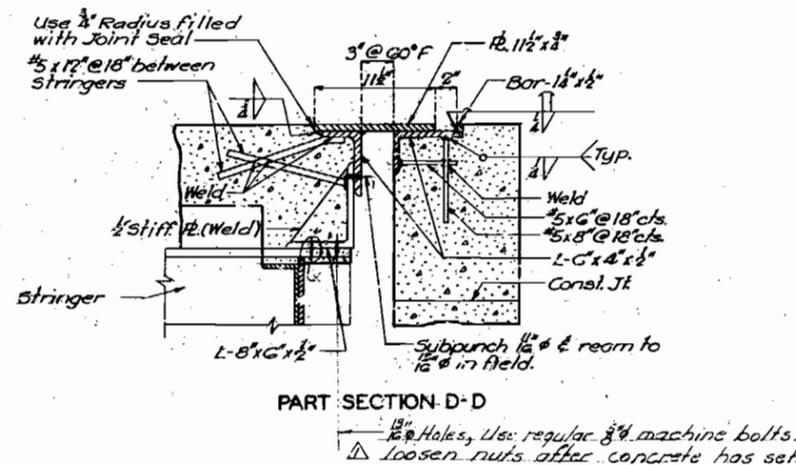
GENERAL NOTES:

Material for Type 'D' Bearings shall be A.S.T.M. A-373 Steel or A-7 meeting the carbon and manganese requirements of A-373, except as noted.
Material for Type 'C' Bearings shall be Gray Iron Alloy or Cast Steel but payment will be made as Gray Iron Alloy.
Material for Pins shall be A.I.S.I. C-1018.
Anchor Bolts for Type 'D' Bearings shall be 1 1/2" Swaged Bolts and shall extend 12" into concrete, with hexagon nuts and plain washers for fixed Bearing.
Anchor Bolts for Type 'C' Bearing shall be 1" Swaged Bolts, no heads or nuts and shall extend 10" into concrete. Top of Anchor Bolts shall be approximately 1/2" above top of Casting or Fill Plate.
Anchor Bolts and Studs for Type 'C' Castings will be paid for as Fabricated Structural Steel.
Lead Plates under bearings shall be approximately 1/8" thickness and weigh 8 1/4 sq. Foot. Cost of lead plates shall be included in price bid for other items.
Edge (A) to be rounded. (1/16" to 1/8" Radius)

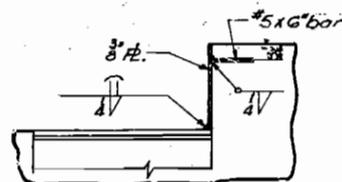


Note: Expansion Device to be Fabricated in one section and shall be bent to conform to crown of roadway
5 bars to expansion device shall be structural grade. Approved stud welded anchors may be used in lieu of 5 bars shown.

DETAILS OF EXPANSION DEVICE



PART SECTION D-D



CURB PLATE SECTION E-E

BRIDGE OVER ROUTE 71 ALTERNATE

STATE ROAD FROM EAST OF SCOTLAND TO EAST OF FIDELITY
ABOUT 5.0 MILES S. E. OF ATLAS
PROJECT NO. I-44-1(18) (RTE. I-44) STA. 411+72.62 (RT. LANE)
411+73.00 (LT. LANE)

JASPER COUNTY

FINISHED

FINISHED

Assembled Mar. 1960 by R.D.L. & J.M.K.
Checked June 1960 by G.Z.K.

Note: This drawing is not to scale. Follow dimensions

Sheet No. 9 of 10

Revised 1-5-61

A-630

NO CONSTRUCTION CHANGES

525

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	100	

Note: All loose shelly or disintegrated rock was removed and the footings placed on hard solid undisturbed rock.

All piling was 10" bearing piles at 42" and did conform with details and notes on sheet No. 4 of design plans.
All steel piling required for this structure was furnished by the State.

All piles were driven to or into solid rock, boulders, shale, or cemented gravel.

All piles were driven with a steam hammer.

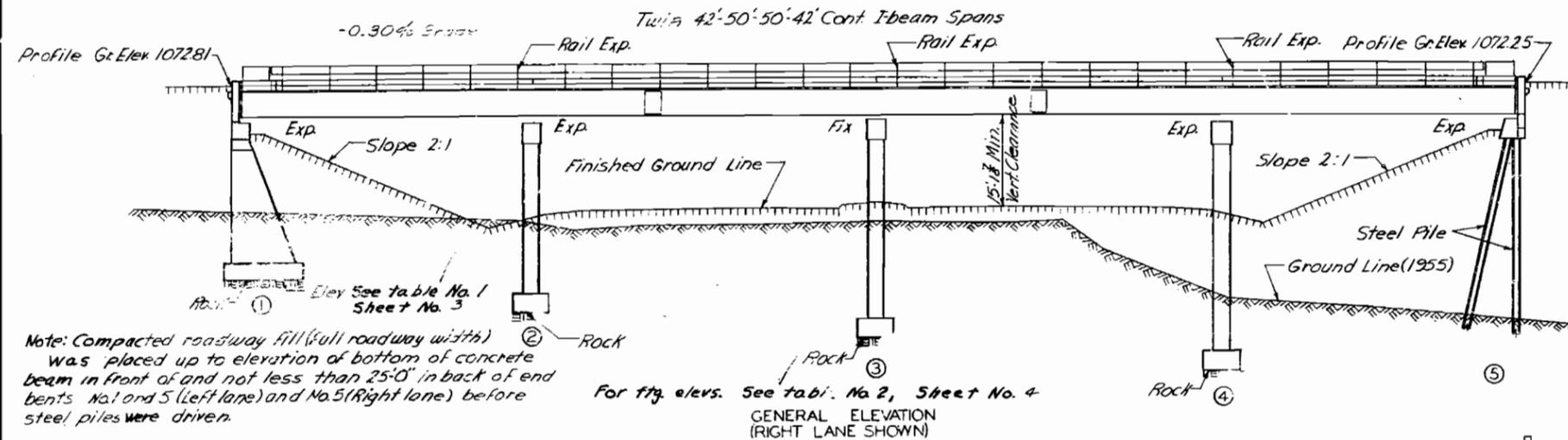
GENERAL NOTES

Design Specifications: A.A.S.H.O. 1957
Loading: H20-516-44 (Modified 24,000 Tandem Axle) (15% Future Wearing Surface)
Structural Steel Stress: 18,000%
Reinforcing Steel Stress: 20,000%
Concrete, Class "B" Stress: 1,200%
Concrete, Class "B1" Stress: 1,600%
Superstructure concrete was Class "B1" (air-entrained)
Substructure concrete was Class "B" (air-entrained).

Bolts 3/4"; holes 1 1/8", except as noted.
Field connections except as noted in handrail details were bolted with high tensile bolts. Final pay weight for fabricated structural steel was based on the use of field rivets except for bolted connections specified for handrail.
Paint: Shop, none; field, contact surfaces of bolted field connections, except where high tensile bolts were used, one coat of red lead and surfaces inaccessible after erection three coats of red lead. All other exposed surfaces first coat red lead, second coat brown, third coat aluminum. Payment for cleaning and all painting was made under unit price bid for painting.

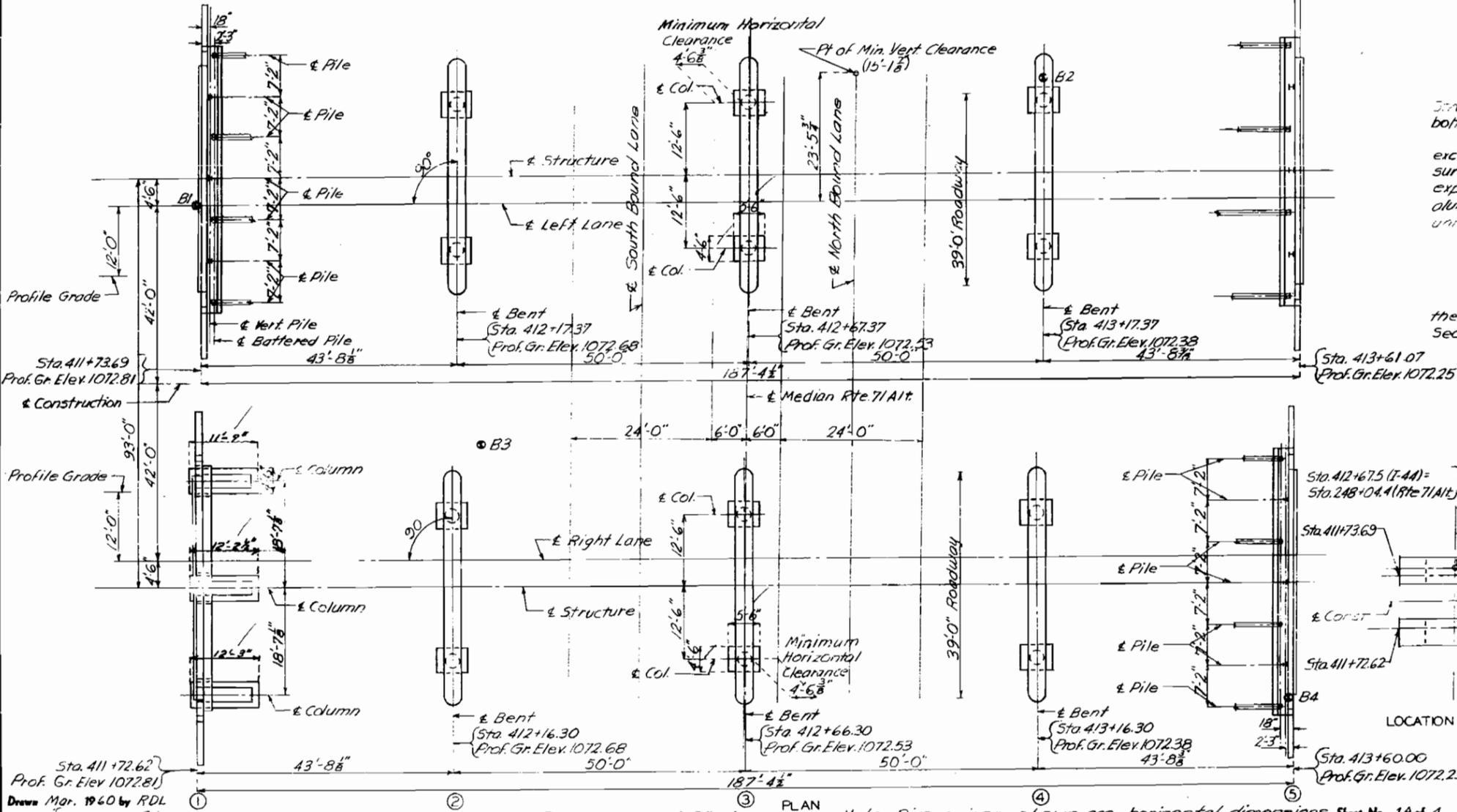
Qualification of welding operators was required.

Where joint filler was specified on the plans it did conform with the requirements for Gray Rubber Compound Joints as given in Section 59-22B of the Standard Specifications.
Superstructure deck was waterproofed.
Permits were obtained for all trucks loads over legal lengths.



Note: Compacted roadway fill (full roadway width) was placed up to elevation of bottom of concrete beam in front of and not less than 25'-0" in back of end bents No. 1 and 5 (left lane) and No. 5 (right lane) before steel piles were driven.

For fly elevs. See tabl. No. 2, Sheet No. 4
GENERAL ELEVATION (RIGHT LANE SHOWN)



B.M. # 1 in center of Lt. Wing of Bent #5
Sta. 413+61.0 Elev. 1073.07
B.M. # 2 in center of Lt. Wing of Bent #1
Sta. 411+73.7 Elev. 1073.64

BRIDGE OVER ROUTE 71 ALTERNATE
STATE ROAD FROM EAST OF SCOTLAND TO EAST OF FIDELITY ABOUT 50 MILES S.E. OF ATLAS
PROJECT NO. I-44-11875 (RTE I-44) STA. 411+72.62 (RT. LANE) STA. 411+73.69 (LT. LANE)
JASPER COUNTY

FINISHED SUBMITTED BY R.A. Currie DATE 9-2-60
FINISHED APPROVED BY R.M. Cochran DATE 9-2-60

Sta. 411+72.62 Prof. Gr. Elev. 1072.81
Drawn Mar. 1960 by RDL
Checked June 1960 by G.M.

Note: This drawing is not to scale. Follow dimensions.
Note: Dimensions shown are horizontal dimensions
Sheet No. 1A of 4

FINAL PLANS

STDC-110R7
A-630

527

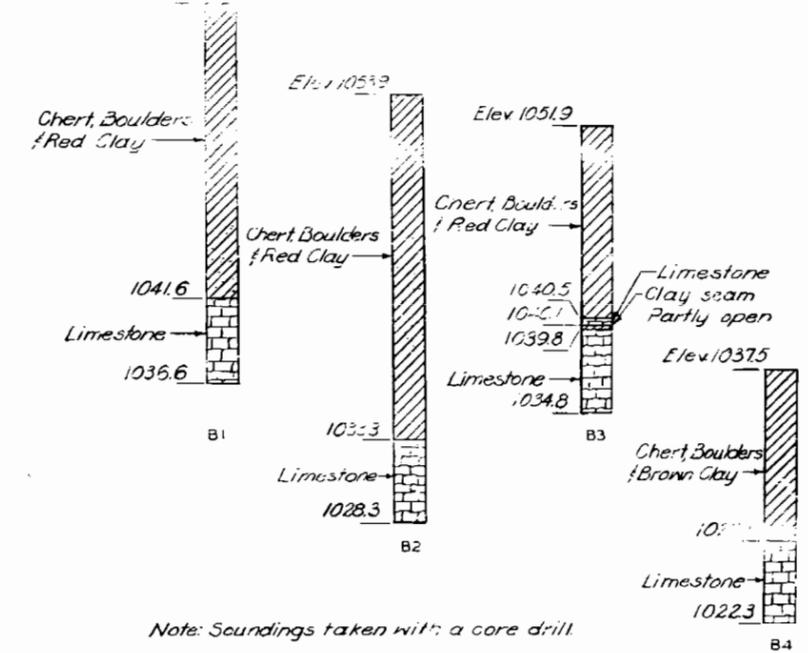
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	101	

COMPLETE BILL OF REINFORCING STEEL

Bending Sketches and Cutting Diagrams

LEFT LANE						RIGHT LANE					
No.	Size	Length	Mark	Location	Location	No.	Size	Length	Mark	Location	Location
Superstructure						Superstructure					
486	#5	32'-3"	S2	Slab	123 #4 13'-0" U1 Bm	1480	#6	22'-3"	S1	Slab	48 #11 7'-6" D1 Ftg
168	#5	16'-0"	S3	"	156 #4 11'-3" U2 "	486	#5	32'-3"	S2	"	12 #11 16'-3" G1 Beam
40	#5	2'-6"	S5	"	12 #4 3'-9" U3 "	168	#5	16'-0"	S3	"	30 #11 37'-9" G2 "
1480	#6	22'-3"	S1	"	6 #4 4'-6" U4 "	40	#5	2'-6"	S5	"	6 #6 40'-3" G3 "
20	#5	4'-9"	C1	Curb	2 #4 659'-0" V1 Col Bt 2	20	#5	4'-9"	C1	Curb	48 #11 17'-0" G4 "
348	#5	3'-9"	C2	"	2 #4 78'-0" V2 " Bt 3	348	#5	3'-9"	C2	"	18 #6 8'-0" G5 "
4	#5	6'-0"	C3	"	2 #4 904'-0" V3 " Bt 4	4	#5	6'-0"	C3	"	2 #4 904'-0" V3 " Bt 4
24	#5	22'-0"	C4	"	16 #11 24'-6" V4 " Bt 2	24	#5	22'-0"	C4	"	123 #4 13'-0" U1 "
24	#5	25'-9"	C5	"	16 #11 28'-9" V5 " Bt 3	24	#5	25'-9"	C5	"	166 #4 11'-3" U2 "
24	#5	3'-9"	R1	End Post	16 #11 33'-3" V6 " Bt 4	24	#5	3'-9"	R1	End Post	12 #4 3'-9" U3 "
20	#5	7'-6"	R2	"	30 #2 19'-9" W1 AB Wells	20	#5	7'-6"	R2	"	6 #4 4'-6" U4 "
End Bent No 5						Substructure					
16	#6	25'-0"	H1	Bm	2 #4 25'-0" H1 Bm	16	#6	25'-0"	H1	Bm	16 #11 24'-6" V4 " Bt 2
4	#6	24'-0"	H2	"	4 #6 24'-0" H2 "	4	#6	24'-0"	H2	"	4 #6 24'-0" H2 "
16	#6	25'-0"	H1	Bm	6 #6 9'-3" H4 Wing	16	#6	8'-0"	F1	Fnch	16 #11 28'-9" V5 " Bt 3
4	#6	24'-0"	H2	"	8 #4 24'-0" H5 Bknll	4	#6	8'-0"	F2	"	16 #11 33'-3" V6 " Bt 4
4	#6	23'-0"	H3	Bknll	2 #6 6'-0" H6 Wing	8	#6	8'-0"	F2	"	30 #2 19'-9" W1 AB Wells
6	#6	9'-3"	H4	Wing	2 #6 7'-6" H7 "	3	#7	44'-3"	G6	Beam	2 #4 659'-0" V1 Col Bt 2
8	#4	24'-0"	H5	Bknll	4 #6 13'-0" T2 Wing	6	#10	42'-3"	G7	"	2 #4 78'-0" V2 " Bt 3
2	#6	6'-0"	H6	Wing	4 #6 11'-0" T3 "	2	#6	42'-3"	G7	"	4 #6 24'-0" H2 "
2	#6	7'-6"	H7	"	80 #5 6'-6" V15 Bknll	8	#4	22'-9"	G10	"	4 #6 23'-0" H3 Bknll
4	#6	13'-0"	T2	Wing	7 #4 10'-0" V16 "	4	#11	15'-0"	G11	Beam	6 #6 9'-3" H4 Wing
4	#6	11'-0"	T3	"	6 #4 7'-9" V17 "	4	#11	15'-0"	G11	Beam	8 #4 24'-0" H5 Bknll
80	#5	6'-6"	V15	Bknll	6 #4 7'-9" V17 "	6	#6	18'-9"	H9	"	2 #6 6'-0" H6 Wing
7	#4	10'-0"	V16	"	10 #2 19'-9" W1 AB Wells	4	#6	14'-3"	T1	Wing	2 #6 7'-6" H7 "
6	#4	7'-9"	V17	"	46 #4 12'-0" U7 Bm	4	#6	14'-3"	T1	Wing	4 #6 14'-3" T2 Wing
46	#4	12'-0"	U7	Bm	14 #4 3'-6" U8 "	14	#4	3'-3"	U6	"	4 #6 11'-0" T3 "
14	#4	3'-6"	U8	"	10 #2 19'-9" W1 AB Wells	80	#5	6'-6"	V8	Bknll	14 #4 3'-6" U8 "
10	#2	19'-9"	W1	AB Wells	48 #11 7'-6" D1 Ftg	12	#4	7'-6"	V9	"	7 #4 10'-0" V16 "
48	#11	7'-6"	D1	Ftg	12 #4 10'-3" V10 Wing	7	#4	10'-3"	V10	Wing	18 #7 20'-3" V12 "
12	#11	16'-3"	G1	5m	51 #3 18'-6" V11 Column	18	#7	20'-3"	V12	"	6 #4 7'-9" V17 "
30	#11	37'-9"	G2	"	12 #7 21'-0" V13 "	12	#7	21'-0"	V13	"	10 #2 19'-9" W1 AB Wells
6	#6	40'-3"	G3	"	24 #4 18'-3" V14 "	24	#4	18'-3"	V14	"	10 #2 19'-9" W1 AB Wells
48	#11	17'-0"	G4	"	10 #2 19'-9" W1 AB Wells	10	#2	19'-9"	W1	AB Wells	30 #7 4'-9" D2 Ftg
18	#6	8'-0"	G5	"							



825

FINAL QUANTITIES

Item	Substr.	Superstr.	Total
Class I Excavation for Structures	Cu Yds. 506		506
Class B Concrete	Cu Yds. 337		337
Class B1 Concrete	Cu Yds. 433.5		433.5
Reinforcing Steel	Lbs. 66,530	143,300	209,830
Fabricated Structural Steel	Lbs. 326,100		326,100
Fabricated Structural Steel (Bearings)	Lbs. 13,590		13,590
Steel Pile in Place (State furnished)	Lin Ft. 634		634
Painting	Ton 169.8		169.8
Class I Excavation Below Plan	18.5		18.5
Foundation Test Holes	166.8		166.8

Note: All excavation for bridge will be paid for as Class I Excavation for structures

Drawn Apr. 1960 by R.V.D.
Checked J. K. 1960 by Q.F.K.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 2A.14

FINISHED

BRIDGE OVER ROUTE 71 ALTERNATE

STATE ROAD FROM EAST OF SCOTLAND TO EAST OF FIDELITY
ABOUT 50 MILES SE OF ATLAS
PROJECT NO. I-44-RURPTE. I-44 STA. 41+72.62 (RT LANE)
STA. 41+73.69 (LT LANE)

JASPER COUNTY FINISHED

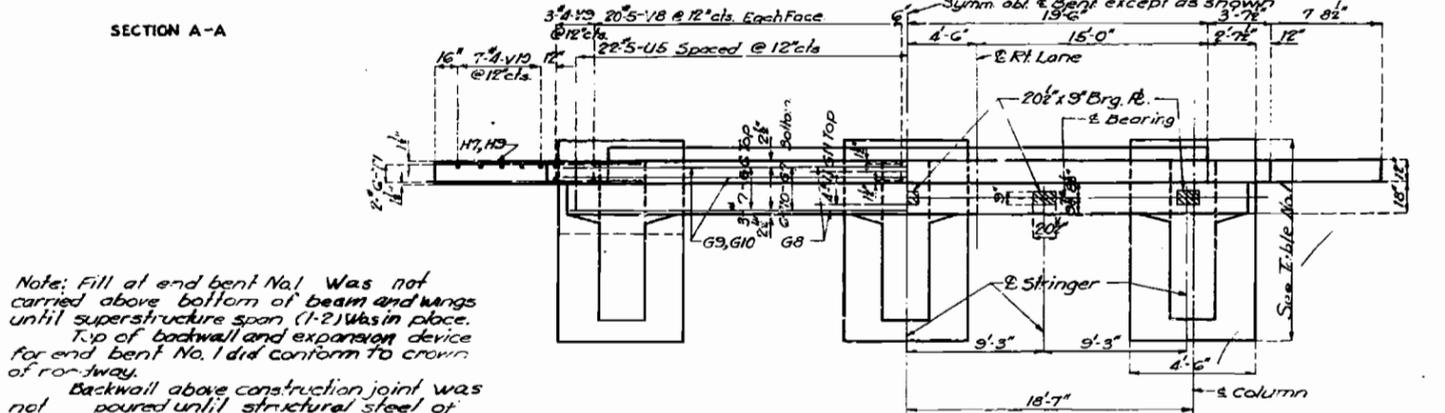
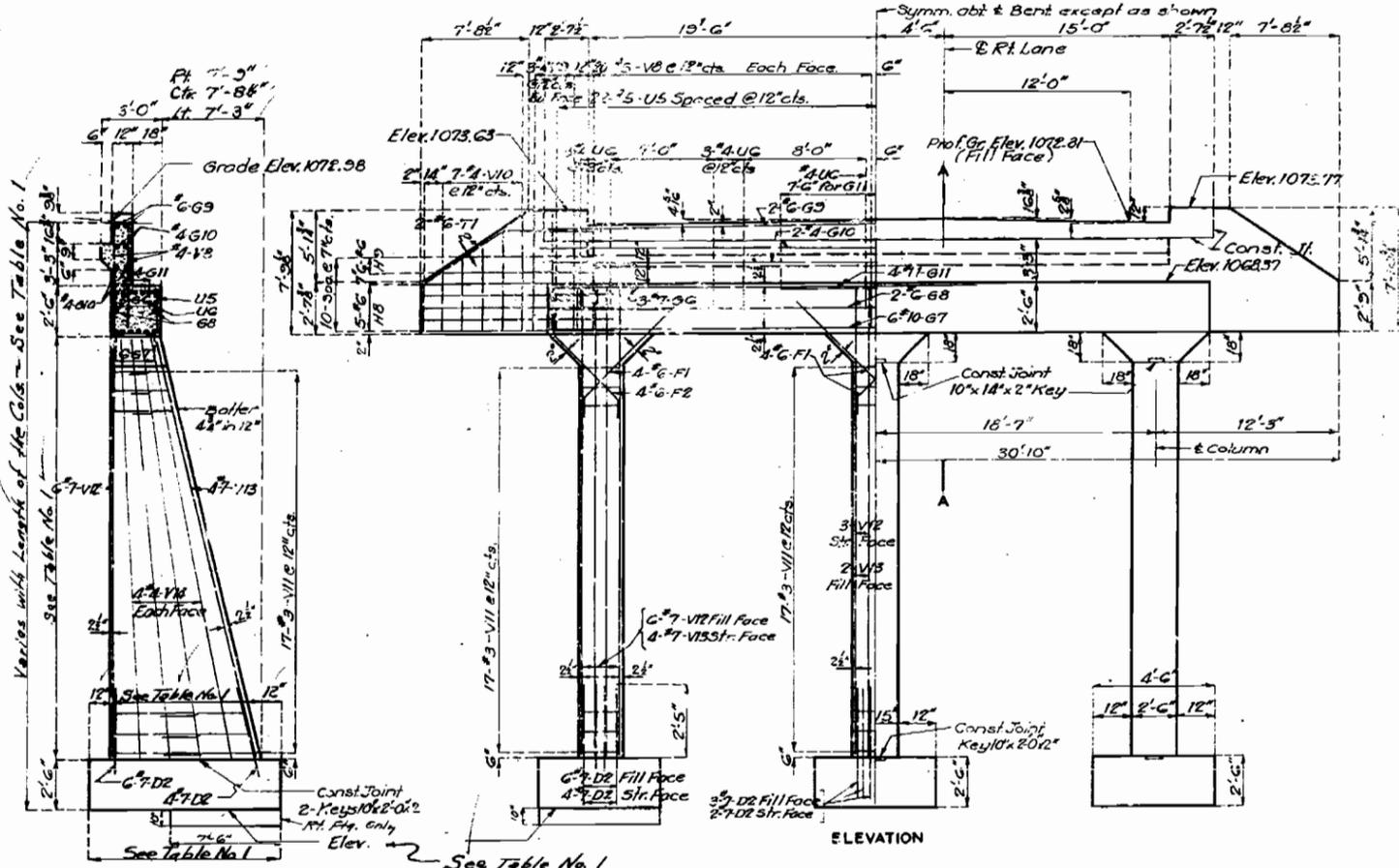
FINISHED

FINAL PLANS

A-630

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO		19	11	15



Note: Fill at end bent No. 1 was not carried above bottom of beam and wings until superstructure span (1-2) was in place. Top of backwall and expansion device for end bent No. 1 did conform to crown of roadway. Backwall above construction joint was not poured until structural steel of the expansion device was installed and slab had been poured in adjacent span.

TABLE NO. 1

Location	Elev	Length	Width	Depth	Total Lengths
Rt. Flg.	1043.6'	12'-3"	4'-6"	2'-6"	Right
Rt. Col.		10'-9 1/2"	10'-3"	2'-6"	
					22'-4 1/2"
Cl. Flg.	1043.8'	12'-2 1/2"	4'-6"	2'-6"	Center
Cl. Col.		10'-6 3/4"	10'-2 3/4"	2'-6"	
					20'-2 1/4"
Lt. Flg.	1045.0'	10'-9"	4'-6"	2'-6"	Left
Lt. Col.		10'-4 3/4"	9'-0"	2'-6"	
					27'-11 1/4"

DETAILS OF END BENT NO. 1 RT. LANE

6.29

Assembled Mar. 1960 by R.D.L. & J.H.K.
Checked June 1960 by G.F.K.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 3A of 4

BRIDGE OVER ROUTE 11 ALTERNATE
STATE ROAD FROM EAST OF SCOTLAND TO EAST OF FIDELITY.
ABOUT 5.0 MILES S. E. OF ATLAS
PROJECT NO. I-44-10015 (RTE. I-44) STA. 411+72.62 (RT. LANE)
411+73.69 (LT. LANE)
JASPER COUNTY FINISHED

A-630

FINAL PLANS

3 Col. End Spacing on 3/4" MIS. N20 N187-34E

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	104	

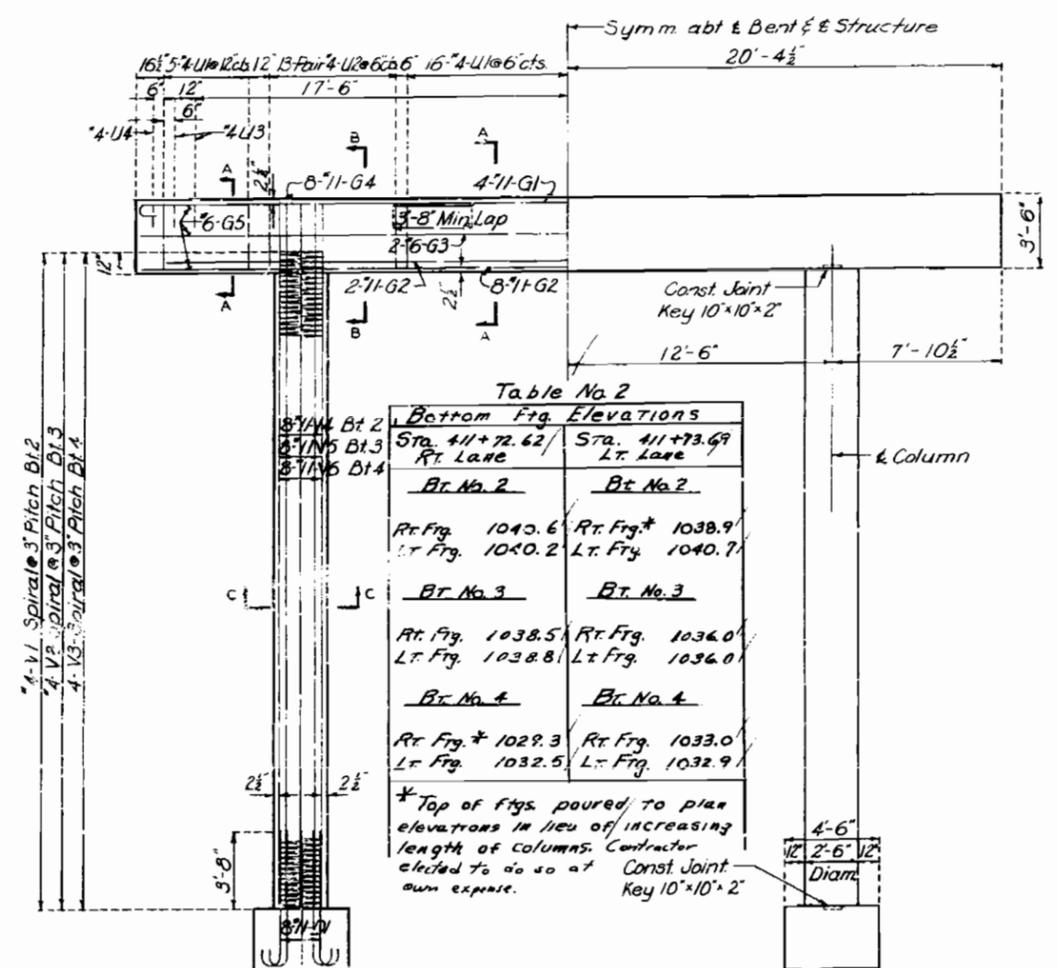


Table No. 2
Bottom Ftg. Elevations

Sta. 411+72.62 Rt. Lane	Sta. 411+73.69 Lt. Lane
Bt. No. 2	Bt. No. 2
Rt. Ftg. 1040.6 Lt. Ftg. 1040.2	Rt. Ftg. 1038.9 Lt. Ftg. 1040.7
Bt. No. 3	Bt. No. 3
Rt. Ftg. 1038.5 Lt. Ftg. 1038.8	Rt. Ftg. 1036.0 Lt. Ftg. 1036.0
Bt. No. 4	Bt. No. 4
Rt. Ftg. 1029.3 Lt. Ftg. 1032.5	Rt. Ftg. 1033.0 Lt. Ftg. 1032.9

* Top of fgs. poured to plan elevations in lieu of increasing length of columns. Contractor elected to do so at Const. Joint Key 10" x 10" x 2" own expense.

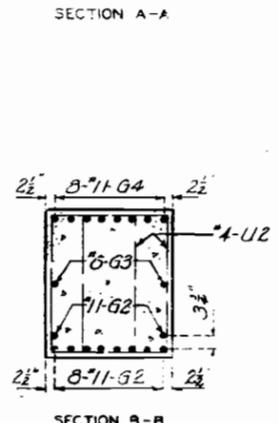
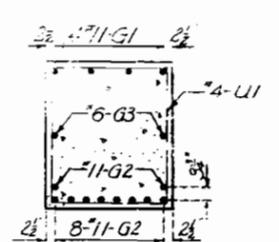
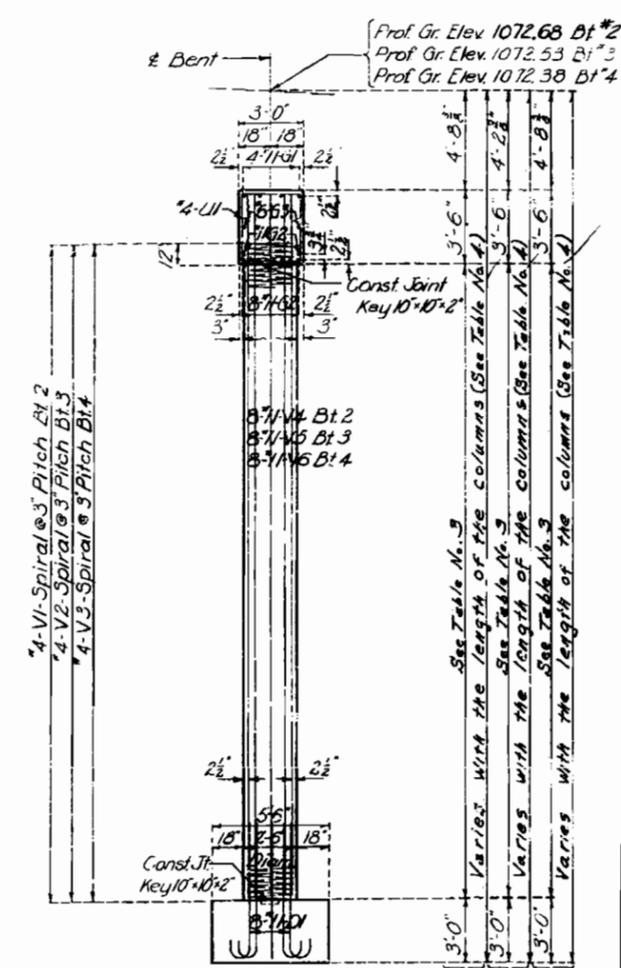
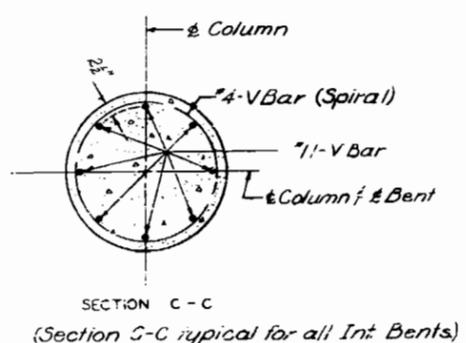
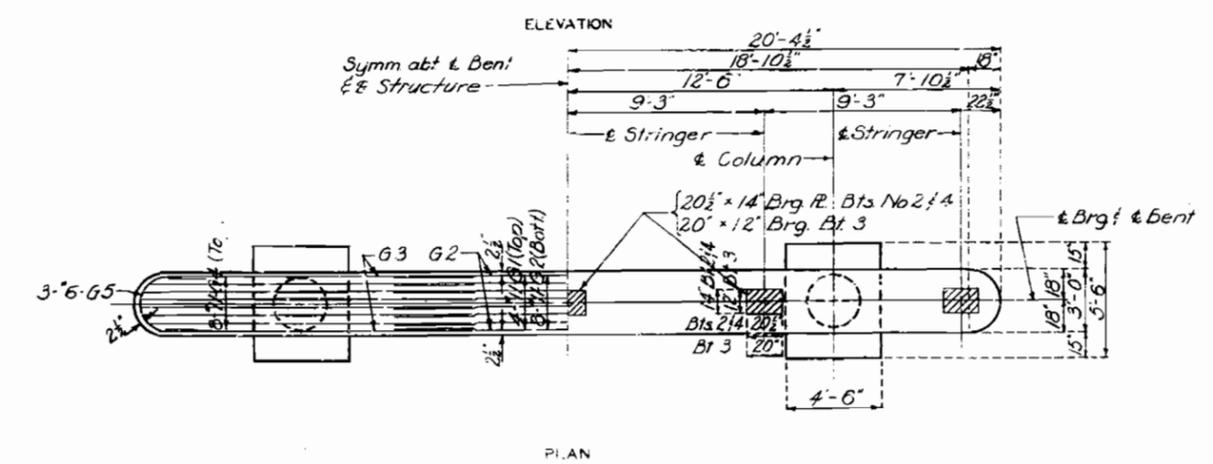


Table No. 3
Column Lengths

Sta. 411+72.62 Rt. Lane	Sta. 411+73.69 Lt. Lane
Bt. No. 2	Bt. No. 2
Rt. Col. 20'-10 3/8" Lt. Col. 21'-5 7/8"	Rt. Col. 22'-7" Lt. Col. 20'-9 3/8"
Bt. No. 3	Bt. No. 3
Rt. Col. 25'-3 3/8" Lt. Col. 23'-0 1/2"	Rt. Col. 25'-10" Lt. Col. 25'-10"
Bt. No. 4	Bt. No. 4
Rt. Col. 31'-10 3/8" Lt. Col. 28'-8 1/4"	Rt. Col. 28'-2 1/2" Lt. Col. 28'-5 1/2"

Table No. 4
Total Lengths

Sta. 411+72.62 Rt. Lane	Sta. 411+73.69 Lt. Lane
Bt. No. 2	Bt. No. 2
Rt. 32'-1" Lt. 32'-5 1/2"	Rt. 33'-9 3/8" Lt. 31'-11 1/2"
Bt. No. 3	Bt. No. 3
Rt. 34'-0 1/4" Lt. 33'-8 3/8"	Rt. 36'-6 3/8" Lt. 36'-6 3/8"
Bt. No. 4	Bt. No. 4
Rt. 43'-1 1/8" Lt. 39'-10 3/8"	Rt. 39'-4 1/8" Lt. 39'-3 7/8"



530

INTERMEDIATE BENTS 2, 3, & 4
(RIGHT & LEFT LANES)

FINISHED
BRIDGE OVER ROUTE 71 ALTERNATE
STATE ROAD FROM EAST OF SCOTLAND TO EAST OF FIDELITY
ABOUT 50 MILES S.E. OF ATLAS
PROJECT NO. 1-44-108 (RTE I-44) STA. 411+72.62 (RT. LANE)
STA. 411+73.69 (LT. LANE)
JASPER COUNTY
FINISHED

Drawn MAR 1960 by PVD
Checked June 1960 by Q.F.K.

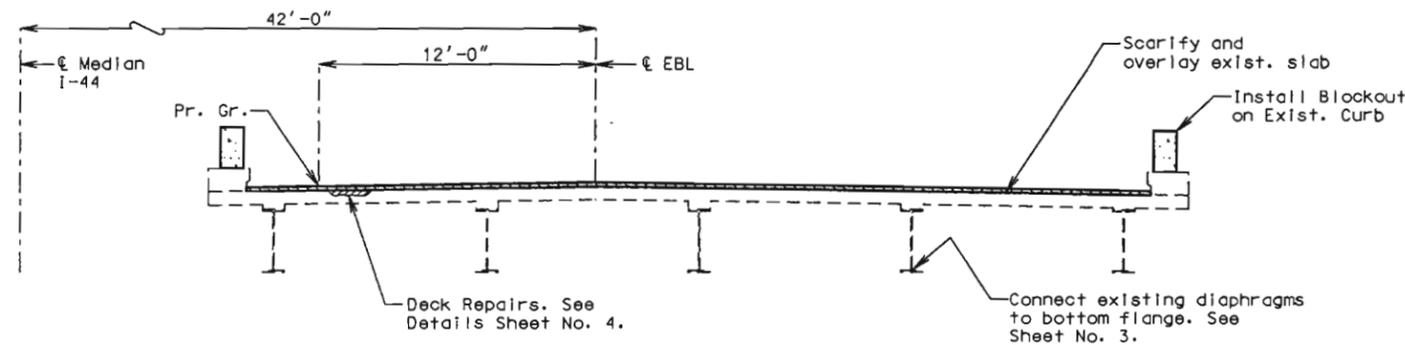
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 5A of 4

FINAL PLANS

A-630

State	Proj. No.	Sheet No.
MO		852
SEC/SUR 9.10	TWP 27N	RGE 31W



SECTION THRU SLAB

Estimated Quantities		
Item		Total
Removal and Storage of Existing Bridge Rail	Lin. Ft.	353
Curb Removal (Bridges)	Lin. Ft.	16
Replacement of Expansion Device and Adjacent Concrete	Lin. Ft.	89
Bridge Approach Slab (Bridge)	Sq. Yd.	225
Substructure Repair (Formed)	Sq. Ft.	160
Substructure Repair (Unformed)	Sq. Ft.	10
Protective Coating for Concrete Bents and Concrete Piers under Expansion Devices	Lump Sum	1
Curb Blockout	Lin. Ft.	375
Repairing Concrete Deck (Half-Soling)	Sq. Ft.	100
Full Depth Repair	Sq. Ft.	50
Low Slump Concrete Wearing Surface	Sq. Yd.	807
Strip Seal Expansion Device	Lin. Ft.	89
Reinforcing Steel (Epoxy Coated)	Lb.	2530
Cleaning and Coating Existing Bearings	Each	10
Transporting Residue to Storage Area	Lump Sum	1
Transporting Residue to the Smelter	Lump Sum	1
Disposal of Residue	Lump Sum	1

Cost of any required excavation for bridge shall be included in the contract unit price for other items.

All concrete above the upper construction joint in backwall and at the slab ends shall be Class B2.

The contract unit price for Curb Blockout shall include all concrete and reinforcement, complete in place.

General Notes:

Design Specifications:
AASHTO-1996 and Interims thru 2000

Design Unit Stresses:
Class B1 Concrete (Curb Blockout)
Class B2 Concrete (Slab and Top of Backwall)
Reinforcing Steel (Grade 60)

f'c = 4,000 psi
f'c = 4,000 psi
fy = 60,000 psi

Fabricated Steel Connections:
Field connections shall be made with 3/4" diameter high strength bolts and 13/16" diameter holes, except as noted.

High strength bolts, nuts and washers will be sampled for quality assurance as specified in Standard Specification 106 and Field Section (FS-712) from Materials Manual.

Joint Filler:
All joint filler shall meet the requirements of Section 1057.2.4 of the Missouri Standard Specifications, except as noted.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.

Bars bonded in old concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, old bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars, unless otherwise noted.

Old Work:
Outline of old work is indicated by dashed lines. Heavy lines indicate new work.

Maintain Traffic:
See Roadway Plans for traffic control during construction.

Verify Dimensions:
Contractor shall verify all dimensions in field before ordering new material.

Roadway Surfacing:
Roadway surfacing adjacent to bridge ends to match top of concrete wearing surface. (See Roadway Plans)

Existing Bridge Rail:
Salvage and store existing bridge rail at the Missouri Department of Transportation Carthage Maintenance Facility. (See Special Provisions)

Maintain Grade:
In order to maintain grade and a minimum thickness of overlay as shown on the plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. No payment will be allowed for additional labor, materials or equipment for variations in thickness of overlay.

Anchors:
The Contractor shall use one of the resin anchor systems listed in the job special provisions. These anchor systems shall be installed according to the manufacturer's specifications, except as modified by the job special provisions.

Cost of furnishing and installing the anchor systems complete in place shall be included in the price bid for Curb Blockout.

The 7/8" diameter resin anchor systems shall have a minimum ultimate pullout strength of 27,500 lbs. in concrete with f'c = 4,000 psi, see Special Provisions.

An epoxy coated #7 Grade 60 reinforcing bar 2'-4" long shall be substituted for the 7/8" threaded rod stud.

Miscellaneous:
The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved bituminous paint below the ground line and a special mortar above ground line.

Traffic Handling:
Bridge will be closed to traffic during repairs.

REPAIRS TO BRIDGE OVER ALTERNATE ROUTE 71 / ROUTE 59

STATE ROAD FROM ROUTE 66 TO ROUTE 37
ABOUT 9 MILES EAST OF ROUTE 71
PROJECT NO. STA. 411+72.62 EBL
(Match Exist.)

JOB NO. J710690 RTE. I-44 EBL

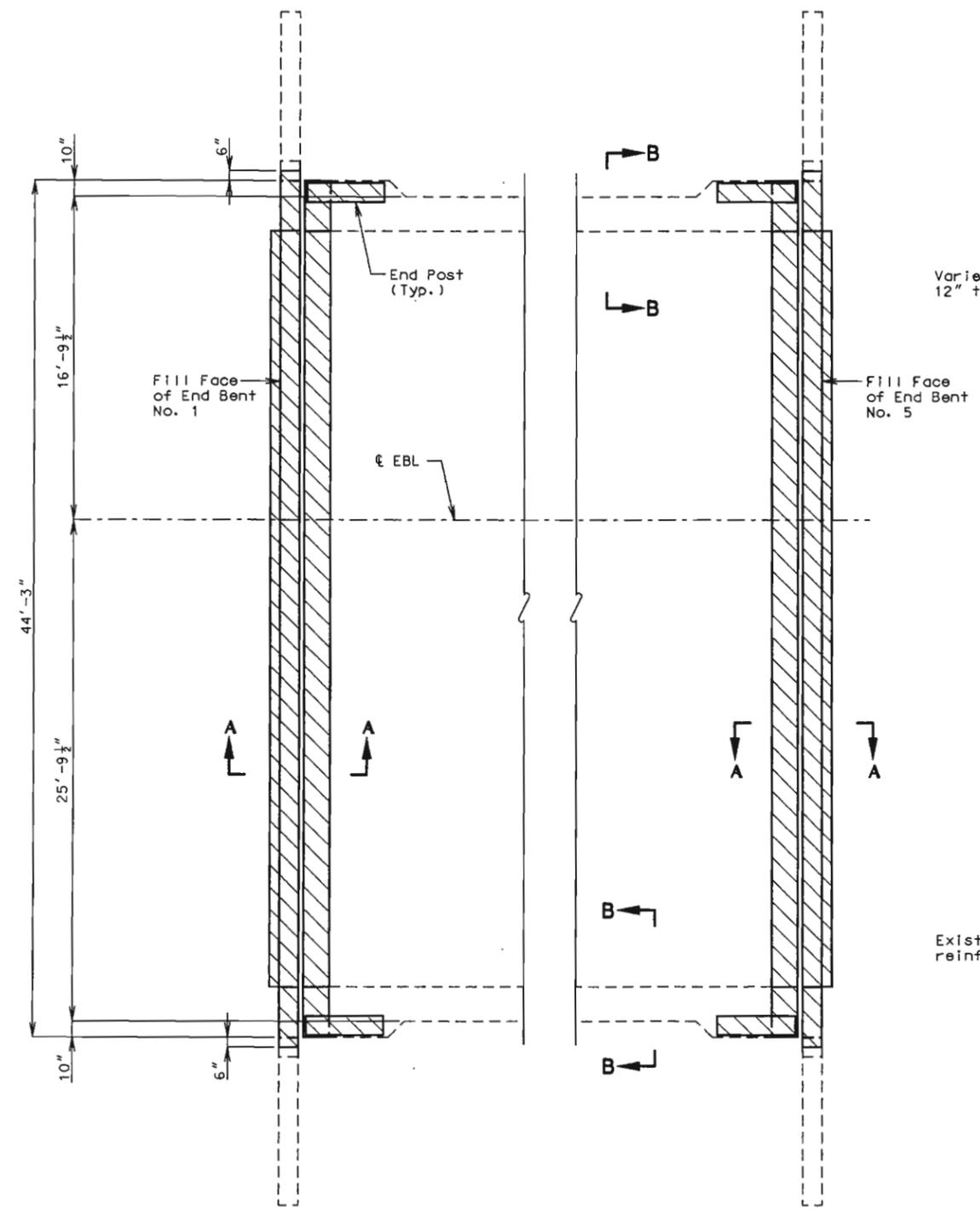
JASPER COUNTY



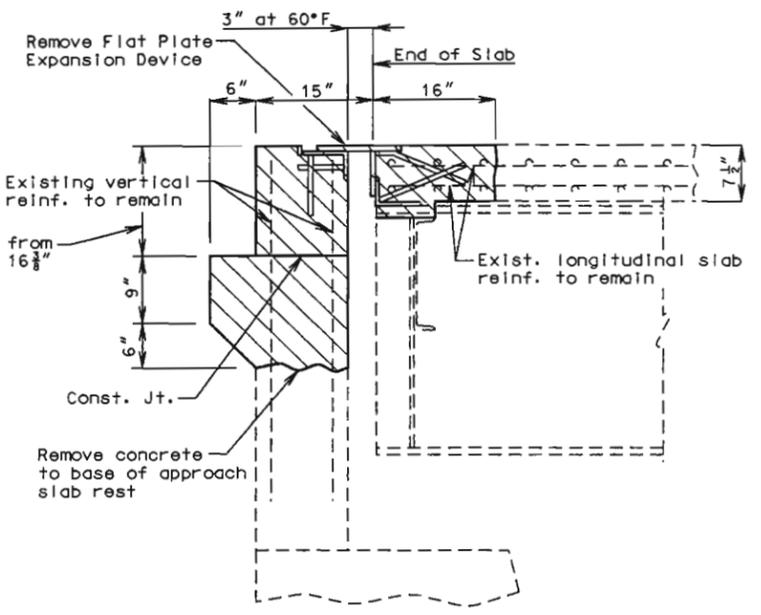
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STD. 706.35
A06301

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TRACED BY:	JTC	APR. 2002
CHECKED BY:	KLW	APR. 2002

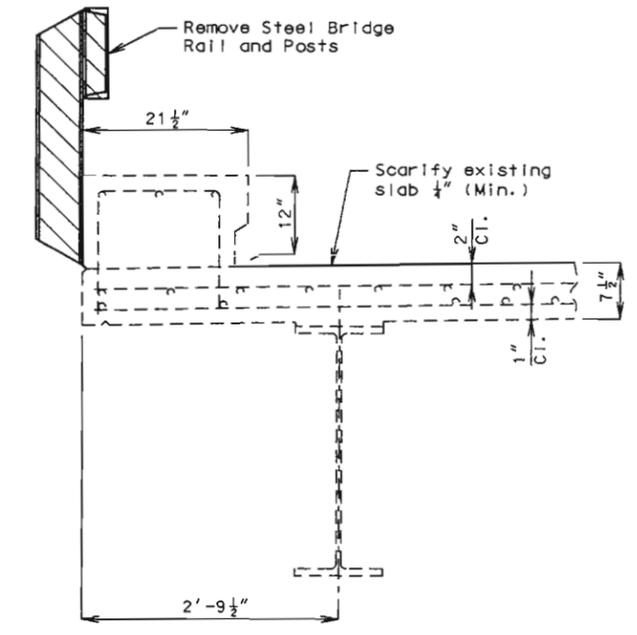
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MO		B53



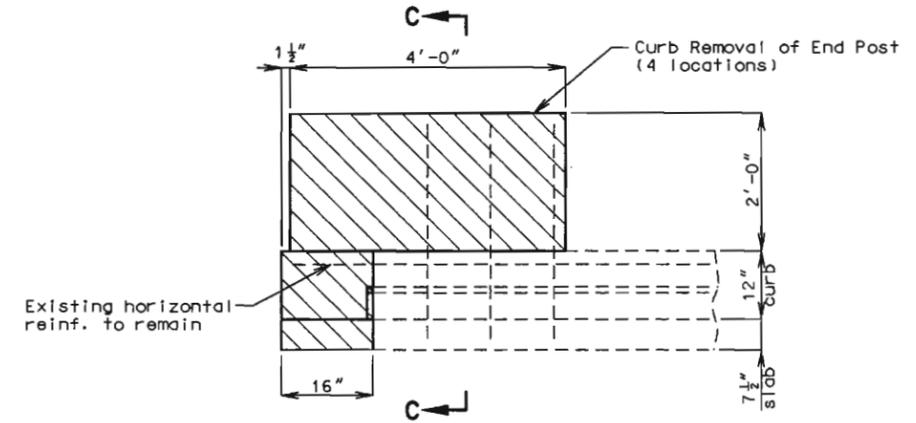
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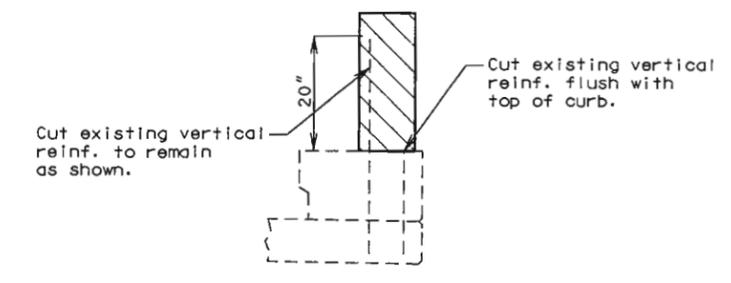
SECTION A-A



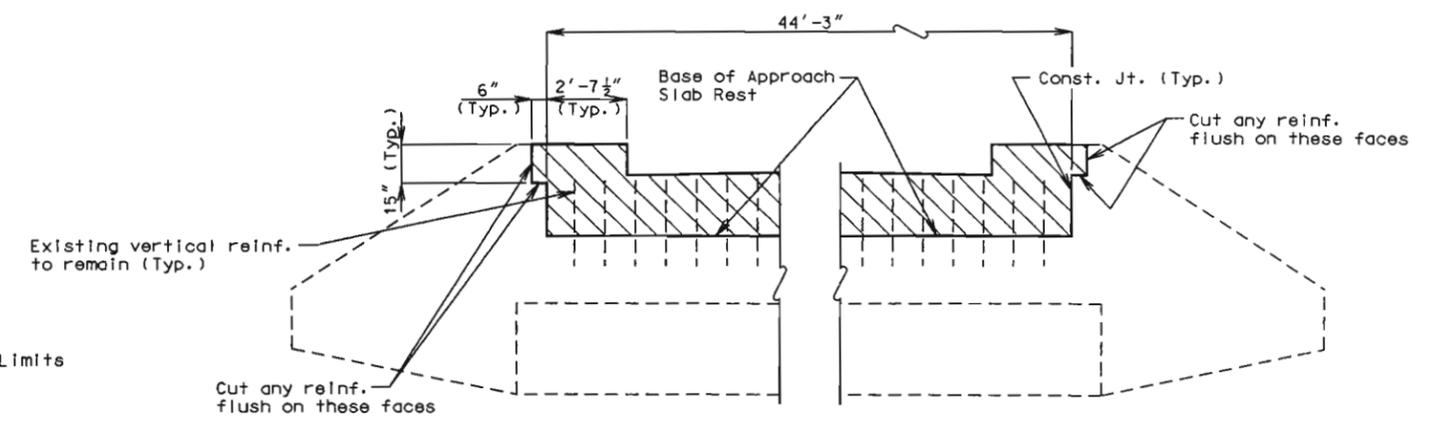
SECTION B-B



END POST ELEVATION



SECTION C-C



END BENT ELEVATION

Notes:
 Sawcut or chip vertically first 1/2" of all slab removal edges (top and bottom).
 Removal of end posts is included with Curb Removal (Bridges).
 Removal of ends of slab and top of end bent backwalls is included with Replacement of Expansion Device and Adjacent Concrete. (See Special Provisions)



REMOVAL DETAILS

Note: This drawing is not to scale. Follow dimensions.

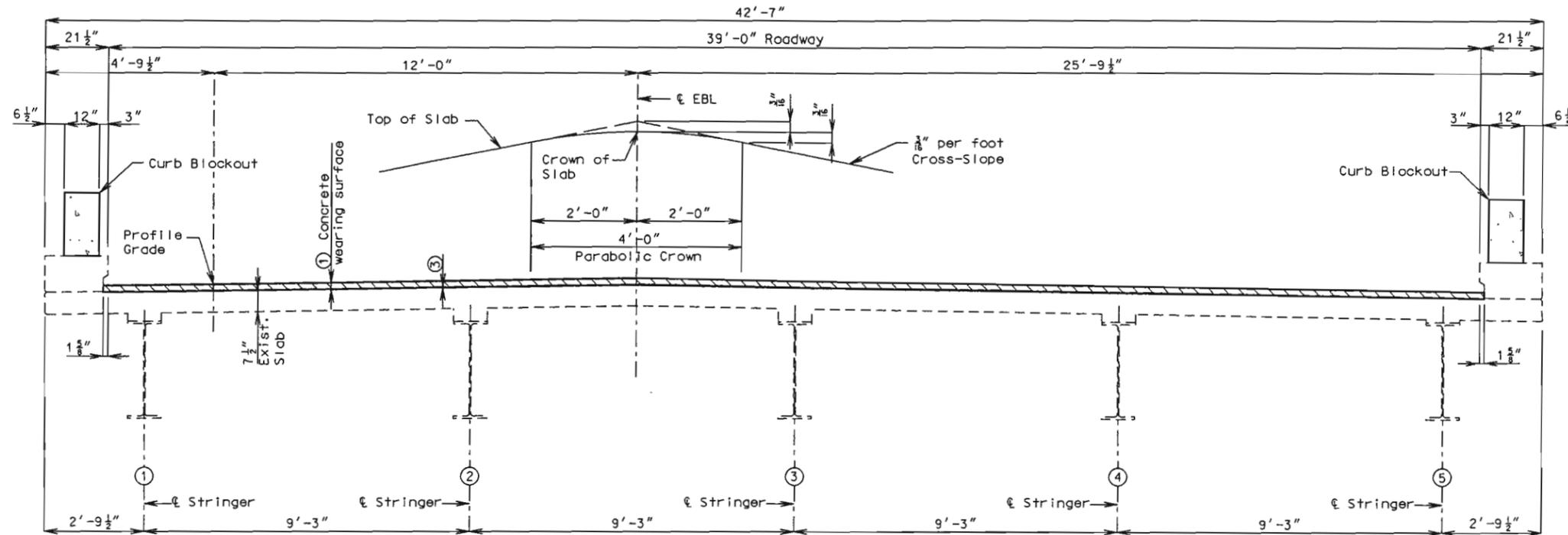
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BUCHER, WILLIS & RATLIFF CORPORATION
 7920 WARD PARKWAY KANSAS CITY, MISSOURI 64114 816-363-2696

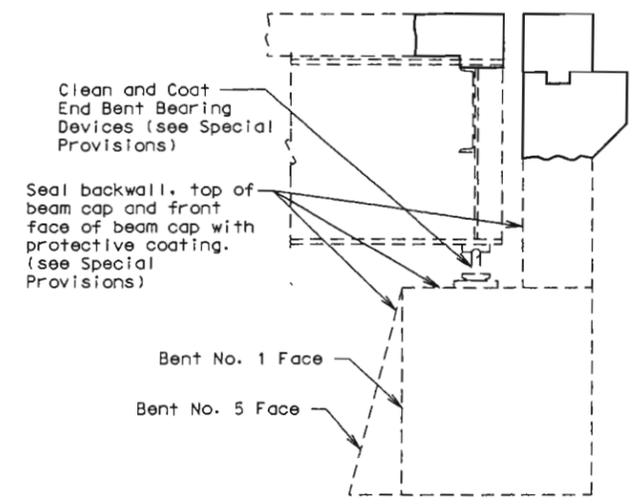
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TRACED BY:	MAH	MAR 2002
CHECKED BY:	KLW	APR 2002



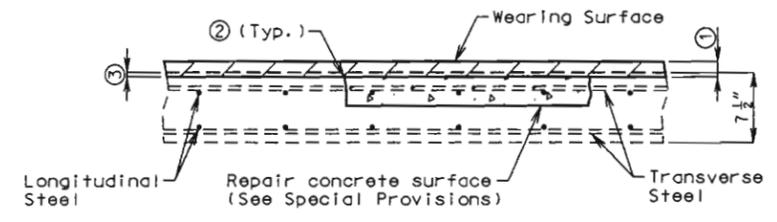
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MO		B 54



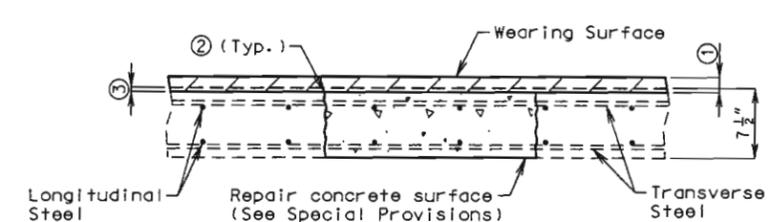
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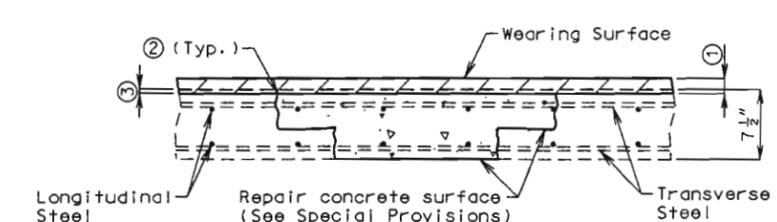
TYPICAL END BENT REPAIR



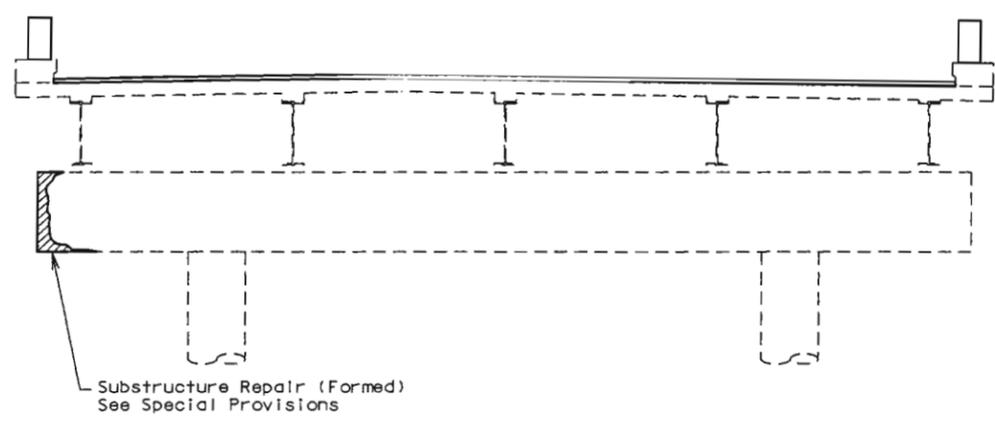
HALF-SOLED AREA



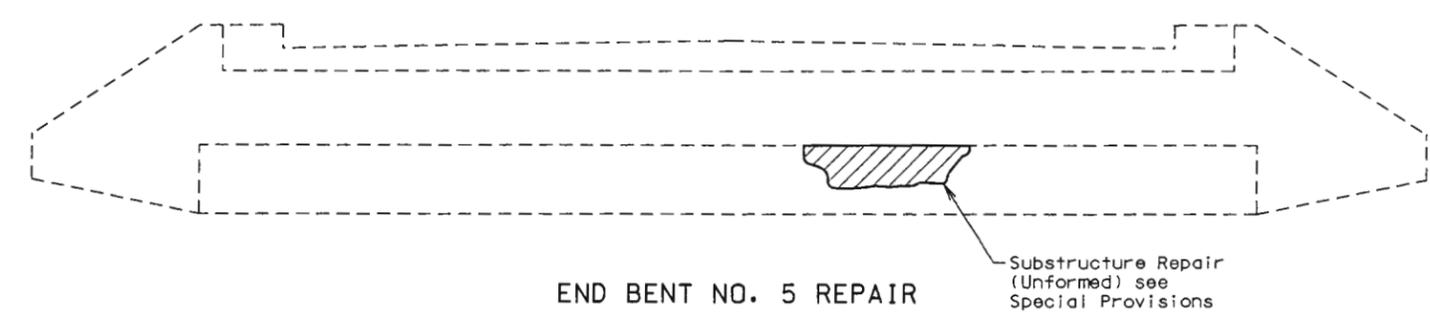
FULL DEPTH REPAIR



FULL DEPTH REPAIR IN HALF-SOLED AREA



INTERMEDIATE BENT CAP REPAIR
(Typical at Bent 2, 3 and 4)



END BENT NO. 5 REPAIR

- ① 2-1/4" (min.) Low Slump Concrete
- ② Saw cut or chip vertically first 1/2" of all deck repair (Hydroblasting allowed by Special Provisions)
- ③ Scarify existing slab (1/4" min.)

Substructure Repair (Unformed) see Special Provisions

2001-059--STR--A630--EASTBOUND--630EB--SLABSEC--DGN

BUCHER, WILLIS & RATLIFF CORPORATION
 7920 WARD PARKWAY KANSAS CITY, MISSOURI 64114 816-263-7996
 DRAWN BY: MAH APR. 2002
 TRACED BY: MAH/TOK APR. 2002
 CHECKED BY: KLW APR. 2002

Note: This drawing is not to scale. Follow dimensions.

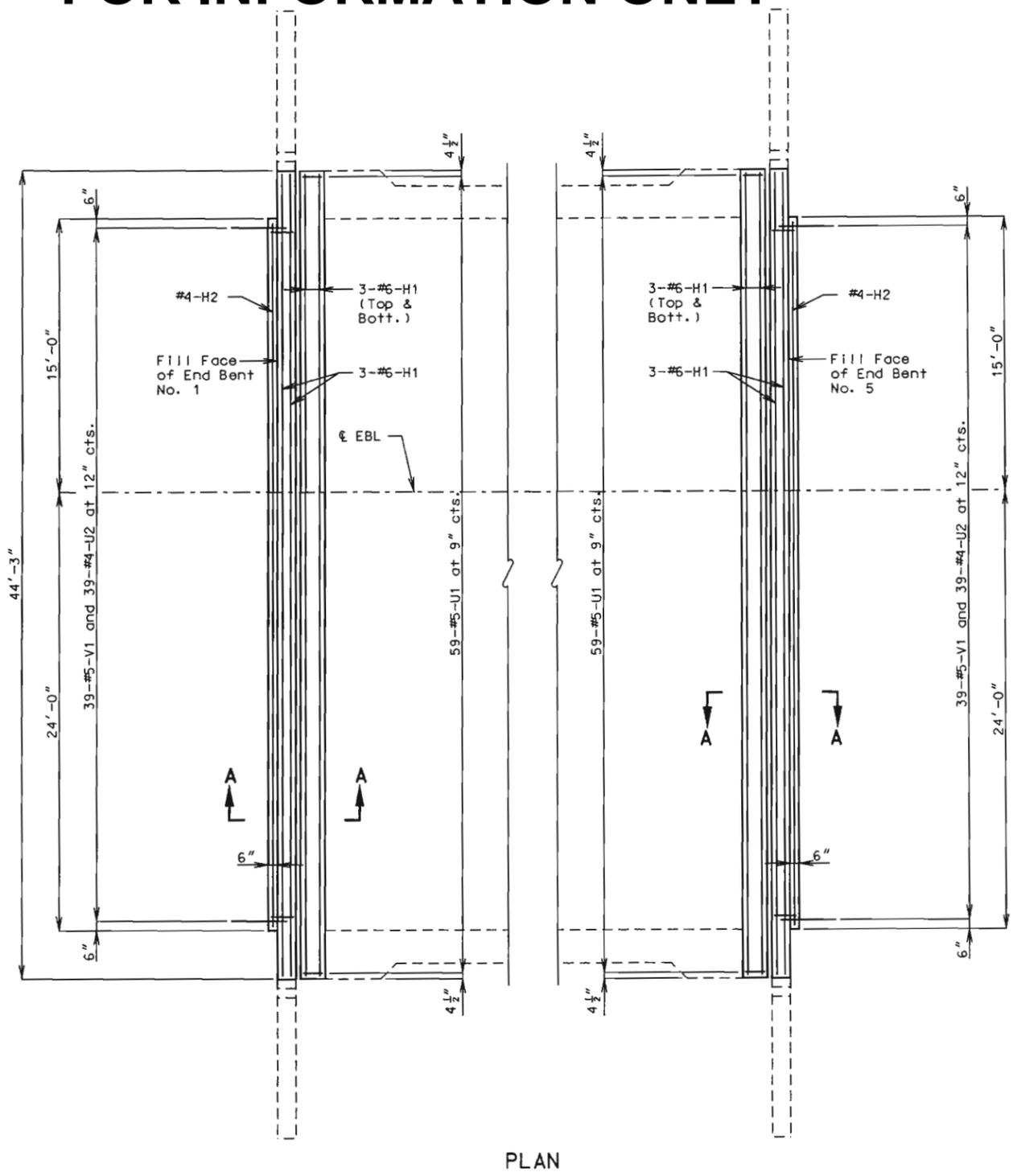
SLAB CROSS SECTION AND REPAIR DETAILS

Sheet No. 3 of 8

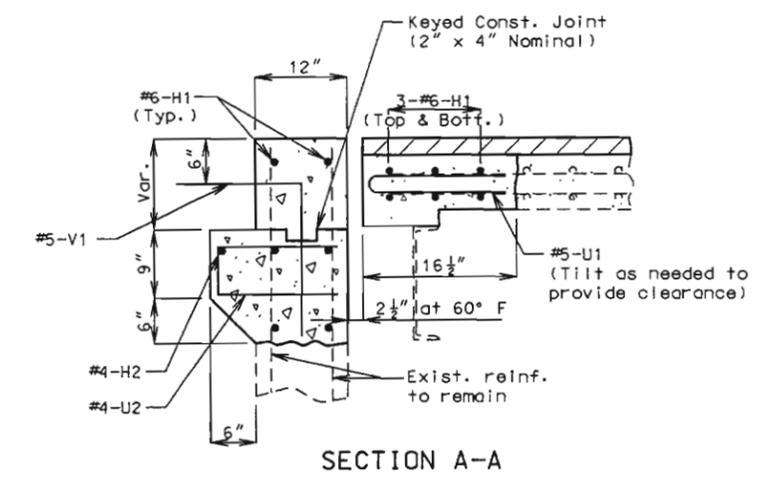
JASPER COUNTY

STATE OF MISSOURI
 KEITH
 REGISTERED PROFESSIONAL ENGINEER
 NUMBER
 E-25019
 8-23-02

A06301



PLAN



SECTION A-A

Note:
For details and notes for strip seal expansion device, see Sheet No. 5.



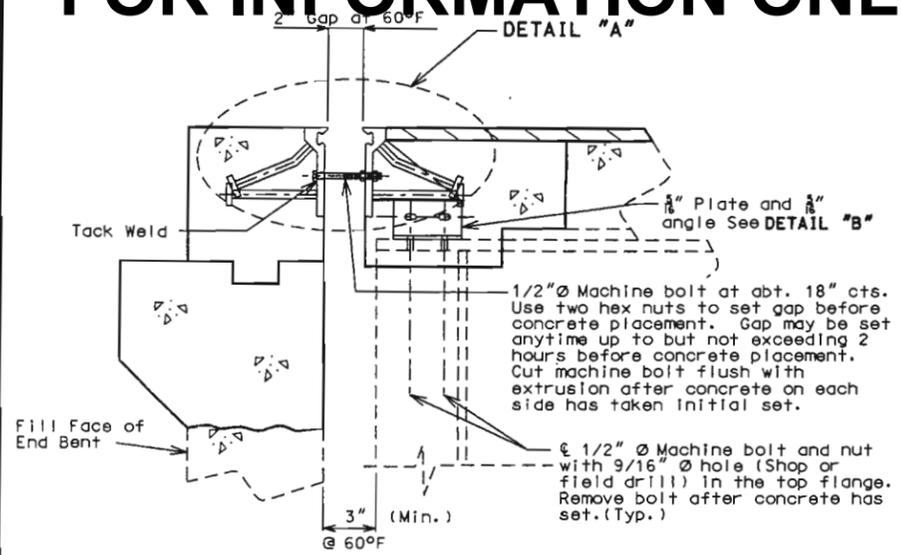
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 TRACED BY: JTC JUNE 2002
 CHECKED BY: DJS JUNE 2002

Note: This drawing is not to scale. Follow dimensions.

CONCRETE REPLACEMENT AT EXPANSION DEVICES

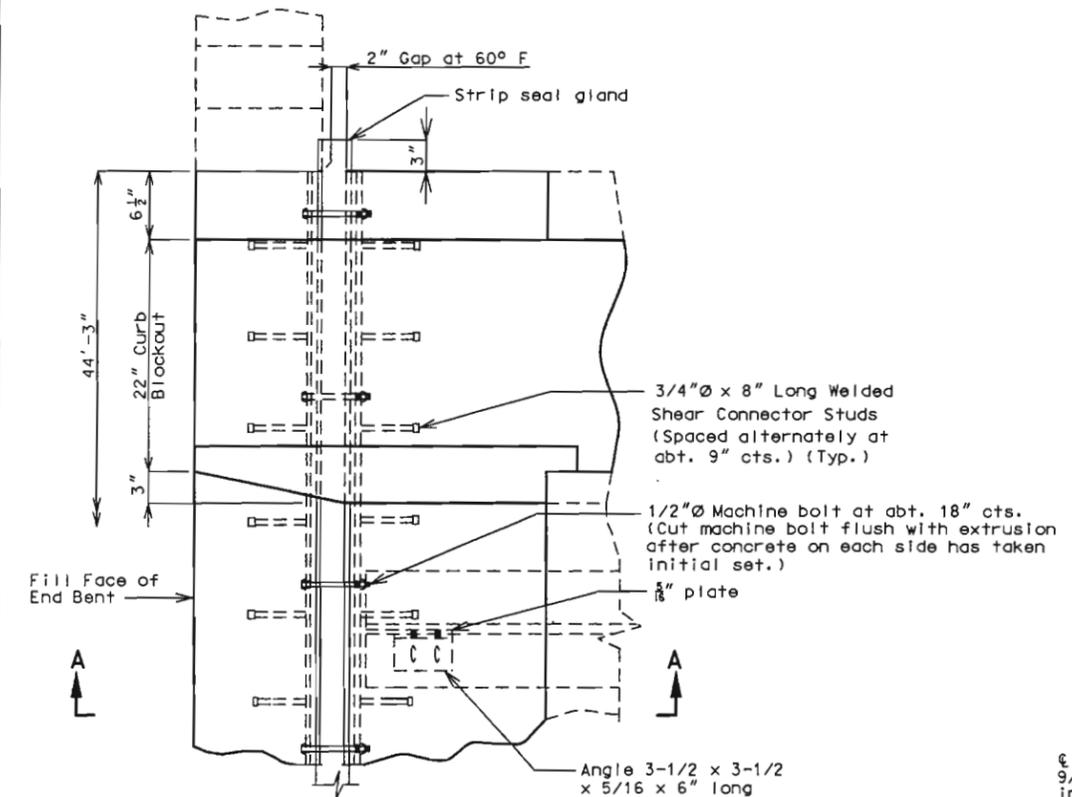
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MO		B 56

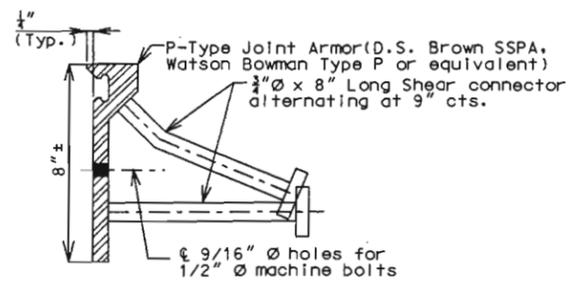


Note: Strip seal gland not shown for clarity.

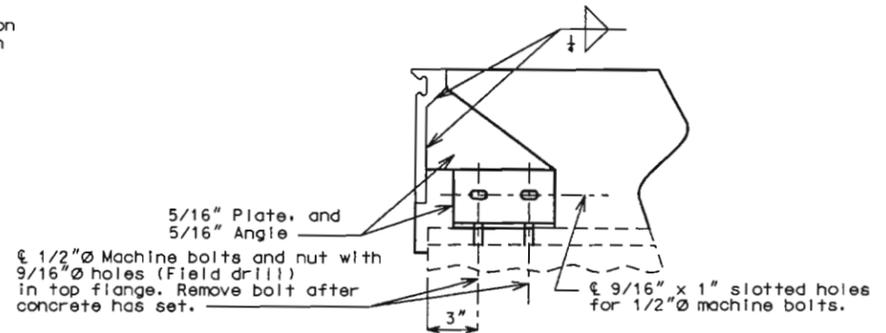
SECTION A-A



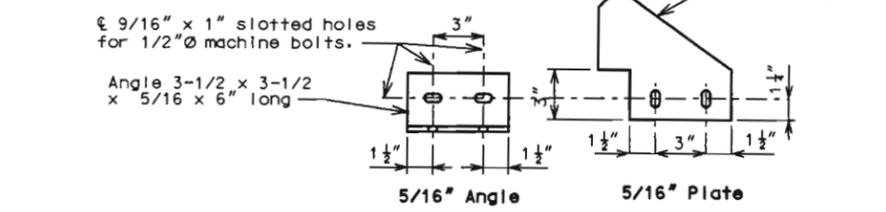
PART PLAN



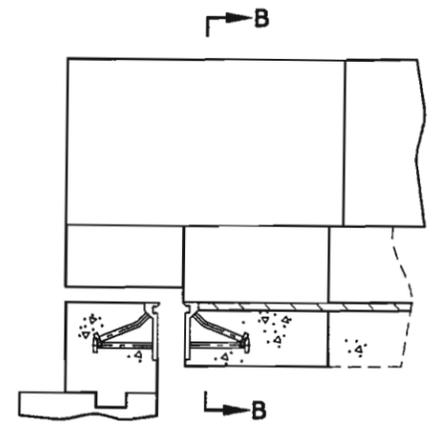
DETAIL OF JOINT ARMOR



DETAIL "A"

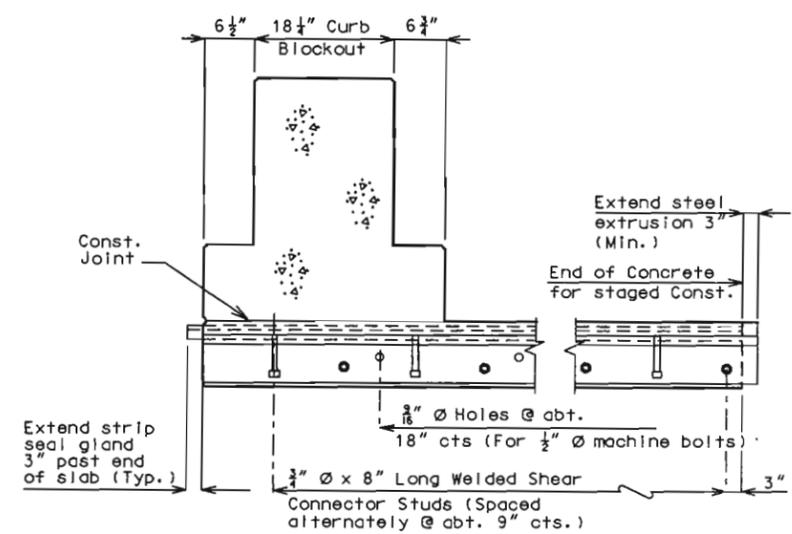


DETAIL "B"

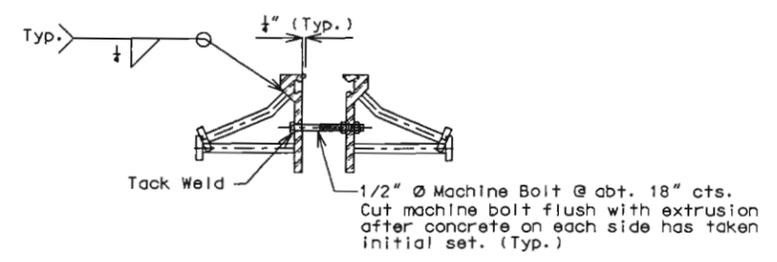


Note: Strip seal gland not shown for clarity.

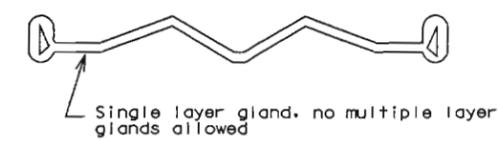
PART ELEVATION OF BARRIER CURB



PART SECTION B-B



DETAIL "A"



DETAIL OF GLAND

GENERAL NOTES:

- The expansion device shall be fabricated and installed in accordance with the recommendations of the manufacturer, and as set forth in the Special Provisions.
- The contractor must verify all dimensions prior to fabrication.
- All welds shall conform to Section 712 of the Missouri Standard Specifications.
- Splices of steel extrusion shall develop full strength.
- All steel shall be ASTM A709 Grade 36, except steel extrusions shall be ASTM A709 Grade 50W or Grade 36.
- Neoprene Strip Seal shall meet ASTM D-2628.
- Anchors for the extrusions or armor shall be approved welded studs (C1010 thru C1020).
- Structural steel for the expansion device shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.
- Payment for furnishing, coating or galvanizing and placing steel extrusions, miscellaneous structural steel, and neoprene strip seal shall be made under the contract unit price for Strip Seal Expansion Device.
- Plan dimensions are based on installation at 60°F. The gap shall be increased 1/8" for each 10° fall in temperature and decreased 1/8" for each 10° rise in temperature from the installation temperature.
- #5-U1 Bars shall be placed so that the end shall not be more than 1"± from vertical leg of extrusion at Expansion Device.
- Concrete shall be forced under and around strip seal extrusions and studs. Proper consolidation of the concrete shall be achieved by localized internal vibration.
- Top of backwall and expansion device at end bents shall conform to the Crown of Roadway slab.

2001-059--STR--A630--EASTBOUND--630EB--STRIPSEAL.DGN

BUCHER, WILLIS & RATLIFF CORPORATION
 7920 WARD PARKWAY, KANSAS CITY, MISSOURI 64114 816-363-2898
 DRAWN BY: DJS/MAH APR 2002
 TRACED BY: TWM/MAH APR 2002
 CHECKED BY: KLV APR 2002

Note: This drawing is not to scale. Follow dimensions.

STRIP SEAL AT END BENTS

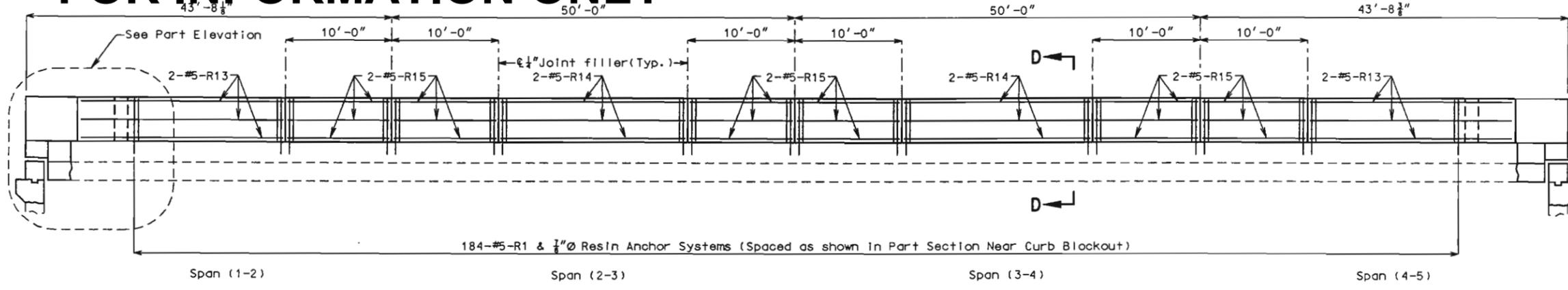
Sheet No. 5 of 8

JASPER COUNTY

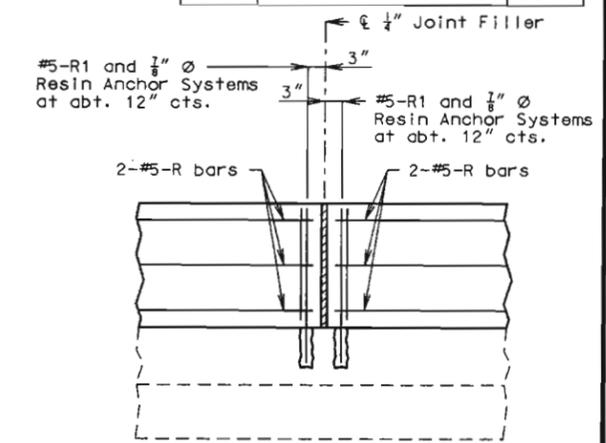
A06301



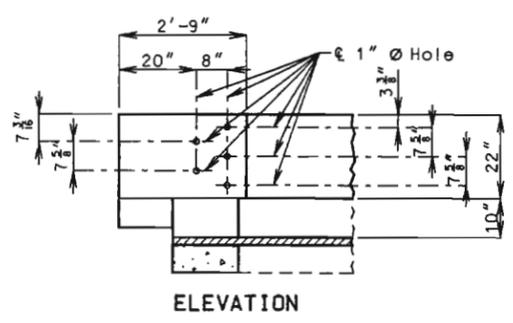
State	Proj. No.	Sheet No.
MO		857



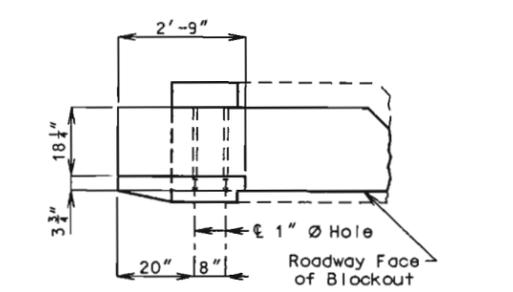
SECTION NEAR CURB BLOCKOUT



PART SECTION NEAR CURB BLOCKOUT

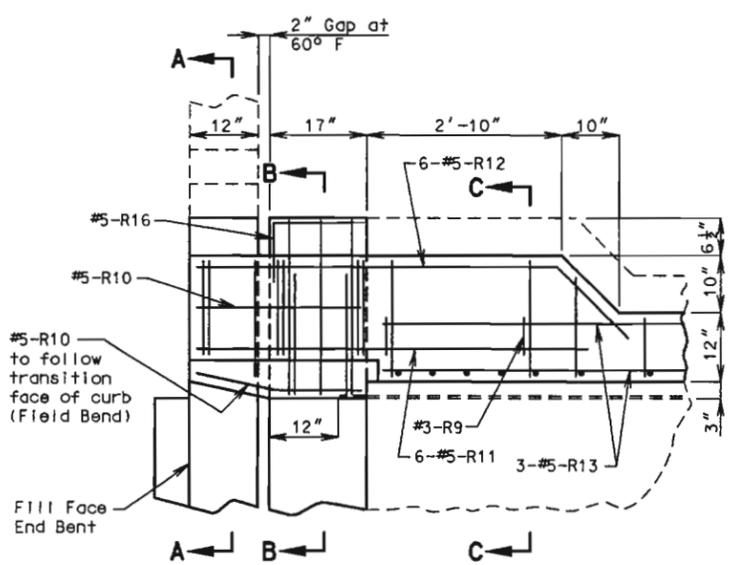


ELEVATION

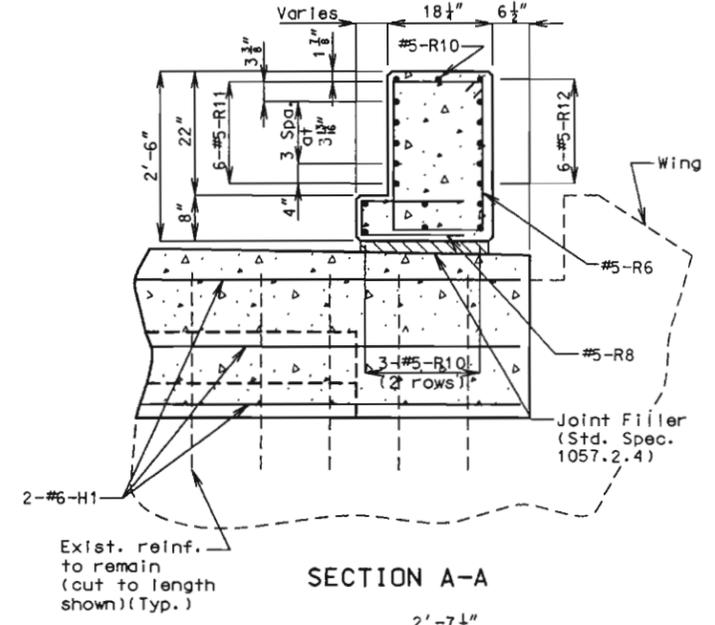


PLAN

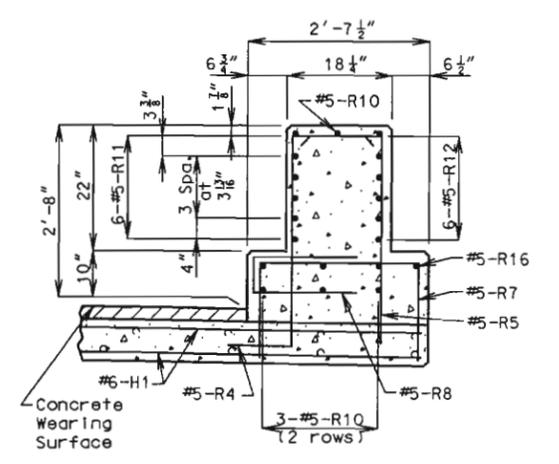
DETAILS OF GUARD RAIL ATTACHMENT



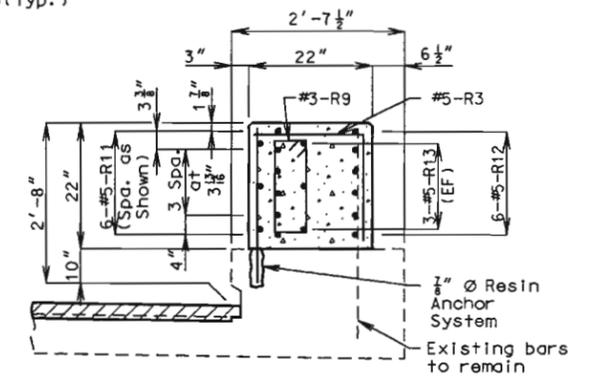
PART PLAN



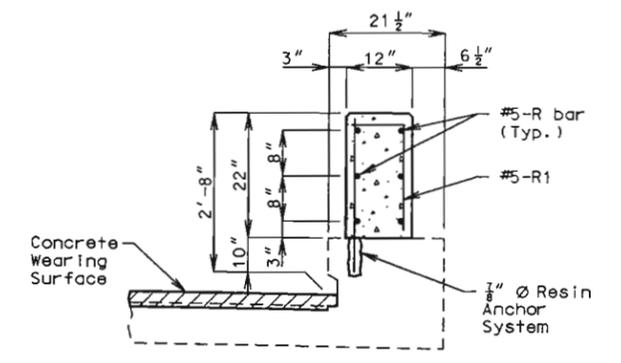
SECTION A-A



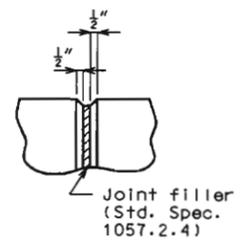
SECTION B-B



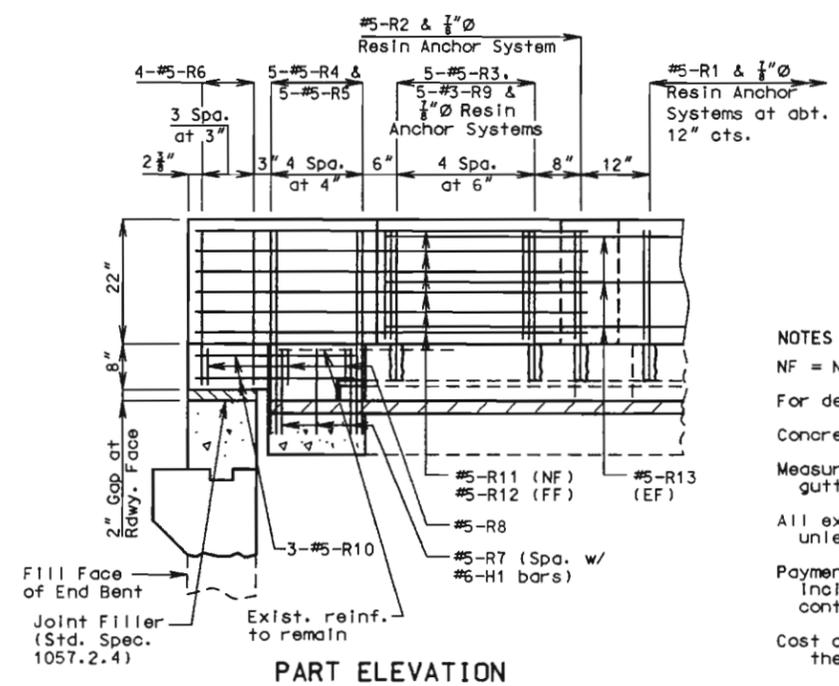
SECTION C-C



SECTION D-D



FILLED JOINT DETAIL



PART ELEVATION

NOTES FOR CURB BLOCKOUT:

- NF = Near Face, FF = Far Face, EF = Each Face.
- For details of strip seal expansion device, see Sheet No. 5.
- Concrete in curb blockout shall be Class B1.
- Measurement of curb blockout is to the nearest linear foot measured at the gutter line from end of curb blockout to end of curb blockout.
- All exposed edges of curb blockout shall have 1/2" radius or 3/8" bevel unless otherwise shown.
- Payment for concrete, reinforcing steel, resin anchors and any other work incidental to the curb blockout complete in place shall be included in the contract unit price for the Curb Blockout per linear foot.
- Cost of any concrete curb repair shall be considered completely covered in the unit price bid for Curb Blockout.

CURB BLOCKOUT DETAILS

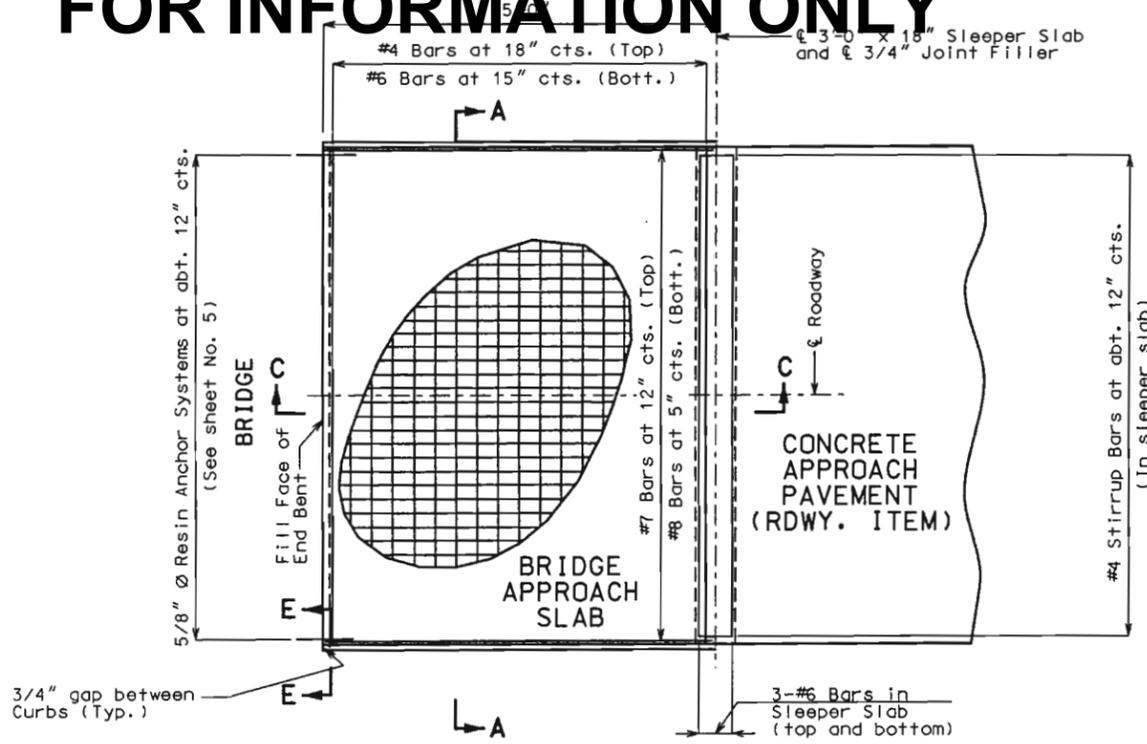
Note: This drawing is not to scale. Follow dimensions.



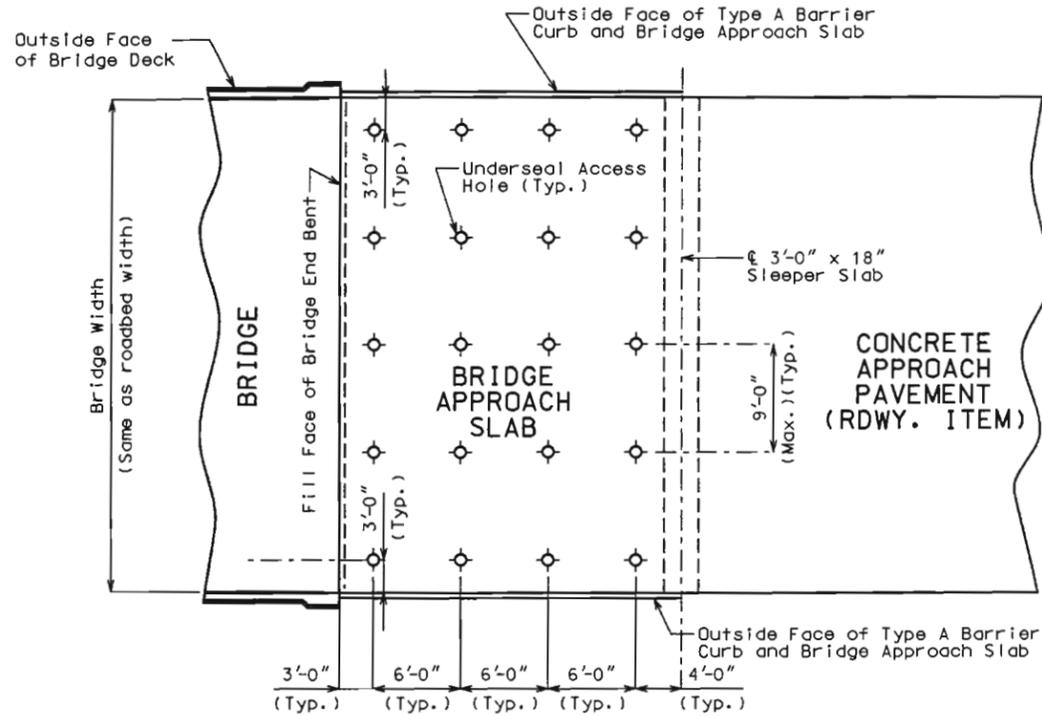
2001-059--STR D--DGN--EASTBOUND--630EB_BLOCKOUT--DGN

BUCHER, WILLIS & RATLIFF CORPORATION
 7920 HAWK PARKWAY KANSAS CITY, MISSOURI 64114 816-363-2686
 DRAWN BY: MAH APR 2002
 TRACED BY: MAH/TOK APR 2002
 CHECKED BY: KLW APR 2002

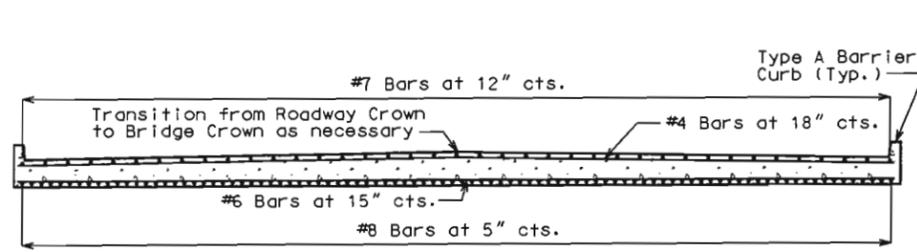
State	Proj.	Sheet No.
MO		858



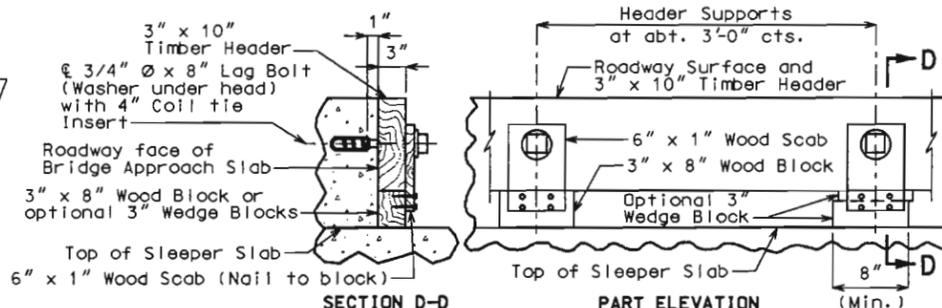
PART PLAN SHOWING REINFORCEMENT



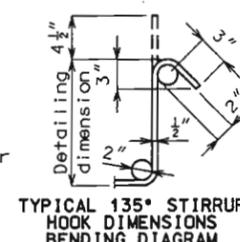
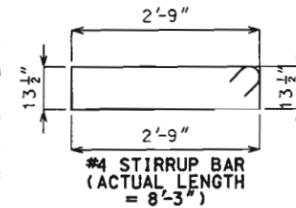
PART PLAN (SHOWING TYPICAL UNDERSEAL ACCESS HOLE LOCATIONS)



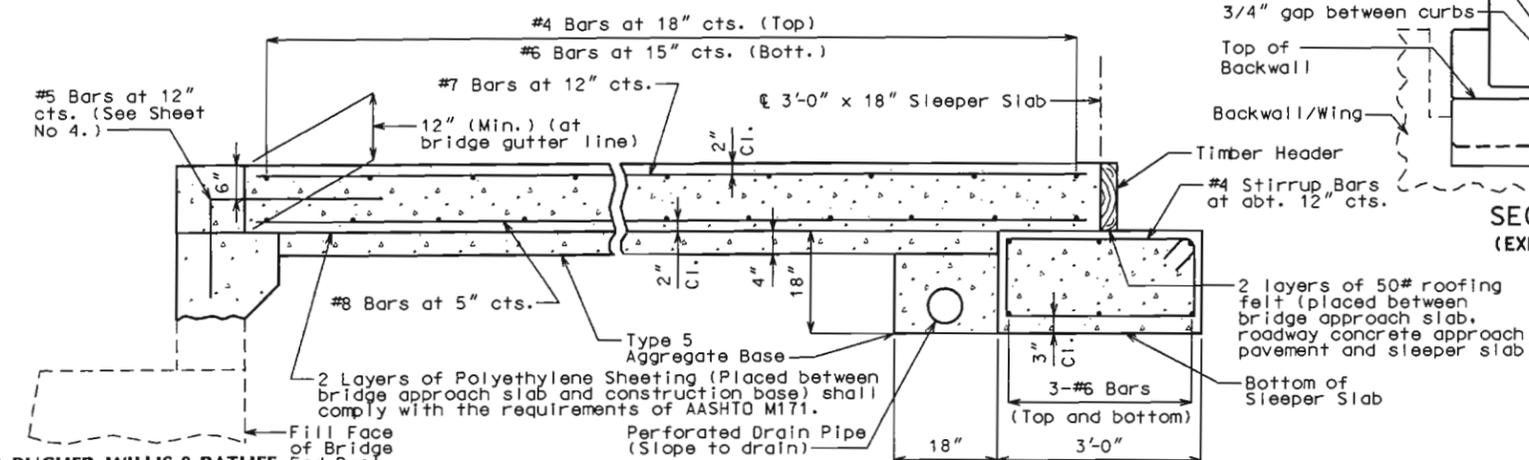
SECTION A-A



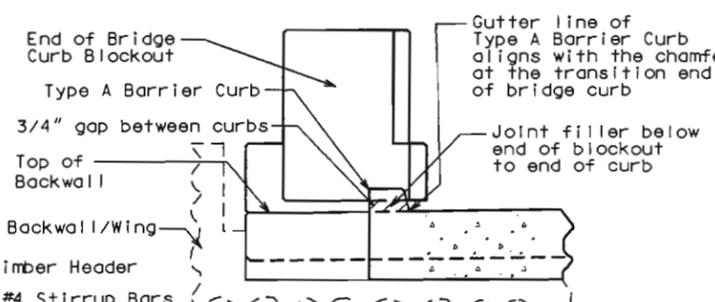
SECTION D-D PART ELEVATION (Min.) DETAILS OF TIMBER HEADER
Note: Remove timber header when concrete pavement is placed.



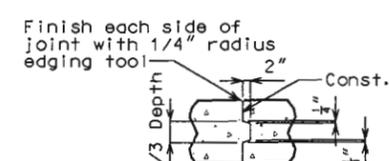
TYPICAL 135° STIRRUP HOOK DIMENSIONS BENDING DIAGRAM
Note: Nominal lengths are based on out to out dimensions shown in bending diagram and are listed for fabricators use (nearest inch).



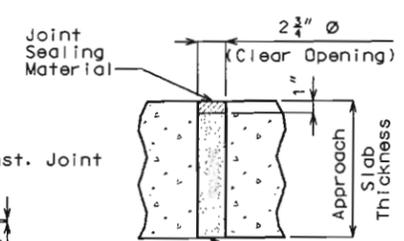
SECTION C-C



SECTION E-E (EXPANSION DEVICE NOT SHOWN)



CONST. JOINT DETAIL (IF REQUIRED)



TYPICAL UNDERSEAL ACCESS HOLE DETAIL

GENERAL NOTES:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Section 503 (f'c = 4,000 psi) of the Missouri Standard Specifications.

All joint filler shall meet the requirements of Section 1057.2.5 of the Missouri Standard Specifications, except as noted.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with Fy = 60,000 psi.

Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 & #6 bars 18" and 26" respectively.

Mechanical bar splices will be permitted and shall develop at least 125 percent of the specified yield strength of the reinforcing bars being spliced. The contractor shall furnish the Engineer the manufacturer's certification that this requirement is met and is required to follow the manufacturer's recommendation for installation.

Mechanical bar splices shall be epoxy coated in accordance with Section 710 of the Missouri Standard Specifications.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures. Stirrup and Tie Dimensions.

The contractor shall pour and satisfactorily finish the bridge slab before pouring the bridge approach slabs.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab overlay.

Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base and all other appurtenances and incidental work as shown on this sheet, complete in place, shall be considered as completely covered under the contract unit price for Bridge Approach Slab (Bridge), per sq. yd.

For Concrete Approach Pavement details, see roadway Plans.

See Missouri Standard Plans Drawing 609.00 for details of Type A Barrier Curb.

When a lap splice is required for the use of a mechanical bar splice, the minimum lap length shall be 40" for transverse approach slab bar splices.

At the contractor's option, Grade 40 reinforcement may be substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment. No additional payment will be made for this substitution.

When Grade 40 reinforcement is substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment, the reinforcement may be bent up to 90 degrees with a 2" minimum radius near the abutment to allow compaction of the backfill material near the abutment. Damage to epoxy coating shall be repaired according to Section 710.3.3 of the Missouri Standard Specifications.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

2001-059--STR--AG30--EASTBOUND--630EB_APPRSLAB.DGN

BUCHER, WILLIS & RATLIFF CORPORATION
 7922 WARD PARKWAY, KANSAS CITY, MISSOURI 64114 816-383-2696
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 TRACED BY: TOK NOV. 2001
 CHECKED BY: KLW APR. 2002

Note: This drawing is not to scale. Follow dimensions.

BRIDGE APPROACH SLAB

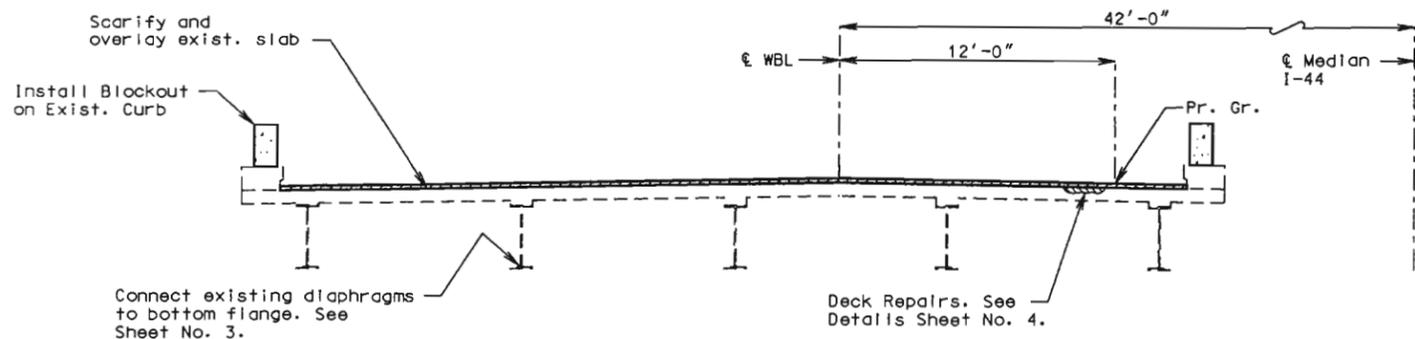
Sheet No. 7 of 8

JASPER COUNTY

A06301



State	Proj. No.	Sheet No.
MO		B 60
SEC/SUR 9.10	TWP 27N	RGE 31W



SECTION THRU SLAB

Estimated Quantities		
Item		Total
Removal and Storage of Existing Bridge Rail	Lin. Ft.	353
Curb Removal (Bridges)	Lin. Ft.	16
Replacement of Expansion Device and Adjacent Concrete	Lin. Ft.	89
Bridge Approach Slab (Bridge)	Sq. Yd.	225
Substructure Repair (Formed)	Sq. Ft.	160
Protective Coating for Concrete Bents and Concrete Piers under Expansion Devices	Lump Sum	1
Curb Blockout	Lin. Ft.	375
Repairing Concrete Deck (Half-Soling)	Sq. Ft.	100
Full Depth Repair	Sq. Ft.	50
Low Slump Concrete Wearing Surface	Sq. Yd.	807
Strip Seal Expansion Device	Lin. Ft.	89
Reinforcing Steel (Epoxy Coated)	Lb.	2530
Cleaning and Coating Existing Bearings	Each	10
Transporting Residue to Storage Area	Lump Sum	1
Transporting Residue to the Smelter	Lump Sum	1
Disposal of Residue	Lump Sum	1

Cost of any required excavation for bridge shall be included in the contract unit price for other items.

All concrete above the upper construction joint in backwall and at the slab ends shall be Class B2.

The contract unit price for Curb Blockout shall include all concrete and reinforcement, complete in place.

General Notes:

Design Specifications:
AASHTO-1996 and Interims thru 2000

Design Unit Stresses:
Class B1 Concrete (Curb Blockout)
Class B2 Concrete (Slab and Top of Backwall)
Reinforcing Steel (Grade 60)

$f'c = 4,000$ psi
 $f'c = 4,000$ psi
 $fy = 60,000$ psi

Fabricated Steel Connections:

Field connections shall be made with 3/4" diameter high strength bolts and 13/16" diameter holes, except as noted.

High strength bolts, nuts and washers will be sampled for quality assurance as specified in Standard Specification 106 and Field Section (FS-712) from Materials Manual.

Joint Filler:

All joint filler shall meet the requirements of Section 1057.2.4 of the Missouri Standard Specifications, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.

Bars bonded in old concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, old bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars, unless otherwise noted.

Old Work:

Outline of old work is indicated by dashed lines. Heavy lines indicate new work.

Maintain Traffic:

See Roadway Plans for traffic control during construction.

Verify Dimensions:

Contractor shall verify all dimensions in field before ordering new material.

Roadway Surfacing:

Roadway surfacing adjacent to bridge ends to match top of concrete wearing surface. (See Roadway Plans)

Existing Bridge Rail:

Salvage and store existing bridge rail at the Missouri Department of Transportation Carthage Maintenance Facility. (See Special Provisions)

Maintain Grade:

In order to maintain grade and a minimum thickness of overlay as shown on the plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. No payment will be allowed for additional labor, materials or equipment for variations in thickness of overlay.

Anchors:

The Contractor shall use one of the resin anchor systems listed in the job special provisions. These anchor systems shall be installed according to the manufacturer's specifications, except as modified by the job special provisions.

Cost of furnishing and installing the anchor systems complete in place shall be included in the price bid for Curb Blockout.

The 7/8" diameter resin anchor systems shall have a minimum ultimate pullout strength of 27,500 lbs. in concrete with $f'c = 4,000$ psi, see Special Provisions.

An epoxy coated #7 Grade 60 reinforcing bar 2'-4" long shall be substituted for the 7/8" threaded rod stud.

Miscellaneous:

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved bituminous paint below the ground line and a special mortar above ground line.

Traffic Handling:

Bridge will be closed to traffic during repairs.

REPAIRS TO BRIDGE OVER ALTERNATE ROUTE 71 / ROUTE 59

STATE ROAD FROM ROUTE 66 TO ROUTE 37
ABOUT 9 MILES EAST OF ROUTE 71
PROJECT NO. STA. 411+72.62 WBL
(Match Exist.)

JOB NO. J710690 RTE. I-44 WBL

JASPER COUNTY

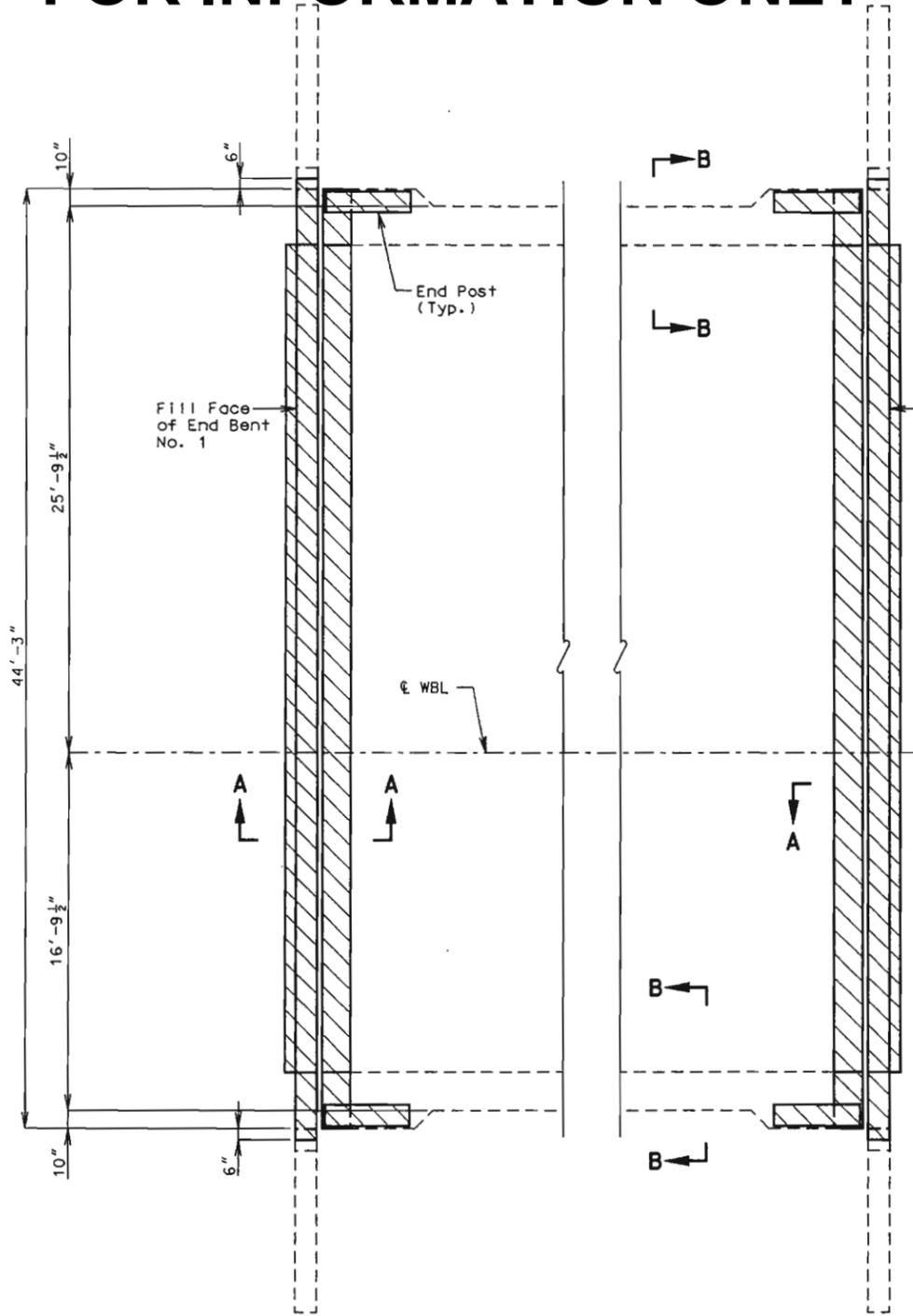
BUR BUCHER, WILLIS & RATLIFF CORPORATION

7920 SAGE PARKWAY KANSAS CITY, MISSOURI 64114 816-353-2698
DRAWN BY: RMH APR. 2002
TRACED BY: TWM APR. 2002
CHECKED BY: MAH APR. 2002



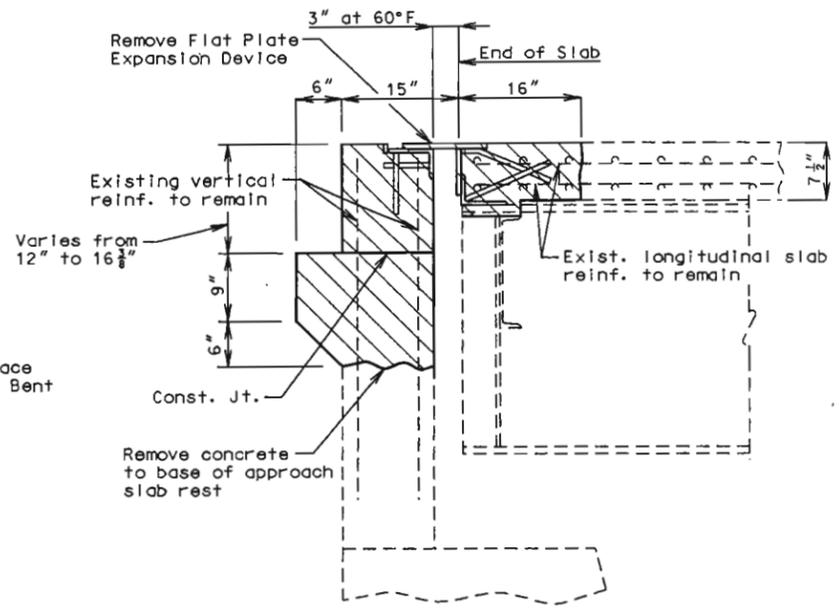
8-27-2002

STD. 609.00
STD. 706.35
A06302

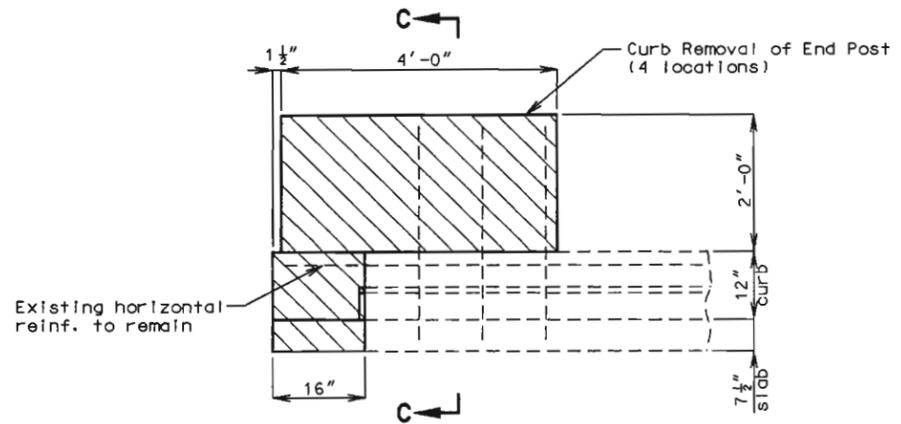


PLAN

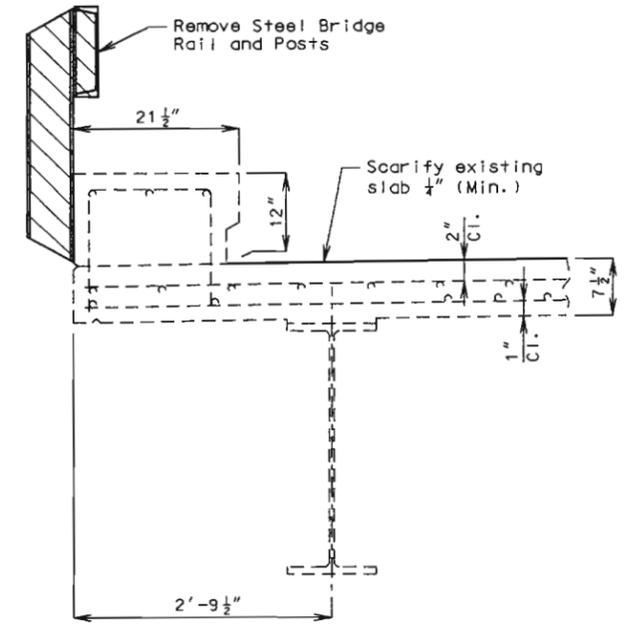
Notes:
 Sawcut or chip vertically first 1/2" of all slab removal edges (top and bottom).
 Removal of end posts is included with Curb Removal (Bridges).
 Removal of ends of slab and top of end bent backwalls is included with Replacement of Expansion Device and Adjacent Concrete. (See Special Provisions)



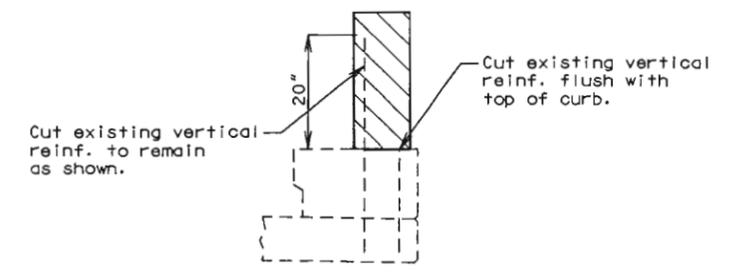
SECTION A-A



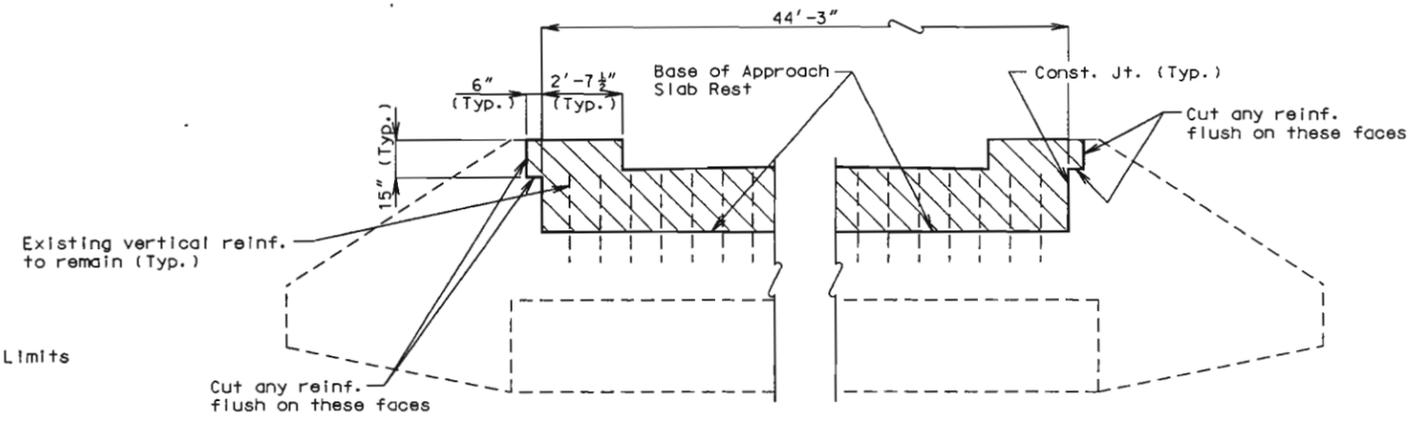
END POST ELEVATION



SECTION B-B



SECTION C-C



END BENT ELEVATION

REMOVAL DETAILS

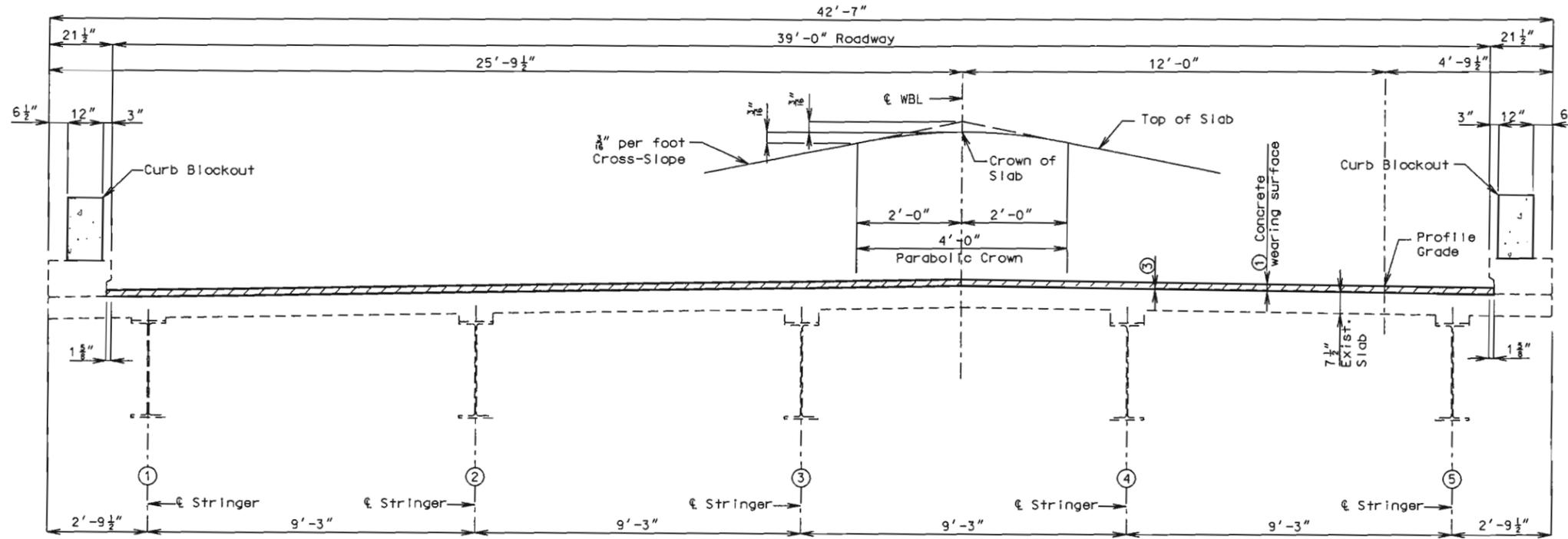
BUCHER, WILLIS & RATLIFF CORPORATION
 7010 W. 20th Parkway, Kansas City, Missouri 64114 816-363-2896
 DRAWN BY: RMH APR 2002
 TRACED BY: TWM APR 2002
 CHECKED BY: MAH APR 2002

Note: This drawing is not to scale. Follow dimensions.

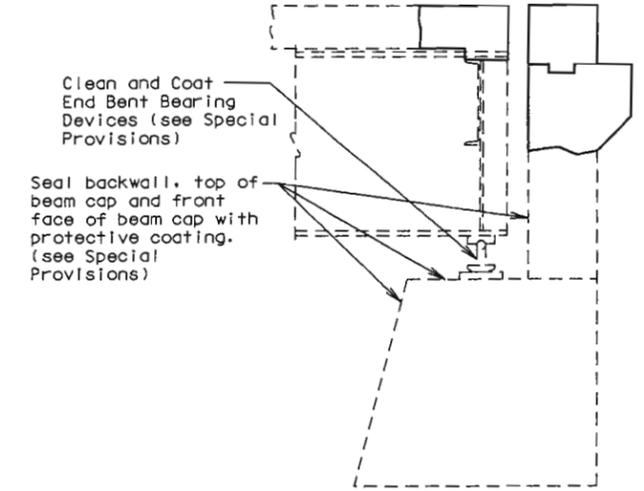


2001-059-5 30-DGN--WESTBOUND--630WB-REMOVAL.DGN

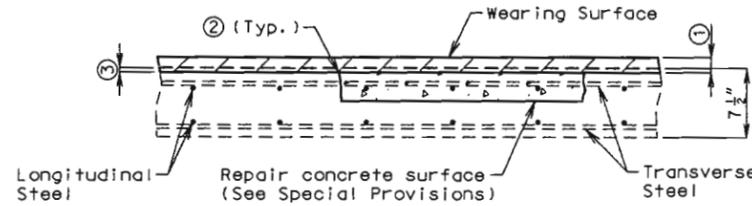
State	Proj. No.	Sheet No.
MO		B62



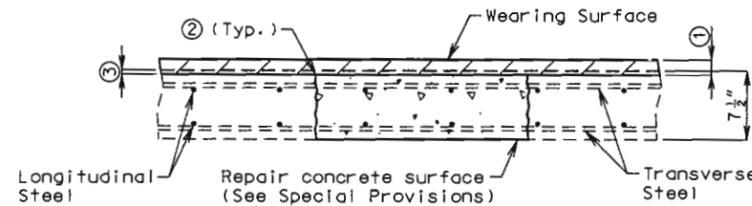
TYPICAL SECTION



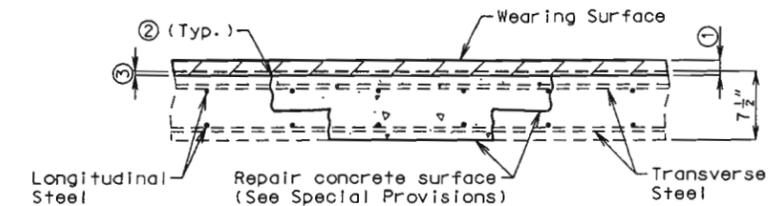
TYPICAL END BENT REPAIR



HALF-SOLED AREA

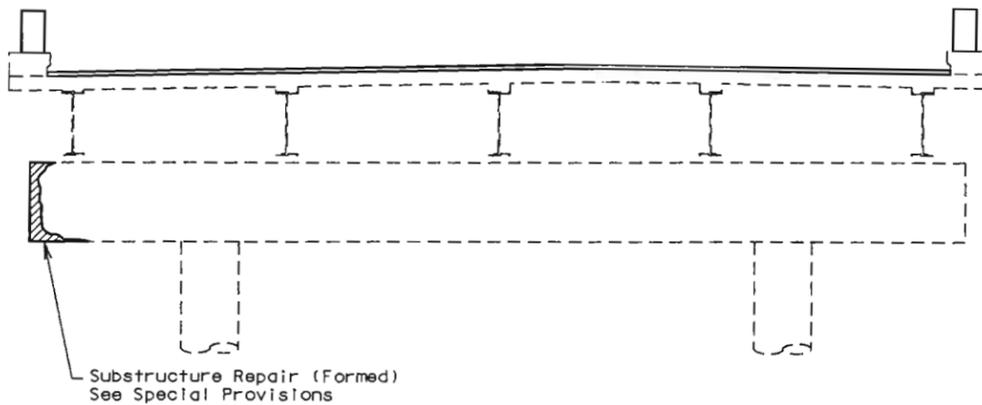


FULL DEPTH REPAIR



FULL DEPTH REPAIR IN HALF-SOLED AREA

- ① 2-1/4" (min.) Low Slump Concrete
- ② Saw out or chip vertically first 1/2" of all deck repair (Hydroblasting allowed by Special Provisions)
- ③ Scarify existing slab (1/4" min.)



INTERMEDIATE BENT CAP REPAIR
(Typical at Bent 2, 3 and 4)

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7920 WARD PARKWAY KANSAS CITY, MISSOURI 64114 816-383-2688

DRAWN BY: RMH APR. 2002
TRACED BY: TWM APR. 2002
CHECKED BY: MAH APR. 2002

Note: This drawing is not to scale. Follow dimensions.

SLAB CROSS SECTION AND REPAIR DETAILS

Sheet No. 3 of 8

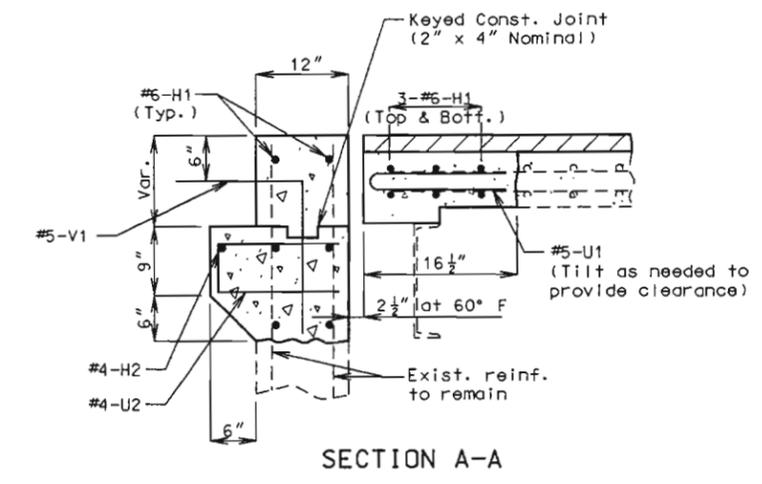
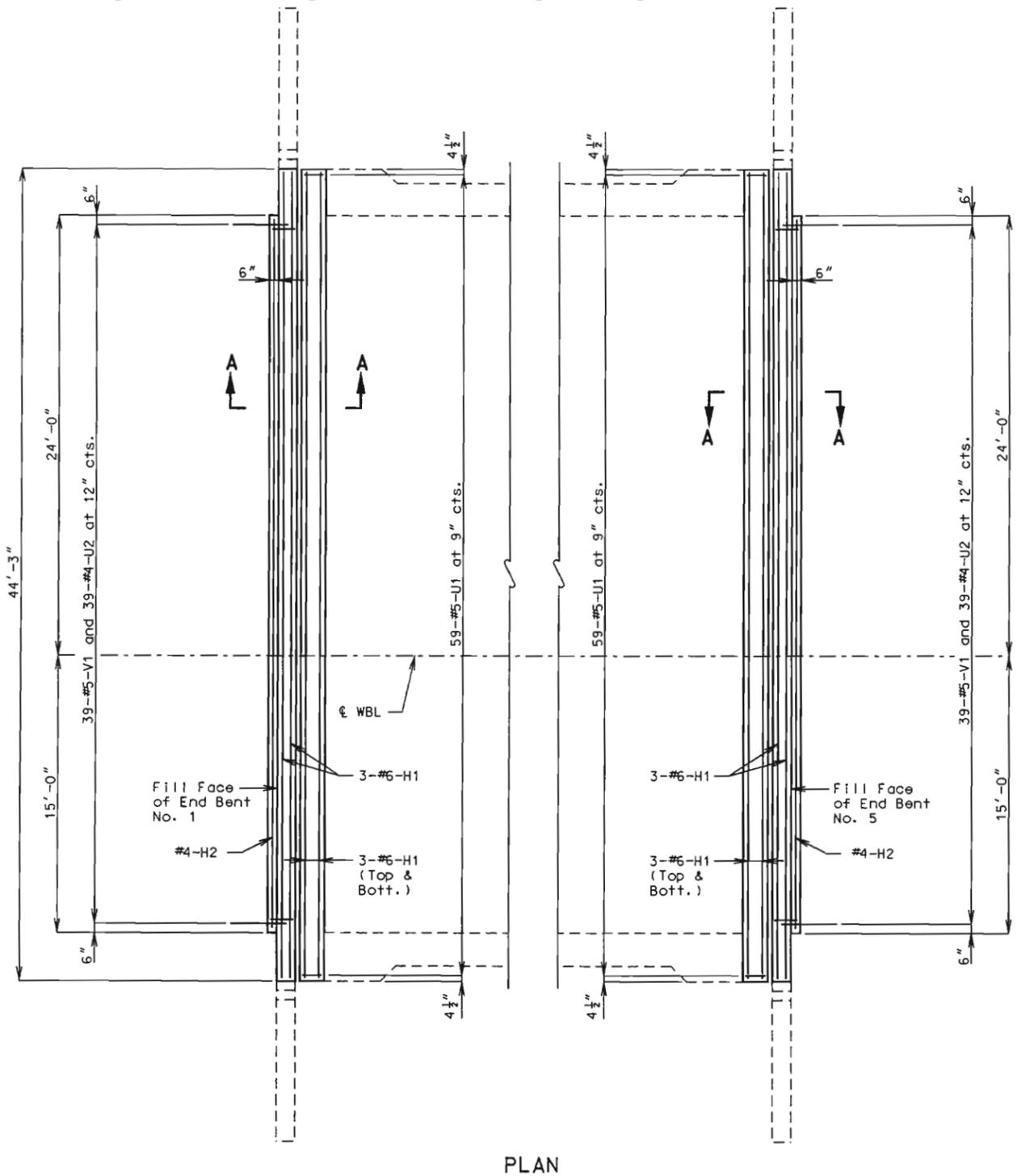
JASPER COUNTY

A06302



2001-059-STR-A630-WESTBOUND-DGN-630WB-SLABSEC-DGN

MO	Sheet No.
	B 63



Note:
For details and notes for strip seal expansion device, see Sheet No. 5.



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 7922 WARD PARKWAY, KANSAS CITY, MISSOURI 64114 BR-183-2096
 DRAWN BY: KLW JUNE 2002
 TRACED BY: JTC JUNE 2002
 CHECKED BY: DJS JUNE 2002

Note: This drawing is not to scale. Follow dimensions.

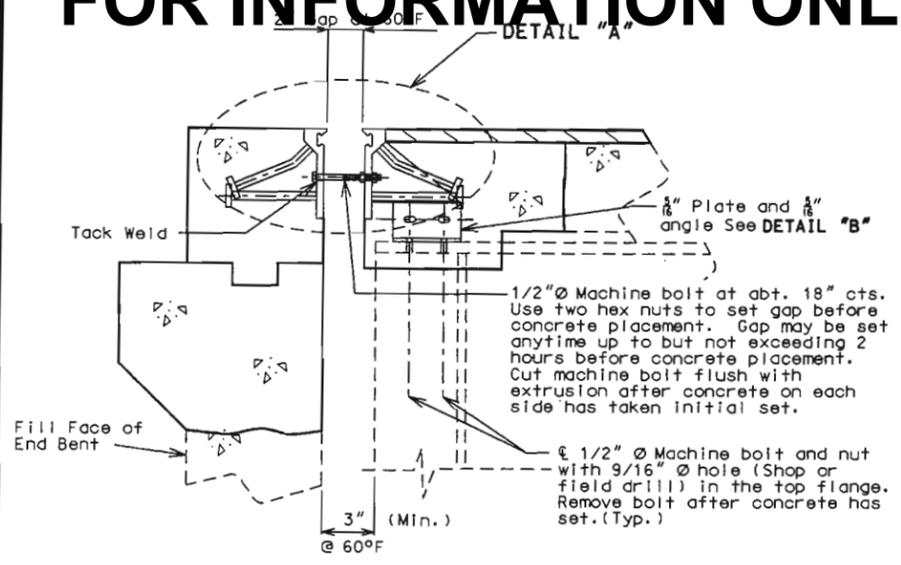
CONCRETE REPLACEMENT AT EXPANSION DEVICES

30--DCN--WESTBOUND--630WB_CONCREPLACE.DGN

FOR INFORMATION ONLY

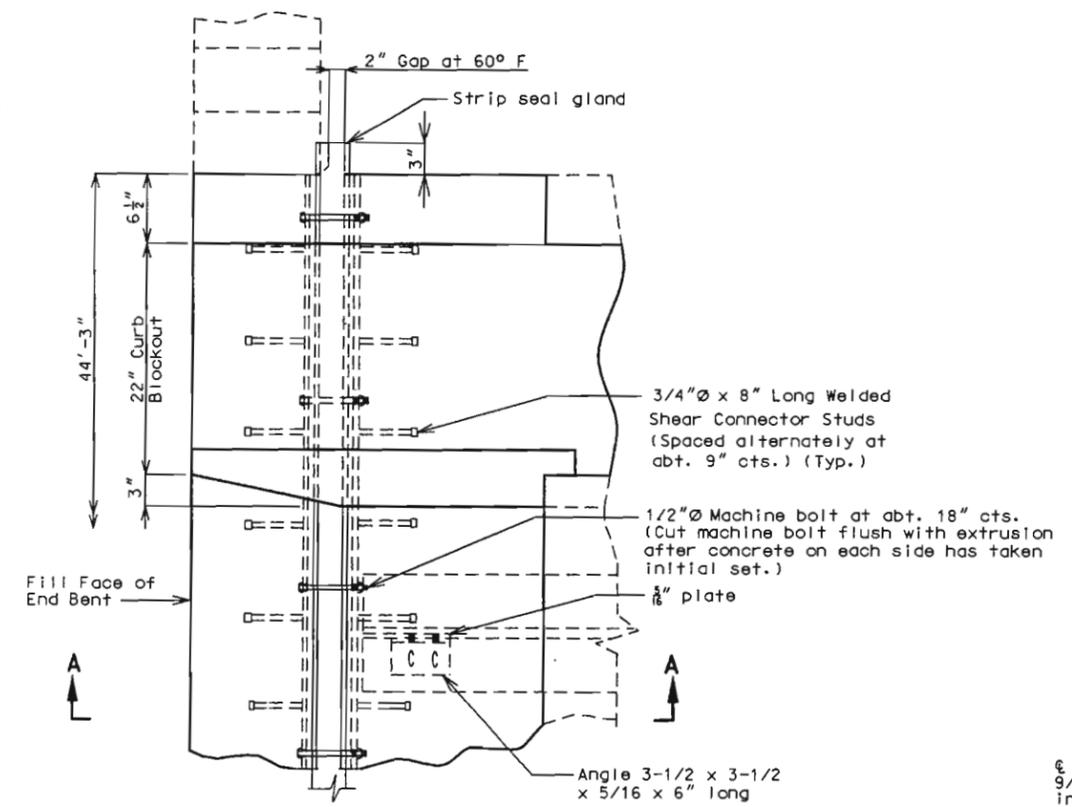
A06304 SH-27

State	Project No.	Sheet No.
MO		B64

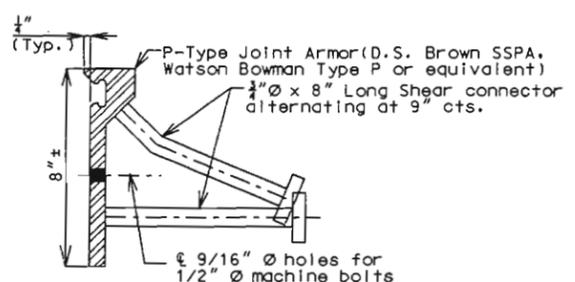


Note: Strip seal gland not shown for clarity.

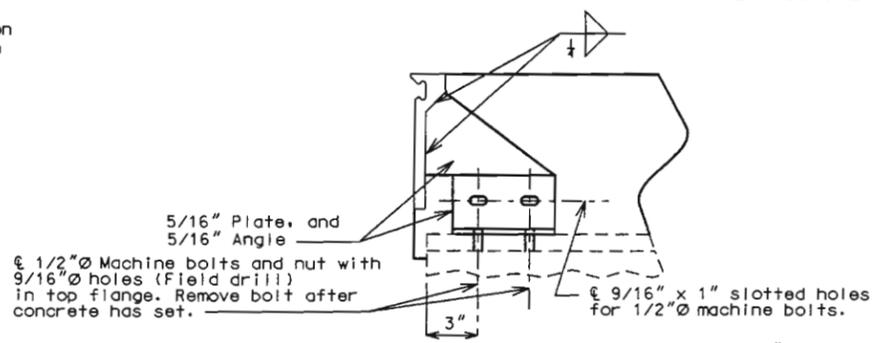
SECTION A-A



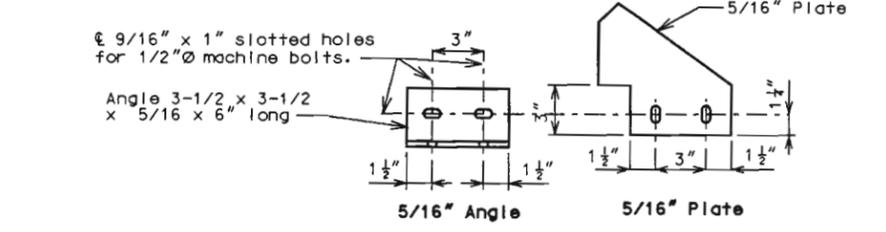
PART PLAN



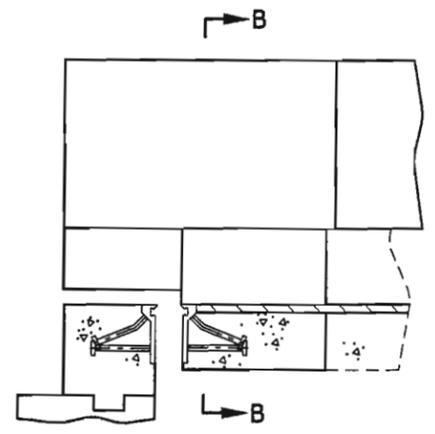
DETAIL OF JOINT ARMOR



DETAIL "A"

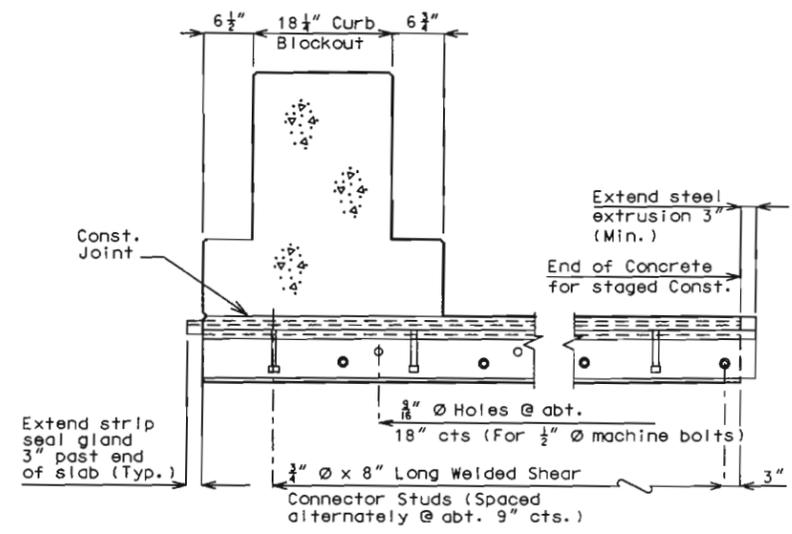


DETAIL "B"

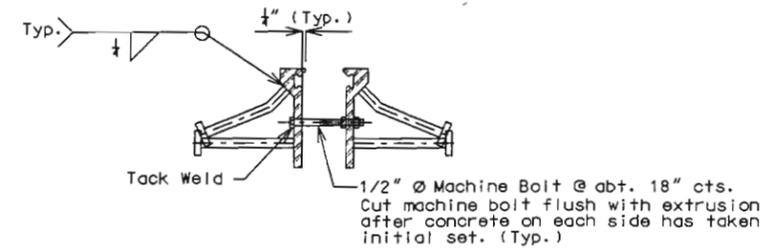


Note: Strip seal gland not shown for clarity.

PART ELEVATION OF BARRIER CURB



PART SECTION B-B



DETAIL "A"

DETAIL OF GLAND

GENERAL NOTES:

- The expansion device shall be fabricated and installed in accordance with the recommendations of the manufacturer, and as set forth in the Special Provisions.
- The contractor must verify all dimensions prior to fabrication.
- All welds shall conform to Section 712 of the Missouri Standard Specifications.
- Splices of steel extrusion shall develop full strength.
- All steel shall be ASTM A709 Grade 36, except steel extrusions shall be ASTM A709 Grade 50W or Grade 36.
- Neoprene Strip Seal shall meet ASTM D-2628.
- Anchors for the extrusions or armor shall be approved welded studs (C1010 thru C1020).
- Structural steel for the expansion device shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.
- Payment for furnishing, coating or galvanizing and placing steel extrusions, miscellaneous structural steel, and neoprene strip seal shall be made under the contract unit price for Strip Seal Expansion Device.
- Plan dimensions are based on installation at 60°F. The gap shall be increased 1/16" for each 10° fall in temperature and decreased 1/16" for each 10° rise in temperature from the installation temperature.
- #5-U1 Bars shall be placed so that the end shall not be more than 1"± from vertical leg of extrusion at Expansion Device.
- Concrete shall be forced under and around strip seal extrusions and studs. Proper consolidation of the concrete shall be achieved by localized internal vibration.
- Top of backwall and expansion device at end bents shall conform to the Crown of Roadway slab.

2001-059-STR-A630-DCN-WESTBOUND--630WB_STRIPSEAL.DGN

BUCHER, WILLIS & RATLIFF CORPORATION
 7820 WARD PARKWAY KANSAS CITY, MISSOURI 64114 816-363-2686

DRAWN BY:	RMH	APR 2002
TRACED BY:	TWM	APR 2002
CHECKED BY:	MAH	APR 2002

Note: This drawing is not to scale. Follow dimensions.

STRIP SEAL AT END BENTS

Sheet No. 5 of 8

JASPER COUNTY

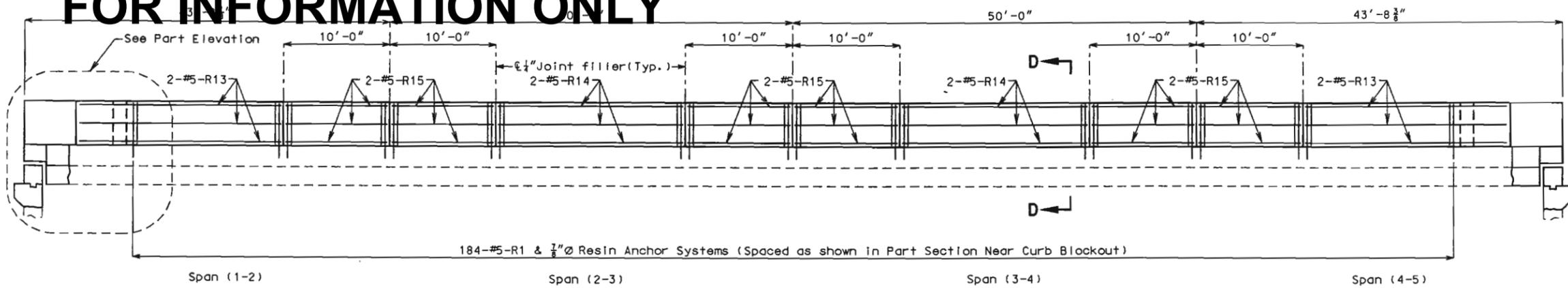
A06302



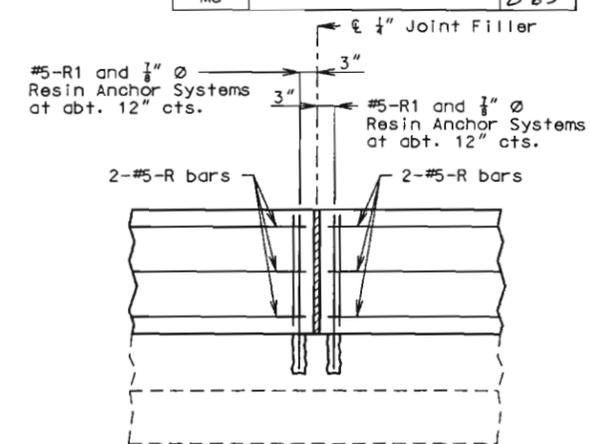
FOR INFORMATION ONLY

A06304, SH. 28

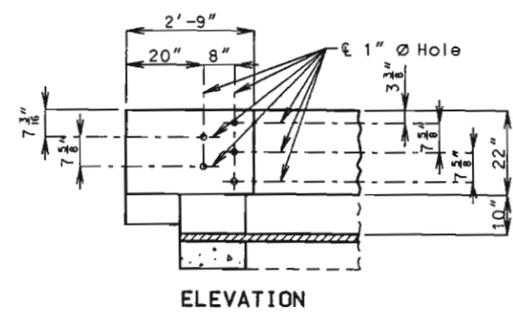
Sheet No. B 65



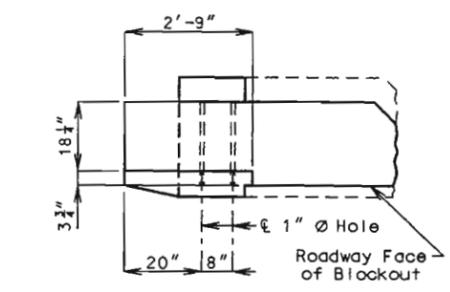
SECTION NEAR CURB BLOCKOUT



PART SECTION NEAR CURB BLOCKOUT

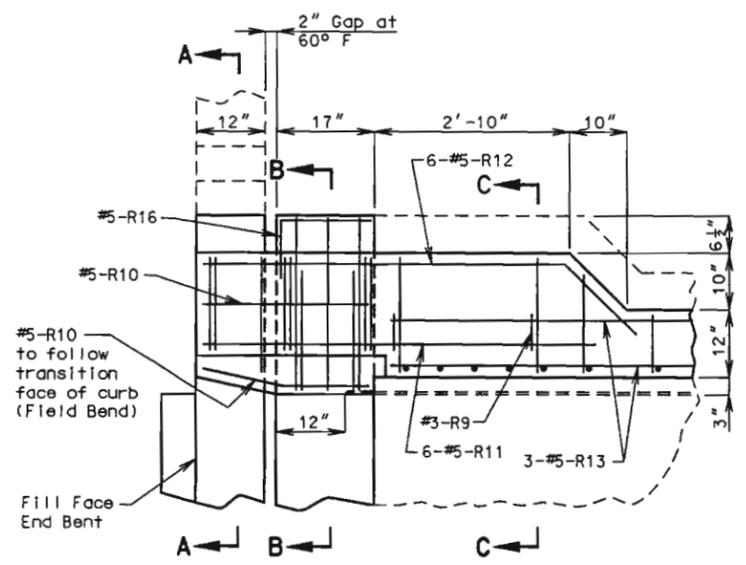


ELEVATION

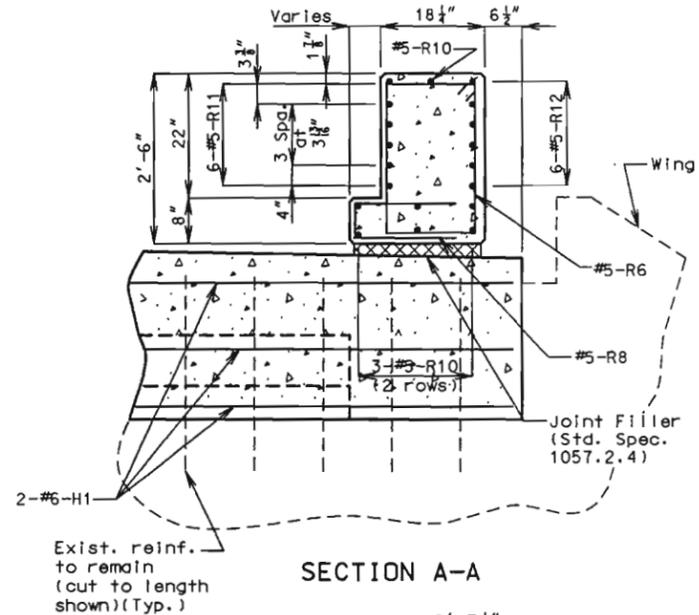


PLAN

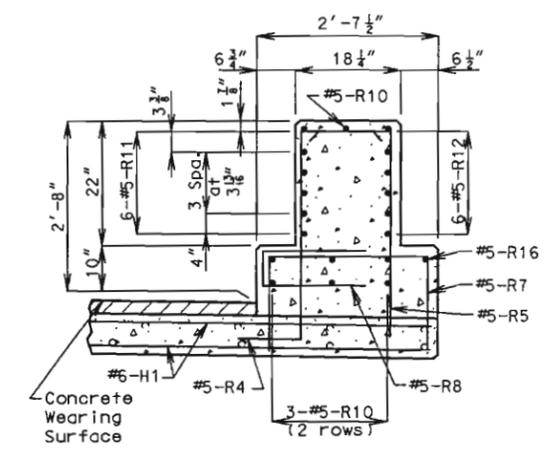
DETAILS OF GUARD RAIL ATTACHMENT



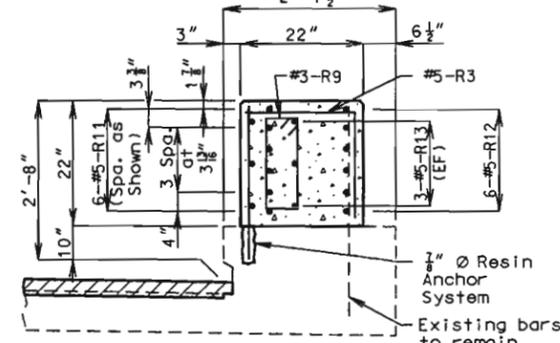
PART PLAN



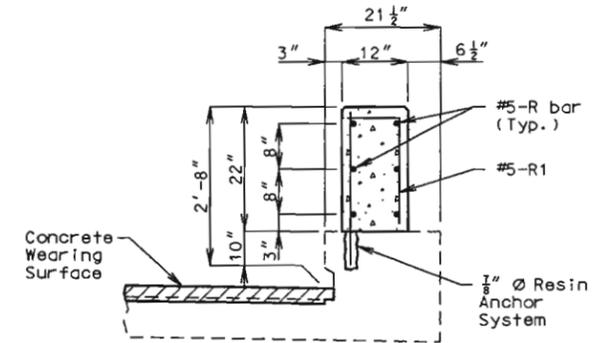
SECTION A-A



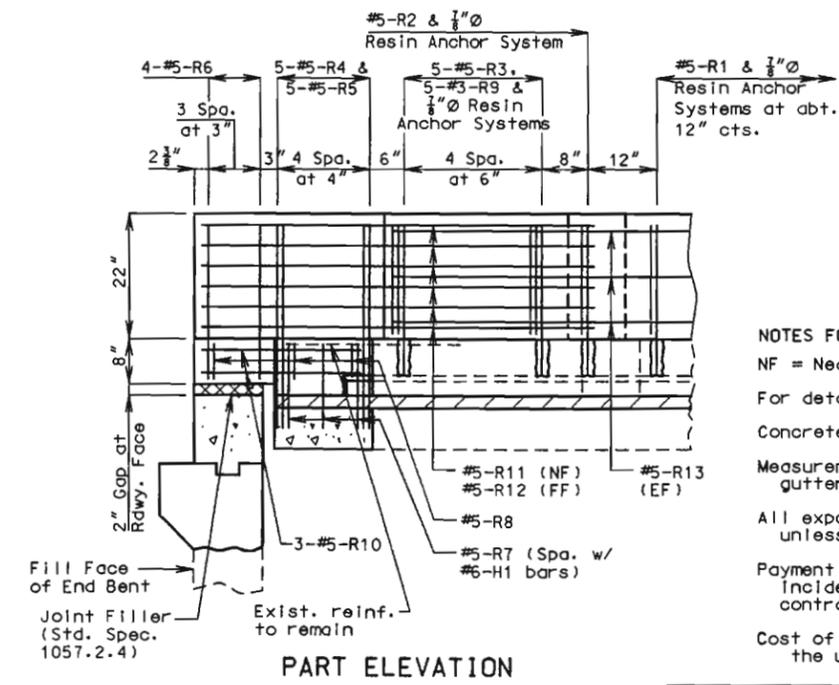
SECTION B-B



SECTION C-C



SECTION D-D



PART ELEVATION

NOTES FOR CURB BLOCKOUT:

- NF = Near Face, FF = Far Face, EF = Each Face.
- For details of strip seal expansion device, see Sheet No. 5.
- Concrete in curb blockout shall be Class B1.
- Measurement of curb blockout is to the nearest linear foot measured at the gutter line from end of curb blockout to end of curb blockout.
- All exposed edges of curb blockout shall have 1/2" radius or 3/8" bevel unless otherwise shown.
- Payment for concrete, reinforcing steel, resin anchors and any other work incidental to the curb blockout complete in place shall be included in the contract unit price for the Curb Blockout per linear foot.
- Cost of any concrete curb repair shall be considered completely covered in the unit price bid for Curb Blockout.

CURB BLOCKOUT DETAILS

Note: This drawing is not to scale. Follow dimensions.

2001-059-630-DCN-WESTBOUND-630WB_BLOCKOUT.DGN

BUCHER, WILLIS & RATLIFF CORPORATION
 7320 DARD PARKWAY KANSAS CITY, MISSOURI 64114 816-363-2696
 DRAWN BY: RMH APR 2002
 TRACED BY: TWM APR 2002
 CHECKED BY: MAH APR 2002



State	Proj. No.	Sheet No.
MO		B 66

GENERAL NOTES:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Section 503 (f/c = 4,000 psi) of the Missouri Standard Specifications.

All joint filler shall meet the requirements of Section 1057.2.5 of the Missouri Standard Specifications, except as noted.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with $F_y = 60,000$ psi.

Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 & #6 bars 18" and 26" respectively.

Mechanical bar splices will be permitted and shall develop at least 125 percent of the specified yield strength of the reinforcing bars being spliced. The contractor shall furnish the Engineer the manufacturer's certification that this requirement is met and is required to follow the manufacturer's recommendation for installation.

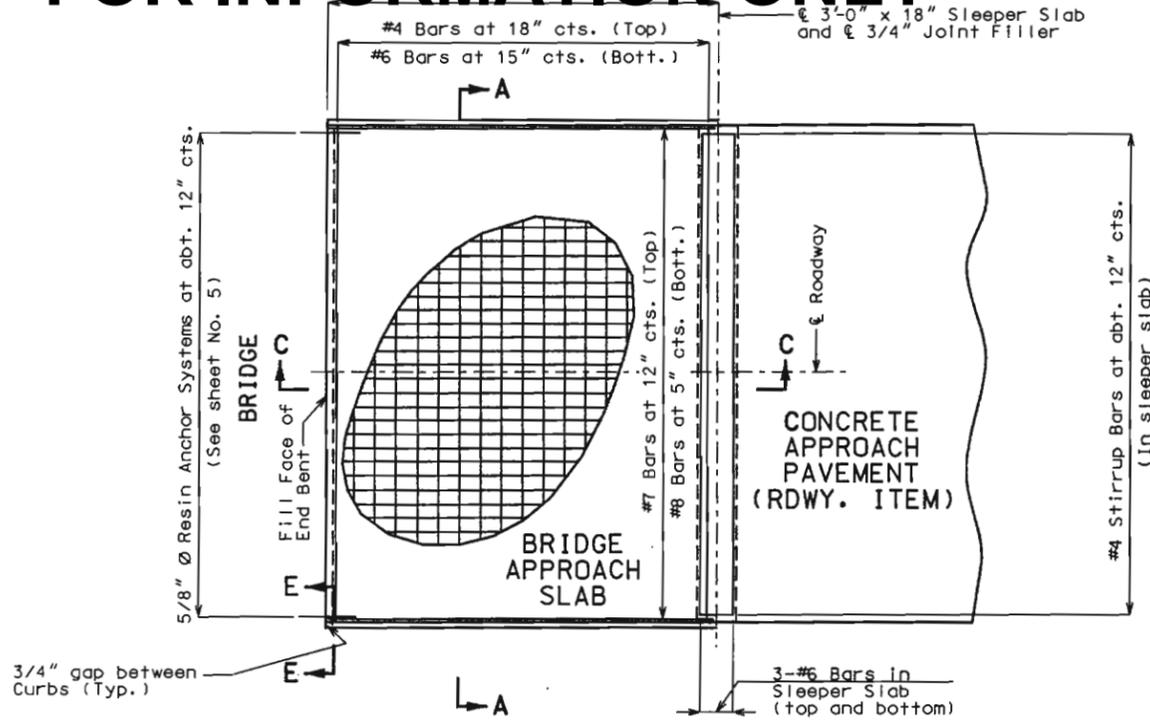
Mechanical bar splices shall be epoxy coated in accordance with Section 710 of the Missouri Standard Specifications.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

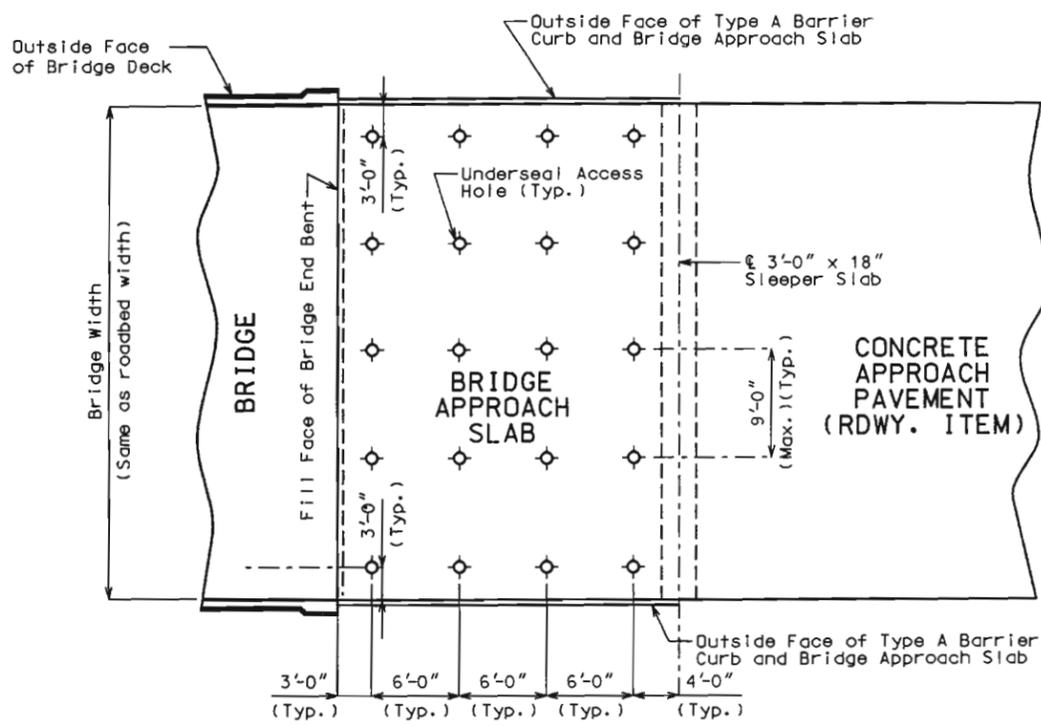
The contractor shall pour and satisfactorily finish the bridge slab before pouring the bridge approach slabs.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab overlay.

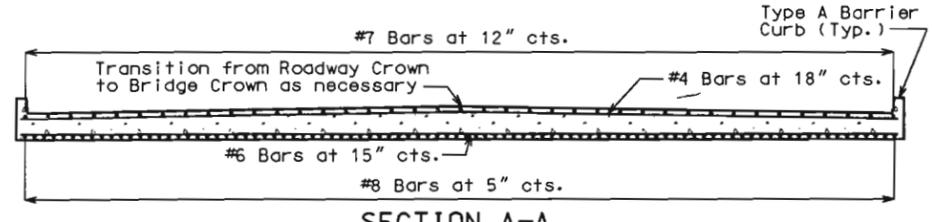
Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, type 5 aggregate base and all other appurtenances and incidental work as shown on this sheet, complete in place, shall be considered as completely covered under the contract unit price for Bridge Approach Slab (Bridge), per sq. yd.



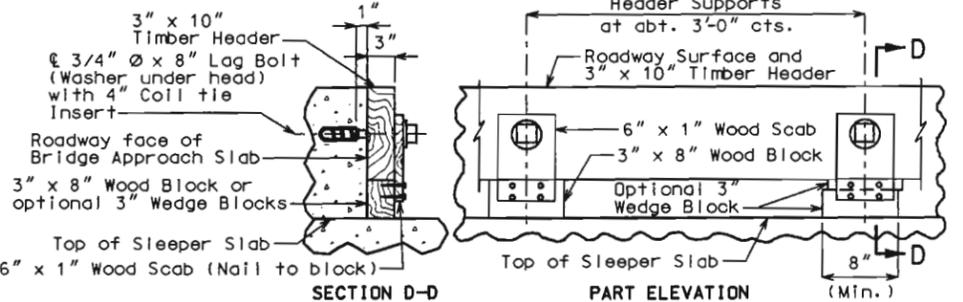
PART PLAN SHOWING REINFORCEMENT



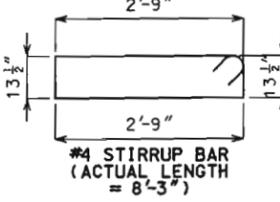
PART PLAN (SHOWING TYPICAL UNDERSEAL ACCESS HOLE LOCATIONS)



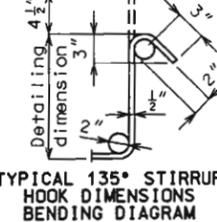
SECTION A-A



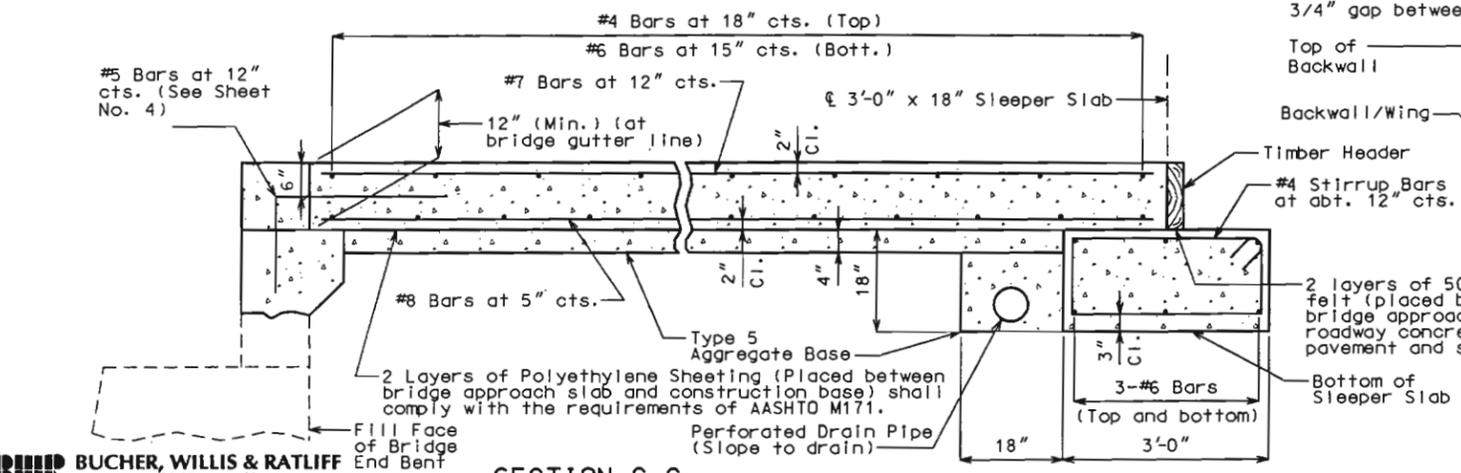
SECTION D-D PART ELEVATION DETAILS OF TIMBER HEADER
Note: Remove timber header when concrete pavement is placed.



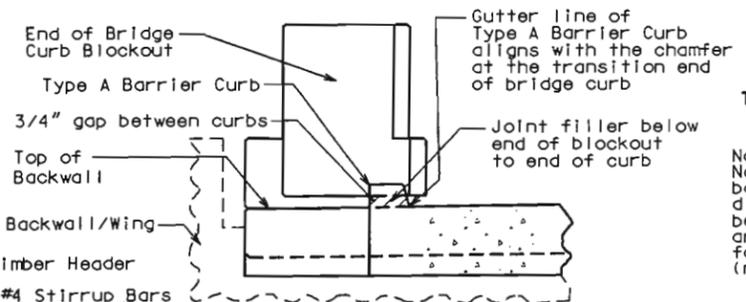
#4 STIRRUP BAR (ACTUAL LENGTH = 8'-3")



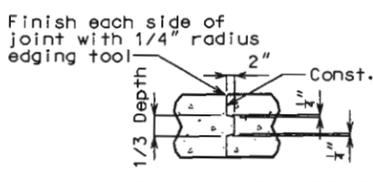
TYPICAL 135° STIRRUP HOOK DIMENSIONS BENDING DIAGRAM



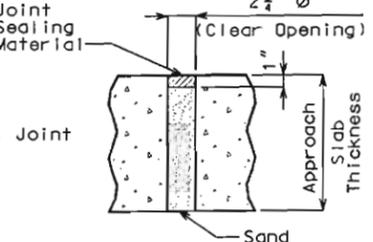
SECTION C-C



SECTION E-E (EXPANSION DEVICE NOT SHOWN)



CONST. JOINT DETAIL (IF REQUIRED)



TYPICAL UNDERSEAL ACCESS HOLE DETAIL

BUHR BUCHER, WILLIS & RATLIFF CORPORATION
7520 WARD PARKWAY KANSAS CITY, MISSOURI 64114 816-363-2686

DRAWN BY: RMH APR. 2002
TRACED BY: TWM APR. 2002
CHECKED BY: MAH APR. 2002

Note: This drawing is not to scale. Follow dimensions.

BRIDGE APPROACH SLAB

Sheet No. 7 of 8

JASPER COUNTY

A06302



8-13-2002

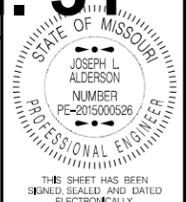
2001-059--STR--A630--DGN--WESTBOUND--630WB_APPRSLAB.DGN

FOR INFORMATION ONLY

U.I.P. AND REPAIR COLLISION DAMAGED (42'-50'-50'-42') CONTINUOUS WIDE FLANGE BEAM SPANS

SEC/SUR 9 11/17/21 PAGE 31W

A06304, SH. 31



DATE PREPARED 12/2/2021	
ROUTE I-44	STATE MO
DISTRICT BR	SHEET NO. 1
COUNTY JASPER	
JOB NO. J7P3532B	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A06303	

GENERAL NOTES:

Design Specifications:

2002-AASHTO LFD (17th Ed.) Standard Specifications

Design Loading:

HS20 Modified (New Construction)
15lb/Sq. Ft. Wearing Surface
H20-S16-44 & Military 24,000 lb. Tandem Axle (1957)

Design Unit Stresses:

Structural Carbon Steel (ASTM A709 Grade 36) $f_y = 36,000$ psi

Fabricated Steel Connections:

Field connections shall be made with 3/4" diameter ASTM F3125 Grade A325 Type 1 bolts and 13/16" diameter holes, except as noted.

Recoating Existing Steel:

Protective Coating: System G in accordance with Sec 1081.

Surface Preparation: Surface preparation of the existing steel shall be in accordance with Sec 1081 for Recoating of Structural Steel (System G). The cost of surface preparation will be considered completely covered by the contract lump sum price for Surface Preparation for Recoating Structural Steel.

Prime Coat: The cost of the prime coat will be considered completely covered by the contract lump sum price for Field Application of Inorganic Zinc Primer.

Field Coat(s): The color of the field coat(s) shall be Gray (Federal Standard #26373). The cost of the intermediate field coat will be considered completely covered by the contract lump sum price for Intermediate Field Coat (System G). The cost of the finish field coat will be considered completely covered by the contract lump sum price for Finish Field Coat (System G).

Limits of Paint Overlap: System G shall overlap the existing coating between 6 inches and 12 inches in order to achieve maximum coverage at the paint limit of each complete system. The final field coating shall be masked to provide crisp, straight lines and to prevent overspray beyond the overlap required.

Coating New Steel:

Protective Coating: System G in accordance with Sec 1081.

Prime Coat: The cost of the prime coat will be considered completely covered by the contract unit price for the fabricated structural steel.

Field Coat(s): The color of the field coat(s) shall be Gray (Federal Standard #26373). The cost of the intermediate field coat will be considered completely covered by the contract lump sum price for Intermediate Field Coat (System G). The cost of the finish field coat will be considered completely covered by the contract lump sum price for Finish Field Coat (System G).

At the option of the contractor, the intermediate field coat and finish field coat may be applied in the shop. The contractor shall exercise extreme care during all phases of loading, hauling, handling, erection and pouring of the slab to minimize damage and shall be fully responsible for all repairs and cleaning of the coating systems as required by the engineer.

Miscellaneous:

The existing vertical clearance shall be maintained during construction when Route I-49 is open to traffic.

Lane closures on Route I-44 and Route I-49 shall be in accordance with traffic control plans.

High strength bolts, nuts and washers will be sampled for quality assurance as specified in Sec 106.

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

The contractor shall verify all dimensions in field before ordering new material.

All existing dimensions shown were taken from as-built drawings, or limited field measurements.

All concrete repairs shall be in accordance with Sec 704, unless otherwise noted.

The contractor shall complete a non-destructive test on the connection plate welds at all beam(s) in damaged areas where connection plates will be re-used to confirm suitability of re-use before installing new diaphragm(s). The cost of this work will be considered completely covered by the contract lump sum price for Non-Destructive Testing. See Special Provisions. Required paint removal for this work will be considered completely covered by the lump sum price for Surface Preparation for Recoating Structural Steel.

The contractor shall heat straighten the damaged portions of beam(s). The cost of this work will be considered completely covered by the contract lump sum price for Heat Straightening. See Special Provisions.

Removal and reinstallation of sign and sign supports as needed will be considered completely covered by the contract lump sum price for Heat Straightening.

The contractor shall grind smooth surface deformities related to the damage such as gouges. The cost of this work will be considered completely covered by the contract lump sum price for Grind Surface Deformities. See Special Provisions.

The cost of removing loose and delaminated concrete and epoxy coating spalled concrete will be considered completely covered by the contract lump sum price for Cleaning and Epoxy Coating.

PHASES OF WORK

Prior to Heat Straightening:

1. Complete surface preparation of existing steel that will be subjected to Non-Destructive Testing (NDT) or heat from the heat straightening process.
2. Repair gouges and other deformities in collision damaged beams.
3. Remove the intermediate diaphragms and connection plates as indicated in the plans or directed by the engineer. As approved by the engineer, existing connection plates may be re-used. Non-Destructive Testing (NDT) of the connection plate welds are required to assure suitability for re-use; paint shall be removed prior to any NDT of welds. Existing connection plates not re-used shall be removed and the beams ground smooth.
4. Inspect beam in the area of repair for cracks by any non-destructive means. If cracks are identified, repair cracks as directed by the engineer.

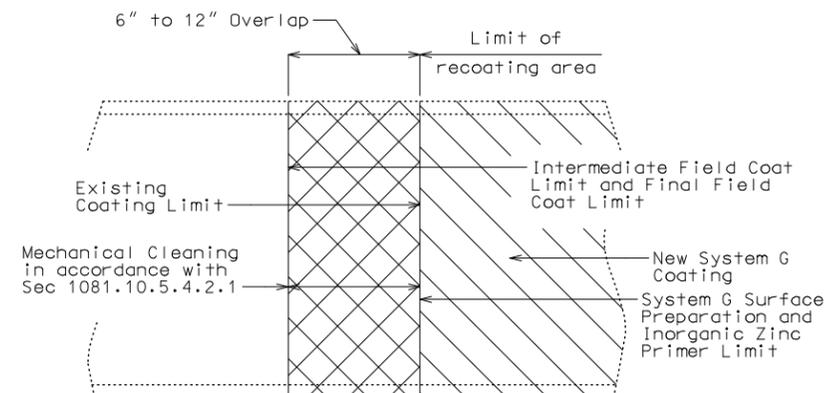
Heat Straightening:

1. Heat straighten beams covering the length of the collision damaged beams. The beams shall be heat straightened to remove web and bottom flange twisting. See Special Provisions.
2. The shoulder and adjacent lane of I-44 shall remain closed, and no traffic shall be allowed over the beam(s) being straightened during the heat straightening process.

Post Heat Straightening:

1. Install new connection plates and diaphragms.
2. Recoat beams over the length of damage and where paint was removed during the heat straightening process with System G (Gray).
3. Paint new diaphragms and connection plates with System G (Gray).

Estimated Quantities		
Item		Quantity
Removal of Diaphragm	each	1
Cleaning and Epoxy Coating	lump sum	1
Fabricated Structural Carbon Steel (Misc.)	pound	300
Surface Preparation for Recoating Structural Steel	lump sum	1
Field Application of Inorganic Zinc Primer	lump sum	1
Intermediate Field Coat (System G)	lump sum	1
Finish Field Coat (System G)	lump sum	1
Non-Destructive Testing	lump sum	1
Heat Straightening	lump sum	1
Grind Surface Deformities	lump sum	1



PART ELEVATION SHOWING LIMITS OF PAINT OVERLAP

(Vertical or horizontal paint limit. Horizontal limit shown)

Detailed Nov. 2021
Checked Nov. 2021

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 3

REPAIRS TO BRIDGE: ROUTE I-44 WB OVER ROUTE I-49

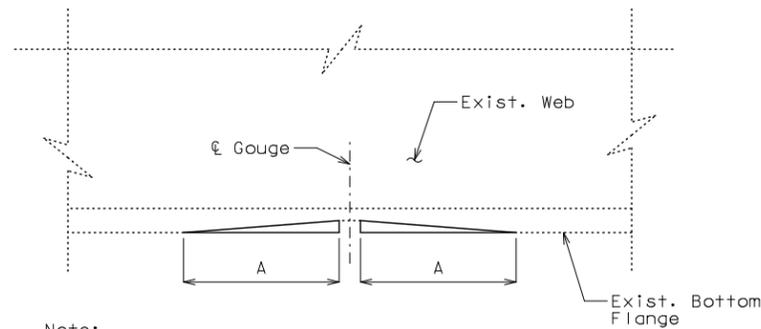
ROUTE I-44 WB FROM ROUTE 249 TO ROUTE 37
ABOUT 8.1 MILES WEST OF ROUTE 37
BEGINNING STATION 411+73.69± (Match Existing)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

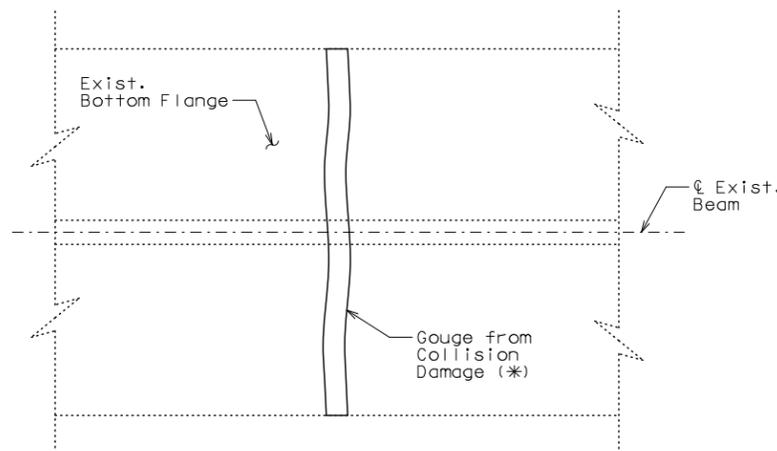
GOUGE REPAIR TYPE 1



Note:
Repairs by grinding shall have edges flared to the flange surface with a slope not exceeding 1 in 10.

GRIND DETAIL FOR FLANGE

DEPTH	A
$\leq \frac{3}{16}$ "	$1 \frac{7}{8}$ "



PLAN OF GOUGE COLLISION DAMAGE

EVALUATION OF FLANGE GOUGE REPAIRS

If the length of gouge is less than or equal to 2" and depth of the gouge is 1/16" or less, then no repair is necessary.

If the length of the gouge is greater than 2" and the depth of the gouge is 3/16" or less, then use Gouge Repair Type 1.

If the depth of the gouge is greater than 3/16", then use Gouge Repair Type 2.

Payment for beam gouge repairs will be completely covered by Grind Surface Deformities. See Special Provisions.

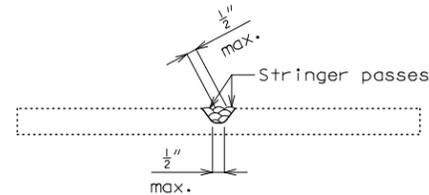
(*) The beam bottom flange shall be repaired for gouging resulting from collision damage as directed by the Engineer. The Contractor shall not perform any repairs until the defects have been reviewed and categorized by the Engineer, as Type 1 or Type 2.

GOUGE REPAIR TYPE 2

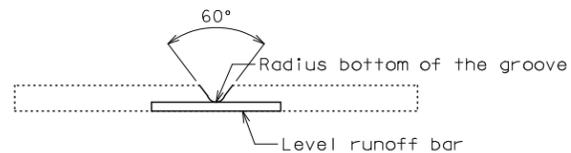
Note:
Type 2 repairs shall consist of welding the gouge and grinding it smooth at the Engineer's discretion prior to coating. Welding shall be in accordance with AWS D1.5 standards.

WELD NOTES

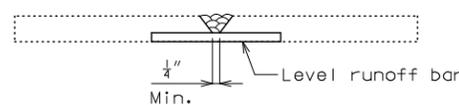
- (1) All welds shall be made using 1/8" or 5/32" E7018 electrodes only (Not E7028).
- (2) Maximum weld size shall be 1/2" across the face of the weld on each pass. Stringer passes shall be used to achieve this dimension.



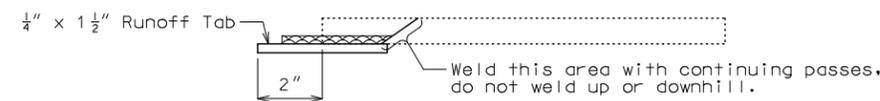
- (3) Preheat shall be 250°F min. prior to any tacking or welding.
- (4) All runoff bars and weld backing bars shall be 1/4" x 1 1/2" flat bar minimum, and shall extend 2" beyond the edge of the flange.
- (5) The groove welds shall have a min. of 60° inclined angle.



- (6) All welds shall be started 1" out on the runoff bar and continued toward the center of the flange. Runoff bars shall be level with the bottom of the groove.
- (7) 100% penetration welds shall have a min. 1/4" root opening and all welding shall be done from the top side.

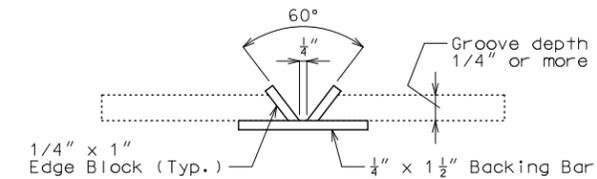


- (8) All runoff bars shall be burned off 1/8" min. beyond the edge of the flange and ground flush.
- (9) All 100% groove weld backing bars shall be torched or arc gouged off to within 1/8" of the flange and then grind smooth. The bottom of the flange shall be ground smooth after welding.
- (10) All welds shall be made in the flat position with no welding up or down on incline slope.



- (11) Use 1/4" x 1" flat bar to support the edge of welds that are layered, anytime the groove depth exceeds 1/4".

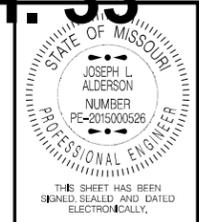
GOUGE REPAIR TYPE 2 (CONT.)



Edge blocks shall extend 2" from edge of flange, and be removed after welding in the same manner as the backing bar. All welds shall be ground smooth.

Notes:
All Type 2 Repairs to beam flanges shall be Q.C. inspected by ultra-sonic testing. Acceptance or rejection of the repair welds shall be based on the requirements of Table 9.2 of AWS D1.5-95.

Welders shall be AWS Certified for overhead welding.



DATE PREPARED
12/2/2021

ROUTE
I-44

STATE
MO

DISTRICT
BR

SHEET NO.
3

COUNTY
JASPER

JOB NO.
J7P3532B

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A06303

DESCRIPTION

DATE

DATE