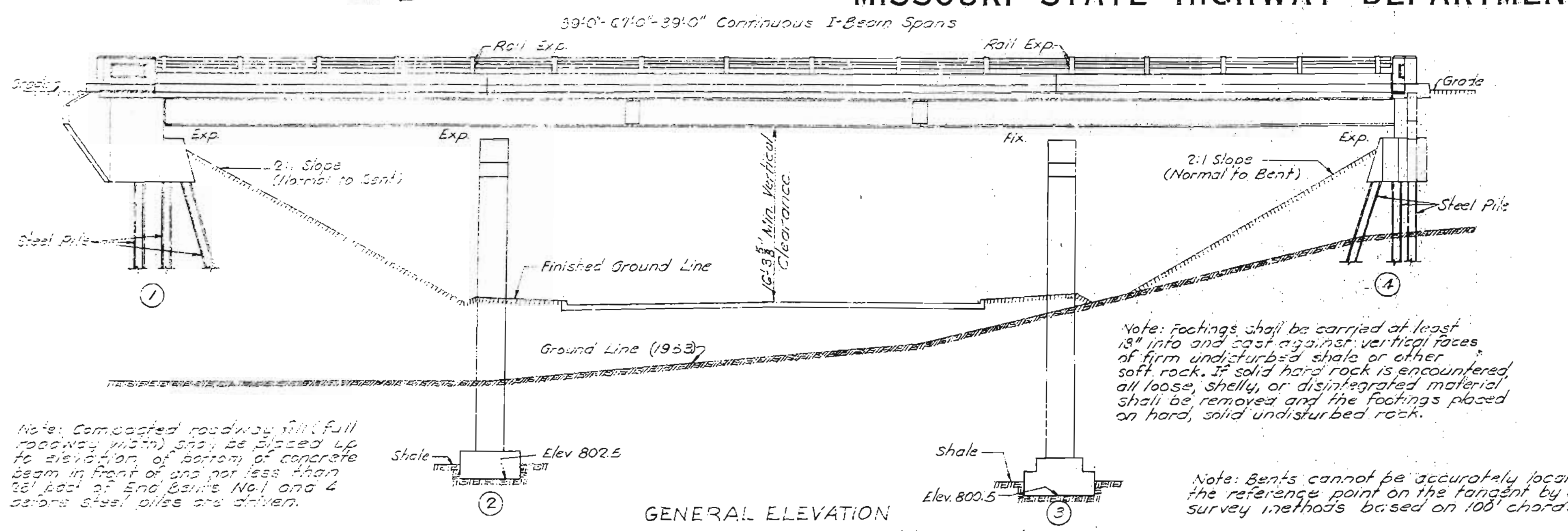
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	UI-99(7) (RT 69)	19		

39'0"-67'0"-39'0" Continuous I-Beam Spans



GENERAL ELEVATION

Note: Footings shall be carried at least 18" into and cast against vertical faces of firm undisturbed shale or other soft rock. If solid hard rock is encountered, all loose, shelly, or disintegrated material shall be removed and the footings placed on hard, solid undisturbed rock.

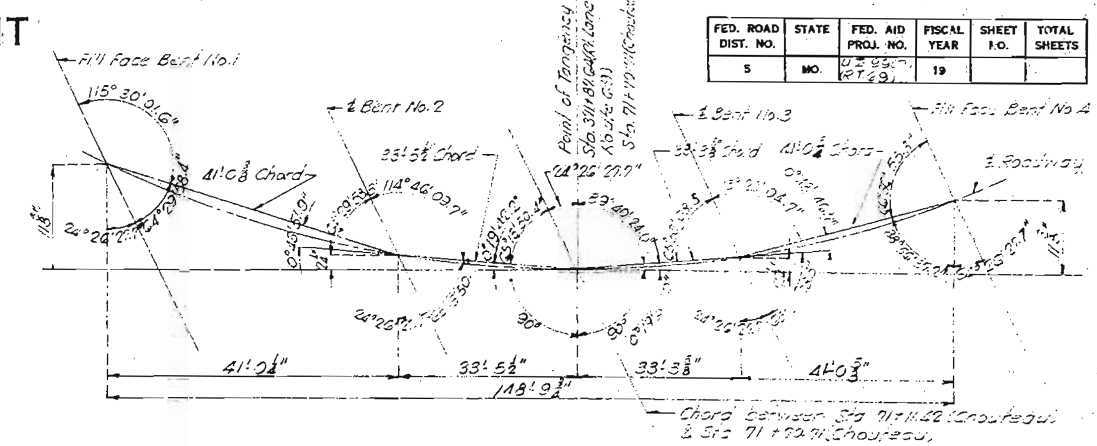
Note: Compacted roadway fill (full roadway width) shall be placed up to elevation of bottom of concrete beam in front of and not less than 25 feet of End Bents No.1 and 4 before steel piles are driven.

Note: Bents cannot be accurately located from the reference point on the tangent by conventional survey methods based on 100' chords.

Note: All piling shall be 12" Bearing Pile @ 53# and shall conform with details and notes on Sheet No. 3 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 46 ton per pile.

All pile shall be driven with a steam hammer.



LAYOUT OF STRUCTURE

GENERAL NOTES:

Design Specifications A.A.S.H.O. 1953
Loading H20-S16-44
Reinforcing Steel Stress 18,000#/□"
Structural Steel Stress 18,000#/□"
Class "B" Concrete Stress 1,000#/□"
All concrete shall be Class "B" (Air Entrained)

Where joint filler is specified on plans it shall conform with the requirements for Gray Rubber Compound Joints as given in Section 33-19.9(2) of the Standard Specifications.

For requirements on welding electrodes see Special Provisions. Qualification of welding operators will be required.

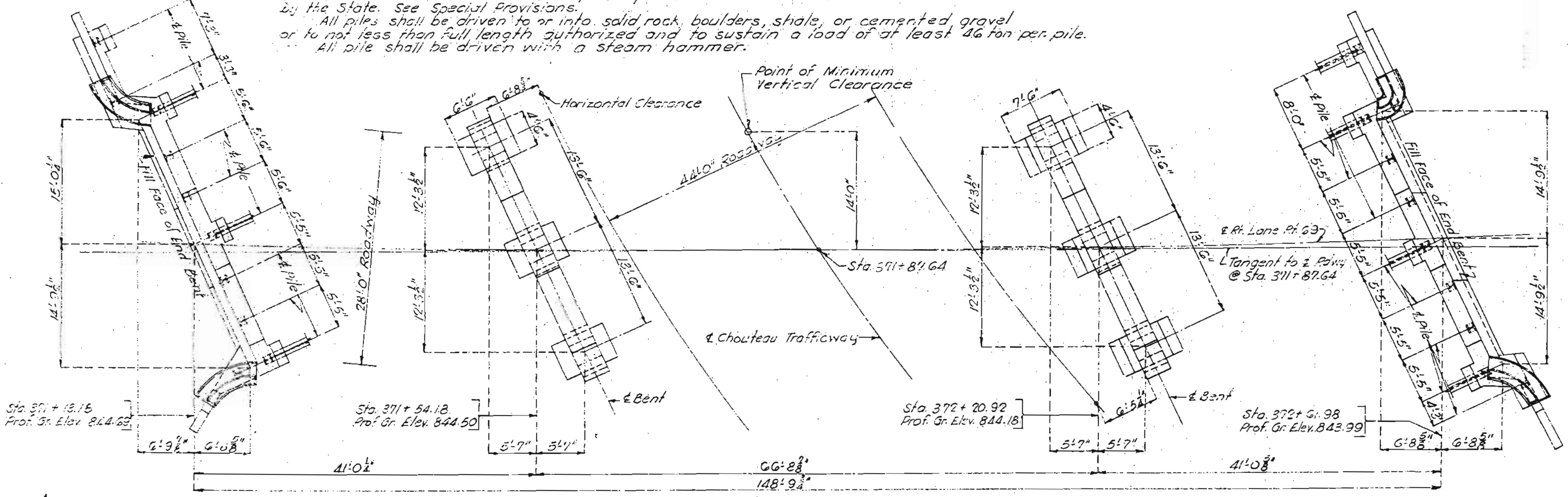
Surfaces of piles at Bents No. 1 & 4 from bottom of concrete cap to 3'-0" below bottom of concrete cap shall be painted with one coat of an approved brand of emulsified asphalt paint. Payment for excavating around piles to 3' below bottom of cap and backfilling same, furnishing emulsified asphalt paint and cleaning and painting steel surfaces specified will be included in the unit price bid for other items.

A rubbed surface finish will be required on all exposed surfaces of concrete end posts above top of Curbs.

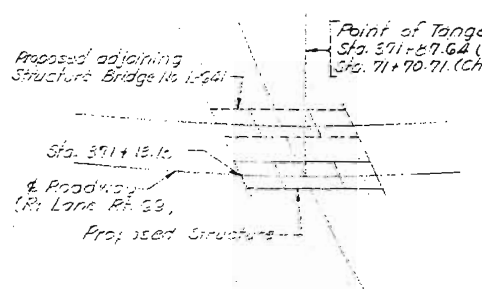
Rivets ¾"ϕ; holes 13/16"ϕ except as noted.

Field connections shall be riveted or if the Contractor desires he may use high tensile steel bolts with carburized washers in place of rivets. (See Special Provisions.)

Paint: Shop, none; Field, contact surfaces of casting connections 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 painting such surfaces will be included in price bid for items painted.



PLAN



LOCATION SKETCH

CURVE DATA (Rt. Lane)
P.I. 376+22.60
Δ 26°14' 05" Lt.
R 2916.93
T 680.13'
L 1335.53'
D 1°57' 46.7959"
S.E. - 0.03'/Ft.

ESTIMATED QUANTITIES				
Item		Substr.	Superstr.	Total
Class I Excavation for Structures	Cu. Yds.	290		290
Class "B" Concrete	Cu. Yds.	188.6	150.4	339.0
Fabricated Structural Steel	Lbs.		112,900	112,900
Aluminum Alloy Handrail	Lin. Ft.		292	292
Steel Castings	Lbs.		5220	5220
Reinforcing Steel	Lbs.	22,360	32,980	55,340
Steel Pile in place (State Furnished)	Lin. Ft.	792		792

Note: Concrete in end posts is included in Estimated Quantities of Class "B" Concrete for Substructure.

All excavation for bridge will be paid for as Class I Excavation for Structures.

B.M. #20 Elev. 832.63 on N.W. Wingwall Conc. Culv. Sta 334+87

BRIDGE OVER CHOUTEAU TRAFFICWAY

STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N.E.

ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY

PROJECT NO. UI-99(7) (RT 69) **STA.** 371+13.15 (RIGHT LANE)

CLAY **COUNTY**

SUBMITTED BY J. A. Williams, BRIDGE ENGINEER, DATE 7/19/1954

APPROVED BY Rex M. Whitton, CHIEF ENGINEER, DATE 7/19/1954

FINISHED

STD. C-110 R3

L-642

Drawn May 1954 by M.E.L.
Checked June 1954 by H.J.B. & R.H.L.

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

FINISHED

FINISHED

SEE FINAL PLANS BROWN-LINES

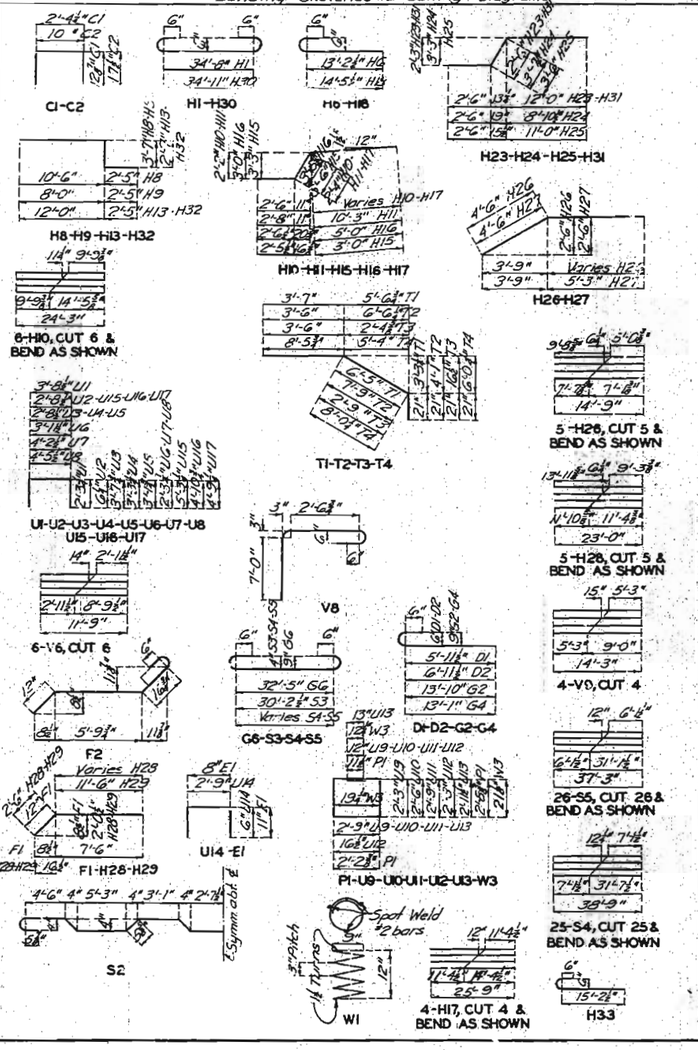
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	UI-99(7) (RT.69)	15		

COMPLETE BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Location
	End Bent No. 1			
15	#5	4'-6"	C1	Curb
1	#5	8'-3"	C6	"
1	#5	7'-3"	C7	"
	"	6'-0"	C8	"
1	#5	6'-3"	C12	"
1	#5	7'-6"	C13	"
1	#5	8'-9"	C14	"
62	#5	2'-6"	E1	Backwall
4	#7	13'-0"	H5	Beam
4	#7	14'-6"	H6	"
14	#4	10'-6"	H12	Lt. Wing
2	#5	11'-0"	H14	" "
4	#7	15'-9"	H15	Beam
4	#6	3'-6"	H19	"
4	#6	35'-6"	H20	"
2	#6	33'-0"	H21	Backwall
4	#4	33'-0"	H22	"
8	#4	17'-0"	H23	Lt. Wing
4	#6	15'-0"	H24	Lt. Wg. Bm.
4	#6	17'-0"	H25	" " "
5	#6	14'-9"	H26	Rt. Wing
4	#6	9'-9"	H27	" "
5	#6	23'-0"	H28	" "
4	#6	14'-0"	H29	" "
4	#7	37'-6"	H30	Beam
2	#6	17'-0"	H31	Lt. Wg. Bm.
3	#4	5'-9"	R1	Rt. End Post
30	#6	3'-9"	R2	" " "
3	#4	6'-3"	R6	Lt. End Post
3	#4	7'-0"	R7	" " "
2	#6	8'-0"	T3	Rt. Wing
2	#6	18'-3"	T4	" "
38	#5	8'-3"	U1	Beam
16	#4	3'-9"	U2	"
32	#7	10'-0"	U3	Haunch
8	#7	9'-3"	U4	"
8	#7	9'-0"	U5	"
20	#5	8'-6"	U6	Beam
22	#5	8'-9"	U7	"
16	"	3'-9"	V2	Haunch
12	#4	9'-3"	V3	Lt. Wing
18	#5	11'-3"	V4	" "
6	#6	11'-0"	V8	Wing
4	#4	14'-3"	V9	Rt. Wing
6	#4	8'-3"	V10	" "
5	#4	10'-0"	V11	" "
2	#4	3'-6"	V12	" "
68	#5	8'-6"	W14	Backwall
5	#4	4'-3"	W16	Rt. Wing
8	#2	19'-9"	W1	A.B. Wells

Bending Sketches & Cutting Diagrams



No.	Size	Length	Mark	Location
	Int. Bents No. 2 & 3			
24	#8	7'-3"	D1	Footing
24	#8	8'-3"	D2	"
32	#6	8'-6"	F1	Col. Haunch
16	#6	9'-6"	F2	" "
4	#6	33'-3"	G1	Beam
12	#9	15'-6"	G2	"
14	#9	14'-6"	G3	"
12	#9	14'-9"	G4	"
8	#6	3'-6"	G5	"
12	#9	35'-9"	G6	"
87	#3	10'-9"	P1	Col. (Bt. #2)
90	#3	10'-9"	P1	Col. (Bt. #3)
16	#2	19'-9"	W1	A.B. Wells
14	#5	11'-0"	U9	Beam
20	#5	11'-6"	U10	"
20	#5	12'-0"	U11	"
20	#5	8'-3"	U12	"
12	#5	12'-6"	U13	"
16	#4	3'-9"	U14	"
24	#8	33'-0"	V13	Col. (Bt. #2)
24	#8	34'-0"	V15	Col. (Bt. #3)
	End Bent No. 4			
12	#5	4'-6"	C1	Curb
1	#5	8'-3"	C6	Rt. Curb
1	#5	7'-3"	C7	" "
1	#5	6'-0"	C8	" "
1	#5	7'-6"	C9	Lt. Curb
1	#5	5'-3"	C10	" "
1	#5	3'-3"	C11	" "
4	#7	37'-3"	H1	Beam
4	#6	35'-0"	H2	"
4	#4	32'-2"	H3	Backwall
6	#6	12'-6"	H4	" "
4	#7	13'-0"	H5	Beam
4	#7	14'-6"	H6	"
4	#6	5'-6"	H7	"
4	#6	16'-6"	H8	Lt. Wg. Bm.
4	#6	14'-0"	H9	" " "
6	#6	24'-3"	H10	Rt. Wing
8	#6	15'-3"	H11	" "
14	#4	10'-6"	H12	Lt. Wing
8	#4	17'-0"	H13	" "
2	#5	11'-0"	H14	" "
4	#6	9'-0"	H15	Rt. Wg. Bm.
4	#7	16'-6"	H33	Beam
3	#4	5'-9"	R1	Rt. End Post
3	#4	6'-9"	R2	" " "
24	#6	3'-9"	R3	Post
3	#4	4'-9"	R4	Lt. End Post
3	#4	3'-3"	R5	" " "

No.	Size	Length	Mark	Location
	End Bent No. 4 Cont'd.			
2	#6	11'-9"	T1	Rt. Wing
2	#6	13'-0"	T2	" "
36	#5	8'-3"	U1	Beam
12	#4	3'-9"	U2	"
24	#7	10'-0"	U3	Haunch
6	#7	9'-3"	U4	"
6	#7	9'-0"	U5	"
18	#5	8'-6"	U6	Beam
18	#5	8'-9"	U7	"
18	#5	9'-0"	U8	"
8	#7	13'-3"	U15	Haunch
66	#5	7'-3"	V1	Backwall
16	#4	3'-9"	V2	Haunch
14	#4	7'-6"	V3	Lt. Wing
16	#5	11'-3"	V4	" "
6	#4	11'-9"	V6	Rt. Wing
14	#4	9'-3"	V7	" "
6	#6	11'-3"	V8	" "
2	#7	12'-6"	W16	Haunch
8	#2	19'-9"	W1	A.B. Wells
2	#7	12'-3"	W17	Haunch
	Superstructures			
295	#5	4'-6"	C1	Curb
295	#4	3'-9"	C2	"
20	#5	21'-0"	C3	"
30	#5	23'-9"	C4	"
20	#5	21'-3"	C5	"
290	#5	33'-3"	S1	Slab
145	#5	35'-9"	S2	"
4	#5	32'-3"	S3	"
25	#5	38'-9"	S4	"
26	#5	37'-3"	S5	"
310	#5	26'-0"	S6	"
62	#5	26'-9"	S7	"
44	#5	16'-0"	S8	"
10	#6	29'-0"	W2	End Diaph.
54	#4	7'-9"	W3	" "
1	#5	30'-0"	S9	Slab

BRIDGE OVER CHOUTEAU TRAFFICWAY

STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N. E.
ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY
PROJECT NO. UI-99(7) (RT. 69) STA. 371+13.15 (RIGHT LANE)

CLAY COUNTY

L-642

Drawn May 1954 by M.H.P.
Checked June 1954 by H.R.B.

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

Sheet No. 2 of 9.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	(U-99(7)) (RT-69)	19		

ELEVATION

PLAN

SECTION A-A

SECTION B-B

SECTION C-C

DEVELOPED ELEVATION LEFTWING

DEVELOPED ELEVATION RIGHT WING

SECTION F-F

SECTION G-G

SECTION D-D

PART PLAN OF RIGHT WING

PART PLAN OF LEFT WING

DETAILS OF END BENT NO. 1

DETAILS OF STEEL PILE

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

Plans May 1954 by H.J.K.
Checked June 1954 by H.R.B.S. R.H.L.

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

BRIDGE OVER CHOUTEAU TRAFFICWAY

STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N.E. ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY

PROJECT NO. U-99(7)(RT.69) STA. 371+13.15 (RIGHT LANE)

CLAY COUNTY

FINISHED

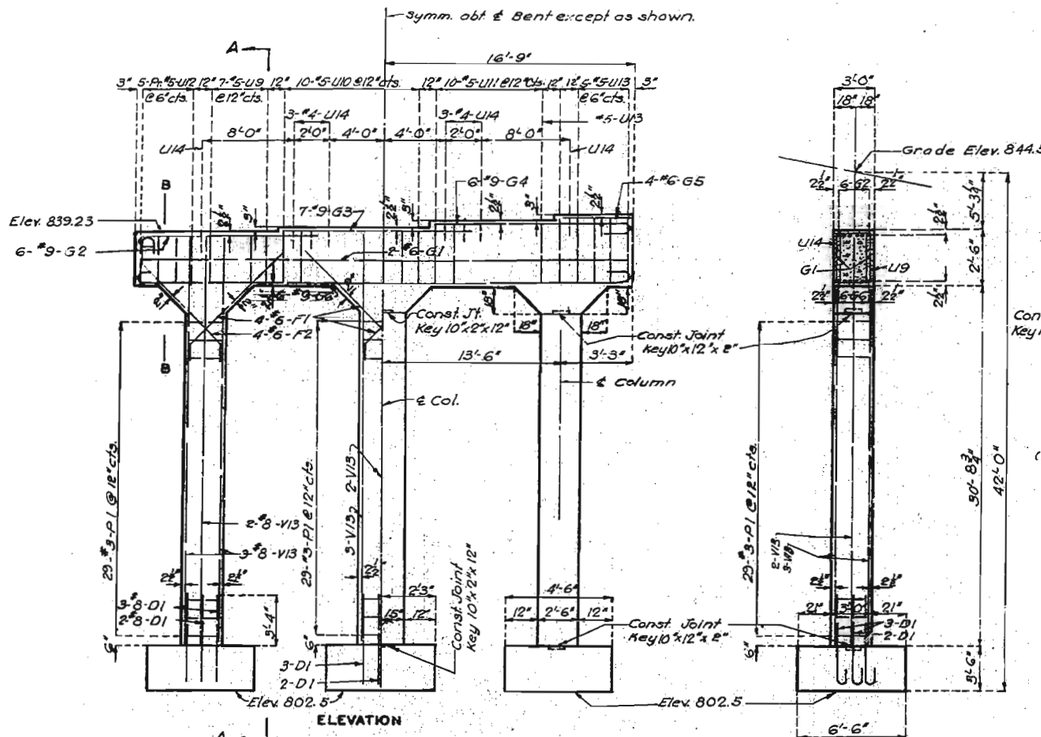
FINISHED Sheet No. 3 of 9

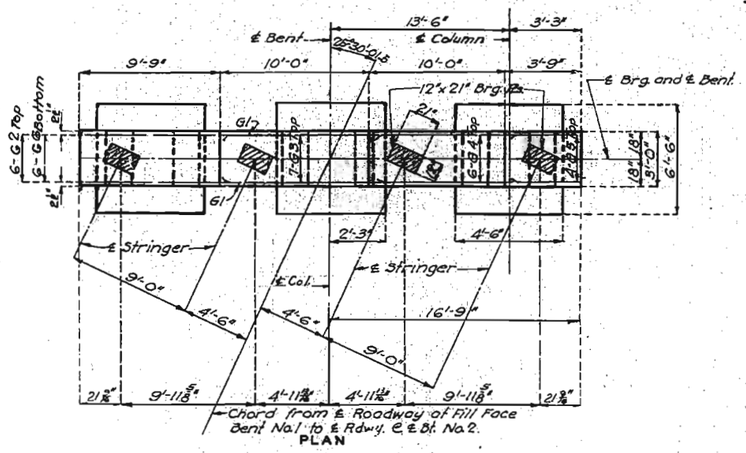
L-642

NO CONSTRUCTION CHANGES

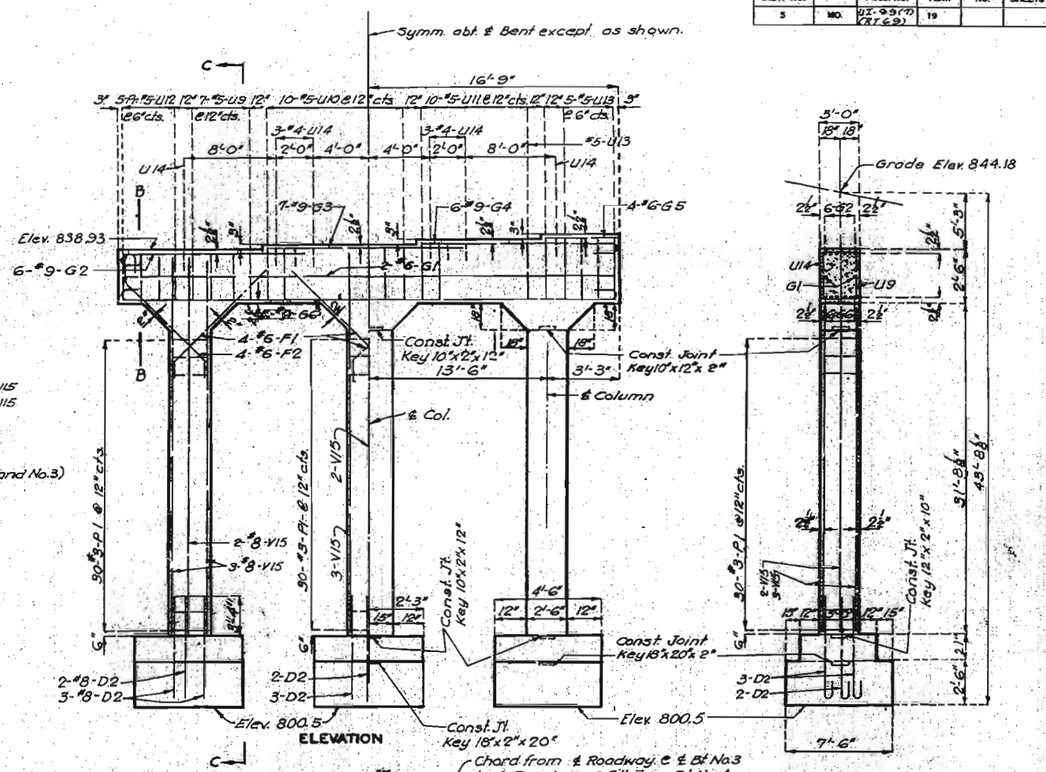
MISSOURI STATE HIGHWAY DEPARTMENT

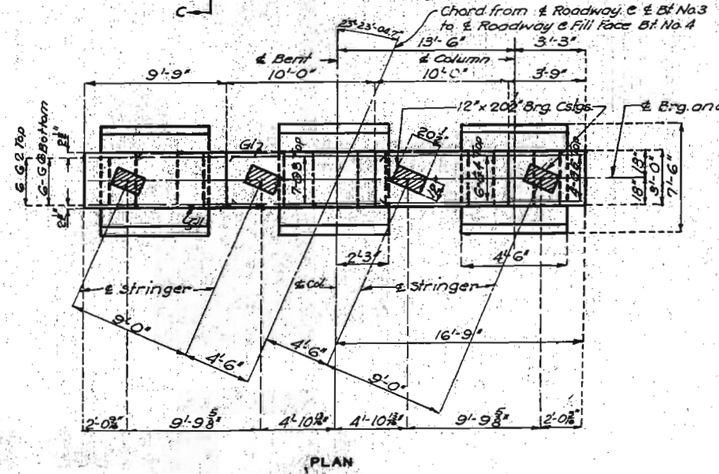
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	UI-99(7) (RT 69)	19		





DETAILS OF INTERMEDIATE BENT NO. 2





DETAILS OF INTERMEDIATE BENT, NO. 3

BRIDGE OVER CHOUTEAU TRAFFICWAY

STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N.E.
ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY
PROJECT NO.UI-99(7) (RT.69) STA. 371+13.15 (RIGHT LANE)

CLAY COUNTY

FINISHED

L-642

Assembled May 1954 by M.E.L. - K.R.W.
Checked June 1954 by H.R.B.

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

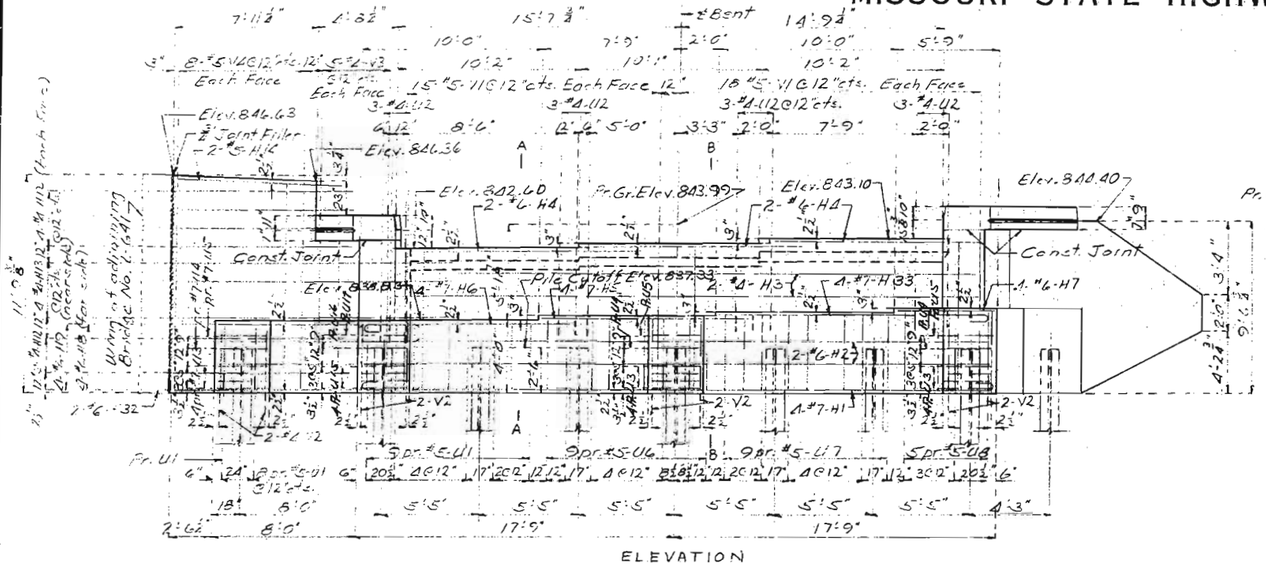
Sheet No.4 of 9.

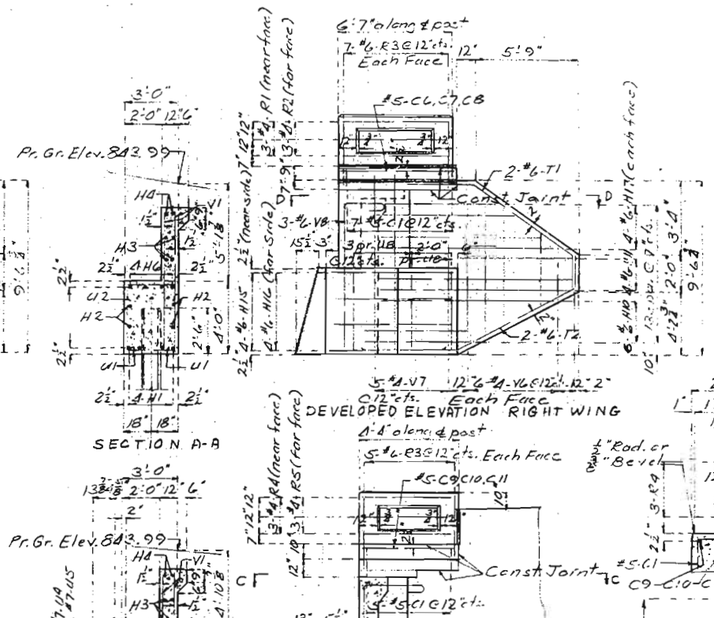
SEE FINAL PLANS BROWN-LINES

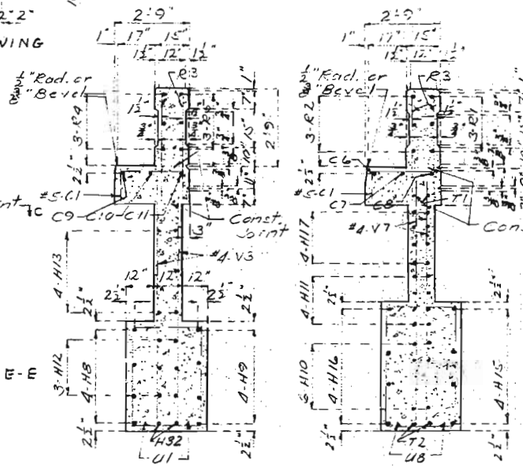
2 or 3 Col. Int. Square or Skewed } All Loadings

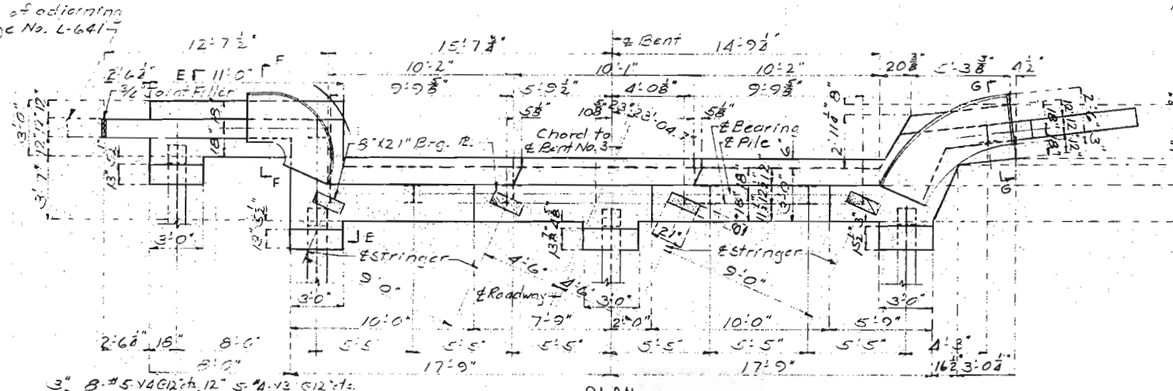
MISSOURI STATE HIGHWAY DEPARTMENT

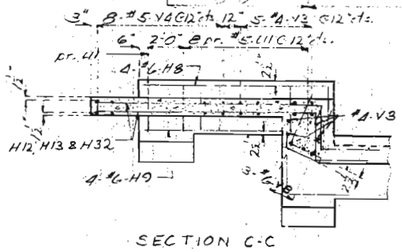
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	(U.I.-99(7)) (R-69)	19		

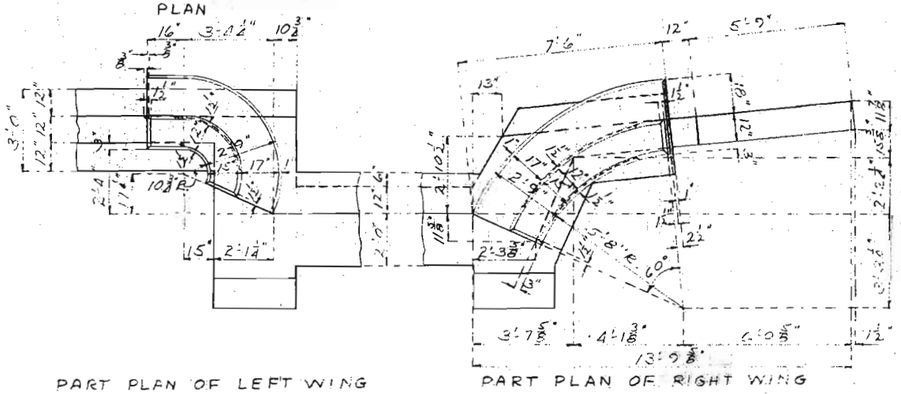


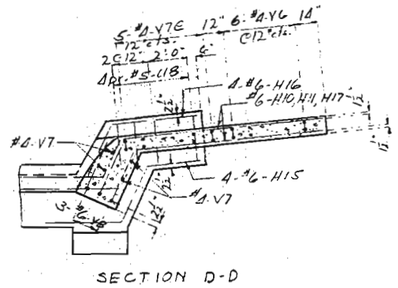












DETAILS OF END BENT NO. 4

BRIDGE OVER CHOUTEAU TRAFFICWAY

STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N.E. ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY

PROJECT NO. U.I.-99(7)(R-69) STA. 371+13.15 (RIGHT LANE)

CLAY COUNTY

FINISHED

L-642

Drawn May 1954 by H.J.K.

Checked June 1954 by H.R.B. & R.H.L.

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

FINISHED

Sheet No. 5 of 9

NO CONSTRUCTION CHANGES

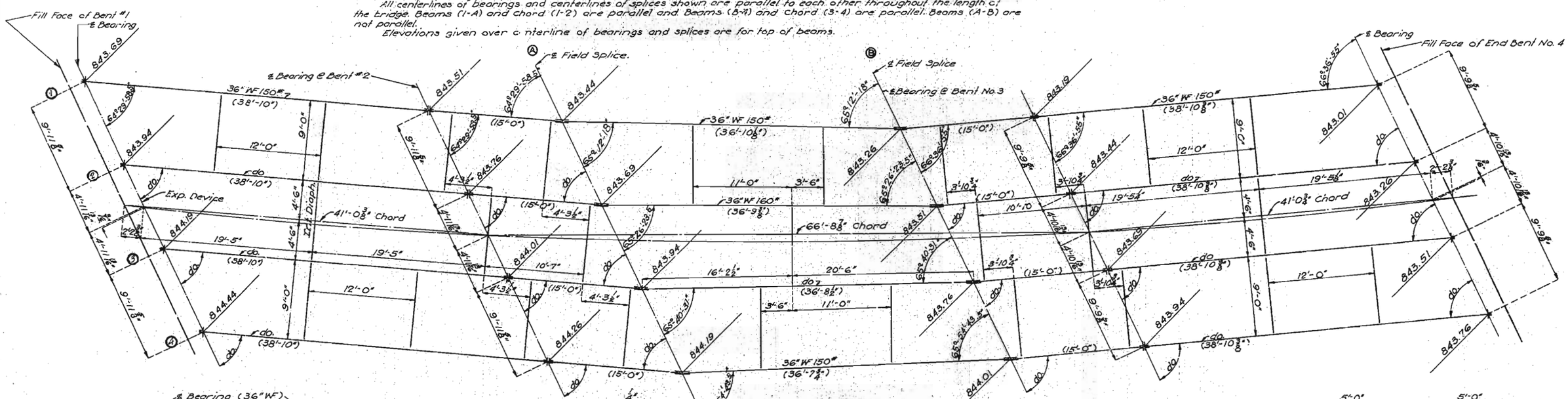
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	(U-99(7)) (RT 69)	19		

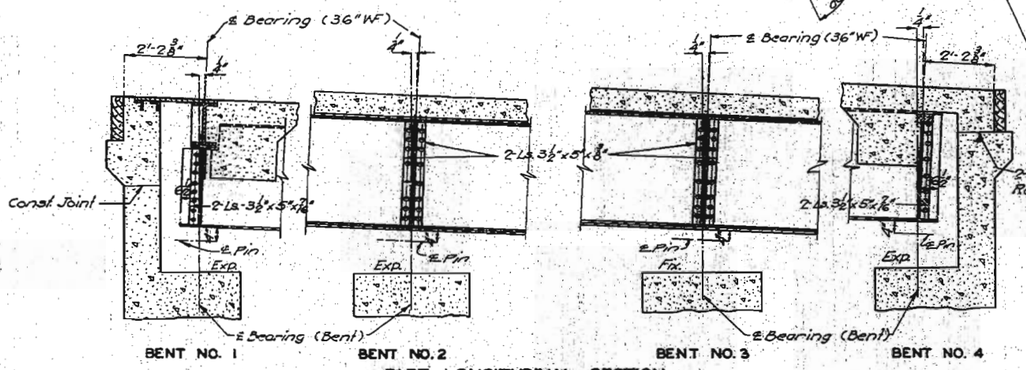
Note: Dimensions given thus ( ) for beams are horizontal lengths from centerline of bearings to centerline of bearings, from centerline of bearing to centerline of splices or from centerline of splices to centerline of splices.

All centerlines of bearings and centerlines of splices shown are parallel to each other throughout the length of the bridge. Beams (1-A) and chord (1-2) are parallel and Beams (3-4) and chord (3-4) are parallel. Beams (A-B) are not parallel.

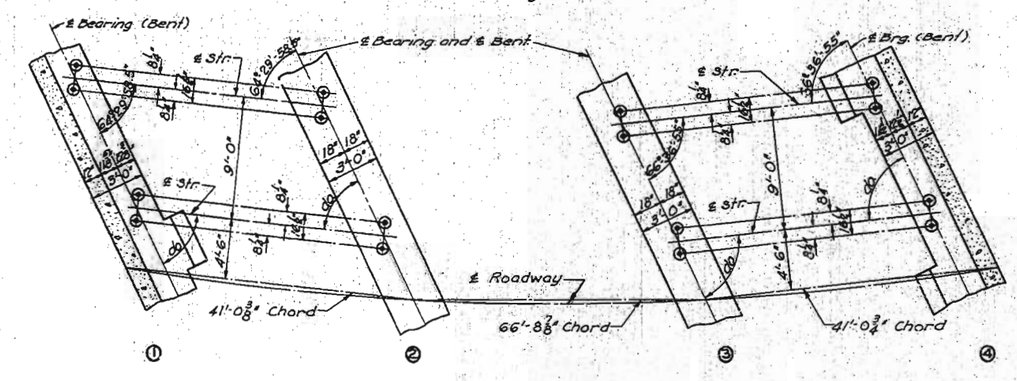
Elevations given over centerline of bearings and splices are for top of beams.



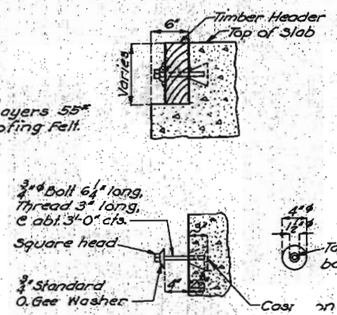
PLAN OF STEEL



PART LONGITUDINAL SECTION
(Parallel to ℄ Stringer lines.)

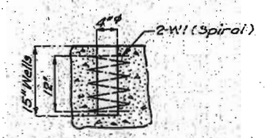


PART ANCHOR BOLT PLAN



Note: Cost of timber headers complete in place to be included in price bid for concrete.

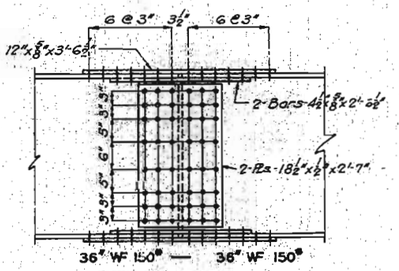
DETAILS OF TIMBER HEADER



Note: Holes for all anchor bolts shall be formed in substructure by placing and setting with template 4'-0" Wells of depth shown.

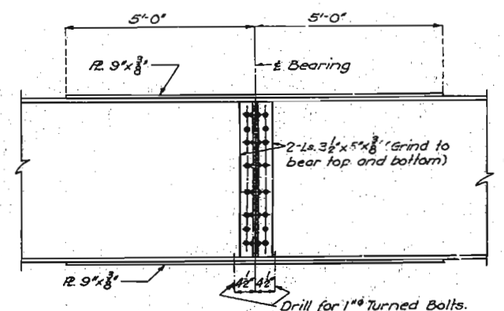
Grout for anchor bolt wells shall contain Iron Oxide (Embeco or an approved equivalent)

PART SECTION SHOWING ANCHOR BOLT WELL

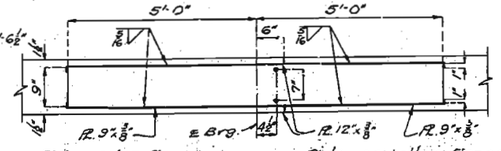


Note: All holes 1⅛"ø for ⅞"ø rivets.

DETAILS OF FIELD SPLICES



DETAILS OF 36"WF 150# AT BEARING BENTS NO. 2 & 3



DETAIL OF WELDED PLATES OVER BENTS NO. 2 & 3

BRIDGE OVER CHOUTEAU TRAFFICWAY

STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N.E.
ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY
PROJECT NO. U-99(7) (RT. 69) STA. 371+13.15 (RIGHT LANE)

CLAY COUNTY

Drawn May 1954 by H.R.B.
Traced May 1954 by K.R.W.
Checked June 1954 by H.J.K. & R.H.L.

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

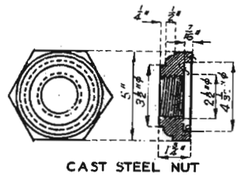
Sheet No. 6 of 9.

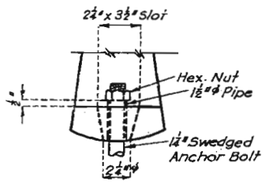
L-642

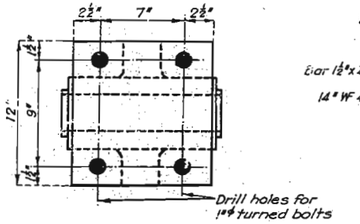
NO CONSTRUCTION CHANGES

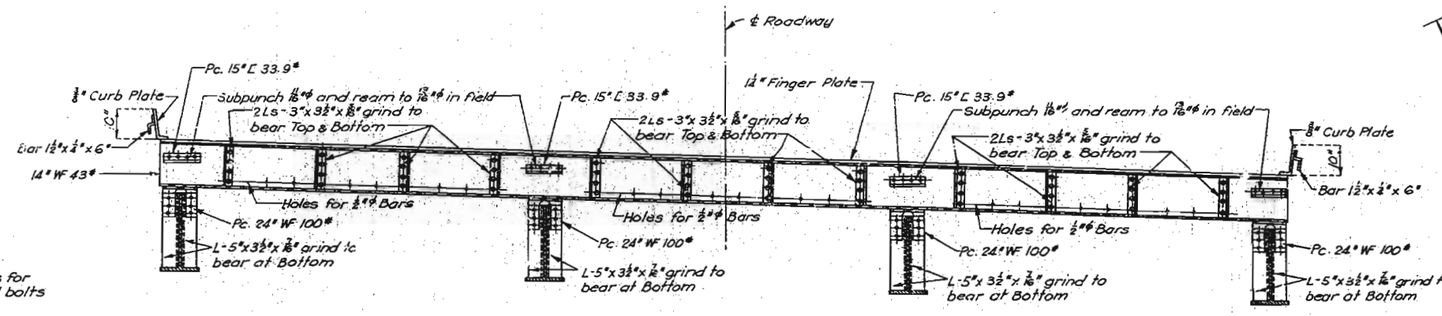
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO	U.I-9(7) (RT 69)	19		

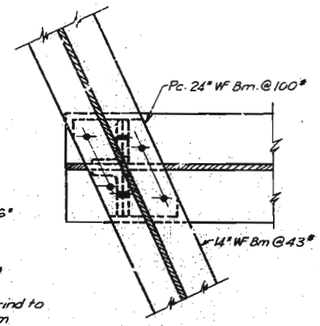




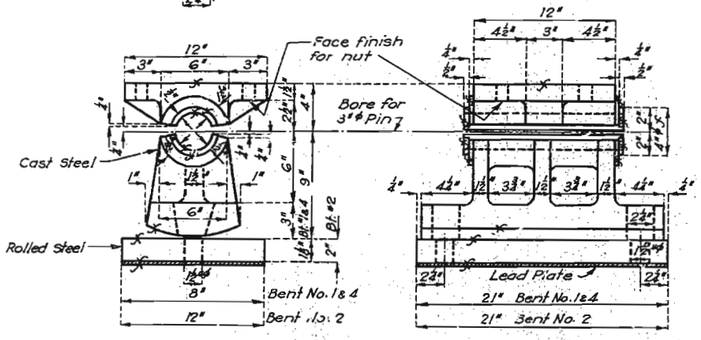




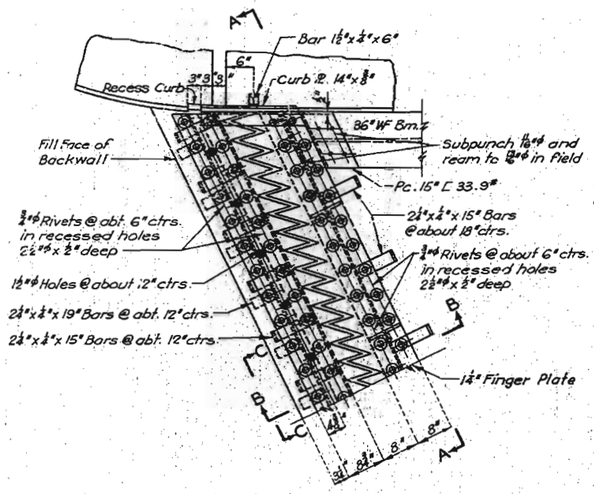
SECTION A-A



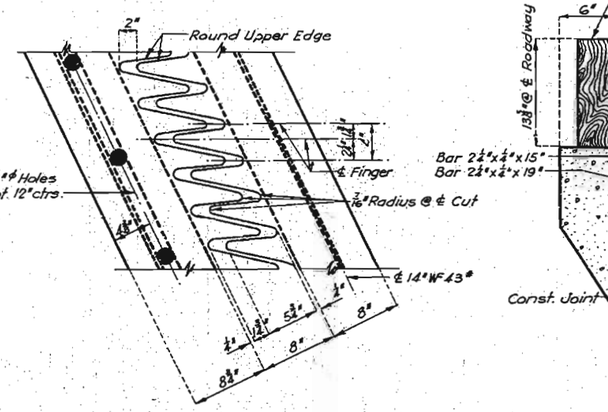
SECTION D-D



EXPANSION ROCKER

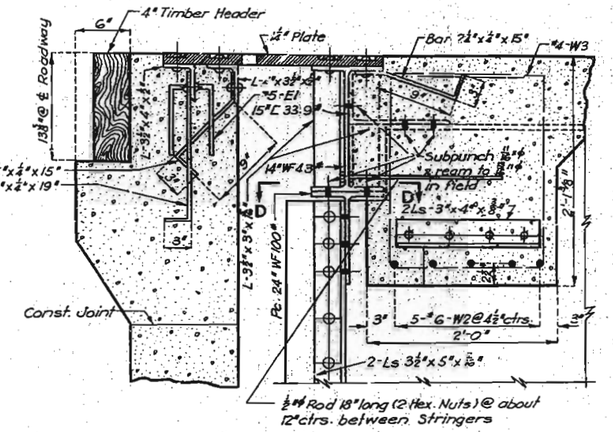


PART PLAN OF EXPANSION DEVICE



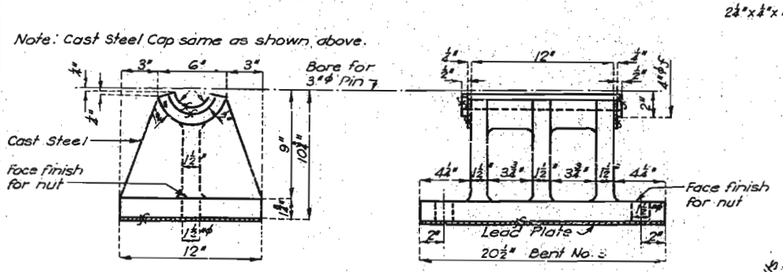
Note: Finger Plate shall be cut with a gas torch from one plate 23" x 1¼". The surface of cut shall be perpendicular to the surface of the plate. The cut shall not exceed ⅛" width. The centerline of cut shall not deviate more than ⅛" from the position of ℄ cut shown above. No part of expansion device may be spliced.

FINGER PLATE LAYOUT



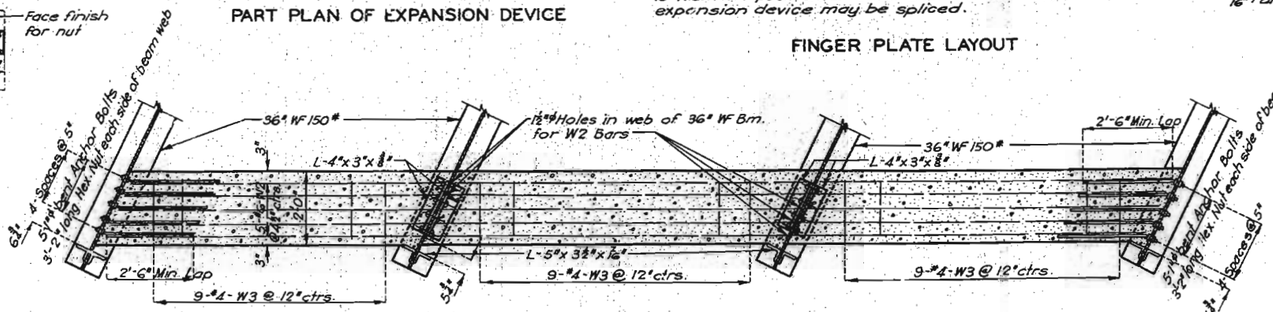
PART SECTION B-B

Note: All holes in 15" I.s and Pc's. 24 WF @ 100# to be subpunched ⅝" ϕ and ream in field to ⅞" ϕ.

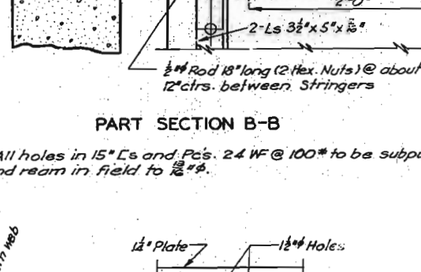


FIXED PEDESTAL
DETAILS OF BEARING CASTINGS

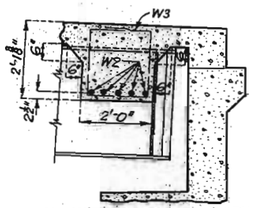
Note: Cast Steel Cap same as shown above.



HORIZONTAL SECTION THRU END DIAPHRAGM
AT END BENTS NO. 1 & 4



PART SECTION C-C



SECTION NORMAL TO END DIAPH. AT BENT NO. 4
Sheet No. 7 of 9.

BRIDGE OVER CHOUTEAU TRAFFICWAY

STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N. E.
ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY
PROJECT NO. U.I-99(7) (RT. 69) STA. 371+13.15 (RIGHT LANE)

CLAY COUNTY

L-642

GENERAL NOTES:

Finish all surfaces marked "F".
All fillets for castings shall have ½" radius.
Materials for castings shall be cast steel.
All pins, bolts, nuts, pipe sleeves, and rolled steel shall be paid for as Structural Steel.
Anchor bolts shall be 1¼" swedged bolts with Hex. Nuts and shall extend 12" into concrete.
Lead plates under bearings shall be approximately ½" thickness and weigh 8#/sq. ft. Cost of lead plates shall be included in price bid for other items.

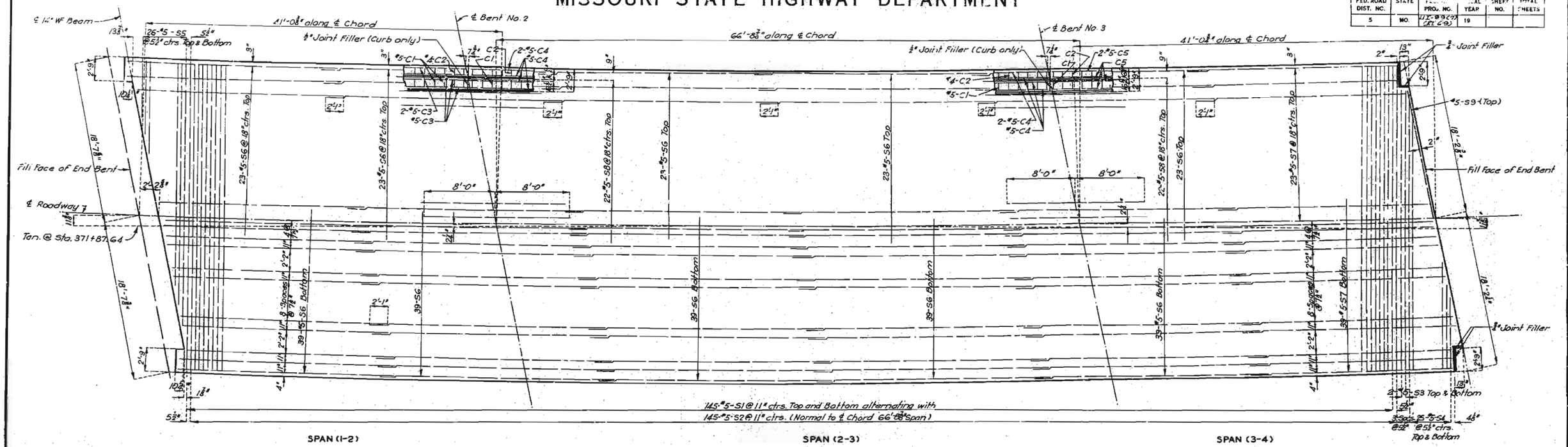
Assembled May 1954 By R.H.L. & J.T.F.
Checked June 1954 By H.R.B.

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

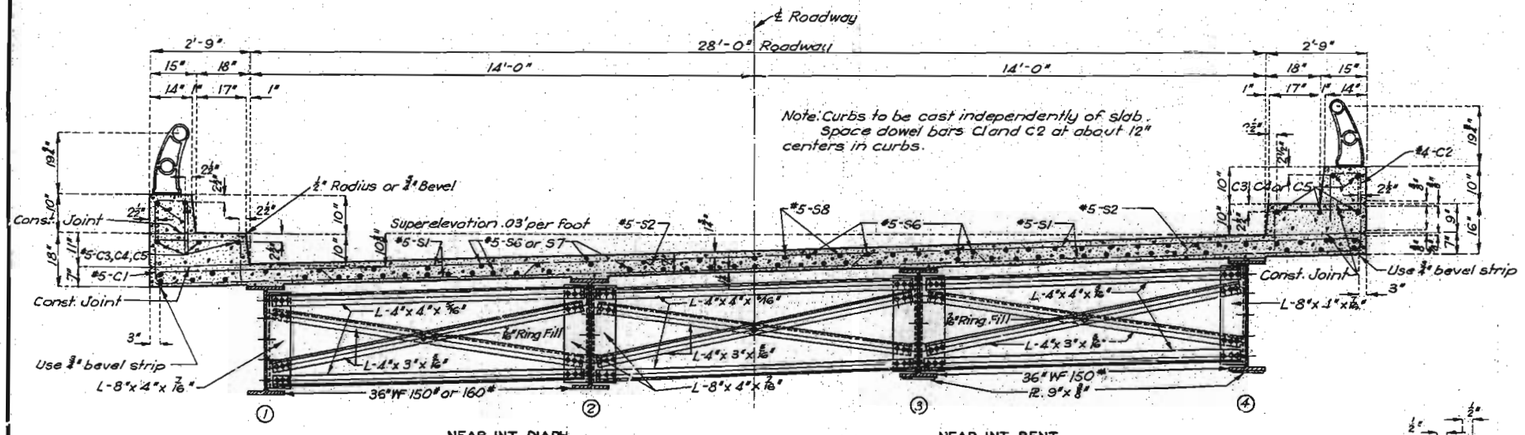
NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

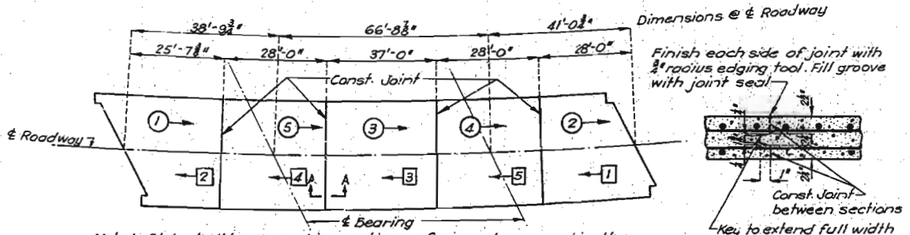
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U.I.-99(7) (RT. 69)	19		



PLAN OF SLAB SHOWING REINFORCEMENT

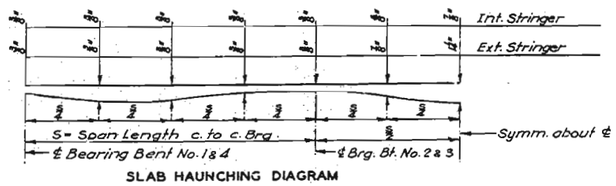


TYPICAL RADIAL SECTION THRU SPANS

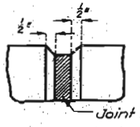


Note: Slab shall be poured in sections of size shown and in the sequence indicated by the numbers ①②③④&⑤ or as an alternate by the numbers 1 2 3 4 & 5. The separate pours shall also progress in the direction indicated by the arrows. If the contractor desires indicated pours 3 and 4 may be made as one continuous pour in the direction indicated. Longitudinal construction joints will not be permitted.

SLAB POURING SEQUENCE



SLAB HAUNCHING DIAGRAM



Note: Use bevel as shown for exposed faces of all joints consisting of joint filler.

DETAILS OF BEVEL FOR FILLED JOINTS

BRIDGE OVER CHOUTEAU TRAFFICWAY

STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N. E.
ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY
PROJECT NO. U.I-99(7) (RT 69) STA. 371+13.15 (RIGHT LANE)

CLAY COUNTY

FA Proj.
L-642

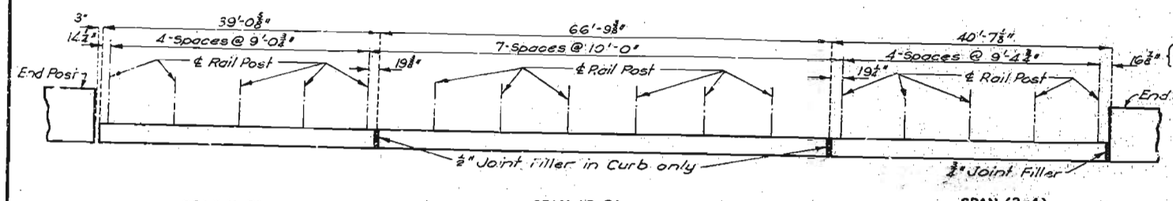
Drawn May 1954 By R.H.L.
Traced May 1954 By J.T.F.
Checked June 1954 By H.R.B.

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

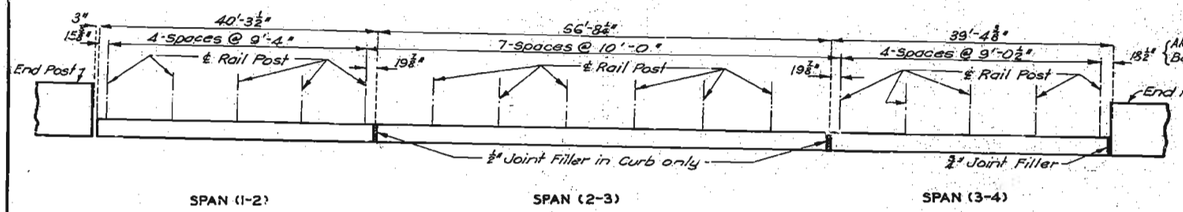
NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

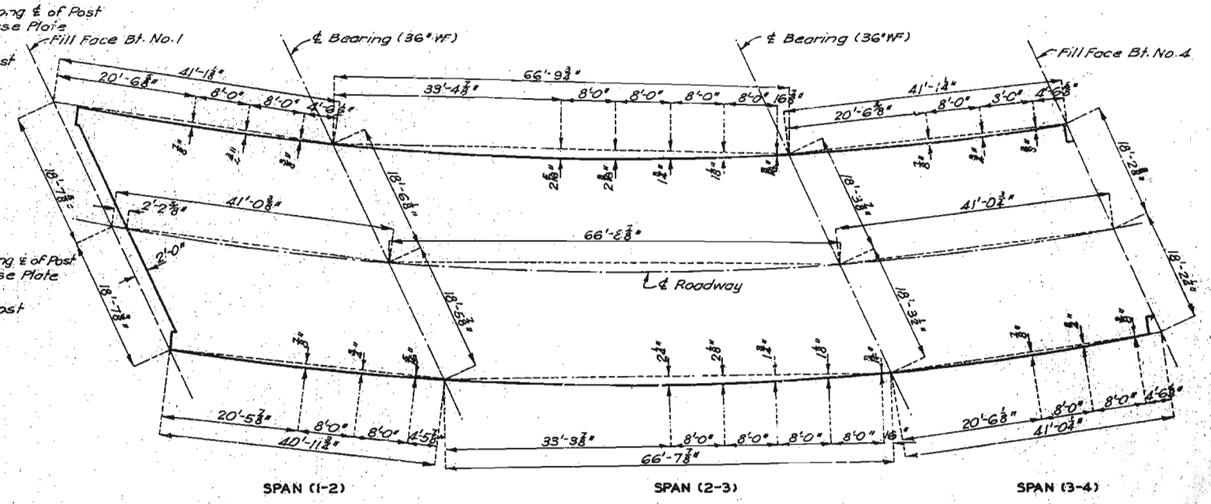
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U-[illegible] (RT. 69)	19		



ELEVATION OF LEFT RAIL

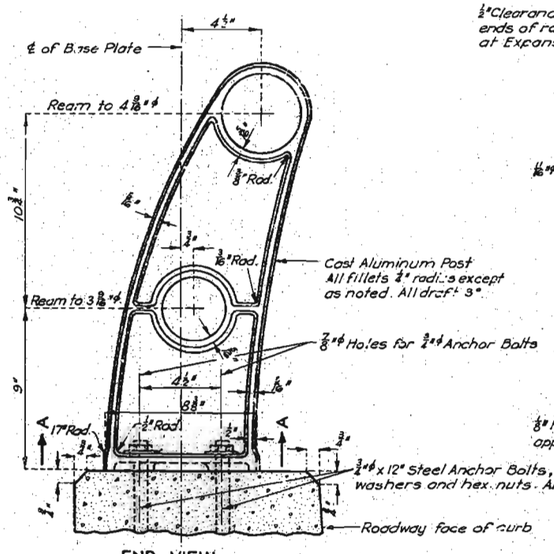


ELEVATION OF RIGHT RAIL

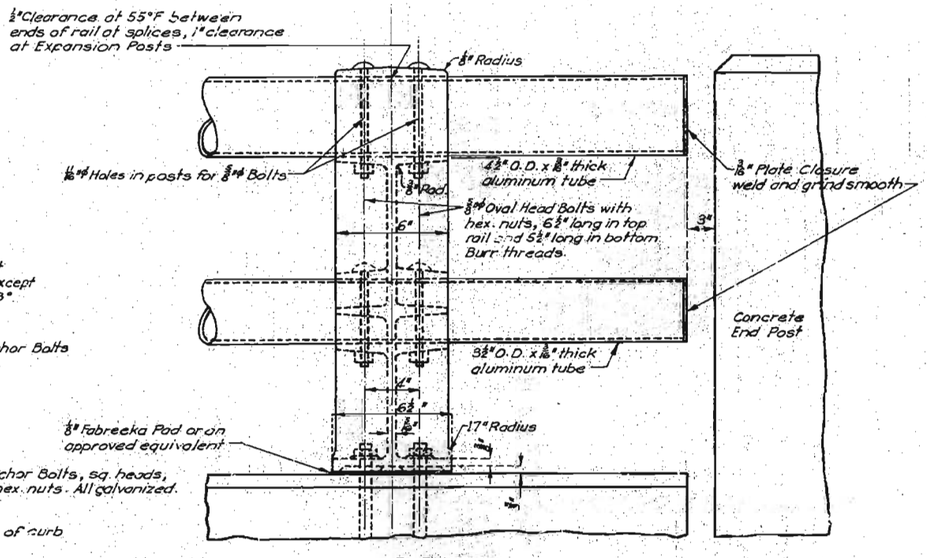


PLAN OF SLAB SHOWING ORDINATE DIMENSIONS

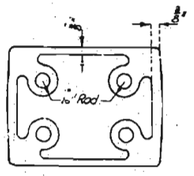
Note : All dimensions shown are parallel to grade at top surface of Roadway Slab.



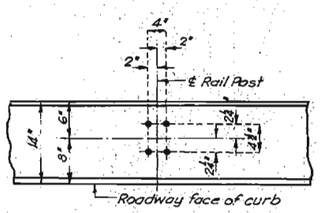
END VIEW



ELEVATION



SECTION A-A



TYPICAL ANCHOR BOLT PLAN

DETAILS OF HANDRAIL

Note: All parts of handrail except steel anchor bolts and their washers and nuts to be aluminum. Bolt holes in tubes to be ⅝" x 1" slotted holes centered on bolts at normal temperature of 55° except, at expansion posts where holes shall be ⅝" x 1½" slots.

Aluminum shims, between Fabreeka pad and post base may be used for adjusting rail alignment. Maximum thickness of shim to be ⅜". Where more tilting of post is required for proper alignment, concrete bearing area shall be ground down.

All handrail posts shall be set normal to grade.

Pipe rails to be fabricated in 3 panel lengths unless otherwise approved.

Drawn May 1954 By H.R.B.
Traced May 1954 By J.T.F.
Checked June 1954 By H.J.K. & R.H.L.

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

BRIDGE OVER CHOUTEAU TRAFFICWAY

STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N.E.
ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY
PROJECT NO. UI-99(7) (RT. 69) STA. 371+13.15 (RIGHT LANE)

CLAY COUNTY

L-642

Sheet No. 9 of 9.

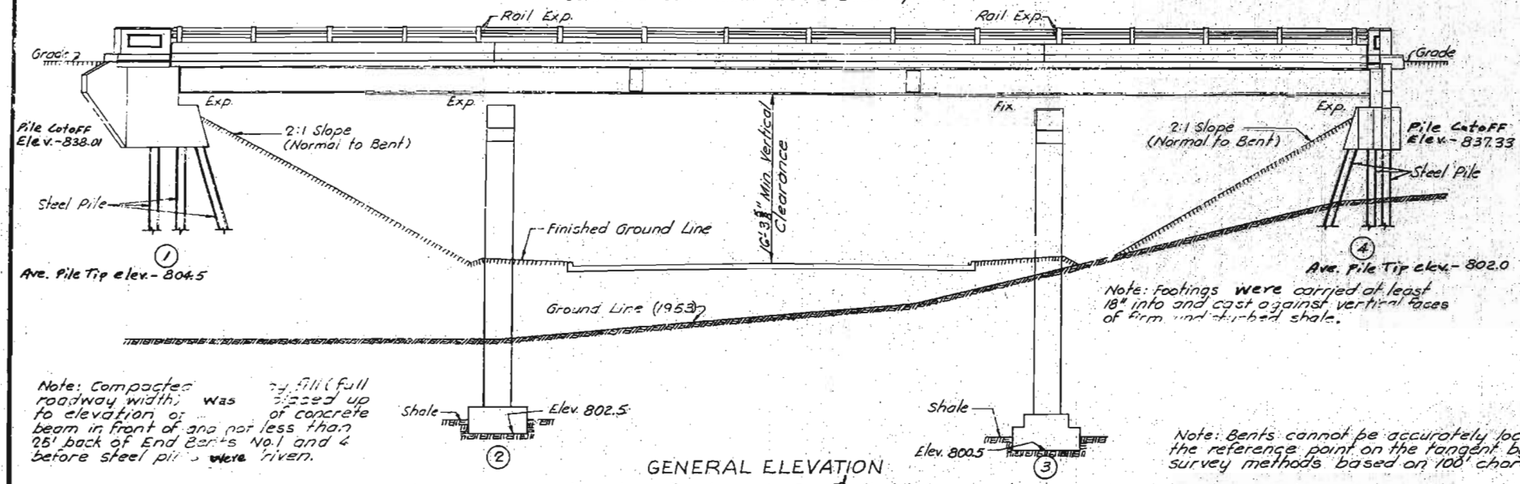
NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U 99(7) (RT 69)	19		

FINAL PLANS

39'-0" - 67'-0" - 39'-0" Continuous I-Beam Spans

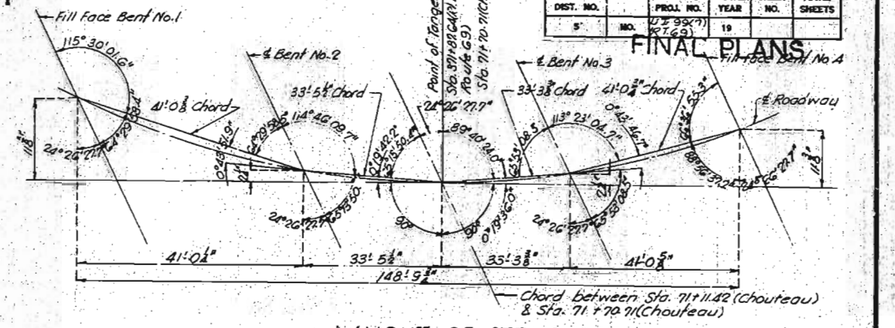


Note: Compacted ... fill (full roadway width) was ... to elevation of ... of concrete beam in front of and not less than 25' back of End Bents No.1 and 4 before steel pile ... were driven.

Note: Footings were carried at least 18" into and cast against vertical faces of firm undisturbed shale.

GENERAL ELEVATION

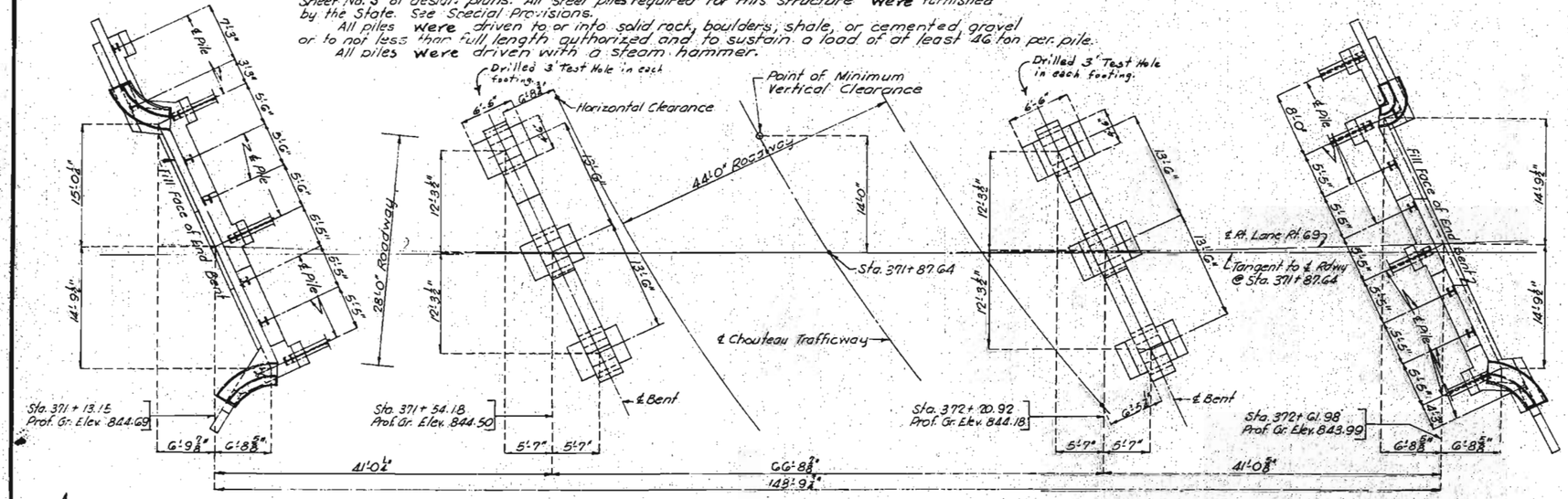
Note: Bents cannot be accurately located from the reference point on the tangent by conventional survey methods based on 100' chords.



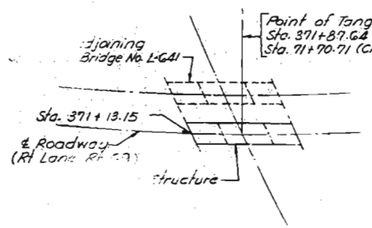
LAYOUT OF STRUCTURE

GENERAL NOTES:

Design Specifications A.A.S.H.O. 1953
Loading H 20 - SIG - 44
Reinforcing Steel Stress 18,000#/in²
Structural Steel Stress 18,000#/in²
Class "B" Concrete Stress 1,000#/in²
All concrete was Class "B" (Air Entrained)
Where joint fillers are specified on plans it ... conform with the requirements for Gray Rubber Compound Joints as given in Section 38-19(B2) of the Standard Specifications.
For requirements on welding electrodes see Special Provisions.
Qualification of welding operators was required.
Surfaces of piles at Bents ... from bottom of concrete cap to 3'-0" below bottom of concrete cap were painted with one coat of an approved brand of emulsified asphalt paint. Payment for excavating around piles to 3' below bottom of cap and backfilling same, furnishing emulsified asphalt paint and cleaning and painting steel surfaces specified was included in the unit price bid for other items.
A rubbed surface finish was required on all exposed surfaces of concrete end posts above top of curbs.
Rivets ⅞"ø; holes 15/16" except as noted.
Field connections were made with high tensile steel bolts with carpenter washers in place of rivets. (See Special Provisions).
Paint: Shop, none; Field, contact surfaces of casting connections 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 painting such surfaces was included in price bid for items painted.



PLAN



LOCATION SKETCH

CURVE DATA (Rt. Lane)
P.I. 370+22.60
Δ 2°-14' 05" Lt.
R. 2918.93'
T. 680.79'
L. 1336.53'
D. 1°-57' 46.7959"
S.E. : 0.03'/Ft.

FINAL QUANTITIES

Item		Substr.	Superstr.	Total
Class 1 Excavation for Structures	Cu. Yds.	273		273
Class "B" Concrete	Cu. Yds.	188.6	150.4	339.0
Fabricated Structural Steel	Lbs.		114,070	114,070
Aluminum Alloy Handrail	Lin. Ft.		292	292
Steel Castings	Lbs.		5210	5210
Reinforcing Steel	Lbs.	22,360	32,980	55340
Steel Pile in place (State Furnished)	Lin. Ft.	690		690
Cont. Item - Test Holes		18		18

Note: Concrete in end posts is included in Estimated Quantities of Class "B" Concrete for Substructure.
All excavation for bridge will be paid for as Class 1 Excavation for Structures.

B.M. Elev. 843.38 ▫ on Lt. Wing Abut. #4 Left Lane adjoining bridge.

BRIDGE OVER CHOUTEAU TRAFFICWAY
STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N.E.
ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY
PROJECT NO. UI-99(7) (RT 69) **STA.** 371+13.15 (RIGHT LANE)
CLAY **COUNTY**

SUBMITTED BY J. A. Williams DATE 7/19/1954
APPROVED BY Chas. M. Whitton DATE 7/19/1954

FINISHED

STA. C-410 R3
L-642

Drawn May 1954 by M.E.L.
Checked June 1954 by H.E.B. & R.H.L.

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

Sheet No. 1A of 2

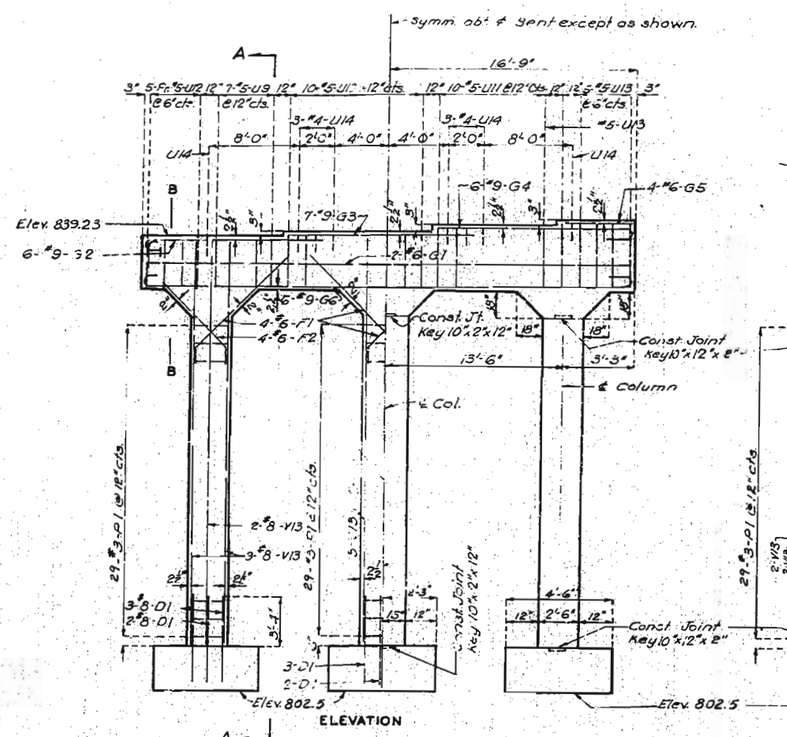
FINISHED

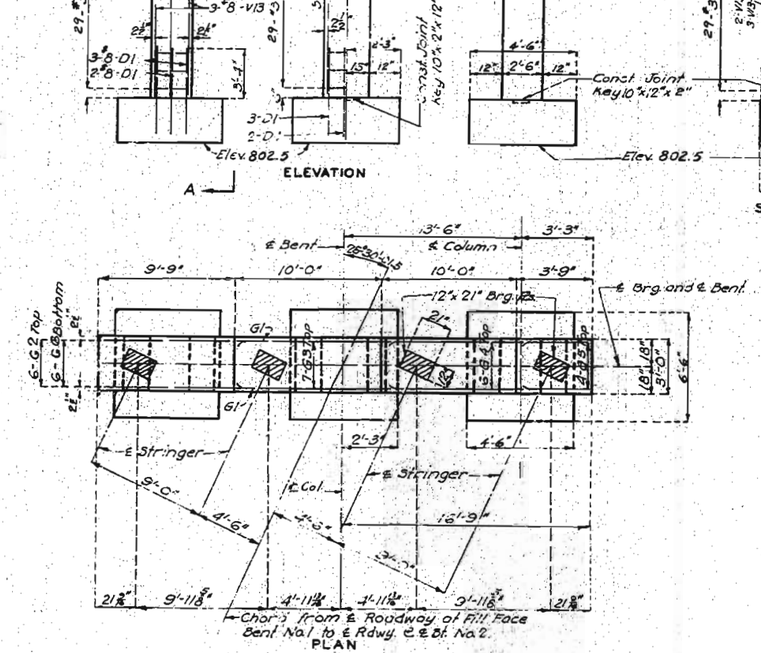
FINAL PLANS

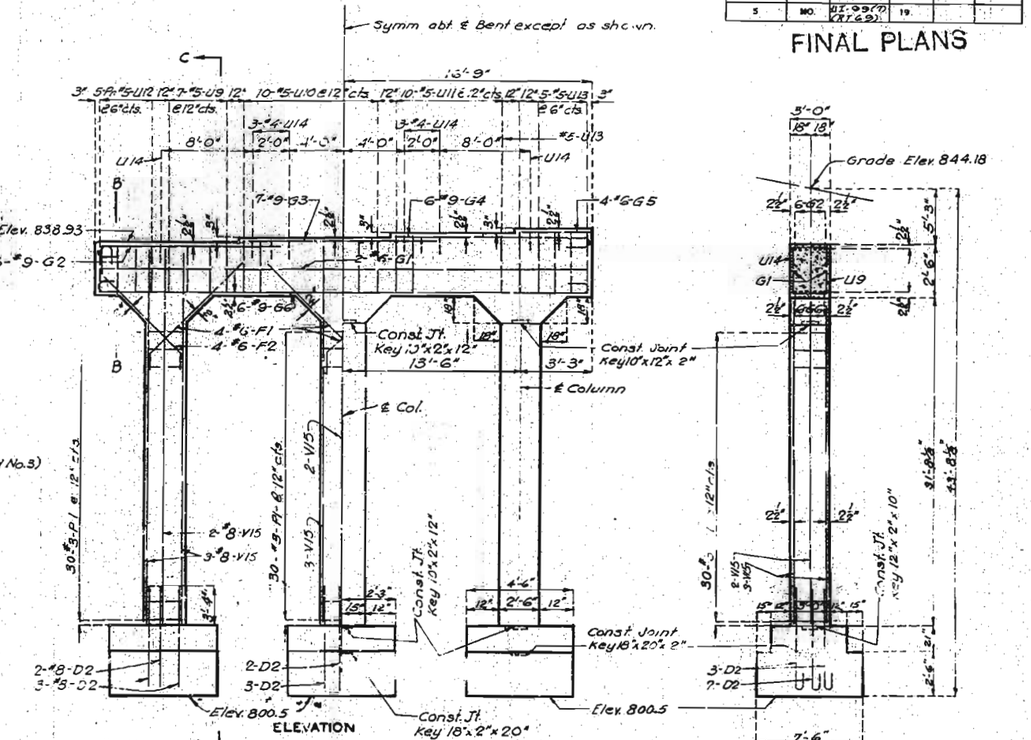
MISSOURI STATE HIGHWAY DEPARTMENT

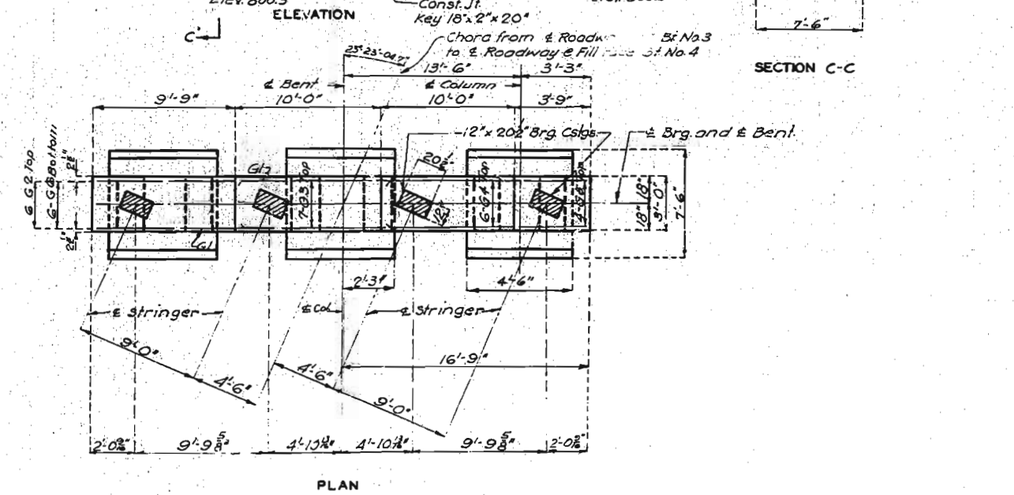
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	(I-99(7)) (RT.69)	19.		

FINAL PLANS









BRIDGE OVER CHOUTEAU TRAFFICWAY

STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N.E.
ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY
PROJECT NO.UI-99(7) (RT.69) STA. 371+13.15 (RIGHT LANE)

CLAY COUNTY

FINISHED

L-642

Assembled May 1954 by M.E.L. - K.R.W.
Checked June 1954 by H.R.B.

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

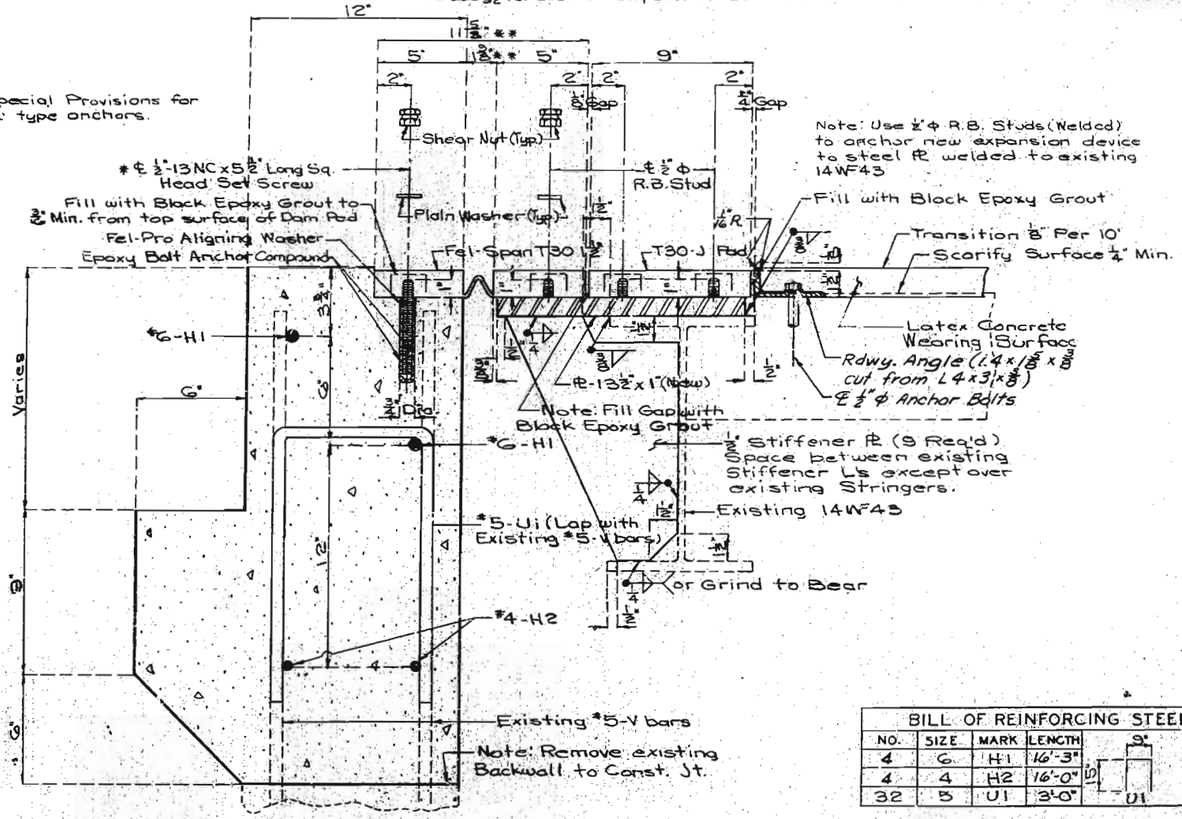
Sheet No. 1 of 2.

FINAL PLANS

For 3 Co. Int. Series or Skewed } All Loadings

MISSOURI STATE HIGHWAY DEPARTMENT

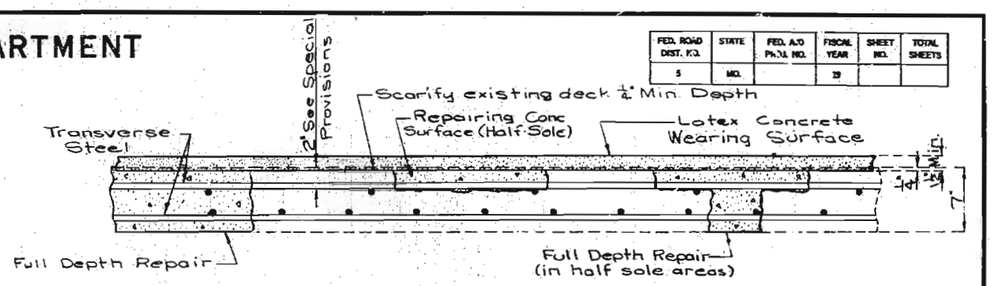
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19		



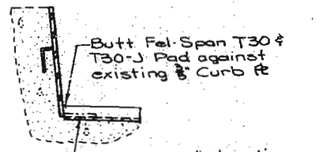
PART SECTION THRU BACKWALL AND EXPANSION DEVICE

BILL OF REINFORCING STEEL			
NO.	SIZE	MARK	LENGTH
4	G	H1	16'-3"
4	4	H2	16'-0"
32	5	U1	3'-0"

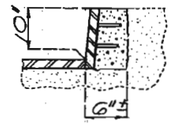
Note: Total lengths of reinforcing steel are measured along centerline bar to the nearest inch.
All bending dimensions are out to out.



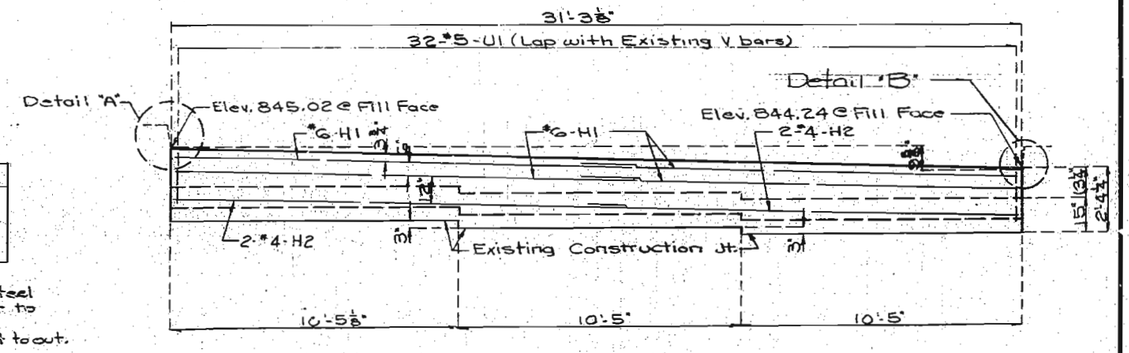
PART CROSS SECTION THRU SLAB



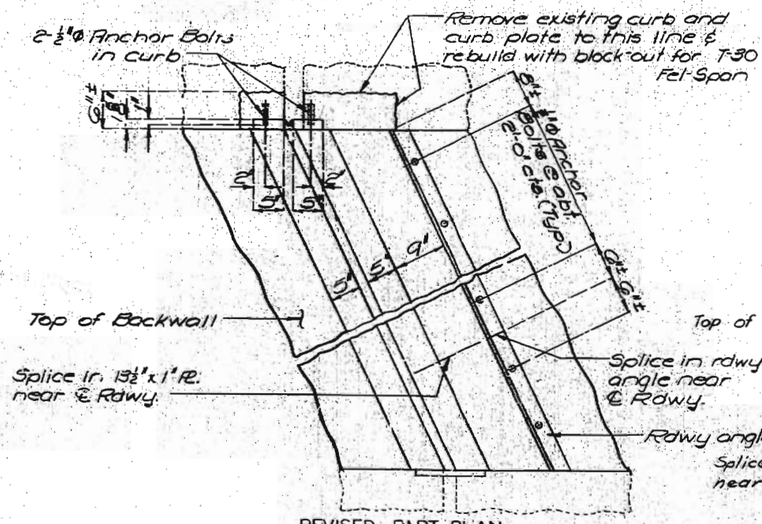
DETAIL "A"



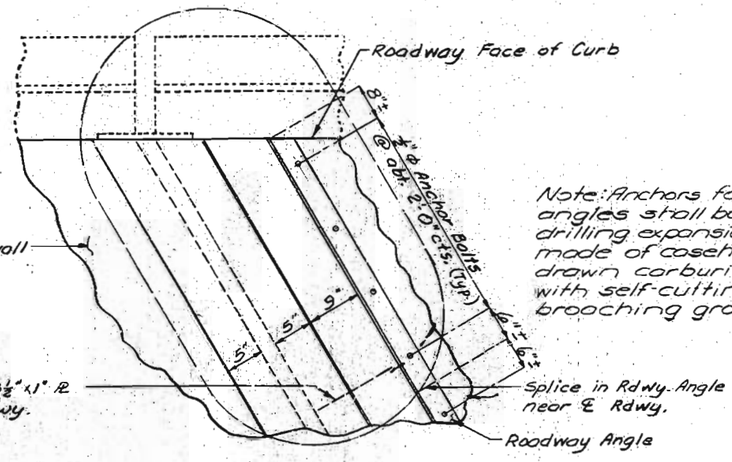
DETAIL "B"



PART ELEVATION OF BACKWALL
END BENT NO. 1 SHOWING NEW REINFORCEMENT
S.E. .03' CONTINUOUS ACROSS STRUCTURE



REVISED PART PLAN



PART PLAN

Note: Anchors for Roadway angles shall be of the self-drilling expansion type, made of case hardened and drawn carburized steel with self-cutting annular broaching grooves.

ESTIMATED QUANTITIES		
ITEMS		TOTAL
Latex Concrete Wearing Surface	Sq. Yd.	458
Repairing Concrete Deck (Half Soling)	Sq. Ft.	823
Full Depth Repair	Sq. Ft.	206
Reinforced Neoprene Expansion Joint Seal (W)	Lin. Ft.	32
Reinforced Neoprene Dam (J Pad)	Lin. Ft.	32
Special Work	Lump Sum	1

Roadway Angle Note:
Payment for furnishing, painting and placing structural steel for roadway angles shall be included in unit price bid for other items. (See Special Provisions)

REPAIRS TO BRIDGE OVER CHOUTEAU TRAFFICWAY

STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N.E.

ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY

PROJECT NO. I-IR-35-1(63) **STA.** 370+83.82

JOB NO. 4-I35-33 **RTE.** I-35

CLAY **COUNTY**

DATE 10/21/75

STD.
STD.
L-642R

DETAILED Nov. 1975
CHECKED Nov. 1975

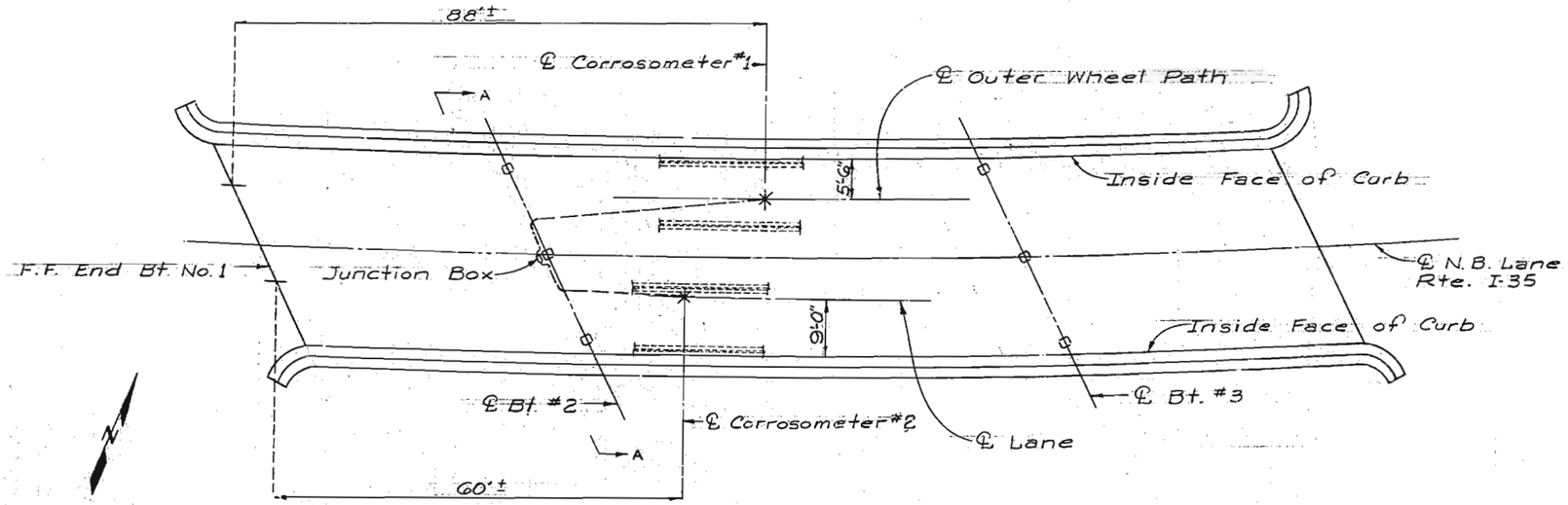
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 2 Revised 11-30-76

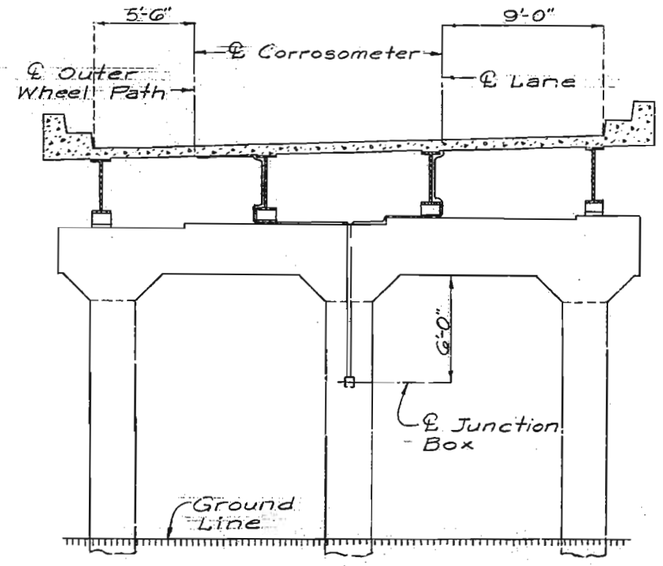
FINAL PLANS

MISSOURI STATE HIGHWAY DEPARTMENT

PL. DIST. NO.	CT	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHTS.
5	MO.		19	9	



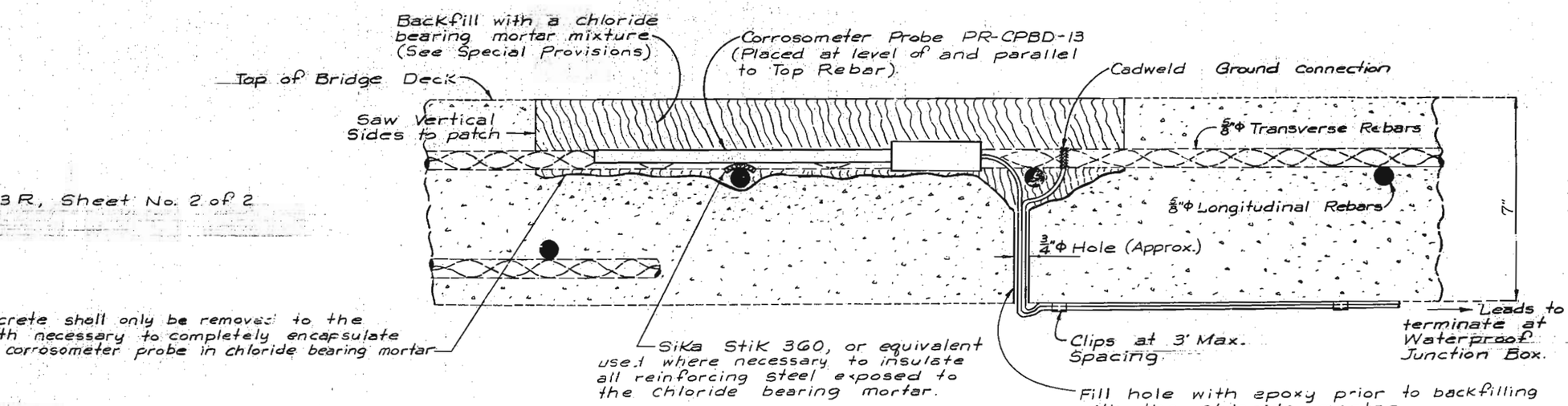
PLAN OF SLAB SHOWING LOCATION OF CORROSOMETERS



SECTION A-A

JUNCTION BOX NOTE:

See Bridge L-563 R, Sheet No. 2 of 2 for General Notes.



NOTE: Corrosometer shall not contact any reinforcing steel.
Tag each Corrosometer and ground lead with proper location number.

METHOD FOR PLACING CORROSOMETER

DETAILED SEPT. 1976
CHECKED OCT. 1976

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

CLAY COUNTY

L-642R

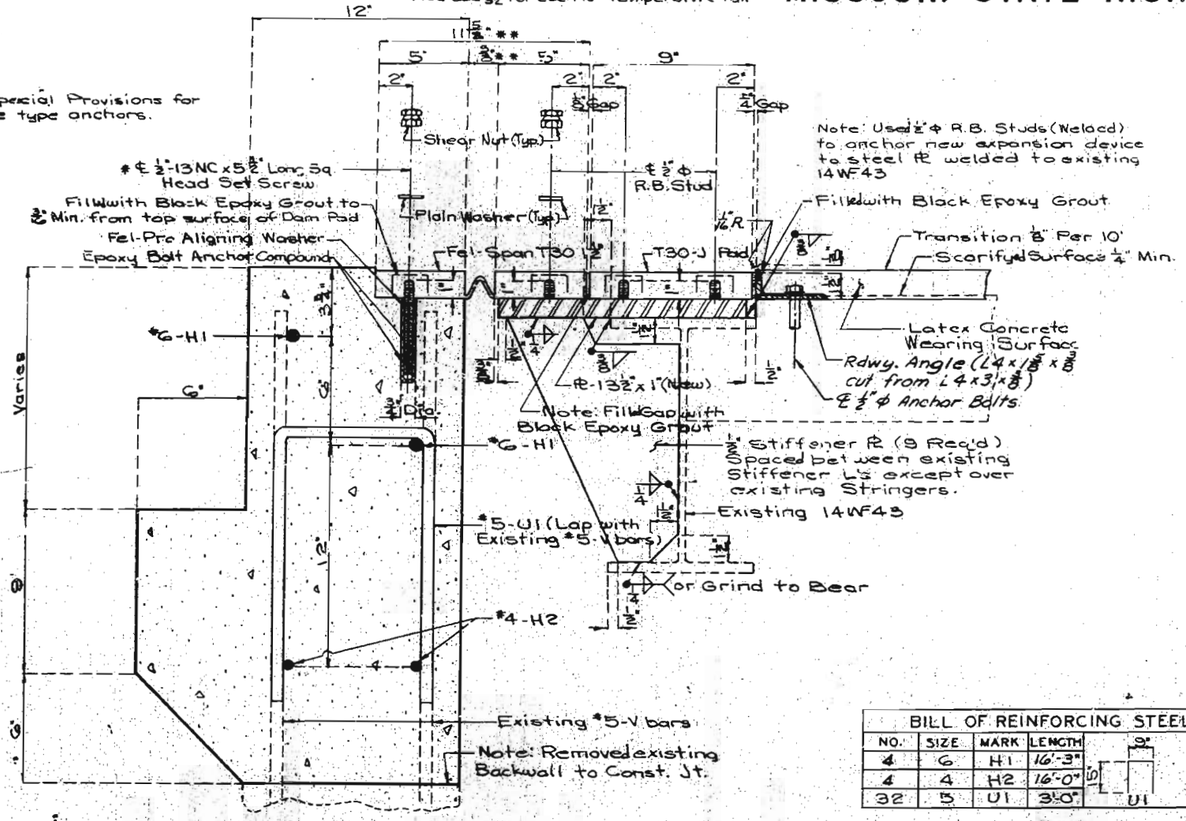
MISSOURI STATE HIGHWAY DEPARTMENT

FINAL PLANS

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

* * Dimension shown is at 60° F. Subtract 3/32" for each 10° temperature rise add 3/32" for each 10° temperature fall

*See Special Provisions for alternate type anchors.

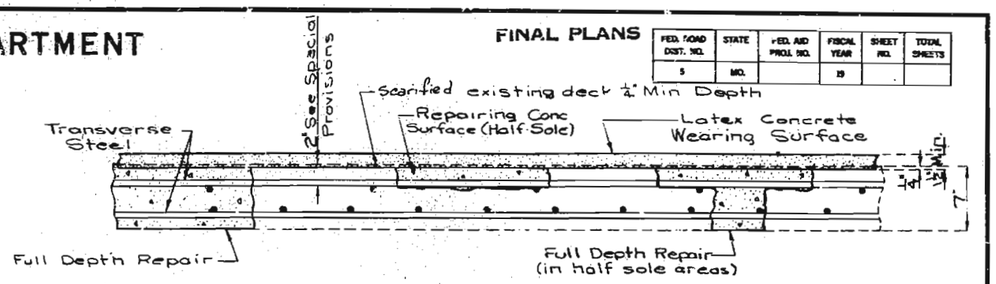


PART SECTION THRU BACKWALL AND EXPANSION DEVICE

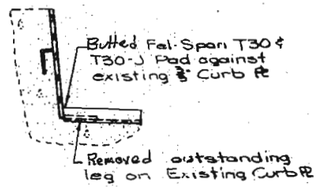
Note: Used ⅝" ϕ R.B. Studs (Welded) to anchor new expansion device to steel PL welded to existing 14WF43

BILL OF REINFORCING STEEL				
NO.	SIZE	MARK	LENGTH	
4	6	H1	16'-3"	
4	4	H2	16'-0"	
32	5	U1	3'-0"	9" / 15" / U1

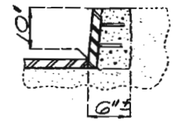
Note: Total lengths of reinforcing steel are measured along centerline bar to the nearest inch.
All bending dimensions are cut to cut.



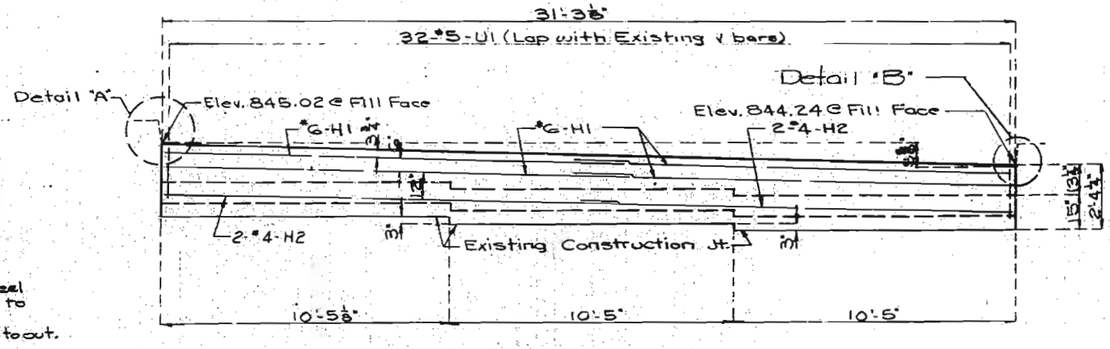
PART CROSS SECTION THRU SLAB



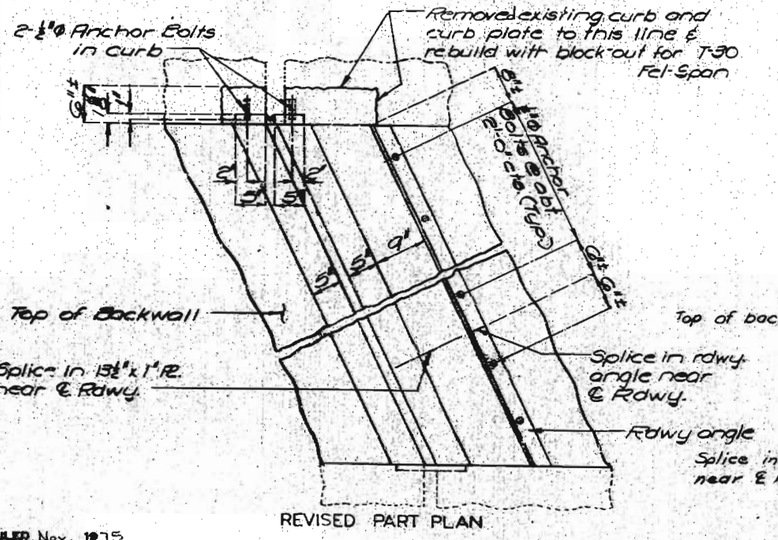
DETAIL "A"



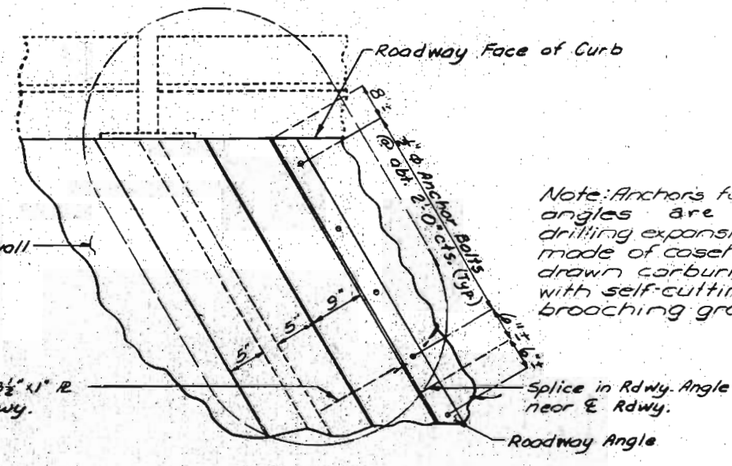
DETAIL "B"



PART ELEVATION OF BACKWALL
END BENT NO. 1 SHOWING NEW REINFORCEMENT
S.E. .03' CONTINUOUS ACROSS STRUCTURE



REVISED PART PLAN



PART PLAN

Note: Anchors for Roadway angles are of the self-drilling expansion type, made of case-hardened and drawn carburized steel with self-cutting annular broaching grooves.

ESTIMATED QUANTITIES		
ITEMS		TOTAL
Low Slump Concrete Wearing Surface	Sq. Yd.	0
Repairing Concrete Deck (Half Soling)	Sq. Ft.	669
Full Depth Repair	Sq. Ft.	1423
Reinforced Neoprene Expansion Joint Seal (16)	Lin. Ft.	32
Reinforced Neoprene Dam (J Pad)	Lin. Ft.	32
Special Work	Lump Sum	1
CONTINGENT ITEMS		
Low Slump Concrete Wearing Surface	Sq. Yd.	455

Roadway Angle Note:
Payment for furnishing, painting and placing structural steel for roadway angles was included in unit price bid for other items. (See Special Provisions)

REPAIRS TO BRIDGE OVER CHOUTEAU TRAFFICWAY

STATE ROAD FROM ARMOUR ROAD IN NORTH KANSAS CITY N.E.

ABOUT 3.75 MILES NORTH OF NORTH KANSAS CITY

PROJECT NO. I-IR-35-1(63) **STA.** 370+83.82

JOB NO. 4-I35-33 **RTE.** I-35

CLAY **COUNTY**

STD.
STB.
L-642R

DETAILED Nov. 1975
CHECKED Nov. 1975

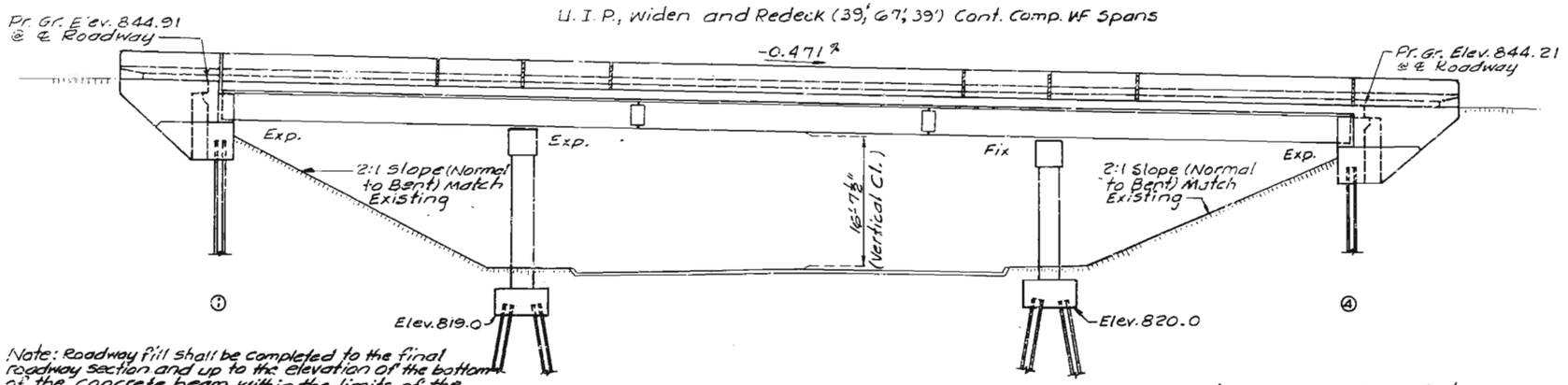
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1A of 2 Revised 11-30-76 DATE 10/21/76

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.		15
SEC./SUR. 6	TWP. 50N	RGE. 32 W

U. I. P., Widen and Redeck (39', 67', 39') Cont. Comp. WF Spans



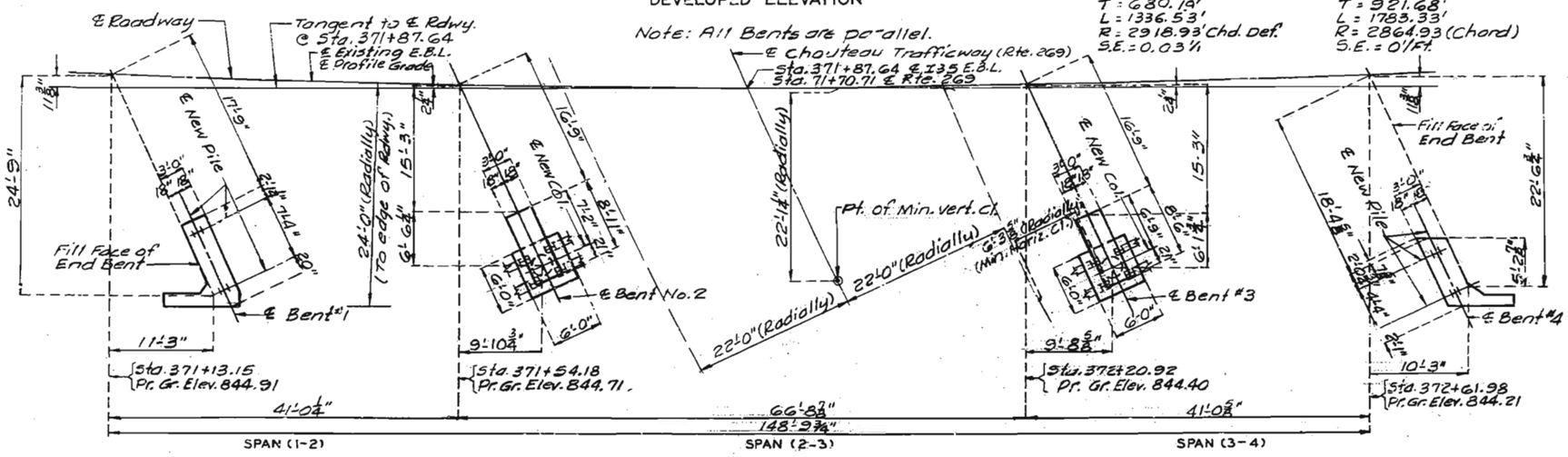
Note: Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and not less than 25' in back of the fill face of the End Bents before piles are driven for any Bents falling within the embankment section.

Curve Data.
I-35 (Rt. Lane)
P.I. Sta. 376+22.60
Δ = 26°14'05" Lt.
D = 1°57'47"
T = 680.19'
L = 1336.53'
R = 2918.93' Chd. Def.
S.E. = 0.03'/'

Curve Data.
Rte. 269 (Chouteau Trafficway)
P.I. = 63+58.70
Δ = 35°-40' Lt.
D = 2°
T = 921.68'
L = 1783.33'
R = 2864.93 (Chord)
S.E. = 0'/Ft.

DEVELOPED ELEVATION

Note: All Bents are parallel.



PLAN

Note: Elevation and Plan showing New Work only.

PILE DATA					
BENT		1	2	3	4
BEARING PILE	PILE TYPE AND SIZE	HP10x42	HP10x42	HP10x42	HP10x42
	NUMBER	2	4	4	2
	APPROXIMATE LENGTH FT.	34	18	21	35
	DESIGN BEARING TONS	20	30	30	20
	HAMMER ENERGY REQ'D. FT.-LBS.	7,000	7,000	7,000	7,000

Note: Minimum energy requirement of hammer is based on plan length and design bearing value of piles.
All piles are driven to practical refusal.

* Approximately 13.9 tons of new steel and 53.1 tons of existing steel shall be painted (See special Provisions)

ESTIMATED QUANTITIES

ITEM		SUBSTR.	SUPERSTR.	TOTAL
Partial Removal of Substructure Concrete	Lump Sum			1
Removal and Storage of Exist. Bridge Rail	Lin. Ft.			293
Non-Destructive Testing	Lin. Ft.			37
Removal of Existing Bridge Deck	Sq. Ft.			4,943
Class I Excavation	Cu. Yd.	95		95
Structural Steel Pile (10")	Lin. Ft.	294		294
Class B Concrete (Substr.)	Cu. Yd.	51.4		51.4
Class B2 Concrete (Superstr. on Steel)	Cu. Yd.		180.1	180.1
Safety Barrier Curb	Lin. Ft.		323	323
Preformed Compression Exp. Jt. Seal (3.0in.)	Lin. Ft.			44
Reinforcing Steel (Bridges)	Lb.	4,880		4,880
Reinforcing Steel (Epoxy Coated)	Lb.	560	49,960	50,520
Fabricated Str. Carbon Steel (I-Beam)	Lb.		29,450	29,450
Clean and Lubricate Bearings.	Each			16
Painting Existing and New Steel *	Lump Sum			1

Note: Concrete above upper construction joint in backwall & End Bent No.1 is included with Class B (substructure) quantities.
Weight of threaded 1"ϕ rods and nuts in End Diaphgram is included in Weight of Fabricated Structural Steel.

GENERAL NOTES:

Design Specifications: A.A.S.H.T.O -1983 and Interims thru 1988. Load Factor Design.

Design Loading:
HS 20-44, 15#/Sq. Ft. Future Wearing Surface
Modified 24,000# Tandem Axle
Earth 120 #/Cu. Ft., Equivalent Fluid Pressure 45#/Cu. Ft.
Fatigue Stress Case II

Design Unit Stress:
Class B Concrete (Substructure) f'_c = 3,000 psi.
Class B1 Concrete (Safety Barrier curb) f'_c = 4,000 psi.
Class B2 Concrete (Superstructure except Safety Barrier Curb) f'_c = 4,000 psi.
Reinforcing Steel (Grade 60) f_y = 60,000 psi.
Structural Carbon Steel f_y = 36,000 psi.
Steel Pile f_b = 9,000 psi.

Fabricated Steel Connections:
Field connections, High Strength Bolts ¾"ϕ, holes 13/16"ϕ, except as noted.

Joint Filler:
All joint filler shall meet the requirements of Std. Spec. 1057.2.4, except as noted.

Reinforcing Steel:
Minimum Clearance to reinforcing steel shall be 1½", unless otherwise shown.
All reinforcing bars in tops of substructure beams or caps shall be spaced to clear anchor bolts for bearings by at least 2".

Painting:
Paint System C by contractor in accordance with Std. Spec. 712.12 & 712.13 (Color of the final field coat shall be Green).
Areas to be encased in End Bent concrete shall be painted one coat of System C primer and scratched or damaged surfaces are to be touched up in the field before concrete is poured.

Construction Clearance:
A minimum vertical clearance of 14'-9" from crown of existing lanes and a minimum lateral clearance of 28'-0" centered on existing lanes shall be maintained during construction.

Traffic Maintained:
Traffic over structure to be maintained during construction.

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.
Contractor shall verify all dimensions in field before ordering new steel.
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 bar and 30 diameters for deformed bars, unless otherwise noted.

Clean, lubricate & reset all bearings. See special provisions.
Cost of furnishing and installing Resin Anchor Assemblies shall be included in Contract Unit price for Concrete.

All dimension tied to existing elevations are subject to variance. For new top of substructure beam caps, use elevations given.

B.M. Elev. 843.38 ▫ on Lt. Wingwall Abut. #4 Adjoining Bridge.

BRIDGE OVER RTE. 269 (CHOUTEAU TRAFFICWAY)

STATE ROAD: INTERSTATE 35
IN KANSAS CITY

PROJECT NO.
JOB NO. 4-I-35-816
CLAY COUNTY

STA. 371+13.15 EBL
RTE. I-35

STD.
STD. 706.35
L 642 R1

DESIGNED Aug. 1988
DETAILED NOV. 1988
CHECKED NOV. 1988

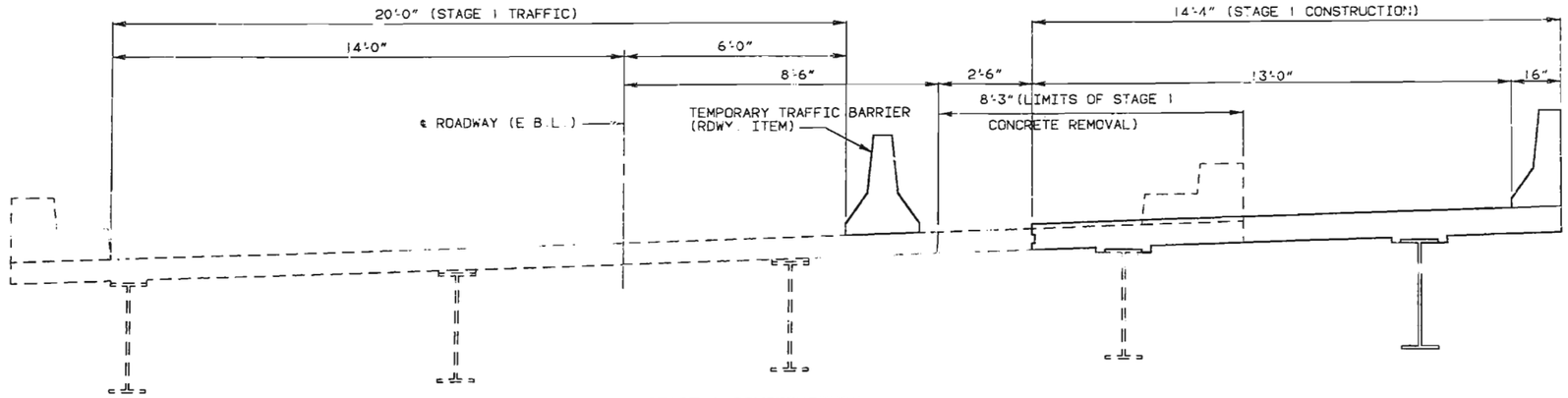
DATE 1/13/89

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

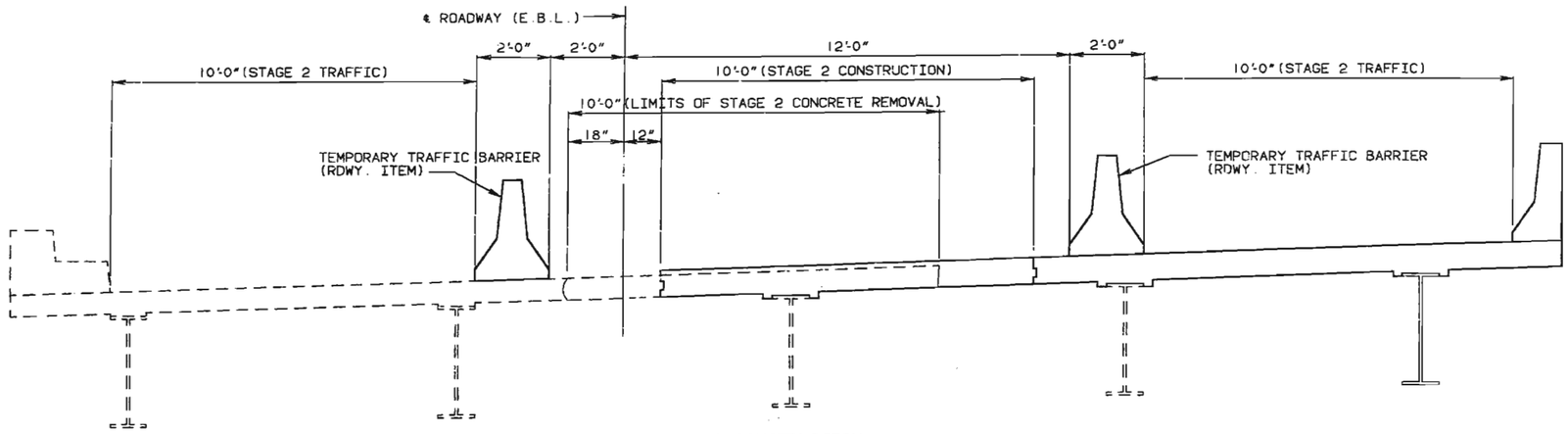
Sheet No. 1 of 20. SEE FINAL PLANS

35 803 1

STATE	PROJ. NO.	SHEET NO
N.D.		46

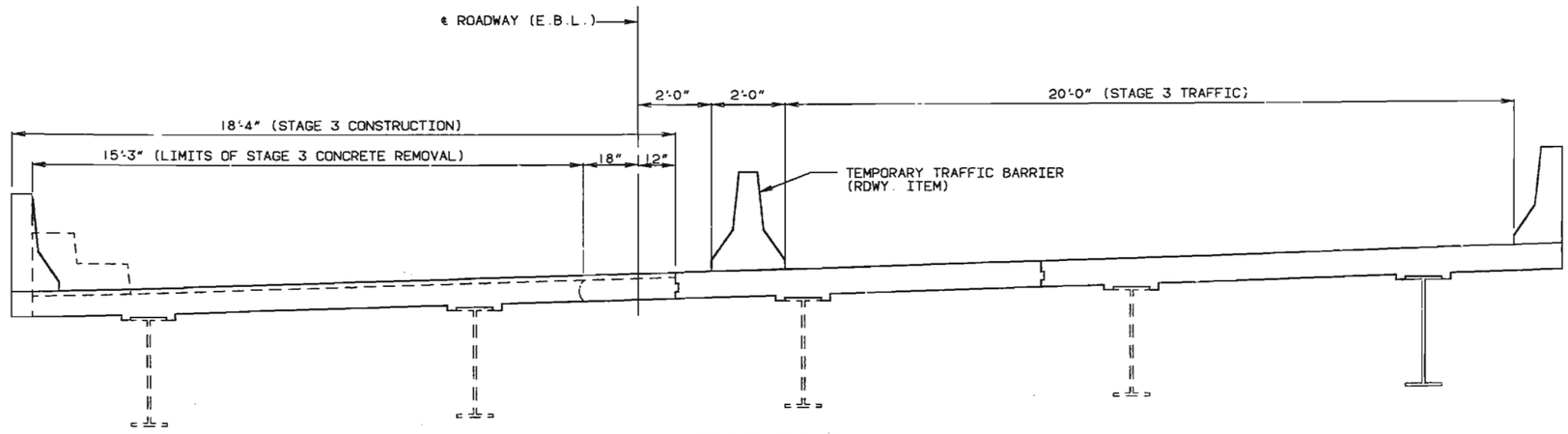


STAGE 1 CONSTRUCTION



STAGE 2 CONSTRUCTION

NOTE: ALL DIMENSIONS ARE RADIAL DIMENSIONS.



STAGE 3 CONSTRUCTION

STAGE CONSTRUCTION SEQUENCE

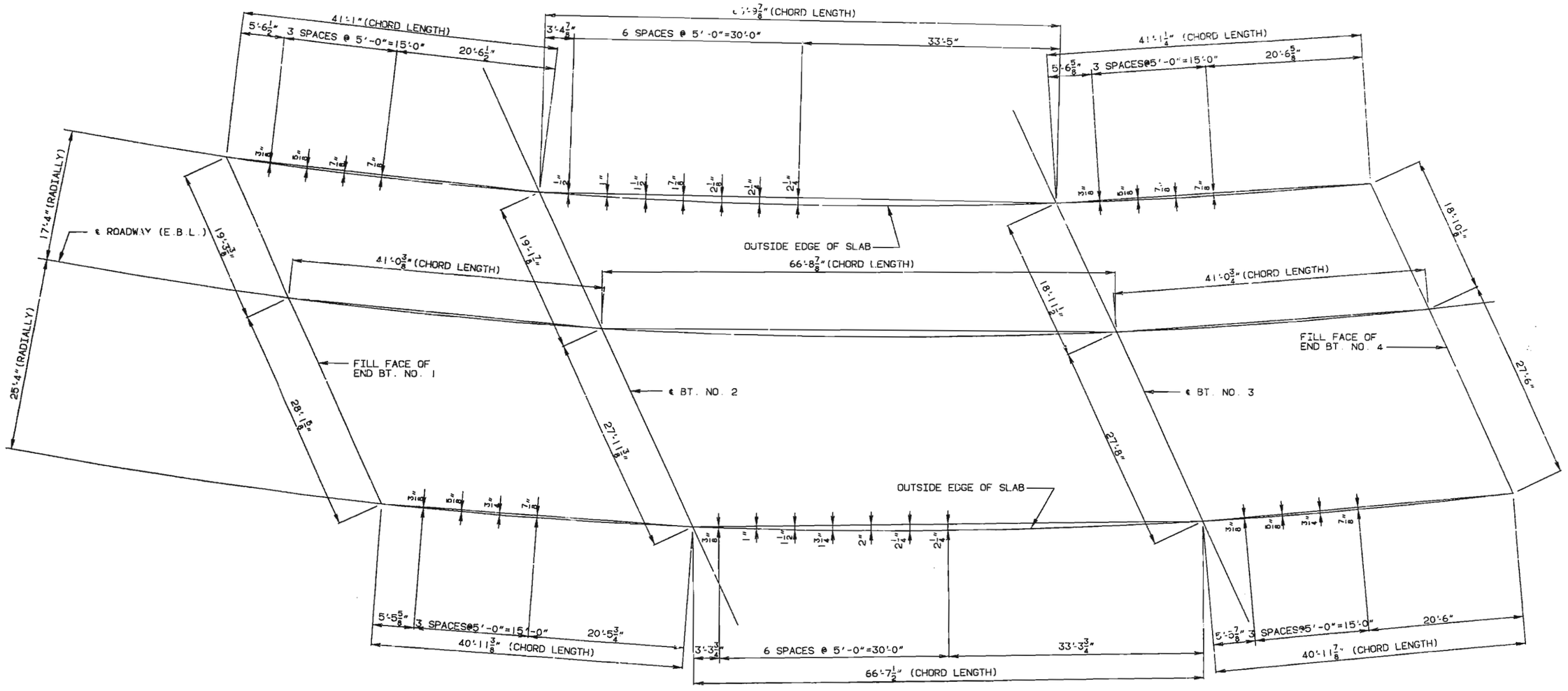
DETAILED AUG. 1988
CHECKED OCT. 1988

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

CLAY COUNTY

L-642R1

STATE	PROJ. NO.	SHEET NO.
MO.		47



PLAN OF SLAB SHOWING CURVE ORDINATES

NOTE: ALL DIMENSIONS SHOWN ARE HORIZONTAL.

51284

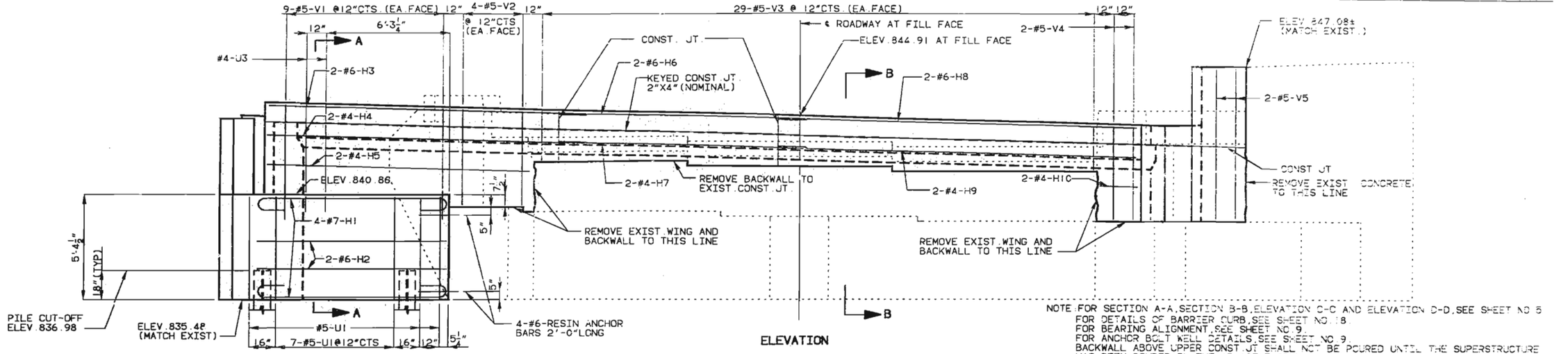
DETAILED SEPT. 1988
CHECKED OCT. 1988

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

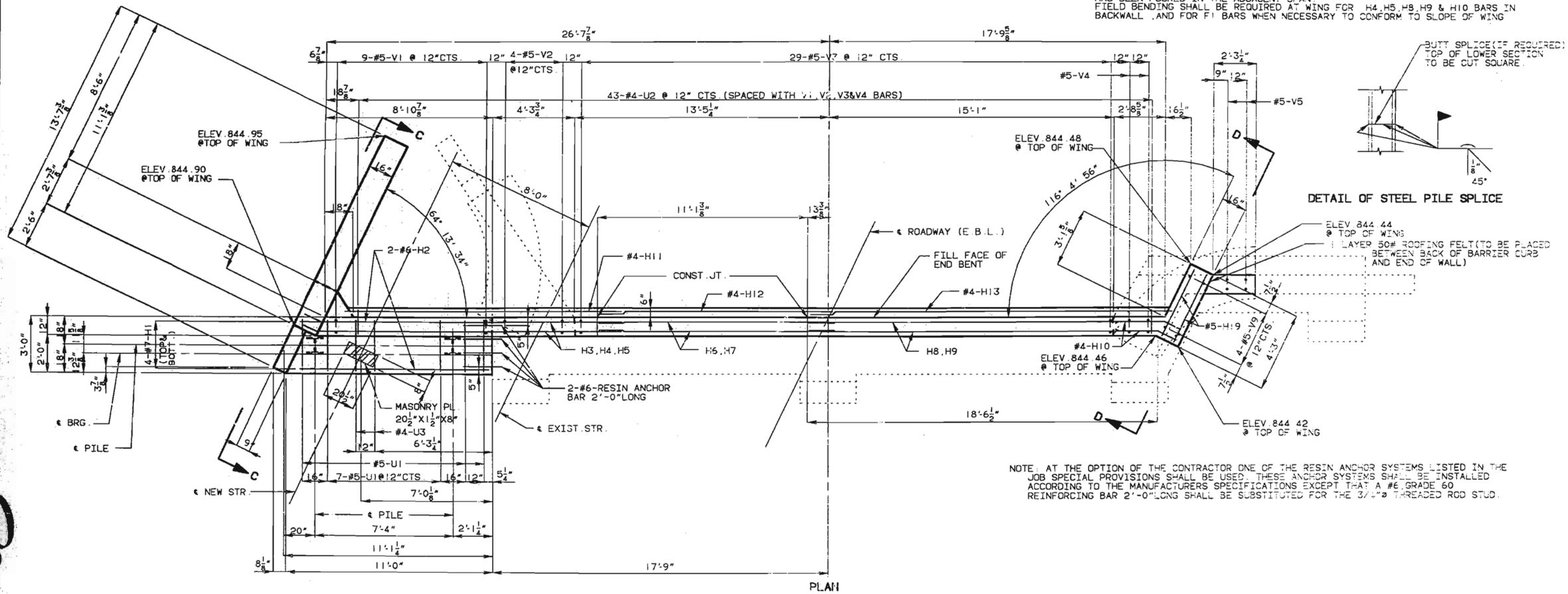
CLAY COUNTY

L-642R1

STATE	PROJ. NO.	SHEET NO.
MO.		48



NOTE: FOR SECTION A-A, SECTION B-B, ELEVATION C-C AND ELEVATION D-D, SEE SHEET NO. 5
FOR DETAILS OF BARRIER CURB, SEE SHEET NO. 18.
FOR BEARING ALIGNMENT, SEE SHEET NO. 9.
FOR ANCHOR BOLT WELL DETAILS, SEE SHEET NO. 9.
BACKWALL ABOVE UPPER CONST. JT. SHALL NOT BE POURED UNTIL THE SUPERSTRUCTURE HAS BEEN POURED IN THE ADJACENT SPAN.
FIELD BENDING SHALL BE REQUIRED AT WING FOR H4, H5, H8, H9 & H10 BARS IN BACKWALL, AND FOR F1 BARS WHEN NECESSARY TO CONFORM TO SLOPE OF WING



NOTE: AT THE OPTION OF THE CONTRACTOR ONE OF THE RESIN ANCHOR SYSTEMS LISTED IN THE JOB SPECIAL PROVISIONS SHALL BE USED. THESE ANCHOR SYSTEMS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS SPECIFICATIONS EXCEPT THAT A #6 GRADE 60 REINFORCING BAR 2'-0"LONG SHALL BE SUBSTITUTED FOR THE 3/4"ø THREADED ROD STUD.

DETAILS OF END BENT NO 1

DETAILED OCT 1988
CHECKED NOV. 1988

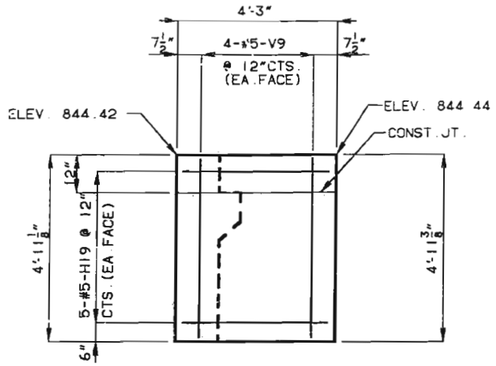
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

CLAY COUNTY

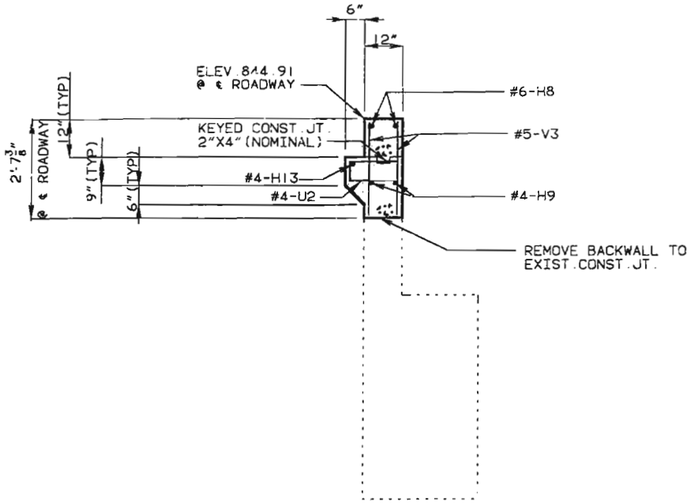
L-642R1

538057

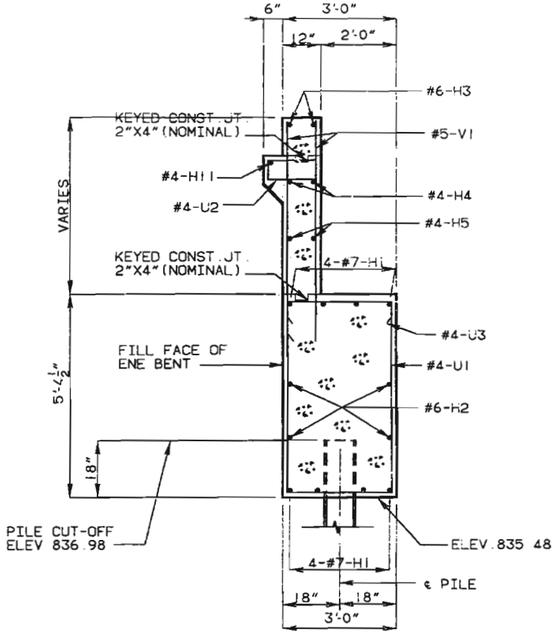
STATE	PROJ. NO.	SHEET NO.
MO.		49



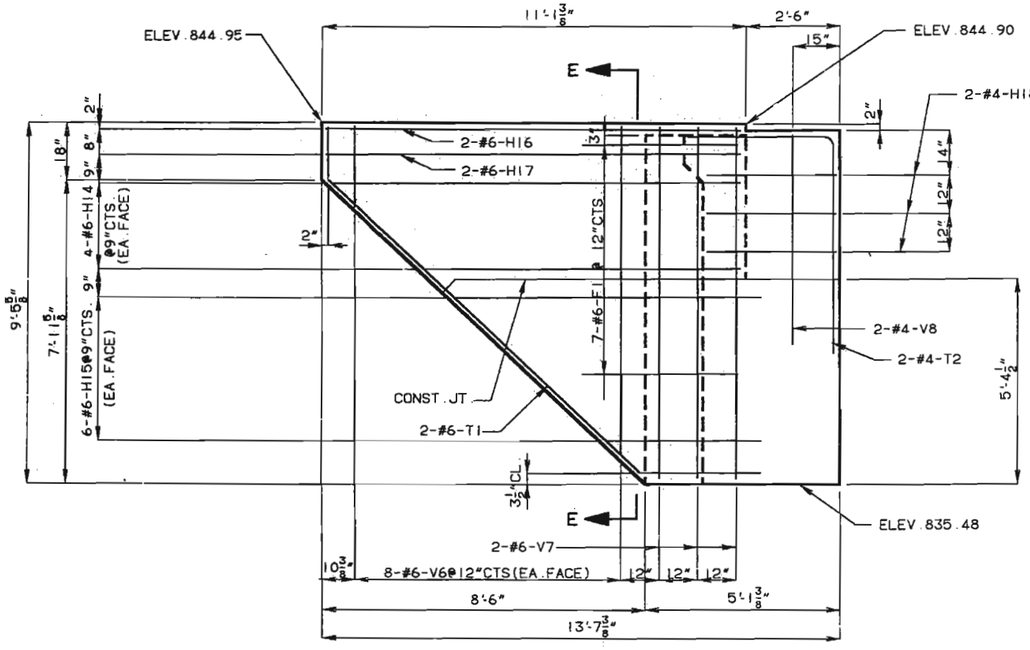
ELEVATION D-D



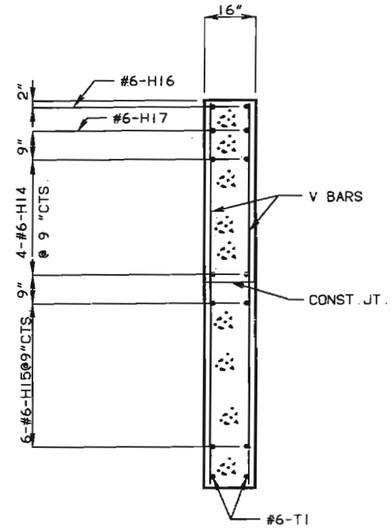
SECTION B-B



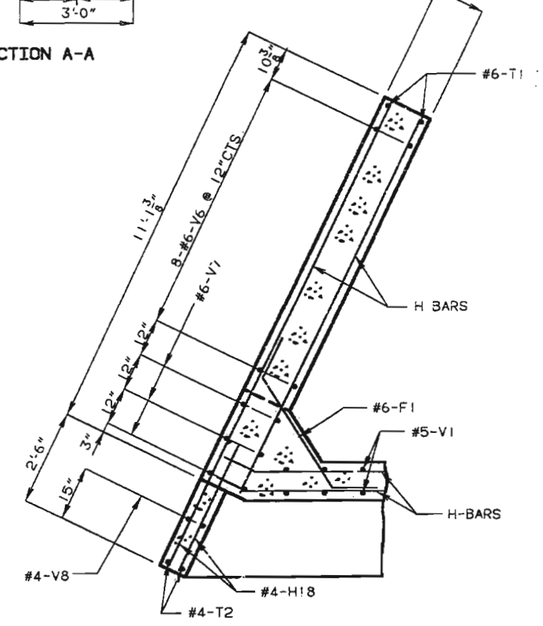
SECTION A-A



ELEVATION C-C



SECTION E-E



SECTION THRU WING

NOTE: FOR LOCATION OF SECTION A-A, SECTION B-B, ELEVATION C-C & ELEVATION D-D, SEE SHEET NO 4.
FOR LOCATION AND SPACING OF #5-R BARS IN WINGS, SEE SHEET NO 18.

DETAILS OF END BENT NO 1

DETAILED NOV. 1988
CHECKED NOV. 1988

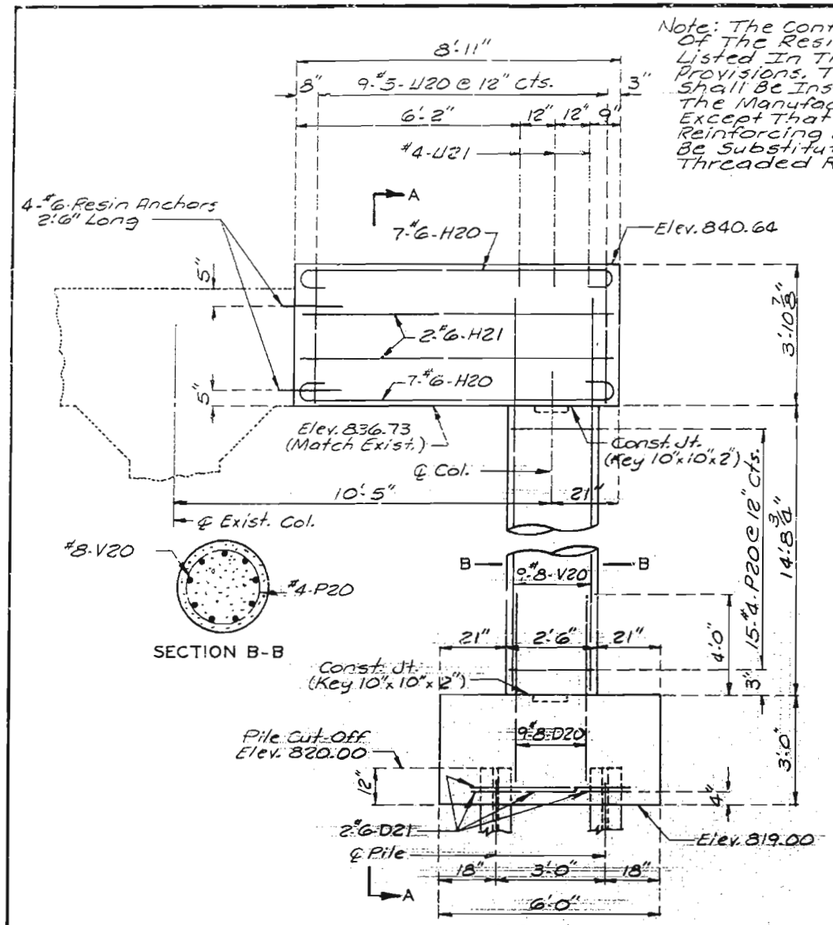
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

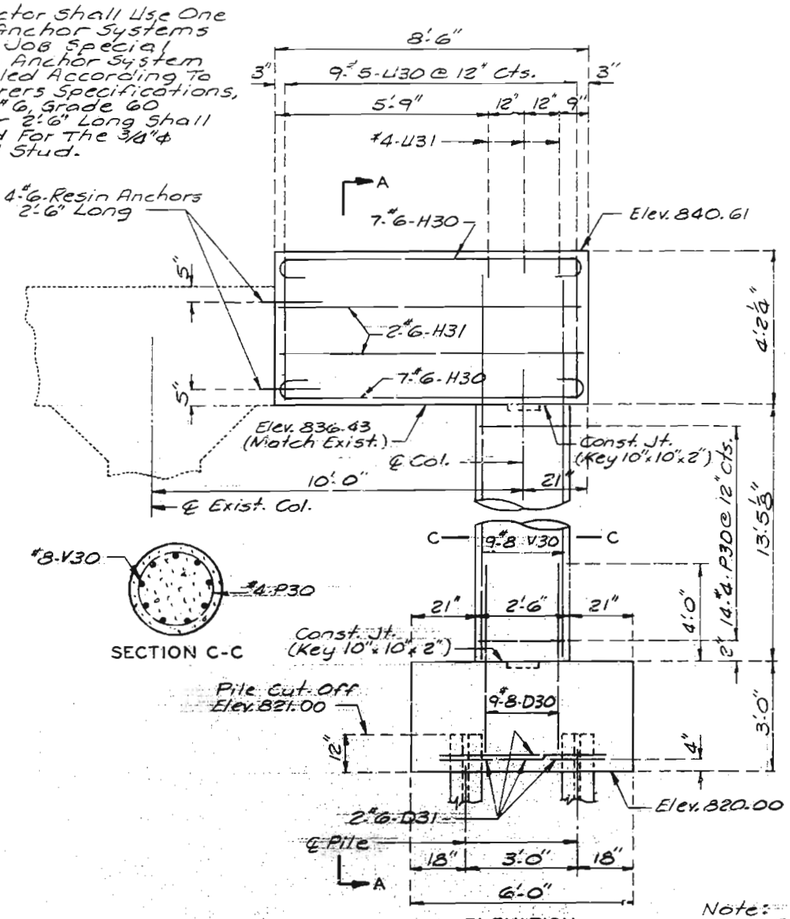
CLAY COUNTY

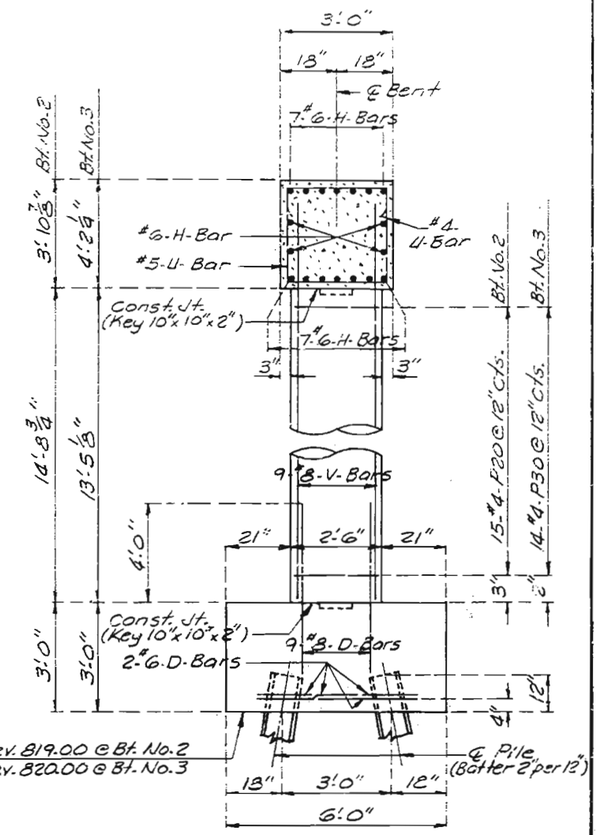
L-642R1

STATE	PROJ. NO.	SHEET NO.
MO.		50

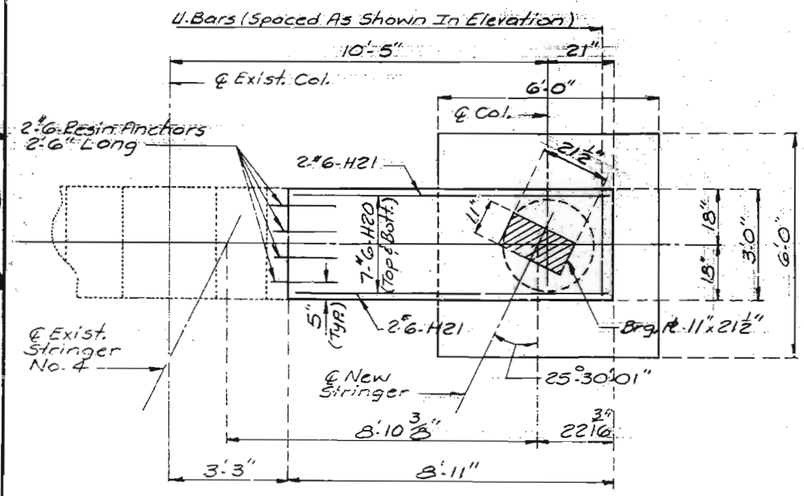
Note: The Contractor Shall Use One Of The Resin Anchor Systems Listed In The Job Special Provisions. This Anchor System Shall Be Installed According To The Manufacturers Specifications, Except That A #6 Grade 60 Reinforcing Bar 2'-6" Long Shall Be Substituted For The 3/4" ϕ Threaded Rod Stud.

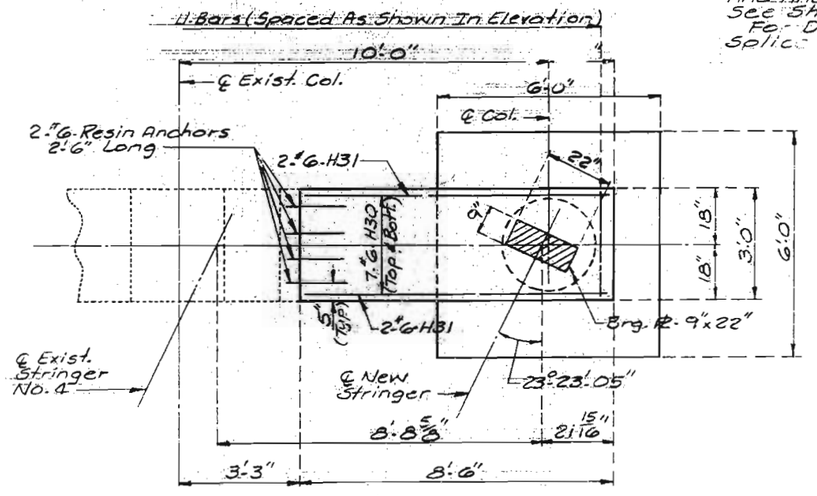


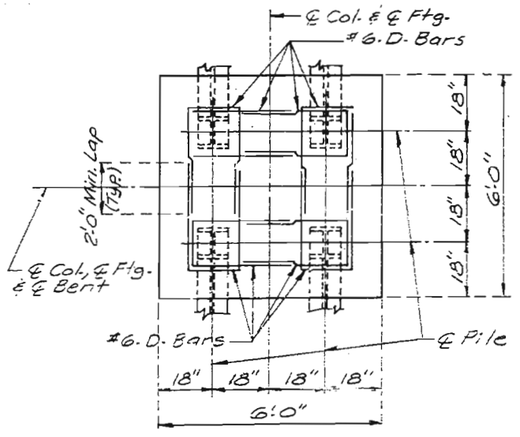




Note:
For Bearing Alignment And Anchor Bolt Well Details See Sheet No. 9.
For Detail Of Steel Pile Splice See Sheet No. 4.







PLAN OF FOOTING SHOWING REINFORCEMENT

DETAILS OF INT. BENT NO. 2

DETAILS OF INT. BENT NO. 3

DETAILED Sept. 1988
CHECKED Oct. 1988

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

CLAY COUNTY

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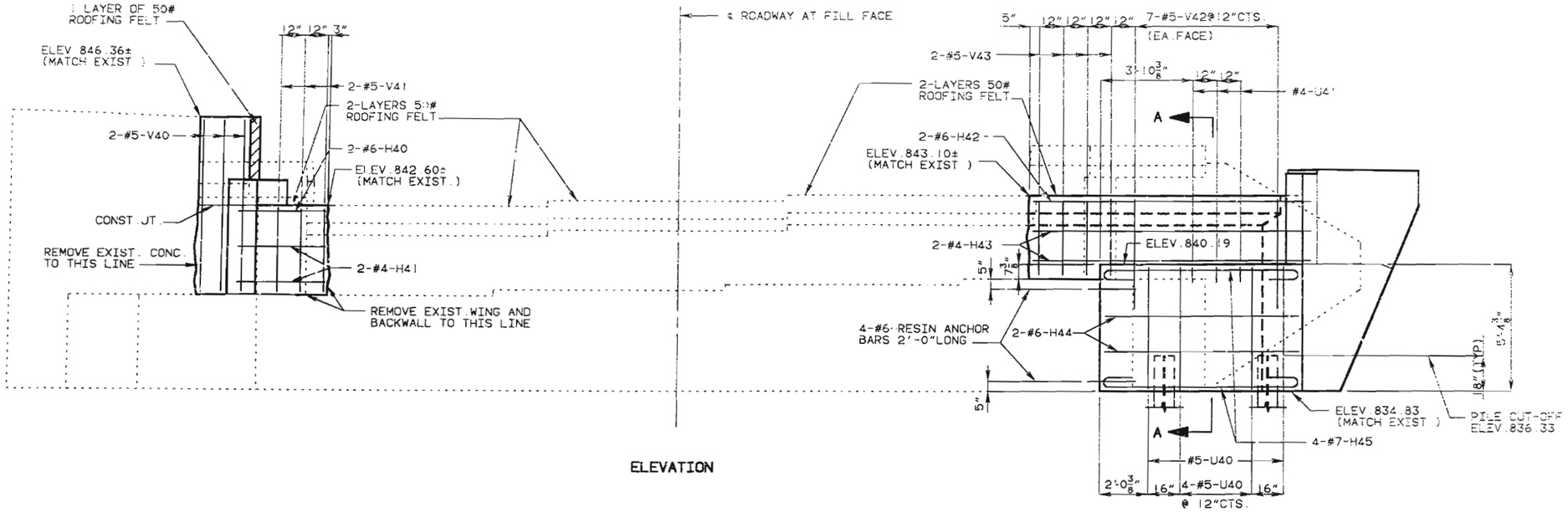
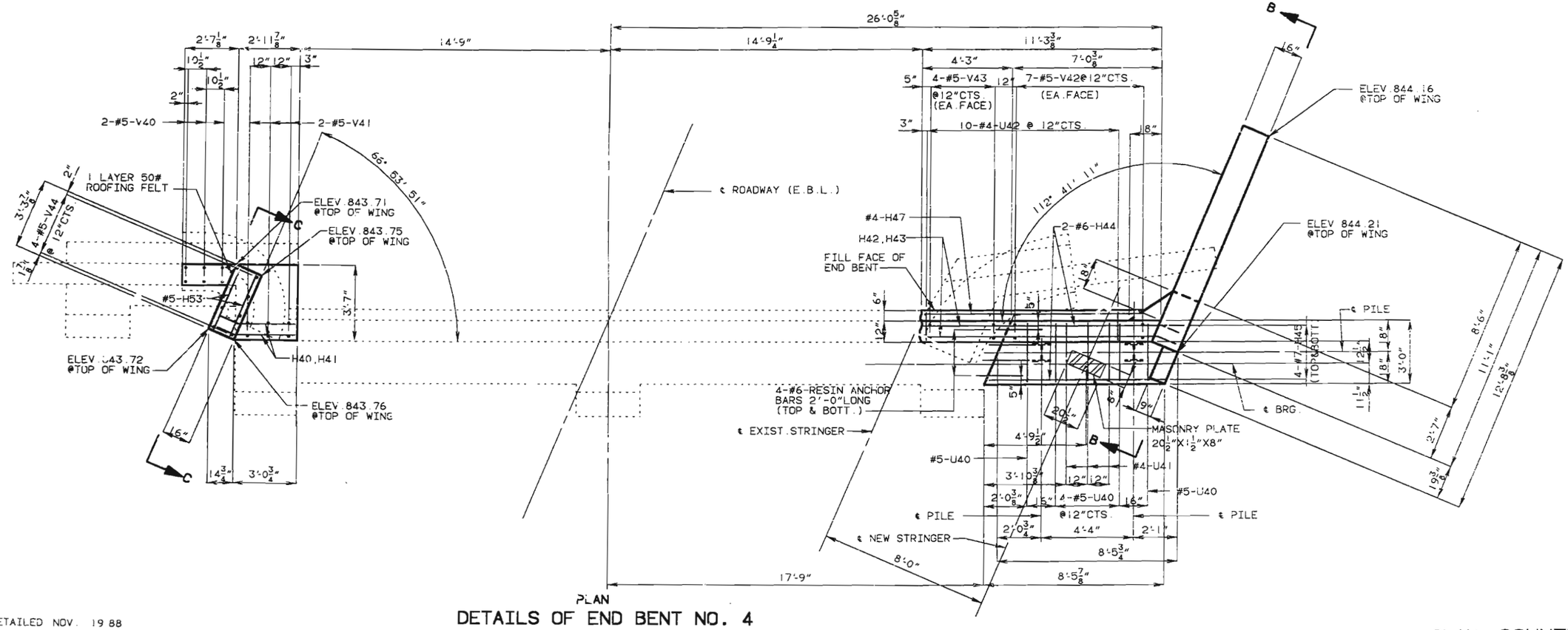
360 207

STATE	PROJ. NO	SHEET NO
MO		51



ELEVATION



PLAN

NOTE: FOR SECTION A-A, ELEVATION B-B AND ELEVATION C-C, SEE SHEET NO. 8

FOR DETAILS OF BARRIER CURB, SEE SHEET NO. 18

FOR BEARING ALIGNMENT, SEE SHEET NO. 9

FOR ANCHOR BOLT WELL DETAILS, SEE SHEET NO. 9

FIELD BENDING SHALL BE REQUIRED AT WING FOR #4-H41&H43, #5-H40&H42 BARS IN BACKWALL AND FOR #6-H40 BARS IN WING WHEN NECESSARY TO CONFORM TO SLOPE OF WING.

AT THE OPTION OF THE CONTRACTOR, ONE OF THE RESIN ANCHOR SYSTEMS LISTED IN THE JOB SPECIAL PROVISIONS SHALL BE USED. THESE ANCHOR SYSTEMS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS SPECIFICATIONS EXCEPT THAT A #6 GRADE 60 REINFORCING BAR 2'-0" LONG SHALL BE SUBSTITUTED FOR THE 3/4"ø THREADED ROD STUD.

FOR DETAIL OF STEEL PILE SPLICE, SEE SHEET NO. 4.

TOP OF EXISTING BACKWALL WILL NEED CLEANING AND POSSIBLY REPAIRED TO PROVIDE A PLANE SURFACE FOR SLAB TO SLIDE ON BEFORE PLACING 2 LAYERS OF ROOFING FELT.

DETAILS OF END BENT NO. 4

DETAILED NOV. 1988
CHECKED NOV. 1988

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

CLAY COUNTY

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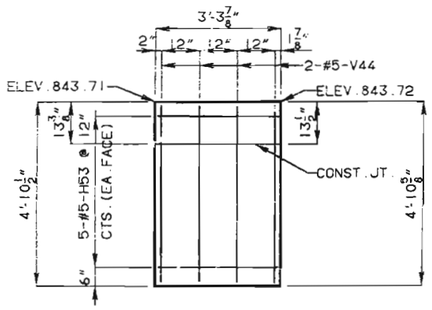
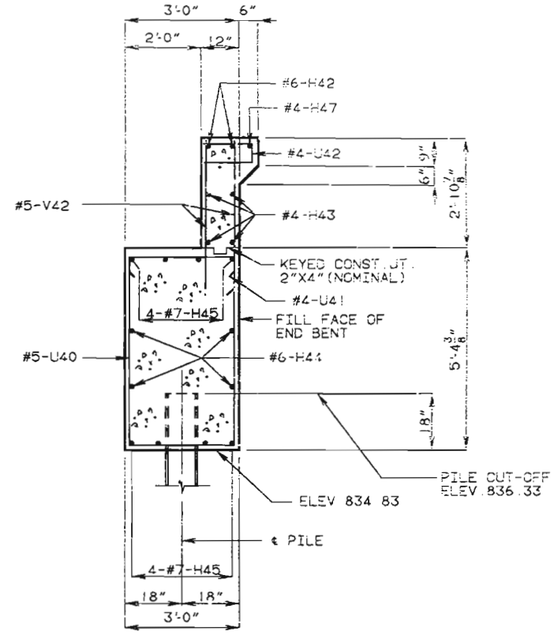
MO		52

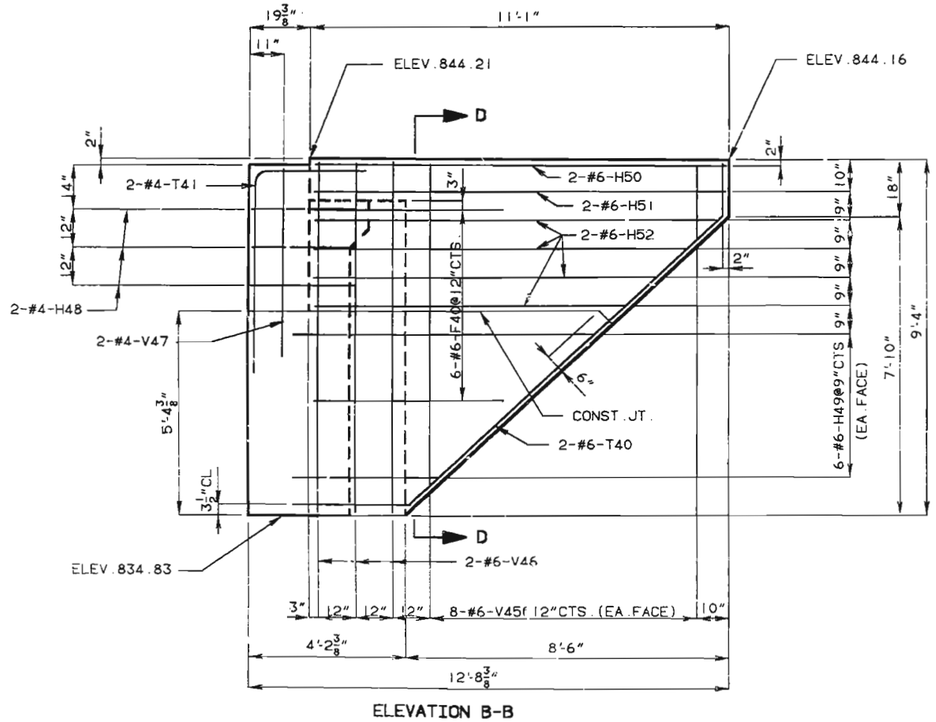


ELEVATION C-C

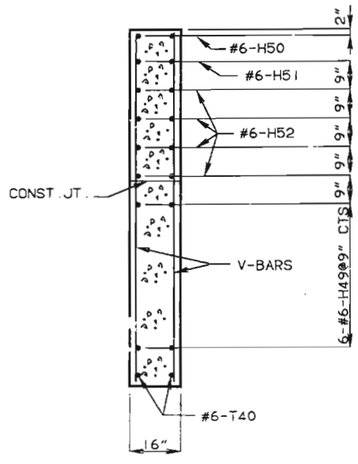
NOTE: FOR LOCATION OF SECTION A-A, ELEVATION B-B AND ELEVATION C-C, SEE SHEET NO. 7.
FOR LOCATION AND SPACING OF #5-R BARS IN WING, SEE SHEET NO. 18.



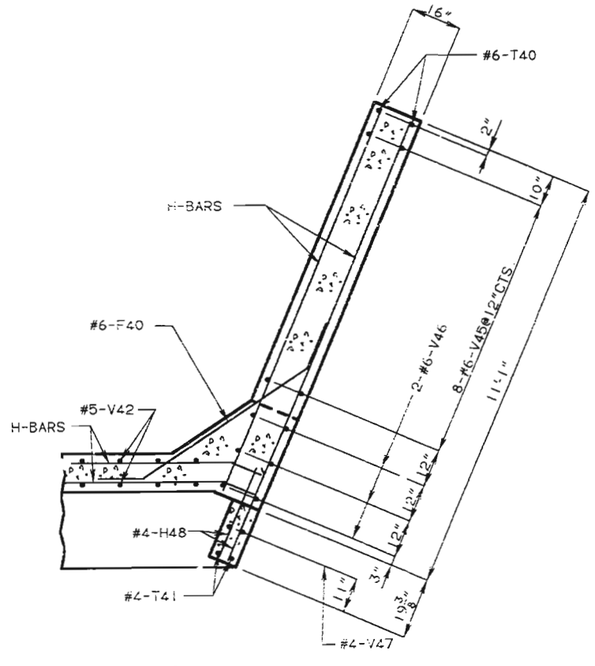
SECTION A-A



ELEVATION B-B



SECTION D-D



SECTION THRU WING

DETAILS OF END BENT NO. 4

DETAILED NOV. 1988
CHECKED NOV. 1988

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

CLAY COUNTY

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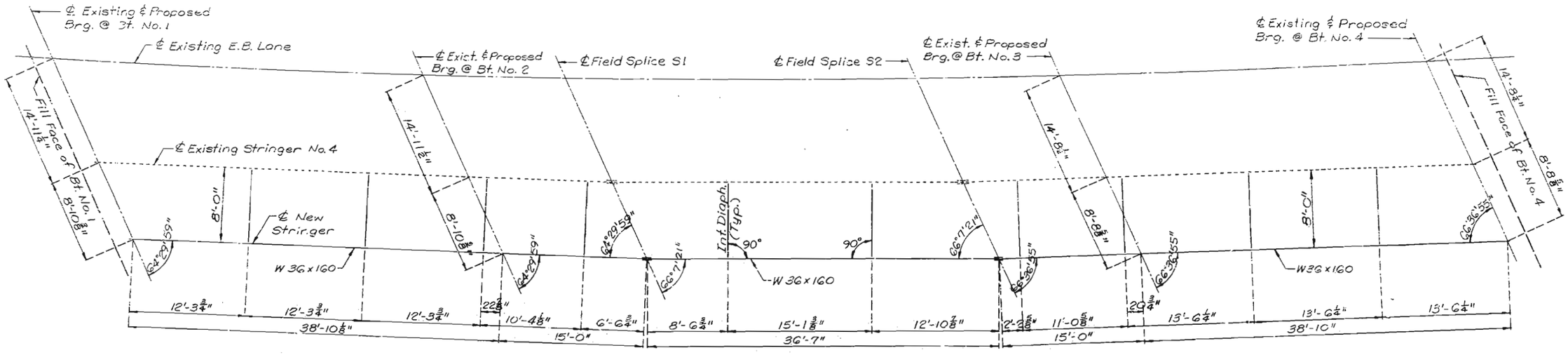
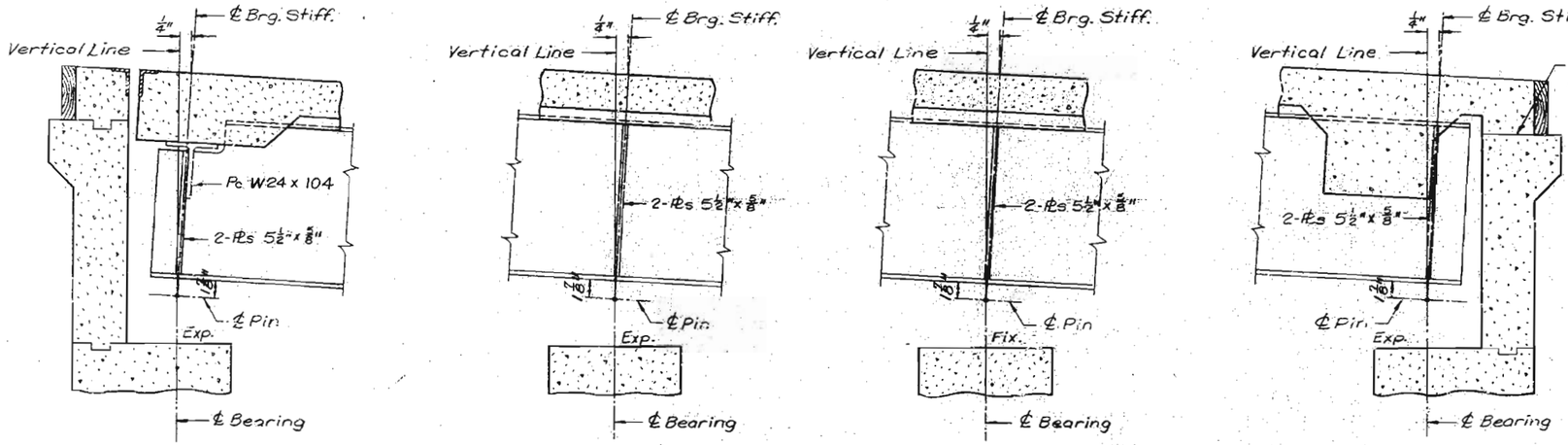
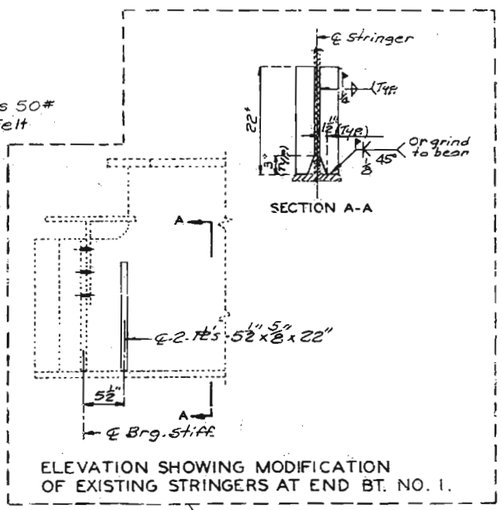
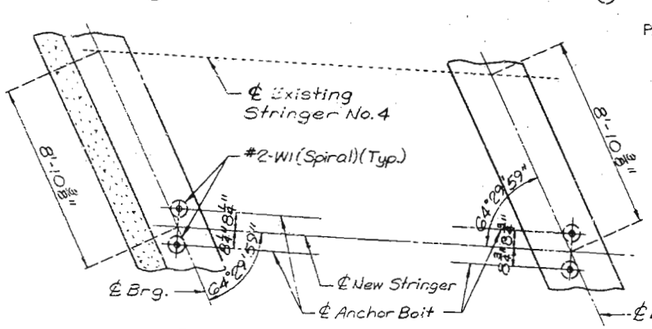
STATE	PROJ. NO.	SHEET NO.
MO.		53



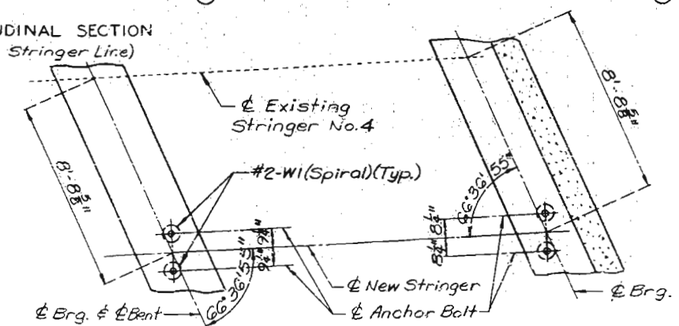
PLAN OF STEEL



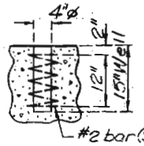




PART LONGITUDINAL SECTION
(Parallel to Stringer Line)



ANCHOR BOLT PLAN



DETAIL OF ANCHOR BOLT WELLS

Note: All dimensions are horizontal. Longitudinal dimensions are along ℄ of Stringers.
Fabricated structural steel shall be A36.
Notch toughness required for all WF Beams.

363 & 48

DETAILED Sept. 1988
CHECKED Nov. 1988

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

⚠ Revised 10-18-89

Sheet No. 9 of 20.

CLAY COUNTY

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STATE	PROJ. NO.	SHEET NO.
MO.		54

90-Shear Connector Units (Spaced as shown)

17" | 24-spa.@10"(4-studs per unit) | 27'-10¾" | 4'-5⅝" | 32-spa.@12"(3-studs per unit) | 4'-5¼" | 27'-11⅛" | 25-spa.@10"(4-studs per unit) | 7" — Existing Stringer No.1

2-spa.@15"(4-studs per unit) | 2-spa.@15"(4-studs per unit)

90-Shear Connector Units (Spaced as shown)

17" | 24-spa.@10"(4-studs per unit) | 27'-10⅝" | 4'-5" | 32-spa.@12"(3-studs per unit) | 4'-4⅞" | 27'-11⅛" | 25-spa.@10"(4-studs per unit) | 7" — Existing Stringer No.2

2-spa.@15"(4-studs per unit) | 2-spa.@15"(4-studs per unit)

90-Shear Connector Units (Spaced as shown)

17" | 24-spa.@10"(4-studs per unit) | 27'-10¾" | 4'-4½" | 32-spa.@12"(3-studs per unit) | 4'-4½" | 27'-11⅛" | 25-spa.@10"(4-studs per unit) | 7" — Existing Stringer No.3

2-spa.@15"(4-studs per unit) | 2-spa.@15"(4-studs per unit)

90-Shear Connector Units (Spaced as shown)

17" | 24-spa.@10"(4-studs per unit) | 27'-10⅝" | 4'-4⅝" | 32-spa.@12"(3-studs per unit) | 4'-4⅝" | 27'-11⅛" | 25-spa.@10"(4-studs per unit) | 7" — Existing Stringer No.4

2-spa.@15"(4-studs per unit) | 2-spa.@15"(4-studs per unit)

91-Shear Connector Units (Spaced as shown)

17" | 24-spa.@10"(4-studs per unit) | 28'-4⅝" | 3'-3¼" | 33-spa.@12"(3-studs per unit) | 3'-3¾" | 28'-4⅝" | 25-spa.@10"(4-studs per unit) | 7" — New W36x160 Stringer

2-spa.@15"(4-studs per unit) | 2-spa.@15"(4-studs per unit)

DETAIL "A"
2-Pls 5½"x⅝" | 2-Pls 5½"x⅝" | 2-Pls 5½"x⅝" | 2-Pls 5½"x⅝"

℄ Brg. Stiff. | ℄ Brg. Stiff. | ℄ Field Splice S1 | ℄ Field Splice S2 | ℄ Brg. Stiff. | ℄ Brg. Stiff.

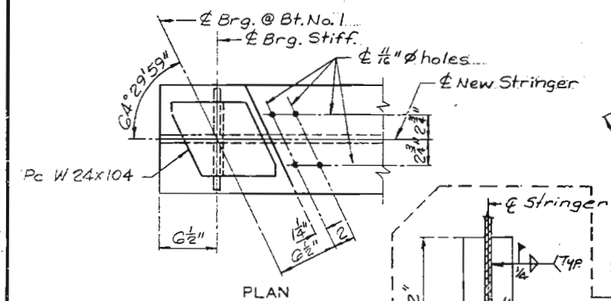
53'-10⅛" | 36'-7" | 53'-10"
38'-10⅛" | 66'-7" | 38'-10"
144'-3⅜"

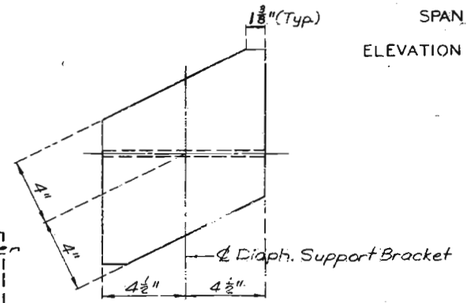
6½" | 6½"

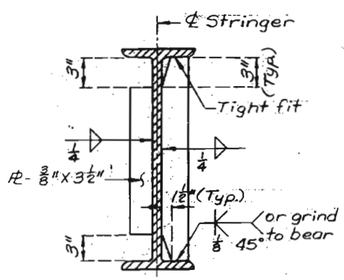
SPAN (1-2) | SPAN (2-3) | SPAN (3-4)

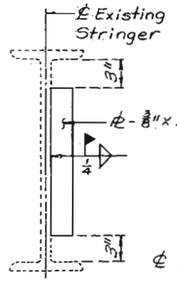
ELEVATION OF STRINGER

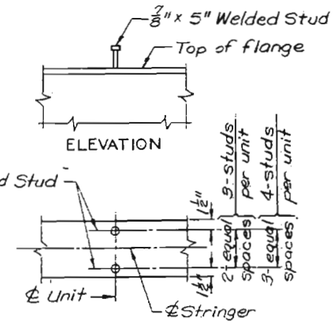
Note: Longitudinal dimensions are along ℄ Web and parallel to grade.



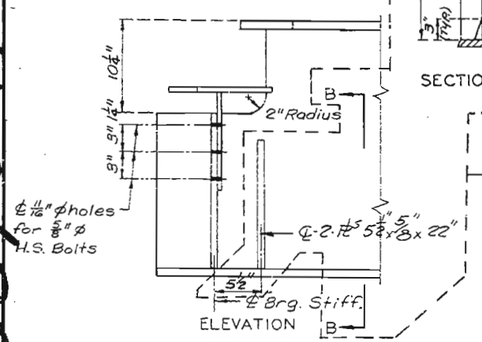


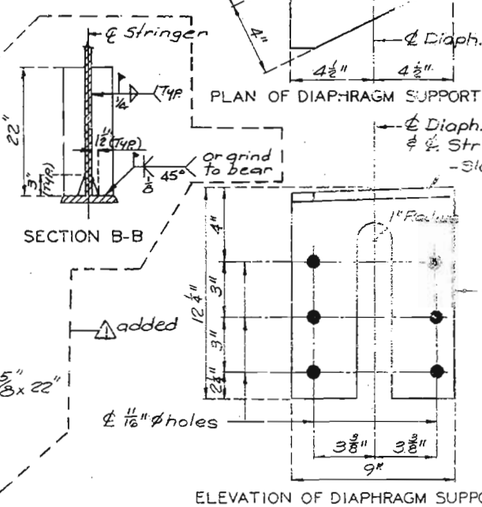


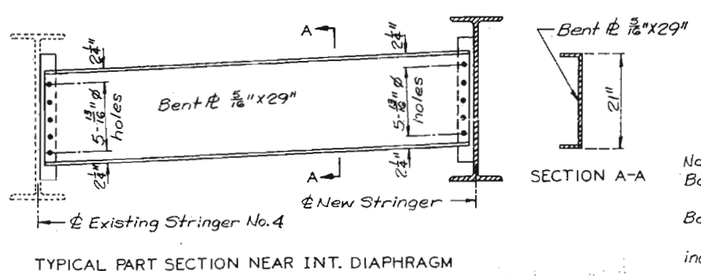




DETAILS OF SHEAR CONNECTORS







Note: For existing Ext. Gdrs. @ Bt. No. 1, use ⅞" ø H.S. Bolt to plug 1 1/16" ø holes.
For existing Int. Gdrs. @ Bt. No. 1, use 1⅛" ø H.S. Bolt to plug 1½" ø holes.
Weight of H.S. Bolts, washers and nuts to be included in weight of Fabricated Structural Carbon Steel.

Note: Weight of 1,605 lbs. of shear connectors is included in weight of Fabricated Structural Carbon Steel.

36 Sht

DETAILED Sept. 1988
CHECKED Oct. 1988

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

⚠ Revised 10-18-89

CLAY COUNTY

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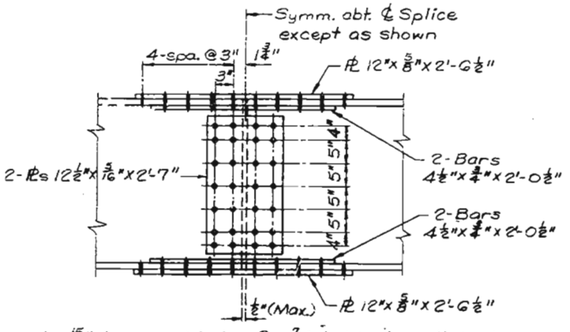


Note: 15/16" ∅ reamed holes for ⅞" ∅ high strength bolts.

BOLTED FIELD SPLICE

NOTES: TYPE "D" BEARINGS

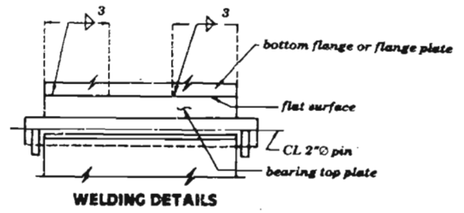
ANCHOR BOLTS FOR TYPE "D" BEARINGS SHALL BE 1¼" ∅ A588 STEEL SWEDGED BOLTS AND SHALL EXTEND 15" INTO THE CONCRETE, WITH A194 - 2, 2H OR A563 - C, C3, D, DH, DH3 HEAVY HEXAGON NUTS. ACTUAL MANUFACTURER'S CERTIFIED MILL TEST REPORTS (CHEMICAL AND MECHANICAL (INCLUDING PROOF LOADS)) SHALL BE PROVIDED. USE F436 HARDENED WASHERS FOR THE FIXED BEARINGS AND NO HEAVY HEXAGON NUTS OR HARDEDED WASHERS FOR THE EXPANSION BEARINGS. (SWEDGING SHALL BE 1" LESS THAN EXTENSION INTO THE CONCRETE.)

ANCHOR BOLTS, HARDEDED WASHERS AND HEAVY HEXAGON NUTS SHALL BE PAINTED WITH 2 COATS (5 MILS MINIMUM) OF INORGANIZ ZINC. WELDS AREAS TO BE TOUCHED UP AFTER ASSEMBLY.

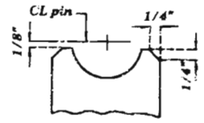
WEIGHT OF THE ANCHORS BOLTS, HARDENED WASHERS AND HEAVY HEXAGON NUTS FOR BEARINGS SHALL BE INCLUDED IN THE WEIGHT OF THE FABRICATED STRUCTURAL STEEL.

INDICATES MACHINE FINISH SURFACE.

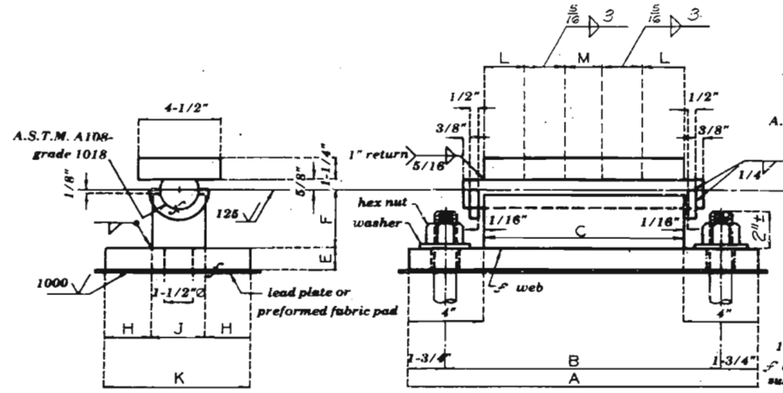
SHOP DRAWINGS ARE NOT REQUIRED FOR LEAD PLATES AND/OR PREFORMED FABRIC PADS.



WELDING DETAILS

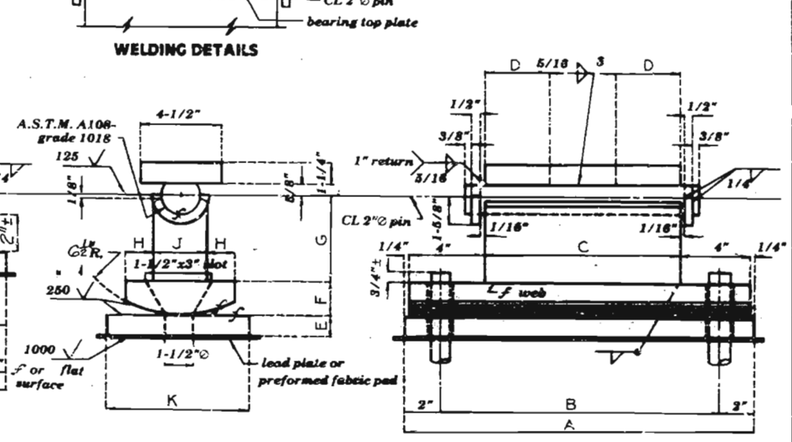


END VIEW OF WEB



FIXED

REQUIRED: 1 @ Bt. No. 3



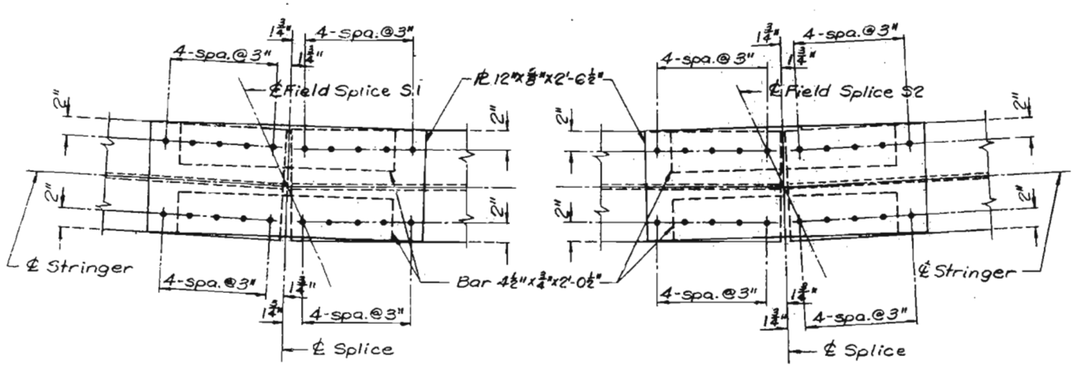
EXPANSION

REQUIRED: 1 @ Bt. No. 1
1 @ Bt. No. 2
1 @ Bt. No. 4

TYPE "D" BEARINGS

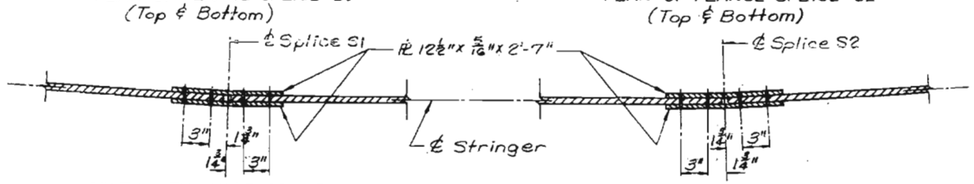
(ESTIMATED WEIGHT = 884#)

TABLE OF DIMENSIONS												
BENT NO.	A	B	C	D	E	F	G	H	J	K	L	M
1 & 4	20⅜"	16½"	12"	4½"	1½"	1⅜"	4¾"	1½"	3"	8"	—	—
2	21½"	17½"	13"	5"	2"	2"	4½"	1½"	3"	11"	—	—
3	22"	18½"	14"	—	1¾"	3¾"	—	3"	3"	9"	3"	2"



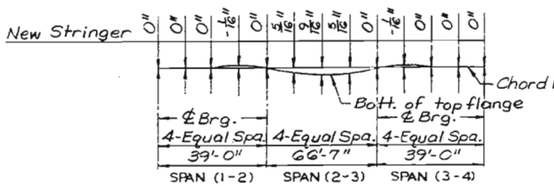
PLAN OF FLANGE SPLICE S1 (Top & Bottom)

PLAN OF FLANGE SPLICE S2 (Top & Bottom)



SECTION THRU WEB-SPLICE S1

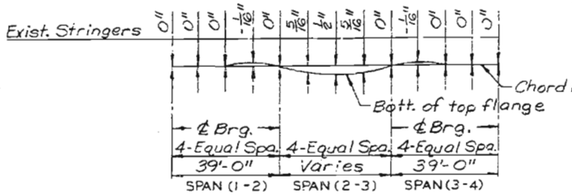
SECTION THRU WEB-SPLICE S2



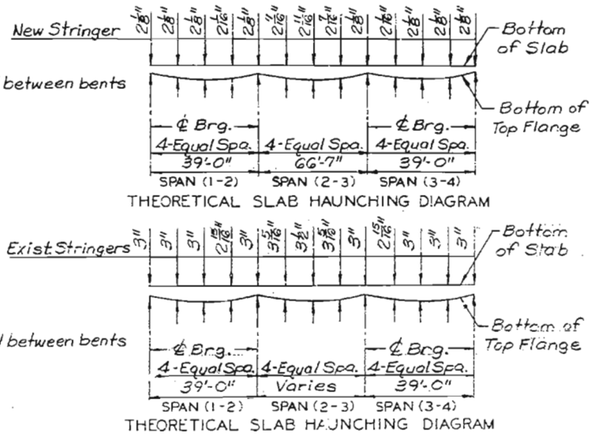
DEAD LOAD DEFLECTION

Note: 12% of Dead Load Deflection is due to weight of structural steel.

THEORETICAL SLAB HAUNCHING DIAGRAM



SLAB DEAD LOAD DEFLECTION



THEORETICAL SLAB HAUNCHING DIAGRAM

Note: A 3" average haunch was used on existing stringers in computing concrete quantities.

DETAILED Nov. 1988
CHECKED Nov. 1988

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

Sheet No. 11 of 20.

CLAY COUNTY

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STATE	PROJ NO	SHEET NO
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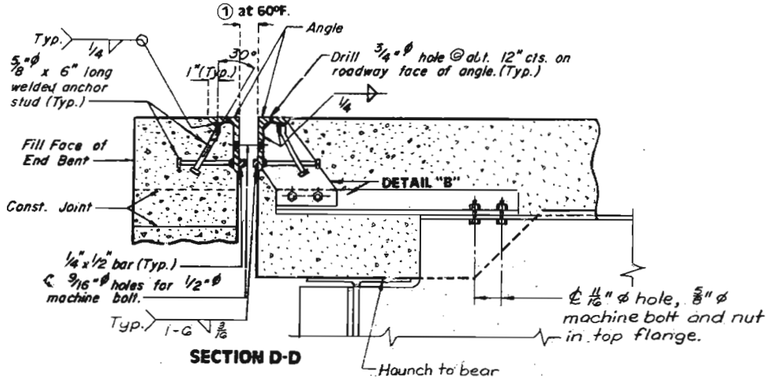
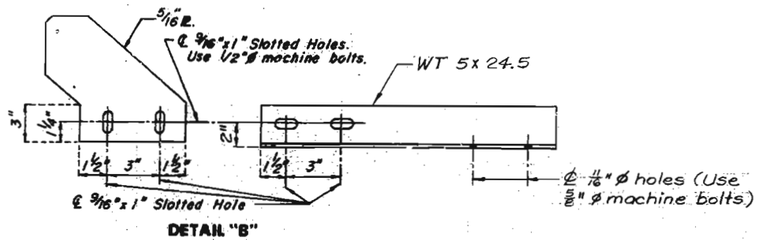
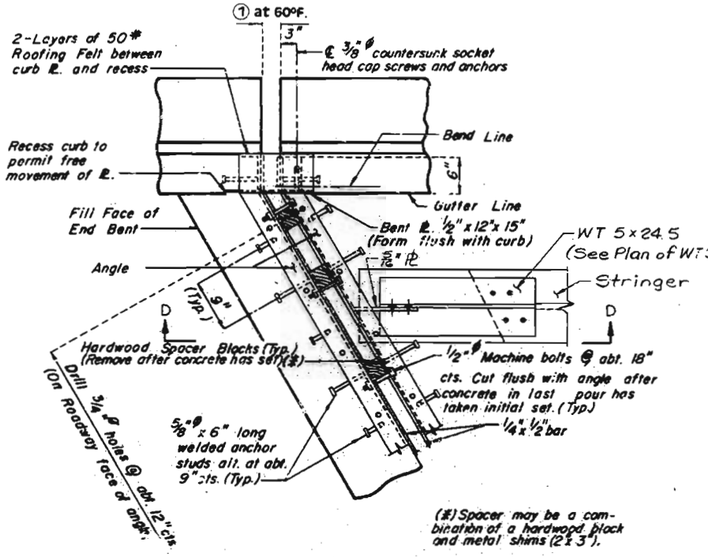


SECTION D-D



DETAIL "B"



PART PLAN

GENERAL NOTES:

STRUCTURAL STEEL FOR EXPANSION DEVICE SHALL BE FABRICATED IN ONE SECTION, EXCEPT THAT WHEN THE LENGTH IS OVER 50' OR STAGE CONSTRUCTION IS REQUIRED, SPLICING IS PERMISSIBLE.

THE EXPANSION DEVICE SHALL BE BENT TO CONFORM TO CROWN AND GRADE OF ROADWAY.

STRUCTURAL STEEL FOR THE ARMORED JOINT SHALL BE GRADE A36.

ANCHORS FOR COMPRESSION SEAL ARMOR SHALL BE APPROVED STUD WELDED ANCHORS (C1010 THRU C1020).

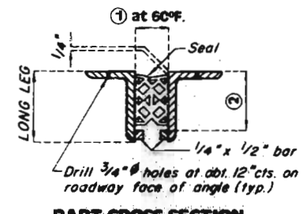
PLAN DIMENSIONS ARE BASED ON INSTALLATION AT 60° F.

DIMENSIONS ① SHALL BE INCREASED 1/16" FOR EACH 10° FALL IN TEMPERATURE AND DECREASED 1/16" FOR EACH 10° RISE IN TEMPERATURE AT INSTALLATION.

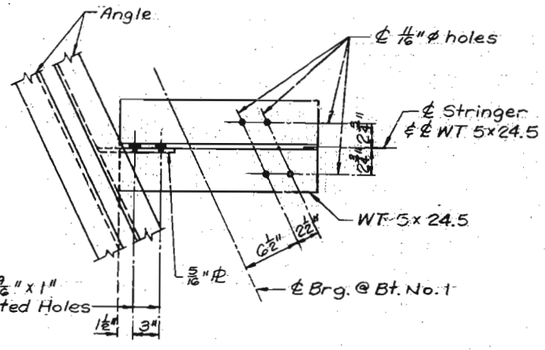
SEE SPECIAL PROVISIONS FOR THE REQUIREMENTS OF COMPRESSION JOINT SEAL.

FURNISHING, PAINTING AND INSTALLING THE STRUCTURAL STEEL ARMORED JOINT AND CURB PLATES SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR PREFORMED EXPANSION JOINT SEAL.

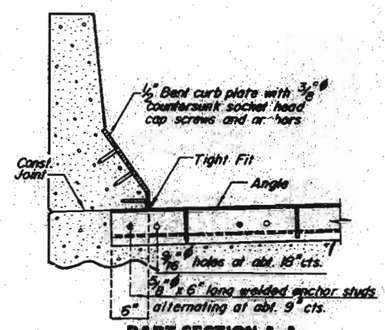
NEOPRENE EXTRUSIONS SHALL MEET A.S.T.M. D3542-83.



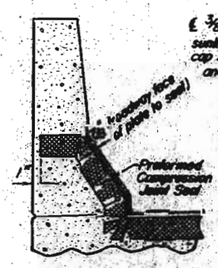
PART CROSS SECTION THRU EXPANSION JOINT



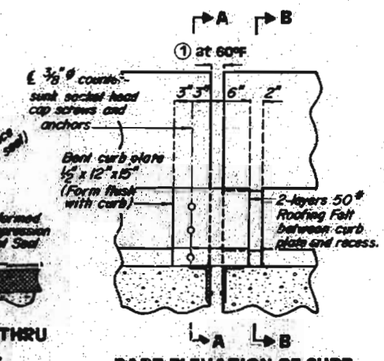
PLAN OF WT 5 x 24.5



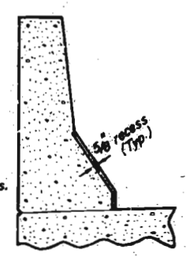
PART SECTION A-A



PART SECTION THRU JOINT SEAL



PART ELEVATION OF CURB



PART SECTION B-B

TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS			
SEAL (WIDTH)	①	②	REQUIRED MOVEMENT RANGE
2.5"	1-5/8"	SEAL DEPTH + 3/4"	.9"
3.0"	1-7/8"	SEAL DEPTH + 3/4"	1.0"
3.5"	2-1/4"	SEAL DEPTH + 3/4"	1.3"
4.0"	2-5/8"	SEAL DEPTH + 3/4"	1.6"
4.5"	2-3/4"	SEAL DEPTH + 3/4"	1.9"
5.0"	2-7/8"	SEAL DEPTH + 3/4"	2.0"

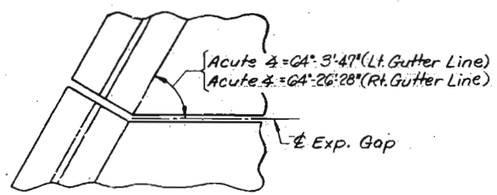
} End Bt. No. 1

NOTE: DEPTH OF SEAL SHALL NOT BE LESS THAN WIDTH OF SEAL.

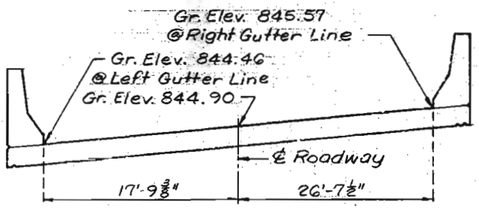
SIZE OF ARMOR ANGLE:

VERTICAL LEG OF ANGLE SHALL BE A MINIMUM OF DEPTH OF SEAL + 1-1/2". HORIZONTAL LEG OF ANGLE SHALL BE A MINIMUM OF 3". MINIMUM THICKNESS OF ANGLE SHALL BE 1/2".

IF A SEAL SIZE LARGER THAN THAT INDICATED ON THE PLANS IS USED, THE MOVEMENT RANGE, THE OPENING AT 60° AND ALL DIMENSIONS FOR THE ARMOR ANGLES SHALL BE SHOWN ON THE SHOP DRAWINGS.



PART PLAN AT EXP. GAP



SECTION AT ℄ EXP. GAP

DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT BENT NO. 1

STD. PCJS(SK)	REVISED	MAY 1987
	OCT. 1973	

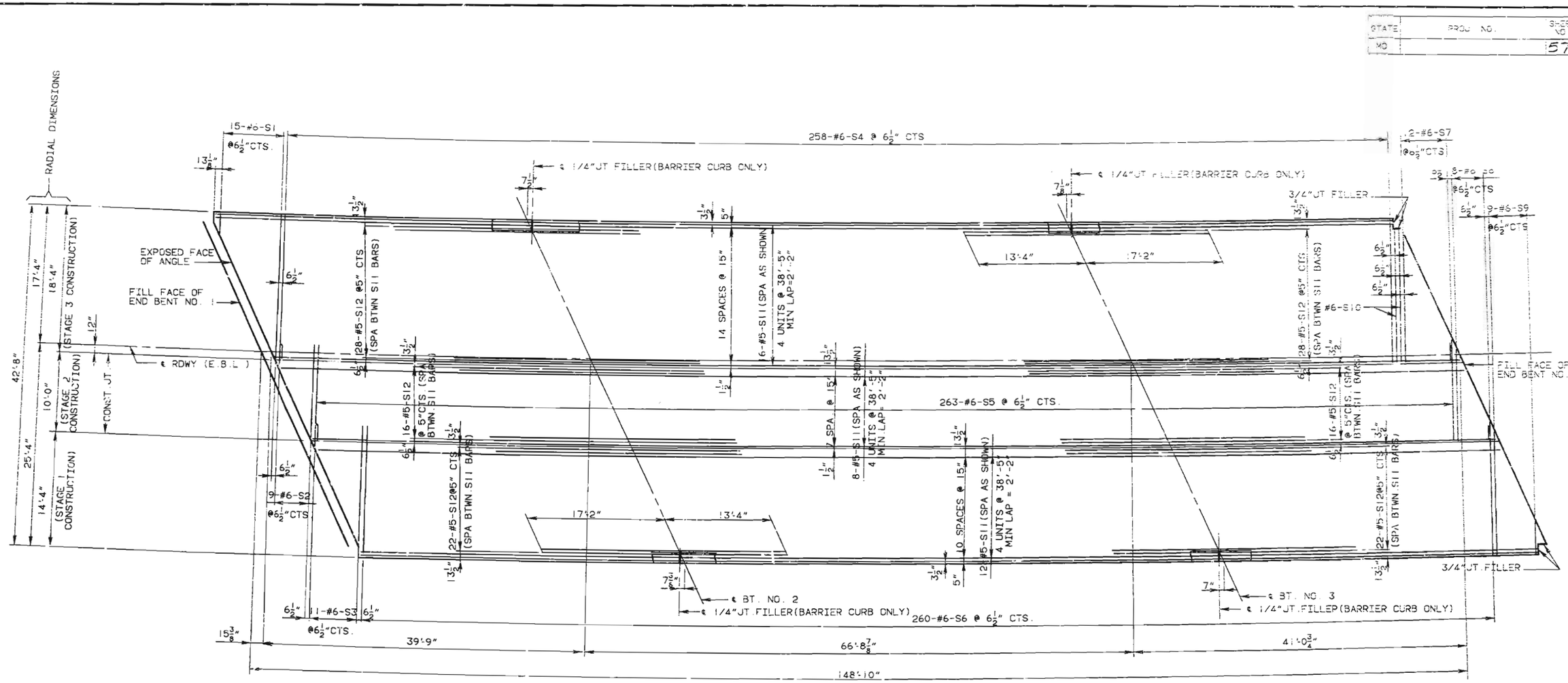
DETAILED Nov. 1988
CHECKED Nov. 1988

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

CLAY COUNTY

L-642R1

STATE	PROJ. NO.	SHEET NO.
MO		57



SPAN (1-2) SPAN (2-3) SPAN (3-4)

PLAN OF SLAB SHOWING TOP REINFORCING

NOTE: LONGITUDINAL DIMENSIONS SHOWN ARE HORIZONTAL DIMENSIONS AT ℄ ROADWAY.
LONGITUDINAL REINFORCEMENT TO BE PLACED PARALLEL TO ℄ ROADWAY.
TRANSVERSE REINFORCING TO BE PLACED RADIALLY AND SPACED ALONG THE OUTSIDE EDGE OF SLAB.
SLAB LENGTHS SHOWN ARE BASED ON EXPANSION GAP AS NOTED ON SHEET NO. 12
ADJUST SLAB LENGTH FOR ANY CHANGES IN EXPANSION GAP AS NOTED ON SHEET NO. 12.
LONGITUDINAL REINFORCING STEEL SHALL BE PLACED SO THAT ENDS SHALL NOT BE MORE THAN 1"± FROM VERTICAL LEG OF ANGLE AT EXPANSION DEVICE.
FOR DETAILS AND REINFORCMENT OF SAFETY BARRIER CURB NOT SHOWN, SEE SHEET NO 18.

BOTTOM OF SLAB ELEVATIONS AT QUARTER POINTS

	℄ BRG. BT#1	.25	.50	.75	℄ BRG. BT#2	.25	.50	.75	℄ BRG BT#3	.25	.50	.75	℄ BRG. BT#4
1	843.82	843.77	843.72	843.68	843.63	843.55	843.47	843.40	843.32	843.27	843.22	843.18	843.13
2	844.06	844.02	843.97	843.93	843.88	843.80	843.72	843.65	843.57	843.52	843.47	843.43	843.38
3	844.31	844.27	844.22	844.18	844.13	844.05	843.97	843.90	843.82	843.77	843.73	843.68	843.63
4	844.56	844.52	844.47	844.43	844.38	844.31	844.23	844.15	844.07	844.02	843.98	843.93	843.89
NEW STR.	844.78	844.74	844.69	844.65	844.61	844.53	844.45	844.37	844.29	844.25	844.20	844.16	844.11

NOTE: BOTTOM OF SLAB ELEVATIONS DO NOT INCLUDE ALLOWANCE FOR DEAD LOAD DEFLECTION.

36-1-84

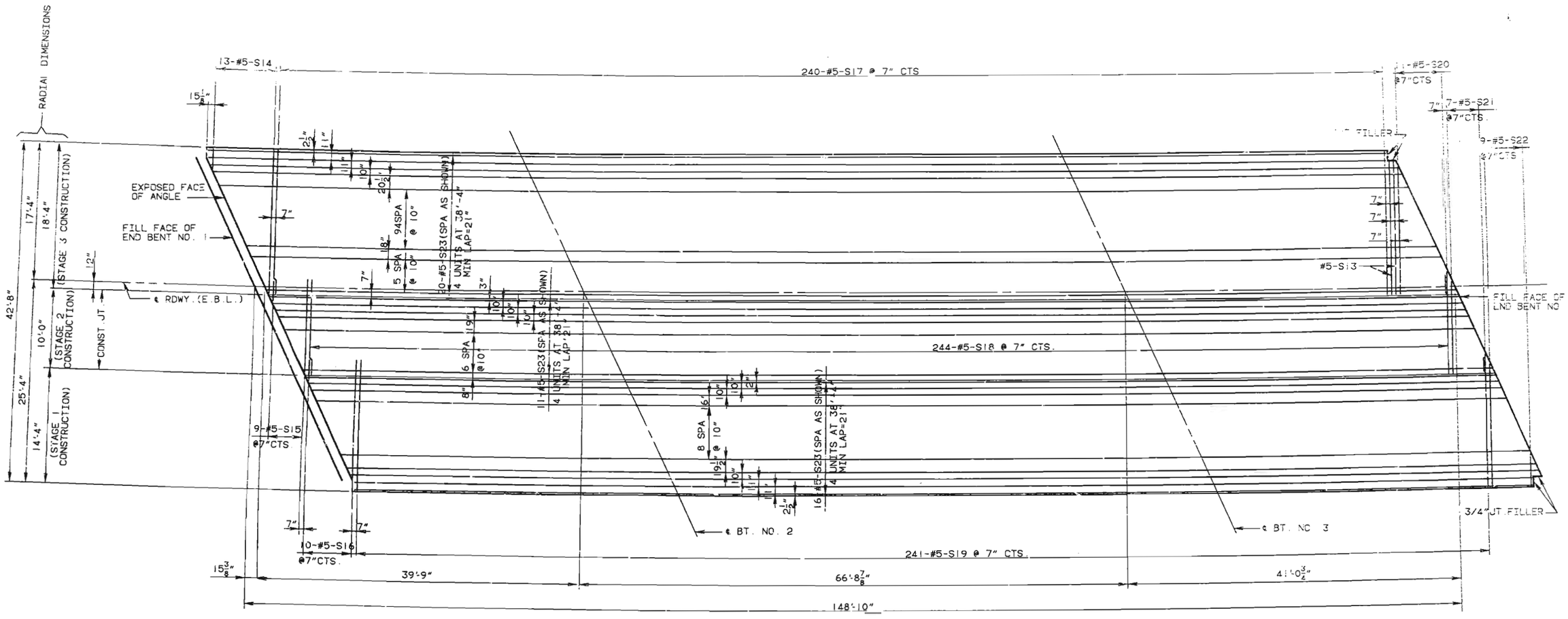
DETAILED SEPT. 1988
CHECKED NOV. 1988

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

CLAY COUNTY

L-642R1

STATE	PROJ. NO.	SHEET NO.
MO		53



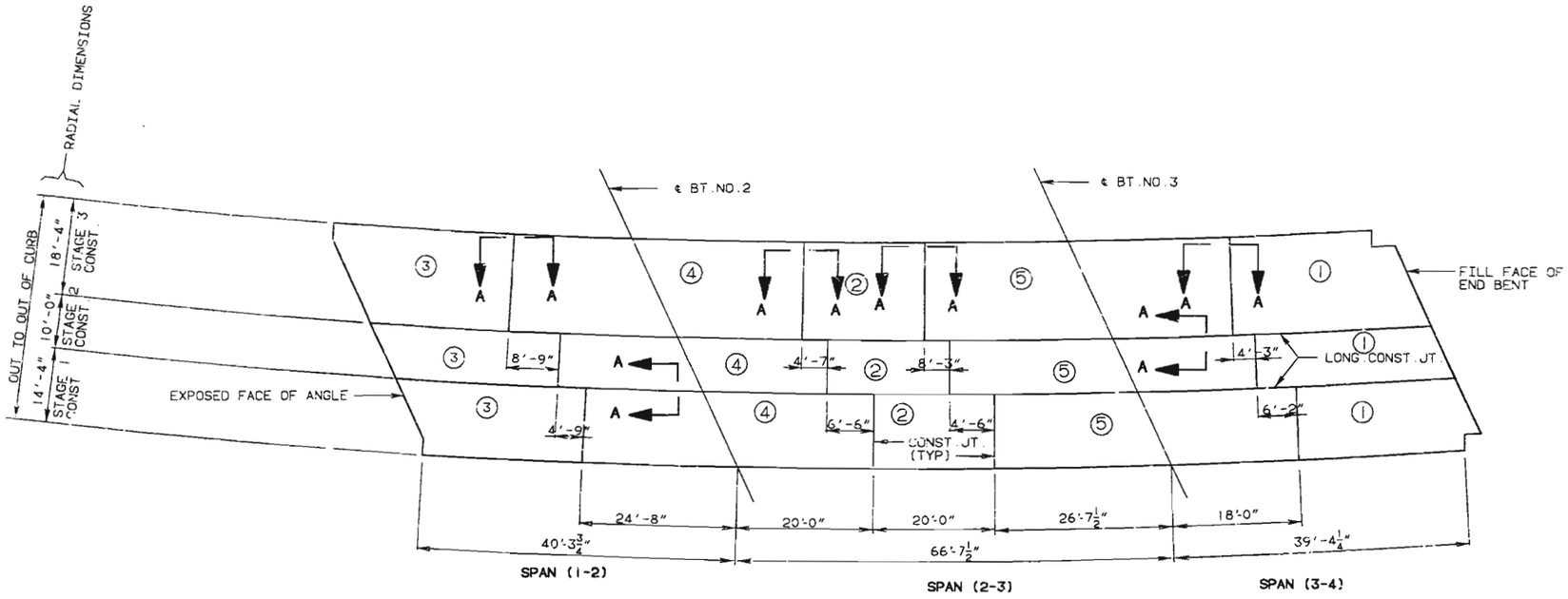
SPAN (1-2) SPAN (2-3) SPAN (3-4)

PLAN OF SLAB SHOWING BOTTOM REINFORCING

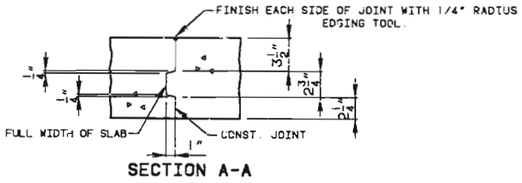
NOTE: LONGITUDINAL DIMENSIONS SHOWN ARE HORIZONTAL DIMENSIONS ALONG℄ ROADWAY
LONGITUDINAL REINFORCEMENT TO BE PLACED PARALLEL TO℄ ROADWAY.
TRANSVERSE REINFORCEMENT TO BE PLACED RADIALLY AND SPACED ALONG OUTSIDE EDGE OF SLAB.
SLAB LENGTHS SHOWN ARE BASED ON EXPANSION GAP AS NOTED ON SHEET NO.12. ADJUST SLAB LENGTH FOR ANY CHANGES IN EXPANSION GAP AS NOTED ON SHEET NO.12.
FOR DETAILS AND REINFORCMENT OF SAFETY BARRIER CURB NOT SHOWN, SEE SHEET NO 18.

368 ARS

STATE	PROJ. NO.	SHEET NO.
NO.		59



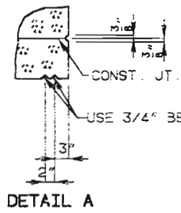
SLAB POURING SEQUENCE



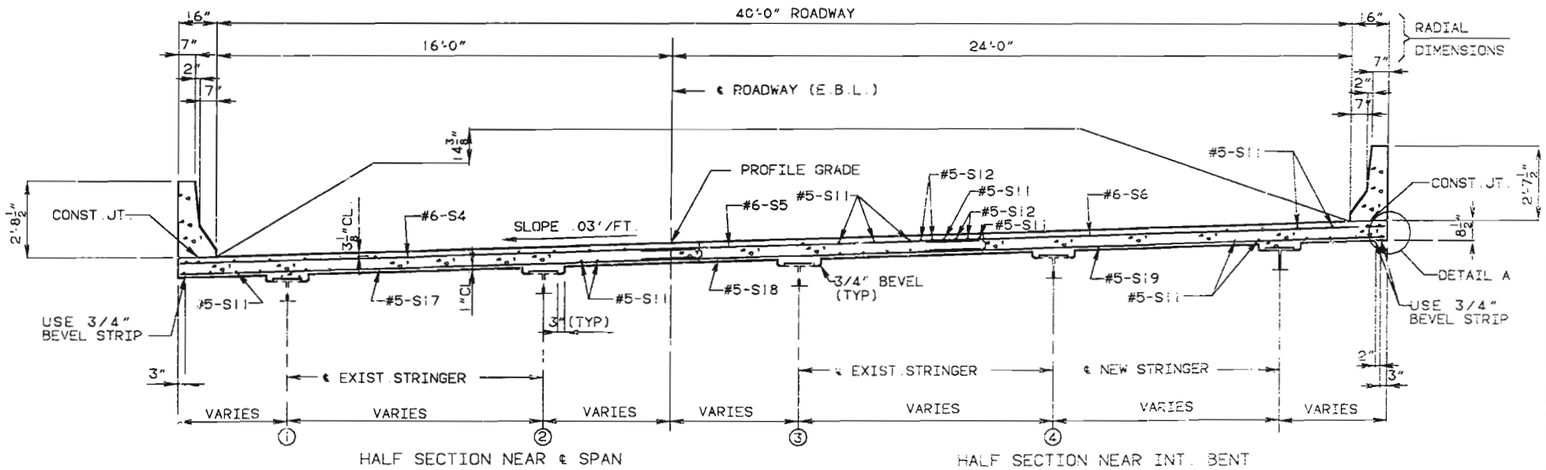
SECTION A-A

	SEQUENCE OF POURS					MINIMUM RATE OF POUR (CUBIC YARDS PER HOUR)	
	DIRECTION					WITH RETARDER	NO RETARDER
BASIC SEQUENCE	1	2	3	4	5	25	25
	EITHER DIRECTION						
ALTERNATE POURS TO THE BASIC SKIP SEQUENCE ARE SUBJECT TO THE APPROVAL OF THE ENGINEER IN ACCORDANCE WITH SECTION 703.3.12.4 OF MISSOURI STANDARD SPECIFICATIONS.							
ALTERNATE "A" POURS	1		5 + 2		4 + 3	25	25
	END TO 5		1 TO 4		2 TO END		
ALTERNATE "B" POURS	1 + 5 + 2			4 + 3		25	25
	END TO 4			2 TO END			
ALTERNATE "C" POURS	1 + 5 + 2 + 4 +3					25	25
	END TO END						

THE CONTRACTOR SHALL POUR AND SATISFACTORILY FINISH THE SLAB POURS AT THE RATE GIVEN ABOVE. RETARDER, IF USED, SHALL BE AN APPROVED TYPE AND RETARD THE SET OF CONCRETE TO 2.5 HOURS.



DETAIL A



HALF SECTION NEAR ℄ SPAN

HALF SECTION NEAR INT. BENT

FOR DETAILS AND REINFORCEMENT OF SAFETY BARRIER CURB, SEE SHEET NO. 18.

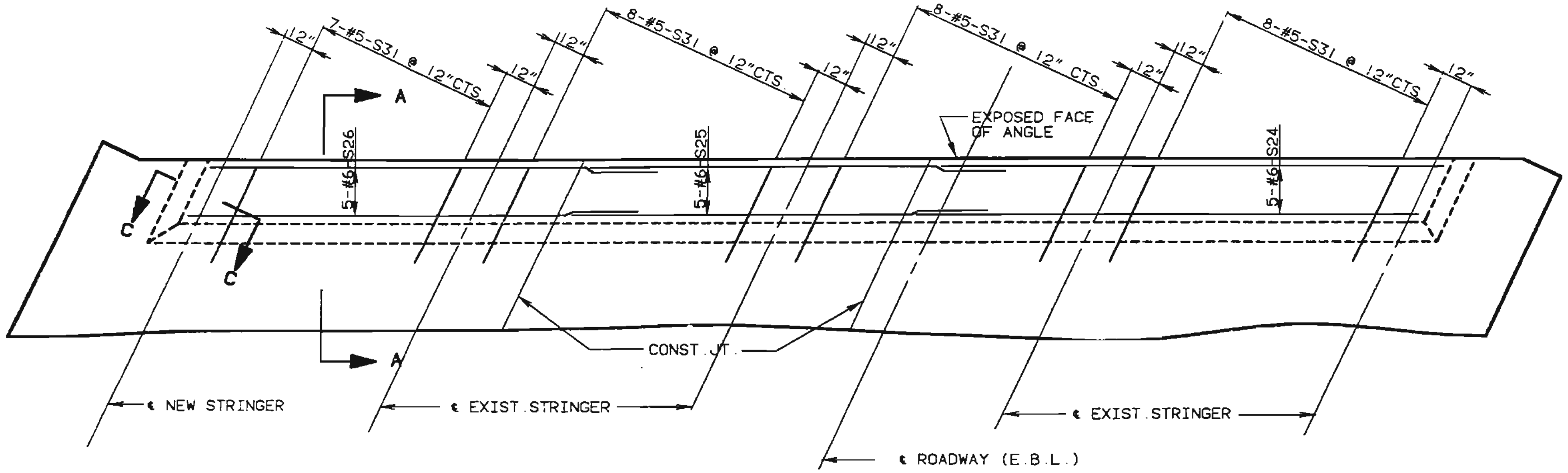
DETAILED SEPT. 19 88
CHECKED NOV 19 88

NOTE: THIS DRAWING IS NOT TO SCALE FOLLOW DIMENSIONS.

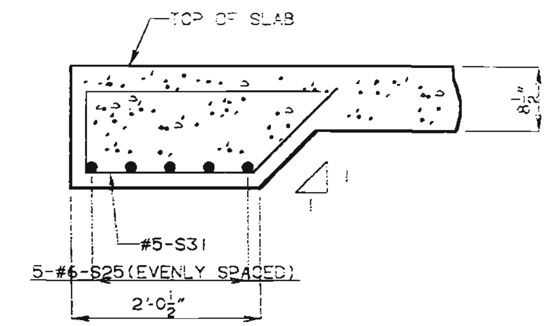
CLAY COUNTY

L-642R1

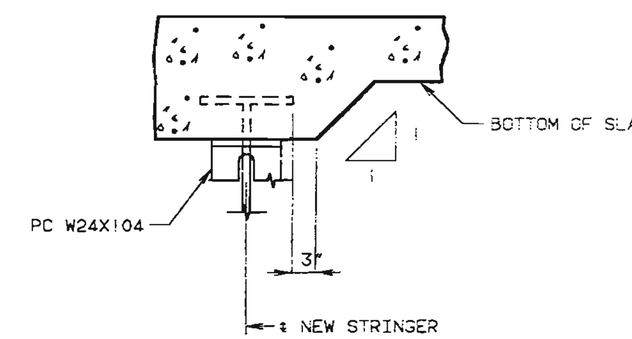
STATE	PROJ. NO.	SHEET NO.
MO.		60



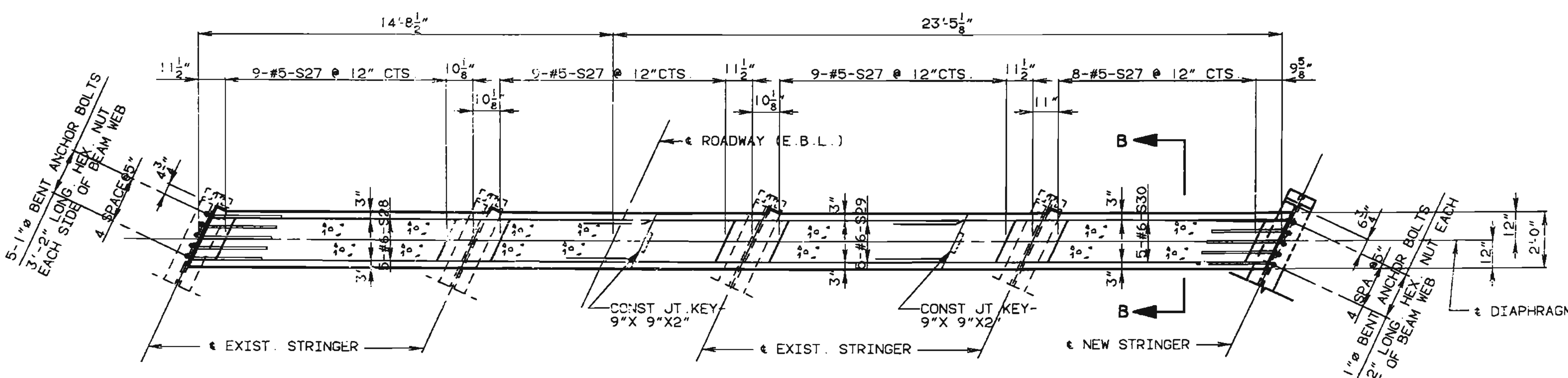
PLAN OF SLAB NEAR END BENT NO. 1



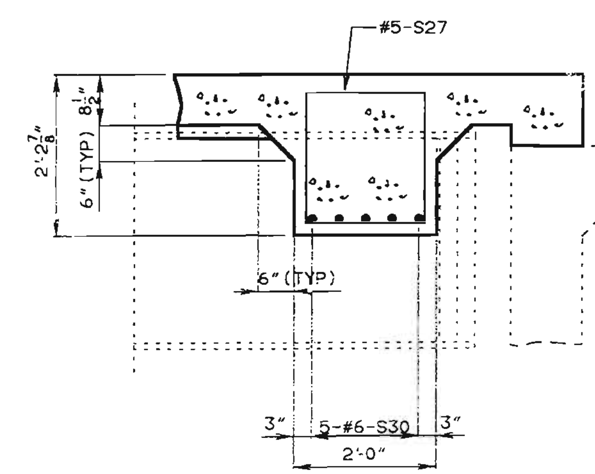
SECTION A-A



SECTION C-C



HORIZONTAL SECTION THRU END DIAPHRAGM AT END BENT NO. 4



SECTION B-B

NOTE: 1"ø ANCHOR BOLTS ARE TO BE SHOP BENT.
#6-S28, S29, AND S30 BARS TO BE PLACED THRU 1½"ø HOLES IN EXIST. STRINGERS.
COST OF FURNISHING AND INSTALLING 1"ø ANCHOR BOLTS SHALL BE INCLUDED IN FABRICATED STRUCTURAL STEEL. NO DIRECT PAYMENT WILL BE MADE FOR FIELD DRILLING.

DETAILED SEPT. 1988
CHECKED NOV. 1988

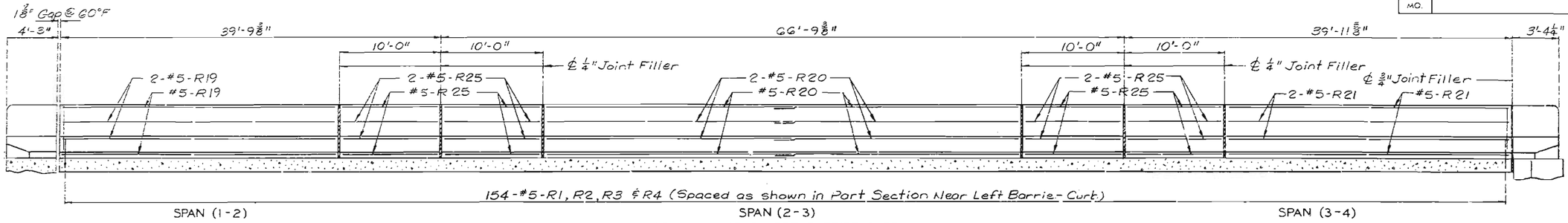
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 16 OF 20

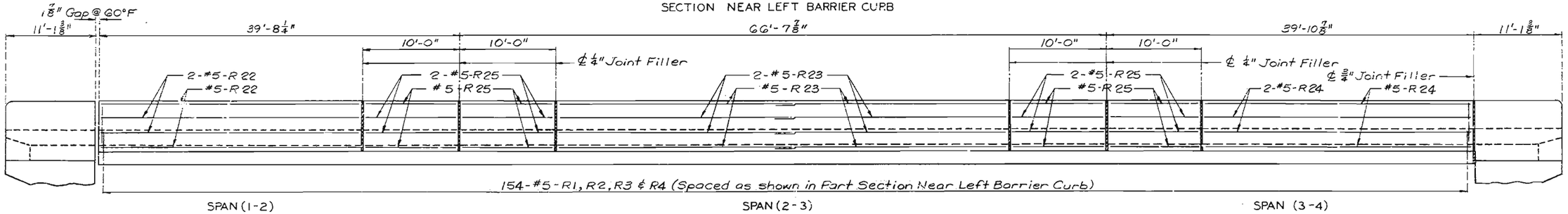
CLAY COUNTY

L-642R1

STATE	PROJ. NO.	SHEET NO.
MO.		61



SECTION NEAR LEFT BARRIER CURB



ELEVATION OF RIGHT BARRIER CURB

Note: use a minimum lap of 17" for #5 horizontal barrier bars.

Longitudinal dimensions shown are horizontal arc dimensions along outside face of barrier curb.

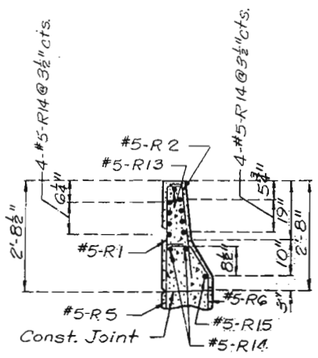
37,878

DETAILED Oct. 1988
CHECKED Nov. 1988

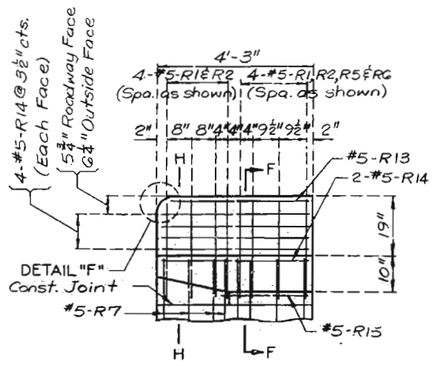
Note: This drawing is not to scale. Follow dimensions.

CLAY **COUNTY** L-642 RI

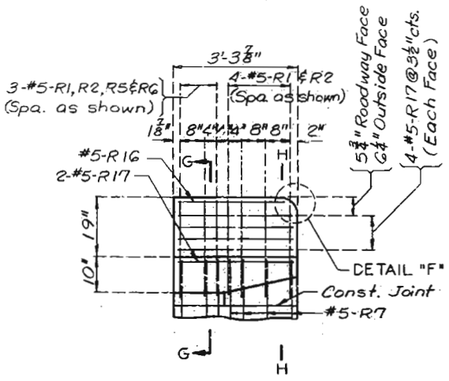
STATE	PROJ NO	SHEET NO
MO		62

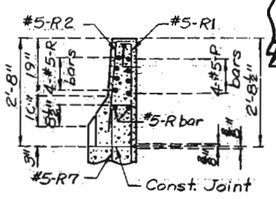


SECTION F-F

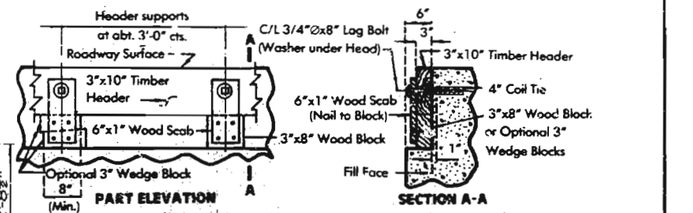


ELEVATION OF LEFT CURB





SECTION H-H



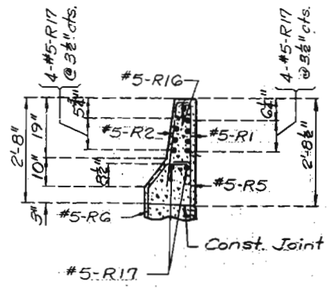
PART ELEVATION

SECTION A-A

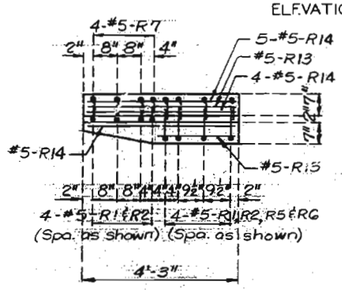
NOTE: Cost of Timber Headers complete in place to be included in contract unit price for concrete.

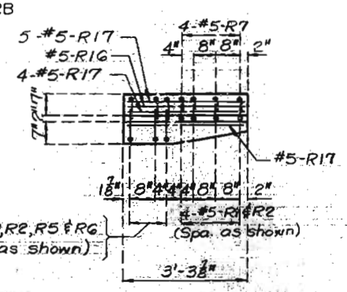
DETAILS OF TIMBER HEADER AT END BENTS

Note: Rustication not required on Left Safety Barrier Curb Ends.

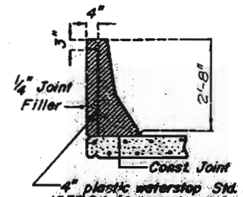


SECTION G-G





PLAN OF LEFT CURB

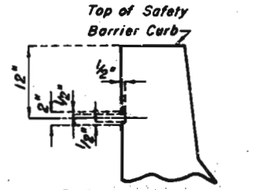


4" plastic waterstop Std. Spec. 1057.2.1 (Centered on joint)

NOTE: PLASTIC WATERSTOP SHALL BE PLACED IN ALL SAFETY BARRIER CURB JOINTS. (EXCEPT STRUCTURES WITH SUPERELEVATION; USE ON ALL LOWER SAFETY BARRIER CURB JOINTS ONLY).

COST OF PLASTIC WATERSTOP COMPLETE IN PLACE TO BE INCLUDED IN CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB.

DETAILS OF PLASTIC WATERSTOP



RUSTICATION DETAIL

NOTE:

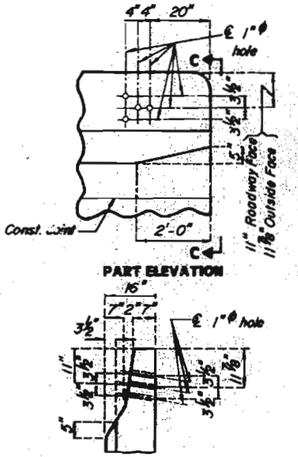
TOP OF SAFETY BARRIER CURB SHALL BE BUILT PARALLEL TO GRADE WITH SAFETY BARRIER CURB JOINTS (EXCEPT AT END BENTS) NORMAL TO GRADE.

ALL EXPOSED EDGES OF SAFETY BARRIER CURB SHALL HAVE EITHER A 1/2" RADIUS OR A 3/8" BEVEL, UNLESS OTHERWISE NOTED.

WHEN THE SAFETY BARRIER CURB IS BID BY LINEAR FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE AND REINFORCEMENT, COMPLETE-IN-PLACE.

CONCRETE FOR THE SAFETY BARRIER CURB SHALL BE CLASS B1.

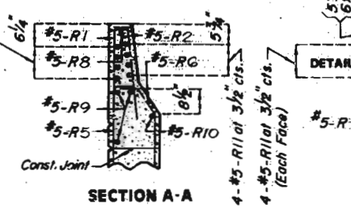
MEASUREMENT OF SAFETY BARRIER CURB IS TO THE NEAREST LINEAR FOOT FOR EACH STRUCTURE, MEASURED ALONG THE OUTSIDE TOP OF SLAB FROM END OF WING TO END OF WING.



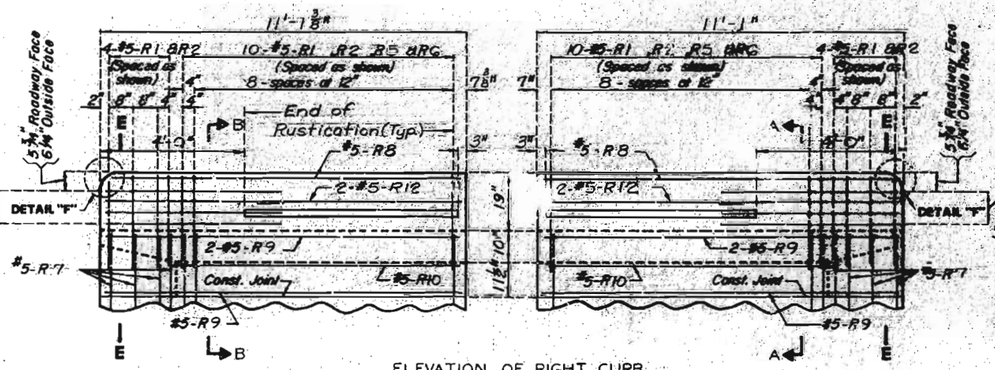
PART ELEVATION

PART ELEVATION C-C

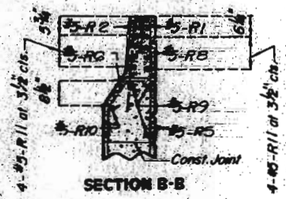
DETAILS OF GUARD RAIL ATTACHMENT



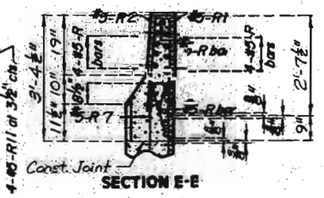
SECTION A-A



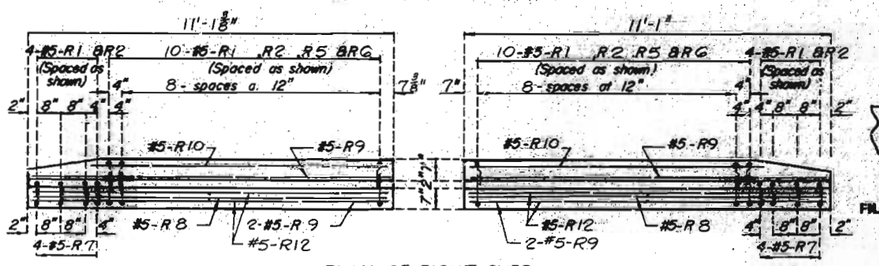
ELEVATION OF RIGHT CURB



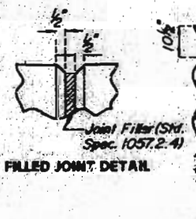
SECTION B-B



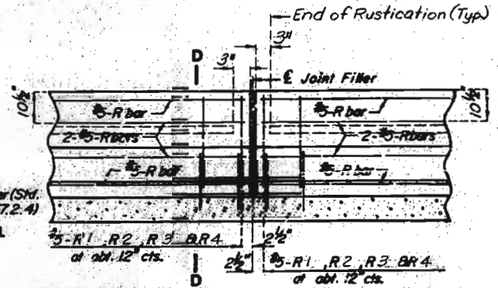
SECTION E-E



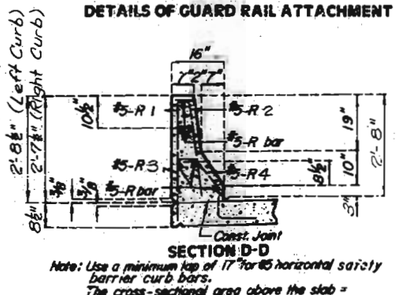
PLAN OF RIGHT CURB



FILLED JOINT DETAIL



PART SECTION NEAR LEFT SAFETY BARRIER CURB



SECTION D-D

Note: Use a minimum lap of 17" for #5 horizontal safety barrier curb bars.
The cross-sectional area above the slab =
2.28 sq. ft. (Left Curb)
2.23 sq. ft. (Right Curb).

DETAILS OF SAFETY BARRIER CURB AT END BENTS

SPS 1.77(N)	REVISED
AUG. 1978	MAY 1987

DETAILED Oct. 1988
CHECKED Nov. 1988

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

Sheet No. 18 of 20

CLAY COUNTY

L-642RI

AF 37a

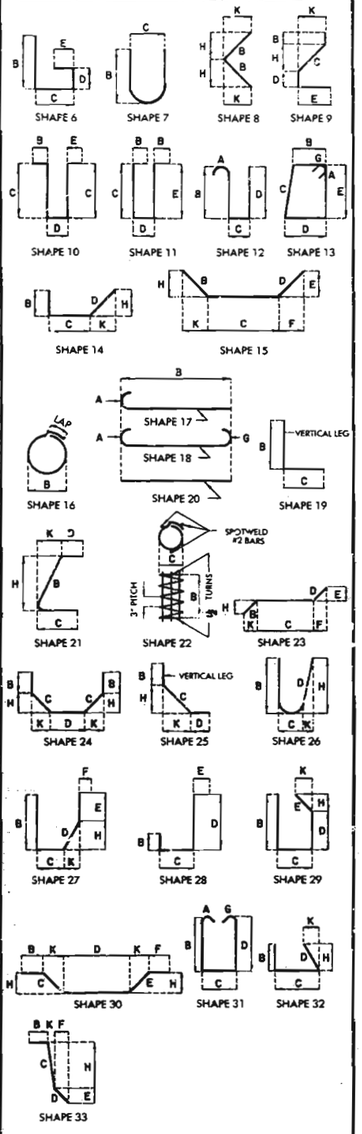
COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO. SIZE	MARK NO. MARK	LOCATION	(E) EPOXY	SHAPE NO.	(S) STIRRUP	(X) SUBSTR.	(V) VARIES	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT	ACTUAL LENGTH IN.	WEIGHT LBS.
			END BENT NO 1																									
7	6F1		WING HAUNCH		15	S	X			14.	000	3	9.125	14.	000	11.	875	7.	500	11.	875	7.	500	6	1	6	0	63
8	7H1		BEAM		18		X			10	1.000													11	9	11	9	192
4	6H2		BEAM		20		X			10	1.000													10	1	10	1	61
2	6H3		BACKWALL	E	20		X			16	1.000													16	1	16	1	68
2	4H4		BACKWALL		20		X			17	1.000													17	1	17	1	23
2	4H5		BACKWALL		20		X			14	2.000													14	2	14	2	19
2	6H6		BACKWALL	E	20		X			12	11.000													12	11	12	11	39
1	4H7		BACKWALL		20		X			12	11.000													12	11	12	11	19
2	6H8		BACKWALL	E	20		X			19	6.000													19	6	19	6	59
2	4H9		BACKWALL		20		X			19	6.000													19	6	19	6	26
2	4H10		BACKWALL		20		X			3	4.000													3	4	3	4	4
1	4H11		APP HAUNCH		20		X			14	3.000													14	6	14	6	10
1	4H12		APP HAUNCH		20		X			12	11.000													12	11	12	11	9
1	4H13		APP HAUNCH		20		X			18	9.000													18	9	18	9	13
8	6H14		WING		20		X	V	2	10	8.000													10	8	10	8	
			INCR = 9.625 IN							8	3.000													8	3	8	3	114
12	6H15		WING		20		X	V	2	8	1.000													8	1	8	1	
			INCR = 9.625 IN							4	1.000													4	1	4	1	110
2	6H16		WING	E	20		X			10	10.000													10	10	10	10	33
2	6H17		WING		20		X			10	10.000													10	10	10	10	33
6	4H18		CURTAIN WALL		20		X			3	4.000													3	4	3	4	13
10	5H19		WING		20		X			4	0.000													4	0	4	0	42
2	6T1		WING		25	S	X			16.	000	11	3.000	3	2.000							7	8.375	8	2.500	15	9	15	8	47
2	4T2		CURTAIN WALL		19	S	X			5	8.000	3	10.000													9	8	9	5	23
16	5U1		BEAM		13	S	X			2	9.000	5	1.000	2	9.000	5	1.000									16	7	16	3	170
43	4U2		APP HAUNCH		10	S	X					13.	000	4.	000											3	0	2	10	83
2	4U3		BEAM		10	S	X					6.	000	2	9.000											3	9	3	7	7
18	5V1		BACKWALL	E	20		X			5	9.000															5	9	5	9	186
8	5V2		BACKWALL	E	20		X			4	9.000															4	9	4	9	44
58	5V3		BACKWALL	E	20		X			2	3.000															2	3	2	3	136
4	5V4		BACKWALL	E	20		X			4	8.000															4	8	4	8	19
4	5V5		WING		20		X			7	3.000															7	3	7	3	36
16	6V6		WING		20		X	V	2	2	1.000															2	1	2	1	
			INCR = 11.125 IN							8	7.000															8	7	8	7	126
6	6V7		WING		20		X			9	2.000															9	2	9	2	83
2	4V8		CURTAIN WALL		20		X			5	6.000															5	6	5	6	7
8	5V9		WING		20		X			4	8.000															4	8	4	8	39
2	2W1		A.B. WELL		22		X				12.000		9.125													19	5	19	5	7
			INT BENT NO 2																									
9	8D20		FOOTING & COL		20		X			6	8.000															6	8	6	8	166
8	6D21		FOOTING		10	S	X					3	2.000		16.000											7	8	7	4	88
14	6H20		BEAM		18		X			8	8.000															10	8	10	0	210
4	6H21		BEAM		20		X			8	6.360															6	8	6	8	52
9	5U20		BEAM		13	S	X			2	9.000	3	7.875	2	9.000	3	7.875									13	9	13	9	126
3	4U21		BEAM		10	S	X					6.	000	2	9.000											3	9	3	7	7
15	4P20		COLUMN		16		X			2	3.000															7	11	7	11	79
9	8V20		COLUMN		20		X			17	1.000															18	1	18	1	435
2	2W1		A.B. WELL		22		X				12.000		9.125													19	5	19	5	7

COMPLETE BILL OF REINFORCING STEEL

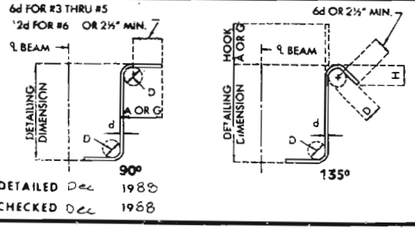
NO. REQD.	MARK NO. SIZE	MARK NO. MARK	LOCATION	(E) EPOXY	SHAPE NO.	(S) STIRRUP	(X) SUBSTR.	(V) VARIES	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT	ACTUAL LENGTH IN.	WEIGHT LBS.
			INT BENT NO 3																									
9	8D30		FOOTING & COL		20		X			6	8.000															6	8	6	8	160
6	6D31		FOOTING		10		X					3	2.000		16.000											7	8	7	4	88
14	6H30		BEAM		18		X			8	3.000															9	7	9	7	202
4	6H31		BEAM		20		X			8	3.000															8	3	8	3	50
9	5U30		BEAM		13	S	X			2	9.000	3	11.250	2	9.000	3	11.250									14	4	14	0	131
3	4U31		BEAM		10		X					6.	000	2	9.000											7	9	7	7	7
14	4P30		COLUMN		16		X			2	3.000															7	11	7	11	24
9	8V30		COLUMN		20		X			17	1.000															17	1	17	1	411
2	2W1		A.B. WELL		22		X				12.000		9.125													19	5	19	5	7
			END BENT NO 4																									
6	6F40		WING HAUNCH		15	S	X				14.	000	5	8.125	14.	000	7.	750	11.	625	7.	750	11.	625	8	0	8	0	72
2	6H40		BACKWALL	E	20		X			3	9.000															3	9	3	9	11
4	4H41		BACKWALL		20		X			3	9.000															3	9	3	9	10
2	6H42		BACKWALL	E	20		X			12	0.000															12	0	12	0	36
4	4H43		BACKWALL		20		X			12	0.000															12	0	12	0	32
4	6H44		BEAM		20		X			8	2.000															8	2	8	2	99
8	7H45		BEAM		18		X			8	2.000															9	10	9	10	168
1	4H47		APP HAUNCH		20		X			10	4.000															10	4	10	4	7
6	4H46		CURTAIN WALL		20		X			2	9.000															2	9	2	9	11
12	6H49		WING		20		X	V	2	7	11.000															7	11	7	11	
			INCR = 9.750 IN							3	10.000															3	10	3	10	106
2	6H50		WING	E	20		X			10	10.000															10	10	10	10	32
2	6H51		WING		20		X			10	10.000															10	10	10	10	33
8	6H52		WING		20		X	V	2	10	7.000															10	7	10	7	
			INCR = 9.625 IN							8	2.000															8	2	8	2	113
10	5H53		WING		20		X			3	0.000															3	0	3	0	31
2	6T40		WING		25	S	X					16.	000	11	1.750	2	2.000					7	6.625	8	2.375	15	8	15	7	47
2	4T41		CURTAIN WALL		19	S	X			3	4.000	3	8.000													8	4	8	3	11
16	5U40		BEAM		13	S	X			2	9.000	5	8.375	2	9.000	5	8.375									16	6	16	2	181
3	4U41		BEAM		10	S	X					6.	000	2	9.000											3	9	3	7	7
10	4U42		APP HAUNCH		10	S	X					13.	000	6.	000											3	0	2	10	19
6	5V40		WING		20		X			7	3.000															7	3	7	3	45
6	5V41		BACKWALL		20		X			3	6.000															3	6	3	6	22
14	5V42		BACKWALL		20		X			4	8.000															4	8	4	8	66
9	5V43		BACKWALL		20		X			3	3.000															3	3	3	3	27
8	5V44		WING		20		X			4	7.000															4	7	4	7	38
16	6H45		WING		20		X	V	2	8	3.000															8	3	8	3	
			INCR = 13.875 IN								23.000															23		23		122
6	4H46		WING		20		X			9	2.000															9	2	9	2	83
2	4H47		CURTAIN WALL		20		X			4	11.000															4	11	4	11	7
2	2W1		A.B. WELL		22		X				12.000		9.125													19	5	19	5	7

STATE	PROJ NO	SHEET NO
MO		63



BENDING DIAGRAMS

REVISED	JUNE 1988
STD. 90.8	MAY 1974

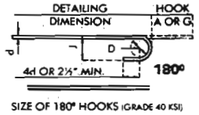


DETAILED Dec 1988
CHECKED Dec 1988

STIRRUP HOOK DIMENSIONS					
GRADES 40-50-60 KSI					
BAR SIZE	D (IN.)	90° HOOK		135° HOOK	
		HOOK A OR G		HOOK A OR G	APPROX. H
#3	1½"	4"		4"	2½"
#4	2"	4½"		4½"	3"
#5	2½"	6"		5½"	3¼"
#6	4½"	12"		7¾"	4½"

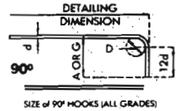
NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

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



SIZE OF 180° HOOKS (GRADE 40 KSI)

D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18



SIZE of 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)

D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	180° HOOKS ALL GRADES		90° HOOKS ALL GRADES
		A OR G	J	A OR G
#3	2½"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3¾"	7"	5"	10"
#6	4½"	8"	6"	12"
#7	5¼"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9½"	15"	11¾"	19"
#10	10¾""	17"	13¼"	22"
#11	12"	19"	14¾"	2'-0"
#14	18¼"	2'-3"	21¾"	2'-7"

NOTES:

ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E - EPOXY COATED REINFORCEMENT.
S - STIRRUP
X - BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. - NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS - ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS - ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

CLAY **COUNTY**

L-642RI

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO. SIZE	MARK NO. MARK	LOCATION	(E) EPOXY	SHAPE NO.	(S) STIRRUP	(X) SUBSTR.	(V) VARIES	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			SUPERSTRUCTURE																									
15		6S1	SLAB	E	20			V	1	3	2.000													3	2	3	2	
			INCR = 12.875 IN							18	2.000													18	2	18	2	240
9		6S2	SLAB	E	20			V	1	3	5.000													3	5	3	5	
			INCR = 12.875 IN							12	0.000													12	0	12	0	104
11		6S3	SLAB	E	20			V	1	3	5.000													3	5	3	5	
			INCR = 13.750 IN							14	10.000													14	10	14	10	151
258		6S4	SLAB	E	20					18	1.000													18	1	18	1	7008
263		6S5	SLAB	E	20					12	0.000													12	0	12	0	4740
260		6S6	SLAB	E	20					16	4.000													16	4	16	4	6378
32		6S7	SLAB	E	20			V		16	1.000													16	1	16	1	
			INCR = 15.125 IN							2	3.000													2	3	2	3	165
8		6S8	SLAB	E	20			V	1	11	0.000													11	0	11	0	
			INCR = 15.250 IN							2	1.000													2	1	2	1	79
9		6S9	SLAB	E	20			V	1	15	0.000													15	0	15	0	
			INCR = 15.375 IN							4	9.000													4	9	4	9	133
2		6S10	SLAB	E	20					16	9.000													16	9	16	9	50
144		5S11	SLAB	E	20					38	5.000													38	5	38	5	5770
132		5S12	SLAB	E	20					30	6.000													30	6	30	6	4299
4		5S13	SLAB	E	20					16	9.000													16	9	16	9	70
13		5S14	SLAB	E	20			V	1	3	9.000													3	9	3	9	
			INCR = 14.250 IN							18	0.000													18	0	18	0	147
9		5S15	SLAB	E	20			V	1	3	0.000													3	0	3	0	
			INCR = 13.375 IN							11	11.000													11	11	11	11	70
10		5S16	SLAB	E	20			V	1	3	9.000													3	9	3	9	
			INCR = 14.500 IN							14	8.000													14	8	14	8	94
240		5S17	SLAB	E	20					18	1.000													18	1	18	1	4527
244		5S18	SLAB	E	20					11	9.000													11	9	11	9	2990
241		5S19	SLAB	E	20					16	1.000													16	1	16	1	4063
11		5S20	SLAB	E	20			V	1	15	9.000													15	9	15	9	
			INCR = 16.250 IN							2	3.000													2	3	2	3	103
7		5S21		E	20			V	1	10	11.000													10	11	10	11	
			INCR = 16.500 IN							2	8.000													2	8	2	8	50
9		5S22		E	20			V	1	15	6.000													15	6	15	6	
			INCR = 16.500 IN							4	6.000													4	6	4	6	94
188		5S23	SLAB	E	20					38	4.000													38	4	38	4	7517
5		6S24	DIAPH	E	20					16	4.000													16	4	16	4	123
7		6S25	DIAPH	E	20					13	6.000													13	6	13	6	142
5		6S26	DIAPH	E	20					14	5.000													14	5	14	5	108
35		5S27	DIAPH	E	13	S				22	8.875	22	8.250	22	8.875	22	8.250							8	5	8	2	296
5		6S28	DIAPH	E	20					15	8.000													15	8	15	8	116
5		6S29	DIAPH	E	20					13	6.000													13	6	13	6	101
5		6S30	DIAPH	E	20					14	0.000													14	0	14	0	105
31		5S31	DIAPH	E	29	S				3	0.000	12	0.500	23	8.875	18	8.625			23	8.875	12	0.500	7	7	7	4	237
351		5R1	BARRIER CURB	E	19	S				2	6.000	3	0.500											2	10	2	8	976
351		5R2	BARRIER CURB	E	15	S				2	6.125	3	0.500							2	6.000	3	0.000	2	10	2	9	1007
308		5R3	BARRIER CURB	E	19	S				17	0.000	6	0.000											23		22		589
308		5R4	BARRIER CURB	E	27	S						6	0.000	11	0.125	7	0.000	12	0.000	9	0.125	6	0.375	3	0	2	10	910
27		5R5	BARRIER CURB	E	19	S				2	3.000	6	0.000											3	2	3	1	87
27		5R6	BARRIER CURB	E	27	S						6	0.000	11	0.125	22	8.875			9	0.125	6	0.375	3	4	3	3	92
16		5R7	BARRIER CURB	E	10	S						2	8.000	6	0.000									5	10	5	6	99
2		5R8	BARRIER CURB	E	20					10	5.000													10	5	10	5	22
6		5R9	BARRIER CURB	E	20					10	10.000													10	10	10	10	68
2		5R10	BARRIER CURB	E	20					8	11.000													8	11	8	11	19
16		5R11	BARRIER CURB	E	20					5	0.000													5	0	5	0	83
4		5R12	BARRIER CURB	E	20					7	4.000													7	4	7	4	31
1		5R13	BARRIER CURB	E	20					3	7.000													3	7	3	7	4

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO. SIZE	MARK NO. MARK	LOCATION	(E) EPOXY	SHAPE NO.	(S) STIRRUP	(X) SUBSTR.	(V) VARIES	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
10		5R14	BARRIER CURB	E	20					4	0.000													4	0	4	0	42
1		5R15	BARRIER CURB	E	20					2	1.000													2	1	2	1	2
1		5R16	BARRIER CURB	E	20					2	8.000													2	8	2	8	3
10		5R17	BARRIER CURB	E	20					3	0.000													3	0	3	0	31
6		5R19	BARRIER CURB	E	20					29	0.000													29	6	29	6	185
12		5R20	BARRIER CURB	E	20					24	0.000													24	0	24	0	300
6		5R21	BARRIER CURB	E	20					29	8.000													29	8	29	8	184
6		5R22	BARRIER CURB	E	20					29	5.000													29	5	29	5	184
12		5R23	BARRIER CURB	E	20					23	11.000													23	11	23	11	299
6		5R24	BARRIER CURB	E	20					29	7.000													29	7	29	7	185
48		5R25	BARRIER CURB	E	20					9	8.000													9	8	9	8	486
			END OF BAR LIST																									

STATE	PROJ NO	SHEET NO
MO		64

SHAPE 6 · SHAPE 7 · SHAPE 8 · SHAPE 9

SHAPE 10 · SHAPE 11 · SHAPE 12 · SHAPE 13

SHAPE 14 · SHAPE 15

SHAPE 16 · SHAPE 17 · SHAPE 18 · SHAPE 20 · SHAPE 19

SHAPE 21 · SHAPE 22 · SHAPE 23

SHAPE 24 · SHAPE 25 · SHAPE 26

SHAPE 27 · SHAPE 28 · SHAPE 29

SHAPE 30 · SHAPE 31 · SHAPE 32

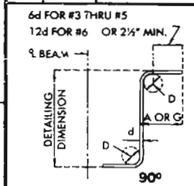
SHAPE 33

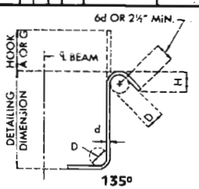
BENDING DIAGRAMS

STD. 90.8	REVISED
MAY 1974	JUNE 1986

DETAILED Dec 1988

CHECKED Dec 1988





STIRRUP HOOK DIMENSIONS

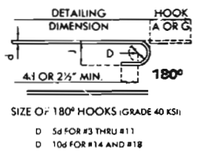
GRADES 40-50-60 KSI

BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	135° HOOK APPROX. H
#3	1½"	4"	4"	2½"
#4	2"	4½"	4½"	3"
#5	2½"	6"	5½"	3½"
#6	4½"	12"	7½"	4½"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

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

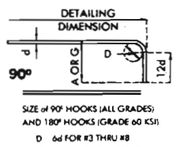
NOTE: Two (2) additional S13 & S25 bars are included in bar bill for testing.



SIZE OF 180° HOOKS (GRADE 40 KSI)

D 5d FOR #3 THRU #11

D 10d FOR #14 AND #18



SIZE of 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)

D 6d FOR #3 THRU #8

D 8d FOR #9, #10 AND #11

D 10d FOR #14 AND #18

END HOOK DIMENSIONS

BAR SIZE	D (IN.)	180° HOOKS ALL GRADES A OR G	180° HOOKS ALL GRADES J	90° HOOKS ALL GRADES A OR G
#3	2½"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3¾"	7"	5"	10"
#6	4½"	8"	6"	12"
#7	5¼"	10"	7"	14"
#8	6"	11"	8"	1'
#9	9½"	15"	11¾"	
#10	10¾""	17"	13¼"	22"
#11	12"	19"	14¾"	2'-0"
#14	18¼"	2'-3"	21¾"	2'-7"

NOTES:

ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E - EPOXY COATED REINFORCEMENT.
S - STIRRUP
X - BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. - NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS - ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS - ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

CLAY **COUNTY**

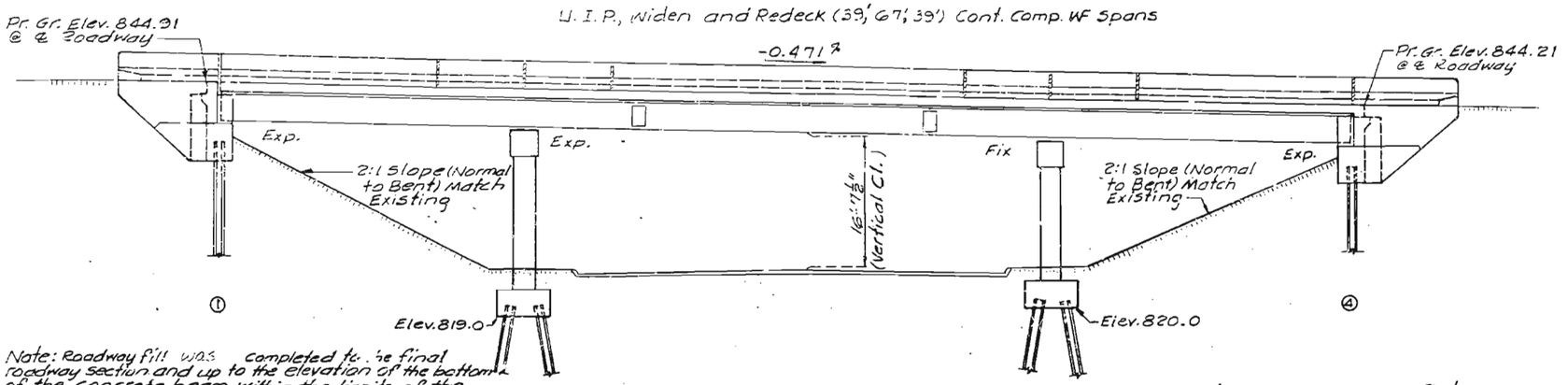
L-642RI

STATE PLANE

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.	IR-35-1(283)	45
SEC./SUR. 6	TWP. 50N	RGE. 32W

U. I. P., Widen and Redeck (39', 67', 39') Cont. Comp. WF Spans



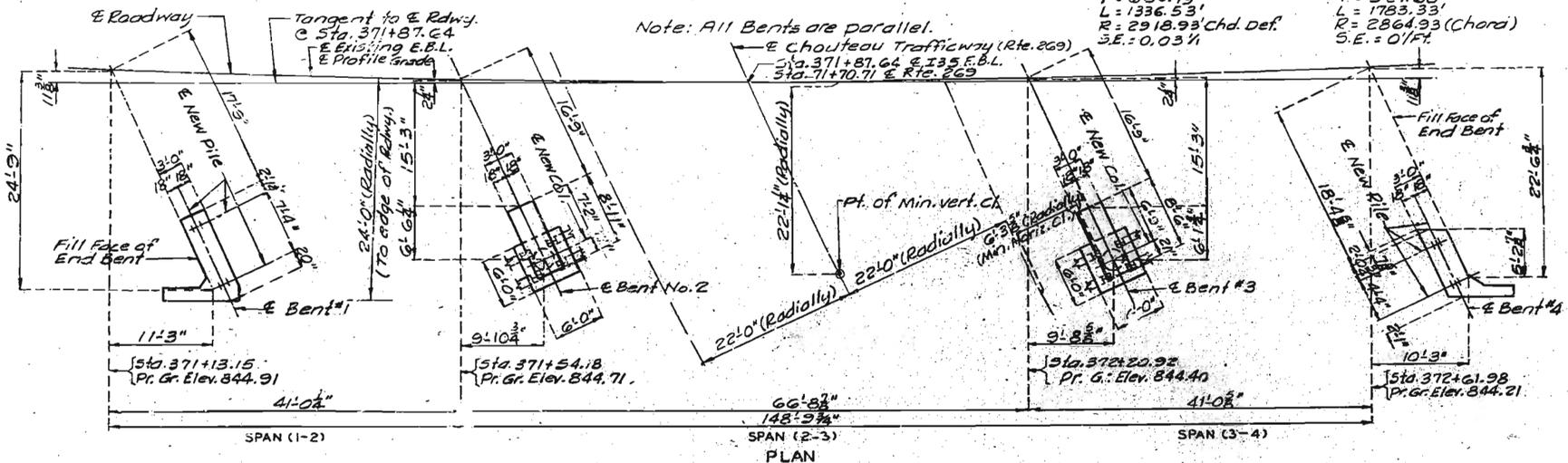
Note: Roadway fill was completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and not less than 25' in back of the fill face of the End Bents before piles were driven for any Bents falling within the embankment section.

Curve Data.
I-35 (Rt. Lane)
P.I. Sta. 376+82.60
Δ = 26°14'05" Lt.
D = 1°57'47"
T = 680.19'
L = 1336.53'
R = 2918.93' Chd. Def.
S.E. = 0.03'

Curve Data.
Rte. 269 (Chouteau Trfwy.)
P.I. = 63+58.70
Δ = 35°-40' Lt.
D = 2°
T = 321.68'
L = 1783.33'
R = 2864.93 (Chord)
S.E. = 0'Ft.

DEVELOPED ELEVATION

Note: All Bents are parallel.



PLAN

Note: Elevation and Plan showing New Work Only.

PILE DATA

	BENT	1	2	3	4
BEARING PILE	PILE TYPE AND SIZE	HP10x42	HP10x42	HP10x42	HP10x42
	NUMBER	2	4	4	2
	APPROXIMATE LENGTH FT.	32	16	18	33
	DESIGN BEARING TONS	20	30	30	20
	HAMMER ENERGY REQ'D. FT-LBS.	7,000	7,000	7,000	7,000

Note: Minimum energy requirement of hammer was based on plan length and design bearing value of piles.
All piles were driven to practical refusal.

* Approximately 139 tons of new steel and 53.1 tons of existing steel were painted (See Special Provisions)

ESTIMATED QUANTITIES

ITEM		SUBSTR.	SUPERSTR	TOTAL
Partial Removal Of Substructure Concrete	Lump Sum			1 ✓
Removal and Storage of Exist. Bridge Rail	Lin. Ft.			293 ✓
Non-Destructive Testing	Lin. Ft.			37 ✓
Removal of Existing Bridge Deck	Sq. Ft.			4,943 ✓
Class I Excavation	Cu. Yd.	99 ✓		99 ✓
Structural Steel Pile (12")	Lin. Ft.	265 ✓		265 ✓
Class B Concrete (Substr.)	Cu. Yd.	51.4 ✓		51.4 ✓
Class B2 Concrete (Superstr. on Steel)	Cu. Yd.		180.1 ✓	180.1 ✓
Safety Barrier Curb	Lin. Ft.		323 ✓	323 ✓
Preformed Compression Exp. Jt. Seal (3.0 in.)	Lin. Ft.			44
Reinforcing Steel (Bridges)	Lb.	4,880 ✓		4,880 ✓
Reinforcing Steel (Epoxy Coated)	Lb.	560 ✓	49,960 ✓	50,520 ✓
Fabricated Str. Carbon Steel (I-Beam)	Lb.		29,380 ✓	29,380 ✓
Clean and Lubricate Bearings.	Each			16 ✓
Painting Existing and New Steel *	Lump Sum			1 ✓
Contingent: Adjust Bearing Devise	each			4

Note: Concrete above upper construction joint in backwall @ End Bent No. 1 was included with Class B (Substructure) quantities.
Weight of threaded rods and nuts in End Diaphragm is included in weight of Fabricated Structural Steel.

GENERAL NOTES:

Design Specifications: A.A.S.H.T.O. -1983 and Interims thru 1988. Load Factor Design.

Design Loading:
HS 20-44, 15#/sq. ft. Future Wearing Surface
Modified 24,000# Tandem Axis
Earth 120 #/Cu. Ft., Equivalent Fluid Pressure 45#/cu. ft.
Fatigue Stress Case II

Design Unit Stress:
Class B Concrete (Substructure) f'c = 2,000 psi.
Class B1 Concrete (Safety Barrier curb) f'c = 4,000 psi.
Class B2 Concrete (Superstructure except Safety Barrier Curb) f'c = 4,000 psi.
Reinforcing Steel (Grade 60) fy = 60,000 psi.
Structural Carbon Steel fu = 36,000 psi.
Steel Pile f'b = 9,000 psi.

Fabricated Steel Connections:
Field connections, High Strength Bolts ¾"ϕ, holes 13/16"ϕ, except as noted.

Joint Filler:
All joint filler did meet the requirements of Std. Spec. 1057.2.4, except as noted.

Reinforcing Steel:
Minimum Clearance to reinforcing steel is 1½", unless otherwise shown.
All reinforcing bars in tops of substructure beams or caps were spaced to clear anchor bolts for bearings by at least ¾".

Painting:
Paint System C by contractor in accordance with Std. Spec. 712.12 & 712.13 (Color of the Final Field Coat was Green).
Areas to be encased in End Bent concrete were painted one coat of System C primer and scratched or damaged surfaces were touched up in the field before concrete was poured.

Construction Clearance:
A minimum vertical clearance of 14'-9" from crown of existing lanes and a minimum lateral clearance of 28'-0" centered on existing lanes was maintained during Construction.

Traffic Maintained:
Traffic over structure was maintained during Construction.

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.
Contractor verified all dimensions in field before ordering new steel.
Bars bonded in old concrete not removed were cleanly stripped and embedded into new concrete where possible. If length was available, old bars extended into new concrete at least 40 diameters for smooth bar and 30 diameters for deformed bars, unless otherwise noted.

Cleaned, lubricated & reset all bearings. See special provisions.
Cost of furnishing and installing Resin Anchor Assemblies were included in Contract unit price for concrete.

All dimension tied to existing elevations were subject to variance. For new top of substructure beam caps, use elevations given.

B.M. Elev. 848.34 BOLT IN RIGHT BARRIER CURB SOUTH END OF BRIDGE.

BRIDGE OVER RTE. 269 (CHOUTEAU TRAFFICWAY)

STATE ROAD: INTERSTATE 35
IN KANSAS CITY

PROJECT NO. STA. 371+13.15 EBL

JOB NO. 4-I-35-816 RTE. I-35

CLAY COUNTY

DATE 1/13/89

STD.
STD. 706.35
C 842 R1

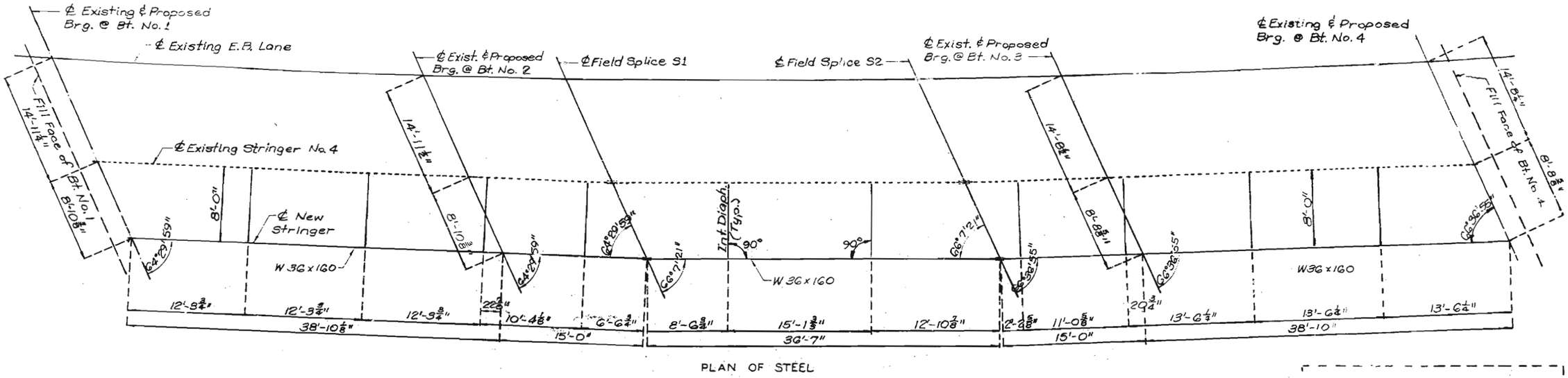
DESIGNED Aug. 1988
DETAILED NOV. 1988
CHECKED Nov. 1988

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

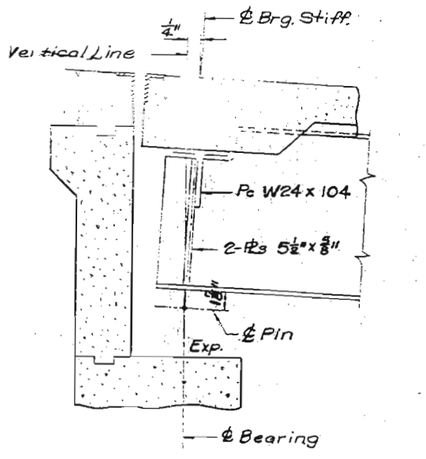
375-402

FINAL PLANS

STATE	PROJ. NO.	SHEET NO.
MO.	IR-35-1(233)	53



PLAN OF STEEL



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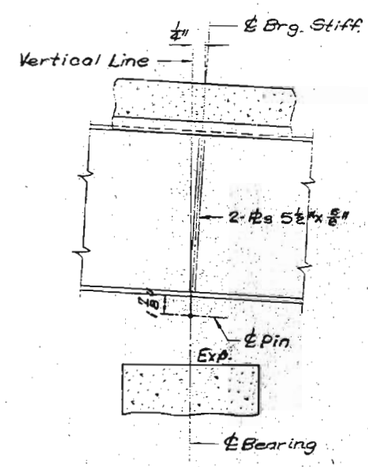

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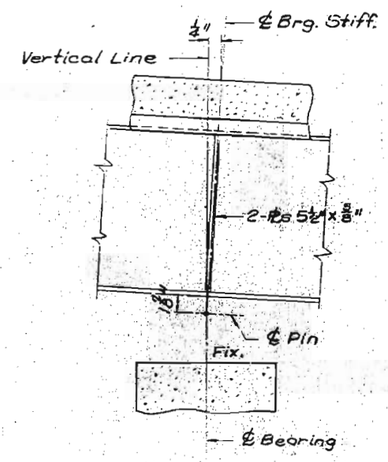

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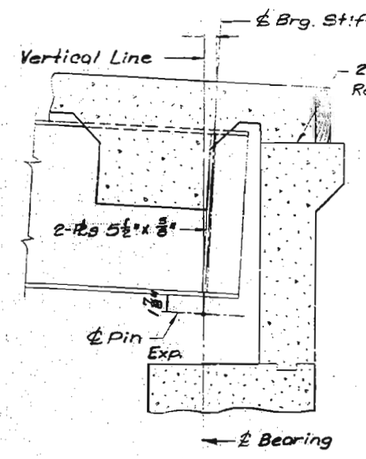

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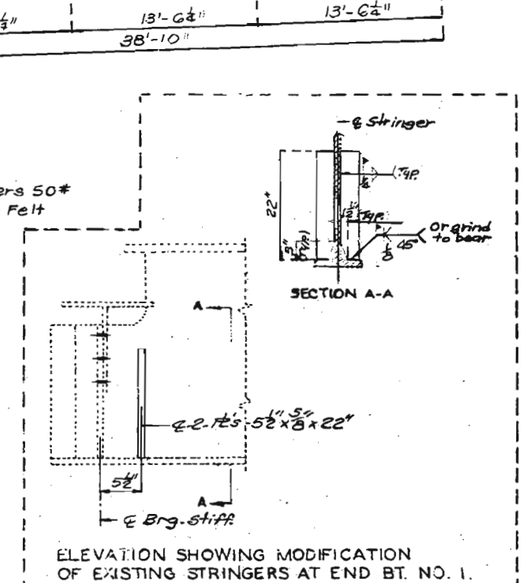
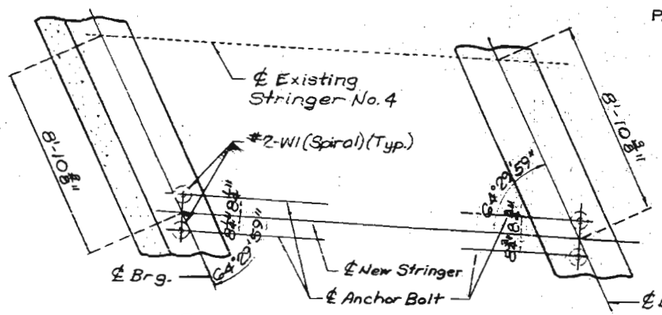


ELEVATION SHOWING MODIFICATION OF EXISTING STRINGERS AT END BT. NO. 1.

⚠1 added



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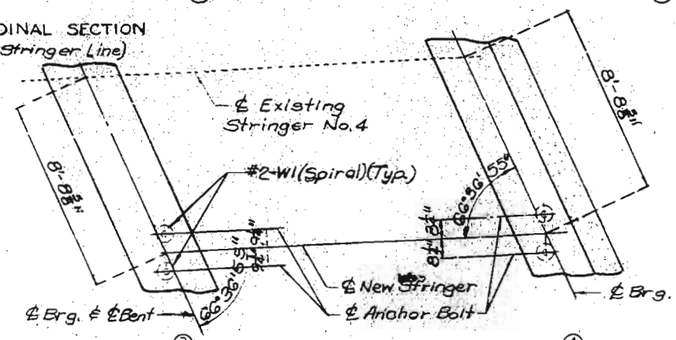
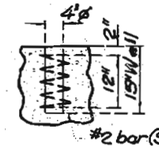
PART LONGITUDINAL SECTION
(Parallel to Stringer Line)



② ③ ④

ANCHOR BOLT PLAN



DETAIL OF ANCHOR BOLT WELLS

Note: All dimensions are horizontal. Longitudinal dimensions are along ℄ of Stringers. Fabricated structural steel is A36. Notch toughness required for all WF Beams.

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

⚠ Revised 10-18-89

DETAILED Sept 1988
CHECKED Nov 1988

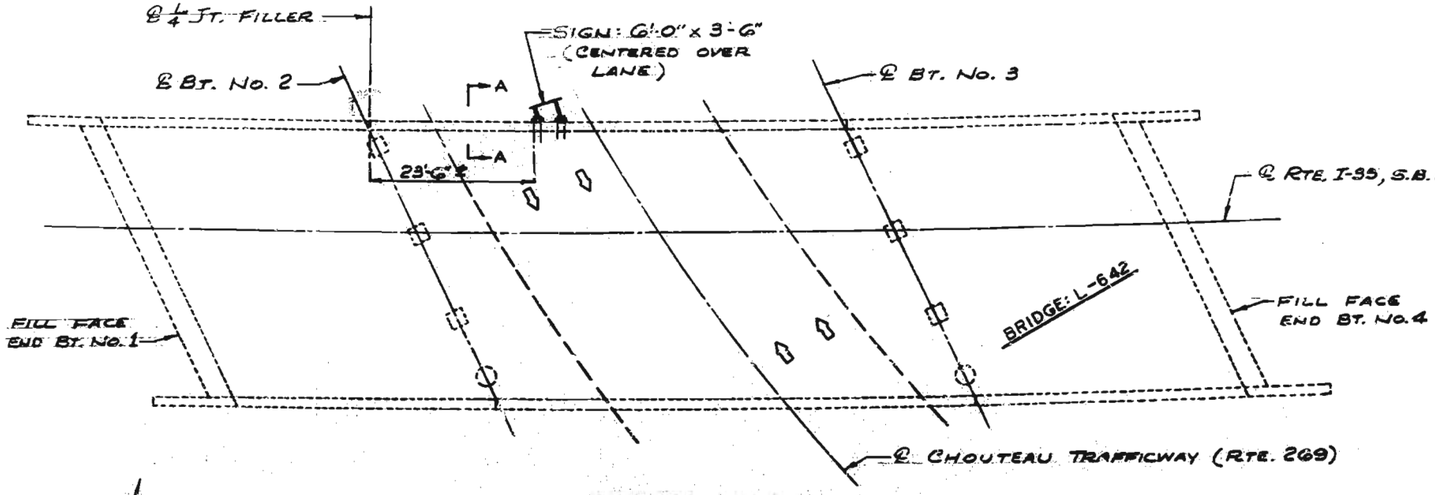
Sheet No. 9A of 20.

CLAY COUNTY

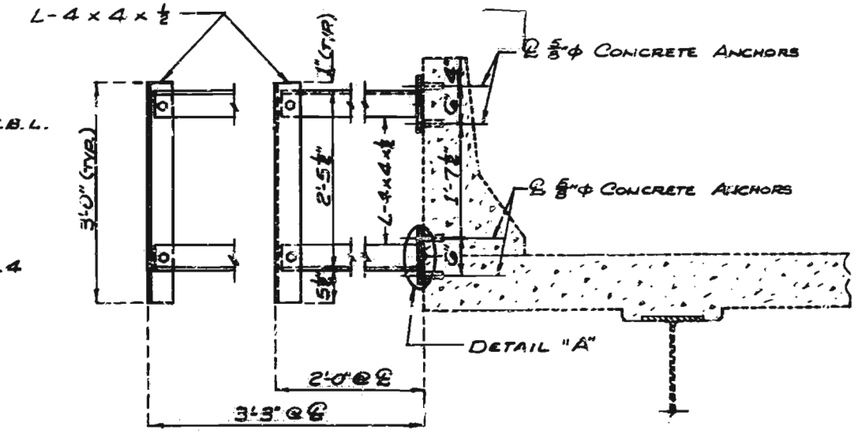
L-642 R1

3648

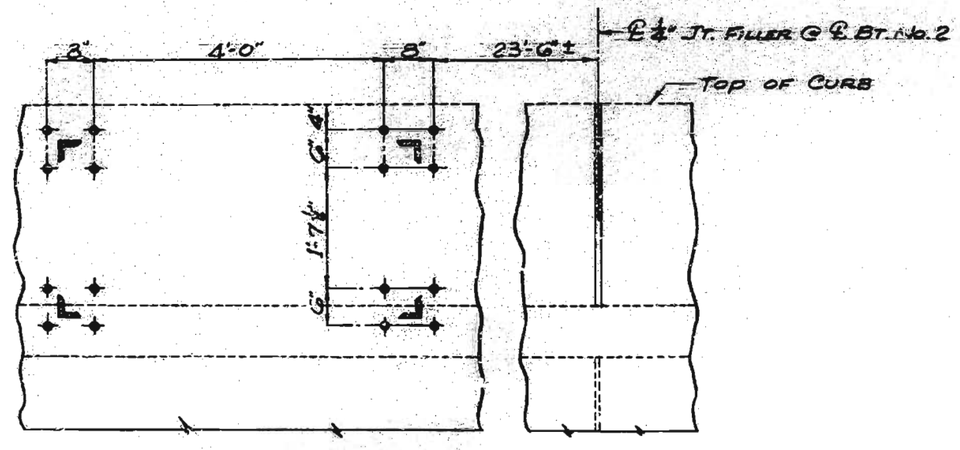
STATE	PROJ. NO.	SHEET NO.
MO.		



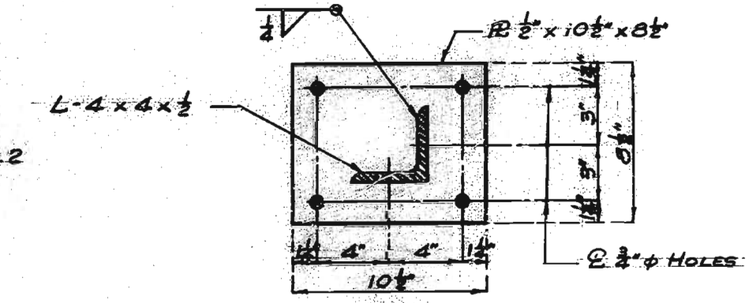
PLAN SHOWING LOCATION OF SIGN



SECTION A-A



LAYOUT FOR CONCRETE ANCHORS



DETAIL A

GENERAL NOTES:

ALL STRUCTURAL STEEL SHALL BE ASTM A36, GALVANIZED

FIELD CONNECTIONS: HIGH STRENGTH BOLTS ⅝"ϕ, HOLES ¾"ϕ. ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. THE TURN-OF-NUT METHOD OF OBTAINING BOLT TENSION FOR HIGH STRENGTH BOLTS MAY BE USED (SEE STD. SPEC. 712.10.2).

CONCRETE ANCHORS SHALL BE THE NON-DRILLING EXPANSION TYPE. THEY SHALL HAVE A CERTIFIED CONCRETE PULL-OUT STRENGTH (ULTIMATE LOAD) OF AT LEAST 8,300 POUNDS IN 3,000 PSI CONCRETE. THE HOLE SHALL BE PRE-DRILLED WITH A CONVENTIONAL CARBIDE MASONRY BIT.

CENTER AND LEVEL SIGN ON BRACKETS. DRILL 7/16"ϕ HOLES IN THE VERTICAL ANGLES AND PROVIDE ⅜"ϕ BOLTS FOR ATTACHMENT OF SIGN.

THE COST OF FURNISHING AND INSTALLING THE CONCRETE ANCHORS, SIGN SUPPORT BRACKETS AND SIGN COMPLETE IN PLACE, SHALL BE PAID FOR AS A ROADWAY ITEM, SIGN SUPPORT BRACKETS ON STRUCTURE (LUMP SUM).

SIGN TO BE FURNISHED BY OTHERS.

SIGN SUPPORTS

DETAILED MAY 1989
CHECKED MAY 1989

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

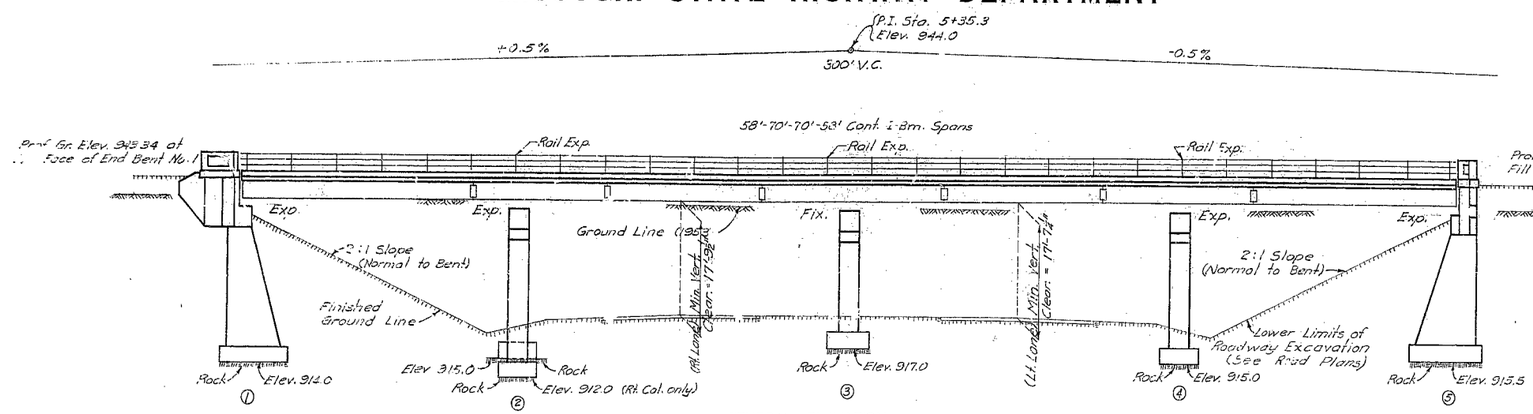
Sheet No. 1 of 1.

CLAY COUNTY

L-642R2

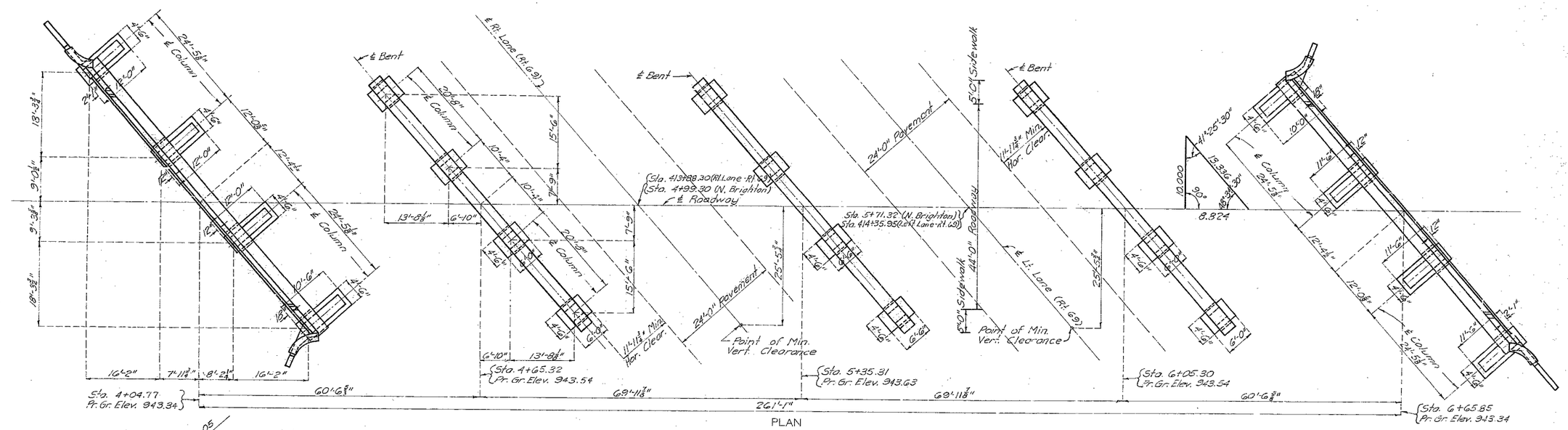
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U.I-39(7) (RT.69)	19		

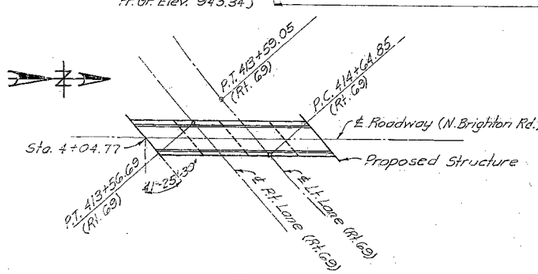


GENERAL ELEVATION

Note: All loose, shelly or disintegrated rock shall be removed and the footings placed on 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.



PLAN



LOCATION SKETCH

ESTIMATED QUANTITIES				
Item		Substr.	Superstr.	Total
Class 1 Excavation For Structures	Cu. Yds.	1080		1080
Class "B" Concrete	Cu. Yds.	393.2	381.7	775.9
Reinforcing Steel	Lbs.	72,300	90,760	163,060
Fabricated Structural Steel	Lbs.		339,900	339,900
Steel Castings	Lbs.		11,270	11,270
Aluminum Alloy Handrail	Lin. Ft.		516	516
Wrought Iron Drains	Lbs.		2530	2530
6"ø 12 Gauge Metal Pipe	Lin. Ft.	170		170

Note: All excavation for bridge will be paid for as Class 1 Excavation for Structures.
Estimated quantities of Class 1 Excavation for Structures includes only amount of excavation below Roadway Excavation (See Special Provisions).
Concrete in end posts is included with substructure concrete.

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

GENERAL NOTES:

Design Specifications: A.A.S.H.O. 1953
Loading: H 20-44
Structural Steel Stress: 18,000#/□"
Reinforcing Steel Stress: 18,000#/□"
Concrete, Class "B" Stress: 1000#/□"
All concrete shall be Class "B". (Air-Entrained)
Rivets ⅞"ø; holes ⅞" except as noted.
Field connections shall be riveted or if the Contractor desires he may use high tensile steel bolts with carburized washers in place of rivets. (See Special Provisions).
Where joint filler is specified on the plans it shall conform with the requirements for Gray Rubber Compound Joints as given in section 38.198(2) of the Standard Specifications.
For requirements on welding electrodes see Special Provisions. Qualification of welding operators will be required.
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 painting such surfaces will be included in price bid for items painted.
A rubbed surface finish will be required on all exposed surfaces of concrete end posts above top of curb.

B.M. #21 Elev. 940.80 – R.R. Spike in S. Side P.P. Lt. Sta. 414+50 (Lt. Lane).

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.
ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY
PROJECT NO. U.I-39(7) (RT. 69) **STA.** 4+04.77

CLAY **COUNTY**

SUBMITTED BY J.A. Williams BRIDGE ENGINEER DATE 10/18/1954
APPROVED BY Chas. M. Whittier CHIEF ENGINEER DATE 10/13/1954

FINISHED

STD C-110 R3

L-655

Designed June 1954 by H.J.K.
Drawn Aug. 1954 by M.H.P.
Checked Sept 1954 by C.S.A.

Sheet No. 1 of 11 Sheets

FINISHED

SEE FINAL PLANS BROWN-LINES

57

MISSOURI STATE HIGHWAY DEPARTMENT

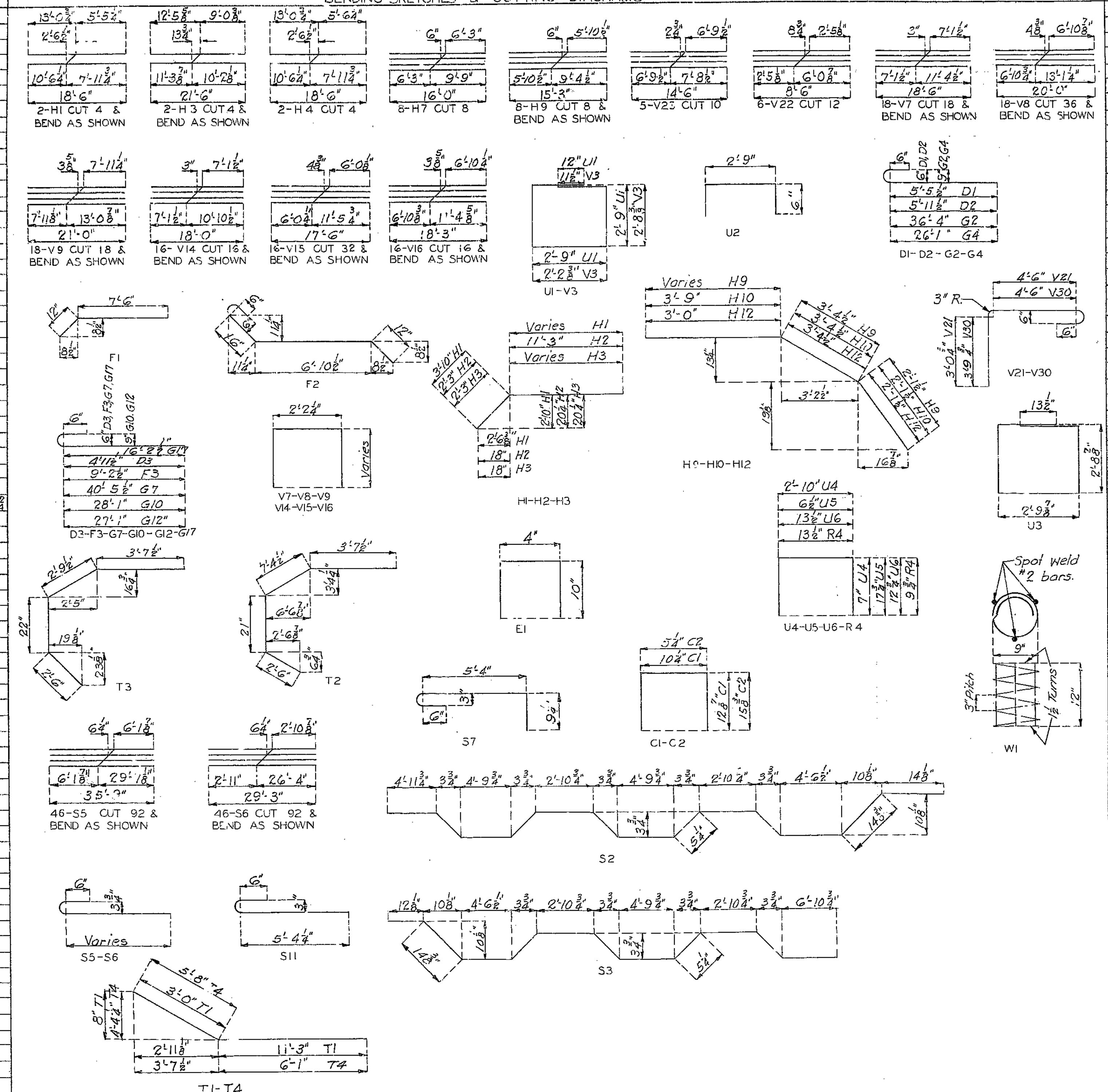
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	UI-99(7) (Rt. 69)	19		

COMPLETE BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Location
End Bent No. 1				
40	#7	6'-3"	D3	Footing
116	#5	2'-0"	E1	Bk. Wall
24	#6	8'-6"	F1	Col. Hch.
8	#6	10'-6"	F3	Column
3	#8	41'-9"	G7	Beam
9	#11	14'-0"	G8	Beam
4	#6	38'-6"	G9	Beam
7	#10	29'-9"	G10	Beam
6	#8	28'-0"	G11	Beam
7	#9	28'-9"	G12	Beam
4	#6	32'-6"	G13	Bk. Wall
8	#4	39'-0"	G14	Bk. Wall
4	#6	8'-3"	G15	Bk. Wall
2	#11	27'-9"	G16	Beam
3	#8	17'-6"	G17	Beam
2	#5	18'-6"	H1	Wing
4	#5	13'-6"	H2	Wing
2	#5	21'-6"	H3	Wing
2	#6	18'-6"	H4	Wing
4	#6	15'-3"	H5	Wing
1	#6	11'-6"	H6	Wing
4	#6	16'-0"	H7	Wing
3	#6	9'-9"	H8	Wing
4	#5	15'-3"	H9	Wing
3	#5	9'-3"	H10	Wing
1	#6	9'-0"	H11	Wing
1	#5	8'-6"	H12	Wing
8	#4	12"	H13	Safety Curb
1	#6	12'-6"	H14	Wing
1	#6	13'-6"	H15	Wing
16	#8	14'-0"		
24	#8	4'-0"		
6	#4	6'-9"	R1	'nd Post
6	#4	6'-0"	R2	End Post
28	#6	3'-6"	R3	End Post
14	#5	2'-9"	R4	Curb
4	#5	6'-0"	R5	Curb
2	#5	6'-6"	R6	Curb
4	#5	7'-0"	R7	Curb
2	#6	14'-3"	T1	Wing
2	[illegible]	15'-3"	T2	Wing
2	#6	10'-9"	T3	Wing
2	#6	11'-9"	T4	Wing
77	#4	12'-3"	U3	Beam
18	#4	4'-0"	U4	Beam
4	#5	3'-6"	U5	Safety Curb
4	#5	3'-3"	U6	Safety Curb
118	#5	7'-3"	V5	Bk. Wall
39	#5	8'-0"	V6	Bk. Wall
16	#3	18'-6"	V7	Column
36	#3	20'-0"	V8	Column
12	#3	21'-0"	V9	Column
18	#7	21'-6"	V10	Column
4	#7	22'-0"	V11	Column
12	#7	22'-6"	V12	Column
3	#6	9'-3"	V21	Wing
6	#5	8'-6"	V22	Wing
5	#5	14'-6"	V23	Wing
2	#5	3'-6"	V24	Wing

No.	Size	Length	Mark	Location
End Bent No. 1 Continued				
2	#5	5'-6"	V25	Wing
2	#5	6'-9"	V26	Wing
5	#5	8'-0"	V27	Wing
30	#4	21'-6"	V28	Column
5	#6	10'-0"	V30	Wing
7	#5	6'-3"	V31	Wing
6	#7	25'-3"	V33	Column
14	#2	19'-9"	W1	A.B. Wells
Int. Bents No. 2 and 4				
64	#8	6'-9"	D1	Footing
16	#8	10'-0"		
48	#6	8'-6"	F1	Col. Hch.
16	#6	10'-6"	F2	Col. Hch.
16	#8	4'-0"		
32	#10	38'-0"	G2	Beam
8	#8	11'-0"		
28	#11	27'-9"	G4	Beam
14	#11	24'-9"	G5	Beam
8	#6	36'-3"	G6	Beam
8	#8	4'-3"		
1	#3	10'-9"		
148	#5	12'-0"	U1	Beam
30	#5	3'-9"	U2	Beam
9	#8	4'-0"		
56	#8	20'-6"	V1	Col. {24, Bt. No. 2; 32, Bt. No. 4}
8	#8	23'-6"	V2	Col. Bent No. 2
139	#3	10'-9"	V3	Col. {71, Bt. No. 2; 68, Bt. No. 4}
9	#8	11'-0"		
28	#2	19'-9"	W1	A.B. Wells
8	#8	4'-6"		
1	#3	10'-9"		
9	#6	4'-6"		
Int. Bent No. 3				
32	#8	7'-3"	D2	Footing
8	#8	[illegible]'-0"		
24	#6	8'-6"	F1	Col. Hch.
8	#6	10'-6"	F2	Col. Hch.
2	#3	10'-9"		
8	#8	4'-8"		
16	#10	38'-0"	G2	Beam
1	#3	10'-9"		
14	#11	27'-9"	G4	Beam
7	#11	24'-9"	G5	Beam
4	#6	36'-3"	G6	Beam
8	#8	9'-0"		
7	#8	4'-0"		
74	#5	12'-0"	U1	Beam
15	#5	3'-9"	U2	Beam
8	#8	12'-0"		
7	#8	4'-0"		
56	#3	10'-9"	V3	Column
32	#8	18'-0"	V4	Column
14	#2	19'-9"	W1	A.B. Wells

BENDING SKETCHES & CUTTING DIAGRAMS



No.	Size	Length	Mark	Location
End Bent No. 5				
40	#7	6'-3"	D3	Footing
116	#5	2'-0"	E1	Bk. Wall
24	#6	8'-6"	F1	Col. Hch.
8	#6	10'-6"	F3	Column
3	#8	41'-9"	G7	Beam
9	#11	14'-0"	G8	Beam
4	#6	38'-6"	G9	Beam
7	#10	29'-9"	G10	Beam
6	#8	28'-0"	G11	Beam
7	#9	28'-9"	G12	Beam
4	#6	32'-6"	G13	Bk. Wall
8	#4	39'-0"	G14	Bk. Wall
4	#6	8'-3"	G15	Bk. Wall
2	#11	27'-9"	G16	Beam
3	#8	17'-6"	G17	Beam
2	#5	18'-6"	H1	Wing
4	#5	13'-6"	H2	Wing
2	#5	21'-6"	H3	Wing
2	#6	18'-6"	H4	Wing
4	#6	15'-3"	H5	Wing
1	#6	11'-6"	H6	Wing
4	#6	16'-0"	H7	Wing
3	#6	9'-9"	H8	Wing
4	#5	15'-3"	H9	Wing
3	#5	9'-3"	H10	Wing
1	[illegible]	9'-0"	H11	Wing
1	#5	8'-6"	H12	Wing
8	#4	12"	H13	Safety Curb
1	#6	12'-6"	H14	Wing
1	#6	13'-6"	H15	Wing
6	#4	6'-9"	R1	End Post
6	#4	6'-0"	R2	End Post
28	#6	3'-6"	R3	End Post
14	#5	2'-9"	R4	Curb
4	#5	6'-0"	R5	Curb
2	#5	6'-6"	R6	Curb
4	#5	7'-0"	R7	Curb
2	#6	14'-3"	T1	Wing
2	#6	15'-3"	T2	Wing
2	#6	10'-9"	T3	Wing
2	#6	11'-9"	T4	Wing
77	#4	12'-3"	U3	Beam
18	#4	4'-0"	U4	Beam
4	#5	3'-6"	U5	Safety Curb
4	#5	3'-3"	U6	Safety Curb
118	#5	7'-3"	V5	Bk. Wall
39	#5	8'-0"	V6	Bk. Wall
16	#3	18'-0"	V14	Column
32	[illegible]	11'-6"	V15	Column
16	#3	18'-3"	V16	Column
18	#7	20'-0"	V17	Column
4	#7	20'-6"	V18	Column
8	#7	21'-3"	V19	Column

No.	Size	Length	Mark	Location
End Bent No. 5 Continued				
4	#7	20'-9"	V20	Column
3	#6	9'-3"	V21	Wing
6	#5	8'-6"	V22	Wing
5	#5	14'-6"	V23	Wing
2	#5	3'-6"	V24	Wing
2	#5	5'-6"	V25	Wing
2	#5	6'-9"	V26	Wing
5	#5	8'-0"	V27	Wing
30	#4	20'-0"	V29	Column
3	#6	10'-0"	V30	Wing
7	#5	6'-3"	V31	Wing
6	#7	26'-0"	V32	Column
16	#8	13'-6"		
16	#8	4'-0"		
14	#2	19'-9"	W1	A.B. Wells
Superstructure				
516	#5	3'-0"	C1	Curb
516	#5	3'-0"	C2	Curb
40	#5	30'-3"	C3	Curb
60	#5	24'-6"	C4	Curb
920	#5	26'-9"	S1	Slab
229	#5	29'-6"	S2	Slab
279	#5	26'-0"	S3	Slab
96	#5	24'-3"	S4	Slab
92	#5	35'-9"	S5	Slab
92	#5	29'-3"	S6	Slab
1008	#4	7'-0"	S7	Sidewalk
846	#5	30'-3"	S8	Slab
120	#4	27'-3"	S9	Sidewalk
129	#5	16'-0"	S10	Slab
12	#4	6'-3"	S11	Sidewalk

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES NE. OF NORTH KANSAS CITY

PROJECT NO. U.I.-99 (7) (RT. 69) **STA.** 4+04.77

CLAY **COUNTY**

FINISHED

Drawn AUG 1954 by K.R.W.
Checked Sept. 1954 by C.S.A.

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

Sheet No. 2 of 11. FINISHED

FINISHED

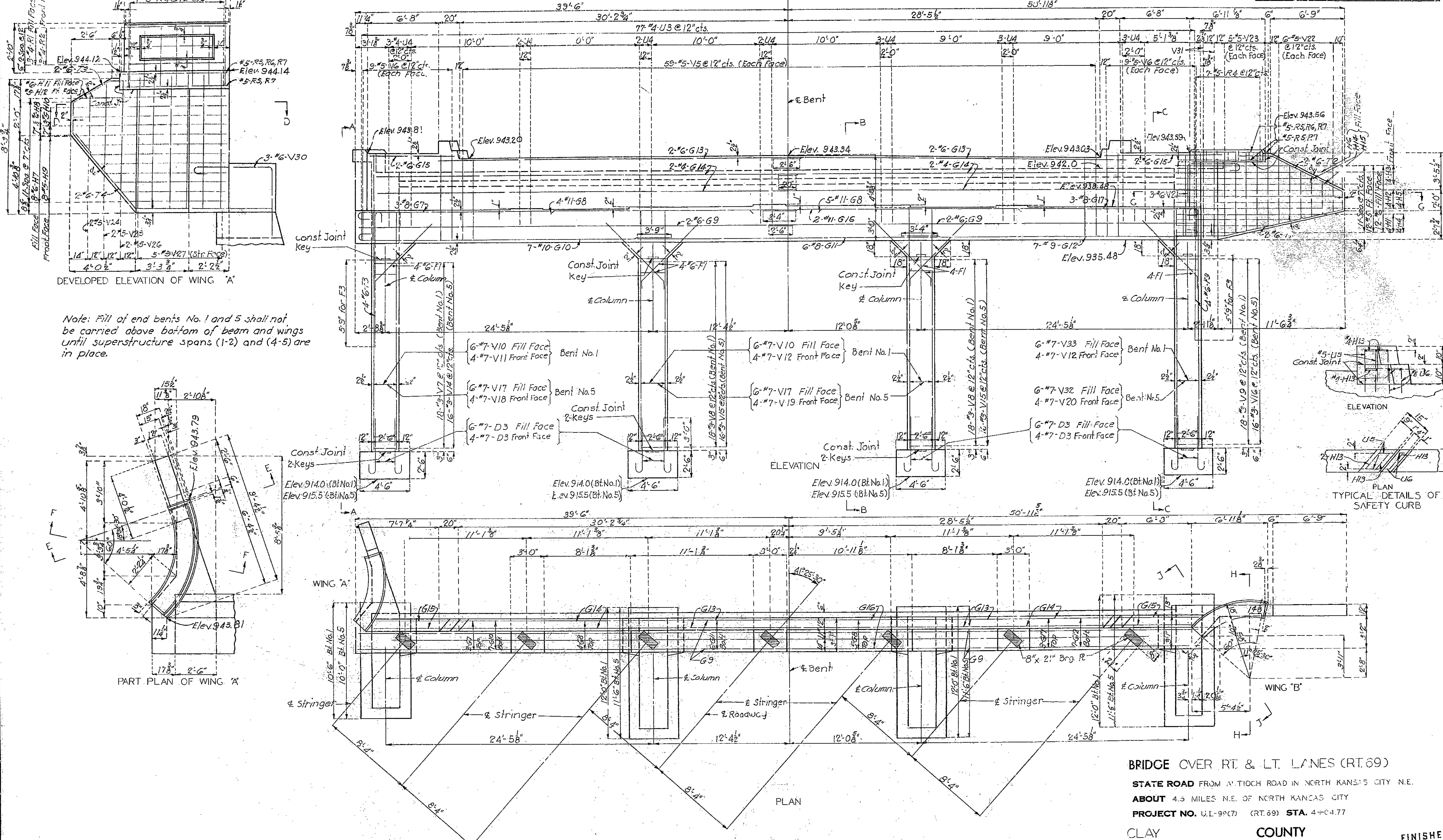
L-655

CONSTRUCTION CHANGES NOTED HEREON

58

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U.I.-99(7)	19		



Note: Fill of end bents No. 1 and 5 shall not be carried above bottom of beam and wings until superstructure spans (1-2) and (4-5) are in place.

DETAILS OF END BENTS NO. 1 & 5

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY

PROJECT NO. U.I.-99(7) (RT. 69) STA. 4+04.77

CLAY COUNTY

Drawn AUG. 1954 by K.R.W.

Checked Sept 1954 by C.S.A.

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

Sheet No. 3 of 11.

FINISHED

FINISHED

FINISHED

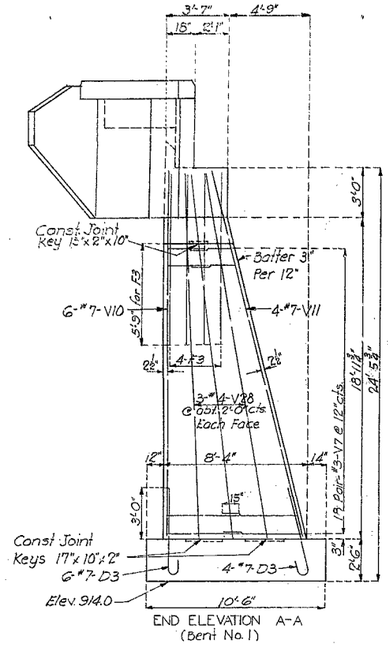
L-655

SEE FINAL PLANS BROWN-LINES

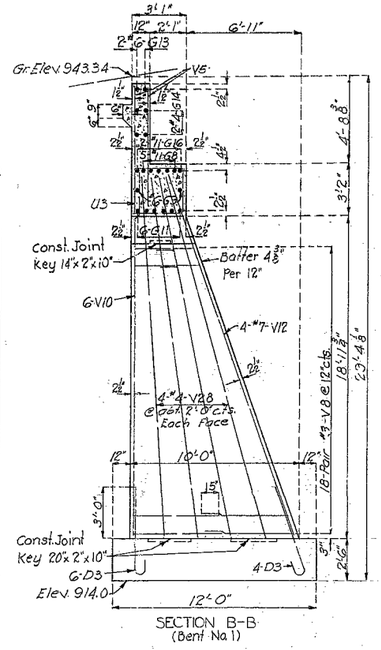
59

MISSOURI STATE HIGHWAY DEPARTMENT

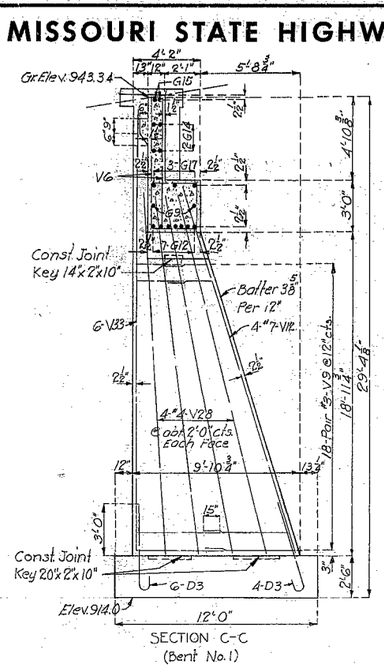
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U.I.-339(7) (RT. 69)	19		



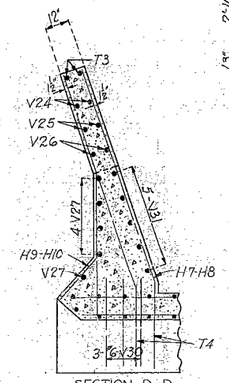
END ELEVATION A-A
(Bent No. 1)



SECTION B-B
(Bent No. 1)

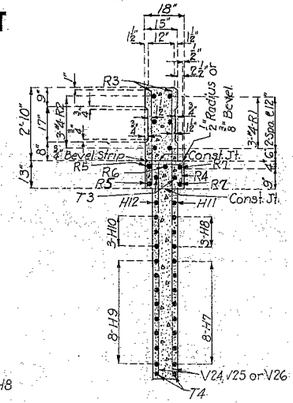


SECTION C-C
(Bent No. 1)

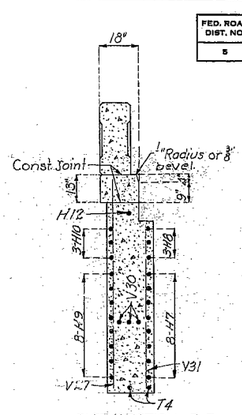


SECTION D-D
(From Sheet No. 3)

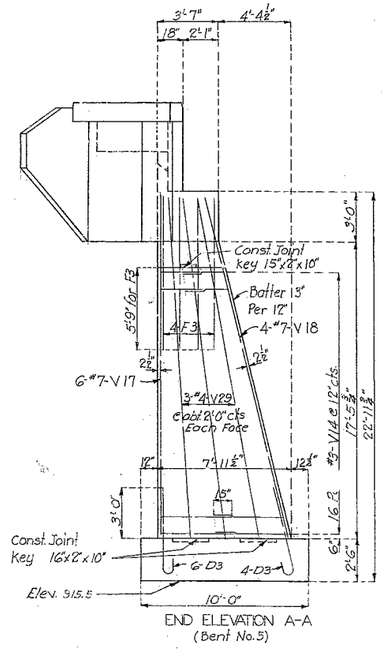
Note: Bend H7, H8 in field when necessary.



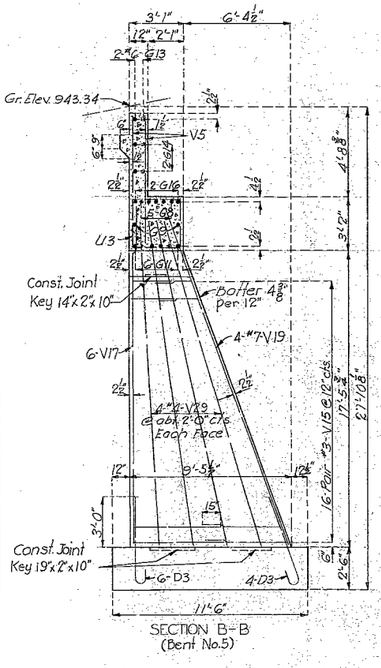
SECTION E-E
(From Sheet No. 3)



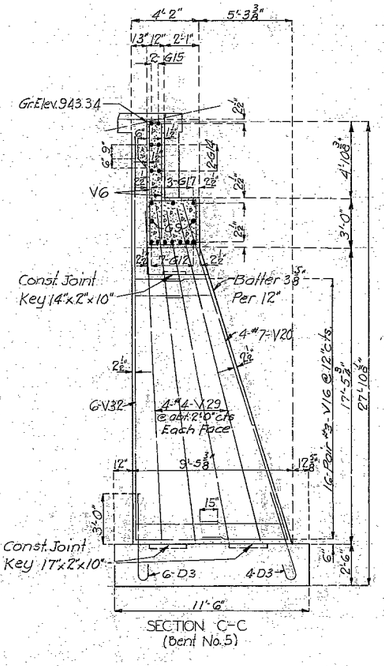
PART SECTION F-F
(From Sheet No. 3)



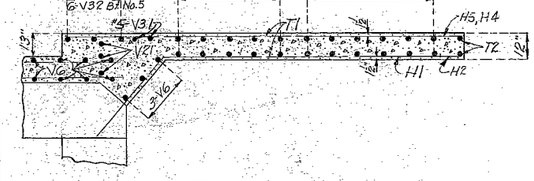
END ELEVATION A-A
(Bent No. 5)



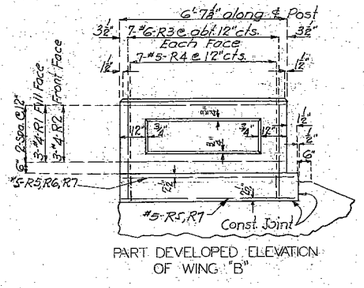
SECTION B-B
(Bent No. 5)



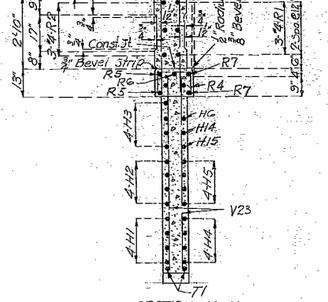
SECTION C-C
(Bent No. 5)



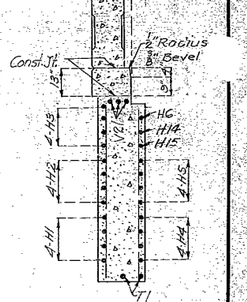
SECTION G-G
(From Sheet No. 3)



PART DEVELOPED ELEVATION OF WING "B"



SECTION H-H
(From Sheet No. 3)



SECTION J-J
(From Sheet No. 3)

60

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY

PROJECT NO. U.I.-99(7) (RT. 69) **STA.** 4+04.77

CLAY **COUNTY** FINISHED

L-655

Drawn Aug. 1954 by K.R.W.

Checked Sept 1954 by C.S.A.

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

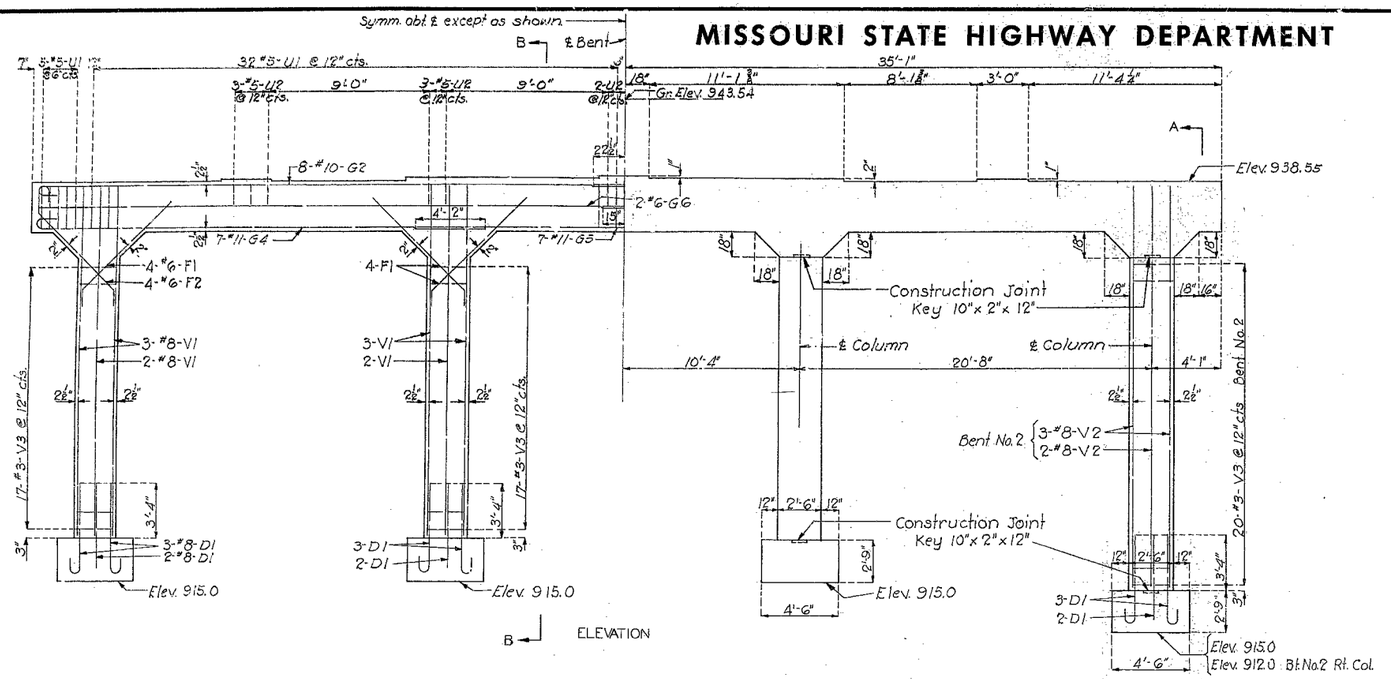
Sheet No. 4 of 11. FINISHED

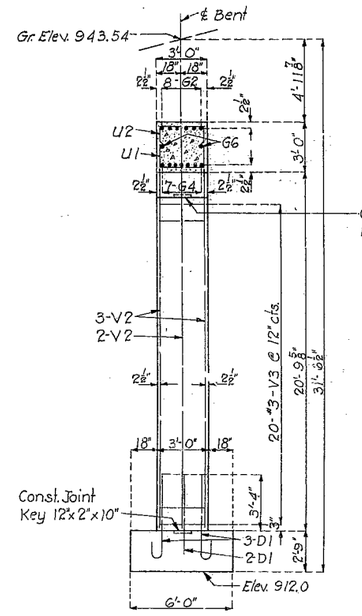
FINISHED

SEE FINAL PLANS BROWN-LINES

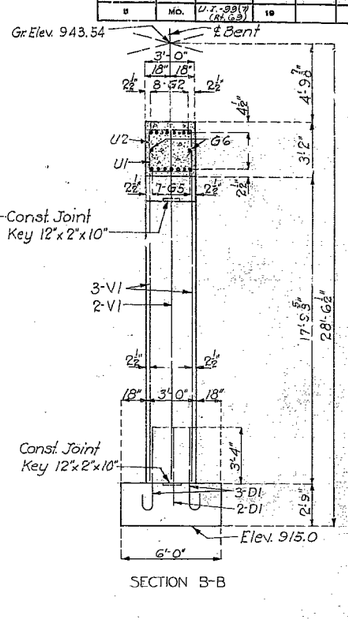
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	MO.	U.I.-99(7) (RT. 69)	19		

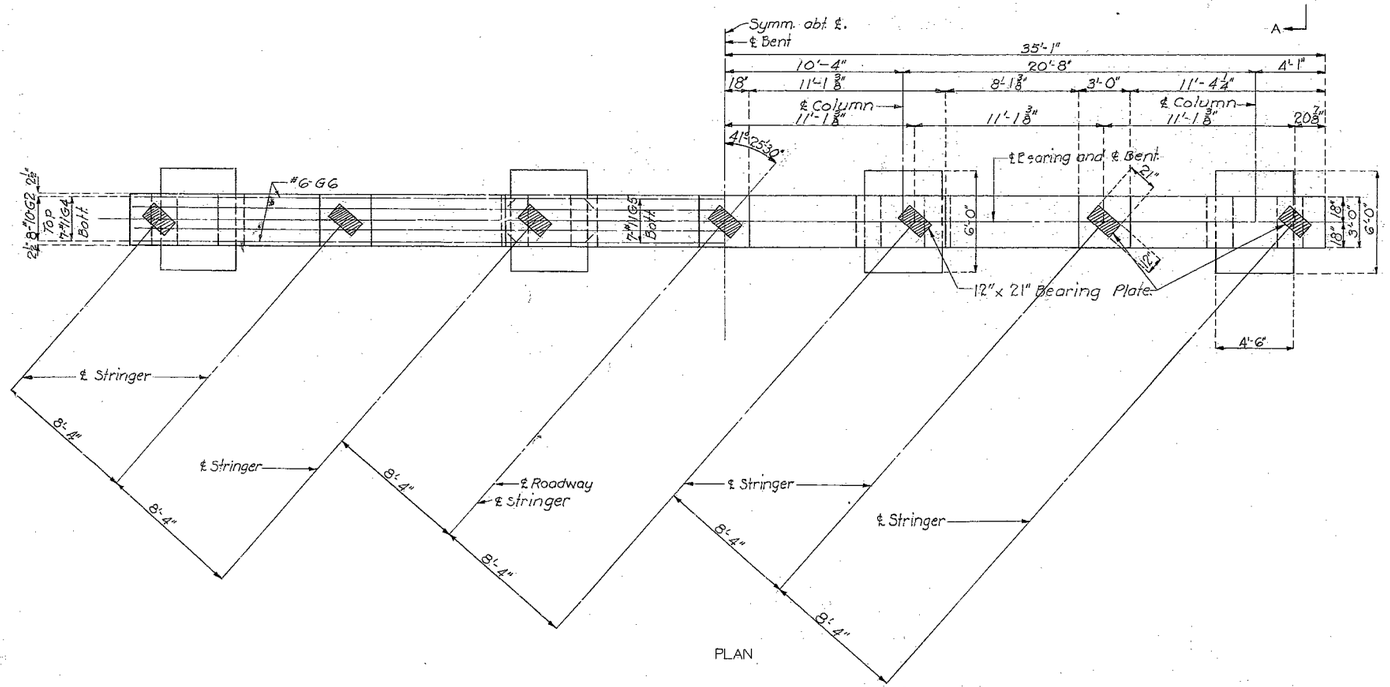




SECTION A-A
(Bent No. 2)



SECTION B-B



PLAN

DETAILS OF INTERMEDIATE BENTS NO. 2 & 4

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY

PROJECT NO. U.I.-99(7) (RT. 69) **STA.** 4+04.77

CLAY **COUNTY**

FINISHED

FINISHED

FINISHED

L-655

Drawn AUG. 1954 by K.R.W.

Checked Sept. 1954 by C.S.A.

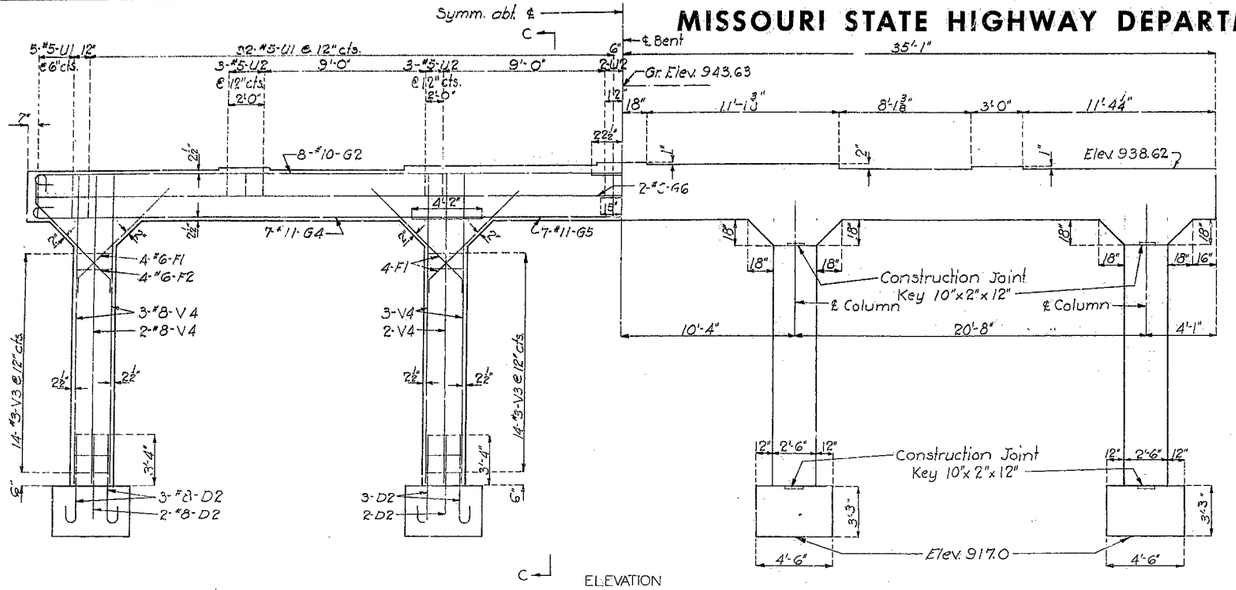
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 5 of 11

SEE FINAL PLANS BROWN LINES

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U.I.-99(7) (RT.69)	19		



BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY

PROJECT NO. U.I.-99(7) (RT.69) **STA.** 4+04.77

CLAY **COUNTY**

FINISHED

FINISHED

L-655

62

Drawn AUG. 1954 *by* K.R.W.

Checked Sept. 1954 *by* C.S.A.

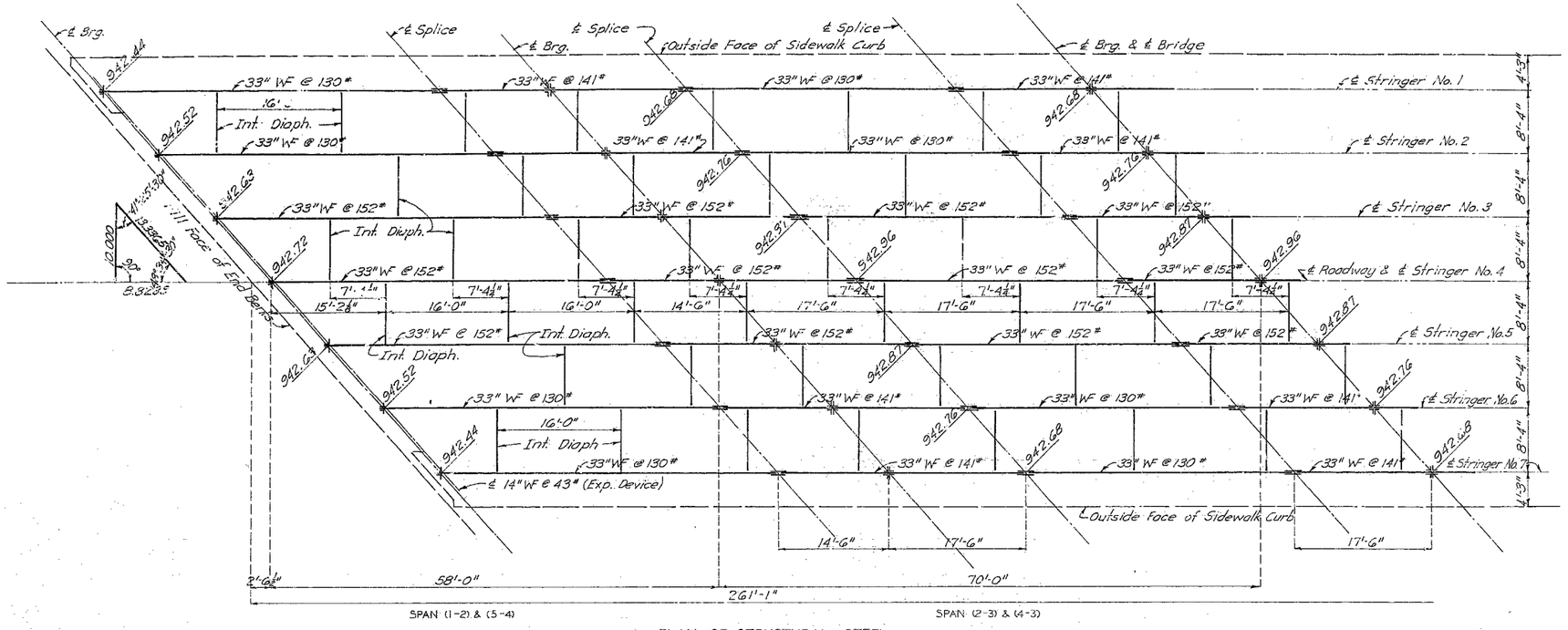
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 6 *of* 11. FINISHED

SEE FINAL PLANS BROWN-LINES

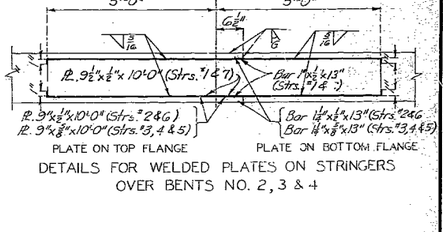
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U.I.-99(7) (61, 63)	19		



PLAN OF STRUCTURAL STEEL

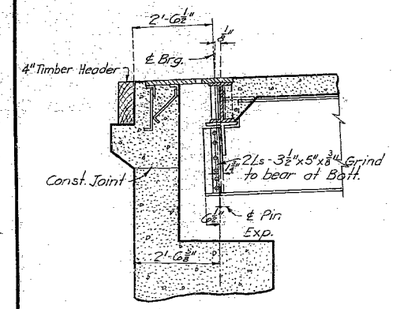
Note: All dimensions taken along grade at ℄ Roadway. Elevations given over ℄ Bearing are for top of Beams.



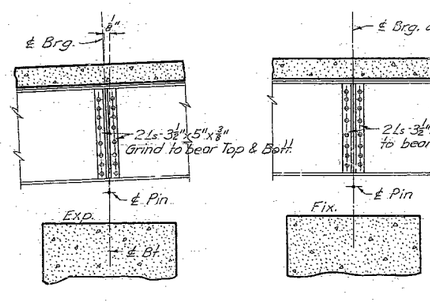
Note: All holes 15/16" ϕ for ⅞" ϕ Rivets.

DETAILS OF FIELD SPLICES

DETAILS AT ℄ BEARING

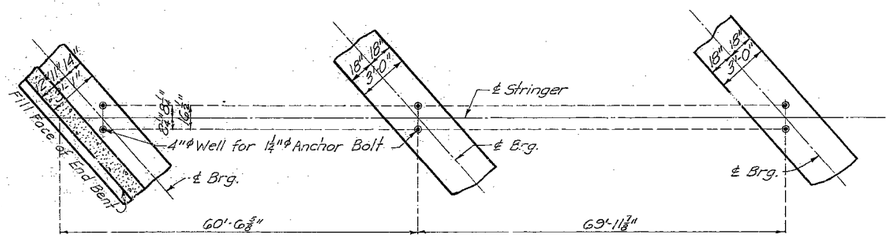


BENTS NO. 1 & 5



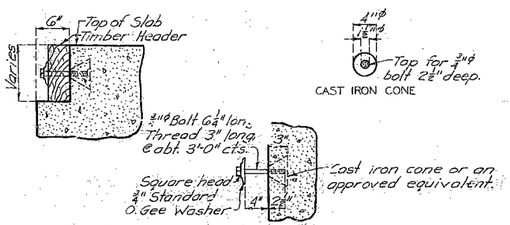
BENTS NO. 2 & 4 — BENT NO. 3

PART LONGITUDINAL SECTION NEAR ℄ ROADWAY
(Parallel to ℄ Roadway)



PART ANCHOR BOLT PLAN

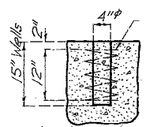
DETAILS FOR WELDED PLATES ON STRINGERS OVER BENTS NO. 2, 3 & 4



Note: Cost of timber headers complete in place to be included in price bid for concrete.

DETAILS OF TIMBER HEADER

CAST IRON CONE



Note. Holes for all anchor bolts shall be formed in substructure by placing and setting with template 4" ϕ Wells of depth shown. Grout for anchor bolts shall contain Iron Oxide. (Embeco or an approved equivalent)

DETAILS OF ANCHOR BOLT WELLS

1-27-55

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY

PROJECT NO. U.I.-99(7) (RT. 69) **STA.** 4+04.77

CLAY **COUNTY** FINISHED

FINISHED

L-655

Drawn Aug. 1954 by M.H.P.
Checked Sept 1954 by C.S.A.

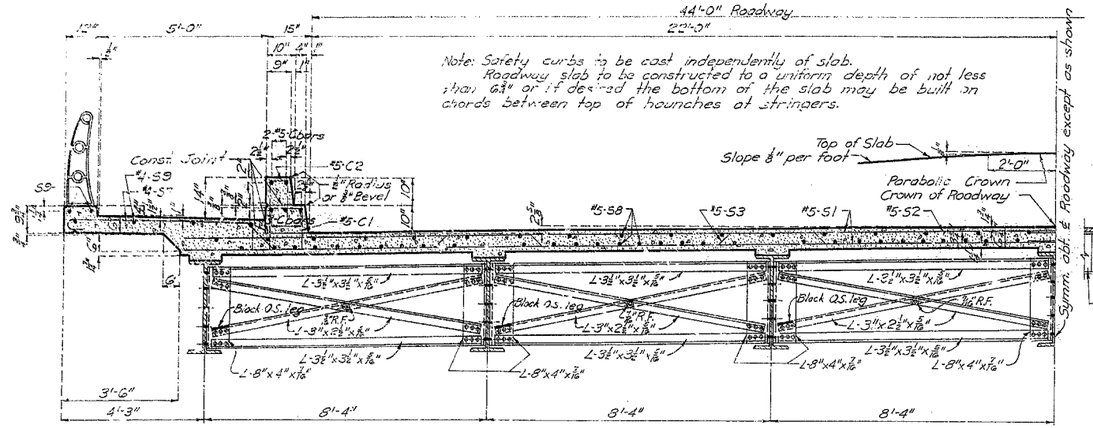
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 7 of 11. FINISHED

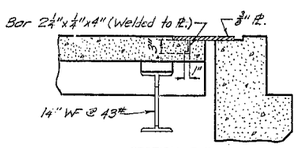
NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

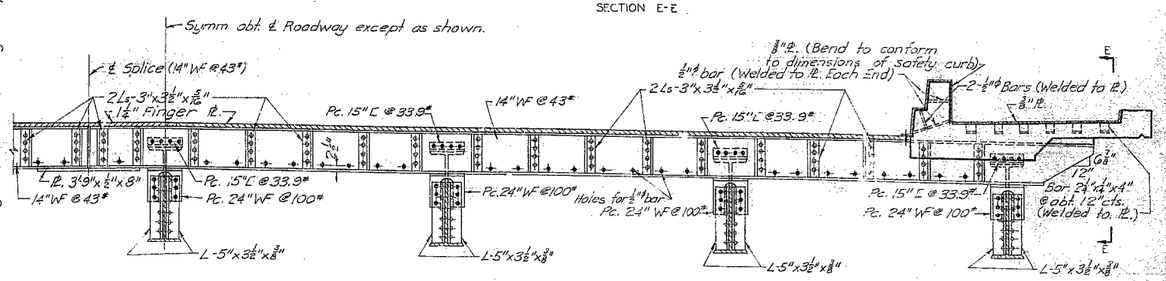
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U.I.-39(7) (RT. 69)	19		



HALF SECTION NEAR INTERMEDIATE DIAPHRAGMS

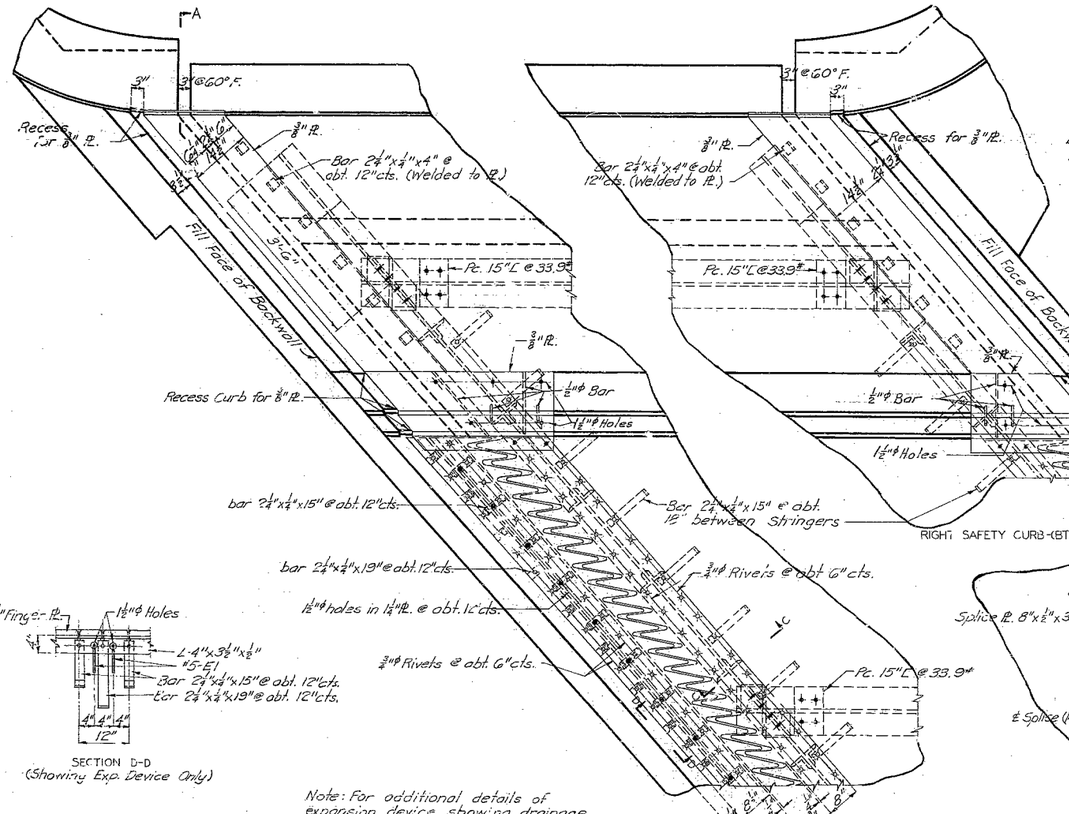


SECTION E-E



PART SECTION A-A

Note: ¼" Finger ℓs., 14" WF @ 43# and 4"x3½"x½" Ls to be bent to conform with crown of roadway.
Subpunch 1⅛" ϕ and ream to 1¼" ϕ in field all holes in connection of Pc. 24" WF @ 100# and Pc. 15"L @ 33.9#.
All 3"x3½"x⅜" stiffener Ls to be ground to bear top and bottom.
All 5"x3½"x⅞" stiffener Ls to be ground to bear at bottom.

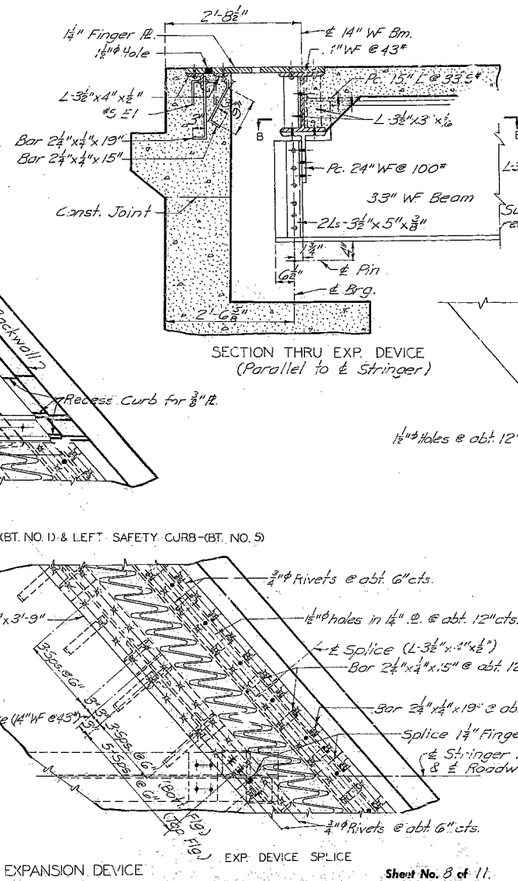


RIGHT SAFETY CURB-(BT. NO. 1) & LEFT SAFETY CURB-(BT. NO. 5)

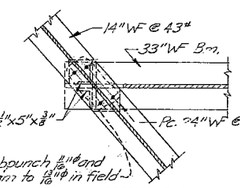
SECTION D-D
(Showing Exp. Device Only)

Note: For additional details of expansion device showing drainage system see sheet No. 9 of 11.

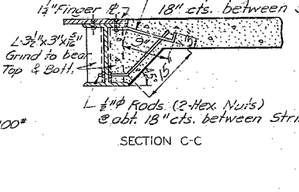
LEFT SAFETY CURB-(BT. NO. 1) & RIGHT SAFETY CURB-(BT. NO. 5)



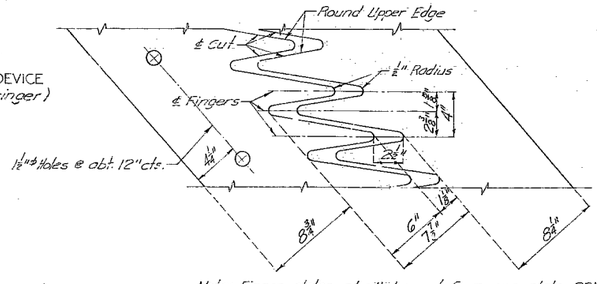
SECTION THRU EXP. DEVICE
(Parallel to ℄ Stringer)



SECTION B-B

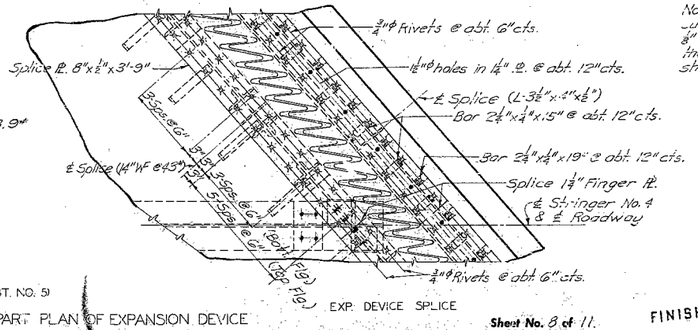


SECTION C-C



Note: Finger plates shall be cut from one plate 23"x1½". The surface of cut shall be perpendicular to the surface of plate. The cut shall not exceed ⅜" in width. The centerline of cut shall not deviate more than ⅛" from the position of cut shown above. Expansion device to be spliced as shown.

FINGER PLATE LAYOUT



EXP. DEVICE SPLICE

PART PLAN OF EXPANSION DEVICE

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY

PROJECT NO. U.I.-99(7) (RT. 69) **STA.** 4+04.77

CLAY **COUNTY**

FINISHED

FINISHED

FINISHED

L-355

Drawn Aug. 1954 by M.H.P.
Checked Sept. 1954 by C.S.A.

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

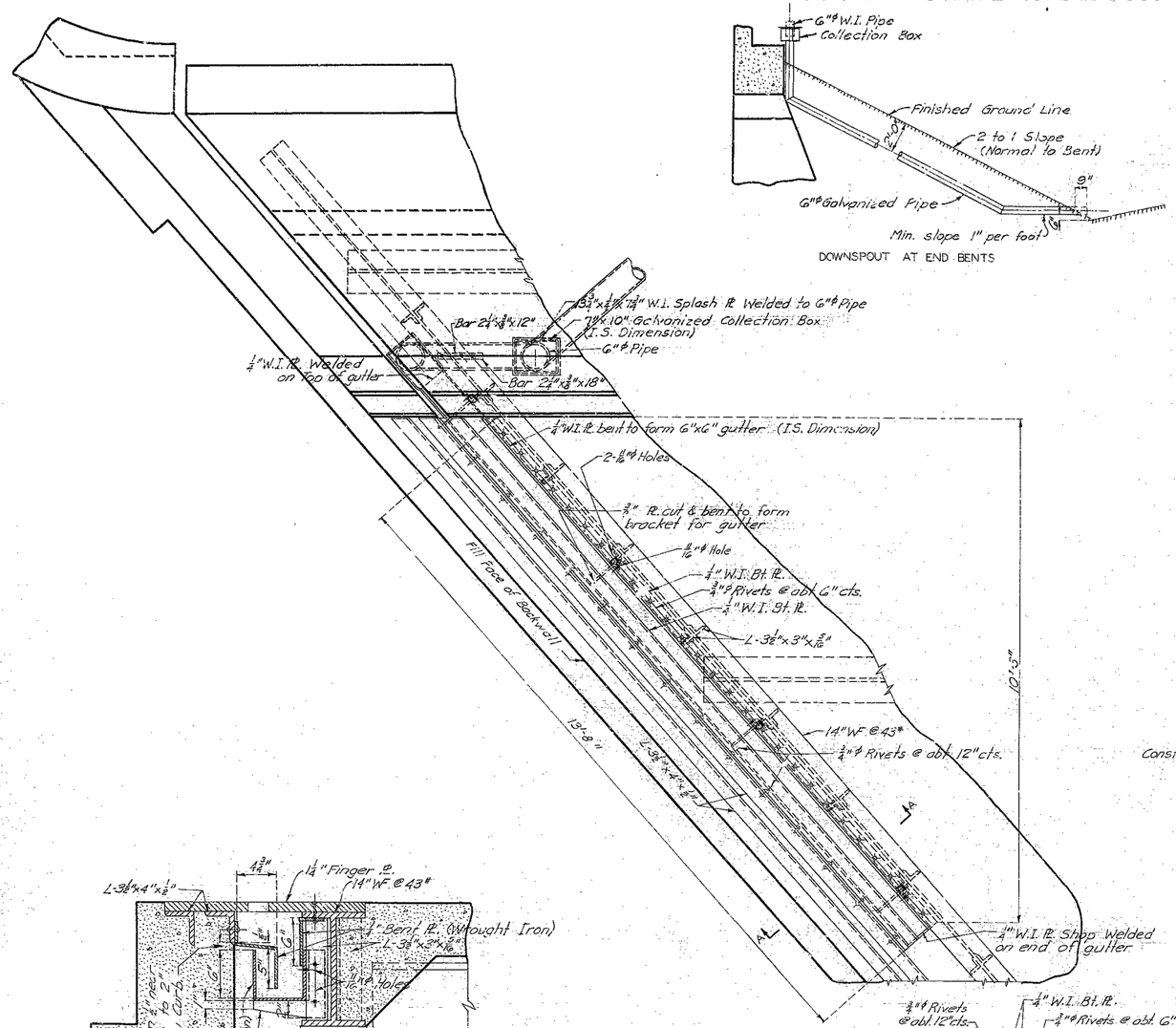
Sheet No. 8 of 11.

NO CONSTRUCTION CHANGES

69

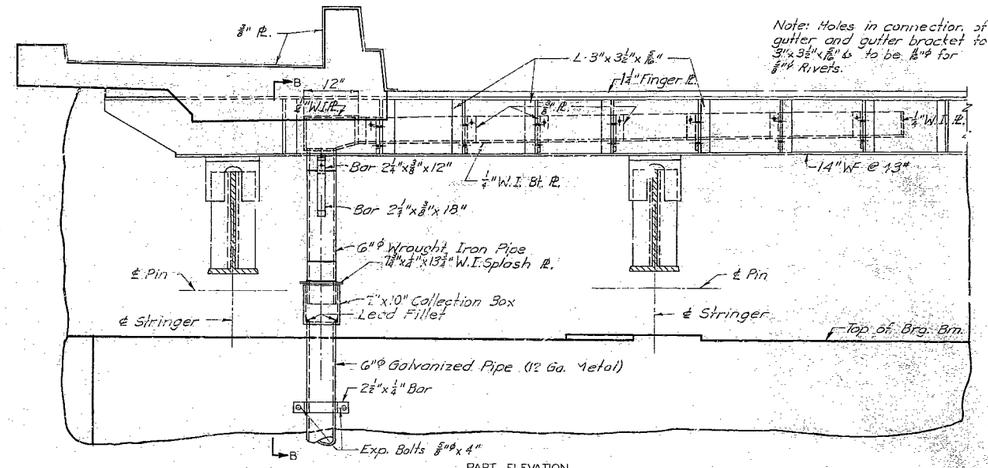
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	MO.	U.I.-99(7)	19		



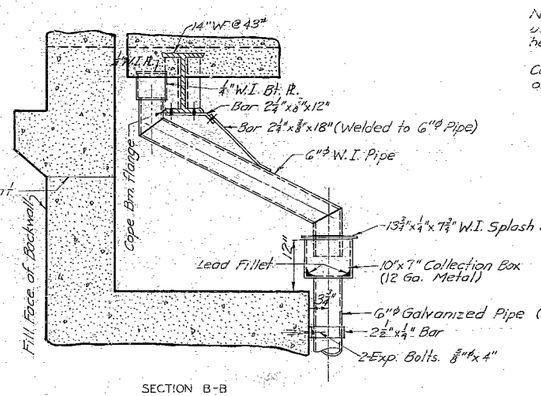
PART PLAN

DOWNSPOUT AT END BENTS



PART ELEVATION

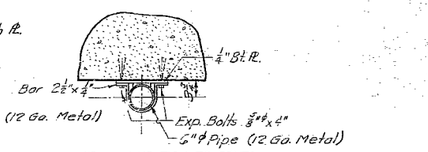
Note: Holes in connection of gutter and gutter bracket to 3"x3½"x⅜" ∠ to be 13/16"ϕ for ⅝"ϕ Rivets.



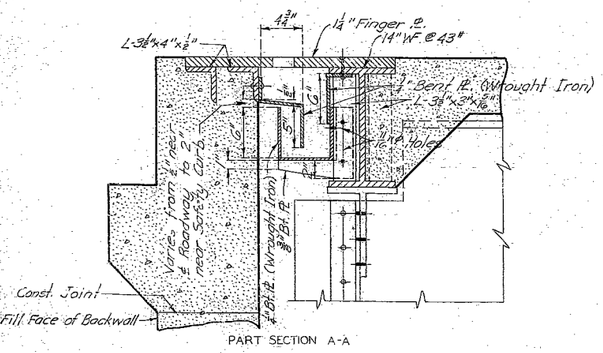
SECTION B-B

Note: All bars, plates and expansion bolts used in connecting pipes to bents shall be galvanized.

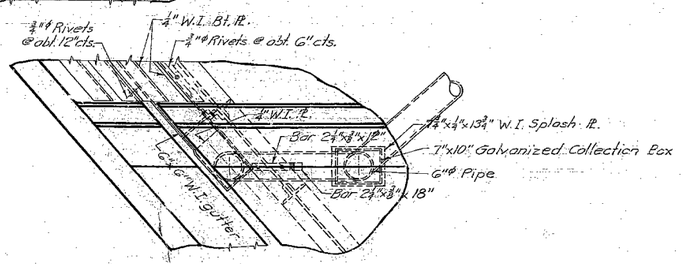
Expansion bolts to be National Lead Co. Cinch Anchor Type II, with two units or an approved equivalent



PIPE CONNECTION TO BENTS



PART SECTION A-A



PART PLAN

DETAILS OF DRAINAGE SYSTEM AT EXPANSION DEVICES

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES NE. OF NORTH KANSAS CITY

PROJECT NO. U.I.-99(7) (RT.69) **STA.** 4+04.77

CLAY **COUNTY**

FINISHED

FINISHED

L-655

Drawn Aug. 1954 by M.H.P.

Checked Sept. 1954 by C.S.A.

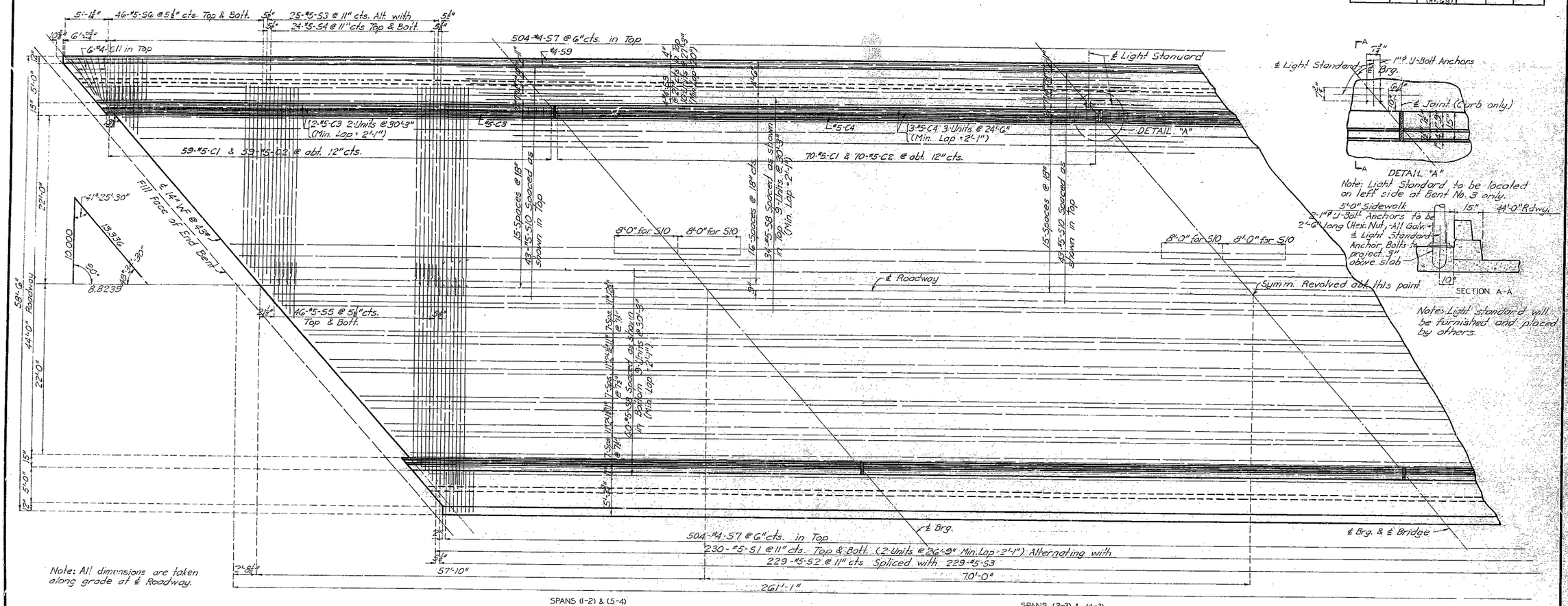
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 9 of 11 FINISHED

NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

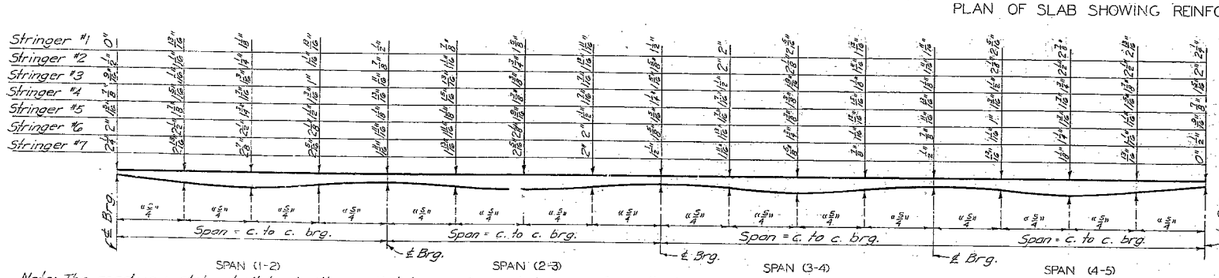
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U.I.-99(7) (RT.69)	19		



Note: All dimensions are taken along grade at ℄ Roadway.

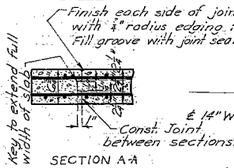
PLAN OF SLAB SHOWING REINFORCING STEEL

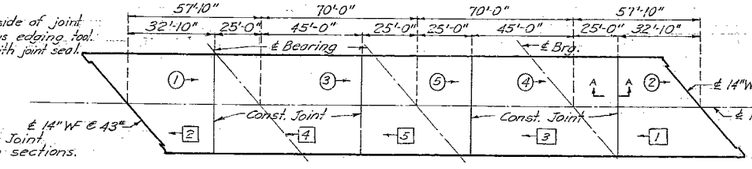
Note: Light standard will be furnished and placed by others.



Note: The roadway slab shall be built parallel to grade and to a uniform thickness of 6¾" dead load deflection, vertical curve, 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.

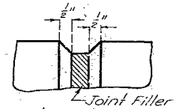
SLAB HAUNCHING DIAGRAM





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. Longitudinal construction joints will not be permitted.

SLAB POURING SEQUENCE



Note: Use bevel as shown for exposed faces of all filled joints.

DETAIL OF BEVEL FOR FILLED JOINTS

BRIDGE OVER RT. & LT. LANES (RT.69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY

PROJECT NO. U.I.-99(7) (RT. 69) **STA.** 4+04.77

CLAY **COUNTY**

FINISHED

FINISHED

L-655

Drawn Aug. 1954 by M.H.P.

Checked Sept. 1954 by C.S.A.

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

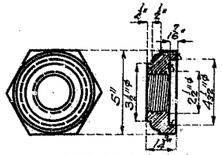
Sheet No. 10 of 11. FINISHED

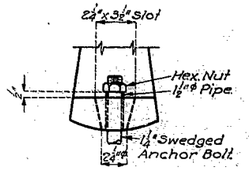
NO CONSTRUCTION CHANGES

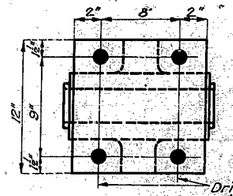
69

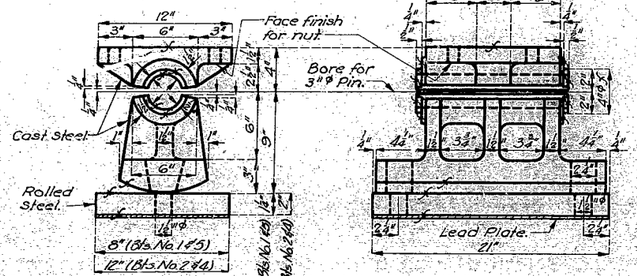
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U.I.-99(7) (RT.69)	19		

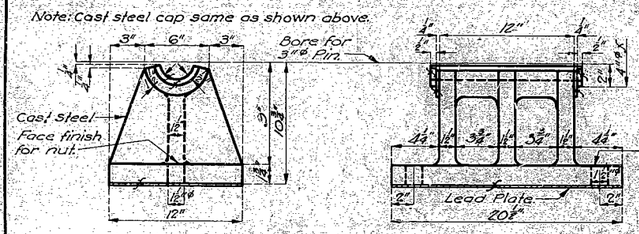








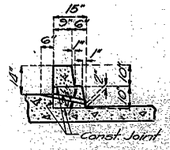
EXPANSION ROCKER FOR BENTS NO. 1, 2, 4 & 5
28-Required



FIXED PEDESTAL FOR BENT NO. 3
7-Required

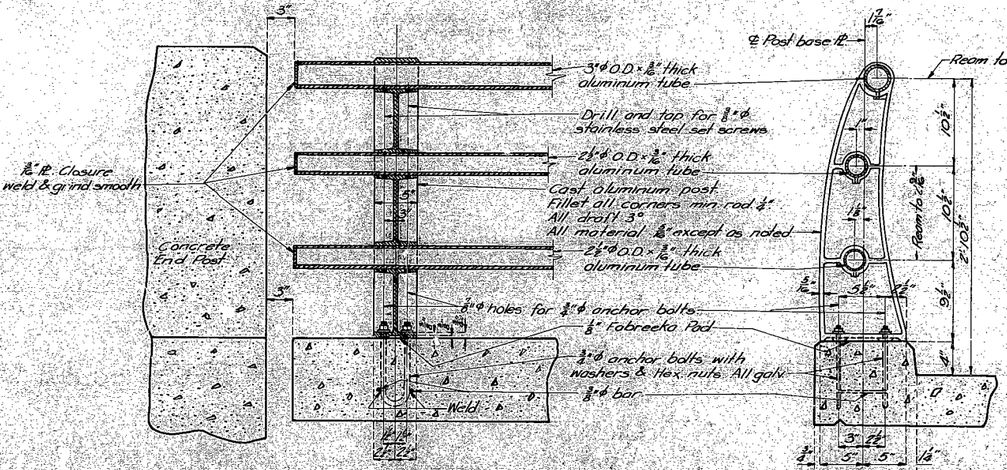
GENERAL NOTES:
All fillets shall have ½" radius.
Finish all surfaces marked "f".
All pins, bolts, nuts, pipe sleeves and rolled plates will be paid for as structural steel.
Anchor bolts shall be 1½"ϕ sweaged bolts with hex. nuts and shall extend 12" into concrete.
Lead plates under bearings shall be approximately ⅜" thickness and weigh 8#/sq. ft. Cost of lead plates shall be included in price bid for other items.

DETAILS OF BEARING CASTING



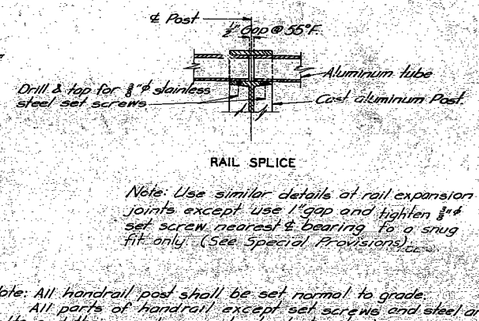
SECTION A-A

SECTION ALONG GUTTER LINE SHOWING SCUPPER SPACING IN SAFETY CURB



SECTION AT ℄ RAIL

SECTION NEAR RAIL POST

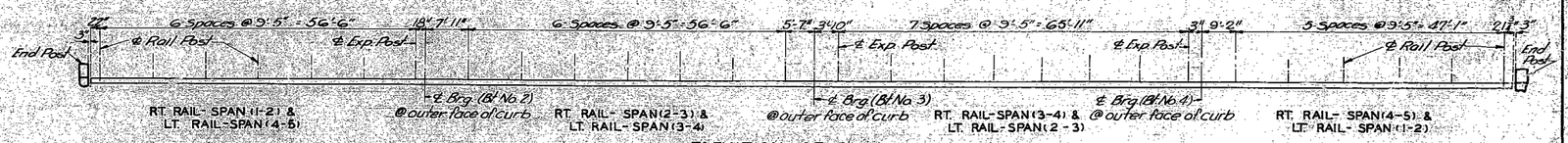


RAIL SPLICE

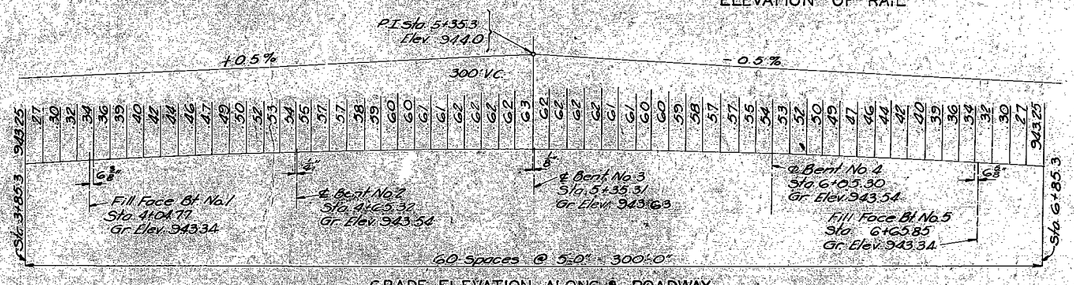
Note: Use similar details of rail expansion joints except use 1" gap and tighten ⅜"ϕ set screw nearest ℄ bearing for a snug fit only. (See Special Provisions) CC

Note: All handrail post shall be set normal to grade.
All parts of handrail except set screws and steel anchor bolts and their washers and nuts to be aluminum.
Pipe rail to be fabricated in 3 panel lengths unless otherwise approved.
Aluminum shims between fabreeka pad and post base may be used for adjusting rail alignment. Maximum thickness of shim to be ⅜". Where more fitting of post is required for proper alignment concrete bearing surface may be ground down.

DETAILS OF HANDRAIL



ELEVATION OF RAIL



GRADE ELEVATION ALONG ℄ ROADWAY

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

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E. ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY

PROJECT NO. U.I.-99(7) (RT. 69) STA. 4+04.77

CLAY COUNTY

FINISHED

FINISHED

FINISHED

L-655

Sheet No. 11 of 11.

NO CONSTRUCTION CHANGES

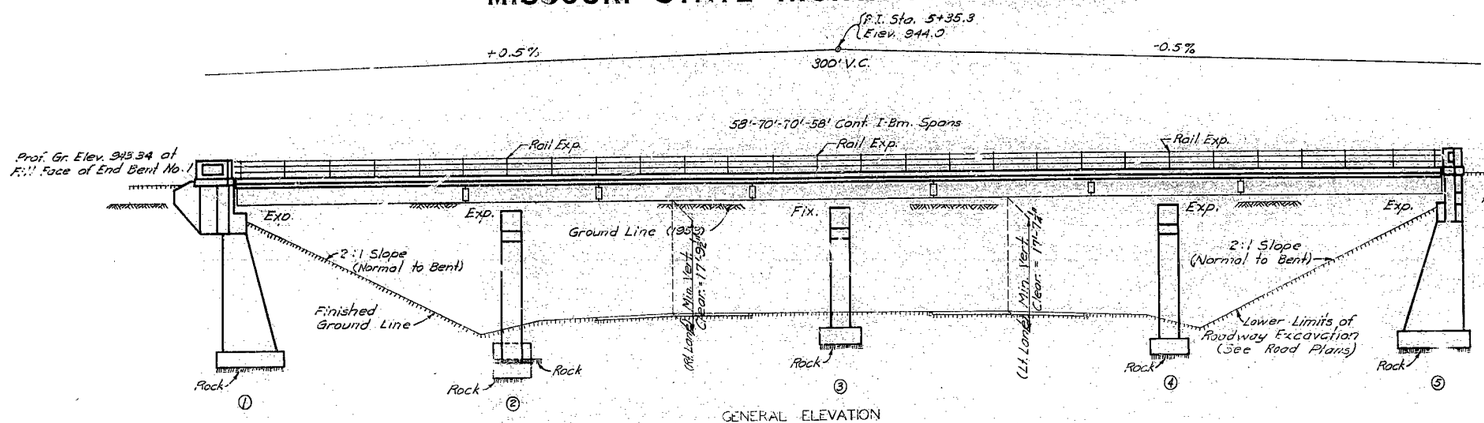
Assembled Aug. 1954 by M.H.P. & S.W.S.
Checked Sept. 1954 by C.S.A.

10

MISSOURI STATE HIGHWAY DEPARTMENT

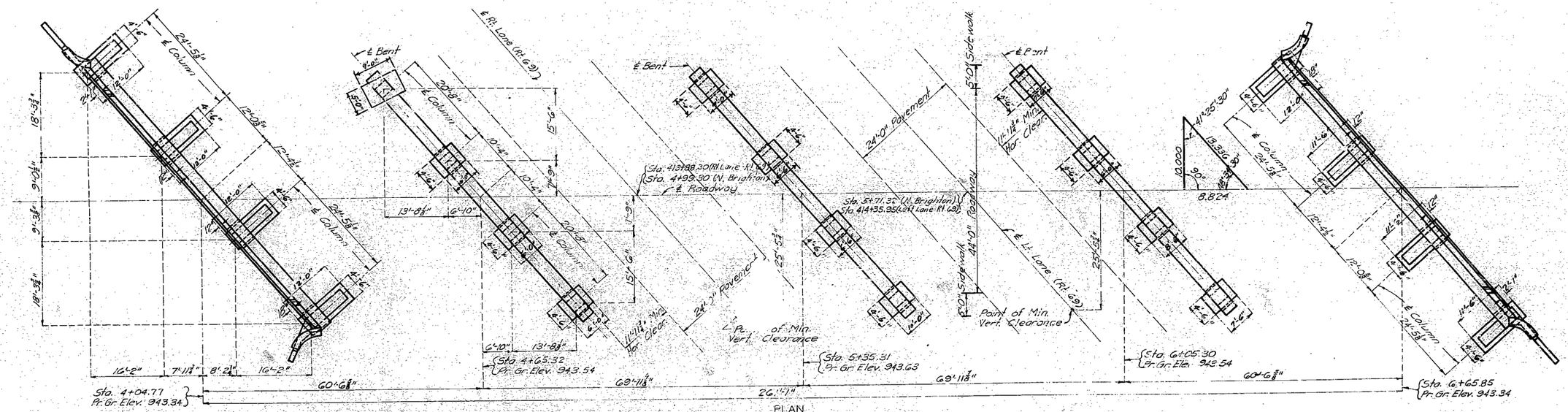
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U.I-35(7) (R.69)	19		

FINAL PLANS

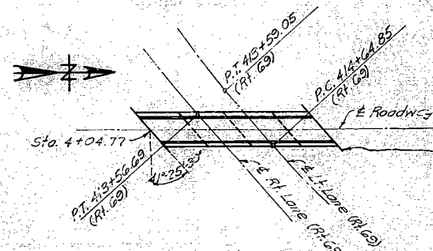


GENERAL ELEVATION

Note: All loose, shelly or disintegrated rock was removed and the ? lines plotted on hard, firm, undisturbed rock.



PLAN



LOCATION SKETCH

FINAL QUANTITIES

Item		Sub'str.	Superstr.	Total
Class 1 Excavation for Structures	Cu. Yds.	1001.5		1001.5
Class "B" Concrete	Cu. Yds.	411.2	321.7	732.9
Reinforcing Steel	Lbs.	56290	90,760	147,050
Fabricated Structural Steel	Lbs.		336,870	336,870
Steel Castings	Lbs.		11,270	11,270
Aluminum Alloy Handrail	Lin. Ft.		516	516
Wrought Iron Drains	Lbs.		2430	2430
6"ø 12 Gauge Metal Pipe	Lin. Ft.	170		170
Cont. Item Class 1 Excavation Below Plan Grade	Cu. Yds.	22.5		22.5
" " Foundation Test Holes	Ft.	161.0		161.0

Note: All excavation for bridge will be paid for as Class 1 Excavation for Structures.
Estimated quantities of Class 1 Excavation for Structures includes only amount of excavation below Roadway Excavation (See Special Provisions).
Concrete in end posts is included with substructure concrete.

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

GENERAL NOTES:

Design Specifications: A.A.S.H.O. - 1953
Loading: H 20-44
Structural Steel Stress: 18,000 #/□"
Reinforcing Steel Stress: 18,000 #/□"
Concrete, Class "B" Stress: 1000 #/□"
All concrete was Class "B" (Air-Entrained)
Rivets ⅞"ø, unless ¾"ø except as noted.
Field connections were riveted.

Where joint filler is specified on the plans it shall conform with the requirements for Gray Rubber Compound Joints as given in section 38-196(2) of the Standard Specifications.
For requirements on welding electrodes see Special Provisions.
Qualification of welding operators was required.
On the shop drawings, field contact surfaces of bolted field connections, 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 painting such surfaces is included in price bid for items painted.
A rubbed surface finish was required on all exposed surfaces of concrete end posts above top of curb.

F.M. Elev. 943.77 ▯ Top of Right Wing Abut. No. 1

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.
ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY
PROJECT NO. U.I-99(7) (RT. 69) **STA.** 4+04.77

CLAY **COUNTY**

SUBMITTED BY J.A. Williams, DISTRICT ENGINEER DATE 10/18/1954
APPROVED BY Roy M. Watts, CHIEF ENGINEER DATE 10/18/1954

FINISHED

STD. C-110 R3

I-655

Sheet No. 1A of 5 Sheets

FINISHED

FINAL PLANS

Designed June 1954 by H.J.K.
Drawn Aug. 1954 by M.H.P.
Checked Sept 1954 by C.S.A.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PRO., NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U.I.-99(7) (RT. 69)	19		

FINAL PLANS

DEVELOPED ELEVATION OF WING "A"

Note: Fill at end bents No. 1 and 5 was not carried above bottom of beam and wings until superstructure spans (1-2) and (4-5) were in place.

PART PLAN OF WING "A"

PLAN

ELEVATION

PLAN

TYPICAL DETAILS OF SAFETY CURB

DETAILS OF END BENTS NO. 1 & 5

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY

PROJECT NO. U.I.-99(7) (RT. 69) **STA.** 4+04.77

CLAY **COUNTY**

FINISHED

FINISHED

L-655

Drawn AUG. 1954 by K.R.W.

Checked Sept 1954 by C.S.A.

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

Sheet No. 3A of 5

FINISHED

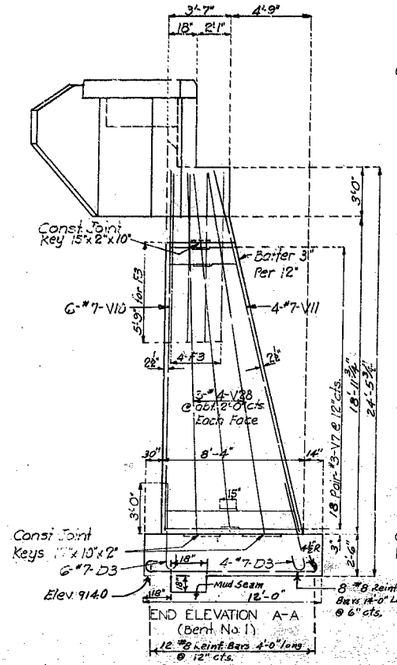
FINAL PLANS

69

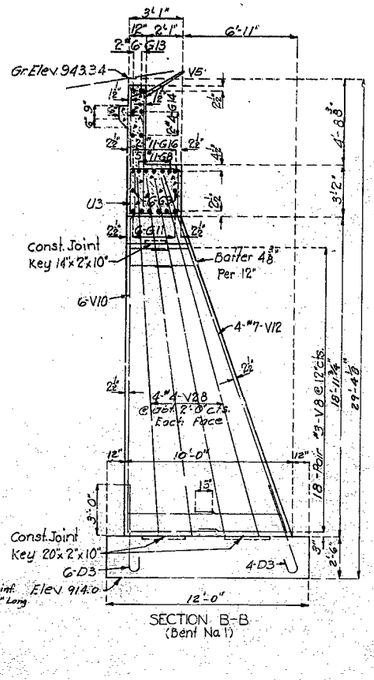
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U.I.-39(7) (RT. 69)	19		

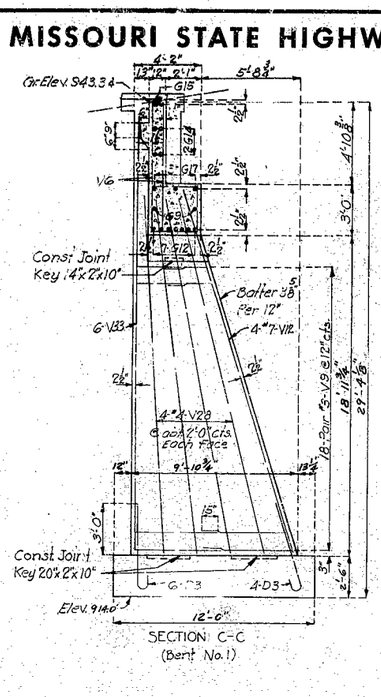
FINAL PLANS



END ELEVATION A-A
(Bent No. 1)



SECTION B-B
(Bent No. 1)



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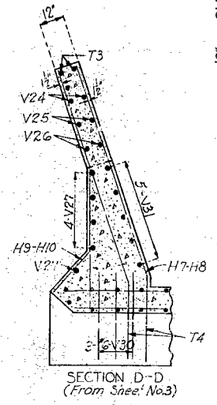
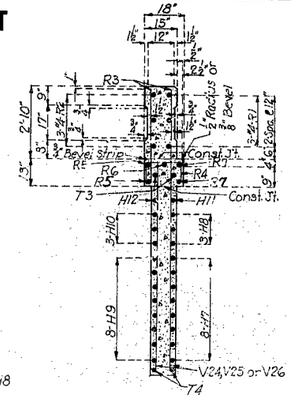
(Bent No. 1)

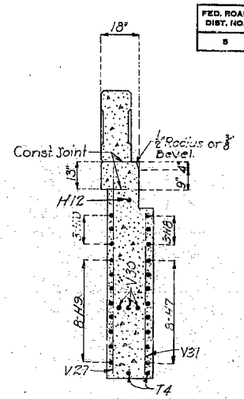


SECTION D-D
(From Sheet No. 3)

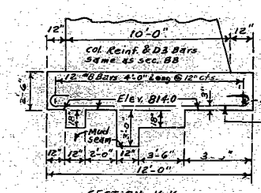
Note: Bend H7, H8 in field when necessary.



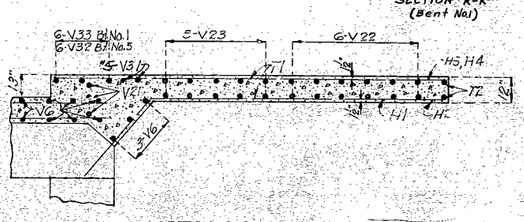
SECTION E-E
(From Sheet No. 3)



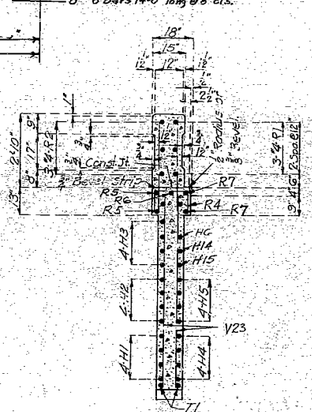
PART SECTION F-F
(From Sheet No. 3)



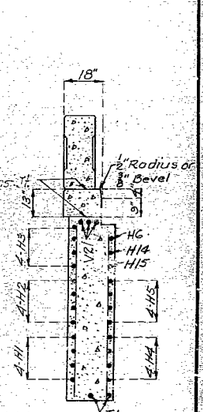
SECTION K-K
(Bent No. 1)



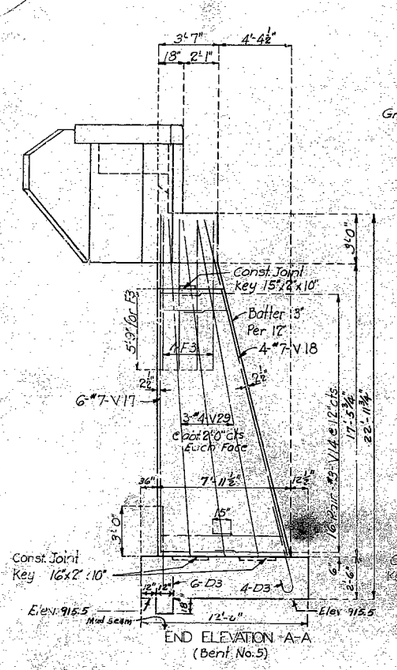
SECTION G-G
(From Sheet No. 3)



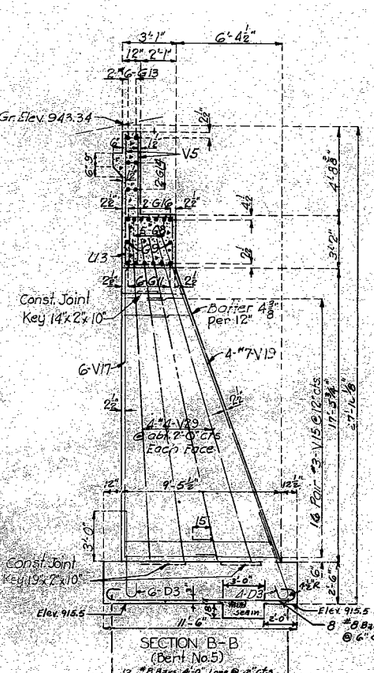
SECTION H-H
(From Sheet No. 3)



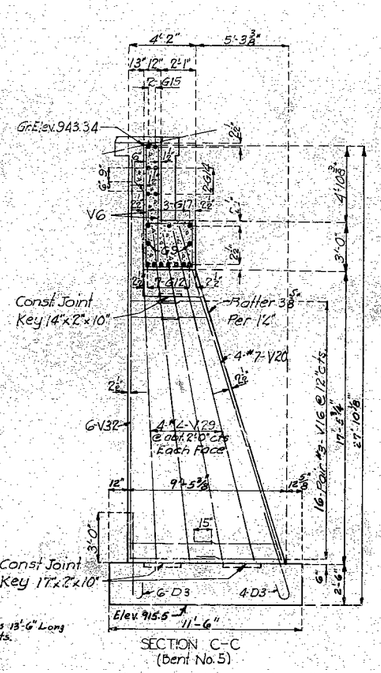
SECTION J-J
(From Sheet No. 3)



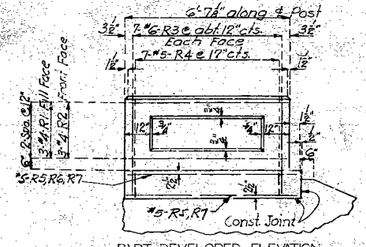
END ELEVATION A-A
(Bent No. 5)



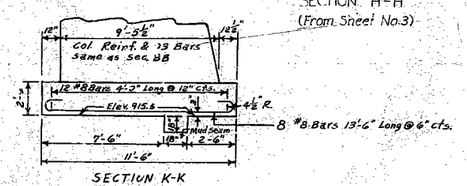
SECTION B-B
(Bent No. 5)



SECTION C-C
(Bent No. 5)



PART DEVELOPED ELEVATION OF WING "B"



SECTION K-K
(Bent No. 5)

BRIDGE OVER RT & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY

PROJECT NO. U.I.-39(7) (RT. 69) **STA.** 4+04.77

CLAY **COUNTY**

FINISHED

FINISHED

L-655

Drawn Aug. 1954 by K.R.W.

Checked Sept 1954 by C.S.A.

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

Sheet No. 4A of 5 FINISHED

FINAL PLANS

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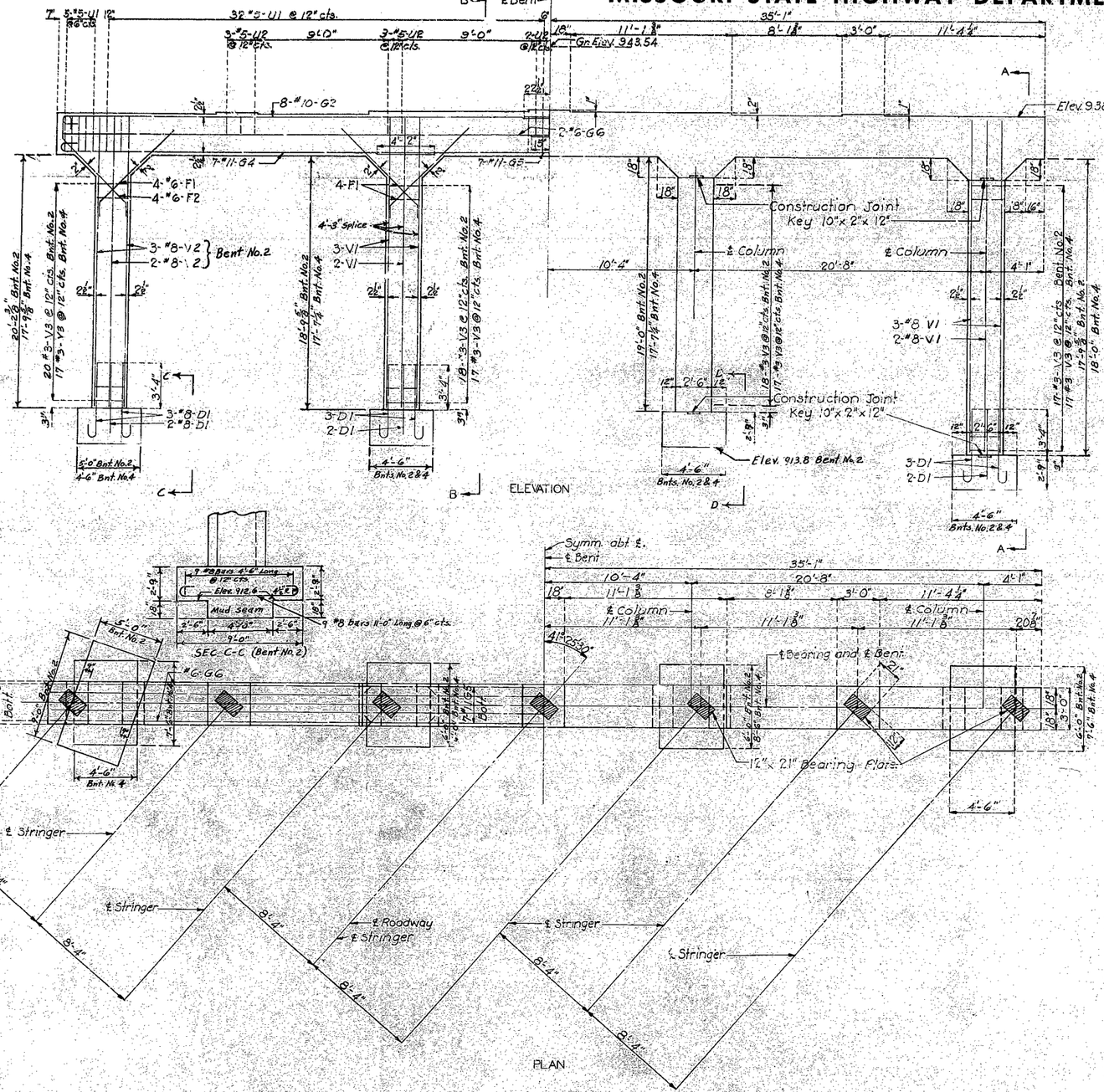
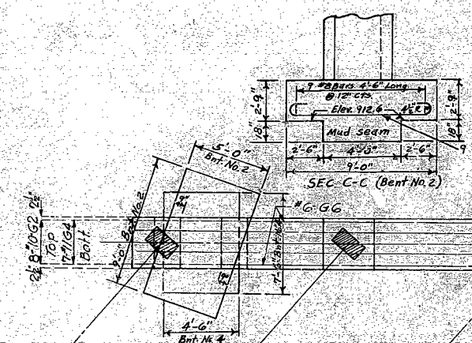
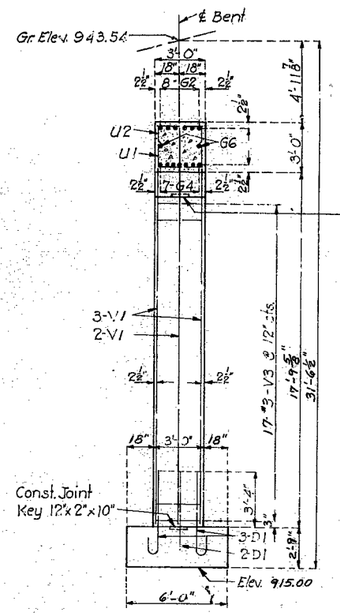
MISSOURI STATE HIGHWAY DEPARTMENT

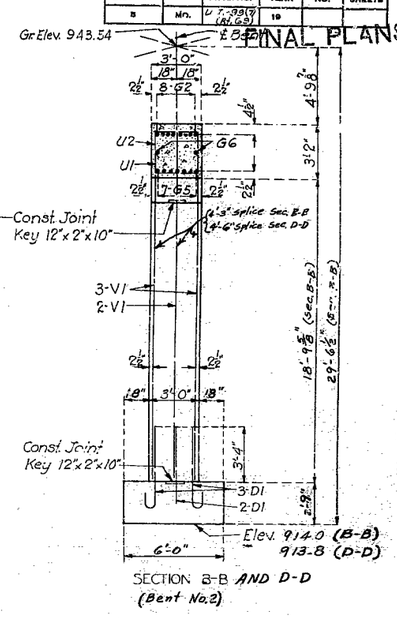
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	U 7-99(7) (AI, G8)	19		

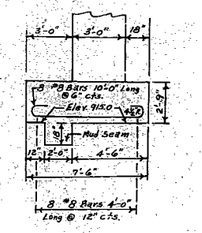
FINAL PLANS

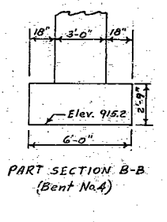


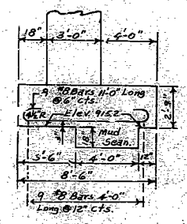


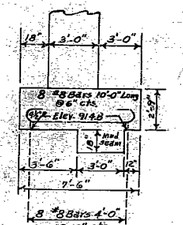












DETAILS OF INTERMEDIATE BENTS NO. 2 & 4

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES N.E OF NORTH KANSAS CITY

PROJECT NO. UI-99(7) RT. 69) **STA.** 4+04.77

CLAY **COUNTY** FINISHED

Drawn AUG. 1954 by K.R.W.

Checked Sept. 1954 by C.S.A.

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

Sheet No. 5A of 5. FINISHED

FINISHED

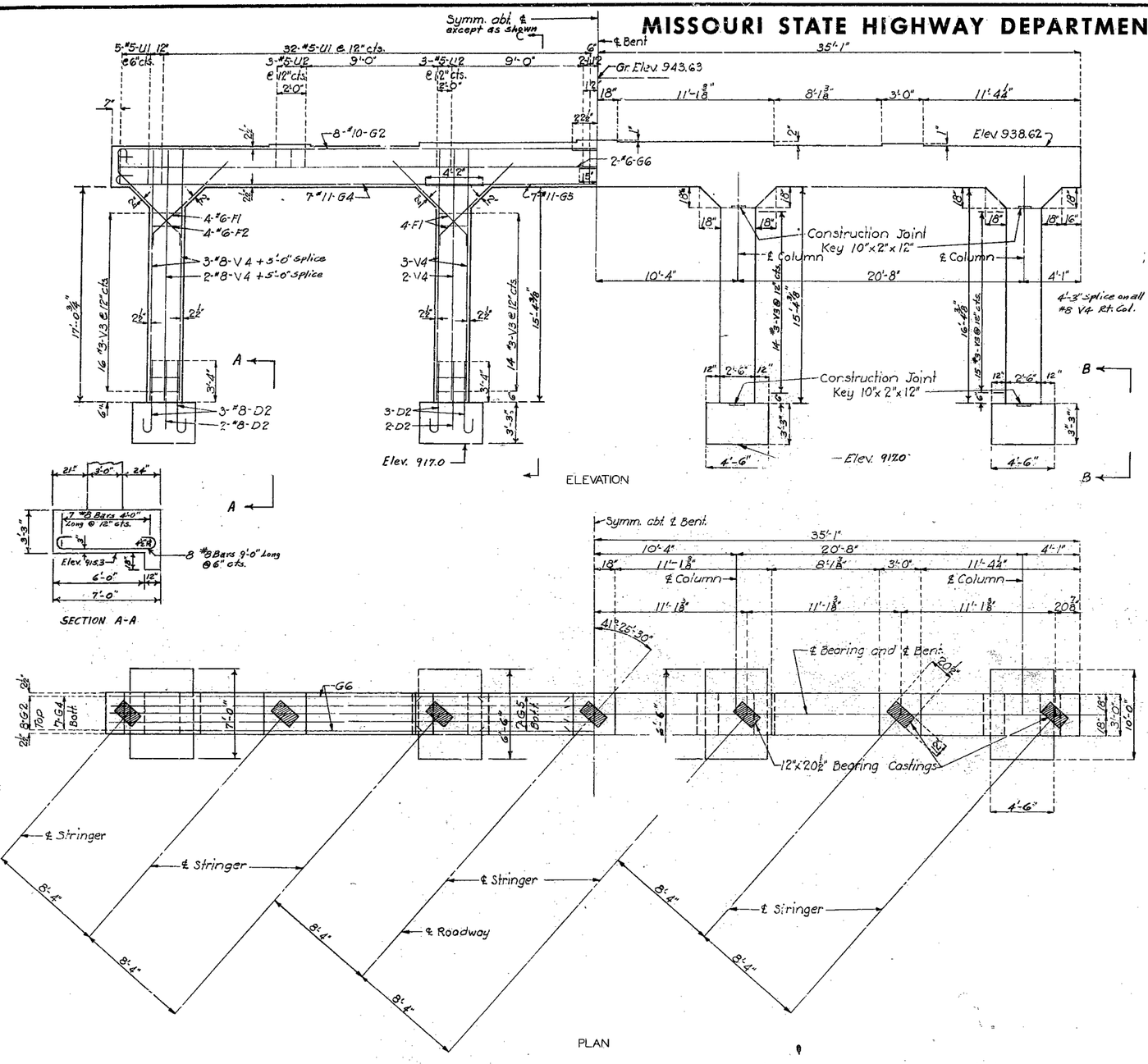
L-655

FINAL PLANS

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	MO.	U.I.-99(7) (RT.69)	19		

FINAL PLANS



DETAILS OF INTERMEDIATE BENT NO. 3

BRIDGE OVER RT. & LT. LANES (RT. 69)

STATE ROAD FROM ANTIOCH ROAD IN NORTH KANSAS CITY N.E.

ABOUT 4.5 MILES N.E. OF NORTH KANSAS CITY

PROJECT NO. U.I.-99(7) (RT.69) **STA.** 4+04.77

CLAY **COUNTY**

FINISHED

FINISHED

Drawn AUG. 1954 **by** K.R.W.

Checked Sept. 1954 **by** C.S.A.

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

Sheet No. 6A **of** 5 Sheets

L-655

FINAL PLANS

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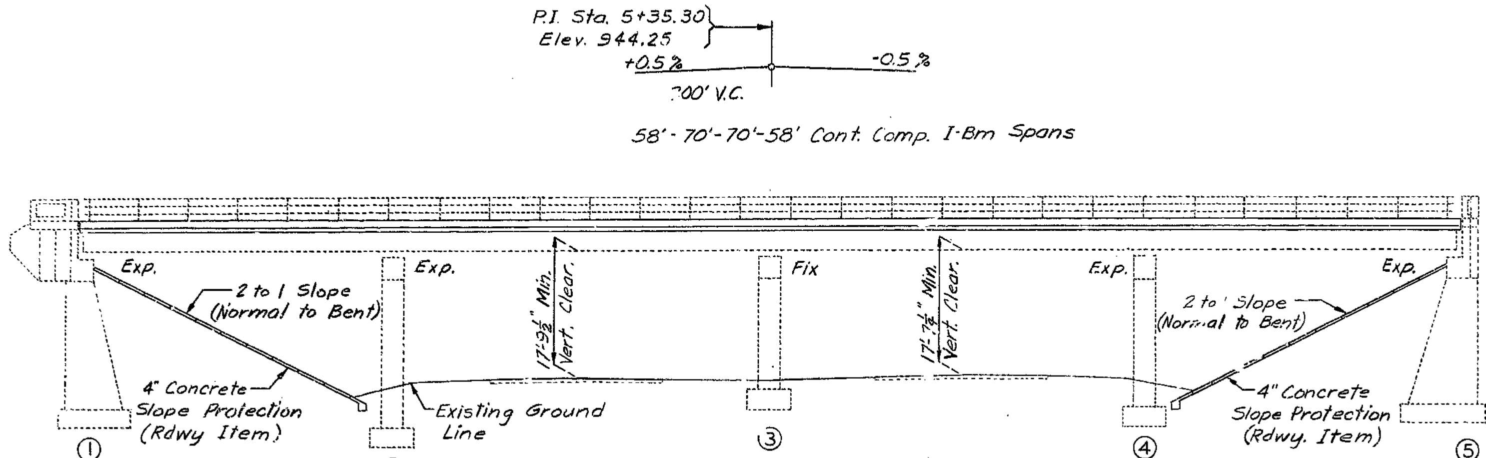
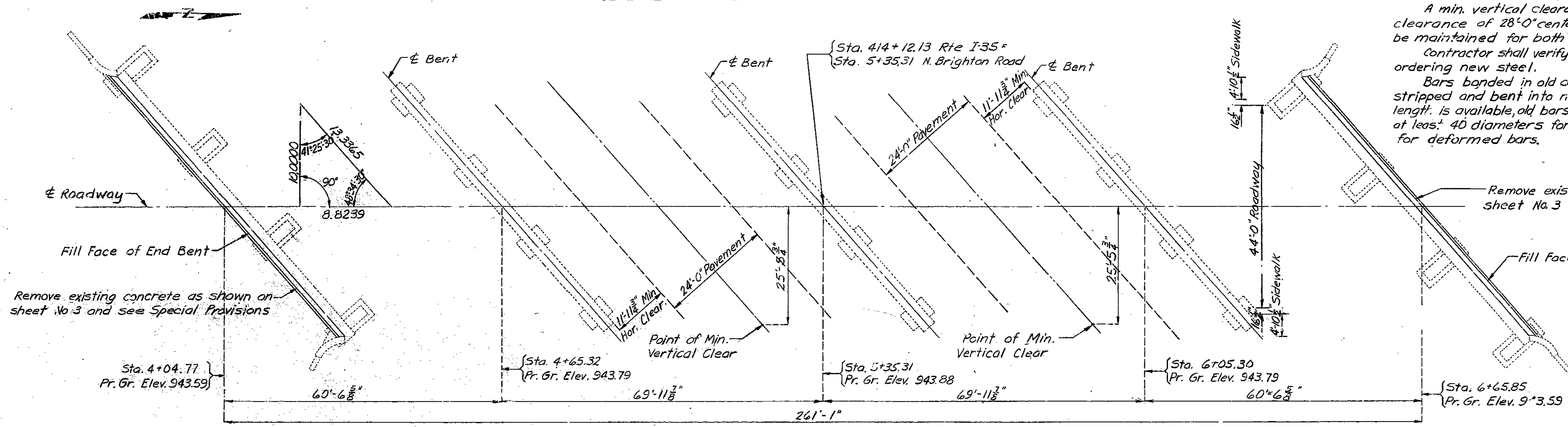
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		9	8	



GENERAL ELEVATION



PLAN

GENERAL NOTES:

Design Specifications : A.A.S.H.T.O. - 1973
Design Loading : H20-44 No Future Wearing Surface
Design Unit Stress :
Class B1 concrete (Superstructure) fc = 1600 psi
Reinforcing Steel fs = 20,000 psi
Structural Carbon Steel fs = 20,000 psi

Paint : System A or B by contractor in accordance with Std Spec. 712.12 or 712.13 as applicable. Color of final coat shall be aluminum.

Field connections, High Strength Bolts ¾" ∅, holes 13/16" ∅ except as noted.
Minimum clearance to reinforcing steel shall be 1½" unless otherwise shown.
All concrete and reinforcement is included with superstructure quantities.
Light dotted lines indicate old work. Heavy lines indicate new work.
A min. vertical clearance of 14'-0" and a min. lateral clearance of 28'-0" centered on existing roadway shall be maintained for both right and left lanes of I-35.
Contractor shall verify all dimensions in field before ordering new steel.
Bars bonded in old concrete not removed shall be cleanly stripped and bent 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.

ESTIMATED QUANTITIES		
ITEM		TOTAL
Removal of Existing Bridge Deck	Sq. ft.	14,989
Asphalt Cement (Asphaltic Concrete)	Ton	7.9
Mineral Aggregate (Asph. Conc.)(Special Mix)	Ton	148
Class B1 concrete	Cu. yd.	455.2
Steel Reinf. Elastomeric Expansion Jt. Seal (2.0")	Lin. ft.	118
Preformed Compression Exp. Jt. Seal (3.0 in.)	Lin. ft.	26
Reinforcing Steel	lb.	125110
Conduit System on Structure	Lump Sum	1
Bridge Deck Waterproofing (Liquid)	Sq. yd.	1282
Fabricated Structural Carbon Steel	lb.	7800
Painting (System A or B) Aluminum	Lump Sum	1
Handrail Replacement	Lump Sum	1
Cleaning Existing Bearings	Each	35
Special Work	Lump Sum	1

Concrete for backwall repair at Bents 1 & 5 is included in the quantities for Class B1 Concrete. The Contractor will be permitted to furnish Class B or B1 Concrete for end bent repair.

B.M. ELEV. 943.79 CHISELED □ ON TOP RT. WINGWALL BENT # 1 TAKEN FROM FINAL BR. PLANS DATED 1954.

BRIDGE : NORTH BRIGHTON ROAD UNDERPASS

STATE ROAD : INTERSTATE ROUTE 35
IN KANSAS CITY

PROJECT NO. I-35-1(104) **STA.** 414+12.13

JOB NO. 4-I-35-72 **RTE.** I-35

CLAY **COUNTY**

DATE 11/3/76

STD. 611.60
STD. 706.30
L-655 R

DESIGNED FEB 1975
DETAILED APR 1975
CHECKED JUNE 1975

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

Sheet No. 1 of 10.

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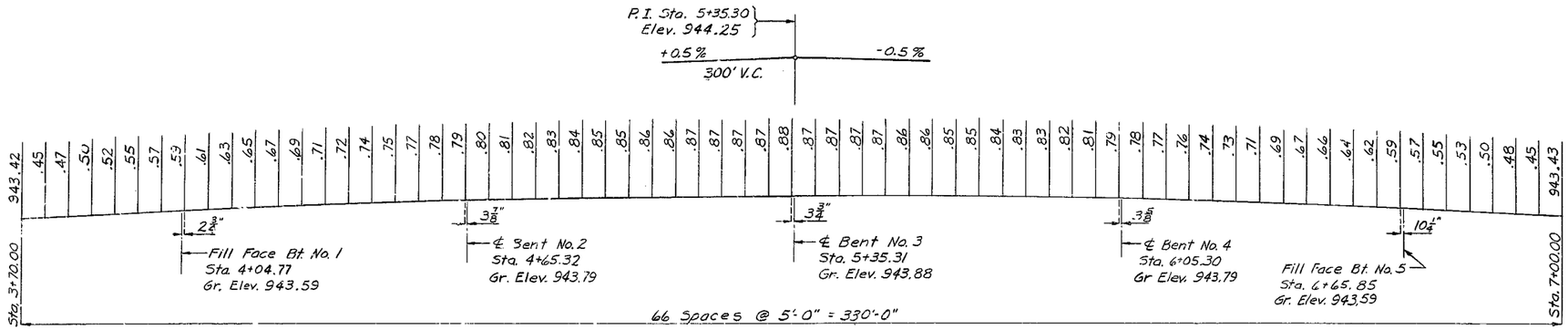
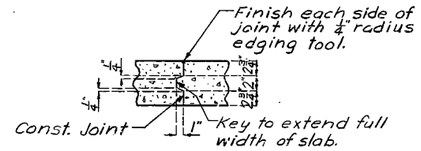
MISSOURI STATE HIGHWAY DEPARTMENT

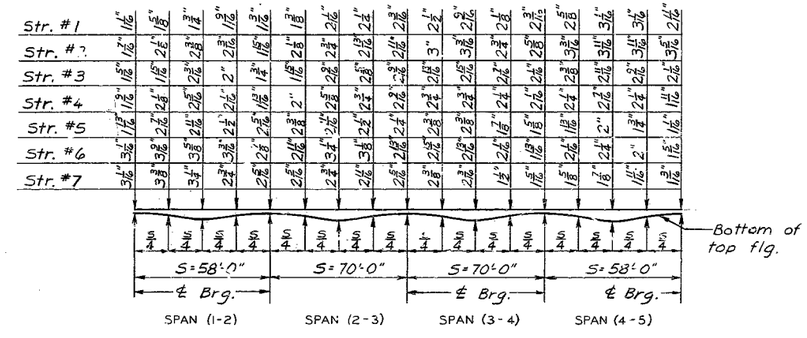
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		75	9	



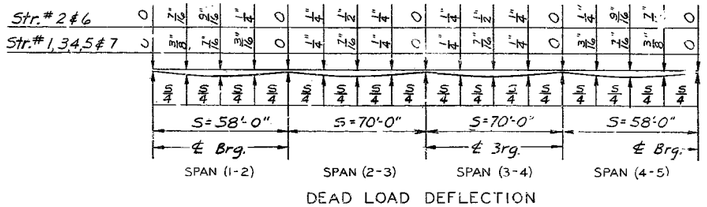
PROFILE GRADE ELEVATIONS



SECTION A-A

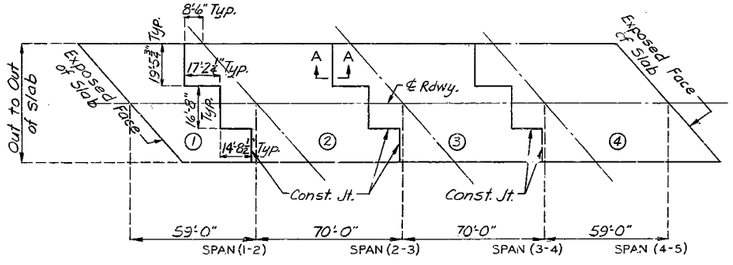


THEORETICAL SLAB HAUNCHING DIAGRAM



DEAD LOAD DEFLECTION

Note: 13% of dead load deflection due to weight of structural steel



	SEQUENCE OF POURS			
	DIRECTION			
BASIC SEQUENCE	1	2	3	4
	END TO 2	1 TO 3	2 TO 4	3 TO END
ALTERNATE "A" POURS	1 + 2		3	4
	END TO 3		2 TO 4	3 TO END
ALTERNATE "B" POURS	1 + 2		3 + 4	
	END TO 3		2 TO END	
ALTERNATE "C" POURS	1 + 2 + 3 + 4			
	END TO END			

Note: The contractor shall pour and satisfactorily finish the slab pours at a rate of not less than 50 cubic yards per hour unless he elects to use an approved retarder to retard the set of the concrete to 2.5 hours in which case he may reduce his pouring and finishing rate to not less than 31 cubic yards per hour.

SLAB POURING SEQUENCE

1854

DETAILED APR 1975
CHECKED JUNE 1975

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

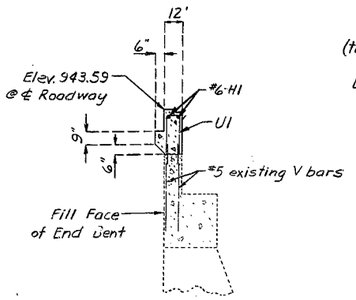
Sheet No. 2 of 10

CLAY COUNTY

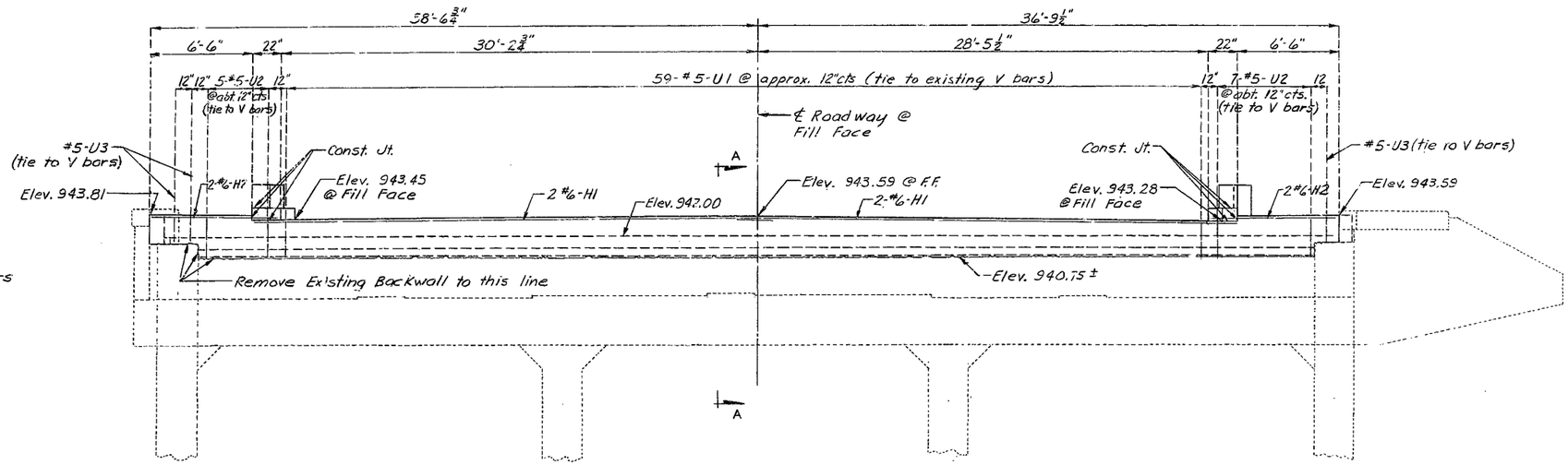
L-655R

MISSOURI STATE HIGHWAY DEPARTMENT

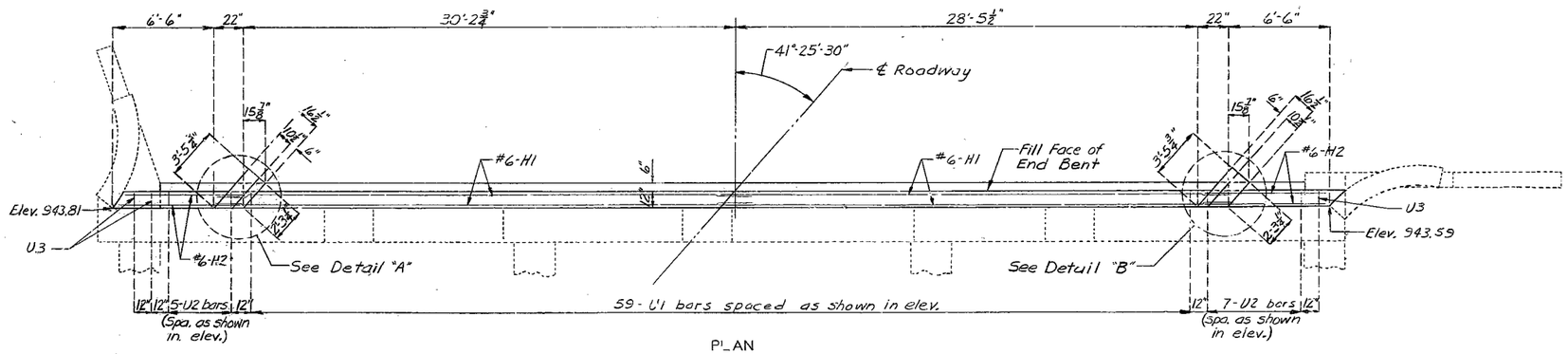
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	10	



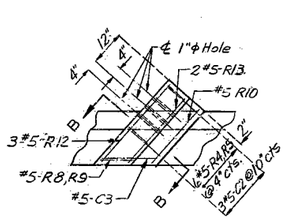
SECTION A-A



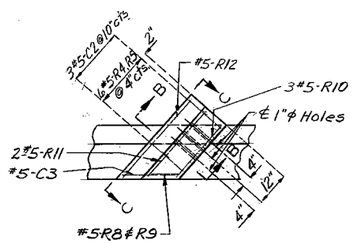
ELEVATION



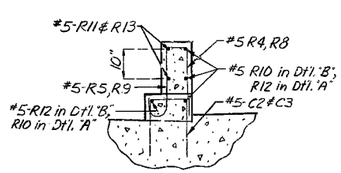
PLAN



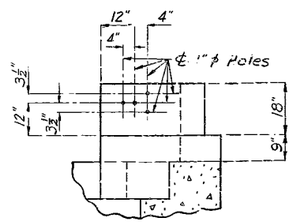
DETAIL "A"



DETAIL "B"



SECTION B-B



ELEVATION C-C

DETAILED MAR 1975
CHECKED AUG. 1975

DETAILS OF END BENTS NO 1 & 5

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

Sheet No. 3 of 10

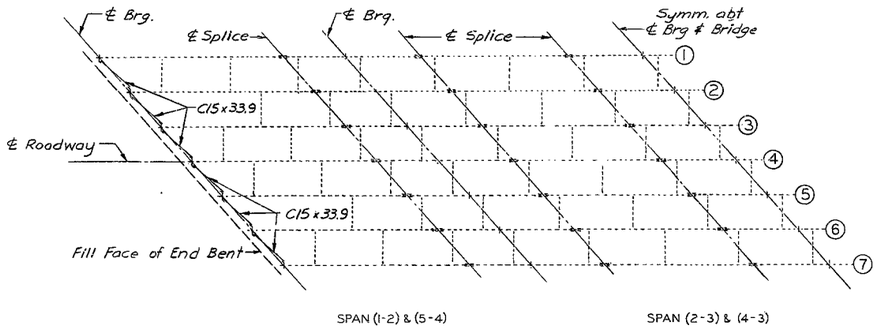
CLAY **COUNTY**

L-655 R

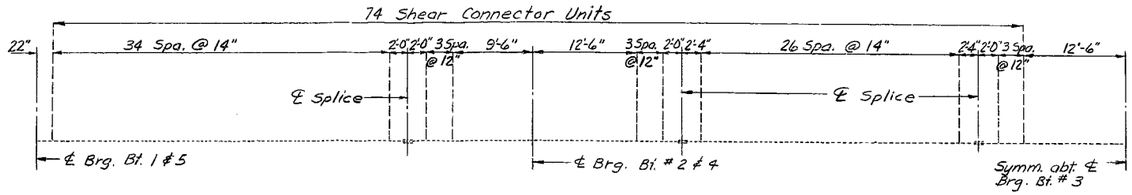
5
5
10

MISSOURI STATE HIGHWAY DEPARTMENT

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

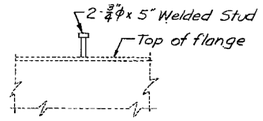


PLAN OF STRUCTURAL STEEL
SHOWING GDR. NUMBERING

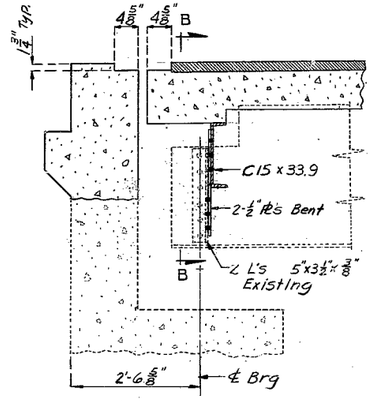


PLAN OF SHEAR CONNECTOR SPACING
TYP. ALL GIRDERS

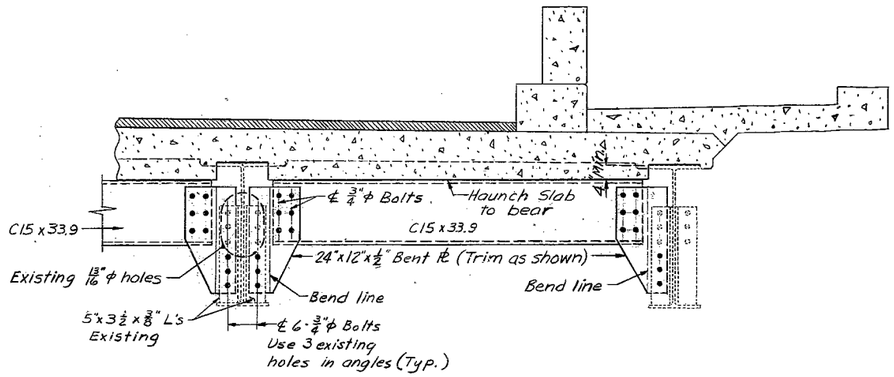
Note: Weight of 1560 lbs for Shear Connectors is included in the weight of fabricated structural carbon steel.



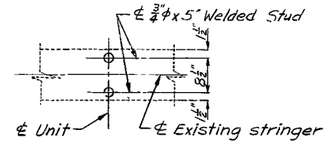
ELEVATION



LONGITUDINAL SECTION NEAR
END BENT

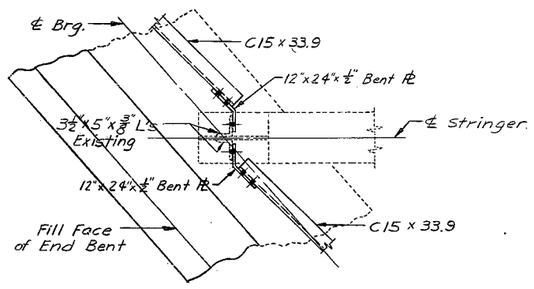


PART SECTION B-B
SHOWING END DIAPHRAGM



PLAN OF STUD CONN.

DETAIL OF SHEAR CONNECTORS



PLAN OF END DIAPHRAGM
CONNECTION PLATE

150

DETAILED MAR 1975
CHECKED JUNE 1975

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

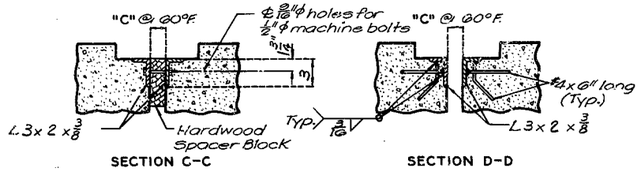
Sheet No. 4 of 10

CLAY **COUNTY**

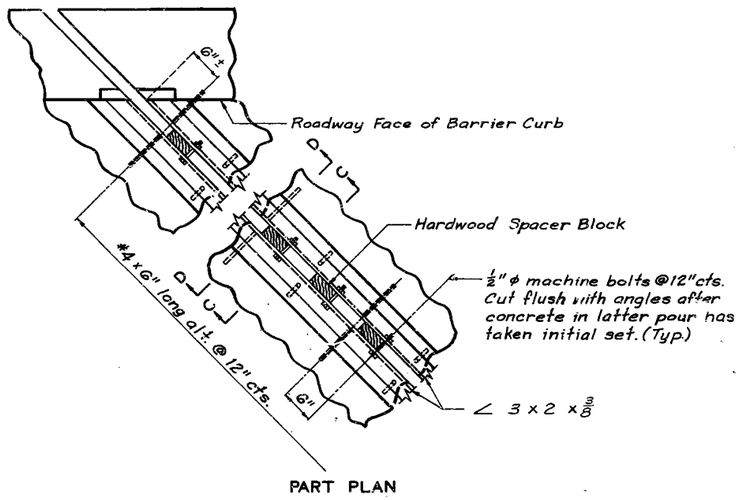
L-655 R

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	12	



SECTION C-C SECTION D-D



PART PLAN

NOTES FOR ARMOR JOINT ANGLES:

ARMOR JOINT ANGLE FIELD SPLICES MADE BY AN EXPERIENCED WELDER ARE PERMITTED FOR SECTIONS OVER 50 FEET., THE ARMOR JOINT ANGLES SHALL BE BENT TO CONFORM TO CROWN AND GRADE OF ROADWAY.

NO. 4 BARS FOR ARMOR JOINT ANGLES SHALL BE STRUCTURAL GRADE.

APPROVED STUD WELDED ANCHORS OR DEFORMED BAR ANCHORS (ASTM A496) MAY BE USED IN LIEU OF NO. 4 BARS SHOWN.

PAYMENT FOR FURNISHING, PAINTING AND PLACING STRUCTURAL STEEL FOR ARMOR JOINT ANGLES SHALL BE INCLUDED IN UNIT PRICE BID FOR OTHER ITEMS.

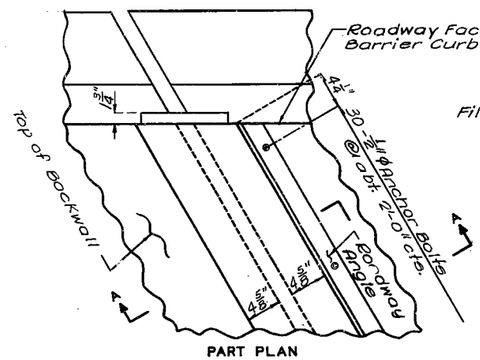
ARMOR JOINT ANGLES SHOULD BE FIELD ADJUSTED WITH METAL SHIMS (1/8 x 2 x 3) PLACED BETWEEN ONE SIDE OF ANGLE AND HARDWOOD SPACER AT EACH BOLT, AS REQUIRED FOR TEMPERATURE CORRECTION.

DETAILS OF ARMOR JOINT ANGLES

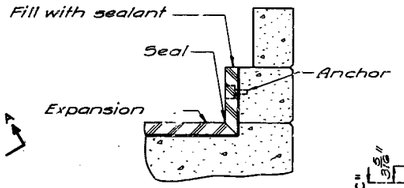
TABLE OF VARIABLE DIMENSIONS			
TEMPERATURE °F	DIMENSION "A"	DIMENSION "B"	DIMENSION "C" (MAXIMUM)
110	7-5/8"	9-3/8"	1"
90	8"	9-3/4"	1-3/8"
70	8-1/4"	10"	1-5/8"
60	8-1/2"	10-1/4"	1-7/8"
50	8-5/8"	10-3/8"	2"
40	8-3/4"	10-1/2"	2-1/8"
30	9"	10-3/4"	2-3/8"
10	9-1/4"	11"	2-5/8"
-10	9-5/8"	11-3/8"	3"

JOINT SEAL FOR 2" MOVEMENT.

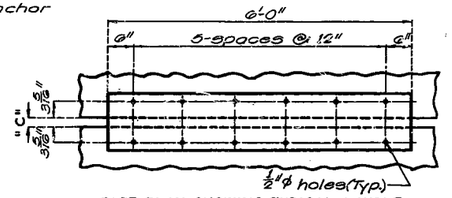
NOTE: *Plan dimensions are based on installation at 60°F. Expansion joint width shall be adjusted during installation for compliance with the above table. See Special Provisions.*



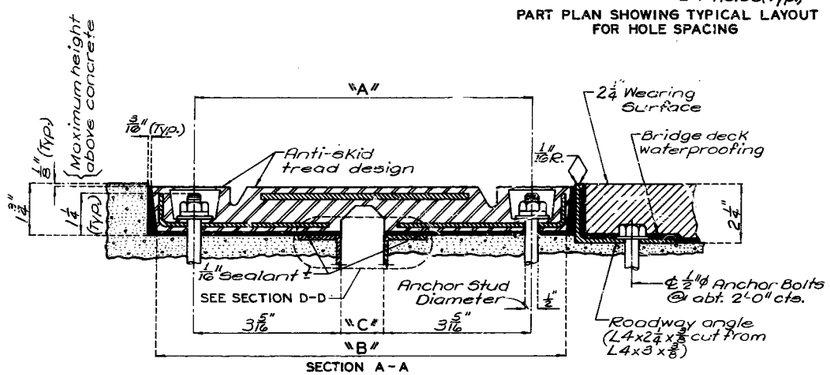
PART PLAN



SECTION THRU CURB



PART PLAN SHOWING TYPICAL LAYOUT FOR HOLE SPACING



SECTION A-A

NOTES FOR STEEL REINFORCED ELASTOMERIC EXPANSION JOINT SEAL:

THE EXPANSION JOINT SHALL BE SET, ANCHORED, BONDED AND SEALED AS RECOMMENDED BY THE MANUFACTURER AND AS SET FORTH IN THE SPECIAL PROVISIONS. ANCHORS SHALL BE CONE EXPANSION TYPE. PAYMENT FOR FURNISHING AND INSTALLING THE EXPANSION JOINT, INCLUDING ANCHOR BOLT ASSEMBLY, SHALL BE MADE UNDER UNIT PRICE BID PER LINEAL FOOT OF JOINT.

ACCURATELY LOCATE THE HOLE SPACING FOR 1/2" STUD ANCHORS (CONE EXPANSION TYPE), ON BOTH SIDES OF THE EXPANSION VOID AT A DISTANCE OF 3-5/16" FROM THE EDGE OF THE CONCRETE. LAYOUT TRANSVERSE HOLE SPACING IN ACCORDANCE WITH THE SHOP DRAWINGS AND THE TYPICAL LAYOUT AS SHOWN ON PLANS. INSURE THAT THE HOLES ARE DIRECTLY OPPOSITE EACH OTHER (SQUARE). DRILL HOLES 2-1/4" DEEP FOR 1/2" STUD ANCHORS.

HOLES SHALL NOT BE DRILLED NOR ANCHOR BOLTS SET UNTIL THE CONCRETE IS AT LEAST 7 DAYS OLD.

TIGHTEN ALL NUTS TO 40 FOOT POUNDS. RETIGHTEN TO 40 FOOT POUNDS A MINIMUM OF 30 MINUTES AFTER INITIAL TIGHTENING.

WIRE BRUSH BOLT CAVITY AND COAT WITH SEALANT. FILL CAVITY WITH SEALANT TO A DEPTH OF 1/2" AND PUSH PLUG DOWN TO SNAP LOCK. SCRAPE OFF ALL EXCESS SEALANT.

ROADWAY ANGLE NOTES:

ROADWAY ANGLE FIELD SPLICES MADE BY AN EXPERIENCED WELDER ARE PERMITTED FOR SECTIONS OVER 50 FEET. THE ROADWAY ANGLES SHALL BE BENT TO CONFORM TO CROWN AND GRADE OF ROADWAY.

PAYMENT FOR FURNISHING, PAINTING AND PLACING STRUCTURAL STEEL FOR ROADWAY ANGLES SHALL BE INCLUDED IN UNIT PRICE BID FOR OTHER ITEMS.

DETAILS OF STEEL REINFORCED ELASTOMERIC EXPANSION JOINT SEAL AT BENTS NO. 1 & 5

STD. 5.7.2	REVISED
DEC. 1974	JAN. 1976

DETAILED APR. 1975
CHECKED JUNE 1975

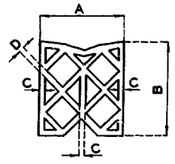
Note: This drawing is not to scale. Follow dimensions.

CLAY **COUNTY**

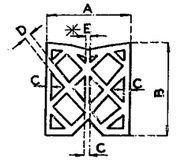
L-655 R

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	13	

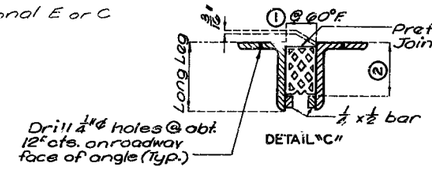


TYPE A1



TYPE B3

*Optional E or C



DETAIL "C"

GENERAL NOTES:

Structural Steel for Expansion Device shall be fabricated in one section except that when the length is over 50 feet, splicing is permissible. The expansion device shall be bent to conform to crown and grade of roadway.
No. 5 bars for expansion device shall be structural grade.
Approved stud welded anchors or deformed bar anchors (ASTM A496) may be used in lieu of #5 bars shown.
Preformed Compression Joint Seal shall be installed before curbs are poured.
3/8" Curb plate shall be installed with curb.
Plan dimensions are based on installation at 60°F. Expansion joint width shall be adjusted during installation for compliance with tables.
See Special Provisions for the requirements of Compression Joint Seal.

TABLE OF TRANSVERSE SEAL TOLERANCES (INCHES)

TYPE	"A" (WIDTH)	"B" (HEIGHT)	"C" (SHELL)	"D" (WEBS)	"E" (B3 ONLY) (SMALL WEBS)
A1 OR B3	2.500 +.250 −.000	2.750 +.125 −.125	0.187 +.046 −.015	0.093 +.031 −.015	0.062 +.031 −.031
A1 OR B3	3.000 +.250 −.000	3.406 +.187 −.187	0.187 +.046 −.015	0.125 +.046 −.015	0.075 +.046 −.031
A1 OR B3	3.500 +.250 −.000	3.500 +.187 −.187	0.187 +.046 −.015	0.125 +.046 −.015	0.097 +.046 −.031
A1 OR B3	4.000 +.312 −.000	4.718 +.250 −.250	A1: 0.250 +.046 −.031 / B3: 0.235 +.046 −.031	0.187 +.046 −.015	0.111 +.046 −.031

TABLE OF TRANSVERSE SEALS & ARMOR ANGLES

TYPE	GROOVE SIZE AT 60°F. ①	GROOVE SIZE AT 60°F. ②	SEAL SIZE WIDTH	SEAL SIZE HEIGHT	ANGLE SIZE
A1 OR B3	1 3/8"	4"	2 1/2"	2 3/4"	5 x 3 x 3/8
A1 OR B3	1 7/8"	4"	3"	3 13/32"	5 x 3 1/2 x 3/8
A1 OR B3	2 1/4"	5 1/8"	3 1/2"	3 1/2"	6 x 3 1/2 x 3/8
A1 OR B3	2 3/8"	6 3/8"	4"	4 23/32"	8 x 4 x 7/16

{ Use for left & right sidewalk @ bents #1 & 5

TABLE OF LONGITUDINAL SEALS

TYPE	GROOVE SIZE AT 60°F. WIDTH	GROOVE SIZE AT 60°F. HEIGHT	SEAL SIZE WIDTH	SEAL SIZE HEIGHT
A1 OR B3	1 5/16"	2 3/4"	2"	2 1/16"

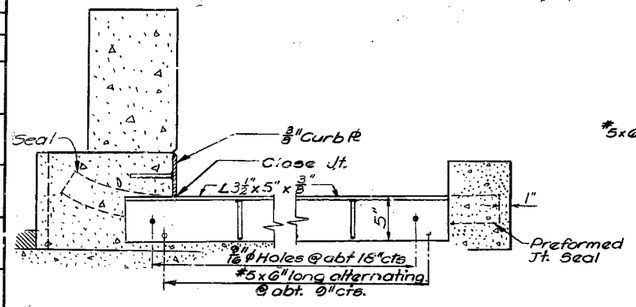
Armor angles for longitudinal seals will not be used unless specified.

TABLE OF LONGITUDINAL SEAL TOLERANCES (INCHES)

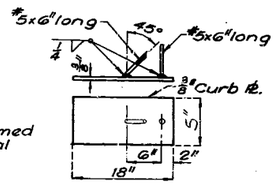
TYPE	"A" (WIDTH)	"B" (HEIGHT)	"C" (SHELL)	"D" (WEBS)
A1 OR B3	2.000 +.187 −.000	2.0625 +.125 −.125	0.125 +.030 −.015	0.094 +.030 −.015

TABLE OF GROOVE SIZE "①" (INSTALLATION DIMENSIONS)

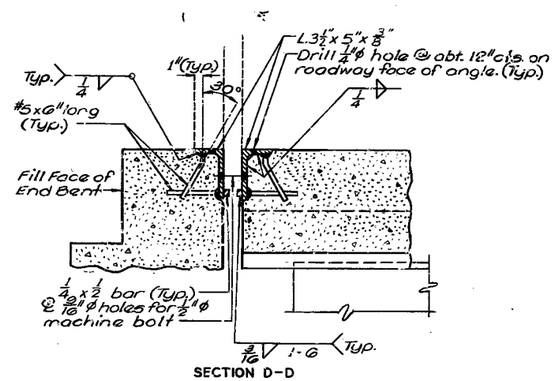
TEMP (°F.)	SEAL WIDTHS: CONCRETE STRUCTURES 2 1/2"	3"	3 1/2"	4"	STEEL STRUCTURES 2 1/2"	3"	3 1/2"	4"
−10°	−	−	−	−	2 1/8"	2 5/8"	3"	3 3/8"
0°	2 1/8"	2 5/8"	3"	3 3/8"	2"	2 1/2"	2 7/8"	3 1/4"
+20°	1 7/8"	2 1/4"	2 3/4"	3 1/8"	1 7/8"	2 1/4"	2 5/8"	3"
+40°	1 3/4"	2 1/8"	2 1/2"	2 7/8"	1 3/4"	2 1/8"	2 1/2"	2 7/8"
+60°	1 5/8"	1 7/8"	2 1/4"	2 5/8"	1 5/8"	1 7/8"	2 1/4"	2 5/8"
+80°	1 3/8"	1 3/4"	2"	2 1/4"	1 3/8"	1 3/4"	2"	2 1/4"
+100°	1 1/4"	1 1/2"	1 3/4"	2"	1 1/4"	1 5/8"	1 7/8"	2 1/8"
+110°	1 1/8"	1 3/8"	1 5/8"	1 7/8"	1 1/4"	1 1/2"	1 3/4"	2"
+120°	−	−	−	−	1 1/8"	1 3/8"	1 5/8"	1 7/8"



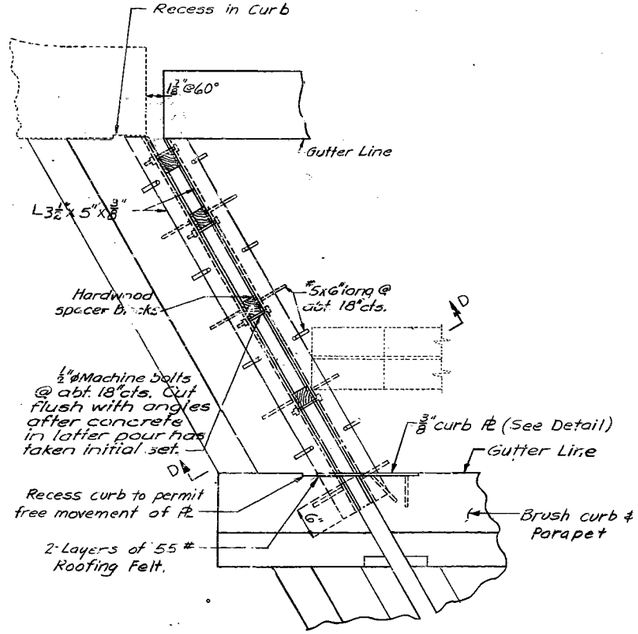
SECTION THRU SIDEWALK



CURB PLATE DETAIL



SECTION D-D



PLAN

DETAILS OF EXPANSION DEVICE AT SIDEWALK

STD. PCJ75 OCT. 1973 | REVISED FEB. 1975

DETAILED APR 1975
CHECKED JUNE 1975

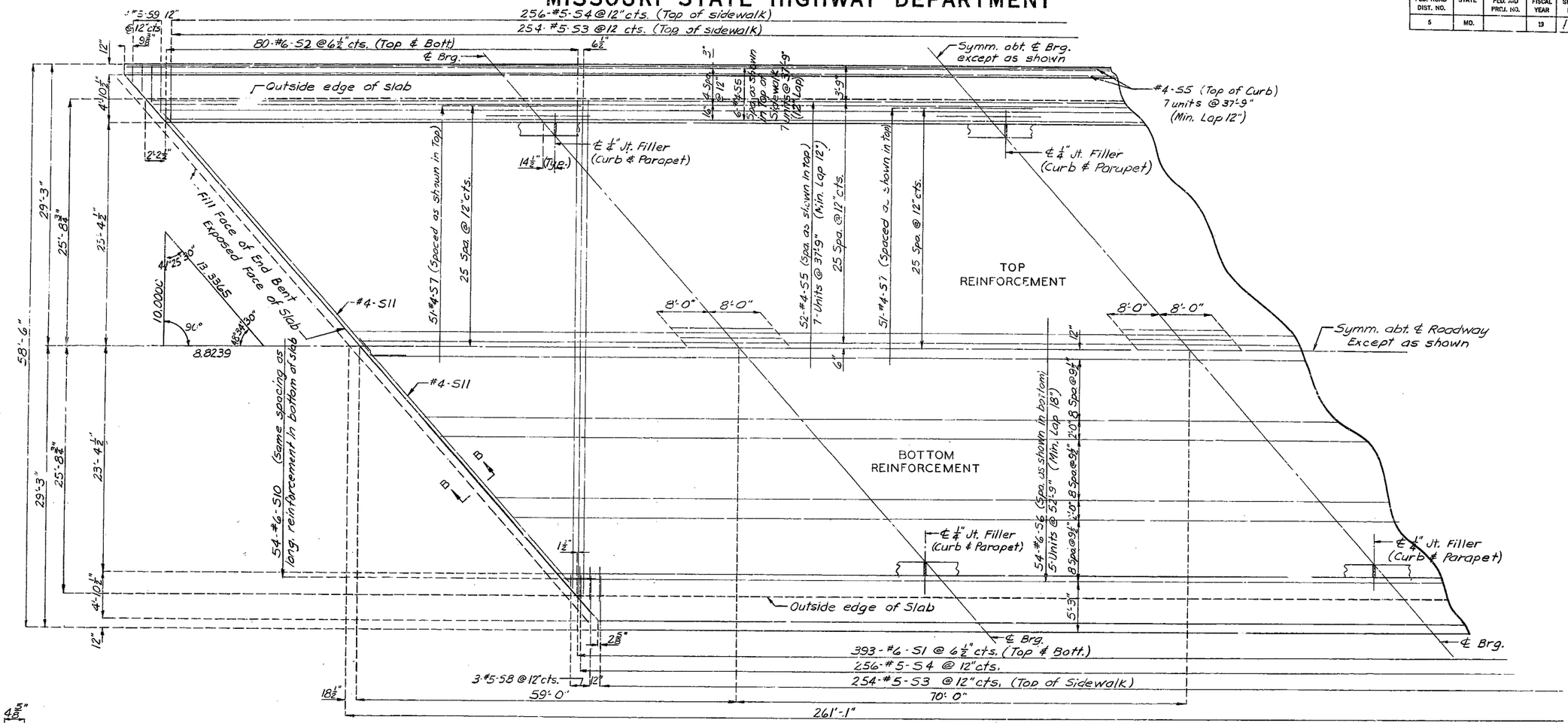
Note: This drawing is not to scale. Follow dimensions.

CLAY COUNTY

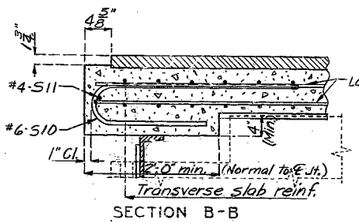
L-655 R

MISSOURI STATE HIGHWAY DEPARTMENT

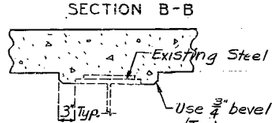
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		13	14	



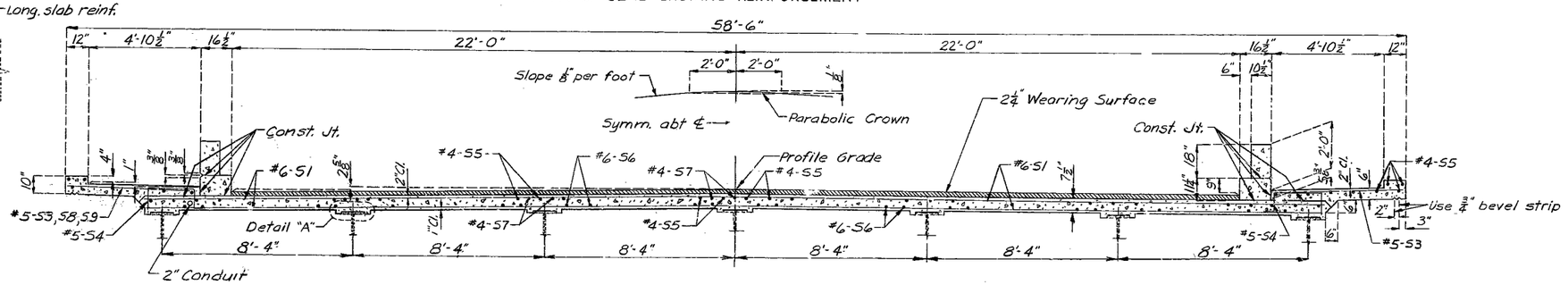
PLAN OF SLAB SHOWING REINFORCEMENT



SECTION B-B



DETAIL "A"



HALF SECTION NEAR INT. BENT

HALF SECTION NEAR ℄ SPAN

DETAILED MAR 1975
CHECKED JUNE 1975

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

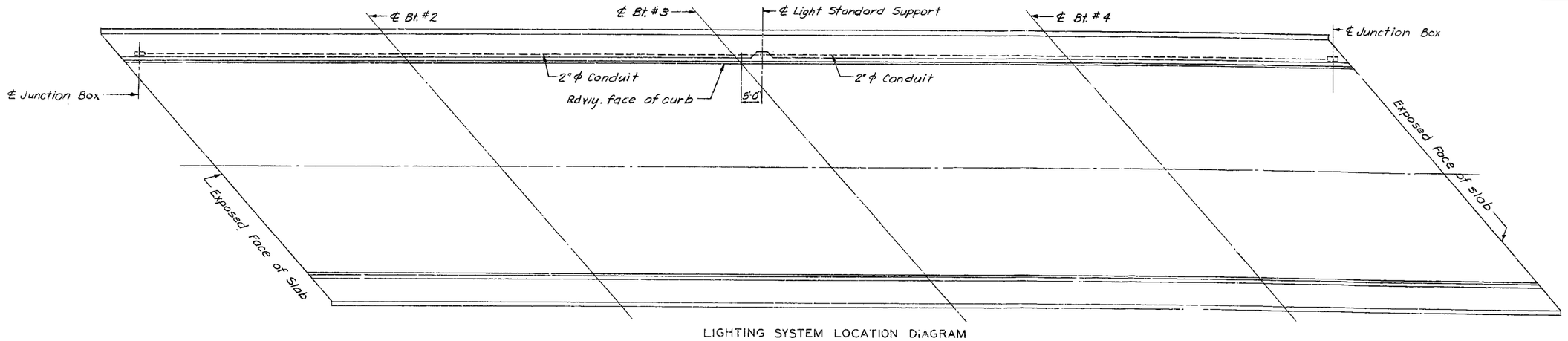
Sheet No. 7 of 10

CLAY COUNTY

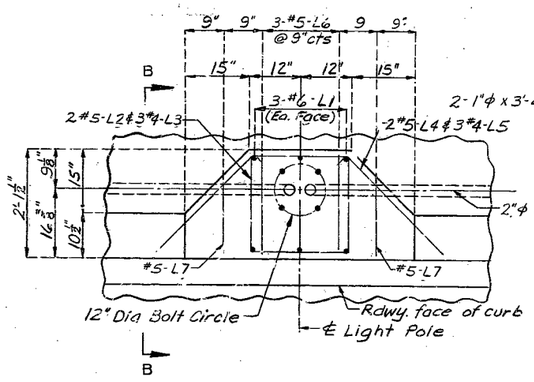
L-655 R

MISSOURI STATE HIGHWAY DEPARTMENT

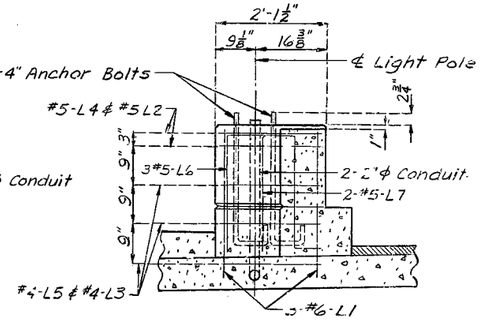
FED. ROAD DIST. NO.	STATE	FED. A'D PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	15	



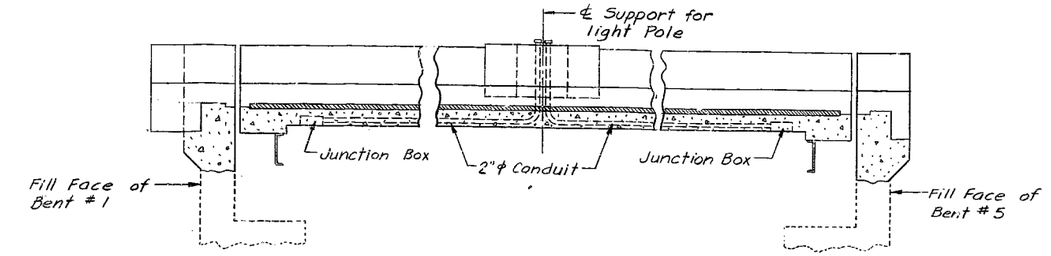
LIGHTING SYSTEM LOCATION DIAGRAM



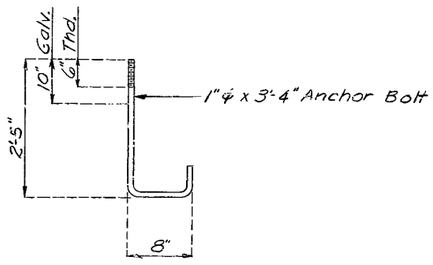
PLAN OF SUPPORT



SECTION B-B



SECTION NEAR LEFT CURB AND PARAPET



DETAIL OF ANCHOR BOLTS

Note: Cost of furnishing and placing anchor bolts for light standard shall be included in contract unit price bid for other items.

All conduit to be rigid galvanized steel with 3" minimum cover in concrete.

Shift reinforcing steel in field where necessary to clear conduit and junction boxes.

Light standard, wiring and fixtures to be furnished and installed by others.

Top of light standard supports to be made horizontal, anchor bolts to be placed vertically.

All junction boxes shall be 6"x6"x4" flush mounted and equal to O.Z. Elect. Mfg. Co. type "YU" and/or Spring City Elec Mfg. Co. type "IR". Wall thickness to be sufficient to provide 5 full threads for watertight conduit joint.

160

DETAILS OF CONDUIT SYSTEM

DETAILED APR. 1975
CHECKED AUG. 1975

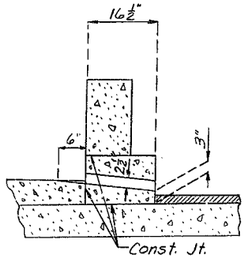
Note: This drawing is not to scale. Follow dimensions.

CLAY **COUNTY**

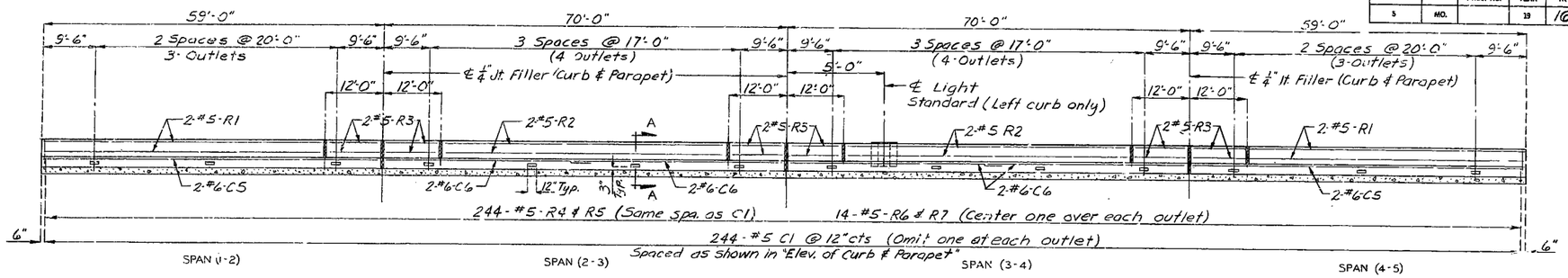
L-655 R

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	16	

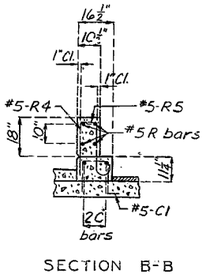


SECTION A-A

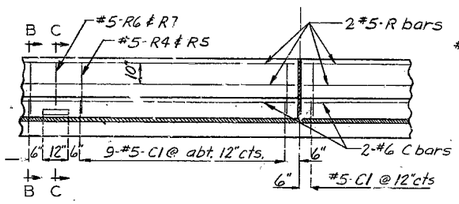


SECTION NEAR LEFT CURB AND PARAPET

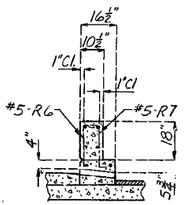
Note: All dimensions taken along top and at roadway face of curb.



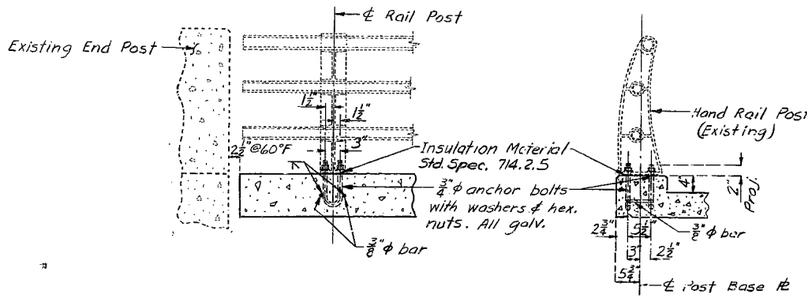
SECTION B-B



ELEVATION OF CURB & PARAPET

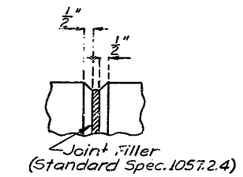


SECTION C-C

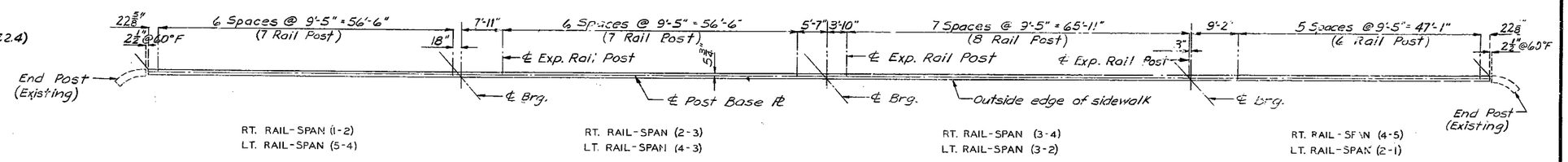


SECTION AT ℄ RAIL SECTION NEAR RAIL POST

DETAILS OF HANDRAIL ANCHOR BOLTS



FILLED JOINT DETAIL



RT. RAIL-SPAN (1-2)
LT. RAIL-SPAN (5-4)

RT. RAIL-SPAN (2-3)
LT. RAIL-SPAN (4-3)

RT. RAIL-SPAN (3-4)
LT. RAIL-SPAN (3-2)

RT. RAIL-SPAN (4-5)
LT. RAIL-SPAN (2-1)

PLAN VIEW SHOWING LOCATION OF HANDRAIL POST

Note: For removal and replacement of existing handrail and posts, see Special Provisions.

DETAILED AUG. 1975
CHECKED AUG. 1975

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

CLAY COUNTY

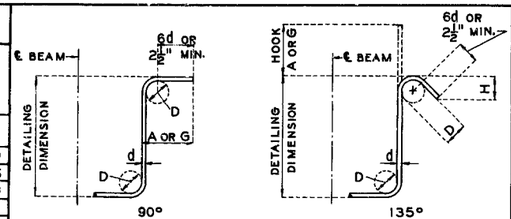
L-655 R

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	17	

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO. SIZE	MARK NO. MARK	LOCATION	GRADE 60(H)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
488	5C1		CURB		10						6.000		15.000		13.500									4	2	3	9	1909
12	5C2		CURB-END BENTS		10								21.000		13.500									4	6	4	5	55
4	5C3		CURB-END BENTS		10						6.000		15.000		19.000									4	7	4	3	18
8	6C5		CURB		20					58	9.000													58	9	58	9	706
16	6C6		CURB		20					35	8.000													35	8	35	8	857
8	6H1		BACKWALL-END BTS		20					31	10.000													31	10	31	10	383
8	6H2				20					8	1.000													8	1	8	1	97
6	6L1		LIGHT PAD		20					2	10.000													2	10	2	10	26
2	5L2		LIGHT PAD		31	S					22.500		22.750		22.500									6	8	6	5	13
3	4L3		LIGHT PAD		31	S					22.500		22.750		22.500									6	5	6	3	13
2	5L4		LIGHT PAD		15					2	7.875		22.750	2	7.875	22.500		22.500		22.500		22.500		7	3	7	2	15
3	4L5		LIGHT PAD		15					2	7.875		22.750	2	7.875	22.500		22.500		22.500		22.500		7	3	7	2	14
3	5L6		LIGHT PAD		10						6.000	2	3.375		22.500									6	11	6	7	21
2	5L7		LIGHT PAD		10						6.000	2	3.375		15.750									6	5	6	0	13
16	5R1		PARAPET		20					46	9.000													46	9	46	9	780
16	5R2		PARAPET		20					45	9.000													45	9	45	9	763
48	5R3		PARAPET		20					11	9.000													11	9	11	9	588
512	5R4		PARAPET & CURB		19					2	2.625		7.000											2	10	2	8	1424
512	5R5		PARAPET & CURB		12					2	2.625		7.000											3	5	3	3	1736
28	5R6		PARAPET		19						19.000		7.000											2	2	2	1	61
28	5R7		PARAPET		28								6.000		19.000		6.000							2	7	2	4	68
4	5R8		PARAPET END BENT		19					2	2.625		11.000											3	2	3	0	13
4	5R9		PARAPET END BENT		12					2	2.625		11.000											3	9	3	7	15
786	6S1		SLAB		20					51	2.000													51	2	51	2	60406
320	6S2		SLAB		20		V	4	?	2.000														2	2	2	2	
			INCR = 7.375 IN							50	5.625													50	6	50	6	12657
508	5S3		SIDEWALK		20					5	7.000													5	7	5	7	2958
512	5S4		SIDEWALK		10						6.000		9.500	2	1.250									4	2	3	10	2047
476	4S5		SLAB		20					37	9.000													37	9	37	9	12003
270	6S6		SLAB		20					52	9.000													52	9	52	9	21392
204	4S7		SLAB		20					16	0.000													16	0	16	0	2180
6	5S8		SIDEWALK		20		V	2			15.750														16		16	
			INCR = 14.000 IN							3	7.500													3	8	3	8	16
8	5S9		SIDEWALK		20		V	2			20.000														20		20	
			INCR = 14.000 IN							5	1.500													5	2	5	2	29
118	5U1		END BENT		10							2	5.000		9.000									5	7	5	4	656
24	5U2		END BENT		10							2	8.000		9.000									6	1	5	10	146
6	5U3		END BENT		10								17.500		9.000									3	8	3	5	21
8	5R10		CURB-END BENT		20					2	10.000													2	10	2	10	24
4	5R11		CURB-END BENT		20					2	9.000													2	9	2	9	11
8	5R12		CURB-END BENT		20					3	3.000													3	3	3	3	27
4	5R13		CURB-END BENT		20					?	5.000													2	5	2	5	10
108	6S10		Slab		26					3	3.000		6.000							21.000					5	3	5	3	850
4	4S11		Slab		20					32	10.000													32	10	32	10	90
			End of bar list*																									

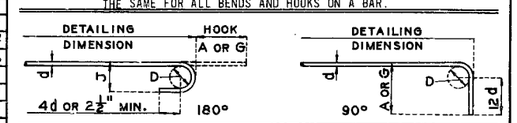


STIRRUP HOOK DIMENSIONS

GRADES 40 - 50 - 60 KSI

BAR SIZE	D (IN.)	90° HOOK HOOK A OR G	135° HOOK HOOK A OR G	135° HOOK APPROX. H
#3	1-1 2"	4"	4"	2-1 2"
#4	2"	4-1 2"	4-1 2"	3"
#5	2-1 2"	6"	5-1 2"	3-3 4"
#6	4-1 2"	8"	7"	4-1 2"

NOTE UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



SIZE OF 180° HOOKS (GRADE 40 KSI)
D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18

SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)
D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

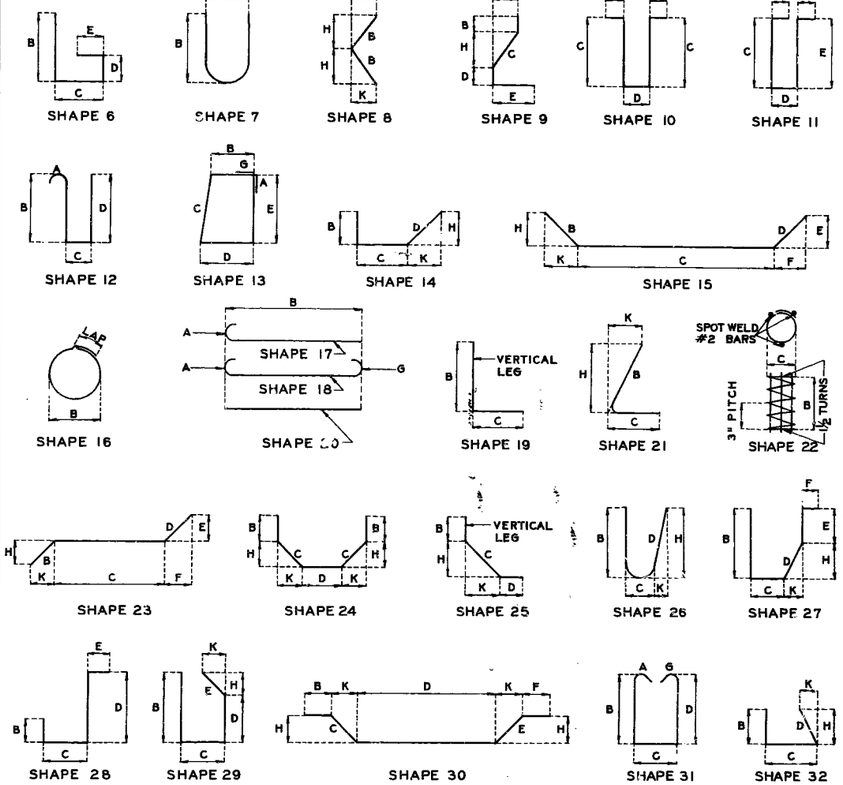
END HOOK DIMENSIONS

BAR SIZE	180° HOOKS GRADE 40 A OR G	180° HOOKS GRADE 40 J	180° HOOKS GRADE 60 A OR G	180° HOOKS GRADE 60 J	90° HOOKS ALL GRADES A OR G
#3	5"	2-3 4"	5"	3"	6"
#4	6"	3-1 2"	6"	4"	8"
#5	7"	4-1 2"	7"	5"	10"
#6	8"	5-1 4"	8"	6"	12"
#7	9"	6-1 4"	10"	7"	14"
#8	10"	7"	11"	8"	16"
#9	12"	8"	15"	11-1 4"	19"
#10	13"	9"	17"	12-3 4"	22"
#11	14"	10"	19"	14-1 4"	2'-0"
#14	2'-2"	20-1 2"	2'-2"	20-1 2"	2'-7"
#18	2'-11"	2'-3"	2'-11"	2'-3"	3'-5"

NOTE: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STANDARD HOOKS.
NOTE HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
H - HIGH STRENGTH (ASTM A-615 GRADE 60).
S - STIRRUP
X - BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
LENGTH - TOTAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. - NUMBER OF BARS OF EACH LENGTH.

*ALL HOOKS AND BENDS FOR SHAPE NO. 12 - GRADE 40 (only) ARE BASED ON D = 5d.

BENDING DIAGRAMS



SPS
STD. 90.8 REVISED MAY 1974 JULY 1975

DETAILED AUG 1975
CHECKED AUG. 1975

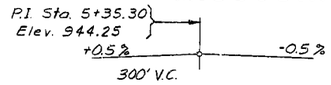
Note: This drawing is not to scale. Follow dimensions.

CLAY **COUNTY**

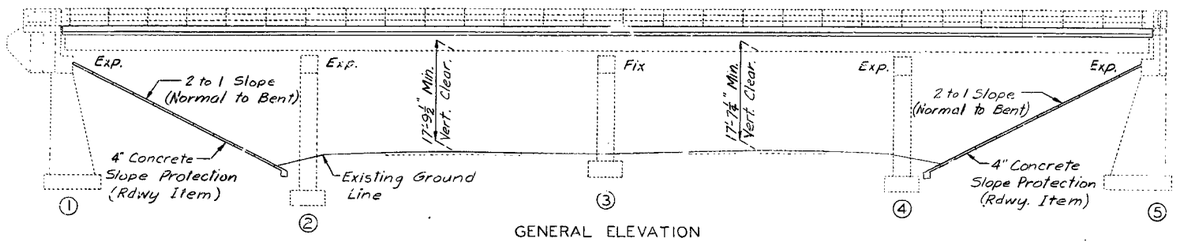
L-655 R

MISSOURI STATE HIGHWAY DEPARTMENT

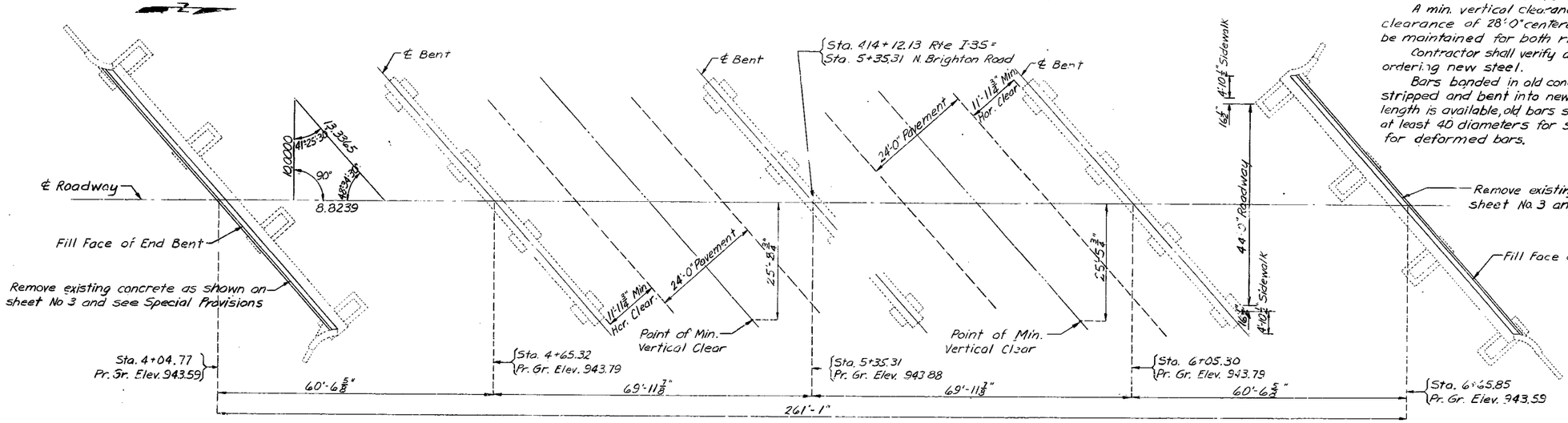
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	8	



58'-70'-70'-58' Cont. Comp. I-Bm Spans



GENERAL ELEVATION



PLAN

GENERAL NOTES:

Design Specifications: A.A.S.H.T.O. - 1973
Design Loading: H20-44 No Future Wearing Surface
Design Unit Stress:
Class B1 concrete (Superstructure) fc = 1600 psi
Reinforcing Steel fs = 20,000 psi
Structure Carbon Steel fs = 20,000 psi

Paint: System A or B by contractor in accordance with Std Spec. 712.12 or 712.13 as applicable. Color of final coat shall be aluminum.

Field connections, High Strength Bolts ¾" ϕ, holes 13/16" ϕ except as noted.

Minimum clearance to reinforcing steel shall be 1½" unless otherwise shown.

All concrete and reinforcement is included with superstructure quantities.

Light dotted lines indicate old work. Heavy lines indicate new work.

A min. vertical clearance of 14'-0" and a min. lateral clearance of 28'-0" centered on existing roadway, shall be maintained for both right and left lanes of I-35.

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

Bars bonded in old concrete not removed shall be cleanly stripped and bent 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.

ESTIMATED QUANTITIES		
ITEM		TOTAL
Removal of Existing Bridge Deck	Sq ft	14 989
Asphalt Cement (Asphaltic Concrete)	Ton	7.7
Mineral Aggregate (Asph. Conc.)(Special Mix)	Ton	153
Class B1 concrete	Cu. yd.	455.2
Steel Reinf Elastomeric Expansion Jt. Seal (2.0")	Lin. ft.	118
Preformed Compression Exp. Jt. Seal (3.0 in.)	Lin. ft	26
Reinforcing Steel	lb.	125110
Conduit System on Structure	Lump Sum	1
Bridge Deck Waterproofing (Liquid)	Sq. yd.	1282
Fabricated Structural Carbon Steel	lb.	7920
Painting (System A or B) Aluminum	Lump Sum	1
Handrail Replacement	Lump Sum	1
Cleaning Existing Bearings	Each	35
Special Work	Lump Sum	1

Concrete for backwall repair at Bents 1 & 5 is included in the quantities for Class B1 Concrete. The Contractor will be permitted to furnish Class B or B1 Concrete for end bent repair.

B.M. ELEV. 943.79 CHISELED □ ON TOP RT. WINGWALL BENT # 1 TAKEN FROM FINAL BR. PLANS DATED 1954.

BRIDGE: NORTH BRIGHTON ROAD UNDERPASS

STATE ROAD: INTERSTATE ROUTE 35
IN KANSAS CITY

PROJECT NO. I-35-1(104) **STA.** 414+12.13

JOB NO. 4-I-35-72 **RTE.** I-35

CLAY **COUNTY**

DATE 11/3/76

STD. 611.60
STD. 706.30
L-655 R

DESIGNED FEB 1975
DETAILED APR 1975
CHECKED JUNE 1975

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

Sheet No. 1A of 10.

163

SEC/SUR 5 TWP 50N RGE 32W

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

U.I.P. AND REDECK (58'-70'-70'-58') CONTINUOUS COMPOSITE WIDE FLANGE BEAM SPANS

General Notes:

Design Specifications:
2002 - AASHTO LFD (17th Edition) Standard Specifications
Seismic Performance Category A

Design Loading:
HS20-44 (New Construction)
35#/sq. ft. Future Wearing Surface (New Construction)
Earth - 120 #/Cu. Ft., Equivalent Fluid Pressure 45#/Cu. Ft.
Fatigue Stress - Case III

Design Unit Stresses:
Class B-1 Concrete (Safety Barrier Curb) f'c = 4,000 psi
Class B-2 Concrete (End Bents & Superstructure, except Safety Barrier Curb) f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi

Joint Filler:
All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

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

Miscellaneous:
Protective coating for concrete bents and piers (Epoxy) shall be applied as shown on the bridge plans and in accordance with Sec 711.

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.

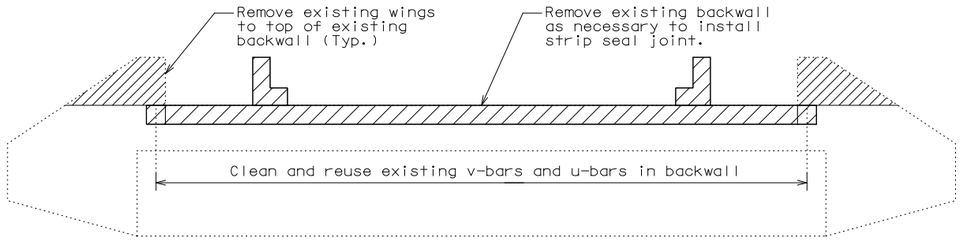
Roadway surfacing adjacent to bridge ends shall match new bridge slab surface (Roadway Item).

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

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

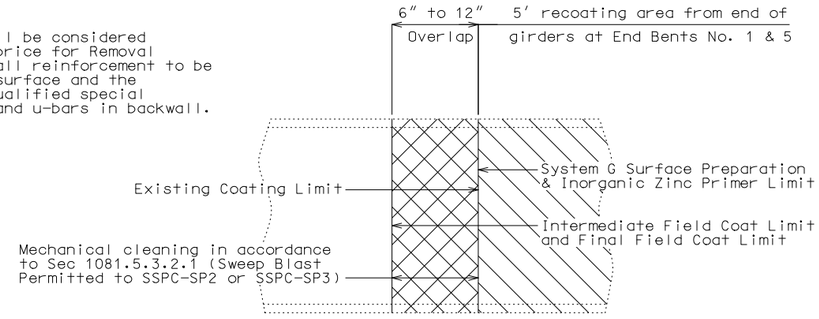
The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

Traffic Handling:
Structure to be closed during construction.



DETAILS OF CONCRETE REMOVAL @ END BENTS

Note:
The cost of concrete removal as shown will be considered completely covered by the contract unit price for Removal of Existing Bridge Decks. Vertical wingwall reinforcement to be cut off one inch below concrete removal surface and the resulting holes shall be filled with a qualified special mortar. Clean and reuse existing v-bars and u-bars in backwall.



PART ELEVATION SHOWING LIMITS OF PAINT OVERLAP

(Vertical or horizontal paint limit. Horizontal limit shown)

Estimated Quantities

	Item		Total
**	Removal of Existing Bridge Decks	sq. foot	15,273
	(72 in.) Pedestrian Fence (Structures)	linear foot	544
	Slab on Steel	sq. yard	1,697
*	Safety Barrier Curb	linear foot	526
	Substructure Repair (Formed)	sq. foot	560
	Conduit System on Structure	lump sum	1
	Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1
	Surface Preparation for Recoating Structural Steel	sq. foot	1,300
	Field Application of Inorganic Zinc Primer	sq. foot	1,300
	Intermediate Field Coat (System G)	sq. foot	1,300
	Finish Field Coat (System G)	sq. foot	1,300
***	Strip Seal Expansion Joint System	linear foot	155
	Slab Drain	each	8

* Safety barrier curb shall be cast-in-place option or slip-form option.

** Includes the cantilever sidewalks.

*** Measured from outside edge of sidewalk to outside edge of sidewalk along the centerline of joint.

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

All reinforcement in the End Bents is included in the Estimated Quantities for Slab on Steel.

All concrete in the End Bents is included in the Estimated Quantities for Slab on Steel.

Estimated Quantities for Slab on Steel

Item		Total
Class B-2 Concrete	cu. yard	404.6
Reinforcing Steel (Epoxy Coated)	pound	112,565

The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for stay-in-place forms, conventional forms, all concrete and coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For optional Stay-In-Place Form Details, see Sheet No. 7.

Structural Steel Protective Coatings
(Existing structural steel near End Bents):

Protective Coating: System G in accordance with Sec 1081.

Coating Limits: All existing structural steel within 5 feet from end of girders at End Bents No. 1 & 5.

Surface Preparation: Surface preparation of the existing steel shall be in accordance with Sec 1081 for "Recoating of Structural Steel (System G, H or I)". The cost of surface preparation will be considered completely covered by the contract unit price per sq. foot for "Surface Preparation for Recoating Structural Steel".

Prime Coat: The cost of the prime coat will be considered completely covered by the contract unit price per sq. foot for "Field Application of Inorganic Zinc Primer". Tint of the prime coat for System G shall be similar to the color of the field coat to be used.

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

Sec 1081.4.5 shall be modified such that the word "RECOATED" is replaced by the word "RECOATED - SYSTEM G - EXPANSION AREAS ONLY".

REPAIRS TO BRIDGE: NORTH BRIGHTON OVER I-35

STATE ROAD FROM RTE. I-29 TO RTE. I-435
ABOUT 1 MILE N. OF RTE. 269
STA. 414+12.13 (Match Existing)

STD. 617.10
STD. 706.35
STD. 901.00

DETAILED: NOV 2014
CHECKED: NOV 2014

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

Professional Engineer
Mark Huck
PE-22266

DATE PREPARED
11-10-2014

ROUTE	STATE
35	MO
DISTRICT	SHEET NO.
BR	1

COUNTY
CLAY

JOB NO.
J4I3028

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
L06552

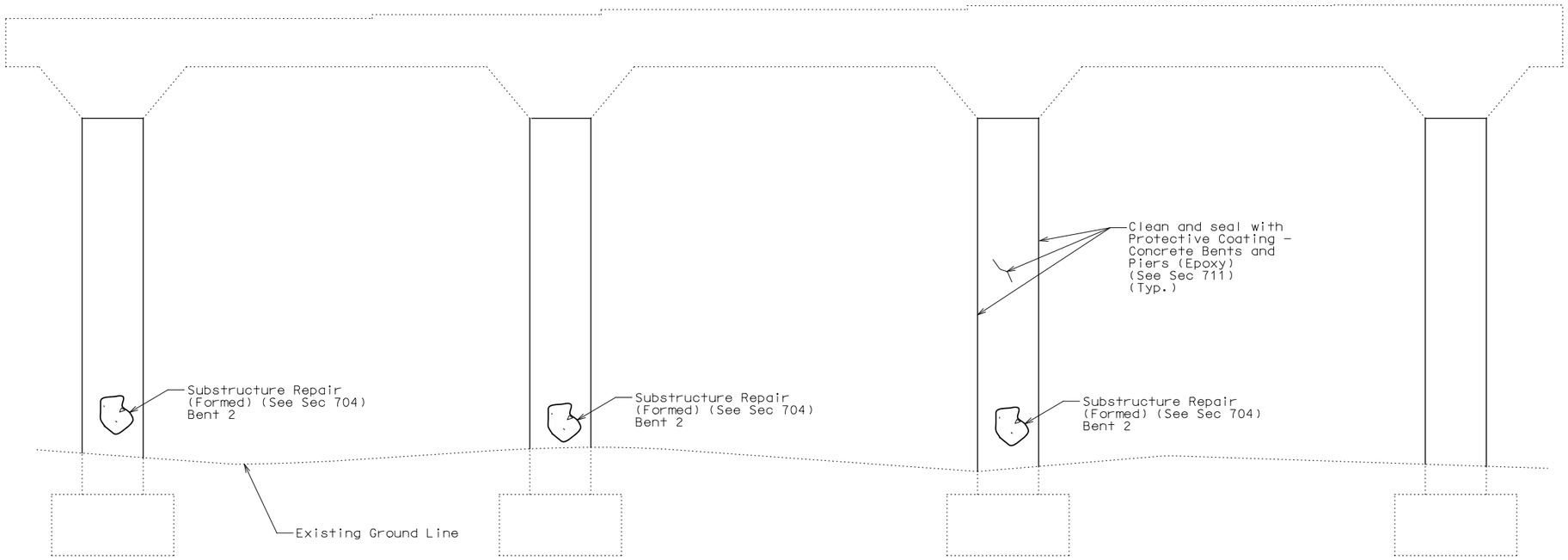
DESCRIPTION	DATE

REV.

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

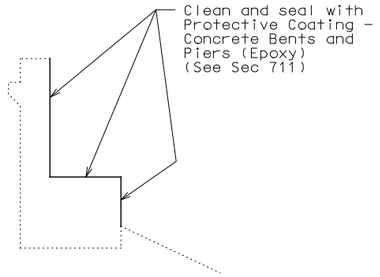
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority No. : 000165
BMcD Project No. 80028



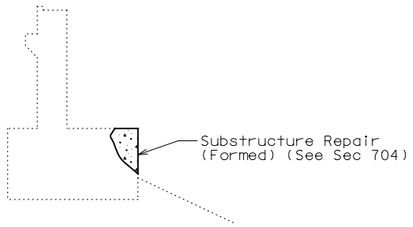
TYPICAL ELEVATION OF INTERMEDIATE BENTS NO. 2, 3, & 4.
SHOWING SUBSTRUCTURE REPAIR AND PROTECTIVE COATING

(Looking North)



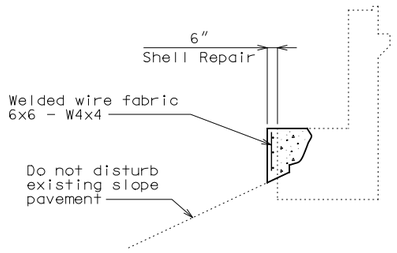
TYPICAL SECTION THRU
END BENTS NO. 1 & 5 SHOWING
PROTECTIVE COATING

(End Bent No. 1 shown, End Bent No. 5 similar)



TYPICAL SECTION THRU
END BENT NO. 5 SHOWING
SUBSTRUCTURE REPAIR

Note:
6" shell repair and wire fabric will be considered completely covered by the contract unit price for Substructure Repair (Formed).



TYPICAL SECTION THRU
END BENT NO. 1 SHOWING
SUBSTRUCTURE REPAIR

DETAILED: NOV 2014
CHECKED: NOV 2014

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

Professional Engineer
Mark Huck
PE-22266

DATE PREPARED
11-10-2014

ROUTE	STATE
35	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
CLAY

JOB NO.
J4I3028

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
L06552

DESCRIPTION	DATE

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)

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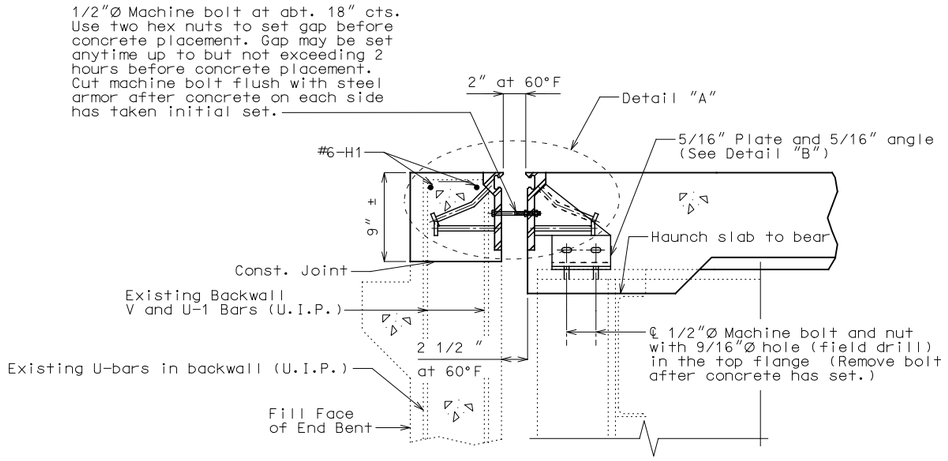
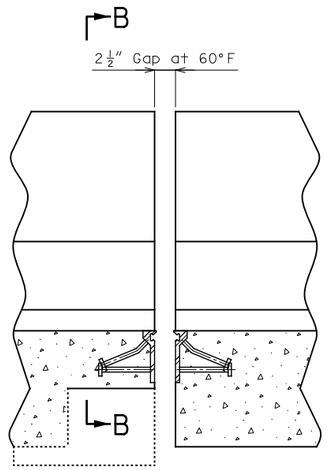
REV.



SECTION A-A

Note: Strip seal gland not shown for clarity.



Note: Strip seal gland not shown for clarity.

PART ELEVATION OF BARRIER CURB

GENERAL NOTES:

Expansion joint system shall be fabricated in one section, except for stage construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.

The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.

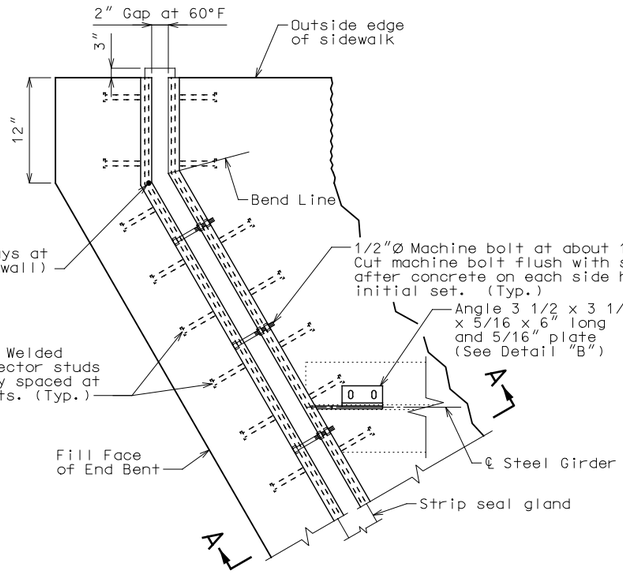
Structural steel for the expansion joint system shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased $\frac{1}{16}$" for each 10° fall or rise in temperature at installation.

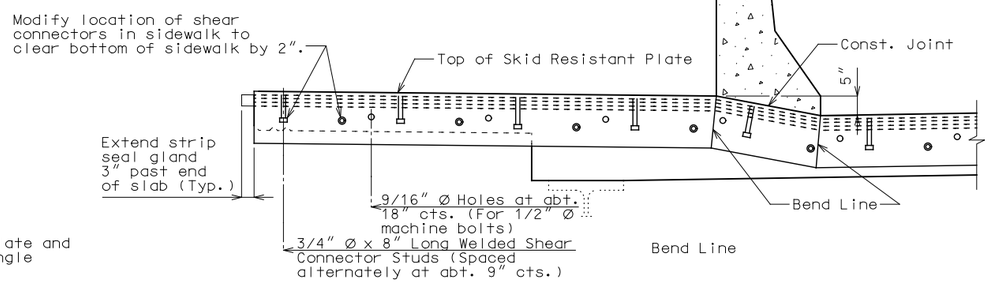
Longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from vertical leg of the steel armor at the expansion joint system.

Concrete shall be forced under and around steel armor and anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.

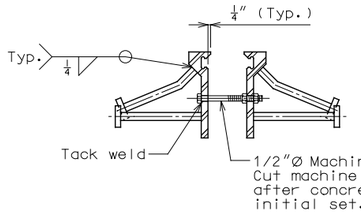
All concrete above the upper construction joint in backwall shall be Class B-2.



PART PLAN



PART SECTION B-B



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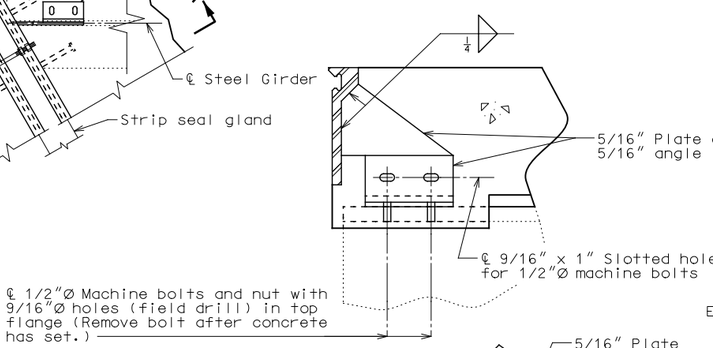

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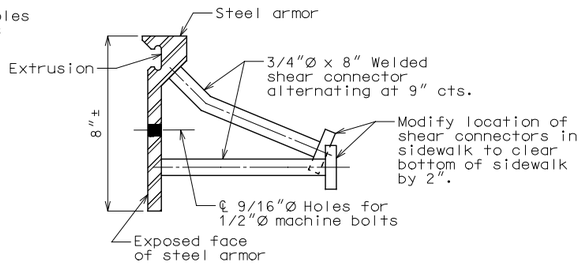
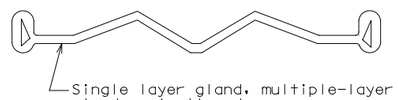


DETAIL OF JOINT ARMOR



DETAIL OF GLAND

DETAILED: NOV 2014
CHECKED: NOV 2014

DETAILS OF STRIP SEAL AT END BENT NO. 1 & 5

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

STATE OF MISSOURI
MARK HUCK NUMBER PE-22266
PROFESSIONAL ENGINEER
Professional Engineer
Mark Huck
PE-22266

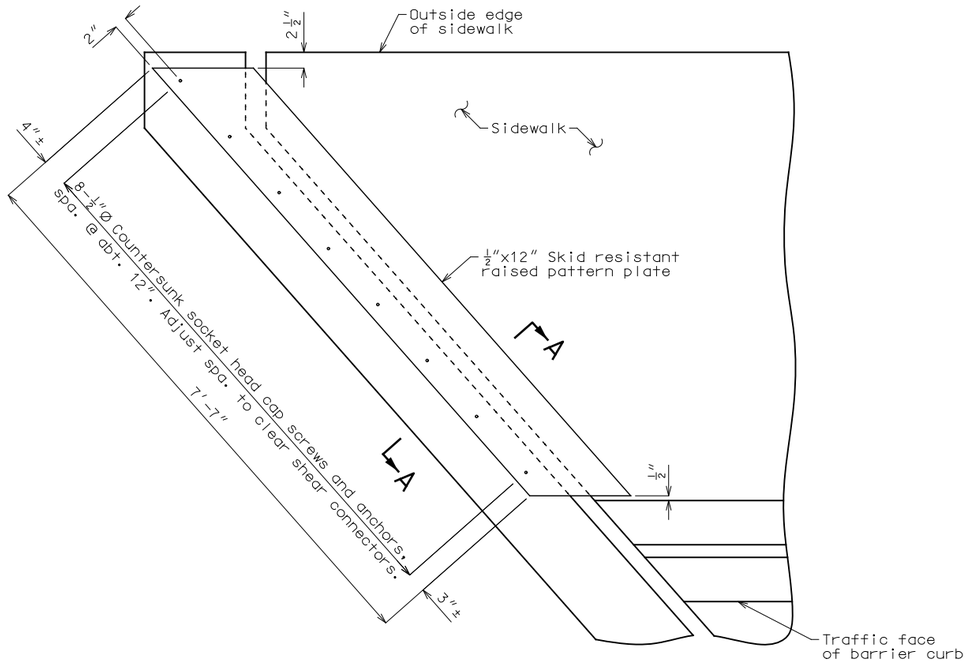
DATE PREPARED: 11-10-2014
ROUTE: 35 | STATE: MO
DISTRICT: BR | SHEET NO.: 3
COUNTY: CLAY
JOB NO.: J4I3028
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: L06552

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

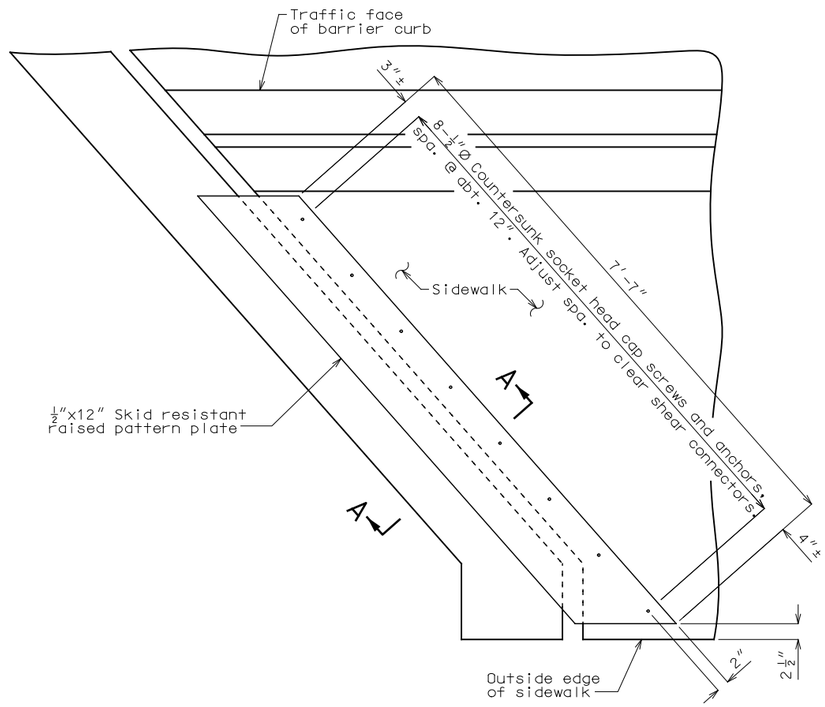
REV. | DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

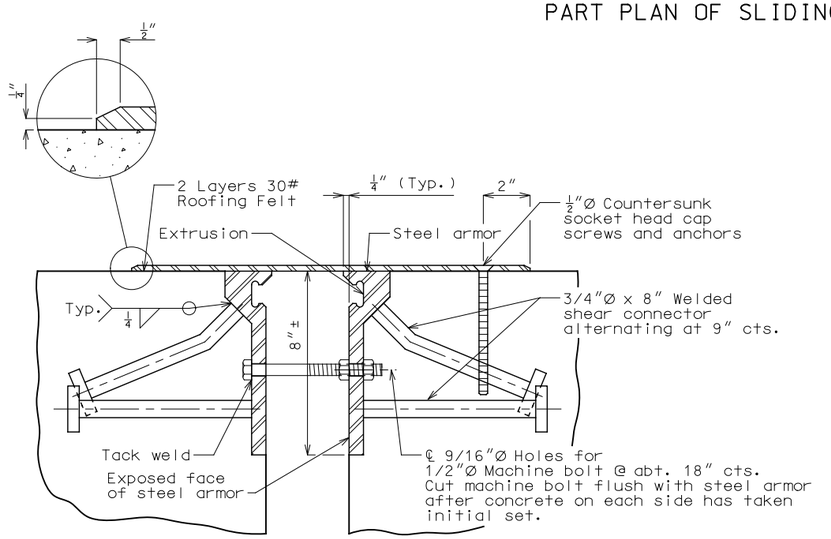
Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority No. : 000165
BMcD Project No. 80028



PART PLAN OF SLIDING PLATE



PART PLAN OF SLIDING PLATE



SECTION A-A

Notes:

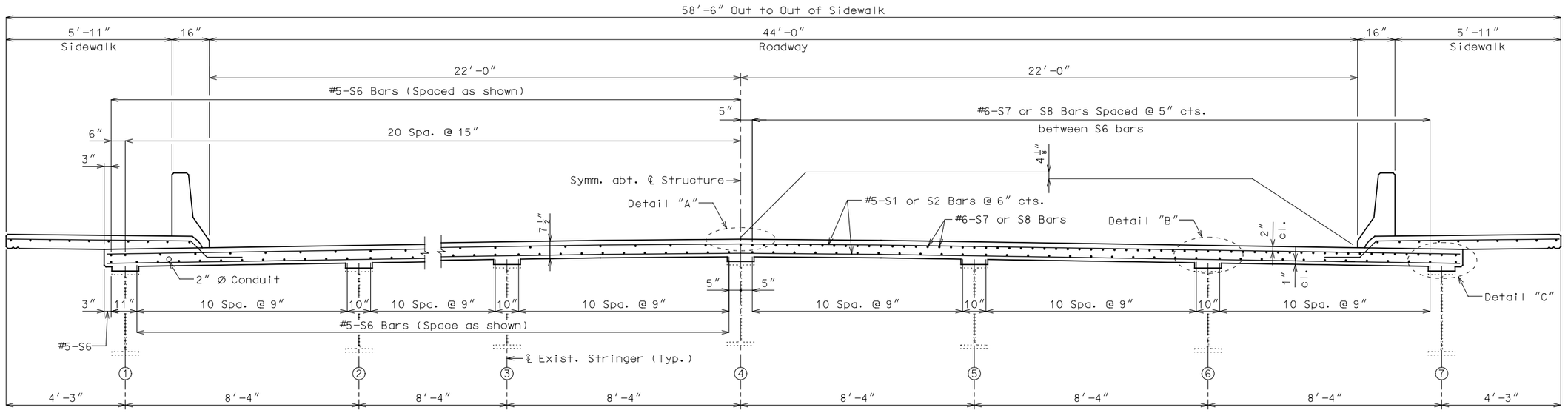
Cost of skid resistant plates, cap screws and anchors, complete in place, will be considered completely covered by the contract unit price for Strip Seal Expansion Joint System.

Skid resistant raised pattern plate anchors shall be a drilled cone expansion or a cast-in-place wing type threaded insert. The minimum ultimate pullout capacity for these anchors shall be 2,700 lbs. in f'c = 4,000 psi concrete. Lead anchors will not be permitted. Holes in the sidewalk for anchors shall not be drilled until the concrete is at least 7 days old.

SLIDING PLATE DETAILS

DETAILED: NOV 2014
CHECKED: NOV 2014

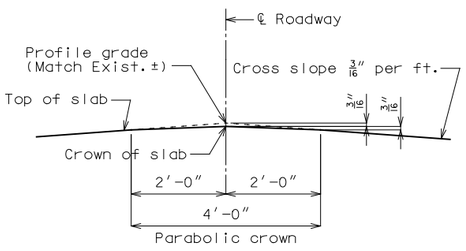
Note: This drawing is not to scale. Follow dimensions.



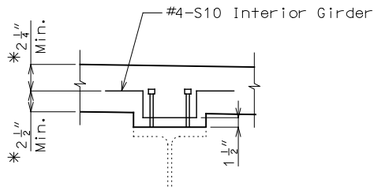
HALF SECTION NEAR MIDSPAN

HALF SECTION NEAR INT. BENT

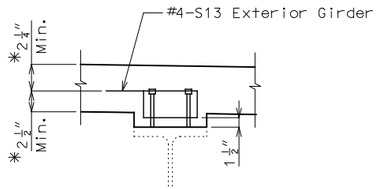
TYPICAL SECTION THRU SLAB



DETAIL A

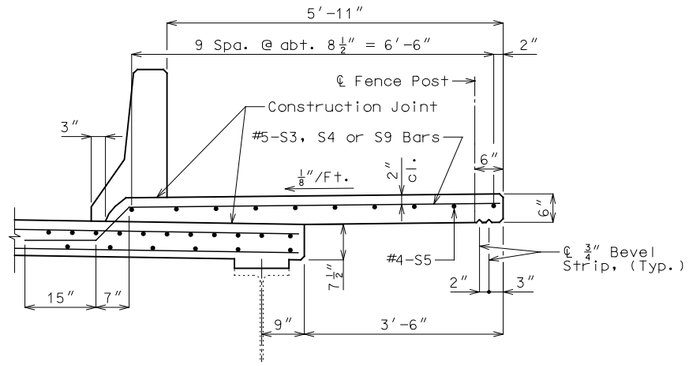


DETAIL B



DETAIL C

*Contractor to verify dimensions of S10 and S13 bars after haunches are determined.



SIDEWALK DETAIL

DETAILED: NOV 2014
CHECKED: NOV 2014

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

\\trnsrv\trn\Projects\MoDOT\80028_44_Rehab_Br\Cadd\Bridge_Sheets\Br_No_L06552\B_L06552_005_J4I3028_Slab-Section.dgn 4:54:43 PM 11/7/2014

STATE OF MISSOURI MARK HUCK NUMBER PE-22266 PROFESSIONAL ENGINEER

Professional Engineer
Mark Huck
PE-22266

DATE PREPARED
11-10-2014

ROUTE	STATE
35	MO
DISTRICT	SHEET NO.
BR	5

COUNTY
CLAY

JOB NO.
J4I3028

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
L06552

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REV. | DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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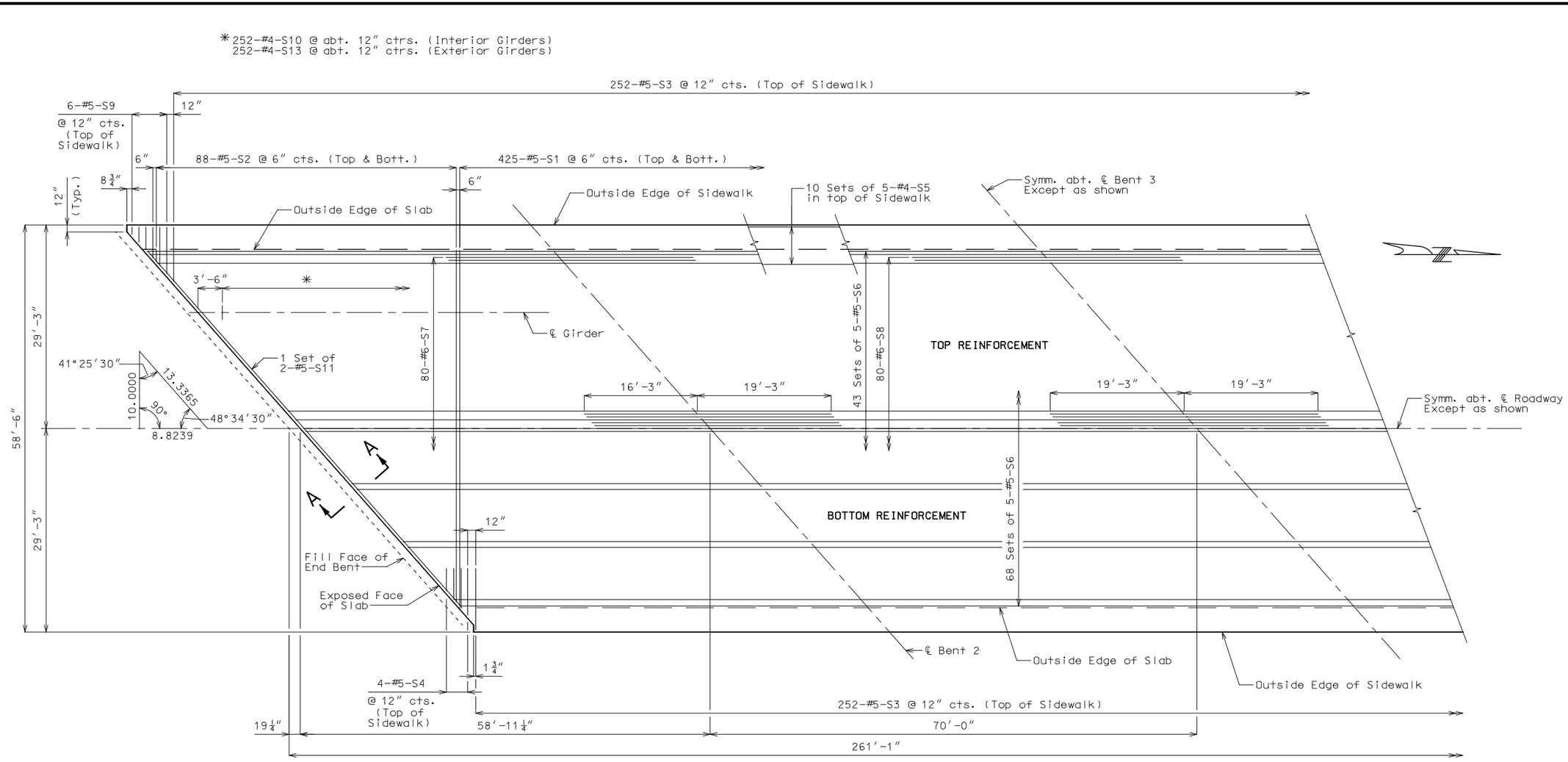
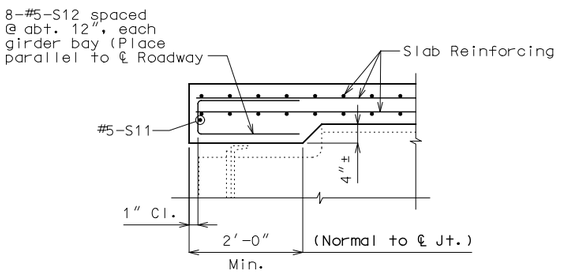
816-333-9400
Certificate of Authority
No. : 000165
BMcD Project No. 80028



PLAN OF SLAB SHOWING REINFORCEMENT



SECTION A-A

Notes:
Lap Splice #4 Bar = 2'-7"
Lap Splice #5 Bar = 3'-3"

DETAILED: NOV 2014
CHECKED: NOV 2014

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STATE OF MISSOURI
MARK HUCK
NUMBER PE-22266
PROFESSIONAL ENGINEER

Professional Engineer
Mark Huck
PE-22266

DATE PREPARED
11-10-2014

ROUTE	STATE
35	MO
DISTRICT	SHEET NO.
BR	6

COUNTY
CLAY

JOB NO.
J4I3028

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
L06552

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105 WEST CAPITOL
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Burns & McDonnell Engineering Co., Inc.
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Kansas City, Missouri 64114
816-333-9400
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No. : 000165
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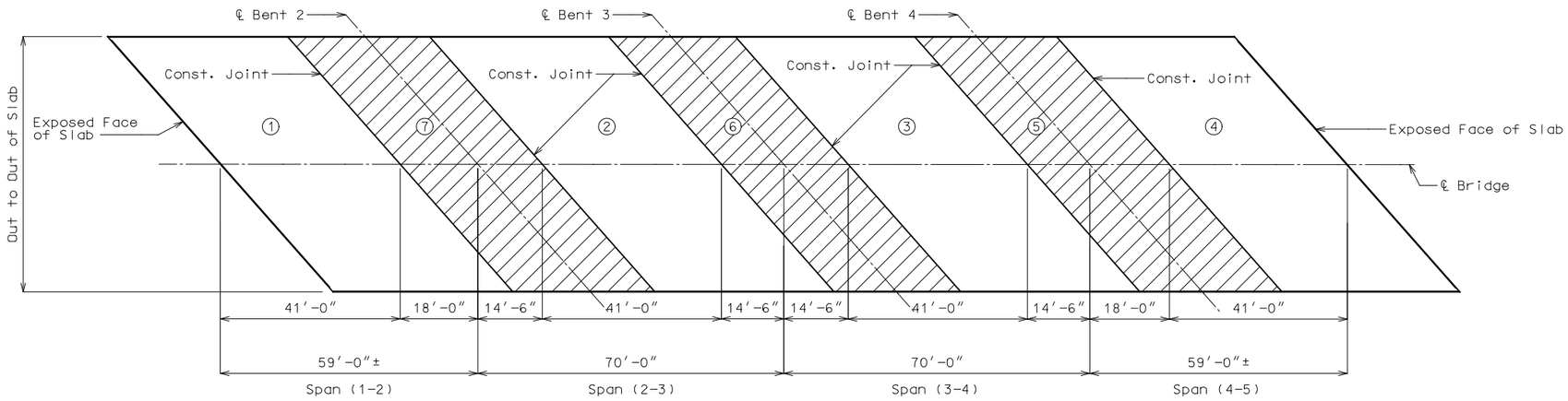
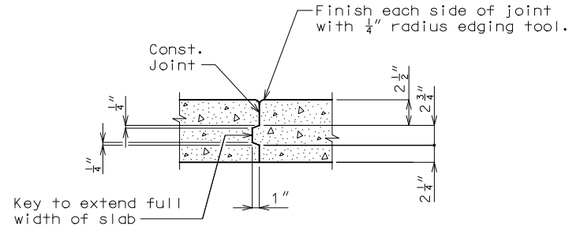


SLAB POURING SEQUENCE



PERMISSIBLE CONSTRUCTION JOINT

Notes:
Corrugated steel bridge deck forms, supports closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

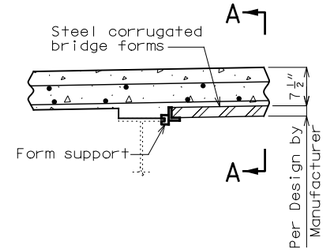
Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

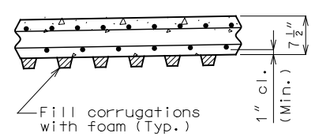
Form sheets shall not rest directly on the top of girders, stringers or floorbeams flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the flanges of the girders, stringers or floorbeams will not be permitted. All steel fabrication and construction shall be in accordance with Sec's 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay in place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for girder loading.

The contractor shall provide temporary bracing as necessary to prevent girders from rotating during slab pour. The cost for temporary bracing shall be considered completely covered by the contract unit price for Slab on Steel.

Slab is to be considered at a uniform depth as shown on the plans. Haunching will vary.





SECTION A-A

OPTIONAL STAY-IN-PLACE FORM DETAILS

	Sequence of Pours							Min. Rate of Pour Cu. Yds./Hr.	
	Direction							With Retarder	No Retarder
Basic Sequence	1	2	3	4	5	6	7	25	25
	Either Direction								
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.									
Alternate "A" Pours	1		7 + 2		6 + 3		5 + 4	27	44
	End to 7		1 to 6		2 to 5		3 to End		
Alternate "B" Pours	1 + 7 + 2			6 + 3		5 + 4		41	68
	End to 6			2 to 5		3 to End			
Alternate "C" Pours	1 + 7 + 2				6 + 3 + 5 + 4			51	
	End to 6				2 to End				
Alternate "D" Pours	1 + 7 + 2 + 6 + 3 + 5 + 4								
	End to End								

Note: The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

Deflection Note:
The contractor shall determine dead load deflections and haunching based on field measurements and/or existing bridge plans and may be adjusted based on the difference between the new and existing dead load weights and bridge cross slope.

DETAILED: NOV 2014
CHECKED: NOV 2014

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

\\trnsrv\trn\Projects\MoDOT\80028_44_Rehab_Br\Cadd\Bridge_Sheets\Br_No_L06552\B_L06552_007_J4I3028_Slab_Pour.dgn 4:54:49 PM 11/7/2014

STATE OF MISSOURI MARK HUCK NUMBER PE-22266 PROFESSIONAL ENGINEER

Professional Engineer
Mark Huck
PE-22266

DATE PREPARED
11-10-2014

ROUTE	STATE
35	MO
DISTRICT	SHEET NO.
BR	7

COUNTY
CLAY

JOB NO.
J4I3028

CONTRACT ID.

PROJECT NO.

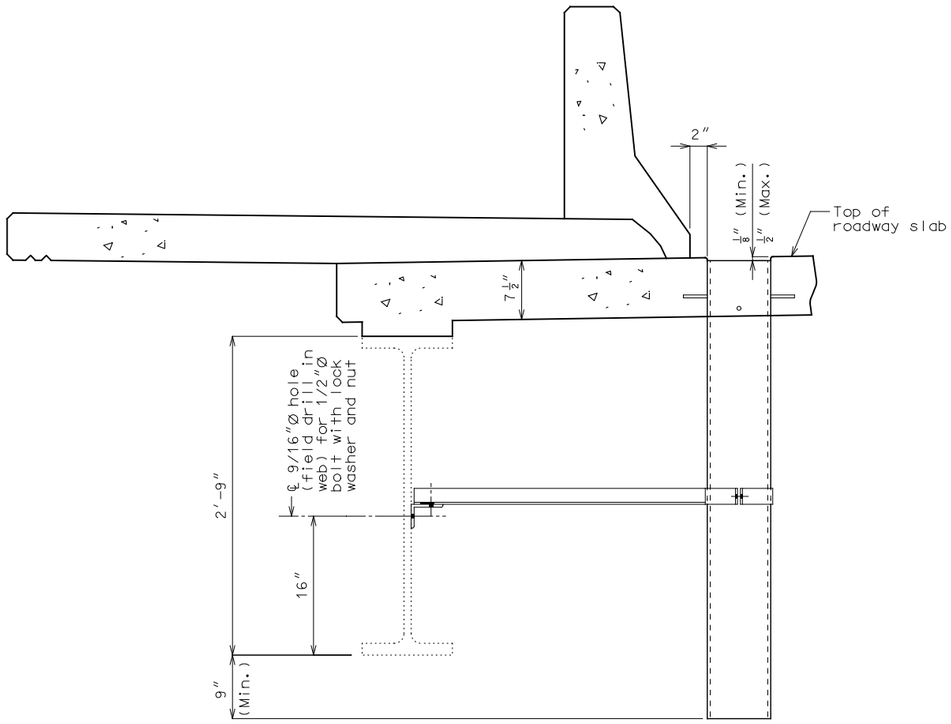
BRIDGE NO.
L06552

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

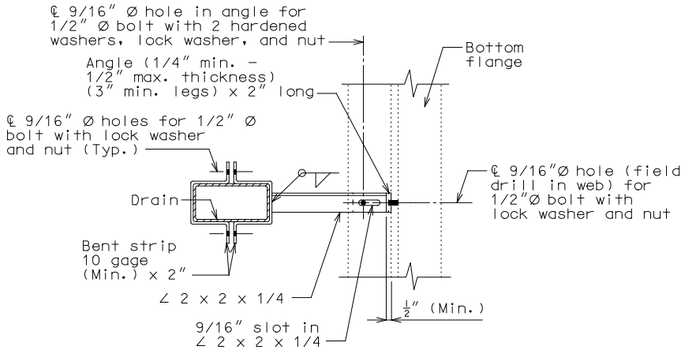
REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

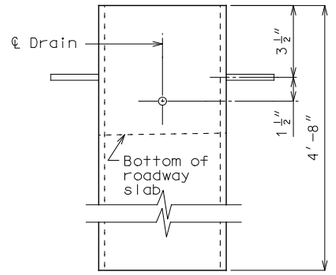
Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority No. : 000165
BMcD Project No. 80028



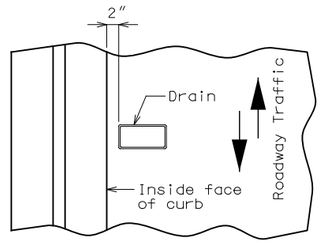
PART SECTION NEAR DRAIN



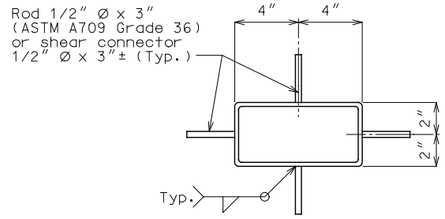
PART SECTION SHOWING BRACKET ASSEMBLY



ELEVATION OF DRAIN

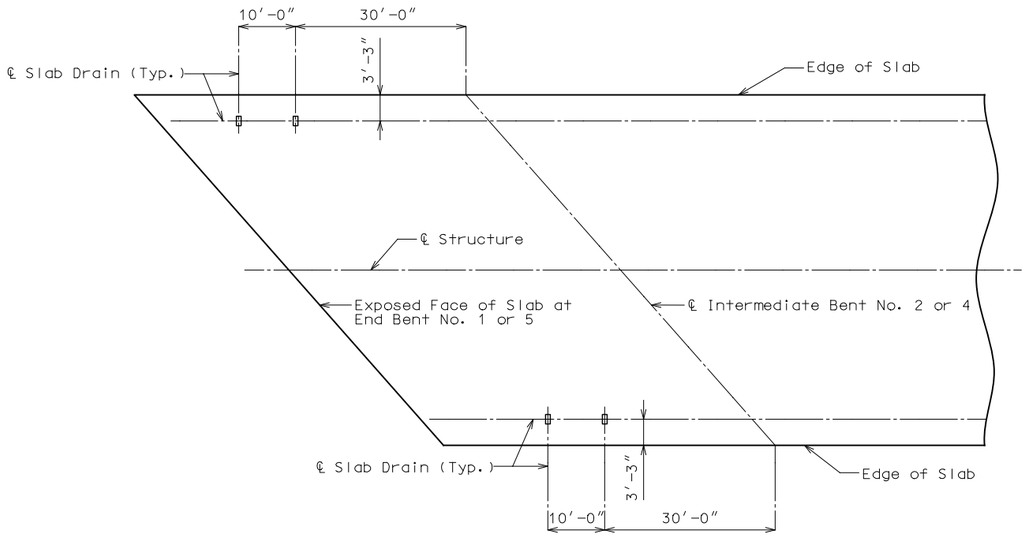


PART PLAN OF SLAB AT DRAIN



PLAN OF DRAIN

DETAILS OF DRAINS TRANSVERSE TO ROADWAY



PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS

SLAB DRAIN DETAILS

Notes:

Slab drains may be fabricated of either 1/4″ welded sheets of ASTM A709 Grade 36 steel or from 1/4″ structural steel tubing ASTM A500 or A501.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Outside dimensions of drains are 8″ x 4″.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The drains and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

Shop drawings will not be required for the slab drains and the bracket assembly.

The bolt hole for the bracket assembly attachment should be shifted to the minimum extent necessary to field drill in the existing web.

DETAILED: NOV 2014
CHECKED: NOV 2014

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

STATE OF MISSOURI
MARK HUCK NUMBER PE-22266
PROFESSIONAL ENGINEER

Professional Engineer
Mark Huck
PE-22266

DATE PREPARED
11-10-2014

ROUTE	STATE
35	MO
DISTRICT	SHEET NO.
BR	8

COUNTY
CLAY

JOB NO.
J4I3028

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
L06552

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REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
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Certificate of Authority No. : 000165
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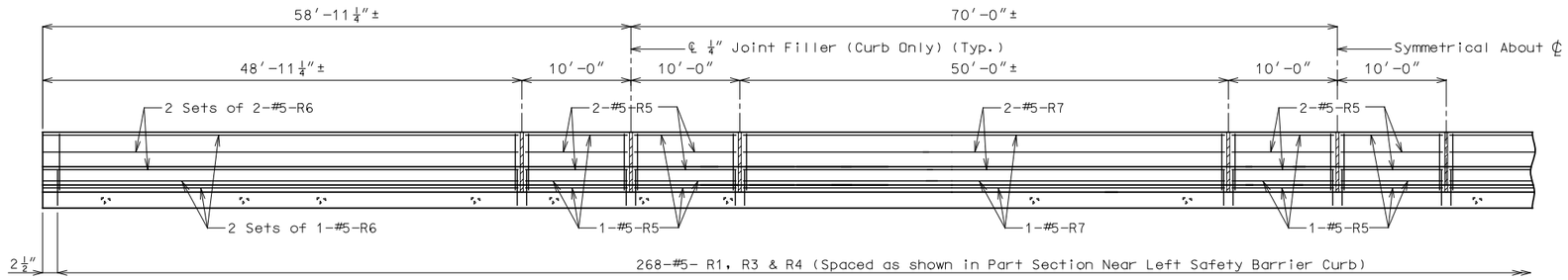
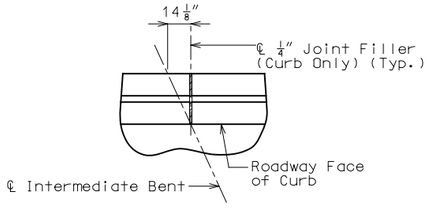


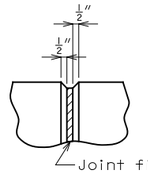
SECTION NEAR LEFT SAFETY BARRIER CURB

(Right Safety Barrier Curb similar)

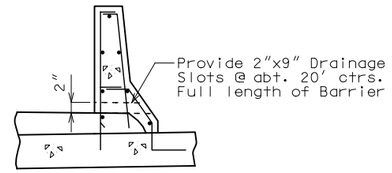
Note: Longitudinal dimensions are horizontal.



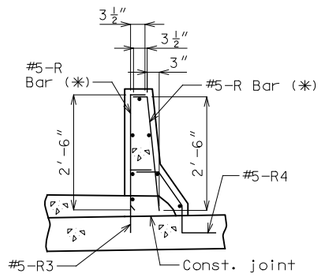
PART PLAN SHOWING
SAFETY BARRIER CURB JOINT



FILLED JOINT
DETAIL

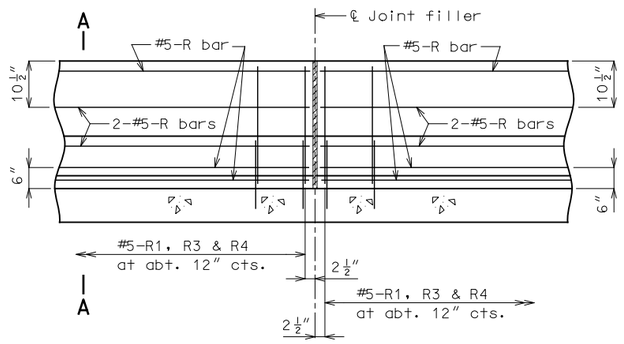


DRAINAGE SLOT

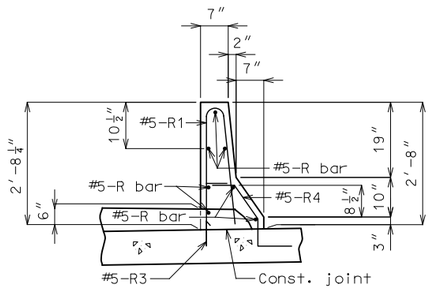


R-BAR PERMISSIBLE ALTERNATE SHAPE

(*) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)



PART SECTION NEAR LEFT SAFETY BARRIER CURB
(CAST-IN-PLACE CONVENTIONAL FORMING OPTION)



PART SECTION A-A

Notes:

Use a minimum lap of 2′-11″ for #5 horizontal safety barrier curb bars.

The cross-sectional area above the slab = 2.27 sq. ft.

Notes:

Top of safety barrier curb shall be built parallel to grade with barrier curb joints normal to grade.

All exposed edges of safety barrier curb shall have either a 1/2″ radius or a 3/8″ bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for safety barrier curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of barrier from end of barrier to end of barrier, near fill face of end bents.

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for "Safety Barrier Curb".

DETAILED: NOV 2014
CHECKED: NOV 2014

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

\\trnsrv\trn\Projects\MoDOT\80028_44_Rehab_Br\Cadd\Bridge_Sheets\Br_No_L06552\B_L06552_009_J4I3028_barrier_curb.dgn 4:54:56 PM 11/7/2014

STATE OF MISSOURI
MARK HUCK
NUMBER PE-22266
PROFESSIONAL ENGINEER

Professional Engineer
Mark Huck
PE-22266

DATE PREPARED
11-10-2014

ROUTE	STATE
35	MO
DISTRICT	SHEET NO.
BR	9

COUNTY
CLAY

JOB NO.
J4I3028

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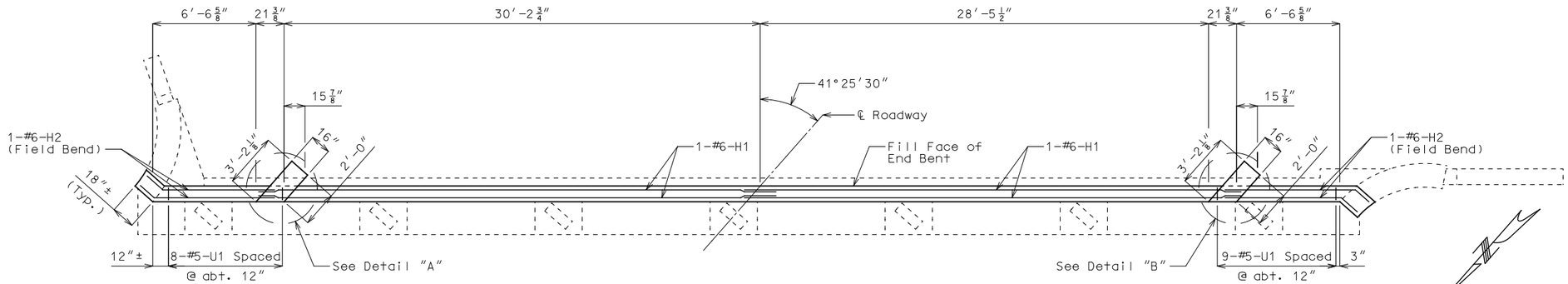
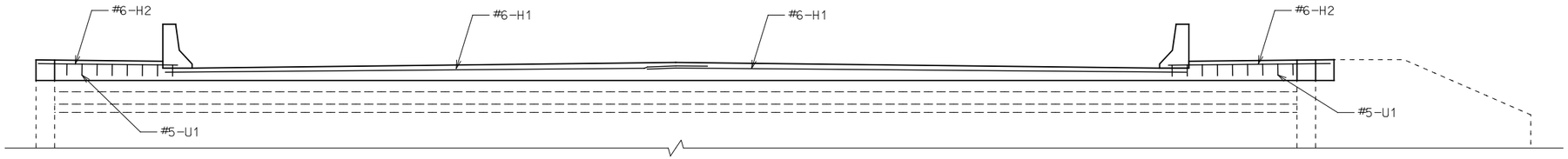
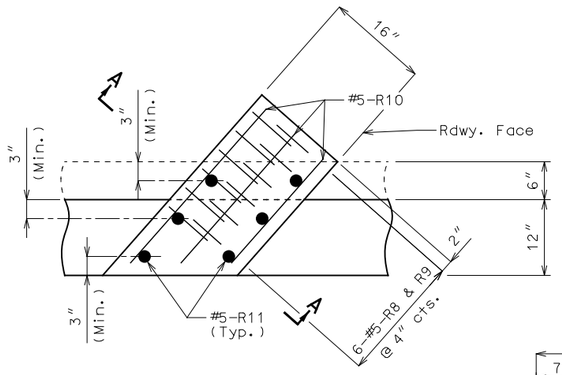


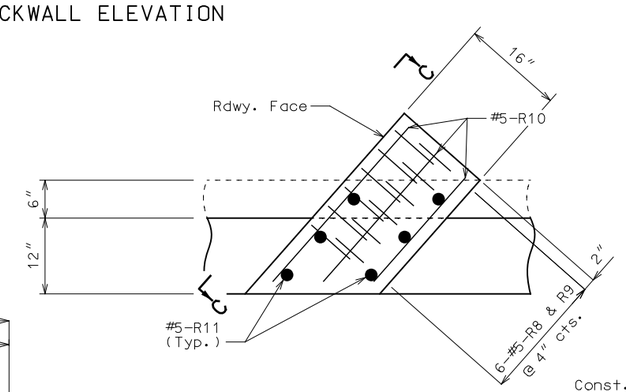
BACKWALL PLAN



BACKWALL ELEVATION



DETAIL "A"



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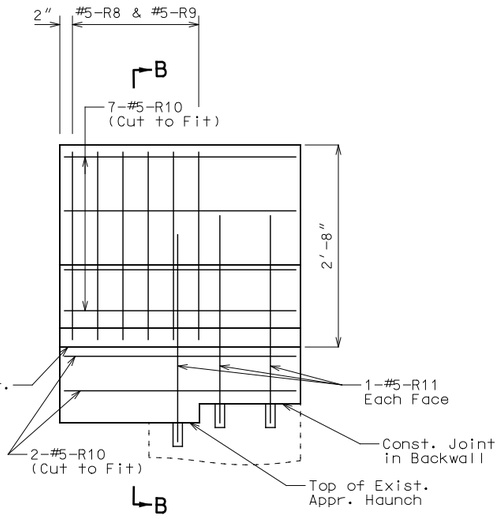
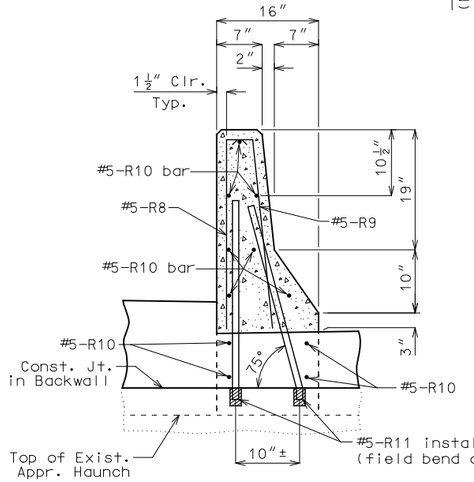
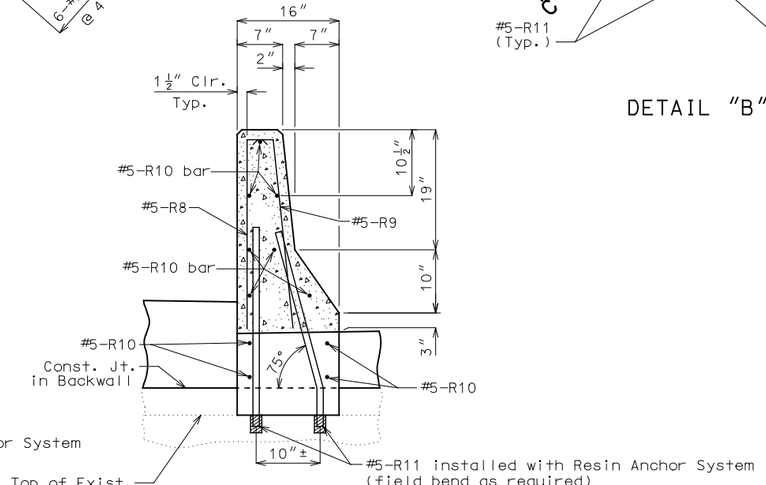


ELEVATION C-C



SECTION A-A



SECTION B-B

NOTES:

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor system complete-in-place will be considered completely covered by the contract unit price for Safety Barrier Curb per linear foot.

The minimum embedment depth in concrete with f′c = 4,000 psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5″.

Lap Splice #6 Bar = 3′-10″

DETAILED: NOV 2014
CHECKED: NOV 2014

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

STATE OF MISSOURI
MARK HUCK NUMBER PE-22266
PROFESSIONAL ENGINEER
Professional Engineer
Mark Huck
PE-22266

DATE PREPARED
11-10-2014

ROUTE	STATE
35	MO
DISTRICT	SHEET NO.
BR	10

COUNTY
CLAY

JOB NO.
J4I3028

CONTRACT ID.

PROJECT NO.

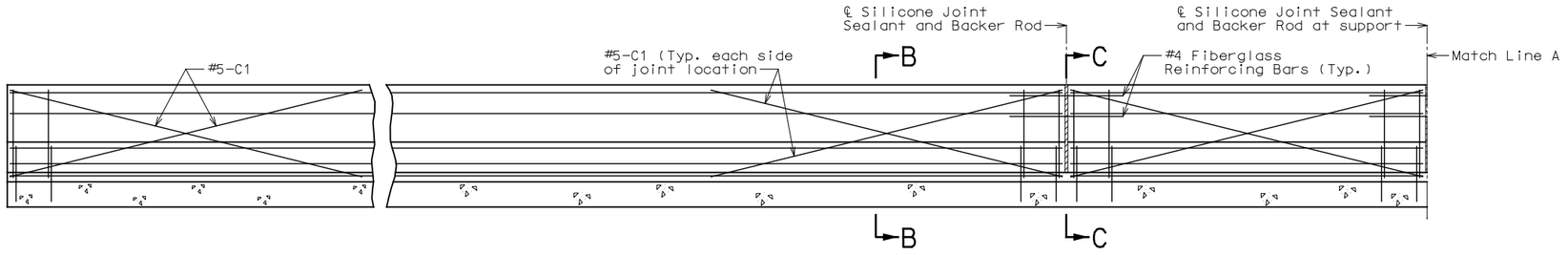
BRIDGE NO.
L06552

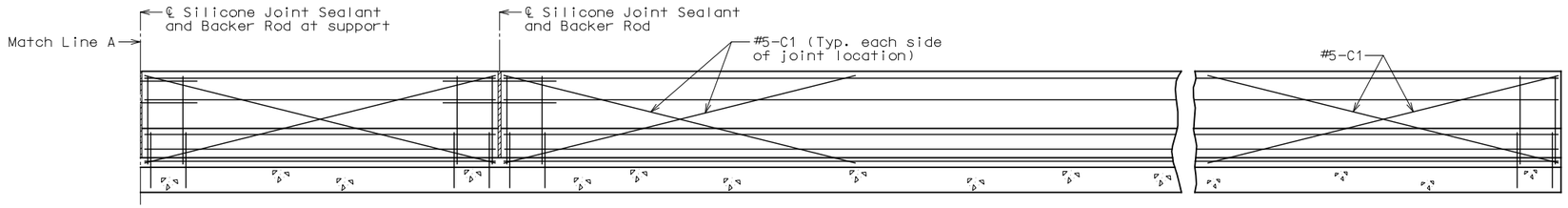
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.	DESCRIPTION	DATE

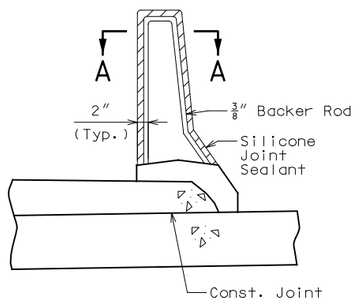
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority No. : 000165
BMcD Project No. 80028

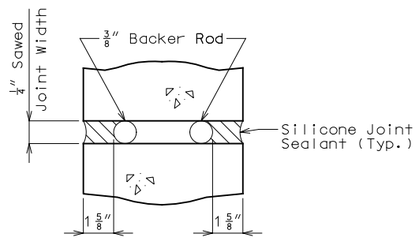




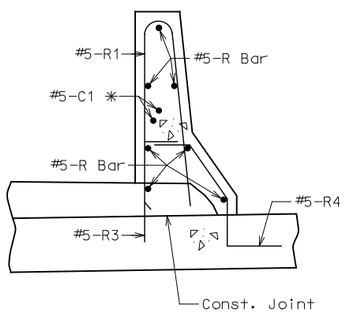
TYPICAL ELEVATION OF SAFETY BARRIER CURB AT SUPPORT LOCATIONS



SECTION THRU JOINT

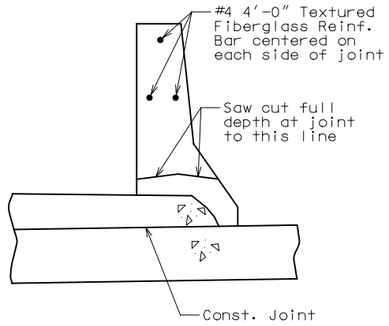


SECTION A-A



SECTION B-B

✳ Each side of joint location.



SECTION C-C

General Notes:

Top of safety barrier curb shall be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of safety barrier curb shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of barrier from end of barrier to end of barrier, near fill face of end bents.

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Safety Barrier Curb.

Joint sealant and backer rods shall be used on all slip-form barrier curbs instead of joint filler and shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

Plastic waterstop shall not be used with slip-form option.

For slip-form option, all sides of the safety barrier curb shall have a vertically broomed finish and the curb top shall have a transversely broomed finish.

C bars (slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.

Cost of silicone joint sealant and backer rod, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb.

DETAILED: NOV 2014
CHECKED: NOV 2014

OPTIONAL SLIP-FORM SAFETY BARRIER CURB

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

STATE OF MISSOURI
MARK HUCK NUMBER PE-22266
PROFESSIONAL ENGINEER
Professional Engineer
Mark Huck
PE-22266

DATE PREPARED
11-10-2014

ROUTE	STATE
35	MO
DISTRICT	SHEET NO.
BR	11

COUNTY
CLAY

JOB NO.
J4I3028

CONTRACT ID.

PROJECT NO.

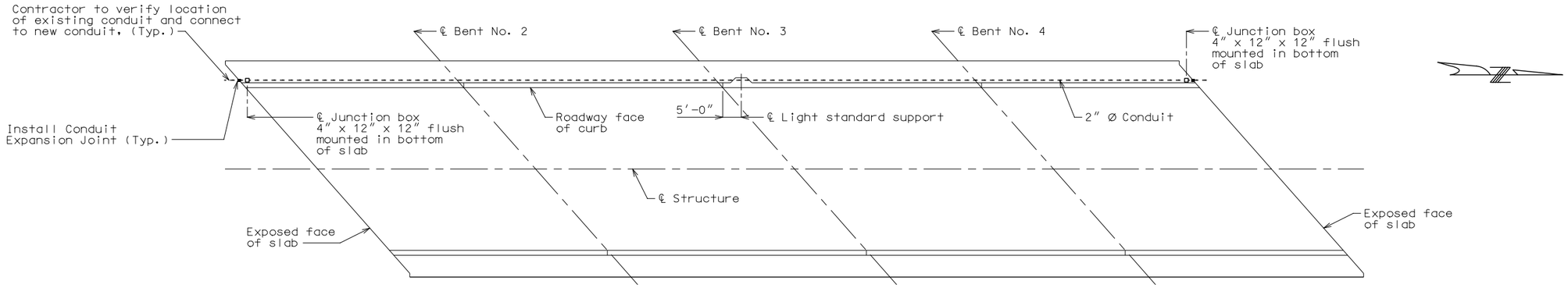
BRIDGE NO.
L06552

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

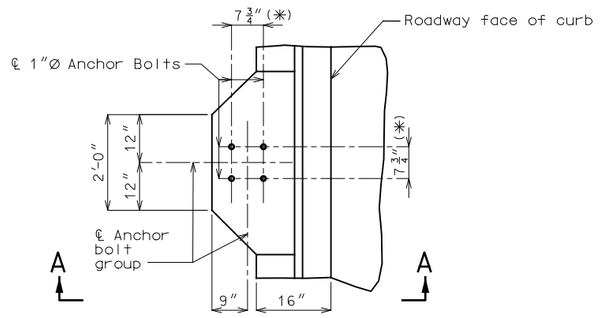
REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

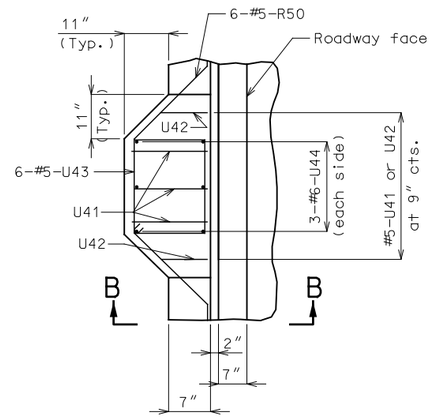
Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority
No. : 000165
BMcD Project No. 80028



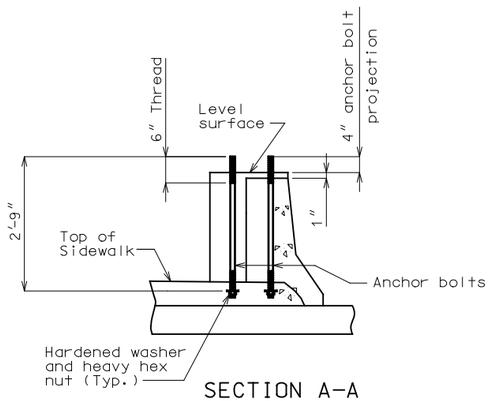
CONDUIT LOCATION PLAN



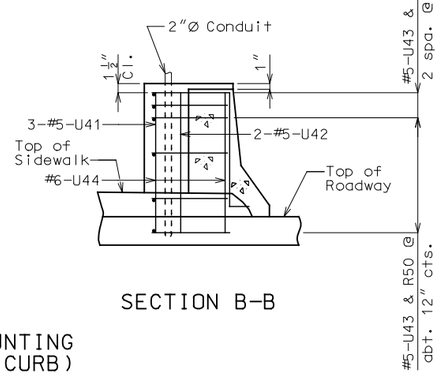
PART PLAN SHOWING GENERAL LAYOUT



PART PLAN SHOWING REINFORCEMENT



SECTION A–A



SECTION B–B

LIGHT POLE MOUNTING (LEFT BARRIER CURB)

Notes:

All conduits shall be rigid nonmetallic schedule 40 heavy wall polyvinyl chloride (PVC) with 2″ minimum cover in concrete. Each section of conduit shall bear the Underwriters Laboratories (UL) label.

Expansion fittings shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total expansion movement of 2 inches at open joints using a maximum temperature range of 150°F and a maximum temperature of 120°F.

All junction boxes shall be PVC molded in accordance with Sec 1062 and designed for flush surface mounting. The conduit terminations shall be permanent or separable. The terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4 enclosure.

Drainage shall be provided at low points or other critical locations of all conduits and all junction boxes in accordance with Sec 707. All conduits shall be sloped to drain where possible.

Payment for furnishing and installing Conduit System, complete in place, will be considered completely covered by the contract lump sum price for Conduit System on Structure.

Shift reinforcing steel in field where necessary to clear conduit and junction boxes.

Top of light standard support shall be made horizontal, anchor bolts to be placed vertically.

Anchor bolts and nuts shall be 1″Ø ASTM F1554 Grade 55. Anchor bolts, nuts and washers shall be fully galvanized.

Remove and Reinstall light pole. (Roadway Item).

Cost of anchor bolts, nuts and washers, concrete and reinforcing will be considered completely covered by the contract unit price for Safety Barrier Curb per linear foot.

See Missouri Standard Plans drawing 901.00 for details not shown.

(*) Match existing anchor bolt pattern.

DETAILED: NOV 2014
CHECKED: NOV 2014

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

Professional Engineer
Mark Huck
PE-22266

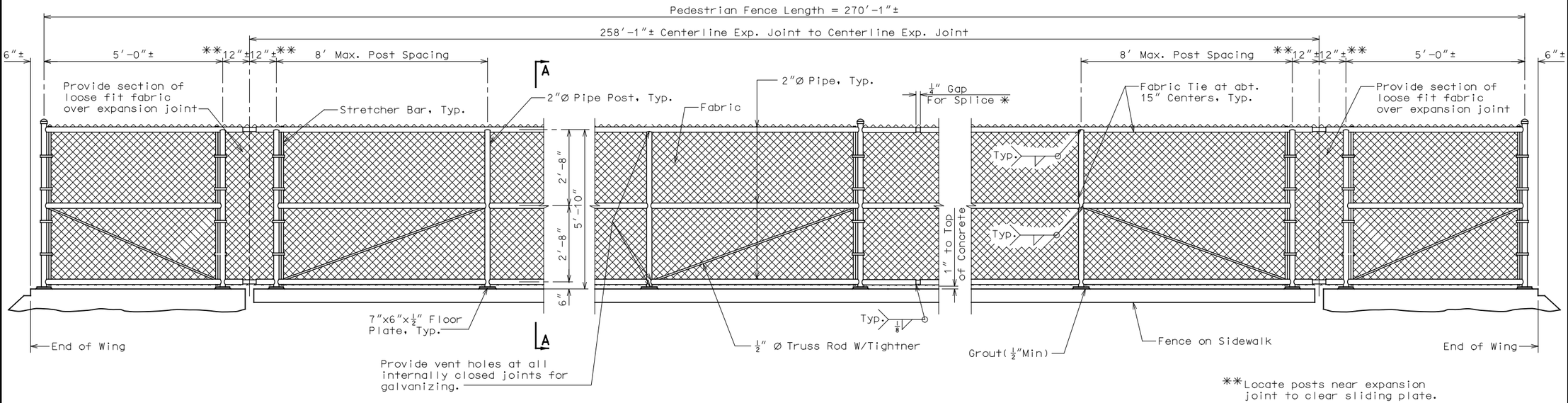
DATE PREPARED: 11-10-2014
ROUTE: 35
STATE: MO
DISTRICT: BR
SHEET NO.: 12
COUNTY: CLAY
JOB NO.: J4I3028
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: L06552

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

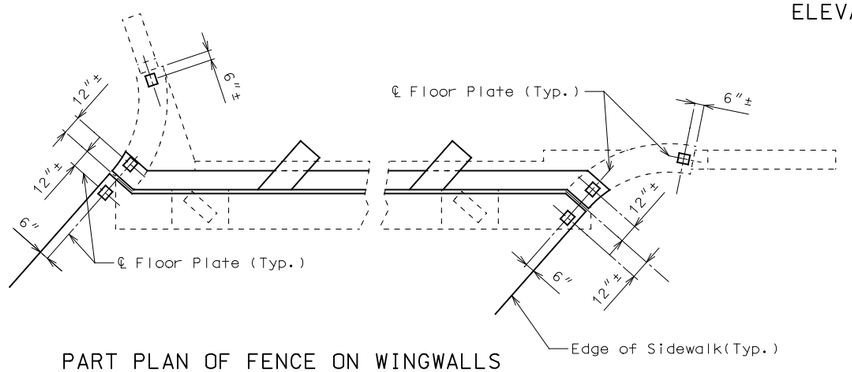
REV. | DATE | DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

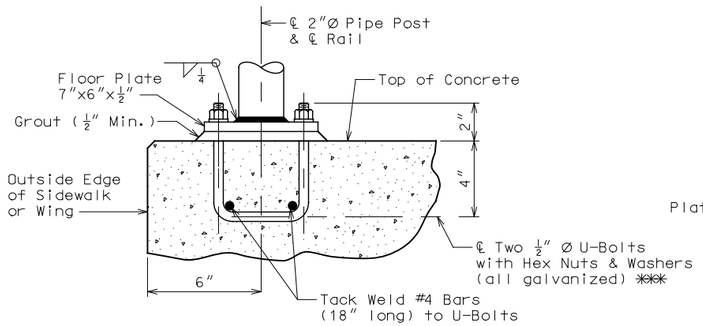
Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority No. : 000165
BMcD Project No. 80028



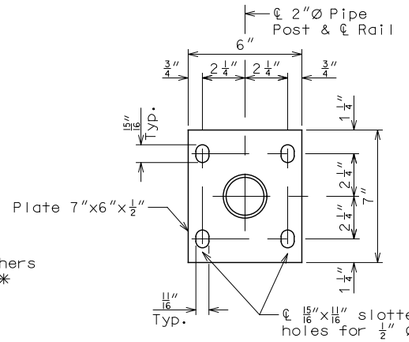
ELEVATION OF PEDESTRIAN FENCE



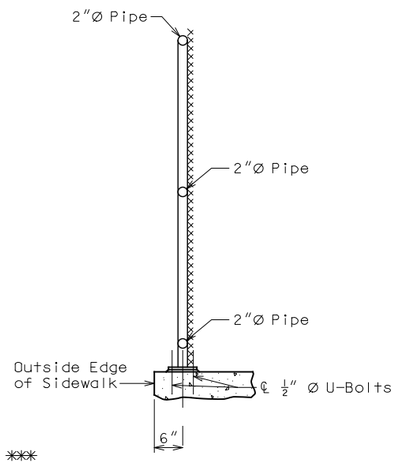
PART PLAN OF FENCE ON WINGWALLS



SECTION THRU FENCE RAIL POST



FLOOR PLATE DETAIL



SECTION A-A

Notes:

Pedestrian guard fence (chain link type) shall be in accordance with Sec 1043 except all fabric shall have the top and bottom edges knuckled.

Longitudinal dimensions are horizontal. Contractor shall adjust for slope.

The maximum spacing allowed for the braced panels (pull posts) is 100 ft. Connect the lower end of ½″ Ø rod to the end of braced panel to which the stretcher bar is attached.

8′-0″ max. post spacing for fence.

* Locate at about 30′-0″ centers with at least one splice gap between pull posts.

Chain-link mesh shall be attached on the inside face of the fence.

All rail post shall be vertical. Grout of ½″ minimum thickness shall be placed under floor plates to provide for vertical alignment of rail posts.

Approval of shop details and materials is required before installation begins.

All fabric, posts, rails, ties, bands, bars, rods, tension wire and other fittings and hardware shall be galvanized.

*** For fence posts at end of wings, use 1/2″ Ø resin anchors into existing concrete.

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

The minimum embedment depth in concrete with f′c = 4,000 psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5″.

Payment for furnishing, galvanizing and erecting the fence and frame complete with anchor bolts,washers and resin anchors will be considered completely covered by the contract unit price for 72″ Pedestrian Fence (Structures), per linear foot.

Core wire size for fabric shall be 6 gage minimum.

DETAILED: NOV 2014
CHECKED: NOV 2014

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

STATE OF MISSOURI
MARK HUCK NUMBER PE-22266
PROFESSIONAL ENGINEER
Professional Engineer
Mark Huck
PE-22266

DATE PREPARED
11-10-2014

ROUTE	STATE
35	MO
DISTRICT	SHEET NO.
BR	13

COUNTY
CLAY

JOB NO.
J4I3028

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
L06552

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

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority
No. : 000165
BMcD Project No. 80028

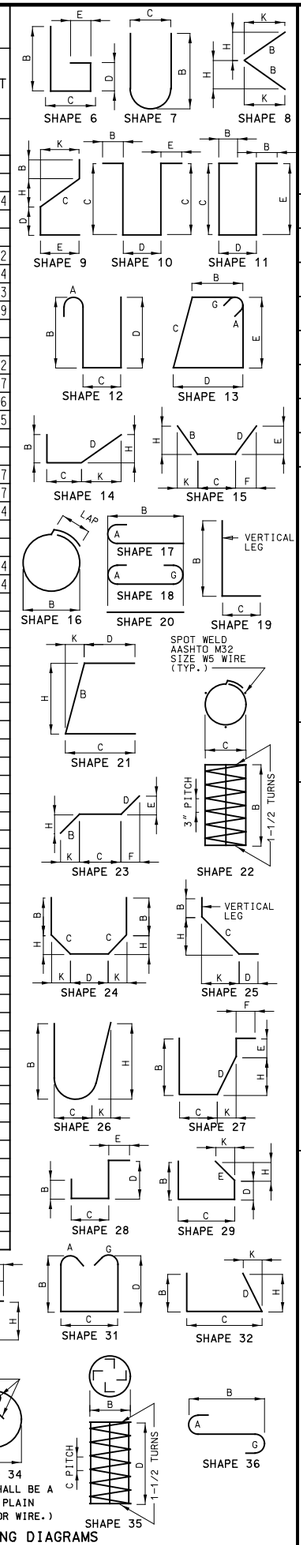
barbill_i Effective: Aug. 2008 Supercedes: Feb. 2006

BILL OF REINFORCING STEEL

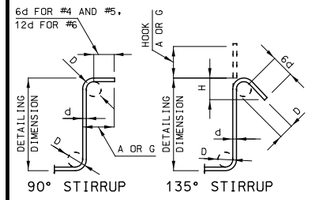
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			END BENT 1																									
4	6	H1	BACKWALL	E	20					34	8.000													34	8	34	8	208
6	6	H2	BACKWALL	E	20					8	10.000													8	10	8	10	80
17	5	U1	BACKWALL	E	10	S						0	11.000	0	9.000									2	7	2	5	43
			END BENT 5																									
4	6	H1	BACKWALL	E	20					34	8.000													34	8	34	8	208
4	6	H2	BACKWALL	E	20					8	10.000													8	10	8	10	53
17	5	U1	BACKWALL	E	10	S						0	11.000	0	9.000									2	7	2	5	43
			SLAB																									
850	5	S1	SLAB	E	20					51	3.000													51	3	51	3	45,436
352	5	S2	SLAB	E	20			V	4	0	18.000													0	18	0	18	
			Incr. = 6.80"							50	10.000													50	10	50	10	9,607
504	5	S3	SIDEWALK	E	9	S				6	5.000	0	9.875	0	15.000							0	7.000	8	6	8	5	4,424
8	5	S4	SIDEWALK	E	9	S		V	2	0	12.000	0	9.875	0	15.000							0	7.000	3	1	3	0	
			Incr. = 13.67"							4	5.000	0	9.875	0	15.000							0	7.000	6	6	6	5	39
102	4	S5	SIDEWALK	E	20					53	8.000													53	8	53	8	3,657
555	5	S6	SLAB	E	20					54	2.000													54	2	54	2	31,355
160	6	S7	SLAB	E	20					35	6.000													35	6	35	6	8,531
80	6	S8	SLAB	E	20					38	6.000													38	6	38	6	4,626
12	5	S9	SIDEWALK	E	20			V	2	0	18.000													0	18	0	18	
			Incr. = 13.60"							7	2.000													7	2	7	2	54
1260	4	S10	SLAB	E	10	S				0	8.000	0	7.000	0	8.000	0	8.000							3	2	3	0	2,525
4	5	S11	SLAB	E	20					35	10.000													35	10	35	10	149
96	5	S12	END HAUNCH	E	10	S						2	3.000	0	10.000									5	4	5	2	517
504	4	S13	SLAB	E	11	S				0	8.000	0	7.000	0	8.000	0	7.000							3	2	3	0	1,010
			SAFETY BARRIER CURB																									
536	5	R1	BARRIER CURB	E	26	S				2	6.000	0	4.250									2	6.000	5	3	5	3	2,935
536	5	R3	BARRIER CURB	E	19	S				0	17.000	0	6.000									0	23	0	22	1,025		
536	5	R4	BARRIER CURB	E	27	S						0	6.000	0	11.250	0	7.000	0	12.000	0	9.250	0	6.375	3	0	2	10	1,584
86	5	R5	BARRIER CURB	E	20					9	9.000													9	9	9	9	875
56	5	R6	BARRIER CURB	E	20					26	2.000													26	2	26	2	1,528
28	5	R7	BARRIER CURB	E	20					49	9.000													49	9	49	9	1,453
24	5	R8	BARRIER CURB	E	19	S				2	6.000	0	3.500											2	10	2	9	69
24	5	R9	BARRIER CURB	E	15	S				2	6.125	0	3.500									2	6.000	2	10	2	9	69
44	5	R10	BARRIER CURB	E	20					2	10.000													2	10	2	10	130
24	5	R11	BARRIER CURB	E	20					2	6.000													2	6	2	6	63
3	5	U41	LIGHT SUPPORT	E	28	S				2	5.500	0	14.000	2	5.500	0	6.000							6	7	6	3	20
2	5	U42	LIGHT SUPPORT	E	28	S				2	5.500	0	7.250	2	5.500	0	6.000							6	0	5	8	12
6	5	U43	LIGHT SUPPORT	E	13	S				0	22.500	0	14.500	0	22.500	0	14.500							7	1	6	9	42
6	6	U44	LIGHT SUPPORT	E	20					3	0.000													3	0	3	0	27
6	5	R50	LIGHT SUPPORT	E	30					0	18.000	0	20.506	0	22.500	0	20.506	0	18.000	0	14.500	0	14.500	8	4	8	3	52

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			OPTIONAL SLIP FORM BARRIER																									
56	5	C1	BARRIER CURB	E	20					10	0.000													10	0	10	0	584
			TOTALS																									
	4			E																								7,192
	5			E																								101,524
	6			E																								13,733
			TOTAL	E																								122,449
			SLAB ON GIRDER																									
	4			E																								7,192
	5			E																								91,667
	6			E																								13,706
			TOTAL	E																								112,565
			BARRIER CURB																									
	5			E																								9,857
	6			E																								27
			TOTAL	E																								9,884
			OPTIONAL SLIP FORM BARRIER																									
	5			E																								584
			TOTAL	E																								584

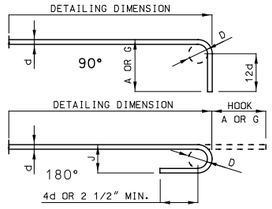


BENDING DIAGRAMS



STIRRUP HOOK DIMENSIONS			
GRADES 40 – 50 – 60 KSI			
BAR SIZE	D (IN.)	90° HOOK HOOK A OR G	135° HOOK HOOK A OR G	135° HOOK APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS				
		ALL GRADES		
BAR SIZE	D (IN.)	180° HOOKS		90° HOOKS
		A OR G	J	A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	2'-0"
#14	18 1/4"	2'-3"	21 3/4"	2'-7"

TWO ADDITIONAL #6-H2, #5-R5 and #4-S5 ARE INCLUDED IN THE BAR BILL FOR TESTING.

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

DETAILED: NOV 2014
CHECKED: NOV 2014

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

STATE OF MISSOURI
MARK HUCK NUMBER PE-22266
PROFESSIONAL ENGINEER
Professional Engineer
Mark Huck
PE-22266

DATE PREPARED 11-10-2014

ROUTE	STATE
35	MO
DISTRICT	SHEET NO.
BR	14

COUNTY: CLAY
JOB NO.: J4I3028
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: L06552

DESCRIPTION | DATE | REV.

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)
Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority No.: 000165
BMcD Project No. 80028

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

October 1, 2024
3:59:05pm

COUNTY : CLAY **BRIDGE :** L0642 R1 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 9/30/2024 **SUBMITTAL YEAR :** 2024

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	KC
3	County	CLAY
8	Federal ID No.	6401
27	Year Built	1954
106	Year Reconstructed	1989
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	NO MEDIAN
37	Historical Significance	NOT ELIGIBLE FOR NR OF HP
101	Parallel Struc Desg	RIGHT
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	YES

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE CARRIED 'ON' STRUCT
5B	Route Signing Prefix	IS
5C	Designated Level of Service	MAINLINE
5D	Route Number	00035
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	IS 35 N
12	Base Hwy. Network	YES
13A	LRS Inventory Route No.	0000004984
13B	Subroute No.	00
20	Toll Status	ON FREE ROAD
26	Functional Classification	11-UR PRNCPL ARTERIAL-IS
28A	Lanes on Structure	02
100	STRAHNET Designation	ON A DEFENSE HWY
104	National Highway System	ON NHS
105	Federal Lands Highway	NOT APPLICABLE
110	Designated Nat. Network	YES

STRUCTURE LOCATION INFORMATION

4	Place	AVONDALE CITY
	Code	02800
9	Location	S 6 T 50 N R 32 W
11	Milepoint	9.89 miles
16	Latitude	39 D 10 M 27 S
17	Longitude	94 D 32 M 12 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	36619
30	AADT Year	2023
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	18%
114	Future AADT	65914
115	Future AADT Year	2043

UNDERRECORD INFORMATION

6	Features Intersected	CST CHOUTEAU TRFY
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	04
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	16 Ft. 0 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	6 Ft. 7 In.
56	Left Lat Clearance	0 Ft. 0 In.
38	Navigation Control	N/A
39	Nav Vertical Clear	0 Ft. 0 In.
40	Nav Horizontal Clear	0 Ft. 0 In.
111	Nav. Pier Protection	
116	Nav. Cl. Vert. Clear	

STRUCTURE GEOMETRIC INFORMATION

10	Inventory Rte. Vert. Clear	99 Ft. 99 In.
19	By pass Detour Length	0.63 miles
32	Approach Roadway Width	47 Ft. 11 In.
34	Skew	24.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	41 Ft. 4 In.
48	Maximum Span Length	66 Ft. 7 In.
49	Structure Length	148 Ft. 11 In.
50A	Left Curb/Sidewalk Width	0 Ft. 8 In.
50B	Right Curb/Sidewalk Width	0 Ft. 8 In.
51	Curb to Curb Br. Width	40 Ft. 0 In.
52	Deck Width (Out-Out)	42 Ft. 8 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = l0642

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

October 1, 2024
3:59:05pm

COUNTY : CLAY **BRIDGE :** L0642 R1 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 9/30/2024 **SUBMITTAL YEAR :** 2024

LOAD RATING AND POSTING INFORMATION

31	Design Load	HS 20+MOD
41	Structure Status	OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	67 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	41 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	77.8 Percent
	Deficiency Rating	NOT DEFICIENT
	Funding Eligibility	
75A	Proposed Work	
75B	Work Done By	
76	New Struc Length	0 Ft. 0 In.
94	Struc Improve Cost	$ 0,000
95	Roadway Improve Cost	$ 0,000
96	Total Project Cost	$ 0,000
97	Year of Cost Estimates	0

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	MEETS ACCEPTBLE STND
36B	Transition Rail App. Rating	MEETS ACCEPTBLE STND
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	MEETS ACCEPTBLE STND
67	Struc Eval App. Rating	5
68	Deck Geometry App. Rating	7
69	Underclearance App. Rating	4
71	Waterway Adeq. App. Rating	N
72	Approach Road App. Rating	8
113	Scour Assess App. Rating	N

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	STEEL CONTINUOUS
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
45	# of Main Spans	3
44A	Appr Struc. Mat type	000
44B	Appr Struc. Cnstr. type	000
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	1 MONO CONCRETE
108B	Membrane Mat/Constr.	0 NONE
108C	Deck Protect Mat/Constr.	1 EPOXY

CONDITION RATING INFORMATION

58	Deck Cond. Rating	6
59	Superstructure Cond. Rating	5
60	Substructure Cond. Rating	5
61	Channel /Channel Protection Cond. Rating	N
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	9 / 24	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

98	Neighboring State Code
98B	Neighboring State % Respon
99	Neighboring State Struc. No.

FIELD POSTING INFORMATION

Field Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

Design_No = l0642

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

October 1, 2024
3:59:05pm

COUNTY : CLAY **BRIDGE :** L0642 R1 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE 'UNDER' STRUCT **RUN DATE :** 9/30/2024 **SUBMITTAL YEAR :** 2024

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	KC
3	County	CLAY
8	Federal ID No.	6401
27	Year Built	1954
106	Year Reconstructed	0
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	
22	Structure Owner	
33	Br. Median Code	
37	Historical Significance	
101	Parallel Struc Desg	RIGHT
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE 'UNDER' STRUCT	Code : 2
5B	Route Signing Prefix	CST	
5C	Designated Level of Service	MAINLINE	
5D	Route Number	00000	
5E	Directional Suffix	NOT APPLICABLE	
7	Facility Carried	IS 35 N	
12	Base Hwy. Network		
13A	LRS Inventory Route No.		
13B	Subroute No.		
20	Toll Status	ON FREE ROAD	
26	Functional Classification	16-URBAN MINOR ARTERIAL	
28A	Lanes on Structure	02	
100	STRAHNET Designation	RTE NOT A DEFENSE HWY	
104	National Highway System	NOT ON NHS	
105	Federal Lands Highway		
110	Designated Nat. Network	NO	

STRUCTURE LOCATION INFORMATION

4	Place	AVONDALE CITY
	Code	02800
9	Location	S 6 T 50 N R 32 W
11	Milepoint	1.65 miles
16	Latitude	39 D 10 M 27 S
17	Longitude	94 D 32 M 12 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	11518
30	AADT Year	2023
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	5%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	MO 269
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	04
54A	Vert. Clearance Ref.	
54B	Vert. Clearance	
55A	Rt. Lat Clear Ref.	
55B	Rt. Lat Clearance	
56	Left Lat Clearance	
38	Navigation Control	
39	Nav Vertical Clear	
40	Nav Horizontal Clear	
111	Nav. Pier Protection	
116	Nav. Cl. Vert. Clear	

STRUCTURE GEOMETRIC INFORMATION

10	Inventory Rte. Vert. Clear	16 Ft. 0 In.
19	By pass Detour Length	0.63 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	41 Ft. 4 In.
48	Maximum Span Length	66 Ft. 7 In.
49	Structure Length	148 Ft. 11 In.
50A	Left Curb/Sidewalk Width	
50B	Right Curb/Sidewalk Width	
51	Curb to Curb Br. Width	
52	Deck Width (Out-Out)	
53	Vert.Clearance Over Deck	

Design_No = l0642

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

October 1, 2024
3:59:05pm

COUNTY : CLAY **BRIDGE :** L0642 R1 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE 'UNDER' STRUCT **RUN DATE :** 9/30/2024 **SUBMITTAL YEAR :** 2024

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	STEEL CONTINUOUS
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

58	Deck Cond. Rating
59	Superstructure Cond. Rating
60	Substructure Cond. Rating
61	Channel /Channel Protection Cond. Rating
62	Culvert Cond. Rating

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

98	Neighboring State Code
98B	Neighboring State % Respon
99	Neighboring State Struc. No.

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = l0642

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

October 1, 2024
3:59:42pm

COUNTY : CLAY **BRIDGE :** L0655 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 9/30/2024 **SUBMITTAL YEAR :** 2024

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	KC
3	County	CLAY
8	Federal ID No.	6409
27	Year Built	1954
106	Year Reconstructed	1976
42A	Type of Service On	HIGHWAY-PEDESTRIAN
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	NO MEDIAN
37	Historical Significance	NOT ELIGIBLE FOR NR OF HP
101	Parallel Struc Desg	NONE EXISTS
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	YES

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE CARRIED 'ON' STRUCT
5B	Route Signing Prefix	CST
5C	Designated Level of Service	MAINLINE
5D	Route Number	00000
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	N BRIGHTON AVE S
12	Base Hwy. Network	NO
13A	LRS Inventory Route No.	
13B	Subroute No.	
20	Toll Status	ON FREE ROAD
26	Functional Classification	16-URBAN MINOR ARTERIAL
28A	Lanes on Structure	04
100	STRAHNET Designation	RTE NOT A DEFENSE HWY
104	National Highway System	NOT ON NHS
105	Federal Lands Highway	NOT APPLICABLE
110	Designated Nat. Network	NO

STRUCTURE LOCATION INFORMATION

4	Place	KANSAS CITY CITY
	Code	38000
9	Location	S 32 T 51 N R 32 W
11	Milepoint	5.82 miles
16	Latitude	39 D 11 M 1 S
17	Longitude	94 D 31 M 16 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	4914
30	AADT Year	2023
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	5%
114	Future AADT	7862
115	Future AADT Year	2043

UNDERRECORD INFORMATION

6	Features Intersected	IS 35
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	04
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	16 Ft. 12 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	11 Ft. 10 In.
56	Left Lat Clearance	13 Ft. 9 In.
38	Navigation Control	N/A
39	Nav Vertical Clear	0 Ft. 0 In.
40	Nav Horizontal Clear	0 Ft. 0 In.
111	Nav. Pier Protection	
116	Nav. Cl. Vert. Clear	

STRUCTURE GEOMETRIC INFORMATION

10	Inventory Rte. Vert. Clear	99 Ft. 99 In.
19	By pass Detour Length	1.25 miles
32	Approach Roadway Width	43 Ft. 12 In.
34	Skew	41.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	43 Ft. 12 In.
48	Maximum Span Length	69 Ft. 11 In.
49	Structure Length	261 Ft. 2 In.
50A	Left Curb/Sidewalk Width	4 Ft. 11 In.
50B	Right Curb/Sidewalk Width	4 Ft. 11 In.
51	Curb to Curb Br. Width	43 Ft. 12 In.
52	Deck Width (Out-Out)	58 Ft. 5 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = l0655

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

October 1, 2024
3:59:42pm

COUNTY : CLAY **BRIDGE :** L0655 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 9/30/2024 **SUBMITTAL YEAR :** 2024

LOAD RATING AND POSTING INFORMATION

31	Design Load	H 20
41	Structure Status	OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	62 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	38 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	77.4 Percent
	Deficiency Rating	FUNCTIONAL
	Funding Eligibility	PARTIAL
75A	Proposed Work	REHAB-GENERAL DETERIORAT
75B	Work Done By	Contract
76	New Struc Length	295 Ft. 3 In.
94	Struc Improve Cost	$ 2,006,000
95	Roadway Improve Cost	$ 201,000
96	Total Project Cost	$ 3,009,000
97	Year of Cost Estimates	2024

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	MEETS ACCEPTBLE STND
36B	Transition Rail App. Rating	DOES NOT MEET ACCEPT STND
36C	Approach Rail App. Rating	DOES NOT MEET ACCEPT STND
36D	Rail End Treat. App. Rating	DOES NOT MEET ACCEPT STND
67	Struc Eval App. Rating	6
68	Deck Geometry App. Rating	2
69	Underclearance App. Rating	5
71	Waterway Adeq. App. Rating	N
72	Approach Road App. Rating	8
113	Scour Assess App. Rating	N

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	STEEL CONTINUOUS
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
45	# of Main Spans	4
44A	Appr Struc. Mat type	000
44B	Appr Struc. Cnstr. type	000
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	1 MONO CONCRETE
108B	Membrane Mat/Constr.	0 NONE
108C	Deck Protect Mat/Constr.	0 NONE

CONDITION RATING INFORMATION

58	Deck Cond. Rating	8
59	Superstructure Cond. Rating	7
60	Substructure Cond. Rating	6
61	Channel /Channel Protection Cond. Rating	N
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	9 / 24	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

98	Neighboring State Code
98B	Neighboring State % Respon
99	Neighboring State Struc. No.

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

FIELD POSTING INFORMATION

Field Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

Design_No = l0655

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

October 1, 2024
3:59:42pm

COUNTY : CLAY **BRIDGE :** L0655 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 9/30/2024 **SUBMITTAL YEAR :** 2024

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	KC
3	County	CLAY
8	Federal ID No.	6409
27	Year Built	1954
106	Year Reconstructed	0
42A	Type of Service On	HIGHWAY-PEDESTRIAN
21	Structure Maintenance	
22	Structure Owner	
33	Br. Median Code	
37	Historical Significance	
101	Parallel Struc Desg	NONE EXISTS
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	

ROUTE DESIGNATION INFORMATION

5A	Record Type	1 RTE THAT GOES 'UNDER' S	Code : A
5B	Route Signing Prefix	IS	
5C	Designated Level of Service	MAINLINE	
5D	Route Number	00035	
5E	Directional Suffix	NOT APPLICABLE	
7	Facility Carried	N BRIGHTON AVE S	
12	Base Hwy. Network		
13A	LRS Inventory Route No.		
13B	Subroute No.		
20	Toll Status	ON FREE ROAD	
26	Functional Classification	11-UR PRNCPL ARTERIAL-IS	
28A	Lanes on Structure	04	
100	STRAHNET Designation	ON A DEFENSE HWY	
104	National Highway System	ON NHS	
105	Federal Lands Highway		
110	Designated Nat. Network	YES	

STRUCTURE LOCATION INFORMATION

4	Place	KANSAS CITY CITY
	Code	38000
9	Location	S 32 T 51 N R 32 W
11	Milepoint	104.10 miles
16	Latitude	39 D 11 M 1 S
17	Longitude	94 D 31 M 16 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	33788
30	AADT Year	2023
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	18%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 35
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	02
54A	Vert. Clearance Ref.	
54B	Vert. Clearance	
55A	Rt. Lat Clear Ref.	
55B	Rt. Lat Clearance	
56	Left Lat Clearance	
38	Navigation Control	
39	Nav Vertical Clear	
40	Nav Horizontal Clear	
111	Nav. Pier Protection	
116	Nav. Cl. Vert. Clear	

STRUCTURE GEOMETRIC INFORMATION

10	Inventory Rte. Vert. Clear	16 Ft. 12 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	43 Ft. 12 In.
48	Maximum Span Length	69 Ft. 11 In.
49	Structure Length	261 Ft. 2 In.
50A	Left Curb/Sidewalk Width	
50B	Right Curb/Sidewalk Width	
51	Curb to Curb Br. Width	
52	Deck Width (Out-Out)	
53	Vert.Clearance Over Deck	

Design_No = l0655

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

October 1, 2024
3:59:42pm

COUNTY : CLAY **BRIDGE :** L0655 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 9/30/2024 **SUBMITTAL YEAR :** 2024

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	STEEL CONTINUOUS
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

58	Deck Cond. Rating
59	Superstructure Cond. Rating
60	Substructure Cond. Rating
61	Channel /Channel Protection Cond. Rating
62	Culvert Cond. Rating

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

98	Neighboring State Code
98B	Neighboring State % Respon
99	Neighboring State Struc. No.

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = l0655

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

October 1, 2024
3:59:42pm

COUNTY : CLAY **BRIDGE :** L0655 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 9/30/2024 **SUBMITTAL YEAR :** 2024

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	KC
3	County	CLAY
8	Federal ID No.	6409
27	Year Built	1954
106	Year Reconstructed	0
42A	Type of Service On	HIGHWAY-PEDESTRIAN
21	Structure Maintenance	
22	Structure Owner	
33	Br. Median Code	
37	Historical Significance	
101	Parallel Struc Desg	NONE EXISTS
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	

ROUTE DESIGNATION INFORMATION

5A	Record Type	2ND RTE THAT GOES 'UNDR'S Code : B
5B	Route Signing Prefix	IS
5C	Designated Level of Service	MAINLINE
5D	Route Number	00035
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	N BRIGHTON AVE S
12	Base Hwy. Network	
13A	LRS Inventory Route No.	
13B	Subroute No.	
20	Toll Status	ON FREE ROAD
26	Functional Classification	11-UR PRNCPL ARTERIAL-IS
28A	Lanes on Structure	04
100	STRAHNET Designation	ON A DEFENSE HWY
104	National Highway System	ON NHS
105	Federal Lands Highway	
110	Designated Nat. Network	YES

STRUCTURE LOCATION INFORMATION

4	Place	KANSAS CITY CITY
	Code	38000
9	Location	S 32 T 51 N R 32 W
11	Milepoint	10.96 miles
16	Latitude	39 D 11 M 1 S
17	Longitude	94 D 31 M 16 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	33788
30	AADT Year	2023
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	18%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

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42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	02
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53	Vert.Clearance Over Deck	

Design_No = l0655

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

October 1, 2024
3:59:42pm

COUNTY :	**CLAY**	**BRIDGE :**	**L0655 2**	**REVIEW STATUS :**	**APPROVED**	**NBI STATUS :**	**T**
RECORD TYPE :	**2ND RTE THAT GOES 'UNDR'S**			**RUN DATE :**	**9/30/2024**	**SUBMITTAL YEAR :**	**2024**

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APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = l0655

Missouri Department of Transportation
State Bridge Inspection Report

October 01, 2024
3:52:35PM

COUNTY: CLAY **DISTRICT: KC** **CLASS: STATBR** **FED-ID: 6401** **BRIDGE: L0642**

GENERAL STRUCTURE INFORMATION

ROUTE: IS35N	**# SPANS:** 3	**PLACE CODE:** 02800 AVONDALE CITY	
FEATURE: CST CHOUTEAU TRFY	**LANES ON:** 2	**LENGTH:** 149 FT 0 IN	
STATUS: A-OPEN	**LANES UNDER:** 4	**MAXIMUM SPAN:** 66 FT 9 IN	
LOG MILE: 9.831	**COMPASS DIRECTION:** WEST to EAST	**APPROACH ROADWAY:** 48 FT 0 IN	
DETOUR: 1.00 MILES	**DIRECTION OF TRAFFIC:** 1-WAY TRAF	**CURB TO CURB:** 40 FT 0 IN	
NHS: YES	**FUNCTIONAL CLASS:** UR-INTERSTATE	**OUT TO OUT:** 42 FT 8 IN	
BUILT: 1954	**NBI OWNER:** MODOT	**AADT:** 36619	
REHAB: 1989	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2023	
LOCATION: S 6 T 50 R 32 W	**MAINTENANCE DISTRICT:** KC	**AADT TRUCK:** 18.4%	
LATITUDE: 39 10 26.83 (DMS)	**MAINTENANCE COUNTY:** CLAY	**FUTURE AADT:** 65914	
LONGITUDE: 94 32 12.21 (DMS)	**SUB AREA:** 7C25	**FUTURE AADT YEAR:** 2043	

BRIDGE INSPECTION INFORMATION

DATE: 09/03/2024 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:**
TEAM LEADER: JARED YOST **ELEMENT:** YES
INSPECTOR 2: **INSPECTOR 4:**
INSPECTOR 3:

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

GENERAL INSPECTION COMMENTS

FRACTURE CRITICAL INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

FRACTURE CRITICAL INSPECTION COMMENTS

INDEPTH INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

INDEPTH INSPECTION COMMENTS

SPECIAL INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

UNDERWATER INSPECTION COMMENTS

OTHER SPECIAL INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

OTHER UNDERWATER INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

COUNTY: CLAY **DISTRICT: KC** **CLASS: STATBR** **FED-ID: 6401** **BRIDGE: L0642**

STRUCTURE POSTING

APPROVED CATEGORY: S-1 NO POSTING REQUIRED
Ton 1: **Ton 2:** **Ton 3:**
COMMENTS: (HOLZBJ, 01/03/2013)--LOAD POSTING LETTER 1/3/2013, MODOT.

FIELD CATEGORY: S-1 NO POSTING REQUIRED
Ton 1: **Ton 2:** **Ton 3:** **PROBLEM:** **PROBLEM DIRECTION:**
COMMENTS:

GENERAL COMMENTS/MAJOR RATED ITEMS

GENERAL COMMENTS: (BOWDEJ1, 09/30/2008)--(41'-66'-41') CONT COMP WF GDR SPANS

[ITEM 58] DECK: 6-SATISFACTORY CONDITION **COMMENTS:** (OTISL1, 09/30/2014)--T-CRACKS
RATING : 05/18/2001

[ITEM 59] SUPER: 5-FAIR CONDITION **COMMENTS:** (BATUSJ1, 09/19/2012)--UNTIL REPAIRS ARE MADE TO BEARING
RATING : 09/19/2012

[ITEM 60] SUB: 5-FAIR CONDITION **COMMENTS:** (OTISL1, 09/30/2014)--ABUTMENT CAPS SPALLING
RATING : 01/12/2011

[ITEM 61] BANK/CHANNEL: N-NOT APPLIC NO WATRWAY **COMMENTS:**
RATING : 05/18/2001

[ITEM 113] SCOUR: N-NOT APPLIC NOT WATERW **COMMENTS:**
RATING : 05/18/2001
EVALUATION TYPE :

[ITEM 71] WATERWAY ADEQUACY: NOT APPLICABLE **COMMENTS:**
RATING : 05/18/2001

[ITEM 72] APPRRDWY ALIGNMENT: 8-VERYGOOD **COMMENTS:**
RATING : 05/18/2001

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

[ITEM 36A] BRIDGE RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
REINFORCED CONCRETE	SAFETY BARRIER CURB	BOTH	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
VERTICAL CRACKS	THROUGHOUT		FEW	

[ITEM 36B] TRANSITION RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *09/26/2016* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	THRIE BEAM TO W-BEAM	BOTH-WEST	

[ITEM 36C] APPROACH RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	W-BEAM	BOTH-WEST	

[ITEM 36D] RAIL END TREATMENT RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *01/12/2011* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	BREKAWAY SYSTEM	BOTH-WEST	

APPROACH PAVEMENT: *Overall condition assigned for each approach pavemenet component is shown below.

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
REINFORCED CONCRETE	SLAB	BOTH	FAIR	(OTISL1, 10/09/2018)--ASPHALT WEARING SURFACE: 2018

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
SPALLS	ENDS		FEW	

DRAINAGE, EXPANSION DEVICES, BANK/SLOPE, AND DECK PROTECTIVE COMPONENTS

DECK PROTECTIVE COMPONENTS:

SERIES TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	THICKNESS	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
MAIN SERIES-1	*WEARING SURFACE*	*PLAIN CONCRETE*	*MONOLITHIC*				
COMMENT:							
	DECK PROTECTION	*EPOXY POLYMER*	*COATED REBAR*				
COMMENT:							
	MEMBRANE	*NOTAPPLICABLE*	*NONE*				
COMMENT:							
	SECONDARY DECK PROTECTION	*LIQUID SEALANT*	*INTERNALLY SEALED*		*2023*	*SILANE*	
COMMENT:							

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS

EXPANSION DEVICE COMPONENTS:

SUB UNIT-#	SUB LABEL	COMPONENT	MATERIAL	CONSTRUCTION	GAP	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
ABUTMENT-1		*CLOSED EXPANSION JOINT*	*ELASTOMERIC*	*COMPRESSION SEAL*			*XJS JOINT*	*POOR*
COMMENT:								

BANK/SLOPE PROTECTION COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
SLOPE PROTECTION	*PLAIN CONCRETE*	*PAVEDSLOPE*	*BOTH*	

DECK COMPONENTS

SPAN TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	COMMENTS
MAIN SPANS-1	*DECK*	*REINFORCED CONCRETE*	*CAST-IN-PLACE*	*(BATUSJ1, 10/01/2012)--D.L. DROP 1.5" OVER GIRDER 3-4*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
EFFLORESCENCE	THROUGHOUT		MEDIUM		
SCALING	DRIVING SURFACE		LIGHT		
SPALLS	LONGITUDINAL JOINT		MINOR		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

SPAN TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION
MAIN SPANS-2	*DECK*	*REINFORCED CONCRETE*	*CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

EFFLORESCENCE	THROUGHOUT		MEDIUM
SCALING	DRIVING SURFACE		LIGHT
TRANSVERSE CRACKS	THROUGHOUT		MANY

MAIN SPANS-3 *DECK* *REINFORCED CONCRETE* *CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
EFFLORESCENCE	THROUGHOUT		MEDIUM		
SCALING	DRIVING SURFACE		LIGHT		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

SUPERSTRUCTURE COMPONENTS

SERIES TYPE-#	SPAN TYPE	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
MAIN SERIES-1	*CONTINUOUS SPAN*	*STEEL*	*WIDE FLANGE GIRDERS*		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	COMPOSITE	41 FT 0 IN	NO	(BATUSJ1, 10/01/2012)--GIRDER 3-4 FLOAT ON BEARING

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	BOTTOM FLANGE		LIGHT		
SECTION LOSS	AT BEARING		INITIAL		

MAIN SPANS-2	COMPOSITE	66 FT 9 IN	NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	BOTTOM FLANGE		LIGHT		

MAIN SPANS-3	COMPOSITE	41 FT 1 IN	NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	BOTTOM FLANGE		LIGHT		

MAIN SPANS-3	COMPOSITE	41 FT 1 IN	NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	BOTTOM FLANGE		LIGHT		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1	*RA-24 DEGREES*	*46 FT 10 IN*	*REINFORCED CONCRETE*	*NON-INTEGRAL*		

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
DELAMINATION	THROUGHOUT		MANY		
EFFLORESCENCE	THROUGHOUT		MINOR		
HORIZONTAL CRACKS	THROUGHOUT		MANY		
REBAR EXPOSED	THROUGHOUT		FEW		
SPALLS	THROUGHOUT		MODERATE		
PILING	STEEL	H-SHAPE			
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
LEACHING	THROUGHOUT		MINOR		
VERTICAL CRACKS	THROUGHOUT		FEW		

EXPANSION BEARING STEEL ROCKER

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PACK RUST	THROUGHOUT		MODERATE		

BENT-2 RA-24 DEGREES 42 FT 5 IN REINFORCED CONCRETE MULTIPLE COLUMN

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
HIGH STEEL SPALLS	ENDS		FEW		
REBAR EXPOSED	ENDS		FEW		
VERTICAL CRACKS	ENDS		FEW		

COLUMN REINFORCED CONCRETE CAST-IN-PLACE

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
REBAR EXPOSED	BOTTOM		FEW		
SPALLS	BOTTOM		MODERATE		
VERTICAL CRACKS	COLUMN		FEW		

FOOTING REINFORCED CONCRETE H-PILE

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

FOOTING REINFORCED CONCRETE SPREAD

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

EXPANSION BEARING STEEL ROCKER

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

BENT-3 RA-24 DEGREES 42 FT 0 IN REINFORCED CONCRETE MULTIPLE COLUMN

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

COLUMN REINFORCED CONCRETE CAST-IN-PLACE

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PATCHES	BOTTOM		SMALL		
SPALLS	THROUGHOUT		SMALL		

FOOTING REINFORCED CONCRETE H-PILE

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

FOOTING REINFORCED CONCRETE SPREAD

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

EXPANSION BEARING STEEL ROCKER

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

ABUTMENT-4 RA-24 DEGREES 44 FT 0 IN REINFORCED CONCRETE NON-INTEGRAL

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
EFFLORESCENCE	ENDS		MINOR		
HORIZONTAL CRACKS	ENDS		OPEN		
PATCHES	THROUGHOUT		LARGE		
SCALING	THROUGHOUT		MODERATE		

PILING STEEL H-SHAPE

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
DELAMINATION	THROUGHOUT		MODERATE		
LEACHING	THROUGHOUT		MINOR		
REBAR EXPOSED	THROUGHOUT		FEW		
SPALLS	THROUGHOUT		MODERATE		
VERTICAL CRACKS	THROUGHOUT		FEW		
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
PACK RUST	BOTTOM		MINOR		

OVER/UNDER ROUTES CLEARANCE INFORMATION

CLEARANCES OVER DECK

**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

CLEARANCES UNDER BRIDGE

**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID
1	CST CHOUTEAU TRFY S	4	2-WAY TRAF	6 FT 5 IN		14165

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	16 FT 0 IN			

STRUCTURE PAINT INFORMATION

CONDITION: FAIR **RUST AMOUNT :** 6=1.0% OF SURFACE RUSTED **STEEL TONS :** 60

ORIGINAL PAINT		CONTRACT REPAINT		DEPARTMENT REPAINT	
PAINT TYPE :		**PAINT TYPE :**	C SYSTEM	**PAINT TYPE :**	**MANUFACTURE :**
NAME :		**NAME :**	INORGANIC ZINC/VINYL	**NAME :**	**SURFACE PREP :**
PAINT COLOR :		**PAINT COLOR :**	GREEN	**PAINT COLOR :**	
PAINT YEAR :		**PAINT YEAR :**	1990	**PAINT YEAR :**	
MILS :		**MILS :**	7	**MILS :**	

REQUESTED WORK ITEMS

Design_No = L0642

Missouri Department of Transportation
State Bridge Inspection Report

COUNTY: CLAY **DISTRICT: KC** **CLASS: STATBR** **FED-ID: 6401** **BRIDGE: L0642**

GENERAL WORK COMMENTS:

RESPONSIBILITY	*LOCATION*	*ITEM*	*CATEGORY*	*PRIORITY*	*DATE*	*WORK ITEM COMMENT*
DISTRICT SPECIAL	SEE COMMENT	REPLACE EXPANSION DEVICE	EXPANSION DEVICE	3	09/28/2020	(OTISL1, 10/01/2020)--REPLACE/REPAIR EXPANSION JOINTS & CHECK BEARINGS UNDER JOINT
DISTRICT SPECIAL		SEAL DECK WITH IN DECK	DECK	3	04/03/2029	

*****UTILITY ATTACHMENTS*****

UTILITY	*OWNER*	*METHOD*	*MEASUREMENT TYPE*	*VALUE*	*NUMBER*	*UTILITY ATTACHMENT COMMENT*
STRUCTURAL SIGN		MOUNTED			1	

*****PROGRAM NOTES INFORMATION*****

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT

*****COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS*****

NOTE: The items listed in this section are updated whenever computer edits are ran on a structure after the inspection updates have been entered in to TMS.

Rated Item	Rating	Rating Date
[Item 67] Structure Evaluation Rating:	5-BETTER THAN MINIMUM	1/19/2011
[Item 68] Deck Geometry Rating:	7-BETTER THAN PRESENT MIN	4/17/2002
[Item 69] Underclearance:	4-MEETS MINIMUM TOLERABLE	4/17/2002
Sufficiency Rating:	77.8%	3/7/2024
Deficiency:	NOT DEFICIENT	4/17/2002
Funding Eligibility:		----
Estimated New Structure Length:		----
Estimated Structure Cost:		----
Estimated Total Project Cost:		----
Year of Cost Estimate:		----

NOTE: The above structure length and cost estimates are computer generated using algorithims in the TMS system. These algorthims are generalized to use NBI items to come up with a new structure length and width to calculate a new area which is taken times a representative cost per square foot. The actual structure size and cost may vary significantly from these numbers once site specific engineering is done.

*****ADVANCED SIGN INFORMATION*****

SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION
1			

*****OUTFALL INSPECTION INFORMATION*****

 # OUTFALLS: **INSPECTOR:**
STATUS: **DATE:**
NOTES:

Missouri Department of Transportation
State Bridge Inspection Report

October 01, 2024
3:53:42PM

COUNTY: CLAY **DISTRICT: KC** **CLASS: STATBR** **FED-ID: 6409** **BRIDGE: L0655**

GENERAL STRUCTURE INFORMATION

ROUTE: CSTN BRIGHTON AVES	**# SPANS:** 4	**PLACE CODE:** 38000 KANSAS CITY CITY	
FEATURE: IS 35	**LANES ON:** 4	**LENGTH:** 261 FT 0 IN	
STATUS: A-OPEN	**LANES UNDER:** 4	**MAXIMUM SPAN:** 70 FT 0 IN	
LOG MILE: 5.781	**COMPASS DIRECTION:** SOUTH to NORTH	**APPROACH ROADWAY:** 44 FT 0 IN	
DETOUR: 1.00 MILES	**DIRECTION OF TRAFFIC:** 2-WAY TRAF	**CURB TO CURB:** 44 FT 0 IN	
NHS: NO	**FUNCTIONAL CLASS:** UR-MINOR ARTERIAL	**OUT TO OUT:** 58 FT 6 IN	
BUILT: 1954	**NBI OWNER:** MODOT	**AADT:** 4914	
REHAB: 1976	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2023	
LOCATION: S 32 T 51 R 32 W	**MAINTENANCE DISTRICT:** KC	**AADT TRUCK:** 5.0%	
LATITUDE: 39 11 .84 (DMS)	**MAINTENANCE COUNTY:** CLAY	**FUTURE AADT:** 7862	
LONGITUDE: 94 31 16.43 (DMS)	**SUB AREA:** 7C25	**FUTURE AADT YEAR:** 2043	

BRIDGE INSPECTION INFORMATION

DATE: 09/04/2024 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 24
TEAM LEADER: TIMOTHY HAZLETT **ELEMENT:** NO
INSPECTOR 2: **INSPECTOR 4:**
INSPECTOR 3:

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

GENERAL INSPECTION COMMENTS

FRACTURE CRITICAL INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

FRACTURE CRITICAL INSPECTION COMMENTS

INDEPTH INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

INDEPTH INSPECTION COMMENTS

SPECIAL INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

UNDERWATER INSPECTION COMMENTS

OTHER SPECIAL INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

OTHER UNDERWATER INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

COUNTY: CLAY **DISTRICT: KC** **CLASS: STATBR** **FED-ID: 6409** **BRIDGE: L0655**

STRUCTURE POSTING

APPROVED CATEGORY: S-1 NO POSTING REQUIRED
Ton 1: **Ton 2:** **Ton 3:**
COMMENTS:

FIELD CATEGORY: S-1 NO POSTING REQUIRED
Ton 1: **Ton 2:** **Ton 3:** **PROBLEM:** **PROBLEM DIRECTION:**
COMMENTS:

GENERAL COMMENTS/MAJOR RATED ITEMS

GENERAL COMMENTS: (BOWDEJ1, 09/30/2008)--(60'-70'-70'-60') CONT WF GDR SPANS (RIVETED)

[ITEM 58] DECK: 8-VERY GOOD CONDITION
RATING : 09/28/2016
COMMENTS: (OTISL1, 09/28/2016)--T CRACKS

[ITEM 59] SUPER: 7-GOOD CONDITION
RATING : 10/02/2018
COMMENTS: (KIMM1, 10/02/2018)--LIGHT RUST W/ NO SECTION LOSS.

[ITEM 60] SUB: 6-SATISFACTORY CONDITION
RATING : 10/01/2020
COMMENTS: (OTISL1, 09/28/2016)--REHAB
(OTISL1, 10/01/2020)--NONE
(RAITHK, 08/23/2023)--DET SEALED OVER

[ITEM 61] BANK/CHANNEL: N-NOT APPLIC NO WATRWAY
RATING : 05/18/2001
COMMENTS:

[ITEM 113] SCOUR: N-NOT APPLIC NOT WATERW
RATING : 05/18/2001
EVALUATION TYPE :
COMMENTS:

[ITEM 71] WATERWAY ADEQUACY: NOT APPLICABLE
RATING : 05/18/2001
COMMENTS:

[ITEM 72] APPRRDWY ALIGNMENT: 8-VERYGOOD
RATING : 05/18/2001
COMMENTS:

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

[ITEM 36A] BRIDGE RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *09/28/2016* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
REINFORCED CONCRETE	SIDEWALKS	BOTH	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
TRANSVERSE CRACKS	THROUGHOUT		FEW	

REINFORCED CONCRETE — SAFETY BARRIER CURB — BOTH

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
COLLISION DAMAGE	THROUGHOUT		MODERATE	(OTISL1, 10/01/2020)--NW CORNER
VERTICAL CRACKS	THROUGHOUT		FEW	

GALVANIZED STEEL — PEDESTRIAN FENCE — BOTH

[ITEM 36B] TRANSITION RAILING RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:***

[ITEM 36C] APPROACH RAILING RATING: NOT PROVIDED-0 ***RATING :*** 05/18/2001 ***COMMENTS:***

[ITEM 36D] RAIL END TREATMENT RATING: NOT PROVIDED-0 ***RATING :*** 05/18/2001 ***COMMENTS:***

APPROACH PAVEMENT: *Overall condition assigned for each approach pavemenet component is shown below.

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
ASPHALT	BITUMINOUS MAT	BOTH	GOOD	

DRAINAGE, EXPANSION DEVICES, BANK/SLOPE, AND DECK PROTECTIVE COMPONENTS

DECK PROTECTIVE COMPONENTS:

SERIES TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	THICKNESS	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
MAIN SERIES-1	WEARING SURFACE	PLAIN CONCRETE	MONOLITHIC				FAIR
	DECK PROTECTION	NOTAPPLICABLE	NONE				
	MEMBRANE	NOTAPPLICABLE	NONE				
	SECONDARY DECK PROTECTION	LIQUID SEALANT	INTERNALLY SEALED		2024	SILANE	

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS

EXPANSION DEVICE COMPONENTS:

SUB UNIT-#	SUB LABEL	COMPONENT	MATERIAL	CONSTRUCTION	GAP	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
ABUTMENT-1		CLOSED EXPANSION JOINT	ELASTOMERIC	STRIP SEAL				GOOD
ABUTMENT-5		CLOSED EXPANSION JOINT	ELASTOMERIC	STRIP SEAL				GOOD

BANK/SLOPE PROTECTION COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
SLOPE PROTECTION	PLAIN CONCRETE	PAVEDSLOPE	BOTH	(HANSEC1, 01/31/2007)--N. SLOPE, 5 PANELS CAVED IN

DECK COMPONENTS

SPAN TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	COMMENTS
MAIN SPANS-1	DECK	REINFORCED CONCRETE	CAST-IN-PLACE	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
EFFLORESCENCE	OVERHANGS		LIGHT		

TRANSVERSE CRACKS	THROUGHOUT			FEW	

MAIN SPANS-2 *DECK* *REINFORCED CONCRETE* *CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
TRANSVERSE CRACKS	THROUGHOUT		MANY		

MAIN SPANS-3 *DECK* *REINFORCED CONCRETE* *CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
TRANSVERSE CRACKS	THROUGHOUT		MANY		

MAIN SPANS-4 *DECK* *REINFORCED CONCRETE* *CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
TRANSVERSE CRACKS	THROUGHOUT		MANY		

SUPERSTRUCTURE COMPONENTS

SERIES TYPE-#	SPAN TYPE	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
MAIN SERIES-1	*CONTINUOUS SPAN*	*STEEL*	*WIDE FLANGE GIRDERS*		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	COMPOSITE	60 FT 7 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	BOTTOM FLANGE		LIGHT		
RUSTING	THROUGHOUT		LIGHT		

MAIN SPANS-2	COMPOSITE	70 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	BOTTOM FLANGE		LIGHT		
RUSTING	THROUGHOUT		LIGHT		

MAIN SPANS-3	COMPOSITE	70 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	BOTTOM FLANGE		LIGHT		
RUSTING	THROUGHOUT		LIGHT		

MAIN SPANS-4	COMPOSITE	60 FT 7 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	BOTTOM FLANGE		LIGHT		
RUSTING	THROUGHOUT		LIGHT		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1	*RA-41 DEGREES*	*77 FT 3 IN*	*REINFORCED CONCRETE*	*OPEN CONCRETE*		*(OTISL1, 10/09/2018)--EPOXY SEALED*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PATCHES	THROUGHOUT		MANY		
RUST STAINS	THROUGHOUT		MINOR		

ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE

COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
SPALLS	THROUGHOUT		FEW		
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
RUSTING	THROUGHOUT		LIGHT		

BENT-2 RA-41 DEGREES 70 FT 2 IN REINFORCED CONCRETE MULTIPLE COLUMN

CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
DELAMINATION	THROUGHOUT		MINOR		
VERTICAL CRACKS	THROUGHOUT		FEW		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
DELAMINATION	BOTTOM		MINOR		
PATCHES	THROUGHOUT		MANY		
VERTICAL CRACKS	THROUGHOUT		FEW		
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***

BENT-3 RA-41 DEGREES 70 FT 2 IN REINFORCED CONCRETE MULTIPLE COLUMN

CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
DELAMINATION	THROUGHOUT		MINOR		
SPALLS	ENDS		MINOR		
VERTICAL CRACKS	THROUGHOUT		FEW		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
DELAMINATION	THROUGHOUT		MODERATE		
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***

BENT-4 RA-41 DEGREES 70 FT 2 IN REINFORCED CONCRETE MULTIPLE COLUMN

CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			

BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
DELAMINATION	ENDS		MINOR		
VERTICAL CRACKS	THROUGHOUT		FEW		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
DELAMINATION	BOTTOM		MINOR		
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
TIPPED	THROUGHOUT		MODERATE		

ABUTMENT-5 RA-41 DEGREES 77 FT 3 IN REINFORCED CONCRETE OPEN CONCRETE

CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
SEALED	BEAM CAP		EPOXY		
VERTICAL CRACKS	THROUGHOUT		FEW		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
DELAMINATION	THROUGHOUT		LARGE		
SPALLS	THROUGHOUT		FEW		
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
RUSTING	BOTTOM		LIGHT		

OVER/UNDER ROUTES CLEARANCE INFORMATION

CLEARANCES OVER DECK

**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

COUNTY: CLAY **DISTRICT: KC** **CLASS: STATBR** **FED-ID: 6409** **BRIDGE: L0655**

CLEARANCES UNDER BRIDGE

**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID
1	IS 35 S	2	1-WAY TRAF	11 FT 11 IN	13 FT 10 IN	14184

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	17 FT 0 IN			

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID
2	IS 35 N	2	1-WAY TRAF	11 FT 11 IN	13 FT 10 IN	14185

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	17 FT 4 IN			

STRUCTURE PAINT INFORMATION

CONDITION: FAIR **RUST AMOUNT :** 5=3.0% OF SURFACE RUSTED **STEEL TONS :** 174

ORIGINAL PAINT	CONTRACT REPAINT	DEPARTMENT REPAINT	
PAINT TYPE :	**PAINT TYPE :** B SYSTEM	**PAINT TYPE :** G SYSTEM	**MANUFACTURE :**
NAME :	**NAME :** BASIC LEAD CHROMIUM	**NAME :** ZINC/EPOXY/ACRYLIC	**SURFACE PREP :**
PAINT COLOR :	**PAINT COLOR :** ALUMINUM	**PAINT COLOR :** GRAY	
PAINT YEAR :	**PAINT YEAR :** 1978	**PAINT YEAR :** 2016	
MILS :	**MILS :** 5	**MILS :**	

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	*LOCATION*	*ITEM*	*CATEGORY*	*PRIORITY*	*DATE*	*WORK ITEM COMMENT*
DISTRICT SPECIAL	ROADWAY SURFACE	SEAL WITH SILANE	DECK	3	06/03/2030	

UTILITY ATTACHMENTS

UTILITY	*OWNER*	*METHOD*	*MEASUREMENT TYPE*	*VALUE*	*NUMBER*	*UTILITY ATTACHMENT COMMENT*
STRUCTURAL SIGN		MOUNTED			1	
LIGHTING		MOUNTED			1	

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT
2016		0	0	REPLACE DECK, SUBSTRUCTURE REPAIR	

COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS

NOTE: The items listed in this section are updated whenever computer edits are ran on a structure after the inspection updates have been entered in to TMS.

Rated Item	Rating	Rating Date
[Item 67] Structure Evaluation Rating:	6-EQ TO PRESENT MIN CRITR	10/6/2020
[Item 68] Deck Geometry Rating:	2-BASICALLY INTOLRBLE REQ	10/27/2015
[Item 69] Underclearance:	5-BETTER THAN MINIMUM	1/19/2022
Sufficiency Rating:	77.4%	1/19/2022
Deficiency:	FUNCTIONAL	10/6/2020
Funding Eligibility:	PARTIAL	----
Estimated New Structure Length:	217 FT.	----
Estimated Structure Cost:	$2,005,799	----
Estimated Total Project Cost:	$3,008,699	----
Year of Cost Estimate:	2024	----

NOTE: The above structure length and cost estimates are computer generated using algorithims in the TMS system. These algorthims are generalized to use NBI items to come up with a new structure length and width to calculate a new area which is taken times a representative cost per square foot. The actual structure size and cost may vary significantly from these numbers once site specific engineering is done.

ADVANCED SIGN INFORMATION

SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION
1			

OUTFALL INSPECTION INFORMATION

 # OUTFALLS: **INSPECTOR:**

STATUS: **DATE:**

NOTES: