NEW FAIRFAX BRIDGE PROJECT

NEAR

KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

1955

CONTRACT I – SUBSTRUCTURE NEW FAIRFAX BRIDGE

INDEX OF DRAWINGS

APPROVED

COUNTY COURT OF PLATTE COUNTY MISSOURI

PRESIDING JUDGE _____ DATE _____

MISSOURI STATE HIGHWAY COMMISSION

CHIEF ENGINEER _____ DATE _____

STATE HIGHWAY COMMISSION OF KANSAS

CHIEF ENGINEER _____ DATE _____

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

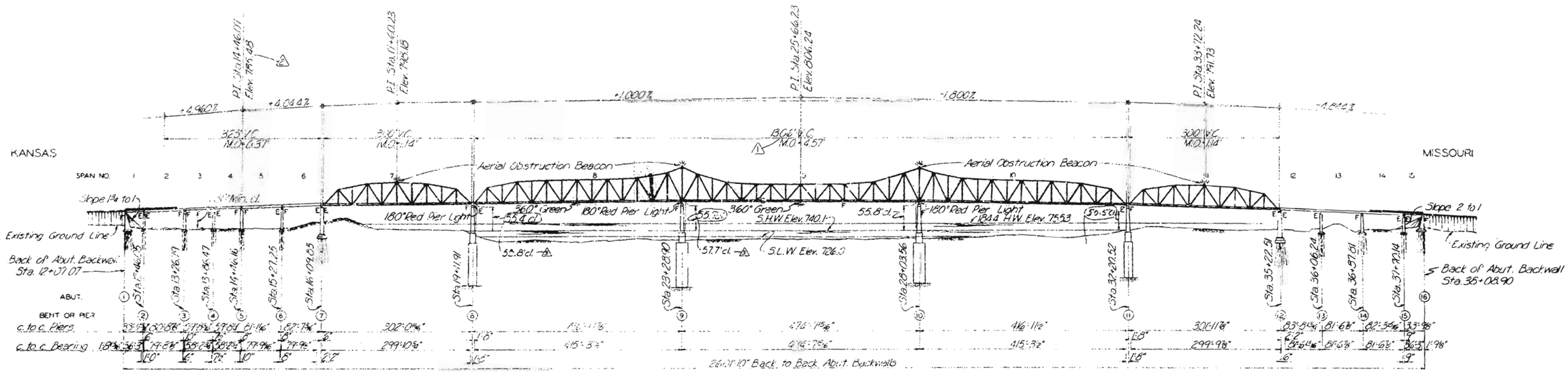
SUBMITTED BY

REGISTERED PROFESSIONAL ENGINEER
MISSOURI NO. E-640

AT. 59

A-950

FINAL DESIGN DRAWING



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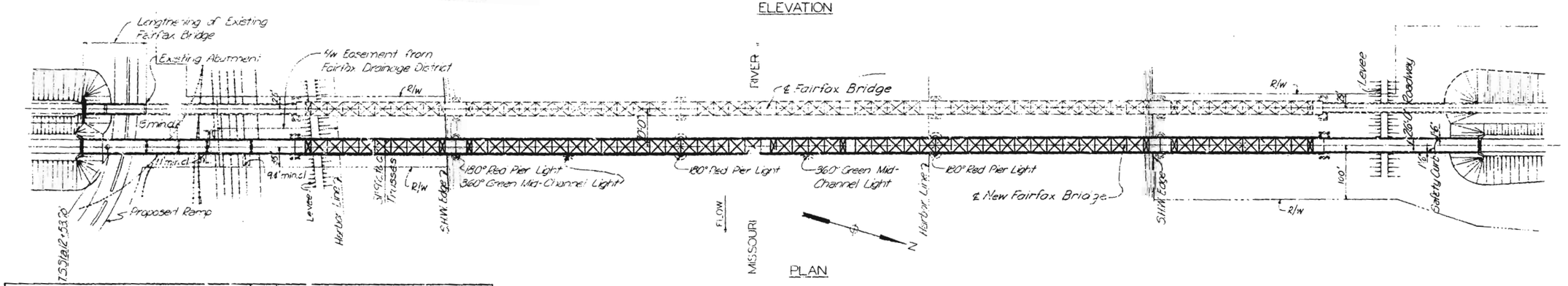
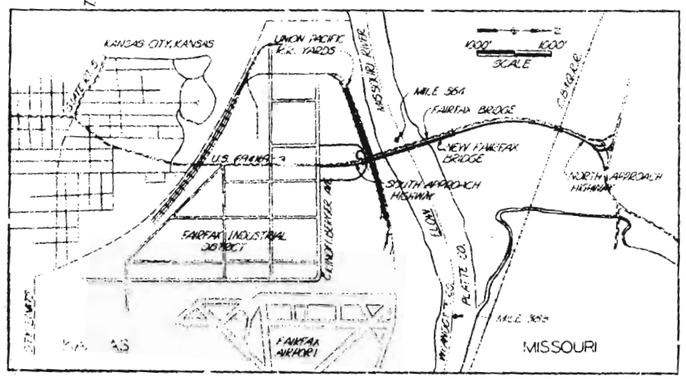


PLAN



LOCATION PLAN

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

GENERAL PLAN AND ELEVATION

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

PUBLISHED

SHEET 1 OF 13

A-450

Platte Co Pf. 69

FINAL DESIGN DRAWING

AS BUILT DRAWING

Drawn by: H.T. Sanders, Mar. 1956

Checked by: D. Kotakis, Apr. 1956

Note: Do not scale this drawing. Follow dimensions.

Revision 3 Cl. on Piers 8 & 9. 1-20-59 By R.E.S. Chkd. J.E.C.
Revision 2 Elevation of P.I. 5-31-56 by H.T.S. Chkd. J.E.C.
Revision 1 Length of Vert. Curve. 5-9-56 By H.T.S. Chkd. D.K.

SUBSTRUCTURE GENERAL NOTES

SPECIFICATIONS: Standard Specifications of the Missouri State Highway Commission, 1955 Edition, supplemented by General and Special Provisions.

DESIGN LOADING: In accordance with Division III of the A.A.S.H.O. "Standard Specifications for Highway Bridges" 1953 Edition with the following exceptions and interpretations:

Live Load: H20-S16-44 except that the concentrated load used in combination with a lane load is taken as 26,000 pounds for both shear and moment calculations for the truss spans only.

Safety Curb Live Load: None

Dead Load: Provision is made for a future wearing surface of 15 pounds per square foot of roadway surface. Provision is made for future utilities of 630 pounds per foot of bridge in addition to the weight of the structure. Haydite Concrete is assumed to weigh 105 pounds per cubic foot.

Wind Load: Provision is made for transverse, longitudinal, quartering and vertical wind forces. Transverse wind force for the design of superstructure is assumed to be 50 pounds per square foot or a combination of 30 pounds per square foot on the structure plus 200 pounds per lineal foot on the live load. For substructure design the transverse wind is assumed to be 50 pounds per square foot or combination of 15 pounds per square foot on the substructure and superstructure and 100 pounds per lineal foot on the live load.

Longitudinal wind force on the superstructure spans is as specified in the A.A.S.H.O.

For quartering wind (45° to bridge centerline), the simultaneous lateral and longitudinal forces applied to the superstructure are as follows:

For truss spans:

Lateral	.707 times total transverse wind.
Longitudinal	.354 times total transverse wind.

For girder spans:

Lateral	.707 times total transverse wind.
Longitudinal	.177 times total transverse wind.

Wind area of substructure units is actual projection.

A vertical wind force acting on the truss spans only is assumed in design of shoes and substructure. The assumed force is an upward force applied at the windward quarter point of plan width. For combination with dead load plus 50 pounds transverse wind, the force is 20 pounds per square foot of deck plan area. For combination with dead load, live load and transverse wind, the force is 6 pounds per square foot of deck plan area.

Impact: No impact for substructure units.

FOUNDATION DESIGN LOADS:

Rock Bearing Pressure - The normal maximum design load pressure for vertical loads is 12 Tons per square foot with increases for combinations of loads as specified in A.A.S.H.O. Art. 3.4.1.

Timber Piles - The normal maximum design load for vertical loads is 20 Tons per pile with increases for combinations of loads as specified in A.A.S.H.O. Art. 3.4.1.

DESIGN UNIT STRESSES IN CONCRETE:

Concrete in flexure	1,200 pounds per square inch.
Reinforcing Steel	20,000 pounds per square inch.

TIMBER PILES: All timber piles shall be driven to sustain a load of 27 Tons. They shall have a minimum penetration of 35 feet except at Piers 7 and 12 the minimum penetration shall be 40 feet below bottom of seal course.

BEARING AREAS: Raised bearing areas on piers shall be poured monolithically with pier cap. All bearing areas to receive superstructure shall be finished perfectly smooth and level at the elevations shown on plans. See Standard Specifications.

REINFORCEMENT: All dimensions to reinforcing steel on detail drawings are to ℄ of bar, except where the clear dimensions are noted from face of concrete. All reinforcing steel shall be lapped a minimum of 30 diameters unless otherwise shown or noted.

CONCRETE: Class B (air-entrained) concrete shall be used for all substructure concrete including bases of Piers 8, 9, 10 and 11.

BEVELED EDGES: All exposed edges of concrete shall be beveled ¾" unless otherwise shown or noted.

CONSTRUCTION JOINTS: Construction joints shall be made only at locations shown on the plans, except that the Engineer will approve the use of such additional construction joints in the caissons and ice breakers as may be necessary or desirable for a satisfactory handling of this work. Provide keys at all construction joints.

ANCHOR BOLT WELLS: Care shall be exercised in locating anchor bolt wells to the dimensions shown on the detail drawings. All anchor bolts shall be set in wells, except at the Contractor's option anchor bolts for Spans 1 and 15 may be cast in place.

COPPER FLASHING: Payment for furnishing and placing Copper Flashing shall be included in unit contract price for concrete.

TABLE OF ESTIMATED QUANTITIES

Item	Unit	Quantity
Class 1 Excavation for Structures	Cu. Yds.	2420
Class 2 Excavation for Structures	Cu. Yds.	420
Class B Concrete	Cu. Yds.	3383
Class B Concrete in Seal Courses	Cu. Yds.	245
Class B Concrete (Bases of Piers 8 & 11)	Cu. Yds.	4620
Class B Concrete (Bases of Piers 9 & 10)	Cu. Yds.	5108
Plain Timber Piles in place	Lin. Ft.	11,400
Treated Timber Piles in place	Lin. Ft.	10,080
Reinforcing Steel	Lbs.	764,880
Relocation of Collector Pipe and Filter at Pier 7	See Change Order No. 1	

Note:

Excavation for bridge made above Elevation 727.0 shall be paid for as Class 1 Excavation for Structures, except for Piers 8, 9, 10 & 11.

Excavation for bridge made below Elevation 727.0 shall be paid for as Class 2 Excavation for Structures, except for Piers 8, 9, 10 & 11.

The cost of excavation necessary for the construction of Piers 8, 9, 10 & 11 shall be included in the price bid for Class B Concrete (Base of Pier)

The volumes of Class B Concrete (Base of Piers 8, 9, 10 & 11) are the gross volumes of the base as shown on the plans with no deductions for the wells.

TABLE OF FINAL QUANTITIES

Item	Unit	Quantity
Class 1 Excavation for Structures	Cu. Yds.	2,848.5
Class 2 Excavation for Structures	Cu. Yds.	495.5
Class B Concrete	Cu. Yds.	4,090.8
Class B Concrete in Seal Course	Cu. Yds.	153.6
Class B Concrete (Bases of Piers 8 & 11)	Cu. Yds.	4,548.7
Class B Concrete (Bases of Piers 9 & 10)	Cu. Yds.	5,928.9
Plain Timber Piles in Place	Lin. Ft.	5,508
Treated Timber Piles in Place	Lin. Ft.	14,910
Reinforcing Steel	Lbs.	765,050
Relocation of Collector Pipe & Filter @ Pier 7	One	Lump Sum
Adjustment for Additional Costs	One	Lump Sum

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

SUBSTRUCTURE GENERAL NOTES AND QUANTITIES

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

FINISHED

SHEET 2 OF 13

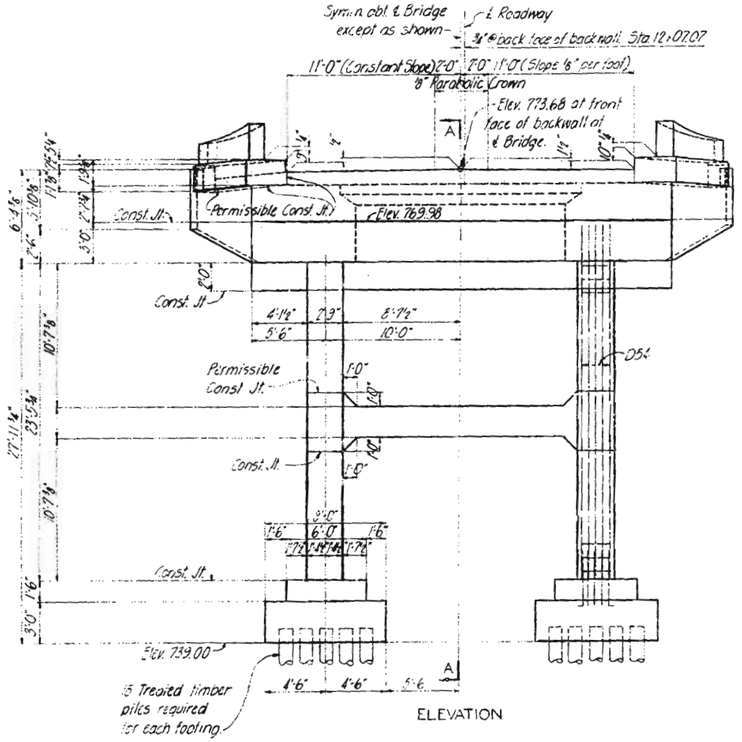
A-930
Platte Co.
Rt. 69

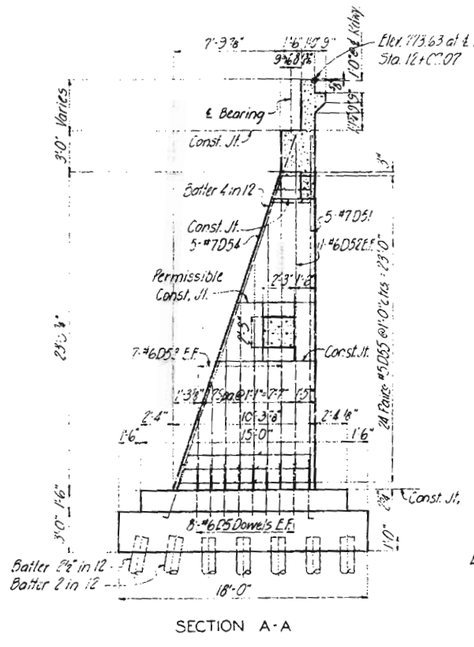
12-59 | 165265 | Drawn by: W.J. Ballard, Apr. 1956 | Checked by: E. Lemcoe, Apr. 1956

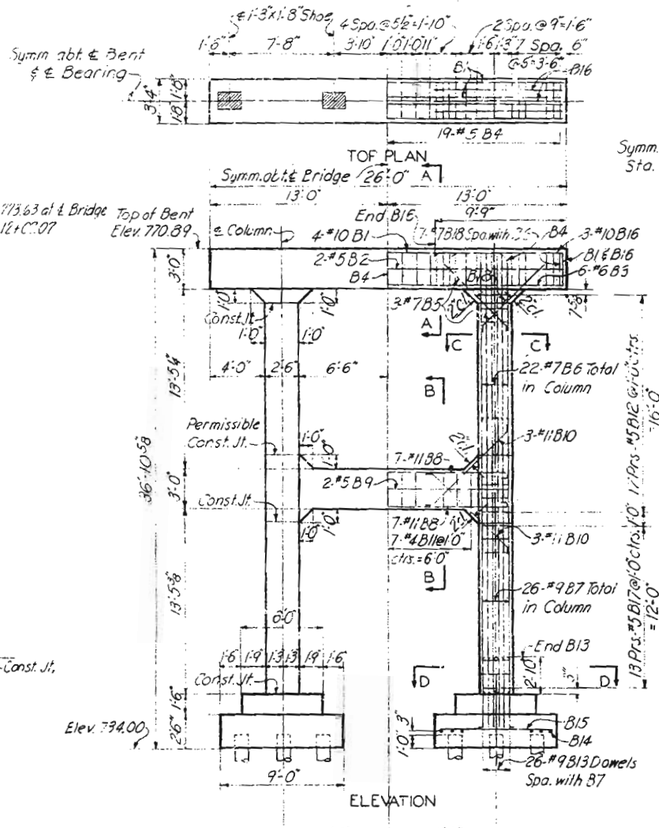
Revision ⚠ Final Quantities, 1-20-59 By R.E.B. Chkd. JEC

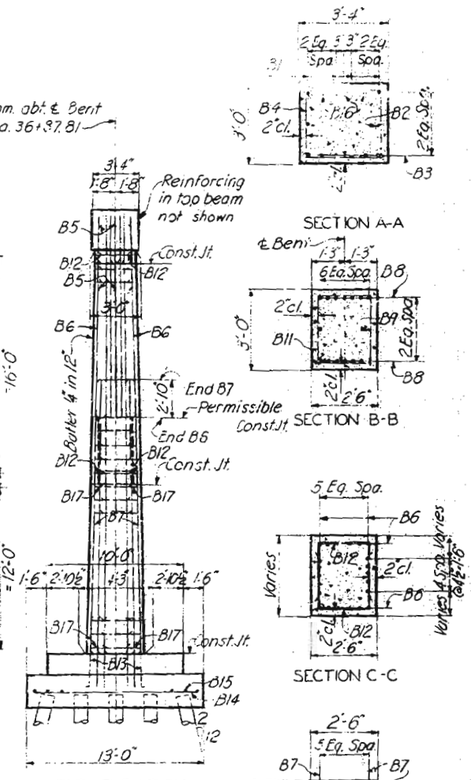
AS BUILT DRAWING

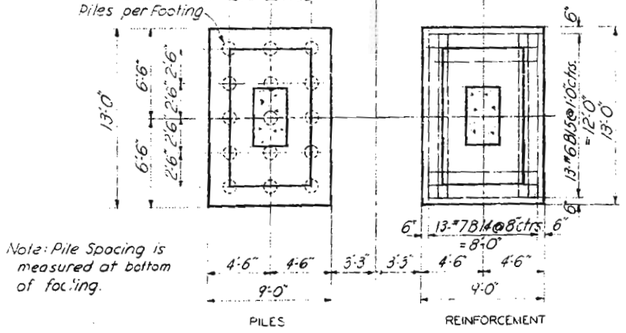
FINAL DESIGN DRAWING











ABUTMENT 1

Abutment 1 same as Abutment 16 except as shown or noted. See Sheet 4.

BENT 14

NOTES

E.F. indicates Each Face.
For General Notes, see Sheet 2.
For location of anchor bolt wells, see Sheet 10.
For Bar list, see Sheets 11 and 13.
Work this Sheet with Sheet 4.

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

ABUTMENT 1 & BENT 14

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

1259	Drawn by R.E.S. and J.S.A. Apr. 1956
565298	Checked by J.A.W. and G.L.D. Apr. 1956

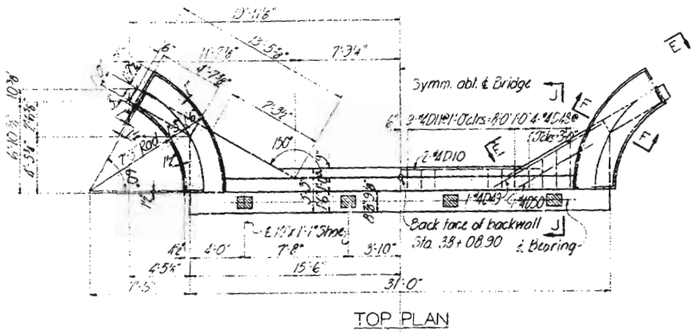
Note: Do not scale this drawing. Follow dimensions.

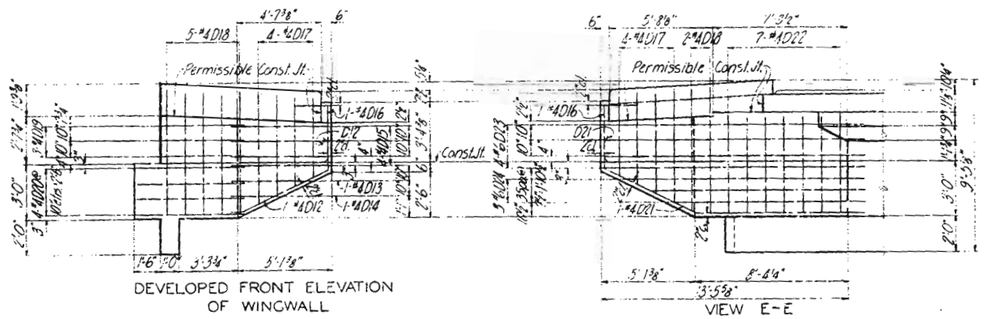
AS BUILT DRAWING

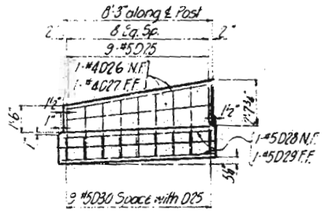
SHEET 3 OF 13

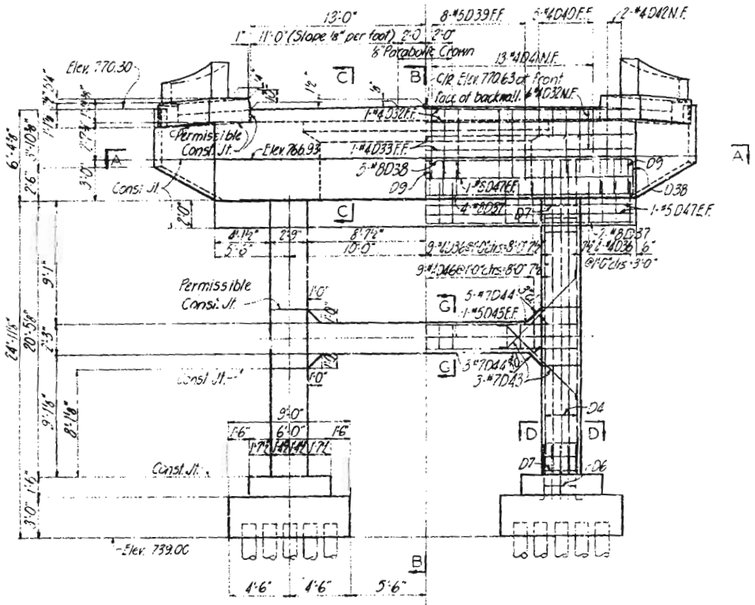
FINAL DESIGN DRAWING

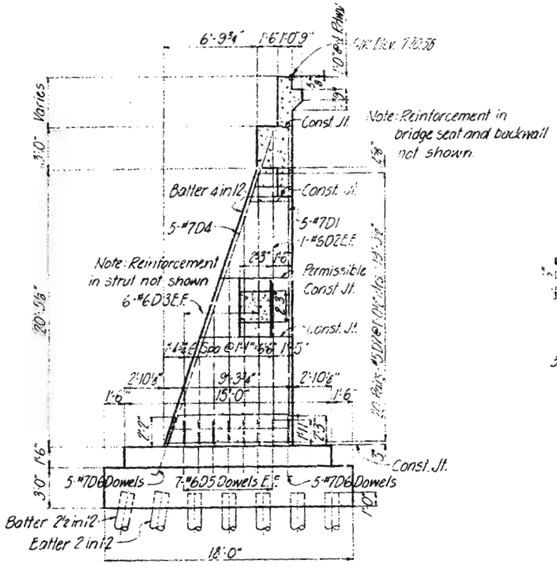
A-450
Platte Co
Rt. 69

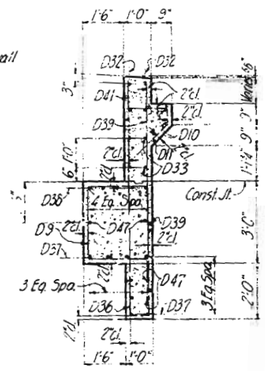


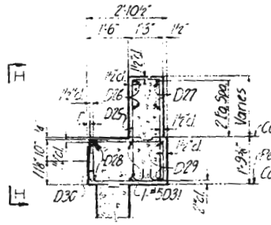


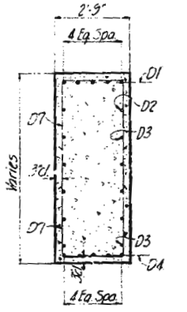


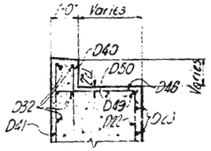


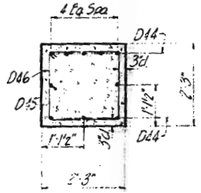


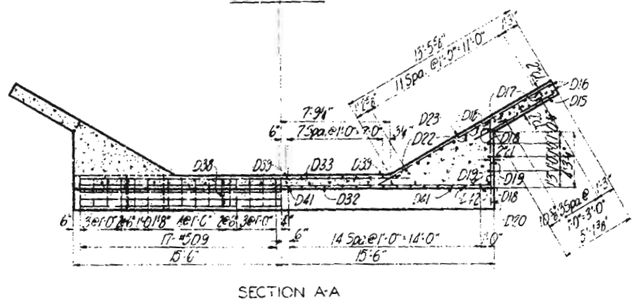


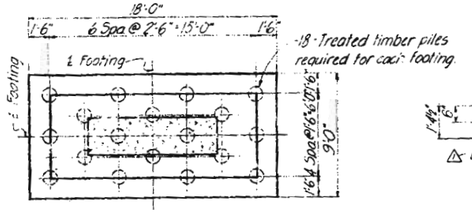




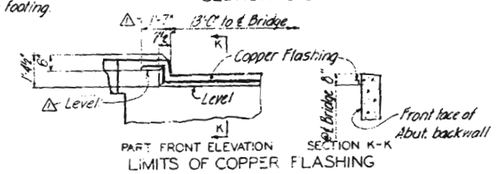


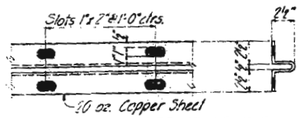






Note: Pile spacing is measured at bottom of footing at Elev. 739.





Note: Joints of copper flashing to be soldered water-tight.

NOTES

N.F. indicates near face; F.F. indicates far face; and E.F. indicates each face.
For General Notes, see Sheet 2.
For location of anchor bolt wells, see Sheet 10.
For Bar List, see Sheets 11 and 13.

Revision △ Copper Flashing 6-11-56 By G.L.D. Ckd. E.L.

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR PLATTE COUNTY, MISSOURI

ABUTMENT 16

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

1959	Drawn by: R.E. Skubiz, Jan. 1956
1960	Checked by: G.L. Dyslin, Apr. 1956

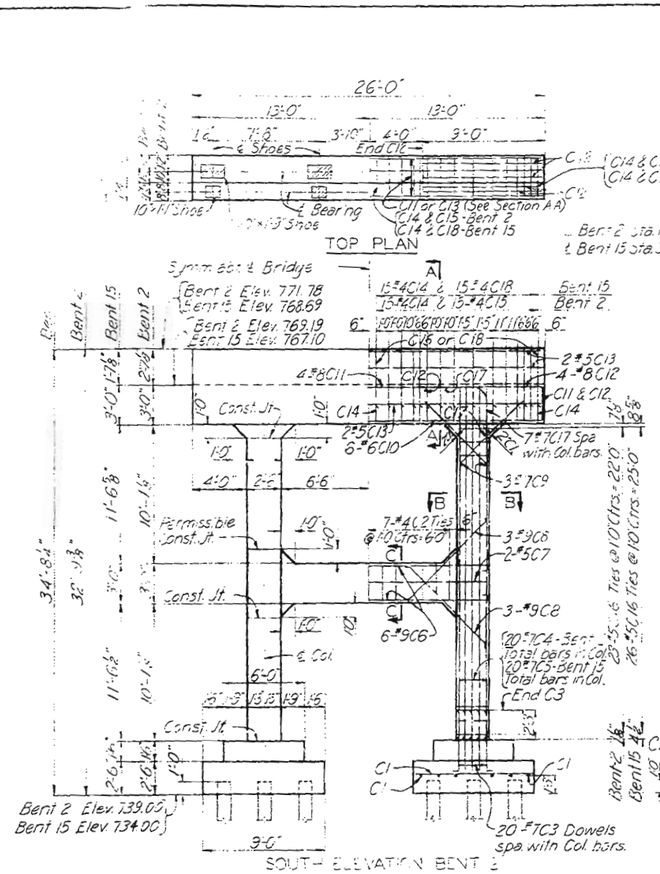
Note: Do not scale this drawing. Follow dimensions.

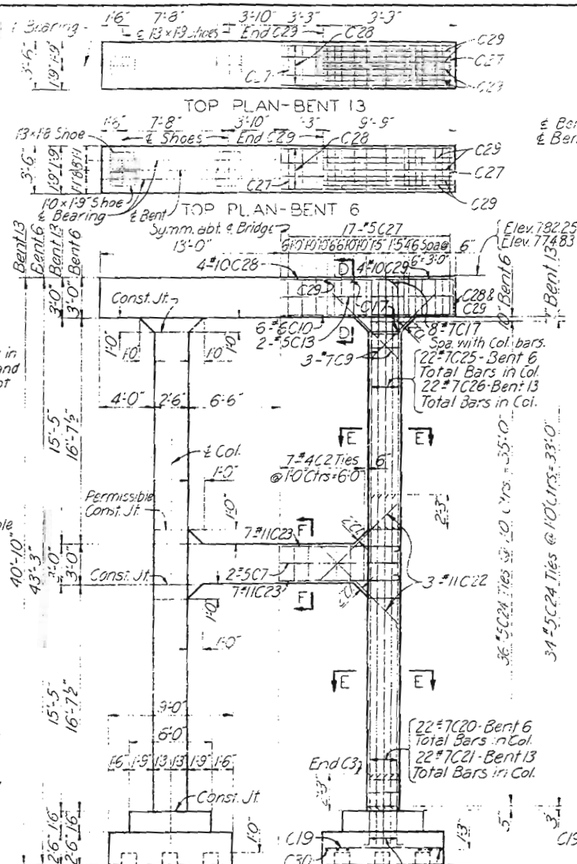
AS BUILT DRAWING

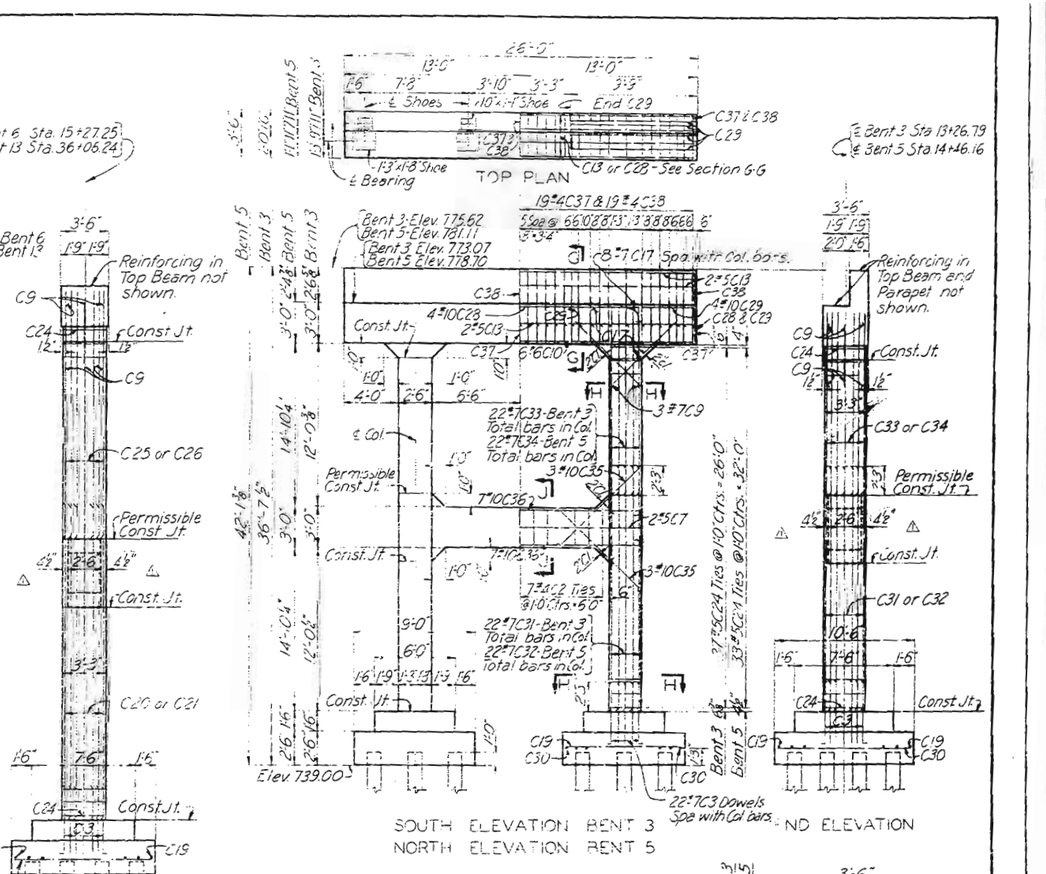
SHEET 4 OF 13

FINAL DESIGN DRAWING

A-450
Platte Co. Pl. 69







NOTES

For General Notes, see Sheet 2.
For location and details of Anchor Bolt wells, see Sheet 10.
For Bar List, see Sheets 11 & 13.

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

BENTS 2, 3, 5, 6, 13 & 15

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST LOUIS, MO

Drawn by: W. Miller April 1956
Checked by: J. Wise, April 1956

Do not scale this drawing. Follow dimensions.

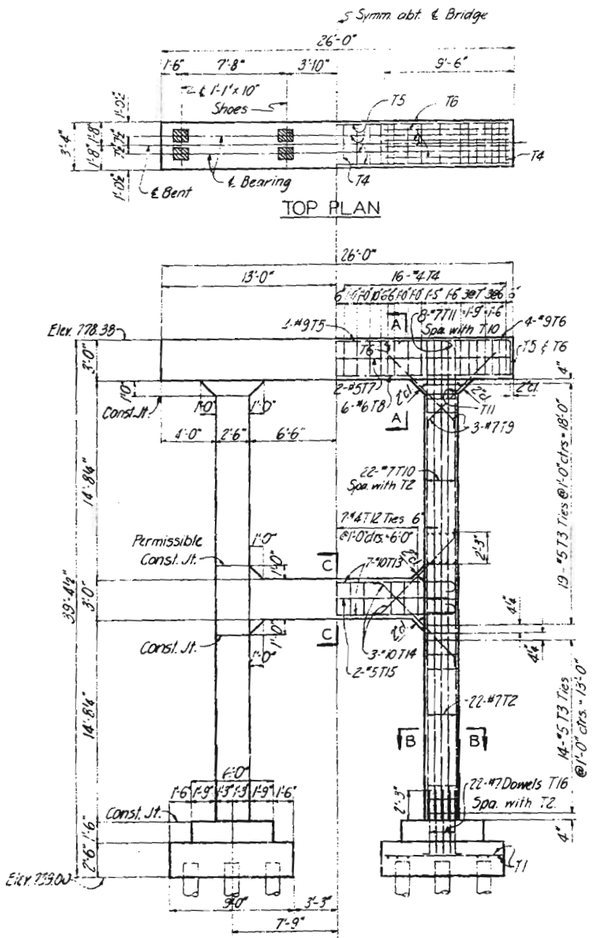
Revision 1, Bent Dimensions 6-1-56 By E.L. Chkd. G.L.D.

SHEET 5 OF 13

AS BUILT DRAWING

FINAL DESIGN DRAWING

A-450
Platte Co
81 69



NOTES

For General Notes, see Sheet 2.
For location of anchor bolt wells, see Sheet 10
For Bar List, see Sheets 11 and 13.

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS FOR PLATTE COUNTY, MISSOURI

BENT 4

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

1:59	Drawn by: R.E. Skubiz, Apr. 1956
36.5.73	Checked by: G.L. Dyslin, Apr. 1956

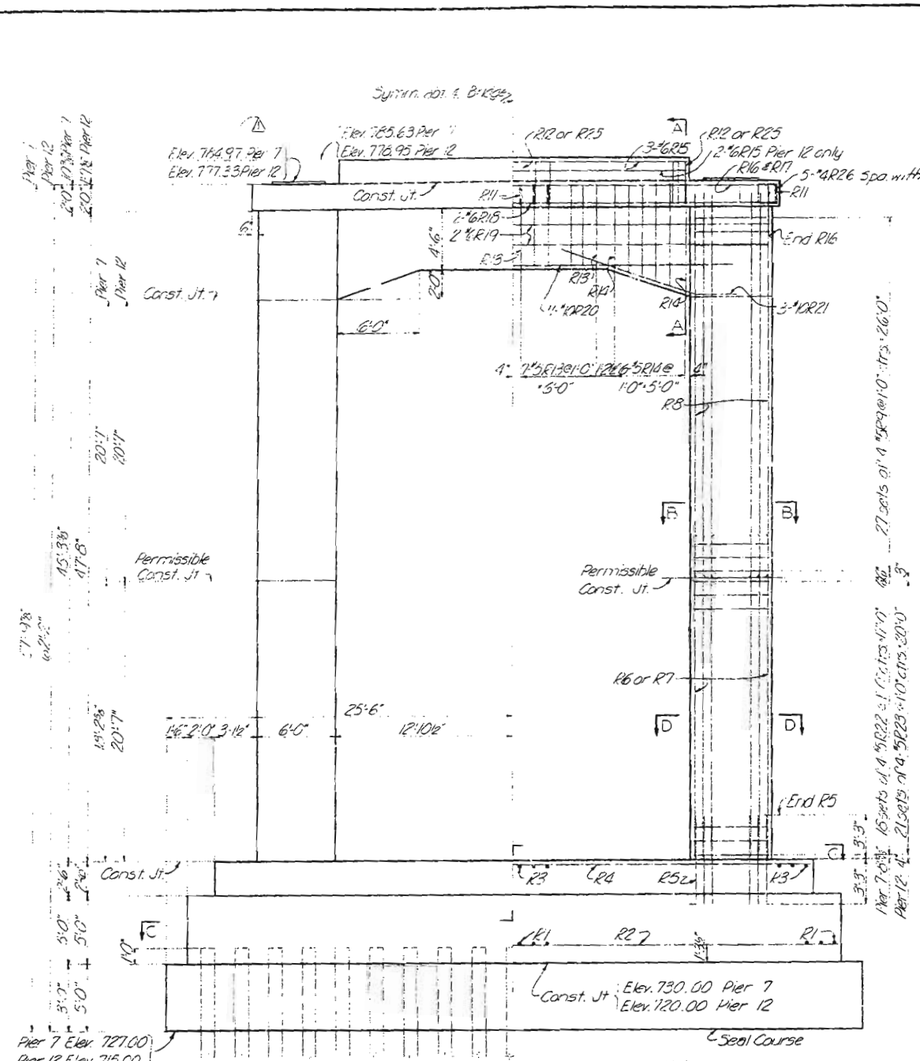
Note: Do not scale this drawing. Follow dimensions.

SHEET 6 OF 13

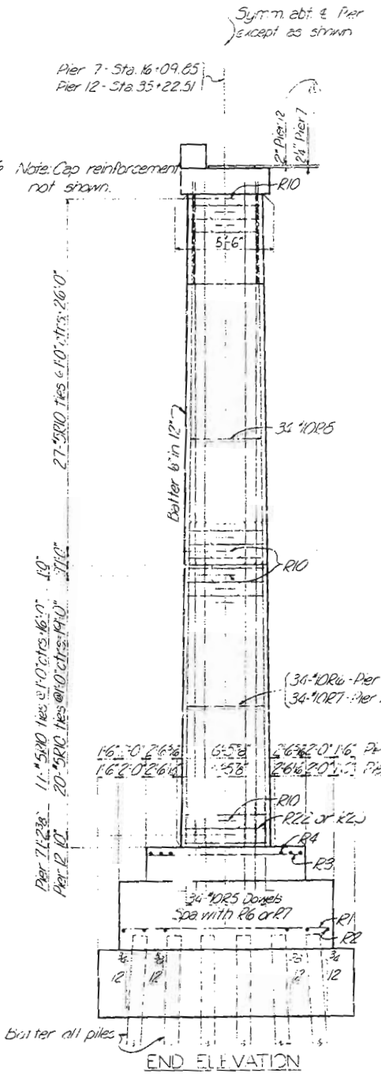
AS BUILT DRAWING

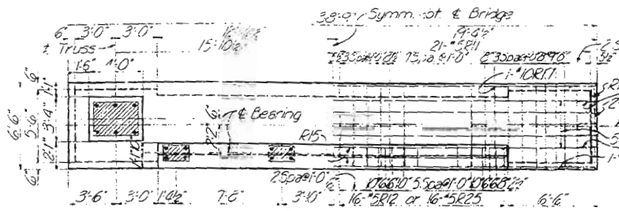
FINAL DESIGN DRAWING

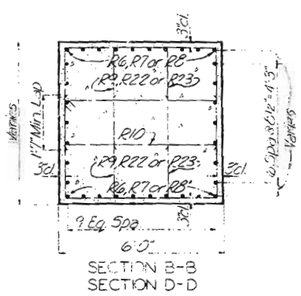
A-490
Platte Co
Rt. 69

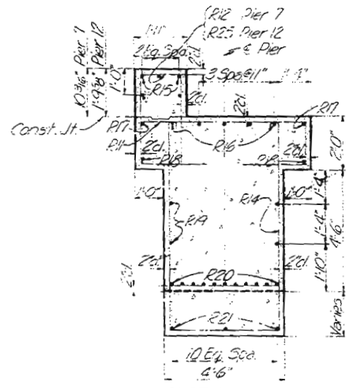


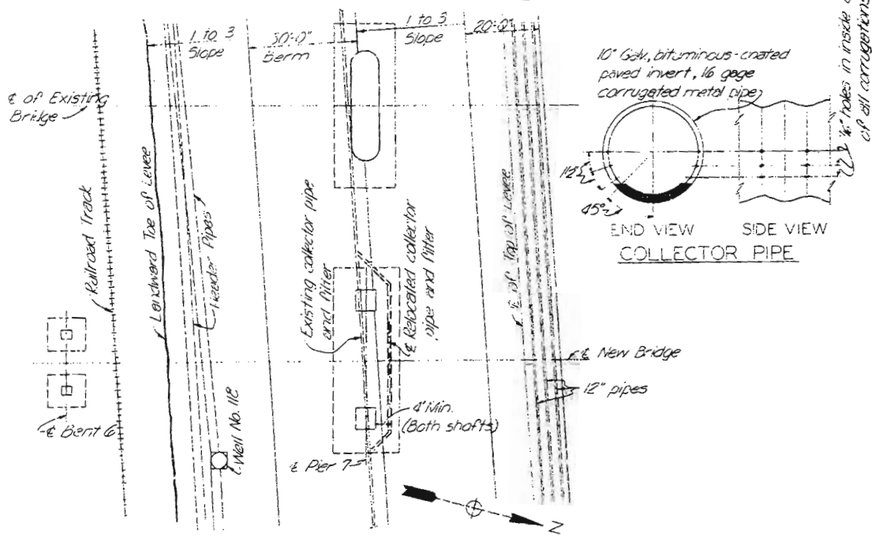
Note:
Seal Course deleted from Pier 7 and treated piles used (See C.O. #2).

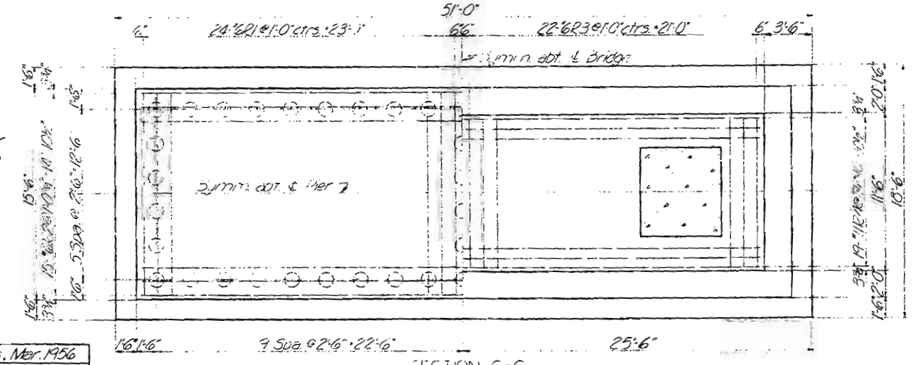






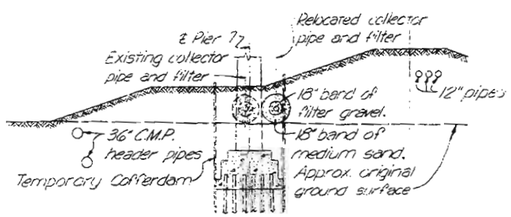






Note: All plain timber piles reqd. for each footing.
Pile spacing shown is at top of Seal Course.

NOTES
For General Notes, see Sheet 2.
For location and size of anchor bolt wells, see Sheet 10.
For Bar List, see Sheets 11 and 13.



Revision ⚠ Note @ Pier 7 1-20-59 By R.E.B. Chkd. J.E.C.
Revision ⚠ Elev. Truss Seat at Pier 7 8-7-56 By E.L. Chkd. G.R.D.

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

PIERS 7 & 12 AND RELOCATION OF COLLECTOR PIPE AT PIER 7

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

Drawn by: H.T. Sanders, Mar. 1956
Checked by: O. Kotakis, Apr. 1956

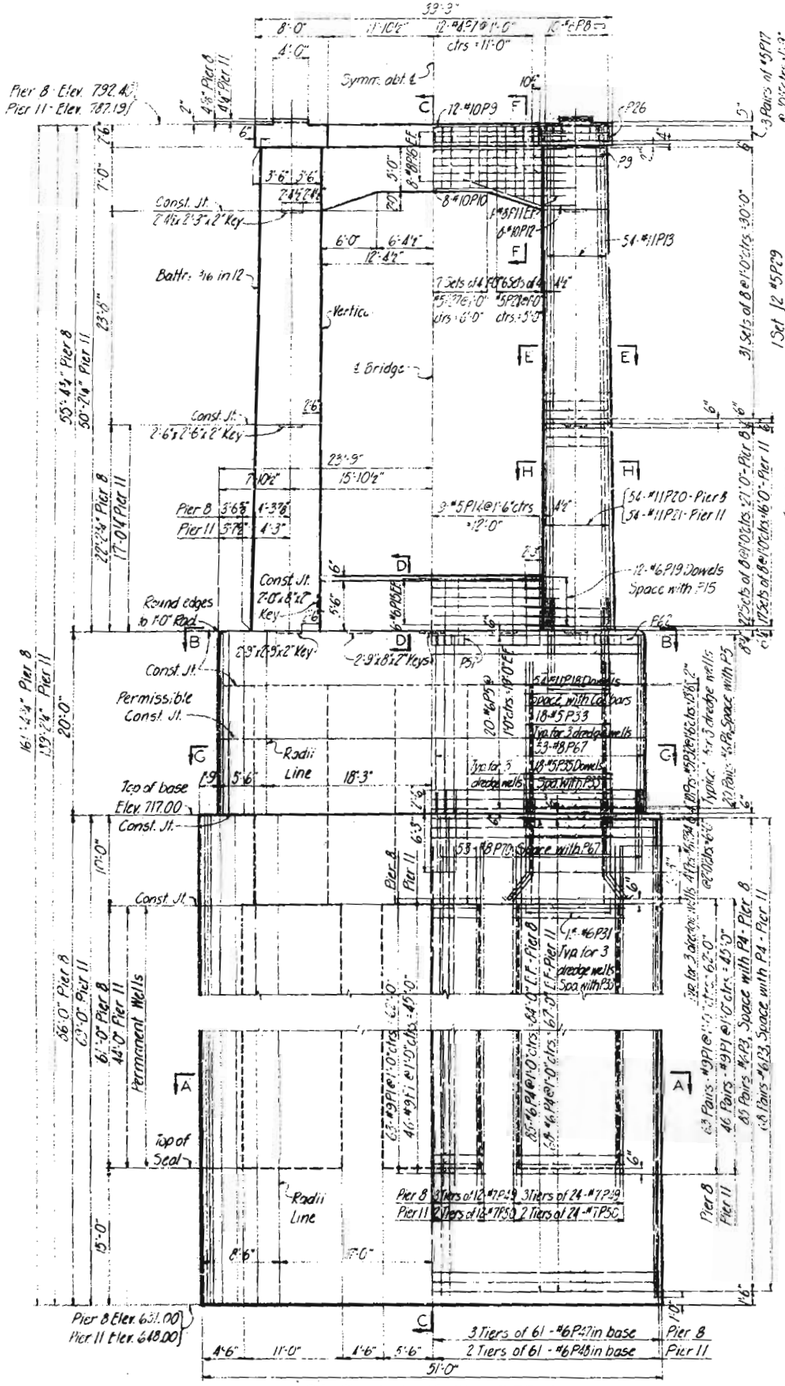
Note: Do not scale this drawing. Follow dimensions.

SHEET 7 OF 13

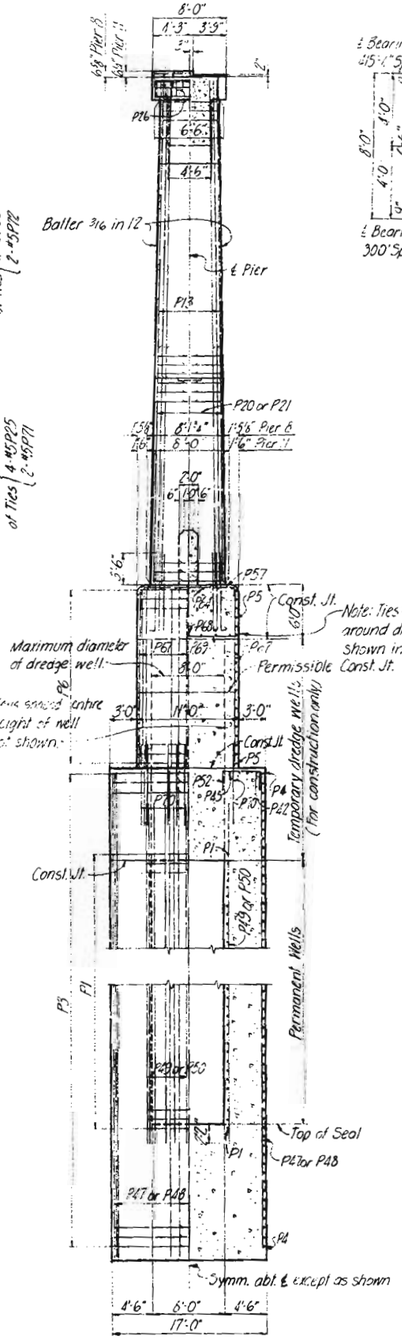
AS BUILT DRAWING

FINAL DESIGN DRAWING

A-450
Platte Co.
57-69

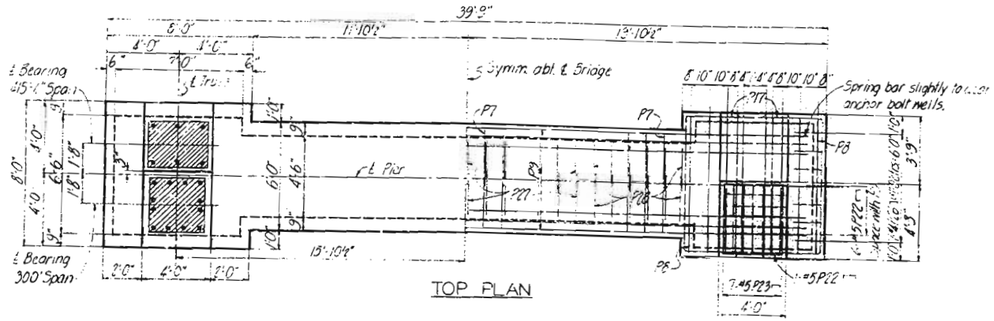


SOUTH ELEVATION - PIER 8
NORTH ELEVATION - PIER 11

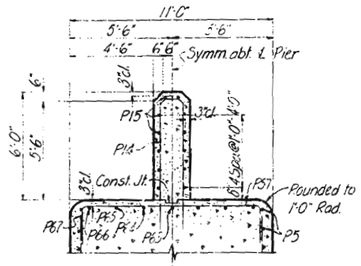


HALF END ELEVATION

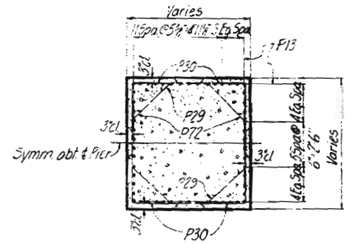
HALF SECTION C-C



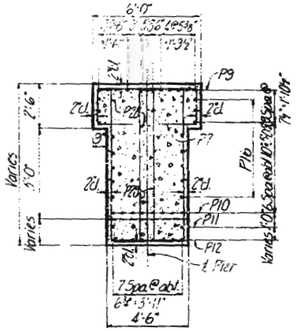
TOP PLAN



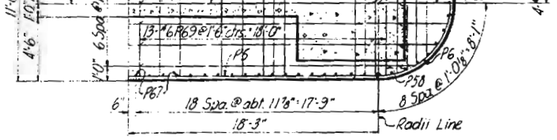
SECTION D-D



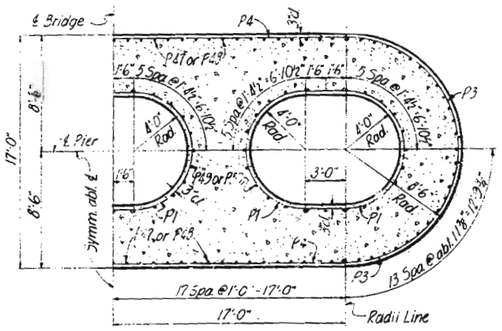
SECTION E-E
Section H-H similar



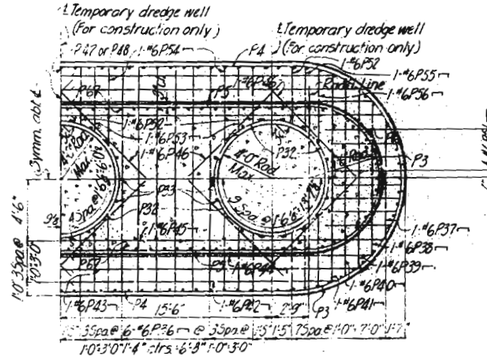
SECTION F-F



HALF SECTION B-B



HALF SECTION A-A



HALF SECTION G-G

NOTES

For General Notes see Sheet 2
For location and size of Anchor Bolt wells see Sheet 10.
For Bar List, see Sheets 11 and 12.
⚠ As Builts for Piers 8, 9, 10 and 11 are in Central Files on 8½" x 11" Sheets.

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

PIERS 8 & 11

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

1956
Jan 30

Drawn by: R.E. Skubic, Jan. 1956
Checked by: F.W. Kiefner, March 1956

Note: Do not scale this drawing, follow dimensions

Revision ⚠ General Notes 1-20-59 By R.E.S. Ck'd. J.E.C.

SHEET 3 OF 13

AS BUILT DRAWING

FINAL DESIGN DRAWING

A-450
Platte Co.
Rt. 69

ELEVATION

HALF END ELEVATION

HALF SECTION G-G

TOP PLAN

SECTION C-C

SECTION D-D

SECTION E-E

SECTION F-F

HALF SECTION B-B

HALF SECTION A-A

HALF SECTION H-H

Note: Ties & vertical bars around dredge wells not shown in this view

Note: Do not scale this drawing. Follow dimensions

NOTES

For General Notes, see Sheet 2
For location and size of Anchor Bolt wells, see Sheet 15.
For Bar List, see Sheets 11 and 12.

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

PIERS 9 & 10

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

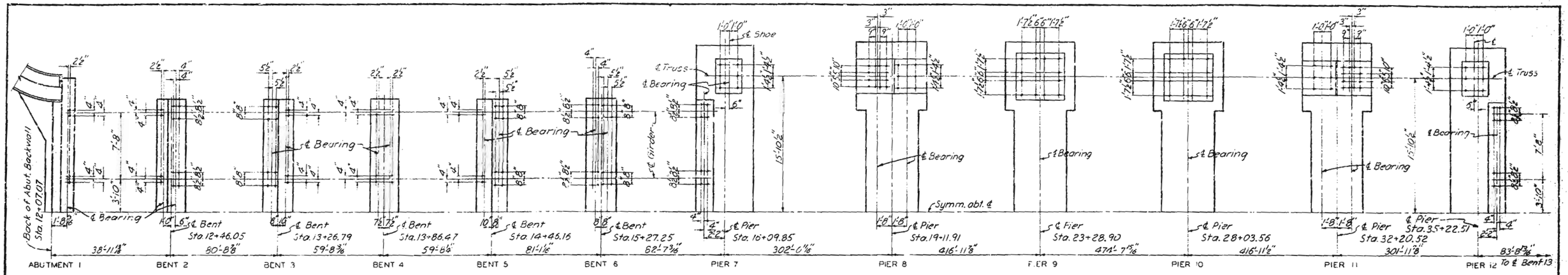
Drawn by: R.E. Shubiz, Jan 1956
Checked by: E.N. Kistner, March 1956

AS BUILT DRAWING

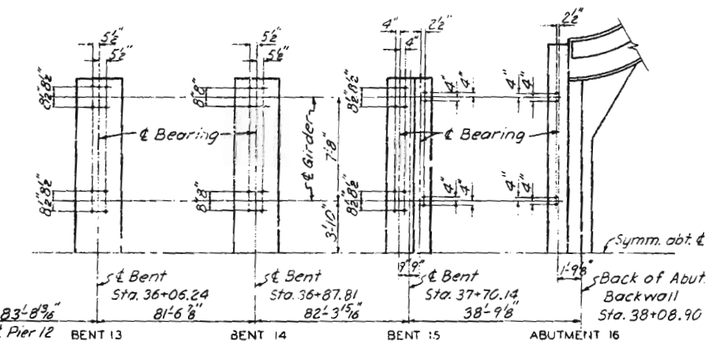
SHEET 9 OF 13

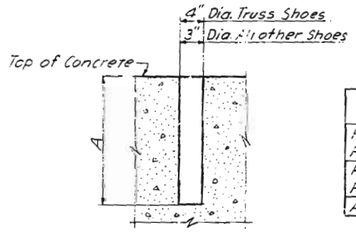
A-450

FINAL DESIGN DRAWING



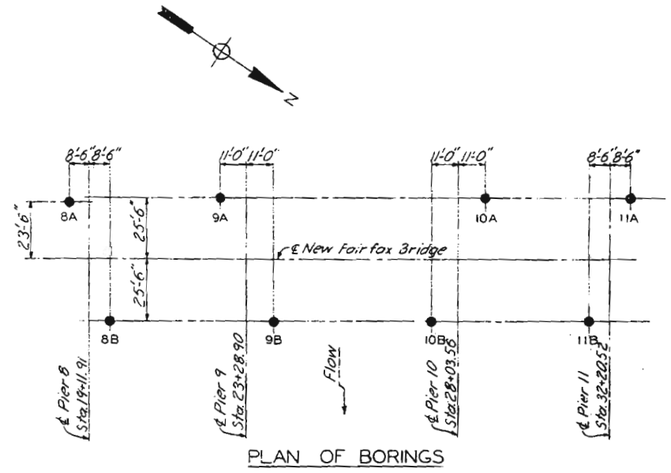
HALF ANCHOR BOLT PLAN





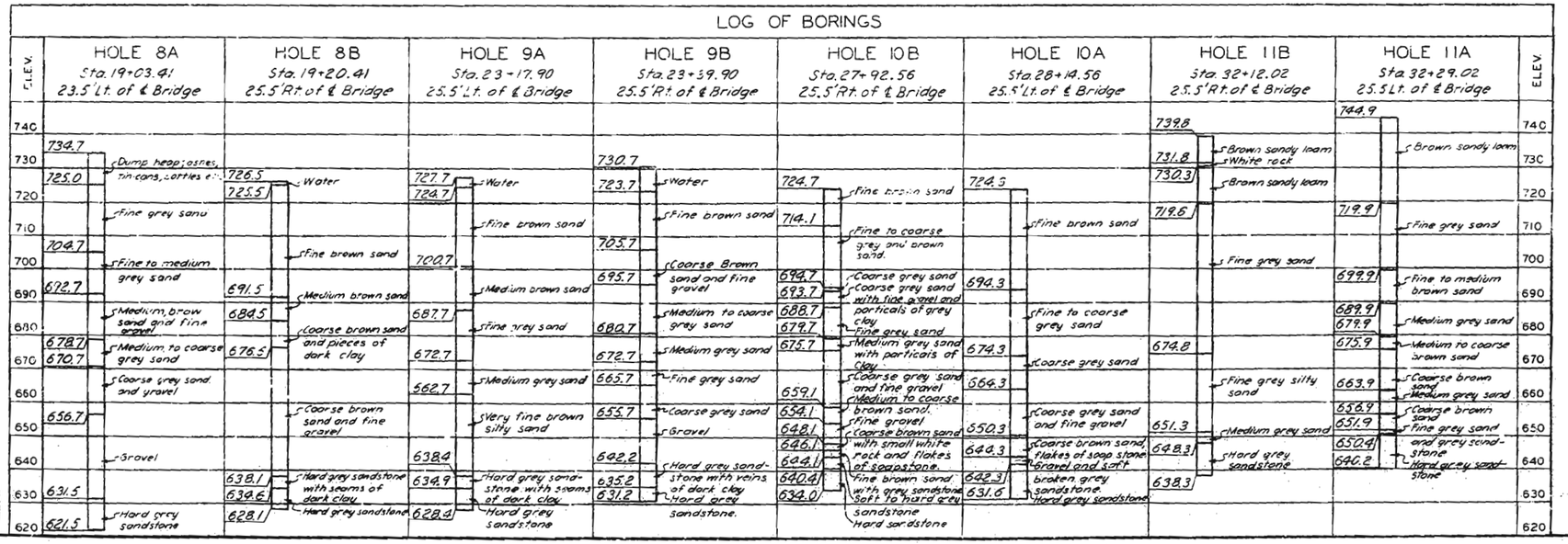
ANCHOR BOLT WELL

Location	Dim. A
Piers 8 & 11 (Fixed Shoes) Piers 7 & 12 (Truss Shoes)	2'-2"
Piers 8 & 11 (Expansion Shoes) Piers 9 & 10	2'-7"
All Others	1'-6"



PLAN OF BORINGS

LOG OF BORINGS



NOTES

Anchor Bolts for Spans 1 and 15 may be cast in place. All others are to be grouted in wells.

Anchor bolt wells shall be formed in substructure units by placing and setting with a template.

Wells shall be completely filled with grout containing Iron Oxide Cement (Embeco) or an approved equivalent, after steel has been erected and adjusted.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

ANCHOR BOLT PLAN AND LOG OF BORINGS

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

MR. ... ESTABLISHED

SHEET 10 OF 13

A-450
Platte Co. Rt. 69

1259
SKS263

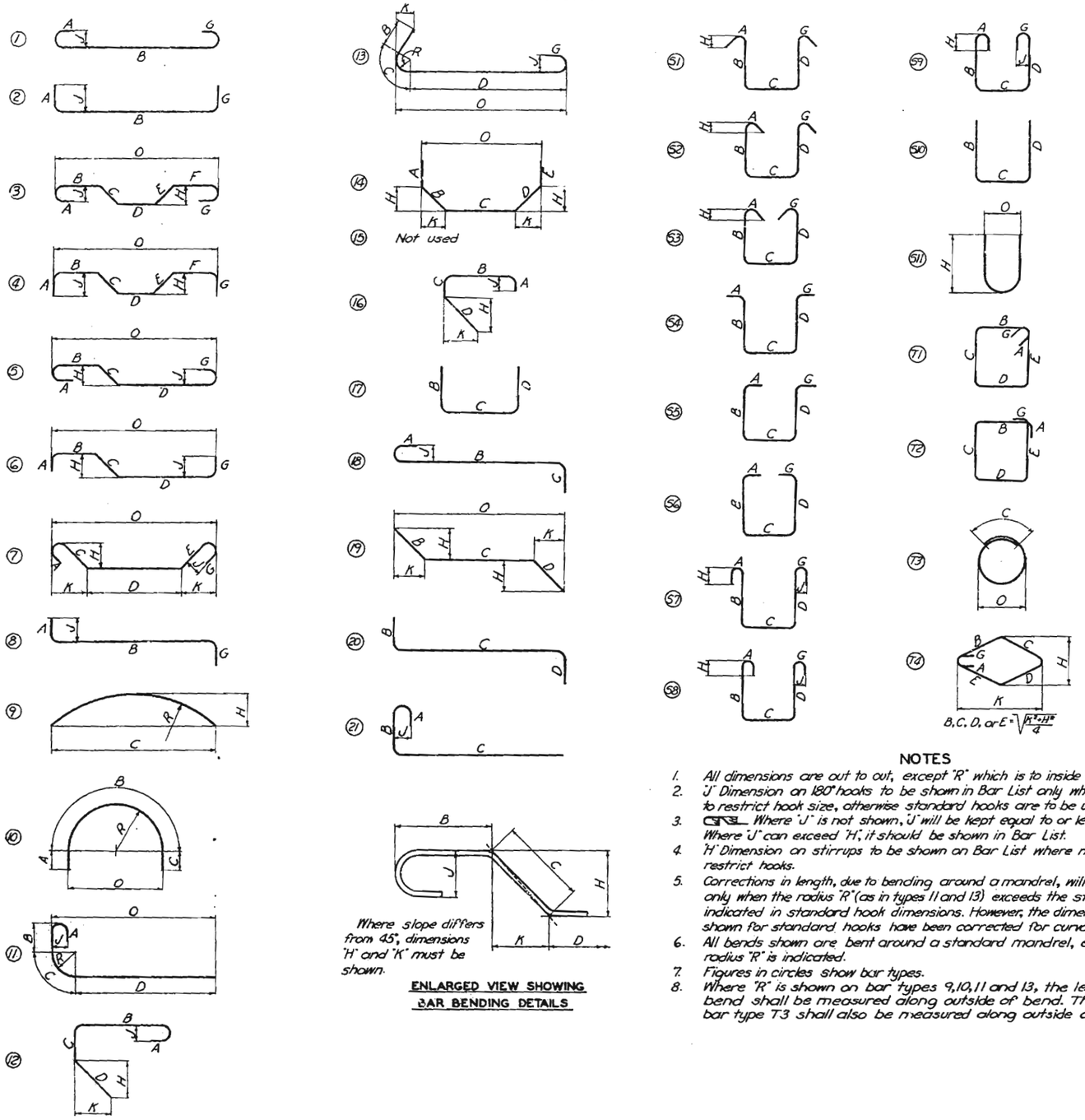
Drawn by: W.J. Ballard Apr. 1956

Checked by: D. Kotakis Apr. 1956

AS BUILT DRAWING

FINAL DESIGN DRAWING

TYPICAL BAR TYPES



Where slope differs from 45°, dimensions 'H' and 'K' must be shown.

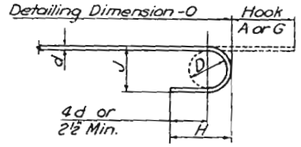
ENLARGED VIEW SHOWING BAR BENDING DETAILS

NOTES

1. All dimensions are out to out, except 'R' which is to inside of bend.
2. 'J' Dimension on 180° hooks to be shown in Bar List only where necessary to restrict hook size, otherwise standard hooks are to be used.
3. CASE Where 'J' is not shown, 'J' will be kept equal to or less than 'H.' Where 'J' can exceed 'H', it should be shown in Bar List.
4. 'H' Dimension on stirrups to be shown on Bar List where necessary to restrict hooks.
5. Corrections in length, due to bending around a mandrel, will be made only when the radius 'R' (as in types 11 and 13) exceeds the standard radii indicated in standard hook dimensions. However, the dimensions 'A' or 'G' shown for standard hooks have been corrected for curvature.
6. All bends shown are bent around a standard mandrel, except where radius 'R' is indicated.
7. Figures in circles show bar types.
8. Where 'R' is shown on bar types 9, 10, 11 and 13, the length of bend shall be measured along outside of bend. The length of bar type 73 shall also be measured along outside of bar.

STANDARD HOOK DIMENSIONS

Detailing Dimension - D — Hook A or G

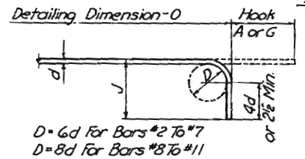


D = 6d For Bars #2 To #7
D = 8d For Bars #8 To #11

180° HOOK

Bar Size	Hook A or G	J	Approx H
#2	4"	2"	3½
#3	5"	3"	4"
#4	6"	4"	4½
#5	7"	5"	5"
#6	8"	6"	6"
#7	10"	7"	7"
#8	1'-1"	10"	9"
#9	1'-3"	1'-1"	10⅛"
#10	1'-5"	1'-0⅛"	11⅛"
#11	1'-7"	1'-2"	1'-0⅝"

Detailing Dimension - D — Hook A or G

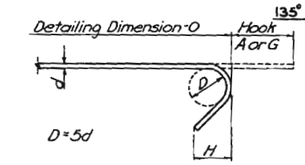


D = 6d For Bars #2 To #7
D = 8d For Bars #8 To #11

90° HOOK

Bar Size	Hook A or G	Approx J
#2	3"	3½
#3	3"	4"
#4	3"	4½
#5	4"	5"
#6	4"	6"
#7	5"	7"
#8	6"	9"
#9	7"	10"
#10	8"	11½
#11	9"	1'-0⅝"

Detailing Dimension - D — Hook A or G



135° STIRRUP HOOK

Bar Size	Hook A or G	H
#2	3½"	2"
#3	4"	2⅝
#4	4½"	2⅝
#5	5"	2⅝

BAR SIZE EQUIVALENTS			
#2	6"ø	#7	⅞"ø
#3	⅝"ø	#8	1"ø
#4	½"ø	#9	1"□
#5	⅝"ø	#10	1⅛"□
#6	¾"ø	#11	1⅜"□

12-59	Drawn by: A. Avila, Dec. 1951
5151169	Traced by: L. Glaser, Dec. 1951
	Checked by: W. Littlefield, Jan. 1952

Revised: Feb., 1953

AS BUILT DRAWING

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY MISSOURI

TYPICAL BAR TYPES AND HOOK DIMENSIONS

FINISH

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

A-450
Platte Co.
Rt. 69
A-450

SHEET 11 OF 13

FINAL DESIGN DRAWING

STANDARD B1

BAR LIST

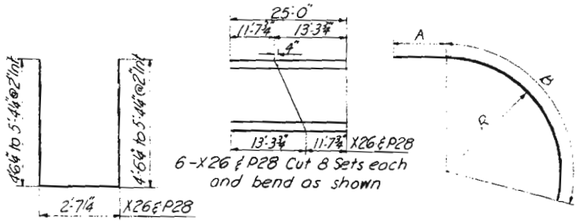
PIERS 9 & 10

No. Regd	Size	Length	Mark	Type	Location	Dimensions for Bending A	B	C	D	E	F	G	H	J	K	R	O
72	#6	14'-2"	X1	17	Ice Breaker		1'-11"	10'-4"	1'-11"								
212	#9	19'-3"	X2	Str.	do												
234	#7	25'-0"	X3	Str.	Base												
234	#7	23'-8"	X4	Str.	do												
378	#6	29'-11"	X5	Str.	do												
378	#6	28'-7"	X6	Str.	do												
80	#6	36'-6"	X7	Str.	Ice Breaker												△
160	#6	11'-3"	X8	Spcl.	do	See Bending Detail											
696	#9	20'-7"	X9	10	Base	1'-6"	17'-6⅜"	1'-6"								5'-6"	11'-2¼"
320	#6	29'-0"	X10	Str.	do												
640	#6	19'-11"	X11	Spcl.	do	See Bending Detail											
32	#8	29'-9"	X12	Str.	Beam												
46	#4	14'-2"	X13	Spcl.	Beam Cap	See Bending Detail											
36	#6	17'-8"	X14	Spcl.	Column Cap	do											
34	#5	15'-9"	X15	Spcl.	Web	do											
24	#6	24'-5"	X16	Str.	do												
48	#6	4'-0"	X17	Str.	Column												
16	#11	31'-7"	X18	Str.	Beam												
6	#8	5'-10"	X19	Str.	do												
32	#11	13'-6"	X20	19	do		3'-6"	10'-0"	—				1'-2"		3'-3⅜"		—
24	#11	46'-3"	X21	17	Cap		4'-0"	38'-3"	4'-0"								
264	#11	33'-0"	X22	Str.	Column												
164	#11	25'-1"	X23	Str.	do												
368	#11	9'-5"	X24	2	Base	9"	8'-8"					—		1'-0½"			
184	#11	27'-0"	X25	Str.	Column												
48	#5	25'-0"	X26	Spcl.	Beam	See Cutting Diagram & Bending Detail											
104	#5	11'-5"	X27	17	do		4'-5"	2'-7¼"	4'-5"								△
496	#5	5'-8"	X28	17	Column		1'-0"	4'-8"	—								
496	#5	9'-4"	X29	17	do		4'-8"	4'-8"	—								
248	#5	6'-11"	X30	14	do	—	2'-6"	1'-10½"	2'-6"	—			1'-8"		1'-10⅜"		—
52	#6	10'-6"	X31	Str.	Ice Breaker												
28	#6	20'-9"	X32	Str.	do												
4	#9	26'-10"	X33	20	do		2'-4"	24'-5½"	—								
8	#9	26'-9"	X34	20	do		2'-4"	24'-4⅝"	—								
8	#9	26'-0"	X35	20	do		2'-4"	23'-7⅛"	—								
8	#9	24'-4"	X36	20	do		2'-4"	22'-0"	—								
368	#5	9'-4"	X37	17	Column		3'-6"	4'-8"	—								
184	#5	7'-8"	X38	14	do	—	2'-6½"	2'-7⅛"	2'-6½"	—			1'-10⅜"		1'-8⅝"		—
24	#5	17'-0"	X39	17	Column Cap		4'-8"	7'-8"	4'-8"								
24	#6	25'-4"	X40	17	Base		2'-0"	21'-4"	2'-0"								
8	#6	22'-5"	X41	20	do		2'-0"	20'-4⅝"	—								
8	#6	24'-0"	X42	20	do		2'-0"	21'-11⅜"	—								
8	#6	25'-2"	X43	20	do		2'-0"	23'-1⅝"	—								
8	#6	26'-0"	X44	20	do		2'-0"	23'-11⅛"	—								
8	#6	26'-8"	X45	20	do		2'-0"	24'-8"	—								
8	#6	27'-2"	X46	20	do		2'-0"	25'-2⅝"	—								
4	#6	13'-10"	X47	17	do		2'-0"	9'-9½"	2'-0"								
4	#6	12'-0"	X48	17	do		2'-0"	12'-11⅛"	2'-0"								
4	#6	19'-3"	X49	17	do		2'-0"	15'-3⅝"	2'-0"								
4	#6	21'-0"	X50	17	do		2'-0"	16'-11⅝"	2'-0"								
4	#6	22'-4"	X51	17	do		2'-0"	18'-4"	2'-0"								
4	#6	23'-5"	X52	17	do		2'-0"	19'-4⅜"	2'-0"								
24	#6	9'-8"	X53	Str.	do												
108	#5	16'-6"	X54	Str.	Ice Breaker												
108	#5	3'-4"	X55	Str.	do												
108	#6	10'-11"	X56	Spcl.	Base	See Bending Detail											
20	#5	15'-1"	X57	10	Ice Breaker	10"	13'-5⅜"	10"								4'-3"	8'-7¼"
16	#6	12'-6"	X58	17	Base		2'-0"	8'-6"	2'-0"								
16	#6	11'-6"	X59	17	do		2'-0"	7'-5⅜"	2'-0"								
16	#6	10'-11"	X60	17	do		2'-0"	6'-11⅜"	2'-0"								
8	#6	10'-6"	X61	17	do		2'-0"	6'-6⅝"	2'-0"								
8	#6	10'-10"	X62	17	do		2'-0"	6'-10⅛"	2'-0"								
8	#6	11'-7"	X63	17	do		2'-0"	7'-6⅛"	2'-0"								
32	#6	7'-0"	X64	17	do		2'-0"	5'-0"	—								
28	#4	4'-10"	X65	17	Column Cap		1'-4"	2'-2"	1'-4"								
368	#5	5'-11"	X66	17	Column		1'-0"	4'-11"	—								
212	#9	8'-9"	X67	Str.	Base												
4	#6	14'-4"	X68	17	Ice Breaker		2'-0"	10'-4"	2'-0"								
4	#6	14'-1"	X69	17	do		2'-0"	10'-0⅜"	2'-0"								
4	#6	13'-7"	X70	17	do		2'-0"	9'-6⅜"	2'-0"								
4	#6	12'-10"	X71	17	do		2'-0"	8'-9½"	2'-0"								
4	#6	11'-8"	X72	17	do		2'-0"	7'-8"	2'-0"								
48	#6	15'-7"	X73	10	Base	1'-0"	13'-6⅝"	1'-0"								4'-3"	8'-7½"
248	#5	7'-5"	X74	14	Column	—	2'-6"	2'-4⅝"	2'-6"	—			1'-10⅜"		1'-8"		—
184	#5	7'-8"	X75	14	Column	—	2'-6½"	2'-7"	2'-6½"	—			1'-8⅝"		1'-10⅜"		—

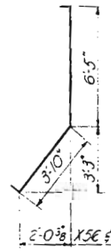
PIERS 8 & 11

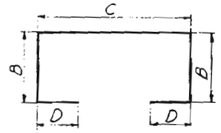
No. Regd	Size	Length	Mark	Type	Location	Dimensions for Bending A	B	C	D	E	F	G	H	J	K	R	O
654	#9	19'-8"	P1	10	Base	3'-0"	13'-7¾"	3'-0"								4'-3"	8'-8¼"
			P2							Not Used							
612	#6	16'-0"	P3	Spcl.	Base	See Bending Detail											
306	#6	34'-0"	P4	Str.	do												
80	#6	36'-6"	P5	Str.	Ice Breaker												
160	#6	11'-3"	P6	Spcl.	do	See Bending Detail											
46	#4	14'-2"	P7	Spcl.	Beam Cap	do											
40	#6	17'-8"	P8	Spcl.	Column Cap	do											
24	#10	46'-3"	P9	17	Cap	4'-0"	38'-3"	4'-0"									
16	#10	32'-3"	P10	Str.	Beam												
8	#8	5'-10"	P11	Str.	do												
32	#10	12'-10"	P12	19	do	3'-2"	9'-8"	—					1'-0⅜"		3'-0"		—
216	#11	33'-0"	P13	Str.	Column												
34	#5	15'-9"	P14	Spcl.	Web	See Bending Detail											
24	#6	24'-8"	P15	Str.	do												
32	#8	30'-1"	P16	Str.	Beam												
24	#5	17'-0"	P17	17	Column Cap	4'-8"	7'-8"	4'-8"									
216	#11	9'-5"	P18	2	Ice Breaker	9"	8'-8"					—		1'-0½"			
48	#6	4'-0"	P19	Str.	Web												
108	#11	25'-9"	P20	Str.	Column												
108	#11	20'-6"	P21	Str.	do												
28	#5	7'-8"	P22	17	Column Cap	2'-0	3'-8"	2'-0"									
28	#5	7'-11"	P23	17	do	2'-0"	3'-11"	2'-0"									
156	#5	7'-3"	P24	14	Column	—	2'-8"	1'-10½"	2'-8"	—			1'-10"		1'-11½"		—
312	#5	9'-4"	P25	17	do		4'-8"	4'-8"	—								
26	#4	4'-10"	P26	17	Column Cap		1'-4"	2'-2"	1'-4"								
104	#5	11'-5"	P27	17	Beam		4'-5"	2'-7¼"	4'-5"								
48	#5	25'-0"	P28	Spcl.	do	See Cutting Diagram & Bending Detail											
248	#5	6'-11"	P29	14	Column	—	2'-6"	1'-10½"	2'-6"	—			1'-7½"		1'-10⅜"		—
496	#5	8'-8"	P30	17	do		4'-4"	4'-4"	—								
108	#6	10'-11"	P31	Spcl.	Base	See Bending Detail											
120	#5	15'-2"	P32	10	Ice Breaker	10"	13'-6¼"	10"								4'-3"	8'-7¼"
108	#5	16'-6"	P33	Str.	do												
48	#6	15'-7"	P34	10	Base	1'-0"	13'-6⅝"	1'-0"								4'-3"	8'-7½"
108	#5	3'-4"	P35	Str.	do												
24	#6	20'-8"	P36	17	do	2'-0"	16'-4¾"	2'-0"									
4	#6	12'-9"	P37	17	do	2'-0"	8'-9"	2'-0"									
4	#6	15'-4"	P38	17	do	2'-0"	11'-4"	2'-0"									
4	#6	17'-1"	P39	17	do	2'-0"	13'-1"	2'-0"									
4	#6	18'-5"	P40	17	do	2'-0"	14'-5"	2'-0"									
4	#6	19'-4"	P41	17	do	2'-0"	15'-4"	2'-0"									
8	#6	23'-3"	P42	20	do	2'-0"	21'-3"	—									
8	#6	25'-0"	P43	20	do	2'-0"	23'-0"	—									
8	#6	26'-1"	P44	20	do	2'-0"	24'-1"	—									
8	#6	26'-10"	P45	20	do	2'-0"	24'-10"	—									
24	#6	9'-8"	P46	Str.	do												
360	#6	29'-6"	P47	Str.	do												
240	#6	34'-10"	P48	Str.	do												
216	#7	24'-7"	P49	Str.	do												
144	#7	27'-4"	P50	Str.	do												
32	#6	7'-0"	P51	17	do	2'-0"	5'-0"	—									
24	#6	8'-2"	P52	17	do	2'-0"	4'-1⅜"	2'-0"									
16	#6	8'-8"	P53	17	do	2'-0"	4'-7⅛"	2'-0"									
16	#6	9'-7"	P54	17	do	2'-0"	5'-7⅛"	2'-0"									
8	#6	8'-7"	P55	17	do	2'-0"	4'-7⅛"	2'-0"									
8	#6	9'-4"	P56	17	do	2'-0"	5'-4⅜"	2'-0"									
72	#6	14'-5"	P57	17	Ice Breaker	2'-0"	10'-4½"	2'-0"									
4	#6	14'-4"	P58	17	do	2'-0"	10'-4"	2'-0"									
4	#6	14'-1"	P59	17	do	2'-0"	10'-0⅜"	2'-0"									
4	#6	13'-7"	P60	17	do	2'-0"	9'-6⅛"	2'-0"									
4	#6	12'-10"	P61	17	do	2'-0"	8'-9½"	2'-0"									
4	#6	11'-8"	P62	17	do	2'-0"	7'-8"	2'-0"									
4	#7	26'-11"	P63	20	do	2'-4"	24'-7⅛"	—									
8	#7	26'-9"	P64	20	do	2'-4"	24'-4⅝"	—									
8	#7	26'-0"	P65	20	do	2'-4"	24'-7⅛"	—									
8	#7	24'-4"	P66	20	do	2'-4"	22'-0"	—									
212	#8	19'-3"	P67	Str.	do												
28	#6	20'-9"	P68	Str.	do												
52	#6	10'-5"	P69	Str.	do												
212	#8	8'-9"	P70	Str.	Base												
156	#5	7'-11"	P71	14	Column	—	2'-8"	2'-7"	2'-8"	—			1'-11⅛"		1'-10"		—
248	#5	7'-7"	P72	14	do	—	2'-6"	2'-7"	2'-6"	—			1'-10⅜"		1'-7⅛"		—

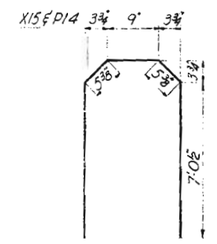
SPECIAL BENDING DETAILS AND CUTTING DIAGRAMS



Mark	A	B	R
X8	2'-0"	9'-3"	5'-2¼"
X11	2'-0"	17'-10⅝"	10'-8¼"
P3	2'-0"	13'-11½"	8'-2¼"
P6	2'-0"	9'-3"	5'-2¼"







Mark	B	C	D
X13	2'-2"	5'-8"	2'-1"
X14	2'-2"	7'-8"	2'-10"
P7	2'-2"	5'-8"	2'-1"
P8	2'-2"	7'-8"	2'-10"

NOTES

Dimensioning, bending and hooks for Special Bending Details shall conform to the standards as noted or shown on Sheet 11.

A dash is used in the appropriate dimension column to indicate that a hook, bend or portion of the standard bar type is to be omitted.

See Sheet 11 for Typical Bar Types and Hook Dimensions.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

SUBSTRUCTURE BAR LIST-SPECIAL BENDING DETAILS & CUTTING DIAGRAMS

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

Drawn by: J.S.Alagia March 1956

Checked by: J. A. Wise April 1956

Revision △ X13, X27, X33 to X36, P7, P27 5-3-56 By: J.S.A. Chkd: J.A.W.

AS BUILT DRAWING

FINAL DESIGN DRAWING

SHEET 12 OF 13

A-450
Platte Co.
Aft. 69

ABUTMENTS 1 & 16

No. Regd	Size	Length	Mark	Type	Location	Dimensions for Bending A	B	C	D	E	F	G	H	J	K	R	O
10	#7	23'-3"	D1	Str.	Column												
4	#6	23'-3"	D2	Str.	do.												
12	#6	22'-10"	D3	Str.	do.	See Cutting Diagram											
10	#7	24'-6"	D4	Str.	do.												
50	#6	4'-2"	D5	2	Footing	4"	3'-10"										
40	#7	4'-1"	D6	2	do.	5"	4'-6"										
40	#5	18'-9"	D7	Spcl.	Column	See Cutting Diagram & Bending Detail											
			D8			Not Used											
68	#5	10'-6"	D9	T1	Beam	5"	2'-8"	2'-2"	2'-8"	2'-2"	5"						
4	#4	20'-8"	D10	Str.	Lug												
36	#4	1'-6"	D11	Spcl.	do.	See Bending Detail											
4	#4	8'-6"	D12	Spcl.	Wing Wall	See Bending Detail											
4	#4	4'-10"	D13	Str.	do.												
4	#4	3'-2"	D14	Str.	do.												
16	#4	6'-4"	D15	Str.	do.												
8	#4	4'-9"	D16	17	do.	1'-7"	3'-2"	—									
16	#4	11'-0"	D17	Str.	do.	See Cutting Diagram											
28	#4	7'-0"	D18	Str.	do.												
12	#4	6'-3"	D19	17	do.	1'-3"	5'-0"	—									
16	#4	6'-6"	D20	Str.	do.												
4	#4	16'-10"	D21	Spcl.	do.	See Bending Detail											
28	#4	5'-3"	D22	Str.	do.												
16	#6	14'-6"	D23	Str.	do.												
16	#6	24'-6"	D24	Str.	do	See Cutting Diagram											
8	#5	18'-6"	D25	Spcl.	End Post	See Cutting Diagram & Bending Detail											
16	#4	6'-4"	D26	9	do			7-1 1/8"					1'-0"				8'-5 3/8"
18	#4	7'-5"	D27	9	do			7'-1 5/8"					11 2"				7'-5 3/8"
8	#5	10'-1"	D28	9	Curb			9'-8 3/8"					1'-4 6				9'-8 3/8"
9	#5	7'-7"	D29	9	do			7'-3 5/8"					1'-0 3/8				7'-3 3/8"
36	#5	8'-11"	D30	T1	do.	5"	1'-5 3/8"	2'-6 1/2"	1'-5 3/8"	2'-6 1/2"	5"						
18	#5	8'-10"	D31	9	do.			8'-4 1/2"					1'-2 6"				8'-4 1/2"
12	#4	30'-8"	D32	Str.	Backwall												
4	#4	18'-1"	D33	Str.	do.												
			D34			Not Used											
			D35			Not Used											
10	#4	7'-2"	D36	17	Beam	3'-3"	8"	3'-3"									
12	#8	30'-8"	D37	Str.	do.												
10	#8	33'-3"	D38	20	do	2'-8"	30'-7"	—									
12	#5	5'-3"	D39	Str.	do.												
10	#4	2'-2"	D40	Str.	Backwall												
12	#4	4'-10"	D41	Str.	Beam												
18	#4	5'-8"	D42	Str.	do.												
24	#7	7'-10"	D43	14	Strut	—	5"	7'-0"	5"	—		3'2"		3'2"			7'-7"
16	#7	22'-5"	D44	Str.	do.												
9	#5	22'-5"	D45	Str.	do.												
24	#4	7'-9"	D46	T1	do.	4'2"	1'-9"	1'-9"	1'-9"	1'-9"	4'2"						
12	#5	30'-8"	D47	Str.	Beam												
18	#4	5'-10"	D48	Spcl	Wingwall	See Cutting Diagram & Bending Detail											
4	#4	9'-10"	D49	Str.	do.												
4	#4	6'-9"	D50	Str.	do.												
10	#7	26'-2"	D51	Str.	Column												
4	#6	26'-2"	D52	Str.	do.												
4	#6	25'-8"	D53	Spcl	do	See Cutting Diagram											
10	#7	27'-7"	D54	Str.	do.												
18	#5	19'-6"	D55	Spcl	do	See Cutting Diagram & Bending Detail											

BENTS 2, 3, 5, 6, 13, & 15

No. Regd	Size	Length	Mark	Type	Location	Dimensions for Bending A	B	C	D	E	F	G	H	J	K	R	O
24	#6	8'-6"	C1	Str.	Footing												
28	#4	10'-5"	C2	T1	Strut	4'2"	2'-2"	2'-8"	2'-2"	2'-8"	4'2"						
56	#7	5'-5"	C3	2	Footing	5"	5'-0"										
40	#7	25'-10"	C4	Str.	Column												
10	#7	28'-9"	C5	Str.	do.												
24	#9	20'-2"	C6	1	Strut	1'-3"	17'-8"				1'-3"						
12	#5	17'-8"	C7	Str.	do.												
24	#9	9'-7"	C8	14	do.	—	7"	8'-5"	7"	—		5"		5"			9'-3"
12	#7	7'-5"	C9	19	Column		5"	7'-0"	—			3'2"		3'2"			7'-3 1/2"
36	#6	25'-8"	C10	Str.	Beam												
18	#8	31'-0"	C11	17	do.		2'-8"	25'-8"	2'-8"								
6	#8	11'-6"	C12	17	do		2'-8"	8'-10"	—								
8	#5	25'-8"	C13	Str.	do												
20	#4	12'-1"	C14	T1	do.	4'2"	2'-8"	3'-0"	2'-8"	3'-0"	4'2"						
30	#4	6'-8"	C15	17	do.		3'-10"	1'-0"	3'-10"								
108	#5	10'-6"	C16	T1	Column	5"	2'-2"	2'-8"	2'-2"	2'-8"	5"						
92	#7	5'-7"	C17	11	Beam	—	2'-2 3/4"	1'-6 1/2"	2'-9 3/8"			—				1'-8"	3'-9 3/8"
12	#4	6'-8"	C18	17	do.		2'-10"	1'-0"	2'-10"								
24	#9			19	Str.	Footing											
12	#7	22'-1"	C20	Str.	Column												

BENTS 2, 3, 5, 6, 13, & 15 (CONT'D)

No. Regd	Size	Length	Mark	Type	Location	Dimensions for Bending A	B	C	D	E	F	G	H	J	K	R	O
44	#7	21'-8"	C21	Str.	Column												
24	#11	9'-11"	C22	14	Strut	—	9"	8'-5"	9"	—			6 3/8"		6 3/8"		9'-5 3/4"
28	#11	20'-10"	C23	1	do	1'-7"	17'-8"					1'-7"					
260	#5	11'-0"	C24	T1	Column	5"	2'-2"	2'-11"	2'-2"	2'-11"		5"					
44	#7	18'-4"	C25	Str.	do.												
44	#7	17'-1"	C26	Str.	do.												
68	#5	12'-6"	C27	T1	Beam	5"	2'-8"	3'-2"	2'-8"	3'-2"		5"					
16	#11	31'-0"	C28	17	do.		2'-8"	25'-8"	2'-8"								
32	#10	12'-3"	C29	17	do.		2'-8"	9'-7"	—								
96	#7	10'-0"	C30	Str.	Footing												
44	#7	18'-4"	C31	Str.	Column												
44	#7	21'-1"	C32	Str.	do.												
44	#7	13'-8"	C33	Str.	do.												
44	#7	16'-6"	C34	Str.	do.												
24	#10	9'-9"	C35	14	Strut	—	8"	5'-5"	8"	—			5 5/8"		5 5/8"		3'-4 5/8"
28	#10	20'-6"	C36	1	do	1'-5"	17'-8"					1'-5"					
74	#4	12'-5"	C37	T1	Beam	4'2"	2'-8"	3'-2"	2'-8"	3'-2"		4'2"					
74	#4	9'-0"	C38	17	do		3'-11"	1'-2"	3'-11"								

BENT 4

No. Regd	Size	Length	Mark	Type	Location	Dimensions for Bending A	B	C	D	E	F	G	H	J	K	R	O
42	#6	8'-6"	T1	Str.	Footing												
44	#7	21'-0"	T2	Str.	Column												
66	#5	10'-6"	T3	T1	do.	5"	2'-2"	2'-8"	2'-2"	2'-8"		5"					
32	#4	12'-1"	T4	T1	Beam	4'2"	2'-8"	3'-0"	2'-8"	3'-0"		4'2"					
4	#9	31'-0"	T5	17	do.		2'-8"	25'-8"	2'-8"								
4	#9	12'-0	T6	17	do.		2'-8"	9'-4"	—								
2	#5	25'-8"	T7	Str.	do.												
6	#6	25'-8"	T8	Str.	do.												
12	#7	7'-5"	T9	19	Column		5"	7'-0"	—				3'2		3'2"		7'-3 1/2"
44	#7	16'-4"	T10	Str.	do.												
16	#7	6'-7"	T11	11	Beam	—	2'-2 3/4"	1'-6 1/2"	2'-9 3/8"							1'-8"	3'-9 3/8"
13	#4	10'-5"	T12	T1	Strut	4'2"	2'-2"	2'-8"	2'-2"			4'2"					
14	#10	20'-6"	T13	1	do	1'-5"	17'-8"					1'-5"					
12	#10	9'-9"	T14	14	do.	—	8"	8'-5"	8"	—			5 5/8"		5 5/8"		4'-4 5/8"
2	#5	17'-8"	T15	Str.	do.												
44	#7	5'-5"	T16	2	Footing	5"	5'-0"					—					

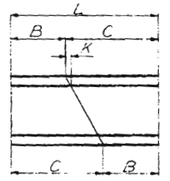
PIERS 7 & 12

No. Regd	Size	Length	Mark	Type	Location	Dimensions for Bending A	B	C	D	E	F	G	H	J	K	R	O
96	#6	15'-0"	R1	Str.	Footing												
30	#6	47'-6"	R2	Str.	do.												
88	#6	11'-0"	R3	Str.	do.												
38	#11	43'-6"	R4	Str.	do.												
136	#10	7'-2"	R5	2	do	8"	6'-6"					—					
68	#10	21'-5"	R6	Str.	Column												
68	#10	23'-9"	R7	Str.	do.												
136	#10	28'-9"	R8	Str.	do.												
432	#5	10'-11"	R9	17	do		3'-7"	3'-7"	3'-7"								
182	#5	15'-1"	R10	T1	do	5"	1'-7 1/2"	5'-6"	1'-7 1/2"	3'-6"		5"					
84	#5	14'-10"	R11	Spcl.	Cap	See Bending Detail											
32	#5	6'-6"	R12	17	do.		2'-5 1/2"	1'-7"	2'-5 1/2"								
28	#5	17'-3"	R13	59	Beam	7"	6'-2"	4'-3"	6'-2"			7"	5"				
12	#5	39'-6"	R14	Spcl.	do	See Cutting Diagram & Bending Detail											
8	#6	25'-5"	R15	Str.	Cap												
10	#10	47'-2"	R16	17	do		5'-0"	37'-3 1/2"	5'-0"								
4	#10	38'-5"	R17	Str.	do.												
4	#6	38'-5"	R18	Str.	do.												
8	#6	37'-5"	R19	Str.	Beam												
22	#10	32'-7"	R20	Str.	do.												
12	#10	12'-8"	R21	19	do.		9'-6"	3'-2"	—				3'-0"		6'-0"		9'-2"
144	#5	11'-3"	R22	17	Column		3'-9"	3'-9"	3'-9"								
168	#5	11'-4"	R23	17	do		3'-9 1/2"	3'-9"	3'-9 1/2"								
8	#6	10'-0"	R24	17	Cap		2'-0"	6'-0"	2'-0"								
32	#5	8'-4"	R25	17	do		3'-4 1/2"	1'-7"	3'-4 1/2"								
20	#4	4'-2"	R26	17	do		1'-3"	1'-8"	1'-3"								

BENT 14

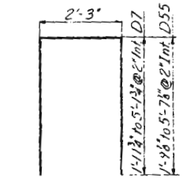
No. Regd	Size	Length	Mark	Type	Location	Dimensions for Bending A	B	C	D	E	F	G	H	J	K	P	Q
4	#10	31'-0"	B1	17	Beam		2'-8"	25'-8"	2'-8"								
2	#5	25'-8"	B2	Str.	do.												
6	#6	25'-8"	B3	Str.	do.												
37	#5	12'-2"	B4	T1	do.	5"	2'-8"	3'-0"	2'-8"	3'-0"		5"					
12	#7	7'-5"	B5	19	Column		5"	7'-0"	—				3'2"		3'2"		7'-3 1/2"
44	#7	15'-2"	B6	Str.	do.												
52	#9	20'-3"	B7	Str.	do.												
14	#11	20'-0"	B8	1	Strut	1'-7"	17'-8"					1'-7"					
2	#5	17'-8"	B9	Str.	do.												
12	#11	9'-11"	B10	14	Strut	—	3"	8'-5"	9"	—				6 3/8"			9'-5 3/4"
13	#4	10'-5"	B11	T1	do.	4'2"	2'-8"	2'-2"	2'-8"	2'-2"			4'2"				
68	#5	7'-2"	B12	17	Column		2'-6"	2'-2"	2'-6"								
52	#9	6'-2"	B13	2	Footing	7"	5'-7"										
26	#7	12'-6"	B14	Str.	do.												
26	#6	8'-6"	B15	Str.	do.												
6	#10	12'-3"	B16	17	Beam		2'-0"	9'-7"	—								
52	#5	7'-8"	B17	17	Column		2'-9"	2'-2"	2'-9"								
14	#7	6'-7"	B18	11	Beam	—	2'-2 3/4"	1'-6 1/2"	2'-9 3/8"					—		1'-8"	3'-9 3/8"

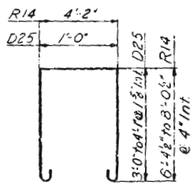
SPECIAL BENDING DETAILS AND CUTTING DIAGRAMS

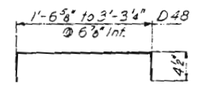


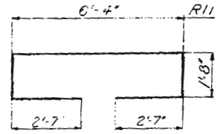
CUTTING DIAGRAM
(One Set Shown)

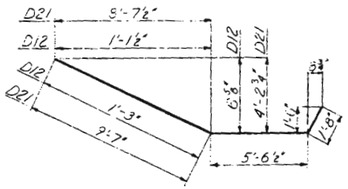
Mark	Cutting Schedule	B	C	K	L
D3	Cut 2 Sets of 6 Each	3'-3 3/8"	19'-6 1/8"	3'-3"	22'-10"
D7	Cut 2 Sets of 20 Each of Bend	6'-2 5/8"	2'-8 1/8"	4"	8'-9"
D17	Cut 4 Sets of 4 Each	4'-8"	6'-3 3/8"	6 2"	10'-4 1/8"
D24	Cut 2 Sets of 3 Each	10'-11 3/8"	13'-6 1/4"	1'-3 3/8"	24'-5 1/8"
D25	Cut 2 Sets of 9 Each	8'-2"	10'-4"	3 4"	18'-6"
D48	Cut 2 Sets of 4 Each of Bend	2'-0 5/8"	3'-9 1/2"	6 6"	5'-9 5/8"
D53	Cut 2 Sets of 7 Each	3'-1"	22'-7"	3'-3"	25'-8"
D55	Cut 2 Sets of 24 Each of Bend	15'-10 3/8"	13'-6 3/4"	4"	19'-5 1/4"
R14	Cut 2 Sets of 6 Each	18'-1"	21'-5"	8"	39'-6"

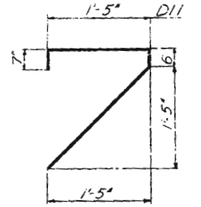












NOTES

Dimensioning, bending, and hooks for Special Bending Details shall conform to the standards as noted or shown on Sheet 11.

A dash is used in the appropriate dimension column to indicate that a hook, bend or portion of the standard bar type is to be omitted.

See Sheet 11 for Typical Bar Types and Hook Dimensions.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

SUBSTRUCTURE BAR LIST SPECIAL BENDING DETAILS & CUTTING DIAGRAMS

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

FINISHED

SHEET 13 OF 13

A-450
Platte Co.
Rt. 69

AS BUILT DRAWING

FINAL DESIGN DRAWING

NEW FAIRFAX BRIDGE PROJECT

NEAR

KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

1955

INDEX OF DRAWINGS

CONTRACT II-SUPERSTRUCTURE NEW FAIRFAX BRIDGE

APPROVED

COUNTY COURT OF PLATTE COUNTY MISSOURI

PRESIDING JUDGE _____ DATE _____

MISSOURI STATE HIGHWAY COMMISSION

CHIEF ENGINEER _____ DATE _____

STATE HIGHWAY COMMISSION OF KANSAS

CHIEF ENGINEER _____ DATE _____

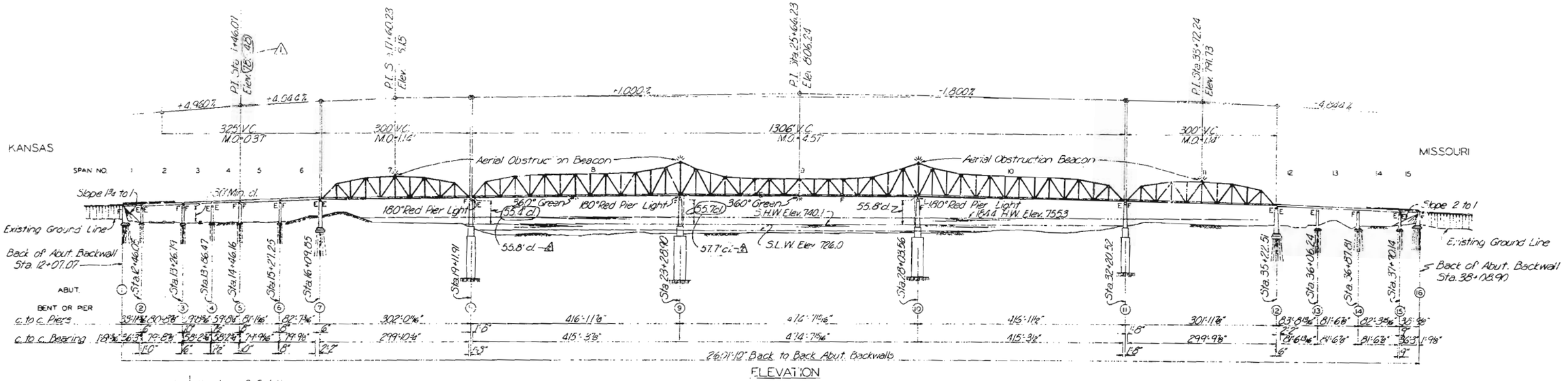
SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

SUBMITTED BY:

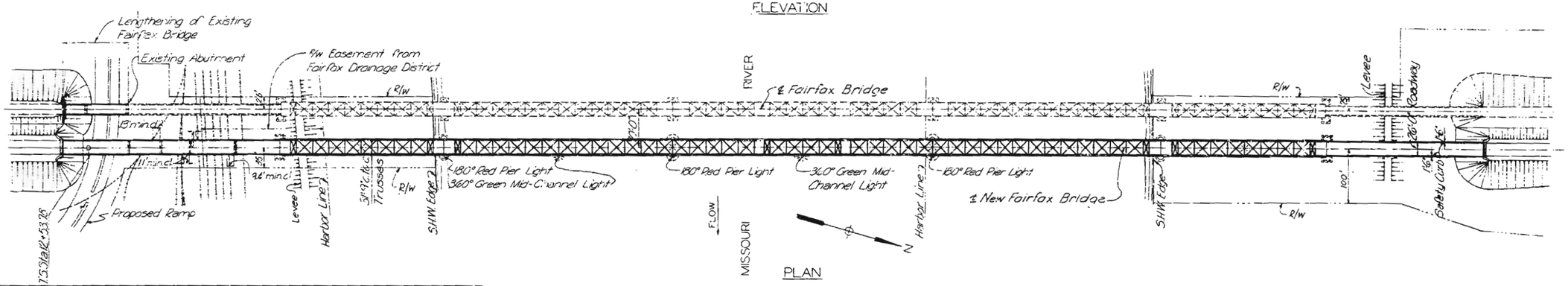
REGISTERED PROFESSIONAL ENGINEER
MISSOURI NO. E-640

A-950

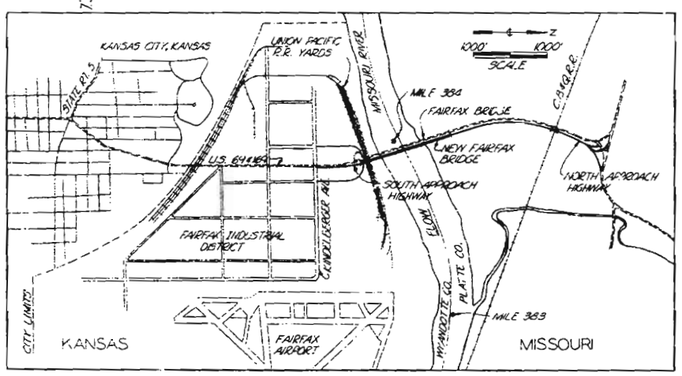
FINAL DESIGN DRAWING



ELEVATION



PLAN



LOCATION PLAN

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

GENERAL PLAN AND ELEVATION

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

SHEET 1 OF 31

A-450

Plate 55 of 64

Drawn by: H.T. Sanders, Mar. 1956

Checked by: D. Kotek, Apr. 1956

Note: Do not scale this drawing. Follow dimensions.

Revision 2 Piers 8 & 9 1-20-59 By R.E.B. Chk'd. J.E.C.

Revision 1 Elevation of P.I. 5-31-56 By H.T.S. Chk'd. E.L.

AS BUILT DRAWING

FINAL DESIGN DRAWING

GENERAL NOTES

SPECIFICATIONS: Standard Specifications of the Missouri State Highway Commission, 1955 Edition, supplemented by General and Special Provisions.

DESIGN LOADING: In accordance with Division III of the A.A.S.H.O. "Standard Specifications for Highway Bridges," 1953 Edition, with the following exceptions and interpretations:

Live Load: H 20-S16-44, except that the concentrated load used in combination with a lane load is taken as 26,000 pounds for both shear and moment calculations for the truss spans only.

Safety Curb Live Load: None

Dead Load: Provision is made for a future wearing surface of 15 pounds per square foot of roadway surface. Provision is made for future utilities of 630 pounds per foot of bridge in addition to the weight of the structure. Haydite concrete is assumed to weigh 105 pounds per cubic foot.

Wind Load: Provision is made for transverse, longitudinal, quartering and vertical wind forces. Transverse wind force for the design of superstructure is assumed to be 50 pounds per square foot or a combination of 30 pounds per square foot on the structure plus 200 pounds per lineal foot on the live load. For substructure design the transverse wind is assumed to be 50 pounds per square foot or combination of 15 pounds per square foot on the substructure and superstructure and 100 pounds per lineal foot on the live load.

Longitudinal wind force on the superstructure spans is as specified in the A.A.S.H.O.

For quartering wind (45° to bridge centerline), the simultaneous lateral and longitudinal forces applied to the superstructure are as follows:

For Truss Spans:
Lateral .707 times total transverse wind.
Longitudinal .354 times total transverse wind.

For Girder Spans:
Lateral .707 times total transverse wind.
Longitudinal .177 times total transverse wind.

Wind area of substructure units is actual projection.

A vertical wind force acting on the truss spans only is assumed in design of shoes and substructure. The assumed force is an upward force applied at the windward quarter point of plan width. For combination with dead load plus 30 pounds transverse wind, the force is 20 pounds per square foot of deck plan area. For combination with dead load, live load and transverse wind, the force is 6 pounds per square foot of deck plan area.

Impact: No impact for substructure units.

DESIGN UNIT STRESSES IN CONCRETE:
Concrete in flexure — — — — 1000 pounds per square inch.
Reinforcing steel — — — — 20,000 pounds per square inch.

ROADWAY WEARING SURFACE: The roadway slab as detailed includes a ½" wearing surface poured monolithically with slab.

REINFORCEMENT: All dimensions to reinforcing steel on detail drawings are to centerline of bar, except where the clear dimensions are noted from face of concrete. All reinforcing steel shall be lapped a minimum of 30 diameters unless otherwise shown or noted.

CONCRETE: Lightweight (haydite air-entrained) concrete shall be used for all superstructure concrete. See Special Provisions.

BEVELED EDGES: All exposed edges of concrete shall be beveled ¾" unless otherwise shown or noted.

CONSTRUCTION JOINTS: Construction joints shall be made only at locations shown on the plans. Keys shall be provided at all construction joints.

JOINT FILLER: Where joint filler is specified on the plans it shall conform to the requirements for "Gray Rubber Compound Joints" as given in Section 59-22B of the Standard Specifications. Payment for furnishing and placing joint filler shall be included in unit contract prices for items in which it is placed.

JOINT SEAL: Where joint seal is specified it shall conform to the requirements as given in the Standard Specifications. Payment for furnishing and placing joint seal shall be included in contract prices for other items of work.

COPPER FLASHING: Payment for furnishing and placing Copper Flashing shall be included in unit contract price for concrete.

SHOES: All finished surfaces shall be coated with white lead and tallow before leaving the shop. All pilot and driving nuts shall be furnished by the Contractor at his own expense.

3

FABREEKA PADS: See Special Provisions.

STRUCTURAL CARBON STEEL: Structural Carbon Steel shall conform to A.S.T.M. Specification A7.

STRUCTURAL LOW-ALLOY STEEL: Structural Low-Alloy Steel shall conform to A.S.T.M. Specification A242 and supplemental requirements of the Special Provisions.

RIVET STEEL: Rivet Steel shall conform to A.S.T.M. Specification A141.

FABRICATION: Fabrication shall be in accordance with the requirements of the Standard Specifications except as noted in the Special Provisions.

WELDING: All welding shall be in accordance with the current "Specifications for Welded Highway and Railway Bridges" of the American Welding Society.

HIGH TENSILE BOLTS: High tensile bolts shall conform with the requirements of the Standard Specifications.

TURNED BOLTS: The bolt diameter billed on drawings shall be the shank diameter. The threaded portion shall be 1/16" smaller in diameter than the shank, except as noted on the drawings. In all cases the hole shall be the same diameter as the shank.

PAINT: Shop Coat - Red Lead, first field coat - Aluminum, Second field coat-Aluminum. The first field coat of Aluminum shall be tinted with Prussian Blue in order to differentiate it from the second field coat. The second field coat shall be Aluminum paint, untinted. Payment for cleaning and painting shall be included in the price bid for respective metalwork payment items.

TABLE OF ESTIMATED QUANTITIES

Item	Unit	Quantity
Lightweight Concrete	Cu. Yds.	1673
Fabricated Structural Carbon Steel (Beam & Gir. Spans)	Lbs.	765,000 *
Fabricated Structural Carbon Steel (Truss Spans)	Lbs.	3,178,000 *
Fabricated Structural Low-Alloy Steel (Truss Spans)	Lbs.	1,684,000 *
Fabricated Structural Carbon Steel (Handrail)	Lbs.	221,600
Steel Castings	Lbs.	70,800
Reinforcing Steel	Lbs.	375,210
Roadway Drain Castings	Lbs.	7,400
Navigation Lighting System	One	Lump Sum

2

* Quantity not refigured from final plans. Figure above is same as indicated on Bidding Plans.

1

TABLE OF FINAL QUANTITIES

Item	Unit	Quantity
Lightweight Concrete	Cu Yds.	1683.7
Fabricated Structural Carbon Steel (Beam & Gir Spans)	Lbs.	784,480
Fabricated Structural Carbon Steel (Truss Spans)	Lbs.	3,365,050
Fabricated Structural Low-Alloy Steel (Truss Spans)	Lbs.	1,558,160
Fabricated Structural Carbon Steel (Handrail)	Lbs.	222,860
Steel Castings	Lbs.	74,350
Reinforcing Steel	Lbs.	375,210
Roadway Drain Castings	Lbs.	7,400
Navigation Lighting System	One	Lump Sum
Additional Insurance	One	Lump Sum

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

SUPERSTRUCTURE GENERAL NOTES AND QUANTITIES

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

FINISHED

Revision 3 Quantities added 1-20-59 By R.E.B. Chk'd. J.E.C.
Revision 2 Revise reinforcing steel quantity 12-10-56 by G.R.P. Chkd. W.H.B.
Revision 1 Quantities added. 6-25-56 by W.M. Chkd: E. L.

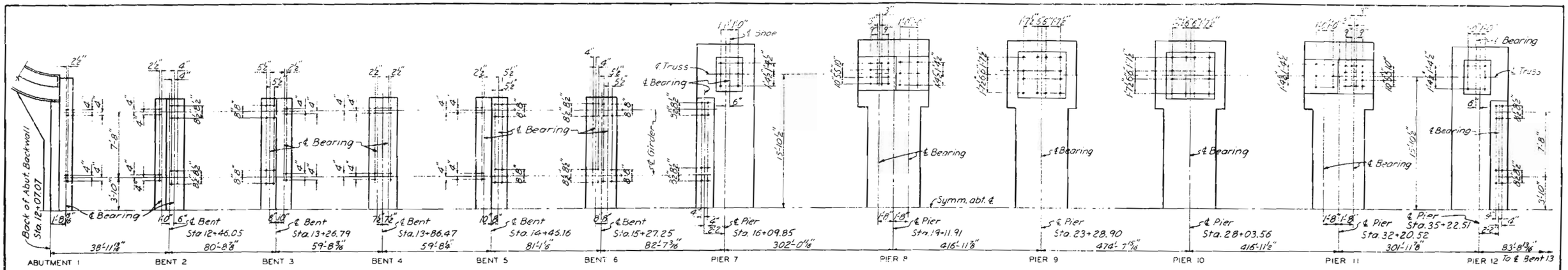
SHEET 2 OF 31

AS BUILT DRAWING

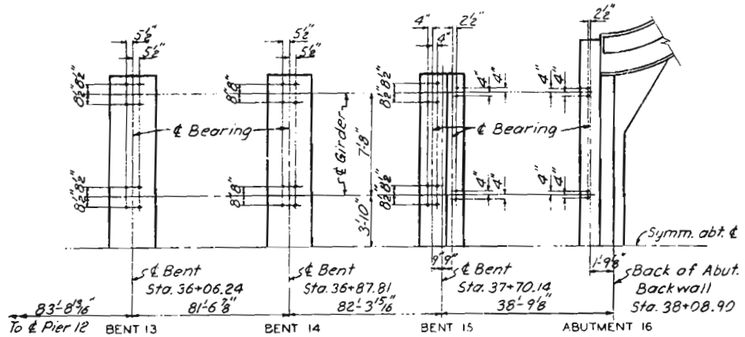
FINAL DESIGN DRAWING

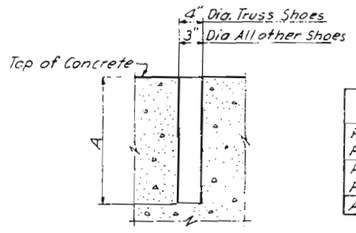
A-450
Platte Co.
Pt. 69

1959 Drawn by: W. Miller, May 1956
1958 Checked by: E. Lemcoe, May 1956



HALF ANCHOR BOLT PLAN





ANCHOR BOLT WELL

Location	Dim. A
Piers 8 & 11 (Fixed Shoes) Piers 7 & 12 (Truss Shoes)	2'-2"
Piers 8 & 11 (Expansion Shoes) Piers 9 & 10	2'-7"
All Others	1'-6"

N

NOTES

Anchor Bolts for Spans 1 and 15 may be cast in place. All others are to be grouted in wells.

Anchor bolt wells shall be formed in substructure units by placing and setting with a template.

Wells shall be completely filled with grout containing Iron Oxide Cement (Embeco) or an approved equivalent, after steel has been erected and adjusted.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

ANCHOR BOLT PLAN

SVERDRUP AND PARCEL, INC
CONSULTING ENGINEERS
ST. LOUIS, MO

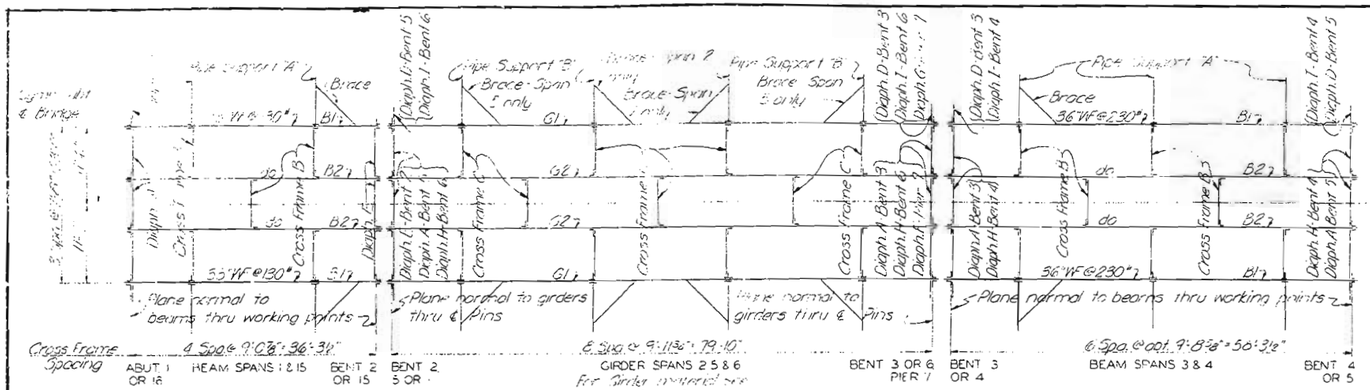
Drawn by: W.J. Ballard Apr. 1956
Checked by: D. Kotakis Apr. 1956

SHEET 3 OF 31

A-450

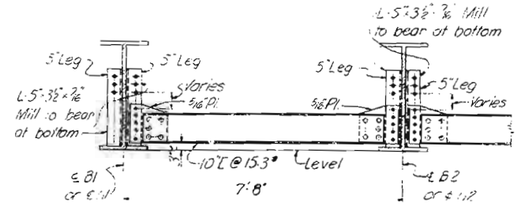
AS BUILT DRAWING

FINAL DESIGN DRAWING



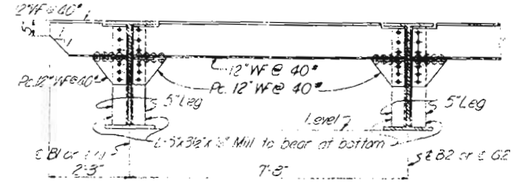
FRAMING PLAN

Note: Longitudinal dimensions given are parallel to beams or girders.



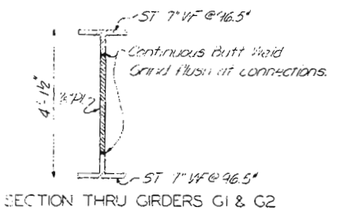
DIAPHRAGM E

For expansion device connecting at Diaphragm E, see Sheet 7.

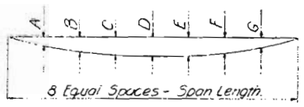


DIAPHRAGM G DIAPHRAGM F

For expansion device connecting to Diaphragm F & Diaphragm G, see Sheet 24.



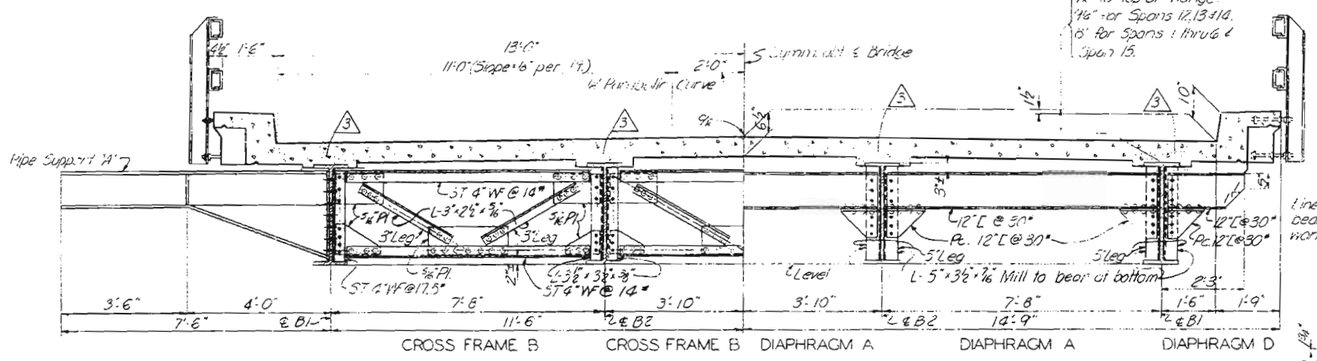
SECTION THRU GIRDERS G1 & G2



Span	Beam	A	B	C	D	E	F	G	P	Q
1 & 15	B1, E	-	0"	-	3/16"	-	1/8"	-	20%	20%
3 & 4	B1, 2	3/16"	3/8"	1/2"	11/16"	1/2"	1/8"	3/16"	25%	15%
2, 5 & 6	G1, G2	3/8"	1/8"	3/16"	11/16"	3/16"	1/8"	3/8"	30%	15%

Note: Column P shows the percentage of total dead load deflection due to dead load of steel only. Column Q shows the percentage of total dead load deflection due to dead load of future utilities. Beams are not to be cambered.

TOTAL DEAD LOAD DEFLECTION ORDINATES

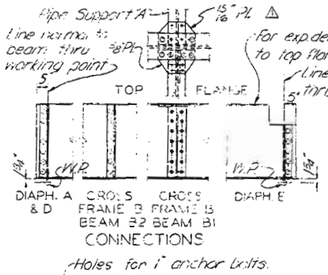


CROSS FRAME B CROSS FRAME B DIAPHRAGM A DIAPHRAGM A DIAPHRAGM D

Note:
For pipe support detail, see Sheet 5.

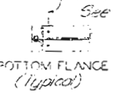
CROSS SECTION

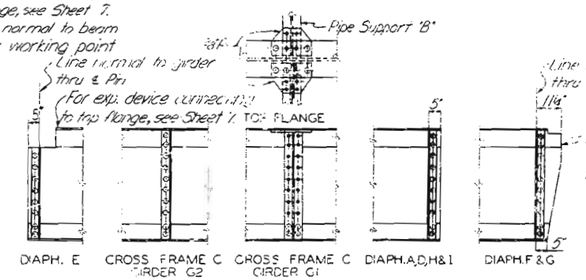
Note: Portion of slab for Span 1 is warped and does not conform to slab dimensions shown.



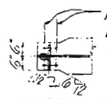
CONNECTIONS

Holes for 1" anchor bolts. See Shoe Details.

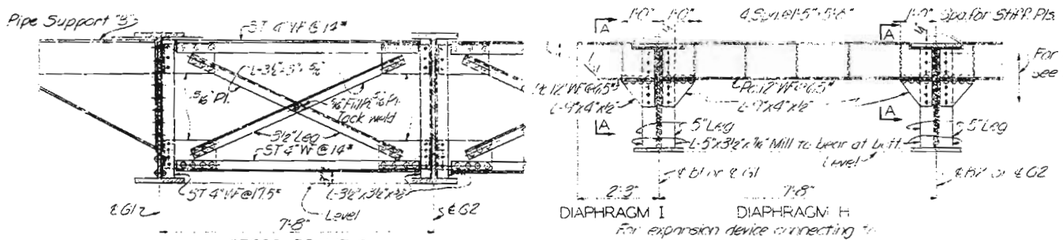




CONNECTIONS

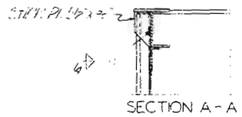


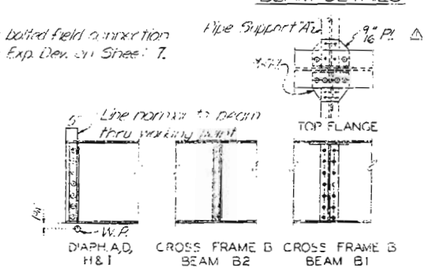
SPANS 2,5 & 6
GIRDER DETAILS



DIAPHRAGM I DIAPHRAGM H

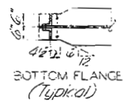
For expansion device connecting to Diaphragm H & Diaphragm I, see Sheet 7.





CONNECTIONS

Holes for 1" anchor bolts. See Shoe Details.



SPANS 1&15
BEAM DETAILS

SPANS 3 & 4
BEAM DETAILS

NOTES

For Beam and Girder Span Notes, see Sheet 5.

℄ Top flange of Beams B1 or Girders G1 on Spans 4 & 6 to be notched at roadway drains. See Sheets 26 and 29.

Note: Do not scale this Drawing. Follow dimensions.

Revision 3 Square haunches 1-20-59 By R.E.B. Chk'd. J.E.C.
Revision ⚠ Add drain note 6-27-56 By G.R.P. Chk'd. E.L.
Revision ⚠ Pipe Support Tie Plates 6-21-56 By G.R.P. Chk'd. E.L.

SHEET 4 OF 3.

AS BUILT DRAWING

FINAL DESIGN DRAWING

Drawn by: S.A. Hussaini, Jan. 1956
Checked by: G.R. Pennington, May 1956

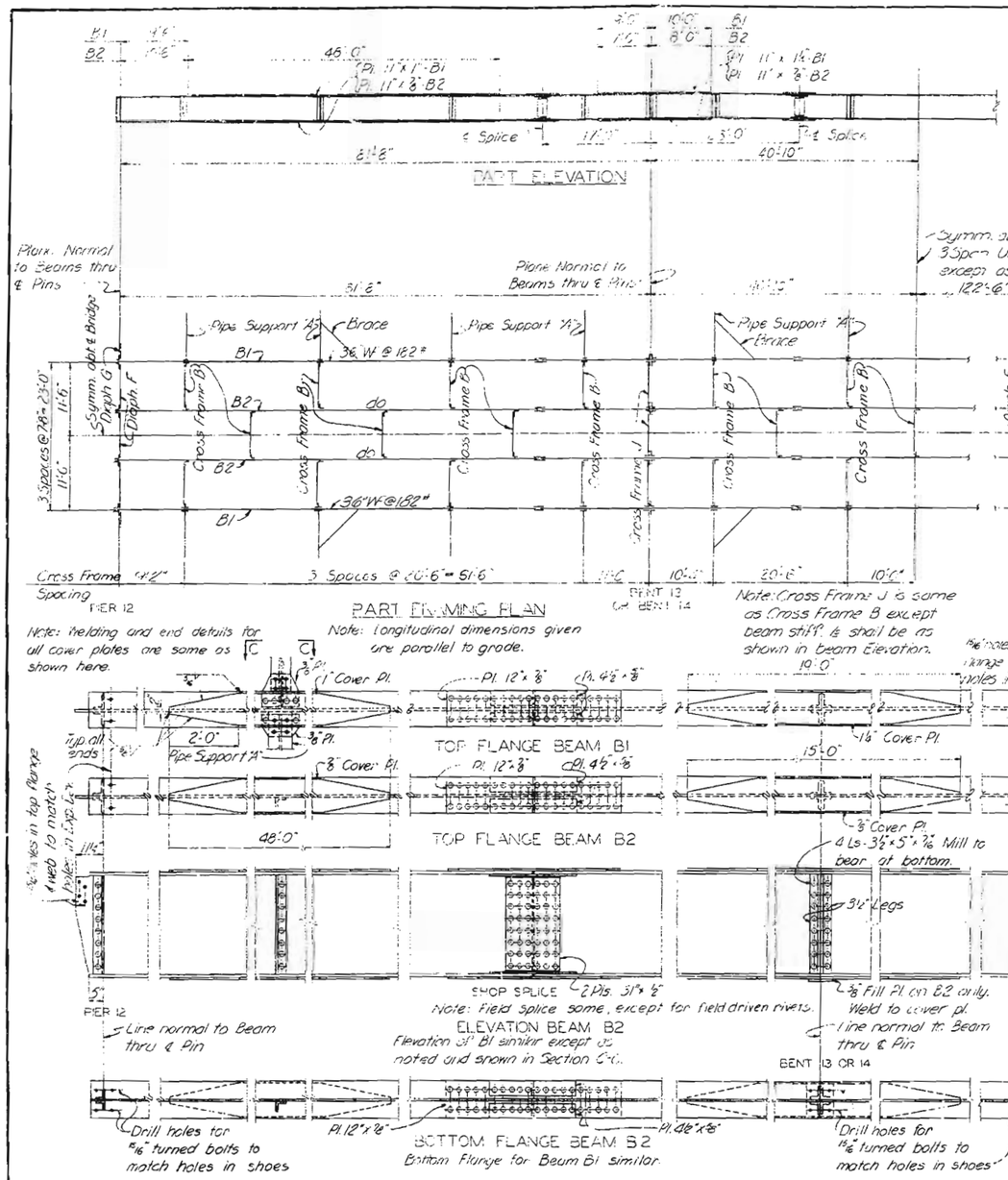
NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

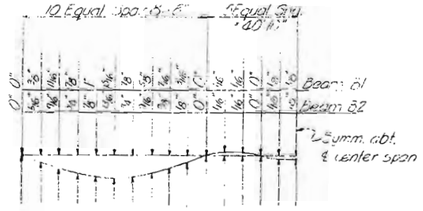
BEAM SPANS 1, 3, 4 & 15
GIRDER SPANS 2, 5 & 6

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

FINISHED

A-450
Platte Co
RA 69

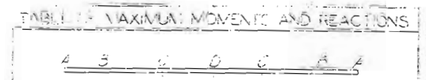




DEAD LOAD DEFLECTION ORDINATES

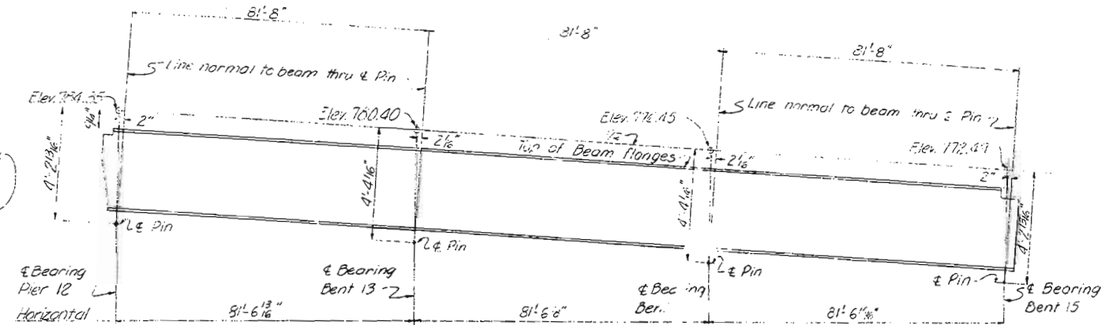
Note: Ordinates are not to be considered. The deflection for dead load of steel only (50% of the dead load deflection shown. The deflection for dead load in future wearing surface is 50% of the total dead load deflections shown.

MAXIMUM MOMENTS AND REACTIONS

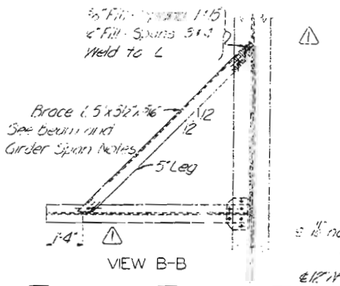


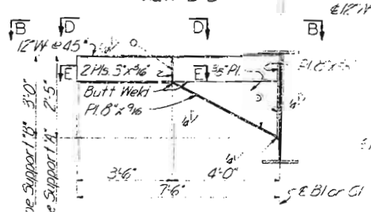
	Loading	A Reaction	A Moment	B Moment	B Reaction	C Moment
Beam B1	D.L.	48.7	78.7	-103.3	135.4	24.2
	L.L.	53.4	51.8	46.5	49.5	38.4
	I.	8.1	12.5	-11.3	12.0	9.3
	Total	90.2	143.0	-161.1	196.9	71.9
Beam B2	D.L.	26.2	42.3	-55.5	72.8	13.0
	L.L.	47.7	14.1	64.5	58.7	54.8
	I.	7.6	7.9	-15.6	16.6	13.3
	Total	65.5	134.3	-135.6	138.1	81.1

Note: Reactions are given in kips
Moments are given in ft. kips.

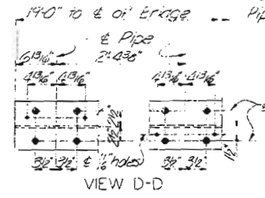


BEAM LAYOUT





PIPE SUPPORT DETAIL
See View D-D and Section E-E for location and size of holes for pipe conns.



BEAM AND GIRDER SPAN NOTES

All field connections shall be riveted unless otherwise noted. Where desired for convenience in erection, shop and field rivets may be interchanged. All rivets in beams or girders shall be ¾". All others shall be ⅞".

Splices may be either field or shop and will be positioned substantially as shown but may be shifted slightly in either direction if desired by the Contractor.

All cover plates and all flange splice plates shall be universal mill plates. Re-entrant cuts shall be filleted to not less than ½" radius.

Pipe supports shall be braced only at points indicated on Framing Plan.

Revision	Description	By	Chkd
2	Holes for pipe conns. 8-2-56	L.G.	E.L.
1	Pipe Support Brace 6-27-56	E.L.	G.R.P.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

BEAM SPANS 12,13,14

SVERDRUP AND PARCEL INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

FINISHED

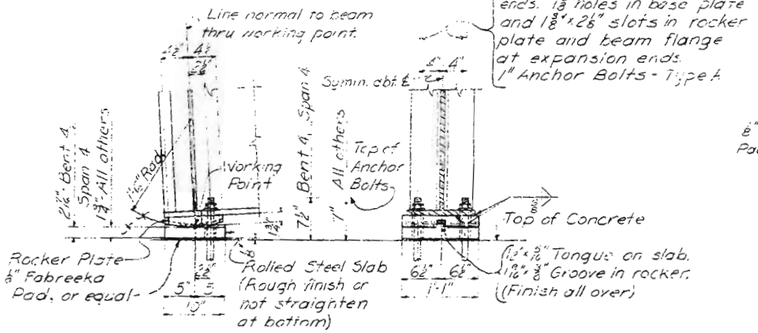
A-450
Platte Co. Pl. 64

Scale	
3/4"=1'-0"	Drawn by: S.A. Hussaini Jan. 1956
	Checked by: [illegible] May 1956

SHEET 5 OF 31

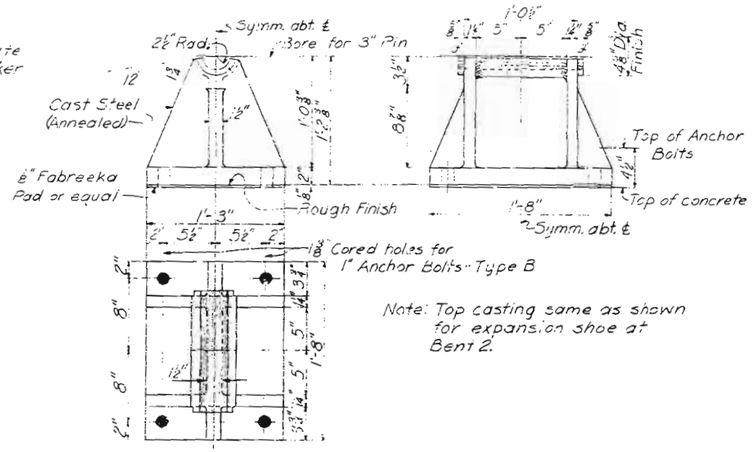
AS BUILT DRAWING

FINAL DESIGN DRAWING



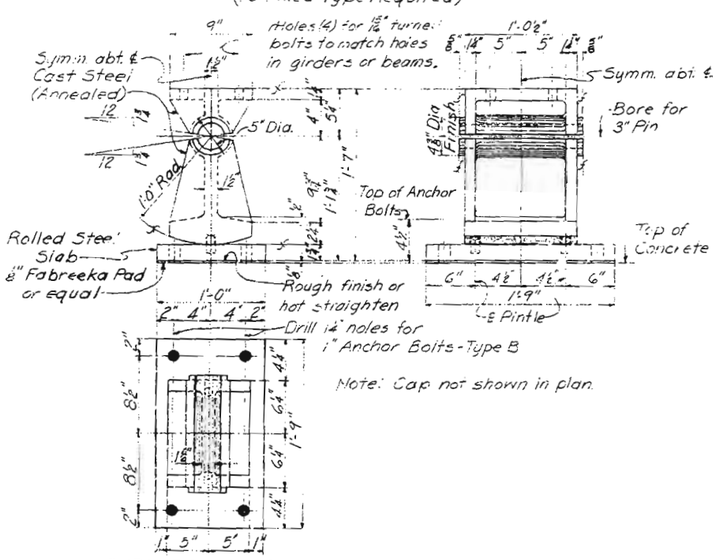
BEAM SPAN SHOE AT ABUTMENTS 1 & 16 AND BENTS 2, 3, 4, 5, & 15

Spans 1, 3, 4, & 15
(16 Exp. Type Required)
(16 Fixed Type Required)



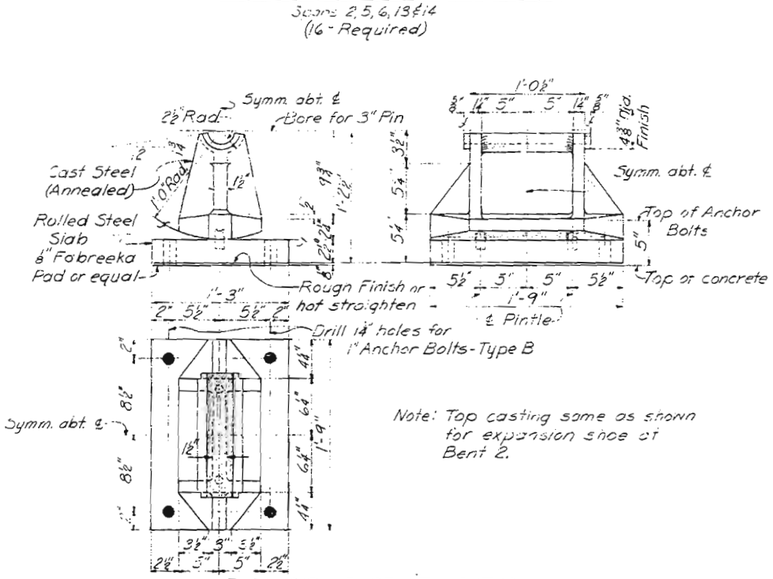
FIXED SHOE AT BENTS 3, 5, 6, & 14

Spans 2, 5, 6, 13 & 14
(16 - Required)



EXPANSION SHOE AT BENTS 2, 6, & 15 AND PIERS 7 & 12

Spans 2, 5, 6, 12 & 14
(20 Required)

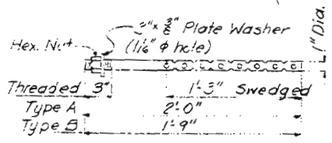


EXPANSION SHOE AT BENT 13

(4 Required)

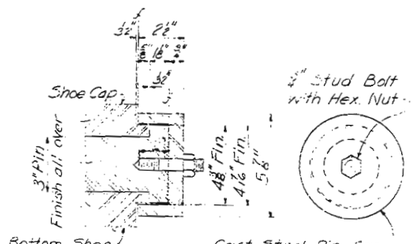
NOTES

All fillets on castings to be ½".
All castings shall conform to A.S.T.M. Designation A27, Grade 65-35, full annealed.
Cost of furnishing and placing Fabreeka Pads, or equal shall be included in price bid for other items.



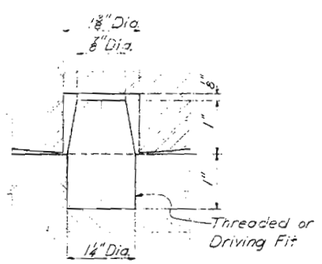
ANCHOR BOLTS

(64 - Type A Required)
(160 - Type B Required)



PIN ENDS AND PIN CAPS

(40 - Pins Required)
(80 - Pin Caps Required)



PINTLE

(48 Required)
Finish all over

Note: Do not scale this drawing. Follow dimensions.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

BEAM AND GIRDER SPANS - SHOES

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

FINISHED

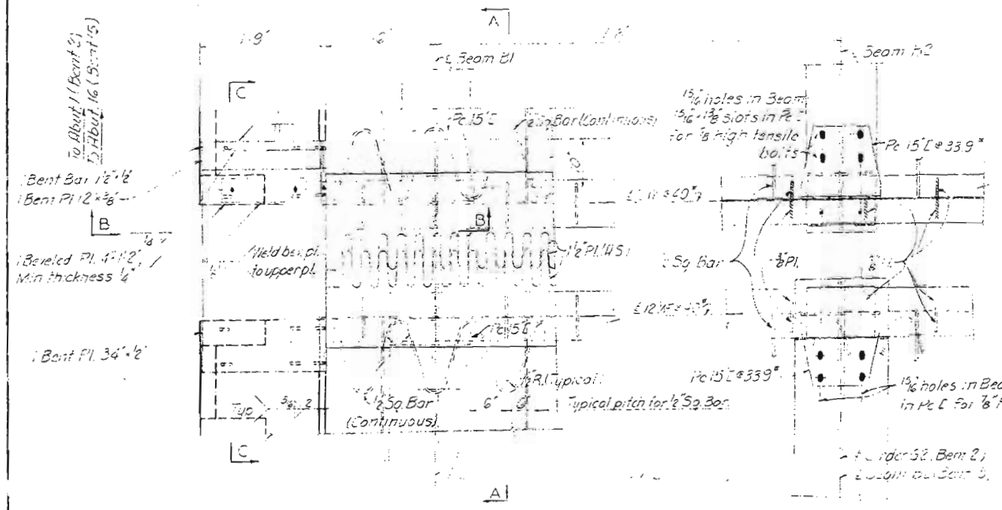
Drawn by: M.C. Williams, Apr. 1956
Checked by: G.R. Pennington, Apr. 1956

SHEET 6 OF 31

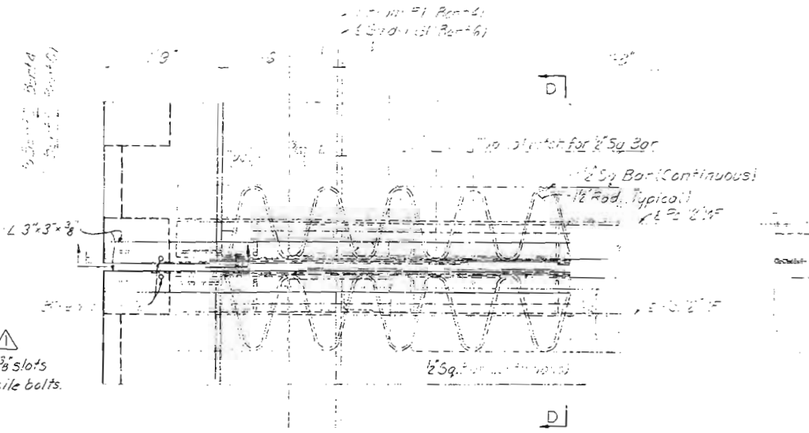
A-450
Platte Co. Pf. 69

AS BUILT DRAWING

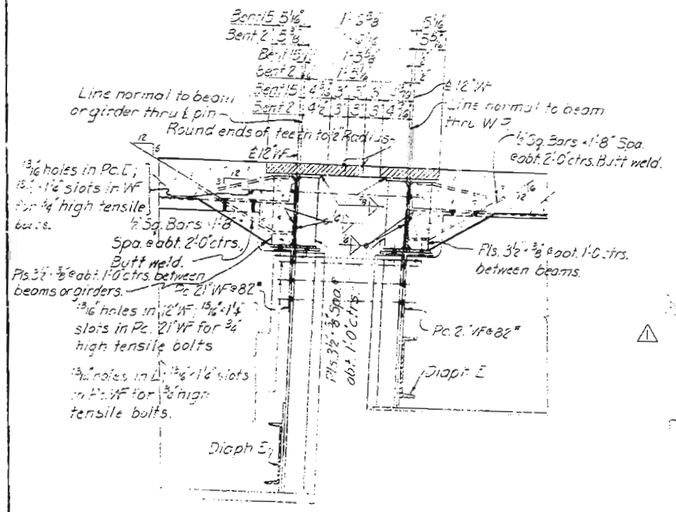
FINAL DESIGN DRAWING



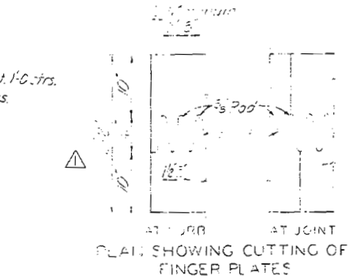
PART PLAN OF EXPANSION DEVICE AT BENTS 2 & 15



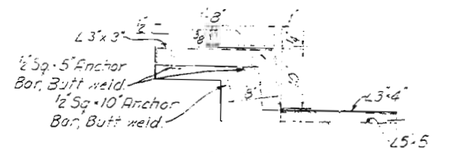
PART PLAN OF EXPANSION DEVICE AT BENTS 4 & 6



SECTION A-A

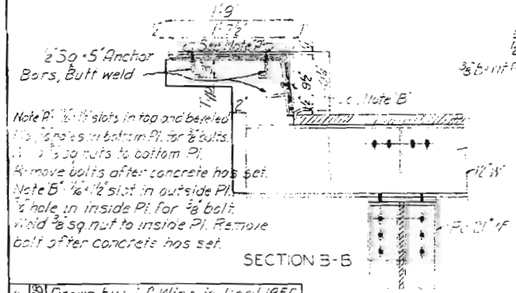


SECTION D-D

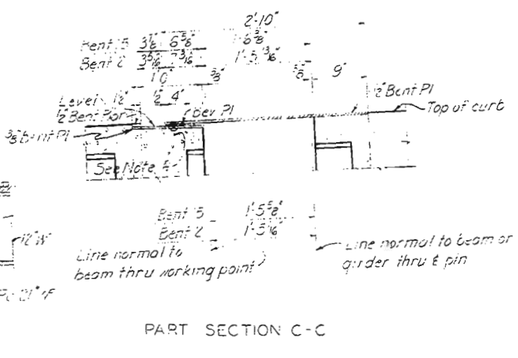


VIEW E-E

PLAN SHOWING CUTTING OF FINGER PLATES



SECTION B-B



PART SECTION C-C

EXPANSION DEVICE NOTES

All expansion devices are shown in normal position at a temperature of 60°F.

All material marked (A.S.) shall be Low Alloy Steel. All other material shall be Carbon Structural Steel.

All expansion devices shall be fabricated to fit roadway.

Flame cutting of finger plates shall be as narrow as practicable and shall not exceed ¼" in width. A mechanical guide shall be used to guide the cutting torch. All burrs shall be ground smooth.

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

ROADWAY EXPANSION DEVICES AT BENTS 2, 4, 6 & 15

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

FINISHED

1259 | 5328

Drawn by: J. R. Wise, Jr. April 1956

Checked by: S. R. Pennington May 1956

Note: Do not scale this drawing. Follow dimensions.

Revision ⚠ Revise Expansion Device at Bents 2 & 15. 12-10-56 By J.A.H. Chkd. G.R.P.

SHEET 1 OF 3

A-450
Platte Co
Rt. 69

AS BUILT DRAWING

FINAL DESIGN DRAWING

TRUSS DETAIL NOTES

Material and members marked (A.S.) shall be Low-Alloy Steel. All other material to be Carbon Steel unless otherwise noted.

All rivets to be ⅞" diameter unless otherwise noted.

In tension members ⑥ indicates the number of holes cut to maintain net section. Where 'M.N.S' is given, sufficient pitch shall be provided to maintain net section in a staggered chain of holes on the face indicated.

Perforated cover plates shall extend into the joint the minimum number of rivet spaces as shown in joint details.

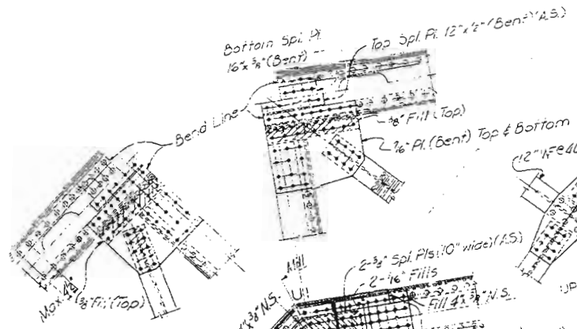
Provide 8"x16" access holes at about 3'-6" centers in both cover plates of lower chord, diagonal members, and in bottom cover plate of end post and upper chord. Holes in vertical members as noted on members.

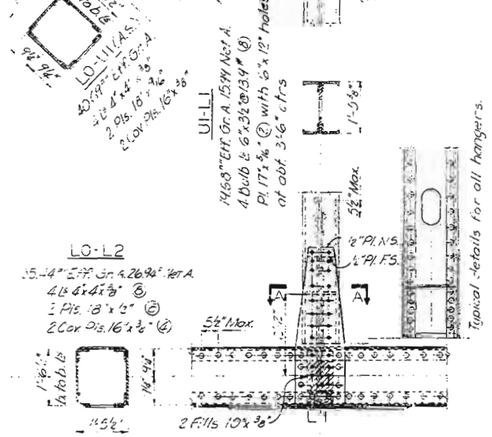
In members in which both cover plates are perforated, the perforations shall be opposite in the two cover plates of the same member except where otherwise shown near joints.

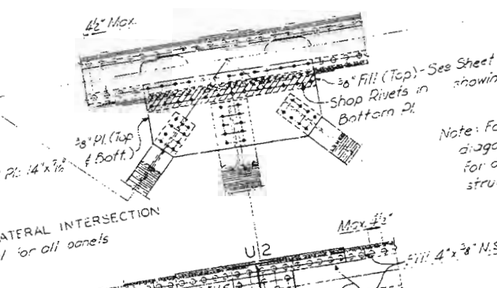
For diaphragms in truss members between joints, see Sheet 10.

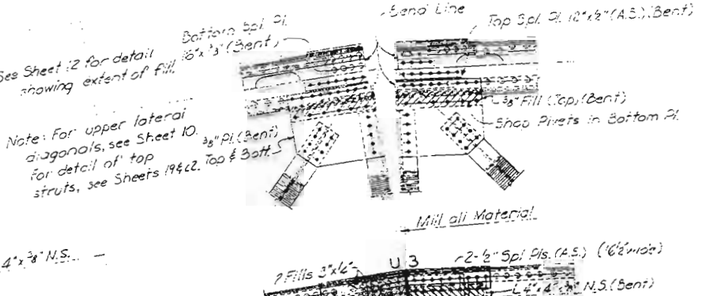
For pipe bracket connection of truss joints, see Sheet 18.

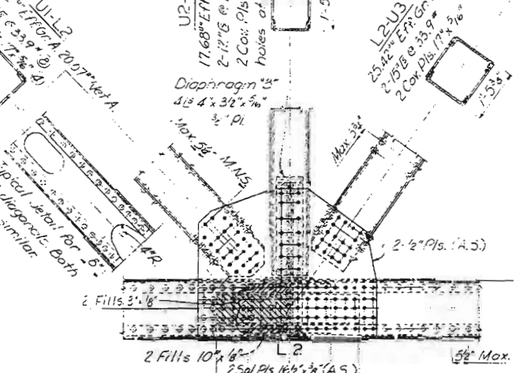
For typical details of ends of cover plates for vertical truss members, see Sheets 18 and 19.

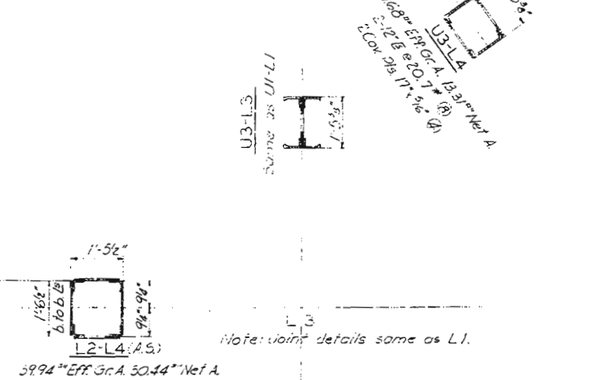


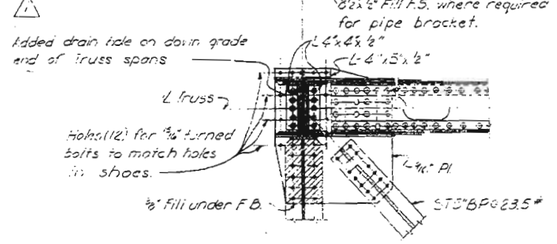


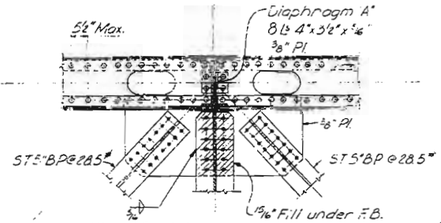


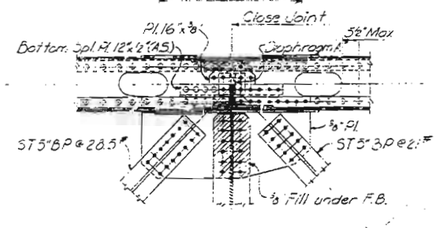


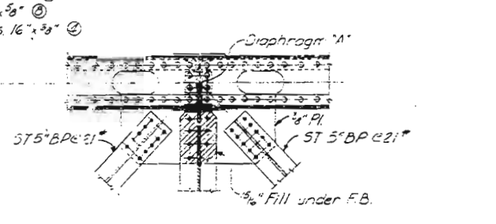




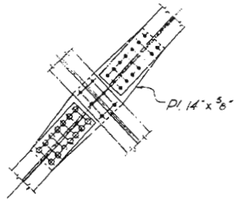




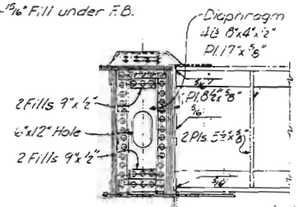




SECTION A-A
Typical for all bulb angle hanger members.



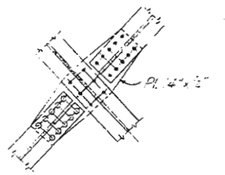
LOWER LATERAL INTERSECTION
Typical connection for Panels L0 to L2



END VIEW AT L0
Pipe bracket support not shown.
See typical detail on Sheet 18.

Floorbeam 25TG"WF@66.5#
Web Pl. 28"x⅜"

Note: End Floorbeam details to be similar to intermediate floorbeam.
Stringer connection and expansion device details not shown. See Sheet 24.
Mill gusset plates and diaphragm to bear over shoe cap.
Mill jacking stiffeners to bear on floorbeam flanges.



LOWER LATERAL INTERSECTION
Typical connection for Panels L2 to L5

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR
PLATTE COUNTY, MISSOURI

SIMPLE TRUSS SPAN - L0 TO L3

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

ENGINEER

Drawn by: K.I. Fogg, Mar. 1956	
Traced by: R.C. Hunt, April 1956	
Checked by: E. Lemcke, June 1956	

Revision ⚠ Joint detail L0 1-21-59 By R.E.B. Ck'd J.E.C.

Note: Do not scale this drawing. Follow dimensions.

SHEET 8 OF 21

A-450

AS BUILT DRAWING

FINAL DESIGN DRAWING

Platte Co. Pl. 69

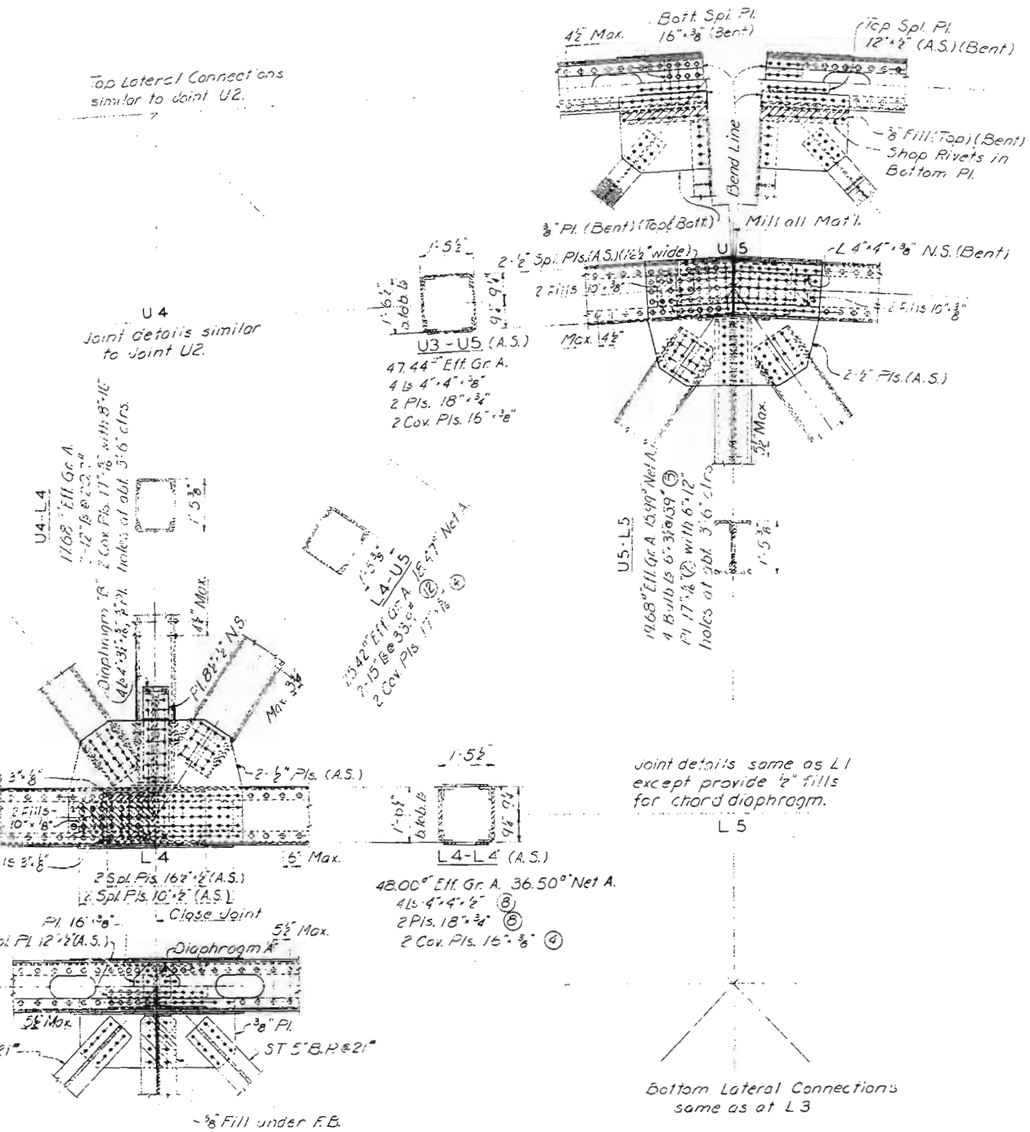


TABLE OF TRUSS MEMBERS AND STRESSES

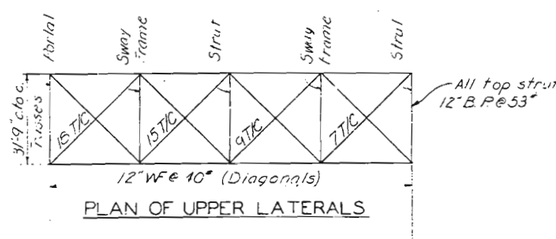
Member	D.L.	L.L.	I.	Trans. Wind 30# on Struct.	Wind 30# on Struct. + L.L.		Grid I.	D+L+I +30# W.	D+L+I -30# W.	Area in Sq. in. furnished Eff. Gr.	Area in Sq. in. furnished Net	t/f	Material
L0-L2	326T	114T	17T	15T	125T	118T	457T	575T	451T	35.44	26.94	—	4 Ls 4"×4"×⅜"; 2 Pls. 18"×½"; 2 Cov Pls. 16"×⅜"
L2-L4	578T	201T	30T	125T	208T	203T	809T	1012T	786T	39.44	30.44	—	4 Ls 4"×4"×⅜"; 2 Pls. 18"×⅝"; 2 Cov Pls. 16"×⅜" A.S.
L4-L4'	643T	223T	33T	136T	227T	220T	849T	1119T	870T	48.00	36.50	—	4 Ls 4"×4"×½"; 2 Pls. 18"×¾"; 2 Cov. Pls. 16"×⅜" A.S.
*L0-U1	477C	166C	25C	18C	29C	29C	668C	897C	505C	40.69	—	73	4 Ls 4"×4"×⅜"; 2 Pls. 18"×⅝"; 2 Cov. Pls. 16"×⅜" A.S.
U1-U3	510C	176C	27C	—	—	—	730C	—	—	38.44	—	50	4 Ls 4"×4"×⅜"; 2 Pls. 18"×½"; 2 Cov. Pls. 16"×⅜" A.S.
U3-U5	640C	222C	33C	—	—	—	895C	—	—	47.44	—	52	4 Ls 4"×4"×½"; 2 Pls. 18"×¾"; 2 Cov. Pls. 16"×⅜" A.S.
U1-L2	255T	101T	15T	—	—	—	371T	—	—	25.42	20.07	—	2-15" [B @ 33.9#; 2 Cov. Pls. 17"×⅜"
L2-U3	133C	66C	10C	—	—	—	209C	—	—	25.42	—	101	2-15" [B @ 33.9#; 2 Cov. Pls. 17"×⅜"
U3-L4	104T	61T	10T	—	—	—	175T	—	—	17.68	13.31	—	2-12" [B @ 20.7#; 2 Cov. Pls. 17"×⅜"
L4-U5	7C	49C	7C	—	—	—	**81C	—	—	25.42	18.47	105	2-15" [B @ 33.9#; 2 Cov. Pls. 17"×⅜"
	(6C)	36T	5T	—	—	—	**53T	—	—				
U1-L1	62T	58T	18T	—	—	—	138T	—	—	19.68	15.99	—	4 Bulb Ls 6"×3½"@13.99#; 1-Pl. 17"×⅞"
U3-L3	62T	58T	18T	—	—	—	138T	—	—	19.68	15.99	—	4 Bulb Ls 6"×3½"@13.99#; 1-Pl. 17"×⅞"
U5-L5	62T	58T	18T	—	—	—	138T	—	—	19.68	15.99	—	4 Bulb Ls 6"×3½"@13.99#; 1-Pl. 17"×⅞"
U2-L2	16C	—	—	—	—	—	16C	—	—	17.68	—	86	2-12" [B @ 20.7#; 2 Cov. Pls. 17"×⅞"
U4-L4	16C	—	—	—	—	—	16C	—	—	17.68	—	101	2-12" [B @ 20.7#; 2 Cov. Pls. 17"×⅞"
Rx	389	134	20	20	94	29	543	572	423				

Chord & Lower Chord

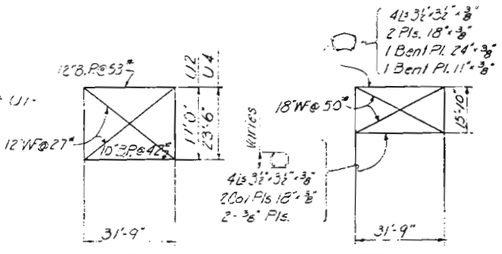
*Member proportioned for bending stresses in combination with the stresses indicated in above table.
**Includes reversal due to passage of live load for which 90% of dead load is assumed effective.

Allowable Stresses for combination of loadings:
D+L+I = 100% normal unit stress.
DL+50# Wind = 125% normal unit stress.
DL+LL+I+30# Wind = 125% normal unit stress.
Stresses are given in Kips. C = Compression. T = Tension.

Note: All material marked A.S. shall be structural low-alloy steel. All other material to be carbon steel.



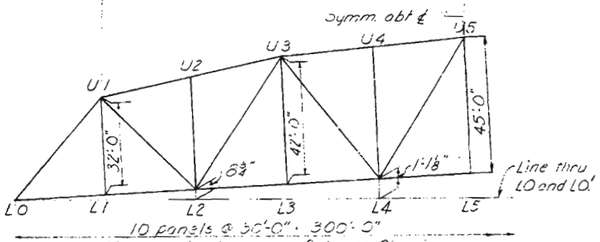
PLAN OF UPPER LATERALS



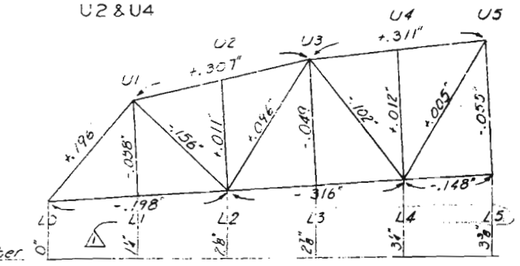
SWAY FRAMES U2 & U4

PORTAL LO-UI

Dimensions of the truss are for the geometric shape after calculated deflection has occurred. All posts and hangers are to be on radial lines. Chord members are to be straight between splice points. All floor beams to be normal to grade.

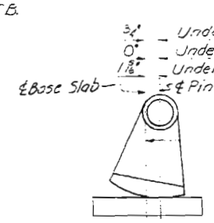


ELEVATION OF TRUSS



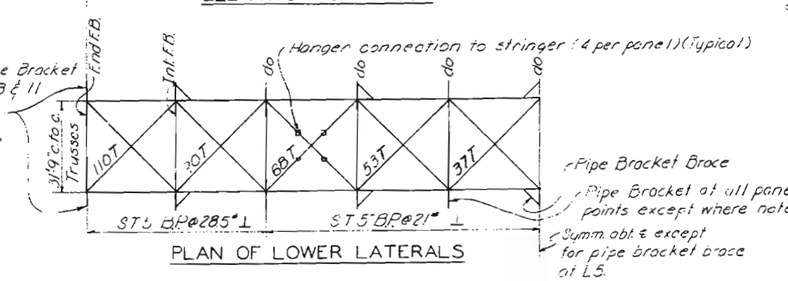
DEAD LOAD DEFLECTION DIAGRAM

Note: Lengths of members to be computed from geometric shape of truss and the connections indicated are to be applied to these lengths. + indicates lengthening, - indicates shortening. The blocking dimensions given are the position of the lower chord joints above the geometric shape to provide for dead load deflection.



Set shoes as shown at median temperature of 60°F. For temperatures above and below median temperature, increase or decrease the offsets shown above by using coefficient of expansion ω = .00000065.

SHOE SETTINGS



PLAN OF LOWER LATERALS

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

SIMPLE TRUSS SPAN - L4 TO L5 & STRESS SHEET

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

FINISHED

A-450
Platte Co.
RT. 69

11C34	Drawn by: K.L. Fogg, Mar. 1956
365271	Traced by: R. Hammer & E.L., Apr. 1956
	Checked by: E.L. & T.V.D., June 1956

Note: Do not scale this drawing. Follow dimensions.

Revision ⚠ Panel Point designations. 8-2-56 by: T.V.D., Chkd. E.L. SHEET 3 OF 31

AS BUILT DRAWING

FINAL DESIGN DRAWING

CANTILEVER TRUSS SPANS AND SIMPLE TRUSS SPAN NOTES

DESIGN: In accordance with Division III of the A.A.S.H.O. "Standard Specifications for Highway Bridges," 1953 edition, with the following exceptions and interpretations.

DESIGN LOADING: Roadway Live Loading H20-S16-44 except that the concentrated load to be used in combination with a lane load shall be taken as 26000 pounds for both shear and moment calculations.

Safety Curb Live Load: None

Impact: Stringers, Floor beams, and Hangers: I=30%

Main members and shoes of Anchor Span: I=10%

Main members of suspended span: I=20%

Main members of cantilever arms: I=15%

Main members of simple span: I=15%

Dead Load: Provision is made for a future wearing surface of 15 pounds per square foot of roadway surface. Provision is made for future utilities of 630 pounds per foot of bridge in addition to the weight of the structure. Haydite concrete is assumed to weigh 105 pounds per cubic foot.

Wind Load: See General Notes, Sheet 2.

UNIT STRESSES: The normal unit stresses used are as given in the A.A.S.H.O. Standard Specifications.

MATERIALS: All members and materials marked (A.S.) shall be structural low-alloy steel; all other material shall be structural carbon steel unless otherwise noted on the detail drawings.

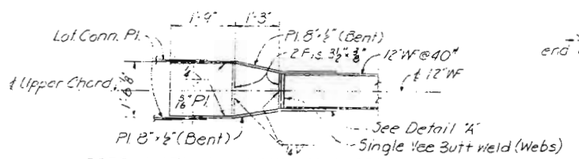
DETAILS: All field connections shall be riveted unless otherwise noted. Where desired for convenience in erection, shop and field rivets may be interchanged. All web plates and cover plates for truss members shall be universal mill plates. All gusset plates shall be cut back not more than ¼" from the back of chord angles or channels, except as otherwise noted on the detail drawings. Access holes may be flame-cut provided exposed edges are ground smooth.

RIVETS: All rivets shall be of the sizes noted on the detail drawings.

FABRICATION: See Special Provisions.

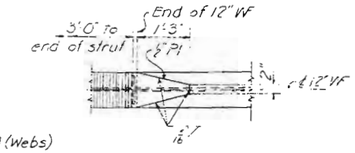
CAMBER: Trusses shall be cambered for the design dead load including future wearing surface and future utility loads.

ERECTION: Before ordering material, the Contractor shall submit to the Engineer for approval, complete plans showing the method of erection he proposes to use and showing erection stresses in all truss members. Erection stresses shall be composed of the dead load stress of the structure and erection equipment plus the stress from a 30 pound wind on the structure as defined in the A.A.S.H.O. Standard Specifications, and on erection equipment. Erection stresses shall not exceed the normal unit stresses by more than 33⅓%. No payment will be made for any extra material required due to erection conditions.

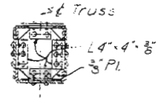


UPPER LATERAL DIAGONALS FOR SIMPLE SPANS AND CANTILEVER TRUSS SPANS FROM U1 TO U19

For upper laterals on Suspended Span, See Sheet 17.



DETAIL "A"



DIAPHRAGM FOR COMPRESSION MEMBERS

Typical chord diaphragm shown. Diaphragms for other members similar. Provide two diaphragms per panel at approximate third points in chord members as follows:

Cantilever Truss Spans - Lower chord from L8 to L18
Upper chord from U1 to U11 and from U20 to U22

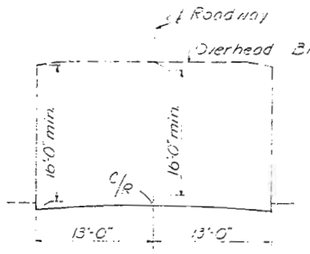
Simple Truss Spans - Upper chord from U1 to U3

Provide noted number of diaphragms approximately equally spaced in the following members:

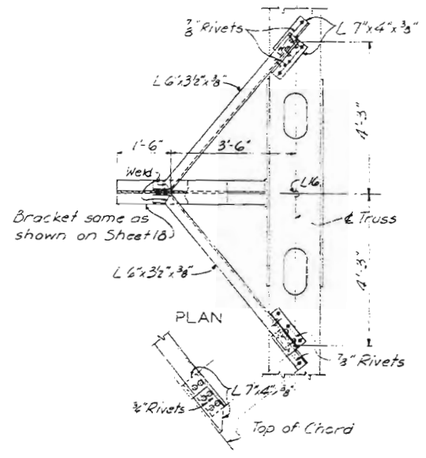
Cantilever Truss Spans - L0-U1, L18-U19, L19-U20, and L21-U22 ___ 2 req'd. (at ⅓ points)
L2-U3, L4-U5, U5-L6, U7-L8, U9-L10,
U11-L12, and L15-U17 ___ 3 req'd.
U13-L14, U14-L14 and L14-U15 ___ 4 req'd.

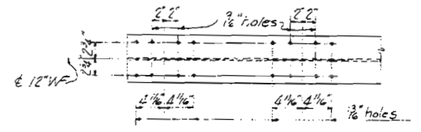
Simple Truss Spans - L0-U1 ___ 2 req'd. (at 3 points)
L2-U3 and L4-U5 ___ 3 req'd.

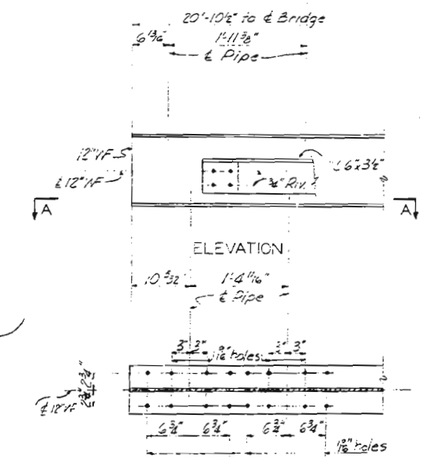
In members in which the net section is limited, rivets connecting diaphragm to segments are to be arranged to maintain the net section.



CLEARANCE DIAGRAM







SECTION A-A

PIPE ANCHOR BRACKET AT L16

Holes in flanges of 12"WF indicate connections for pipes to brackets.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

TRUSS SPAN NOTES & MISC. DETAILS

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

FINISHED

A-450
Platte Co.
Rt. 69

Drawn by: R. Hammer Jr., May 1956
Checked by: E. Lemcoe, June 1956

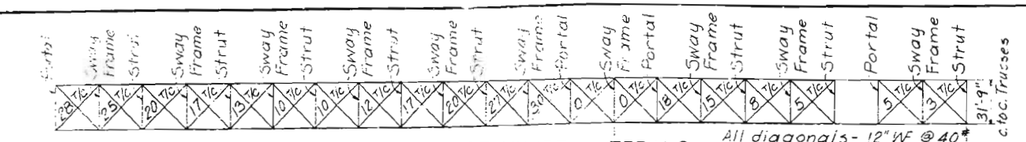
Note: Do not scale this drawing. Follow dimensions.

Revision A: Add Pipe Anchor Bracket. 8-2-56 By: E.L. Chk'd T.V.D.

SHEET 19 OF 31

AS BUILT DRAWING

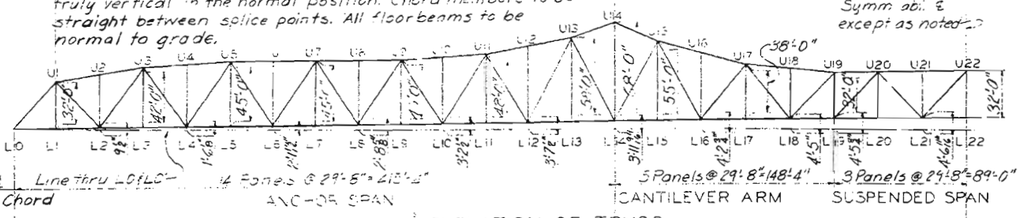
FINAL DESIGN DRAWING



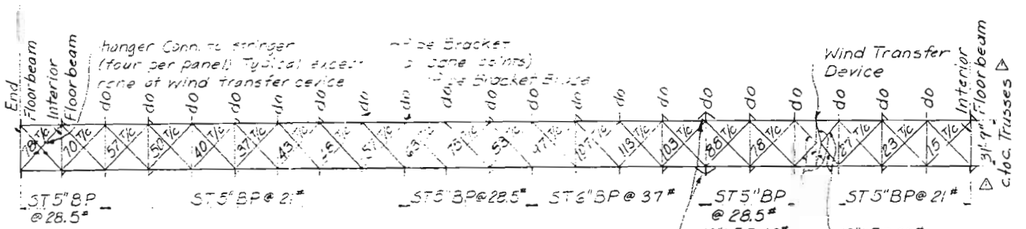
PLAN OF UPPER LATERALS

All diagonals - 12" WF @ 40#
All struts, except U1, U13, U14, U15 & U20 - 12" BP @ 53#

Note: Dimensions of Truss shown are for the geometric shape after calculated deflection has occurred. All posts and hangers are to be on radial lines, except U19-L19 & U19'-L19' which shall be truly vertical in the normal position. Chord members to be straight between splice points. All floor beams to be normal to grade.



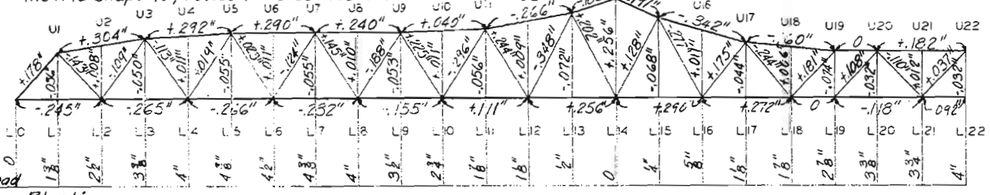
ELEVATION OF TRUSS



PLAN OF LOWER LATERALS

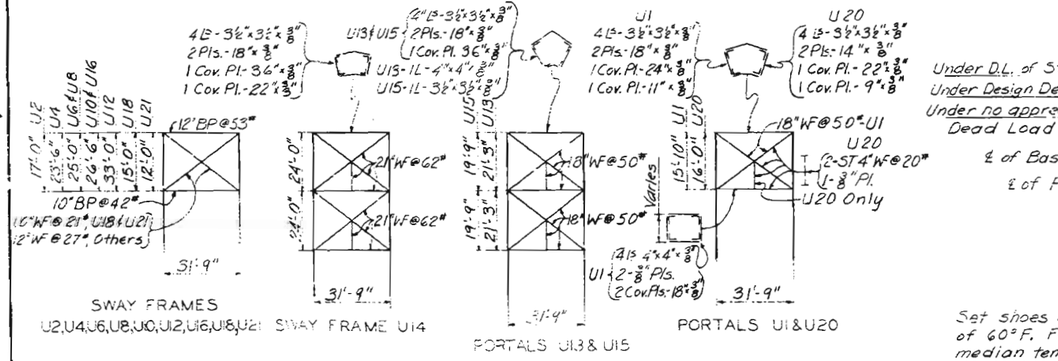
Pipe anchor bracket at L16 only.
See Sheet 2 for Details

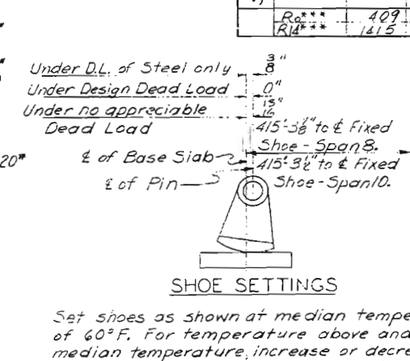
Note: Lengths of members to be computed for geometric shape of truss and the corrections indicated are to be applied to these lengths. + indicates lengthening, - indicates shortening. The blocking dimensions given are the positions of lower chord (L0-L22) above the geometric shape to provide for dead load deflection.



Dead Load Camber Blocking

DEAD LOAD CAMBER DIAGRAM





SHOE SETTINGS

Set shoes as shown at median temperature of 60° F. For temperature above and below median temperature, increase or decrease the offsets given above, using coeffecient of expansion, w = 0.0000065.

SHOE REACTIONS
(D.L. + 50# Trans. Wind + 20# Vertical Wind)

		L0 or L0'	L14 or L14'
Dead Load		413	1426
50# Trans. Wind		± 59	± 232
20# Vert. Wind		-103	- 249
Reaction	Max.	472	1658
	Min.	251	945

Stresses are given in kips. T = tension and C = compression.
All members marked A.S. shall be structural low alloy steel. All others to be structural carbon steel.

* Includes reversal due to passage of live load for which 90 % of dead load is assumed effective.
** Members proportioned for bending stresses in combination with the stresses indicated in the above table.
*** At ℄ Lower Chord.
Allowable stresses for combination of loadings:
D. + L + I = 100 % normal unit stresses.
D. + L + I + 30# Trans. Wind = 125 % normal unit stresses.
D. + 50# Trans. Wind = 125 % normal unit stresses.
D. + 50# Trans. Wind + 20# Vert. Wind (Truss Span Shoes) = 125 % normal unit stress.

TABLE OF TRUSS MEMBERS AND STRESSES

	Member	D.L.	L.L.	I.	Trans. Wind on Struct. 30#	Trans. Wind on Struct. 50#	30# Wind on Struct. L.L.	D+L+I	D+L+I+ 30# Wind	D+L+ 50# Wind	Area in sq. in. furnished Eff. Gr.	Area in sq. in. furnished Net	ℓ/r	Material
Anchor Span and Cantilever Arm	L0-L2	343T	149T	15T	111C	185T	74T	507T	681T	528T	29.10	22.10	—	A.S. 4L's-4"x4"x⅜"; 2 Pls.-18"x⅜"; 2 Cov. Pls.-16"x⅜"
	L2-L4	620T	289T	29T	183T	305T	307T	936T	1245T	925T	51.44	38.94	—	A.S. 4L's-4"x4"x⅜"; 2 Pls.-18"x¾"; 2 Cov. Pls.-16"x⅜"
	L4-L6	706T	349T	37T	234T	390T	391T	1112T	1503T	1096T	58.94	44.94	—	A.S. 4L's-4"x4"x⅝"; 2 Pls.-18"x¾"; 2 Pls.-10"x⅜"; 2 Cov. Pls.-16"x⅜"
	L6-L8	617T	402T	40T	246T	410T	412T	1059T	1471T	1027T	58.94	44.94	—	A.S. do
	L8-L10	311T	369T	37T	237T	398T	394T	*743T	1111T	704T	43.50	33.00	51	A.S. 4L's-4"x4"x⅝"; 2 Pls.-18"x⅝"; 2 Cov. Pls.-16"x⅝"
		(280T)	302C	30C	237C	398C	394C	* 78C	446C	82C	—	—	—	
	L10-L12	195C	346C	35C	256C	426C	374C	*628C	950C	621C	37.66	28.69	51	A.S. 4L's-4"x4"x⅜"; 2 Pls.-18"x⅝"; 2 Cov. Pls.-16"x⅜"
		(175C)	253T	25T	256T	426T	374T	*155T	477T	231T	—	—	—	
	L12-L14	735C	339C	34C	295C	491C	434C	1108C	1542C	1226C	63.94	—	56	A.S. 4L's-4"x4"x⅝"; 2 Pls.-18"x⅝"; 2 Pls. 10"x⅝"; 2 Cov. Pls. 16"x⅜"
	L14-L16	830C	386C	43C	266C	440C	395C	1259C	1554C	1370C	63.94	—	56	A.S. do
	L16-L18	479C	174C	24C	118C	197C	170C	679C	849C	674C	37.28	—	51	A.S. 4L's-4"x4"x⅝"; 2 Pls.-18"x⅝"; 2 Cov. Pls.-16"x⅝"
	L0-U1**	505C	221C	22C	26C	43C	44C	748C	792C	548C	27.44	—	75	A.S. 4L's-4"x4"x⅝"; 2 Pls.-18"x¾"; 2 Cov. Pls.-16"x⅝"
	U1-U3	539C	243C	24C	—	—	—	806C	—	—	40.69	—	50	A.S. 4L's-4"x4"x⅝"; 2 Pls.-18"x⅝"; 2 Cov. Pls.-16"x⅝"
	U3-U5	693C	340C	34C	—	—	—	1067C	—	—	54.44	—	50	A.S. 4L's-4"x4"x⅝"; 2 Pls.-18"x¾"; 2 Cov. Pls.-16"x⅝"
	U5-U7	689C	399C	39C	—	—	—	1121C	—	—	54.44	—	50	A.S. do
	U7-U9	491C	393C	39C	—	—	—	923C	—	—	46.50	—	69	A.S. 4L's-4"x4"x½"; 2 Pls.-18"x⅝"; 2 Cov. Pls.-16"x⅜"
	U9-U11	76C	318C	32C	—	—	—	*573C	—	—	42.94	32.69	50	4L's-4"x4"x⅝"; 2 Pls.-18"x⅝"; 2 Cov. Pls.-16"x⅜"
		(68C)	329T	33T	—	—	—	*441T	—	—	—	—	—	
	U11-U13	472T	348T	35T	—	—	—	855T	—	—	40.69	31.69	—	A.S. 4L's-4"x4"x⅜"; 2 Pls.-18"x7/16"; 2 Cov. Pls.-16"x⅜"
	U13-U14	983T	329T	33T	—	—	—	1345T	—	—	64.44	49.94	—	A.S. 4L's-4"x4"x⅝"; 2 Pls.-18"x¾"; 2 Pls.-10"x⅜"; 2 Cov. Pls.-16"x⅜"
	U14-U15	1017T	340T	51T	—	—	—	1408T	—	—	66.94	51.94	—	A.S. 4L's-4"x4"x⅝"; 2 Pls.-18"x¾"; 2 Pls.-10"x⅜"; 2 Cov. Pls.-16"x⅜"
	U15-U17	687T	243T	36T	—	—	—	966T	—	—	46.50	36.00	—	A.S. 4L's-4"x4"x½"; 2 Pls.-18"x⅝"; 2 Cov. Pls.-16"x⅜"
	U17-U19	229T	86T	13T	—	—	—	328T	—	—	32.10	25.10	—	4L's-4"x4"x¾"; 2 Pls.-18"x⅜"; 2 Cov. Pls.-16"x⅜"
	U1-L2	277T	139T	14T	—	—	—	430T	—	—	30.58	24.13	—	2-18"℄@ 33.7#; 2 Cov. Pls.-17"x⅝"
	L2-U3	153C	108C	11C	—	—	—	272C	—	—	25.42	—	100	2-15"℄@ 33.9#; 2 Cov. Pls.-17"x⅝"
	U3-L4	125T	107T	11T	—	—	—	243T	—	—	18.81	14.19	—	2-12"℄@ 20.7#; 2 Cov. Pls.-17"x⅜"
	L4-U5	25C	88C	9C	—	—	—	*153C	—	—	25.42	20.07	106	2-15"℄@ 33.9#; 2 Cov. Pls.-17"x5/16"
		(23C)	77T	8T	—	—	—	* 93T	—	—	—	—	—	
	U5-L6	31C	88C	9C	—	—	—	*156C	—	—	25.42	20.07	106	
		(28C)	74T	8T	—	—	—	* 84T	—	—	—	—	—	do
	L6-U7	131T	106T	11T	—	—	—	248T	—	—	18.81	14.19	—	2-12"℄@ 20.7#; 2 Cov. Pls.-17"x⅜"
	U7-L8	229C	116C	12C	—	—	—	357C	—	—	30.15	—	107	2-15"℄@ 40#; 2 Cov. Pls.-17"x⅜"
	L8-U9	327T	132T	13T	—	—	—	472T	—	—	33.81	26.51	—	2-18"℄@ 45.6#; 2 Cov. Pls.-17"x⅜"
	U9-L10	428C	149C	15C	—	—	—	592C	—	—	37.11	—	97	A.S. 2-18"℄@ 51.9#; 2 Cov. Pls.-17"x⅜"
	L10-U11	514T	168T	17T	—	—	—	701T	—	—	35.98	28.63	—	A.S. 2-18"℄@ 51.9#; 2 Cov. Pls.-17"x5/16"
	U11-L12	515C	168C	17C	—	—	—	700C	—	—	43.50	—	96	A.S. 4L's-4"x4"x½"; 2 Pls.-18"x⅜"; 2 Cov. Pls.-16"x⅜"
	L12-U13	588T	188T	19T	—	—	—	795T	—	—	39.94	30.44	—	A.S. 4L's-4"x4"x⅜"; 2 Pls.-18"x⅝"; 2 Cov. Pls.-16"x⅝"
	U13-L14**	431C	182C	18C	55C	92C	70C	631C	701C	523C	51.44	—	113	A.S. 4L's-4"x4"x⅝"; 2 Pls.-18"x¾"; 2 Cov. Pls.-16"x⅜"
	L14-U15**	214C	79C	12C	55C	92C	66C	305C	371C	306C	37.69	—	107	4L's-4"x4"x⅜"; 2 Pls.-18"x⅛"; 2 Cov. Pls.-16"x⅜"
	U15-L16	358T	128T	19T	—	—	—	505T	—	—	29.02	23.19	—	A.S. 2-15"℄@ 40#; 2 Cov. Pls.-17"x5/16"
	L16-U17	294C	110C	17C	—	—	—	421C	—	—	29.02	—	97	A.S. do
	U17-L18	409T	144T	22T	—	—	—	575T	—	—	29.02	23.19	—	A.S. do
	L18-U19	336C	126C	19C	—	—	—	481C	—	—	29.02	—	88	A.S. do
	U1-L1	60T	58T	17T	—	—	—	135T	—	—	19.68	15.99	124	4 Bulb L3-6"x3½"@13.9#; 1 Pl.-17"x 5/16"
	U2-L2	11C	—	—	—	—	—	11C	—	—	17.68	—	86	2-12"℄@ 20.7#; 2 Cov. Pls.-17"x5/16"
	U3-L3	43T	58T	17T	—	—	—	136T	—	—	19.68	15.99	143	4 Bulb L3-6"x3½"@13.9#; 1 Pl.-17"x 5/16"
	U4-L4	13C	—	—	—	—	—	13C	—	—	17.68	—	101	2-12"℄@ 20.7#; 2 Cov. Pls.-17"x5/16"
	U5-L5	44T	58T	17T	—	—	—	139T	—	—	19.68	15.99	175	4 Bulb L3-6"x3½"@13.9#; 1 Pl.-17"x 5/16"
	U6-L6	13C	—	—	—	—	—	13C	—	—	17.68	—	105	2-12"℄@ 20.7#; 2 Cov. Pls.-17"x5/16"
	U7-L7	44T	58T	17T	—	—	—	139T	—	—	19.68	15.99	175	4 Bulb L3-6"x3½"@13.9#; 1 Pl.-17"x 5/16"
	U8-L8	12C	—	—	—	—	—	12C	—	—	17.68	—	105	2-12"℄@ 20.7#; 2 Cov. Pls.-17"x5/16"
	U9-L9	62T	58T	17T	—	—	—	193T	—	—	19.68	15.99	175	4 Bulb L3-6"x3½"@13.9#; 1 Pl.-17"x 5/16"
	U10-L10	12C	—	—	—	—	—	12C	—	—	17.68	—	108	2-12"℄@ 20.7#; 2 Cov. Pls.-17"x5/16"
	U11-L11	62T	58T	17T	—	—	—	137T	—	—	19.68	15.99	186	4 Bulb L3-6"x3½"@13.9#; 1 Pl.-17"x 5/16"
	U12-L12	12C	—	—	—	—	—	12C	—	—	25.42	—	104	2-15"℄@ 33.9#; 2 Cov. Pls.-17"x5/16"
	U13-L13	65T	58T	17T	—	—	—	140T	—	—	17.68	13.31	135	2-12"℄@ 20.7#; 2 Cov. Pls.-17"x5/16"
	U14-L14	750C	641C	36C	—	—	—	1026C	—	—	74.44	—	117	A.S. 4L's-4"x4"x⅝"; 2 Pls.-20"x⅜"; 2 Pls. 12"x⅜"; 2 Cov. Pls. 16"x⅜"
	U15-L15	65T	58T	17T	—	—	—	140T	—	—	17.68	13.31	128	2-12"℄@ 20.7#; 2 Cov. Pls.-17"x5/16"
	U16-L16	12C	—	—	—	—	—	12C	—	—	17.68	—	108	do
	U17-L17	61T	58T	17T	—	—	—	136T	—	—	19.68	15.99	147	4 Bulb L3-6"x3½"@13.9#; 1 Pl.-17"x 5/16"
	U18-L18	9C	—	—	—	—	—	9C	—	—	17.34	—	100	2-10"℄@ 20#; 2 Cov. Pls.-17"x 5/16"
	U19-L19**	256T	91T	30T	—	—	—	377T	—	—	40.34	32.14	—	2-18"℄@ 58#; 2 Cov. Pls.-15"x⅜"
	L18-L19										29.96	23.51	—	2-18"℄@ 42.7#; 2 Cov. Pls.-L6"x 5/16"
	L19-L21	169T	70T	14T	29T	45T	57T	253T	310T	214T	30.58	24.13	—	2-18"℄@ 42.7#; 2 Cov. Pls.-17"x⅜"
Suspended Span	L21-L22	304T	126T	25T	39T	77T	74T	455T	529T	381T	35.98	28.63	—	2-18"℄@ 51.9#; 2 Cov. Pls.-17"x⅜"
	L19-U20**	243C	103C	21C	8C	19C	8C	372C	380C	261C	34.03	—	90	2-15"℄@ 50.0#; 2 Cov. Pls.-17"x⅜"
	U19-U20										27.92	22.56	—	2-15"℄@ 33.9#; 2 Cov. Pls.-17"x⅜"
	U20-L22	270C	112C	23C	—	—	—	405C	—	—	33.16	—	58	2-15"℄@ 40#; 2 Cov. Pls.-17"x⅜"
	U20-L21	149T	73T	15T	—	—	—	237T	—	—	20.26	15.46	—	2-12"℄@ 25#; 2 Cov. Pls.-17"x⅜"
	L21-U22	50C	48C	10C	—	—	—	108C	—	—	20.26	—	105	do
	U20-L20	53T	58T	17T	—	—	—	128T	—	—	19.65	15.99	124	4 Bulb L3-6"x3½"@13.9#; 1 Pl.-17"x 5/16"
	U21-L21	11C	—	—	—	—	—	11C	—	—	17.44	—	91	2-10"℄@ 20#; 2 Cov. Pls.-17"x 5/16"
	U22-L22	53T	58T	17T	—	—	—	128T	—	—	19.68	15.99	124	4 Bulb L3-6"x3½"@13.9#; 1 Pl.-17"x⅜"
	R***	409	174	17	30	50	42	600	642	459				
	R'***	1415	391	39	127	212	1"	945	2000	1627				

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY MISSOURI

CANTILEVER THRU PLATE GIRDER STRUCTURE SHEET

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

Revision ⅄ Anchor Span Dimension 8-23-56 by E.L. Chkd. M.C.W.
Revision ⅃ Pipe Anchor Brkt. at L16 8-2-56 by T.S. Chkd. E.L.
Revision △ Pipe Support Brace at L22 6-22-56 by G.R.P. Chkd. E.L.

Drawn by: M.C. Williams, Mar. 1956
Checked by: E. Lemcoe, May 1956

Note: Do not scale this drawing. Follow dimensions.

AS BUILT DRAWING

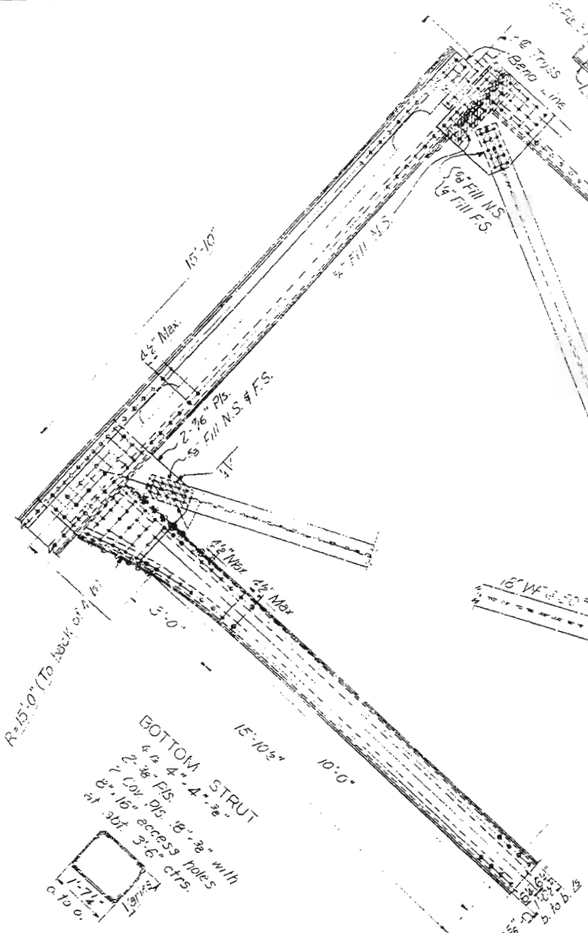
FINAL DESIGN DRAWING

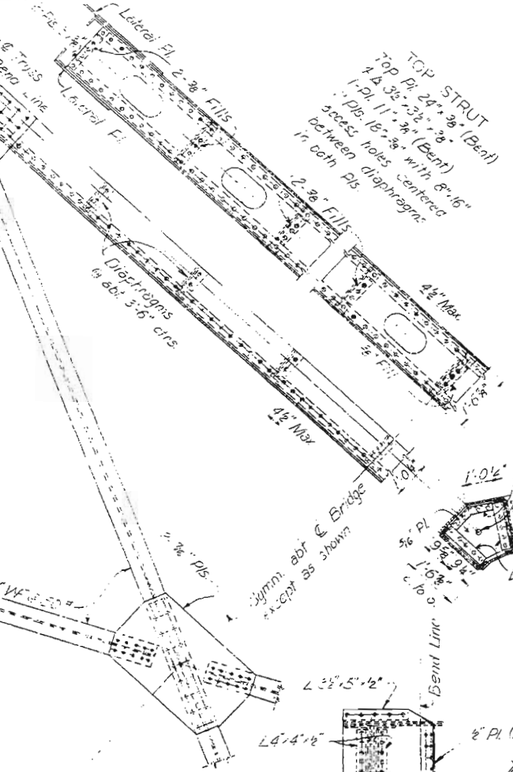
SHEET 1 OF 3

FINISHED

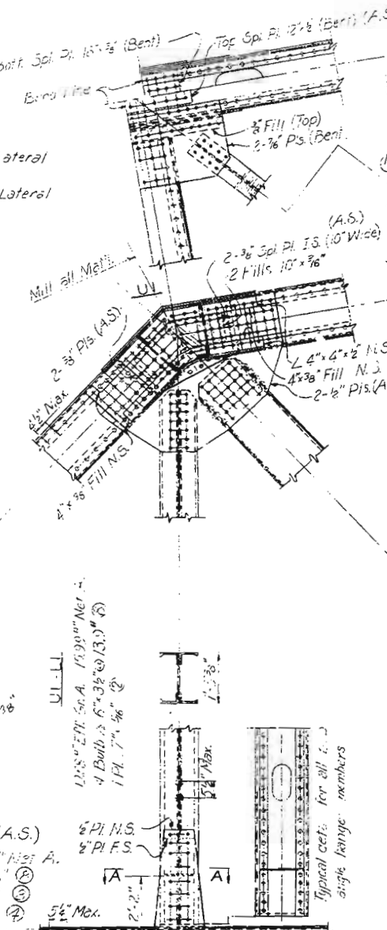
A-450

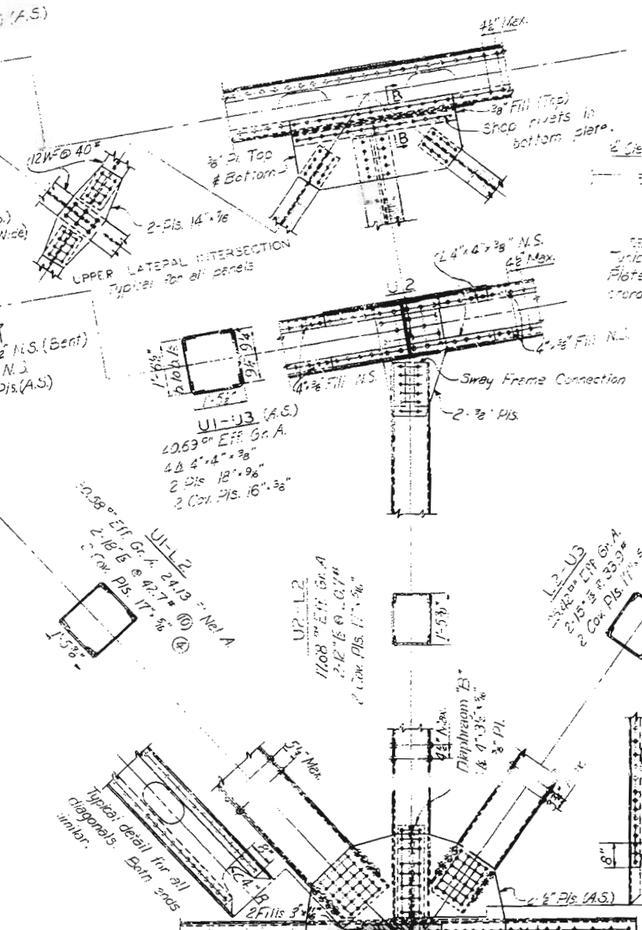
Platte Co. Ex. 59

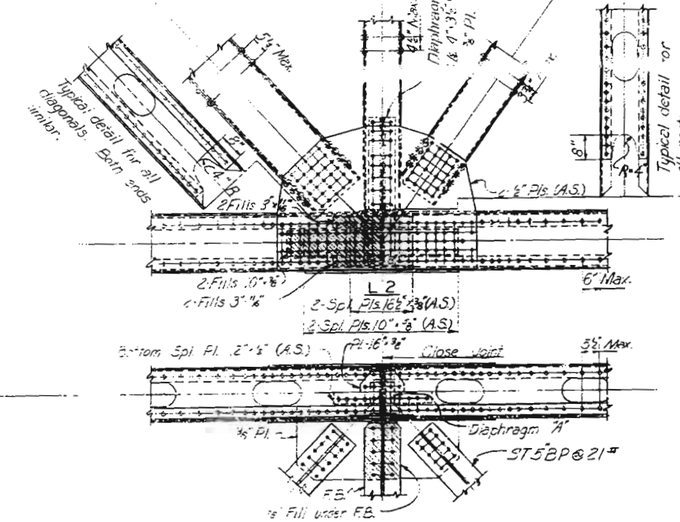




Note: For details of Upper Lateral Diagonals see Sheet 16.
For details of Upper Lateral Struts see Sheet 19.







TRUSS DETAIL NOTES

Material and members marked (A.S.) shall be Low Alloy Steel. All other material to be Carbon Steel unless otherwise noted.

In tension members Ⓑ indicates the number of holes cut to maintain net section. Where "W.P. N.S." is given, sufficient pitch shall be provided to maintain net section in a staggered chain of holes in the face indicated.

Perforated cover plates shall extend into the joint the minimum number of rivet spaces as shown in joint details.

For diaphragms in truss members between joints, see Sheet 10.

Provide 6"x16" access holes at about 3'-6" centers in both cover plates of lower chord, box section verticals and diagonal members, and in bottom cover plates of end post and upper chord members, unless otherwise noted. Except where shown at joints, access holes shall be opposite. Provide 6"x12" holes at about 3'-6" centers in webs of built angle verticals.

All rivets to be ⅞" unless otherwise noted.

For typical details at ends of cover plates for vertical truss members see Sheets 18 & 19.

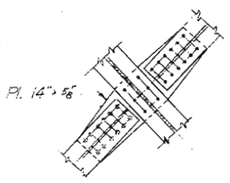
Note: End Floorbeam details to be similar to intermediate Floorbeam.

Stringer connections and expansion device details not shown. See Sheets 18 & 24.

Mill gusset plates and diaphragm to bear over shoe cap.

Mill jacking stiffeners to bear on Floorbeam flanges.

Pipe Support Bracket not shown. See Typical Detail on Sheet 18.



LOWER LATERAL INTERSECTION
Typical for all ST 5 BP ⑤ 28.5# laterals

LOWER LATERALS
Panels L0-L1 and L1-L2
ST 5 BP ③ 28.5#

SECTION A-A
Typical for all bulb angle flange members

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

CANTILEVER TRUSS SPANS-LO TO L2 & PORTAL AT U1

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

1959	502	Drawn by B.H Spinner Feb. 1956
		Checked by: J.F. Keeler June 1956

Note: Do not scale this drawing. Follow dimensions.

Revision 1 Truss detail LO 1-21-59 R.E.S. Ck'd. J.E.C.

AS BUILT DRAWING

SHEET 13 OF 31

FINAL DESIGN DRAWING

A-450

Platte Co. Rd. 67

Bottom Spl. Pl. 16"×⅜" (Bent)
Max 4½"
Bend Line
Top Spl. Pl. 12"×½" (Bent)(A.S.)
4½" Max.
Shop rivets in bottom plate
⅜" Fill (Top)
⅜" Pl. (Bent) Top & Bottom
2-5½" Spl. Pls. (A.S.)(16½" Wide)
6" Max.
Mill all Mat'l.
U3
2 Fills 10"×⅝"
4½" Max.
2 Fills 10"×⅝"
L 4"×4"×⅜" N.S. (Bent)
2 Fills 9"×⅜"
2-2½" Pls. (A.S.)
L 4"×4"×⅜" N.S. (Bent)
Max. 3¾"
5½" Max.

Note: For typical detail of top lateral intersection, see Sh. 12.

⅜" Pl. Top and Bottom
Shop rivets in bottom plate
⅜" Fill (Top)
U4
L 4"×4"×⅜" N.S.
4"×⅜" Fill N.S.
2-⅜" Pls.
4"×⅜" Fill N.S.
Sway Frame Connection

Top Lateral Connection similar to that at U3. Top and bottom splice plates same as those at U3.

2-5⅝" Spl. Pls. (A.S.)(16½" wide)
6" Max.
Mill all Mat'l.
U5
2 Fills 10"×⅝"
2 Fills 10"×⅝"
L 4"×4"×⅜" N.S. (Bent)
2-2½" Pls. (A.S.)
Max. 3¾"
M.N.S.
M.N.S.
3¾" Max.

Top Lateral Connection similar to that at U4.

Note: For detail of top lateral diagonals and top struts see Sheets 10 & 19.

U6

Post and Sway Frame Connection similar to U4.

U5-U7
Same as U3-U5

1'-5½"
U3-U5 (A.S.)
58.44 Eff. Gr. A. 44.93 Net A.
4 Lls 4"×4"×⅝"
2 Pls. 18"×¾"
2 Pls. 16"×⅜"
2 Cov. Pls. 16"×⅜"

L4-U5
58.44 Eff. Gr. A. 44.93 Net A.
2-15" Lb @ 33.9#
2 Cov. Pls. 17"×⅝"

U5-L5
Same as U3-L3

U5-L6
Same as L4-U5

U6-L3
Same as U4-L4

L6-U7
Same as U3-L4

U3-L3
44.93 Eff. Gr. A
44.93 Net A.
4 Bulb Lb 5"×½" @ 30.9# ⑥
2 Pls. 17"×⅜" ⑦

U3-L4
Gr. A. 44.93 Net A.
2-12 Lb @ 20.7# ⑧
2 Cov. Pls. 17"×⅜" ⑨

U4-L4
Gr. A
2-12 Lb @ 20.7#
2 Cov. Pls. 17"×⅜"

L4-L6 (A.S.)
58.94 Eff. Gr. A 44.93 Net A.
4 Lls 4"×4"×⅝" ⑤
2 Pls. 18"×¾" ⑬
2 Pls. 10"×⅜" ⑭
2 Cov. Pls. 16"×⅜" ⑮

L2-L4 (A.S.)
51.44 Eff. Gr. A 39.93 Net A.
2 Pls. 18"×¾" ⑥
2 Cov. Pls. 16"×⅜" ⑦

½" Pl. N.S.
½" Pl. F.S.
Max 15¾"
5" Max.
2-⅝" Fills
L3
5½" Max.
Diaphragm "A"
⅜" Pl.
ST 5"BP@21"
F.B.
½" Fill under F.B.

Diagram "B"
M.N.S.
2-⅞" Pls. (A.S.)
Max 5½"
2 Fills 10"×⅜"
L4
2 Spl. Pls 10"×⅝" (A.S.)
2 Spl. Pls. 16½"×¾" (A.S.)
End 2 Pls. 10"×⅜"
Close Joint
Pl. 16"×⅜"
5½" Max.
Bottom Spl. Pl. 12"×½" (A.S.)
Diaphragm "A"
⅜" Pl.
ST 5"BP@21"
F.B.
⅜" Fill under F.B.

½" Pl. N.S.
½" Pl. F.S.
2-¼" Fills
L5
Bottom Lateral Connection same as at L3.

Diagram "B"
M.N.S.
2-⅞" Pls. (A.S.)
Max 5½"
2 Fills 10"×¼"
L6
2 Spl. Pls. 10"×⅝" (A.S.)
2 Spl. Pls. 16½"×¾" (A.S.)
End 2 Pls. 10"×⅜"
Close Joint
Pl. 15"×⅜"
5½" Max.
Bottom Spl. Pl. 12"×⅝" (A.S.)
Diaphragm "A"
⅜" Pl.
ST 5"BP@21"
F.B.
⅜" Fill under F.B.

Pl. 14"×½"
ST 5"BP@21"
ST 5"BP@21"

LOWER LATERAL INTERSECTION
Panels L2-L3 to and including L2-L9

Note: See Sheet 12 for Truss Detail Notes. For typical detail of ends of cover plates of truss diagonals and end of web plate of truss verticals, see Sheets 12, 18 & 19.

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR PLATTE COUNTY, MISSOURI

CANTILEVER TRUSS SPANS-L3 TO L6

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

Drawn By: B.H. Spinner Feb. 1956
Checked By: J.F. Keeler June 1956

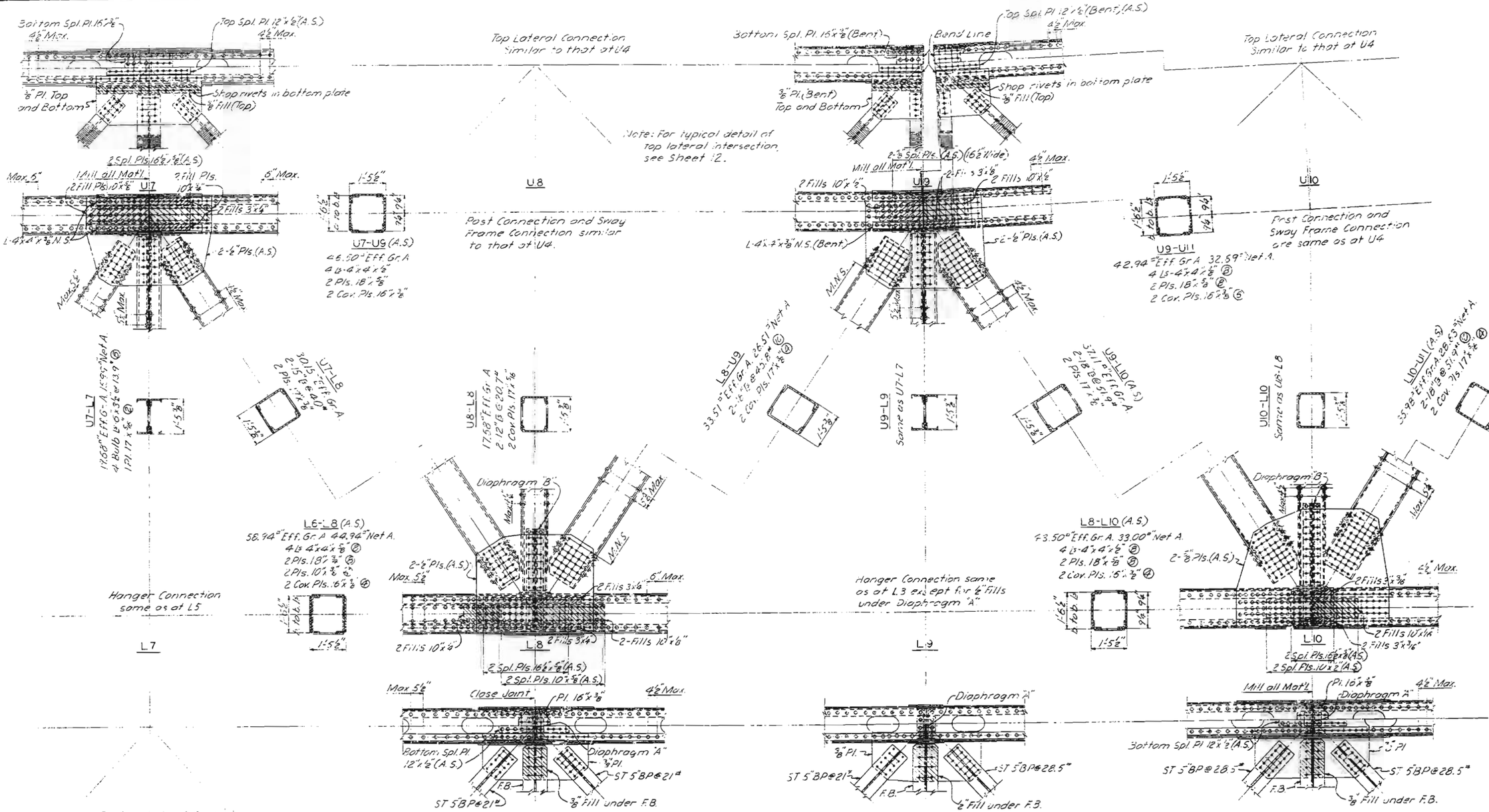
Note: Do not scale this drawing. Follow dimensions.

SHEET 9 OF 31

A-450

AS BUILT DRAWING

FINAL DESIGN DRAWING



Note: See Sheet 12 for Truss Detail Notes.
For typical detail of ends of cover plates of truss diagonals and end of web plate of truss verticals, see Sheets 12, 18 & 19.
For typical detail of ST 5"BP@21" lower lateral intersection, see Sheet 13.
For typical detail of ST 5"BP@28.5" lower lateral intersection, see Sheet 12.

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR PLATTE COUNTY, MISSOURI

CANTILEVER TRUSS SPANS-L7 TO L10

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

Drawn by: B.H. Spinner, Mar. 1956
Traced by: W.J. Bollard, Apr. 1956
Checked by: J.F. Reeler, June 1956

Note: Do not scale this drawing. Follow dimensions.

AS BUILT DRAWING

FINAL DESIGN DRAWING

FINISHED

SHEET 14 OF 31

A-450
Platte Co.
Rf. 69

Note: For typical detail of top lateral intersection, see Sheet 12.

U11-L11
17.68" Eff. Gr. A
1 Bulb L 15"x 5/16" x 13.9#
Pl. 17"x 3/8"

U11-U13 (A.S.)
40.59" Eff. Gr. A
31.69" Net A
4 Ls 4"x 4"x 3/8"
2 Pls. 18"x 7/16"
2 Cov. Pls. 16"x 3/8"

U12-L12
23.42" Eff. Gr. A
2-5"/8 @ 33.9"
2 Cov. Pls. 17"x 5/16"

U11-L12 (A.S.)
43.50" Eff. Gr. A
4 Ls 4"x 4"x 7/16"
2 Cov. Pls. 16"x 3/8"

L12-U13 (A.S.)
39.94" Eff. Gr. A
30.44" Net A
4 Ls 4"x 4"x 3/8"
2 Pls. 18"x 5/8"
2 Cov. Pls. 16"x 5/8"

U13-L13
17.68" Eff. Gr. A
13.31" Net A
2 Cov. Pls. 17"x 5/16"

U13-L14 (A.S.)
51.43" Eff. Gr. A
41.43" Net A
4 Ls 4"x 4"x 3/8"
2 Pls. 16"x 3/8"
2 Cov. Pls.

U14-L14 (A.S.)
14.44" Eff. Gr. A
4 Ls 4"x 4"x 5/16"
2 Pls. 20"x 5/16"
2 Cov. Pls. 12"x 5/16"

L14-L15
37.59" Eff. Gr. A
4 Ls 4"x 4"x 3/8"
2 Pls. 18"x 9/16"
2 Cov. Pls. 16"x 7/8"

L10-L12 (A.S.)
37.69" Eff. Gr. A. 28.69" Net A.
4 Ls 4"x 4"x 3/8" (B)
2 Pls. 18"x 9/16" (B)
2 Cov. Pls. 16"x 3/8" (B)

L12-L14 (A.S.)
63.94" Eff. Gr. A.
4 Ls 4"x 4"x 5/8"
2 Pls. 18"x 3/4"
2 Pls. 10"x 5/8"
2 Cov. Pls. 16"x 3/8"

Top Lateral Connection Similar to that at U4

DETAIL "A"

Hanger Connection same as at L3 except for fills under diaphragm A. Use 5/8" fills instead of 1/2" fills

L11

Bottom Lateral Connection same as at L1

L12

L13

L14

Note: See Sheet 12 for Truss Detail Notes for typical detail of ends of truss diagonals and end of web plate of truss verticals, see Sheets 12, 18 & 19. For typical detail of ST 5"BP@28.5" lower lateral intersection, see Sheet 12.

LOWER LATERAL INTERSECTION
Typical for all ST 6"BP@37" laterals.

Floorbeam
2 ST 6" 11.8 @ 66.5"
Pl. 28"x 3/4"

Note: See attached sheet; Proposed Field Method of Fitting in Tension Tie Plates at L14 Panel Point of Main Span, Kansas City Bridge Co. drawing. Change at Pier 9 only.

Holes (12) for 1 1/2" Turned Stud Bolts to match holes in shoe

FLOORBEAM CONNECTION AND DIAPHRAGM AT L14

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

CANTILEVER TRUSS SPANS - L11 TO L14

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

Drawn by: B.H. Spinner, April, 1956
Traced by: W.J. Ballard April 1956
Checked by: J.F. Keeler, June 1956

Revision: 1 Note at L14 7-21-59 By R.E.R. Ck'd. J.E.C.

Note: Do not scale this drawing. Follow dimensions.

AS BUILT DRAWING

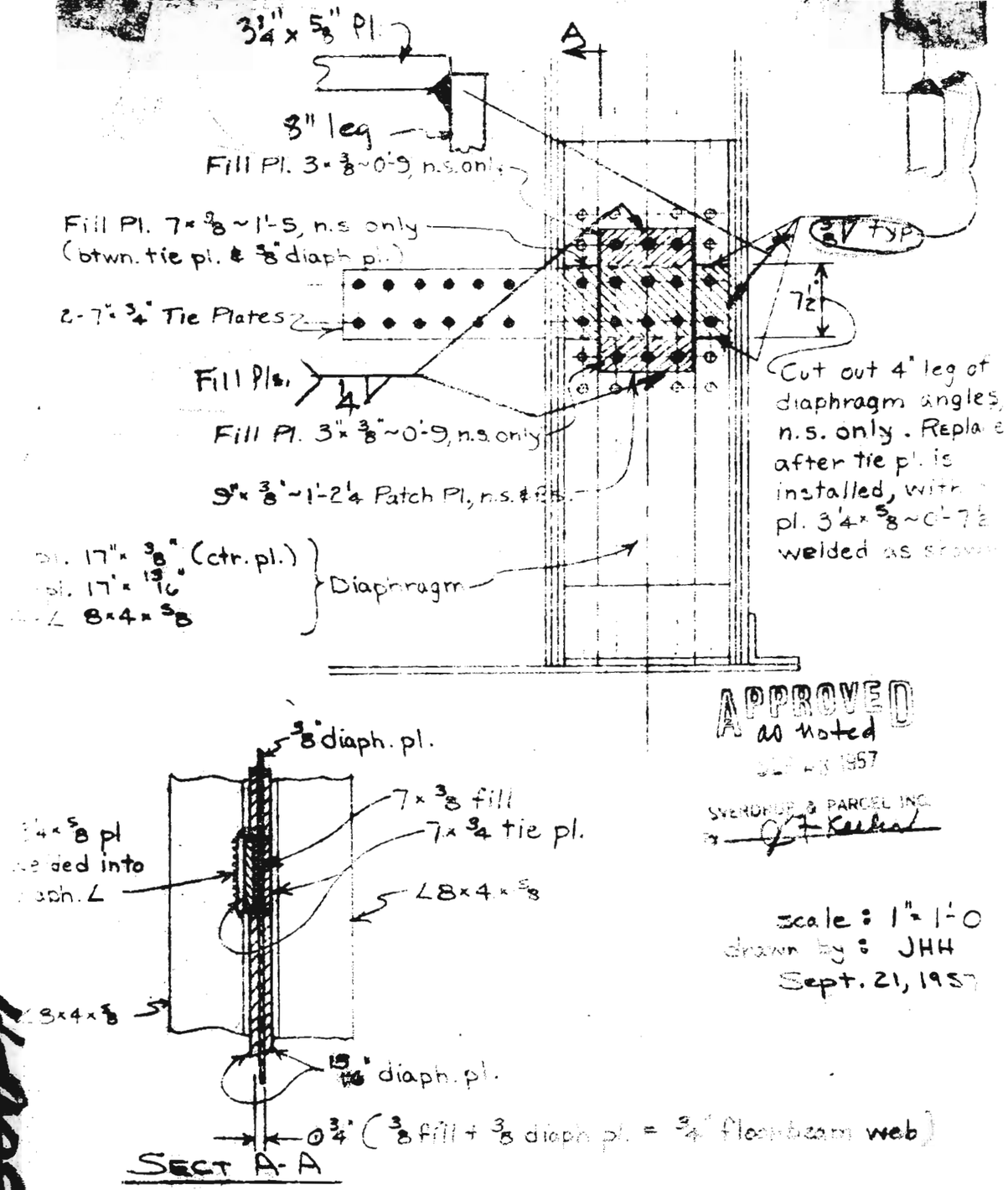
FINAL DESIGN DRAWING

SHEET 15 OF 31

FINISHED
A-450
Platte Co.
A. 69

690 12 TO

2nd

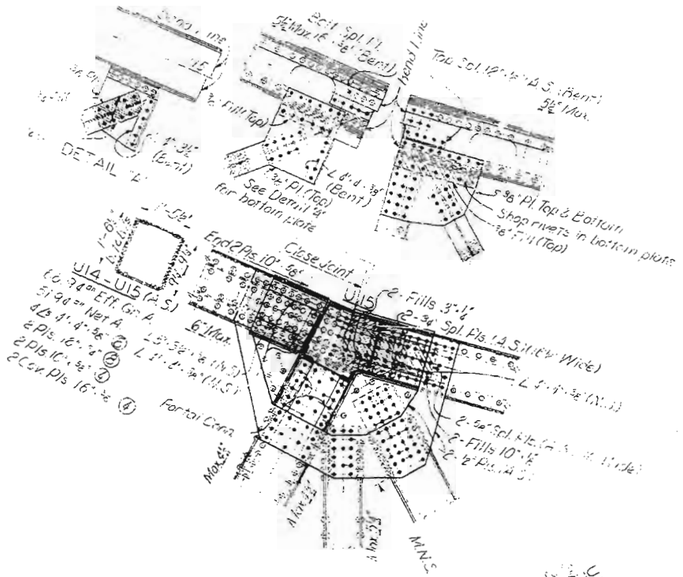


SECT A-A

APPROVED
as noted
SEP 23 1957
SVERDRUP & PARCEL INC.
By [illegible]

scale: 1" = 1'-0
drawn by: JHH
Sept. 21, 1957

PROPOSED FIELD METHOD OF FITTING IN TENS[illegible]
TE PLATES AT L14 PANEL POINT OF MAIN SPA[illegible]
Kansas City Bridge Co.



Note: See sheet 12 for Transition Notes.
For typical detail of lateral struts and diagonals not shown, see Sheets 12, 13 & 14.
For typical detail of ST 6"x6" @ 57# lower lateral intersection, see Sheet 15.
For typical detail of ST 14"x6" @ 28.5# upper lateral intersection, see Sheet 12.

Drawn by: S. H. Spinner, Apr. 1956
Traced by: R. R. Nee, May 1956
Checked by: J. F. Kueler, June 1956

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

CANTILEVER TRUSS PANS-L15 TO L19

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

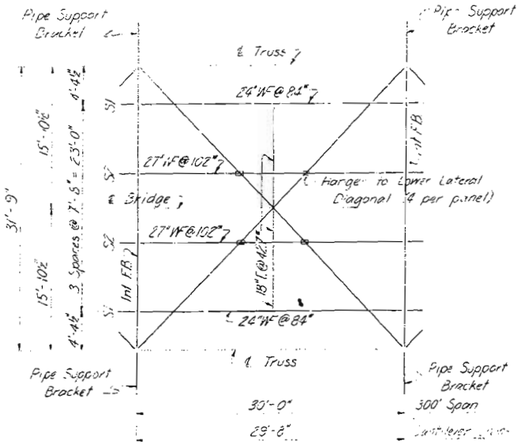
WISHER

SHEET 11 OF 24

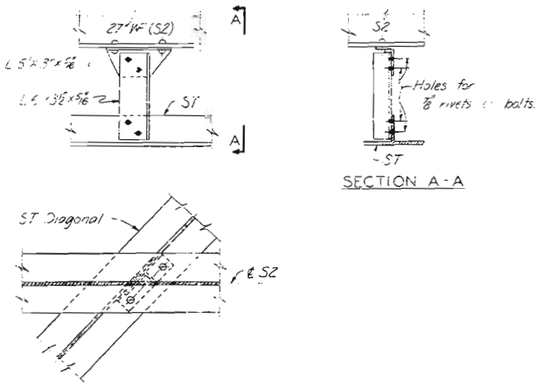
A-450
Plate 11
Ref. 68

AS BUILT DRAWING

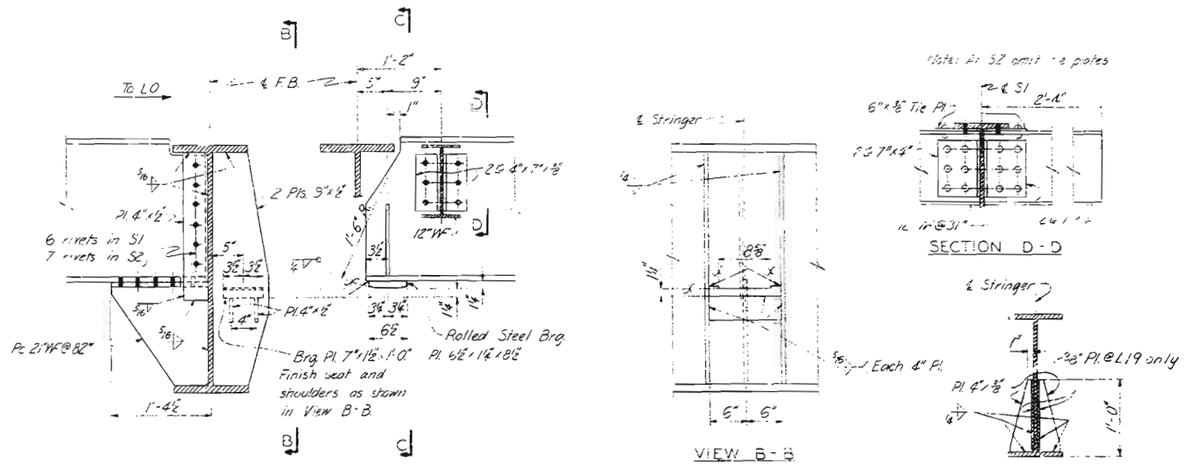
FINAL DESIGN DRAWING



TYPICAL FLOOR FRAMING PANEL

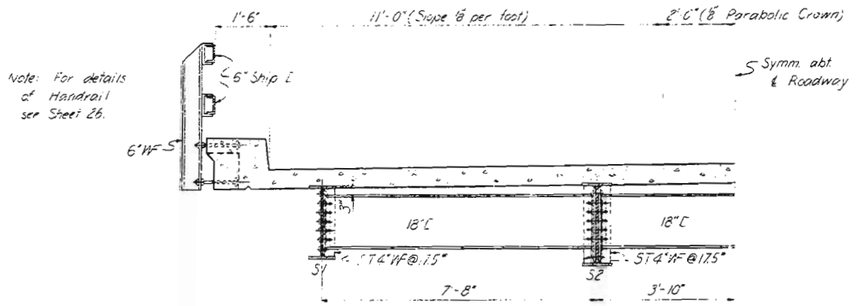


HANGER CONNECTION TO LOWER LATERAL DIAGONALS

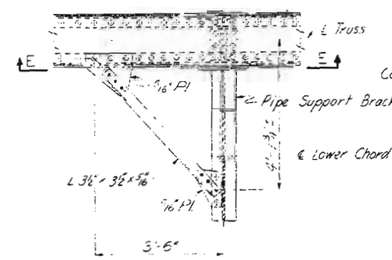


DETAIL OF STRINGER EXPANSION DEVICE

Stringer Expansion Devices as shown at L4, L8, L12, L16, and L22 of Spans 8 and 9, and at L5 of Spans 7 and 11.
Expansion end of stringer towards L0 at L19, L16, L12, L8, and L4 of Spans 9 and 10.

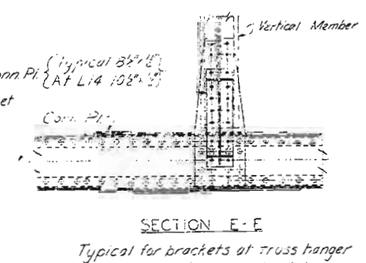


TYPICAL HALF CROSS SECTION BETWEEN PANEL POINTS



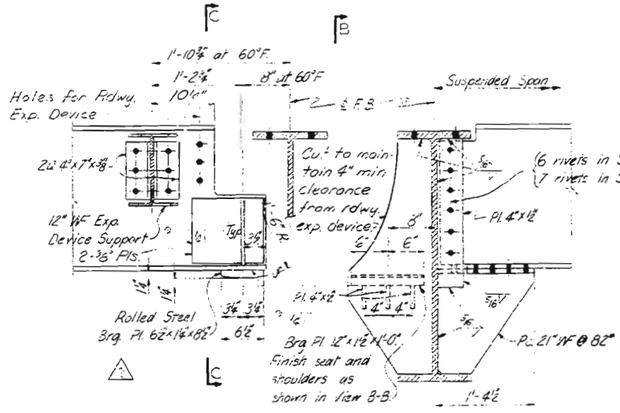
PLAN OF PIPE SUPPORT BRACKET

Braces to be located as shown on Plan of Lower Laterals, Sheets 9 & 11.



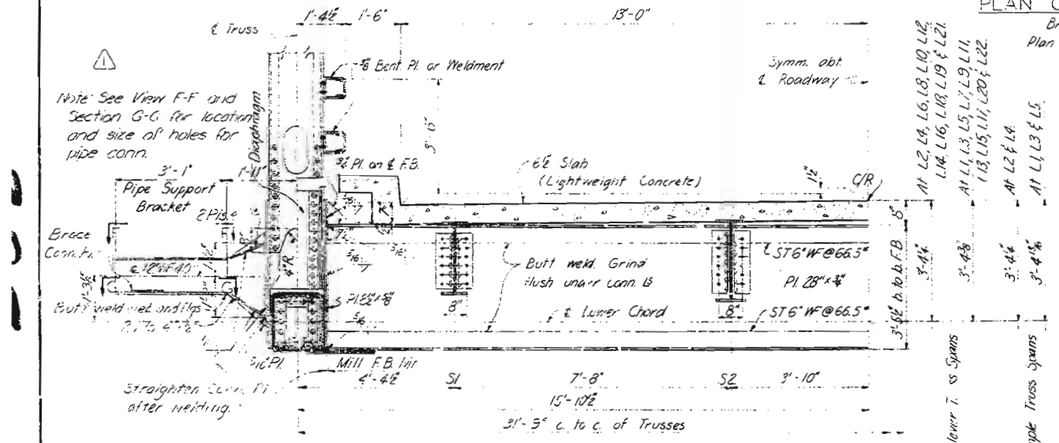
SECTION E-E

Typical for brackets at truss hanger members. At other panel points connection of bracket is similar.

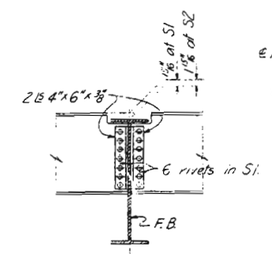


DETAIL OF STRINGER EXPANSION DEVICE AT L19

For details of roadway expansion device see sheet 25.

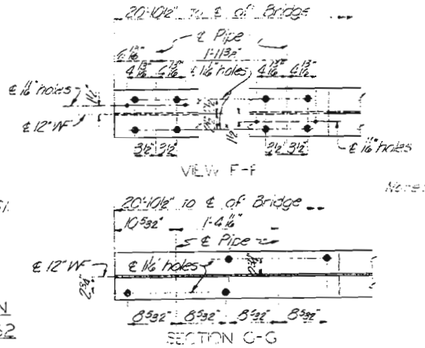


HALF CROSS SECTION AT INTERIOR FLOORBEAM



STRINGER CONNECTION TO FLOORBEAM AT S2

Stringer connection at S1 similar except as noted



Note: For detail of pipe anchor bracket at L16, see Sheet 10.

NOTES

All rivets to be ⅞ diameter.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY MISSOURI

TRUSS SPANS - FLOOR SYSTEM

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO

FINISHED

A-450

Platte Co. Pl. 69

Drawn by: J. M. Hanson, Mar 1956
Checked by: J. F. Recker, May 1956

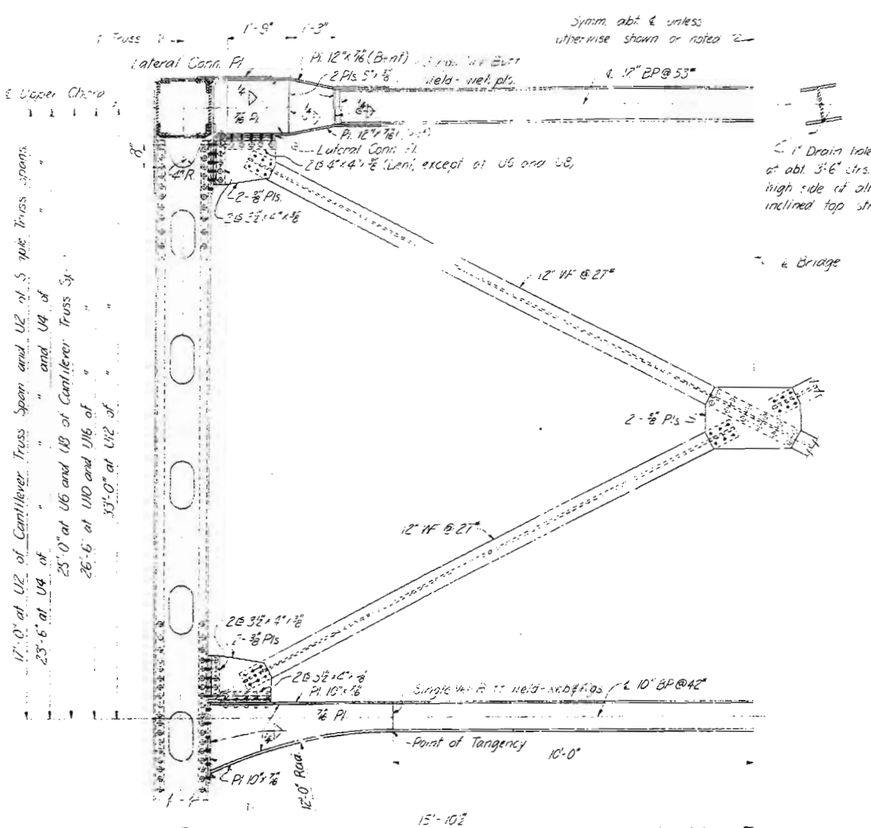
Revision 2 Stringer exp. Device 9-17, 12-16-56, By V.L.S., Chkd. G.R.P.
Revision 1 Holes for pipe conns 5-3-56 By V.L.S. Chkd. E.L.

SHEET 6 OF 8

AS BUILT DRAWING

FINAL DESIGN DRAWING

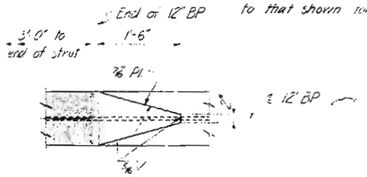
Note: Do not scale this drawing. Follow dimensions



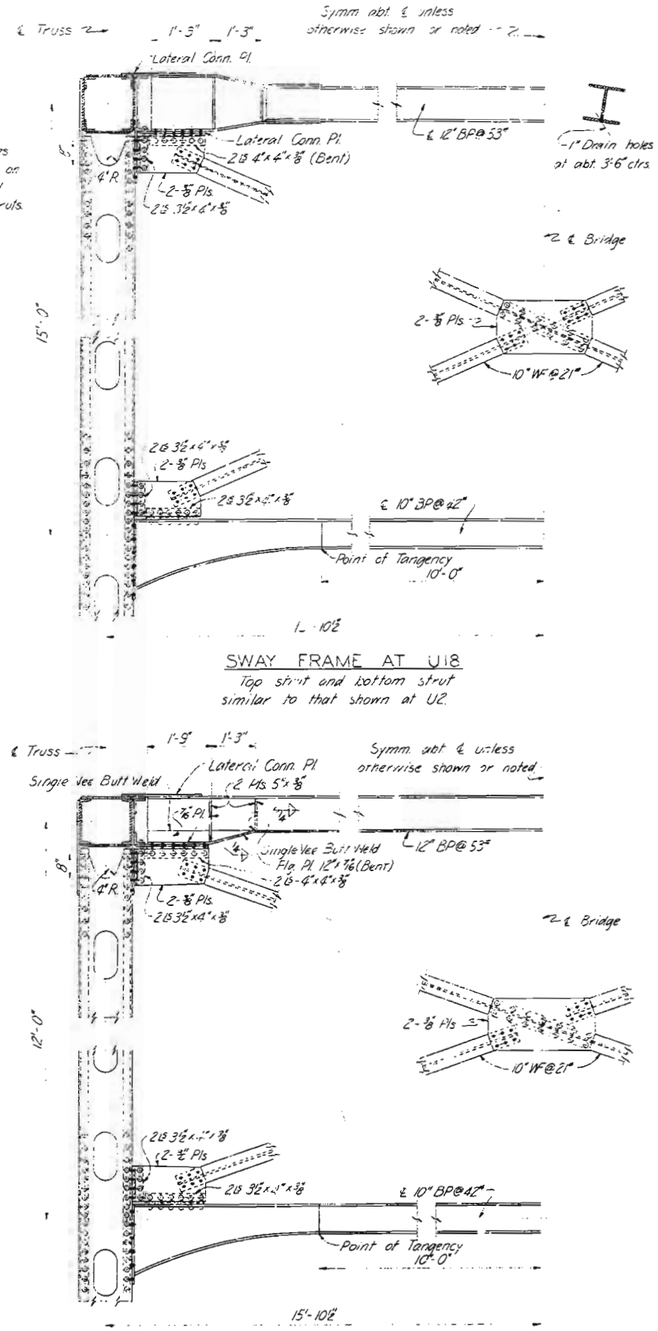
SWAY FRAME AT U2
OF CANTILEVER TRUSS SPAN

Sway Frames at U4, U6, U8, U10, U12, and U16 of Cantilever Truss Span similar. Sway Frames at U2 and U4 of Simple Truss Spans also similar.

Top struts at U3, U5, U7, U9, U11, U17 and U19 of Cantilever Truss Span, and U3 and U5 of Simple Truss Span, similar to that shown for U2



DETAIL OF WELDING
FOR TOP STRUT FLANGE SPLICE



SWAY FRAME AT U18

Top strut and bottom strut similar to that shown at U2.

SWAY FRAME AT U21

Bottom strut similar to that shown at U2

Top strut at U22 similar to that shown for U21.

NOTES

All rivets to be ⅞" diam. except ¾" diam. in flanges of 10" ∠'s.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

TRUSS SPANS - SWAY FRAMES

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

Drawn by: J. M. Hansen, Mar. 1956
Checked by: J. F. Keeler, May 1956

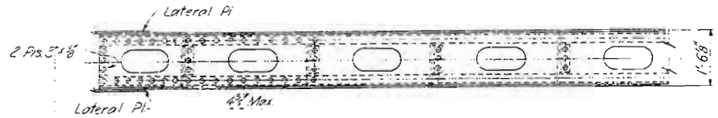
Note: Do not scale this drawing. Follow dimensions

AS BUILT DRAWING

FINAL DESIGN DRAWING

SHEET [illegible] OF [illegible]

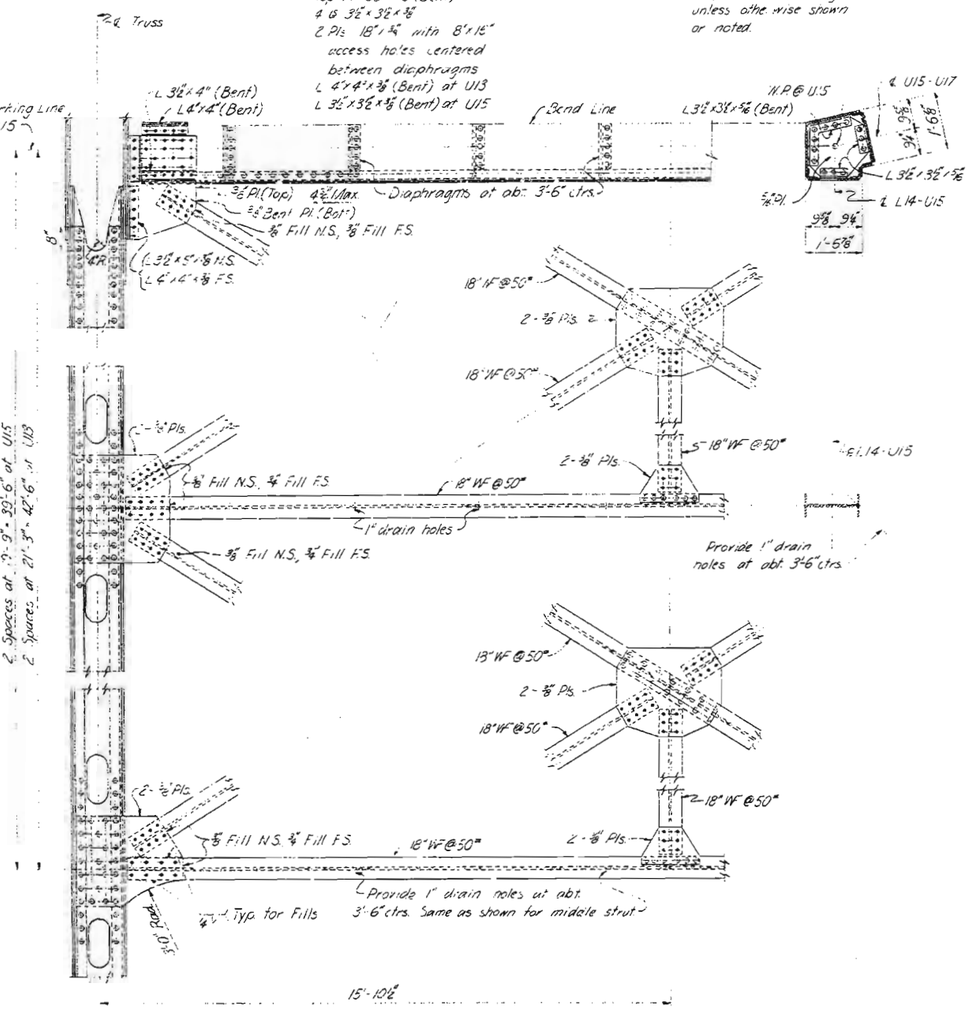
A-450
Platte Co.
Rt. 69



TOP STRUT

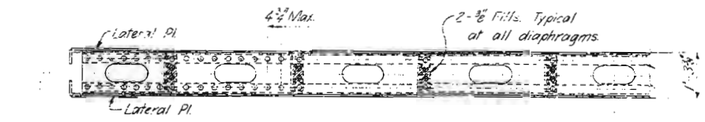
Top Pl 36"x⅜" (Bent)
4 ∠s 3½"x3½"x⅜"
2 Pls 18"x¾" with 8"x16" access holes centered between diaphragms
L 4"x4"x⅜" (Bent) at U13
L 3½"x3½"x⅜" (Bent) at U15

Symm. abt. ℄ Bridge unless othe wise shown or noted.



PORTAL AT U15

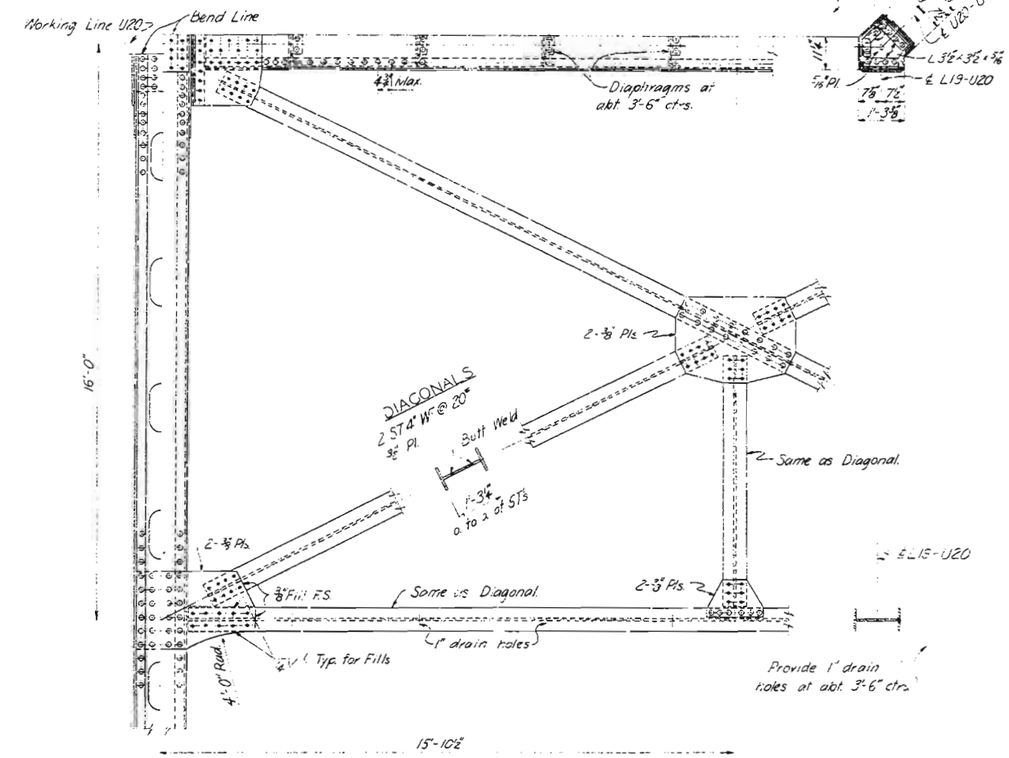
Portal at U13 similar, with dimensions as shown.



TOP STRUT

Top Pl: 22"x⅜" (Bent)
Pl. 9"x⅜" (Bent)
4 ∠s 3½"x3½"x⅜"
2 Pls. 14"x⅜" with 7"x14" access holes centered between diaphragms.

Symm. abt. ℄ Bridge unless otherwise shown or noted.



PORTAL AT U20

NOTES

All rivets to be ⅞ diam.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

CANTILEVER TRUSS SPANS - PORTALS

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST LOUIS, MO

Drawn by: J. M. Hanson, Mar. 1956
Checked by: J.F. Keeler, May, 1956

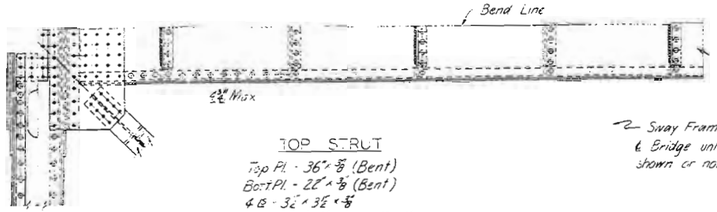
SHEET 20 OF 31

A-450
Platte Co.
Rt. 69

AS BUILT DRAWING

FINAL DESIGN DRAWING

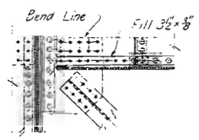
SECTION B - B



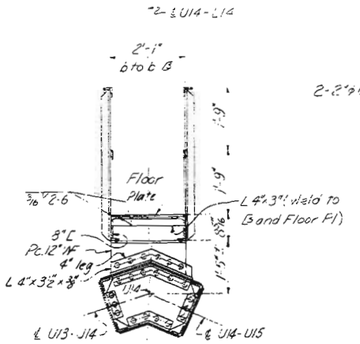
TOP STRUT

Top Pl. - 36"x ⅝ (Bent)
Bott Pl. - 22"x ⅜ (Bent)
4 L's - 3½"x 3½"x ⅜
2 Pls. - 18"x ⅜ with 8"x 16" access holes centered between diaphragms.

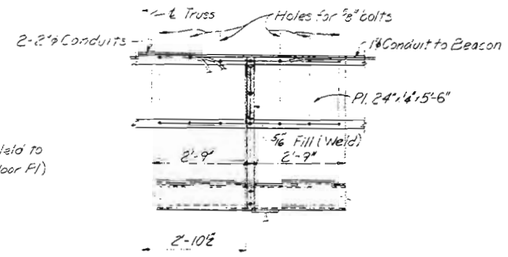
Sway Frame symm. about ℄ Bridge unless otherwise shown or noted.



SECTION A - A

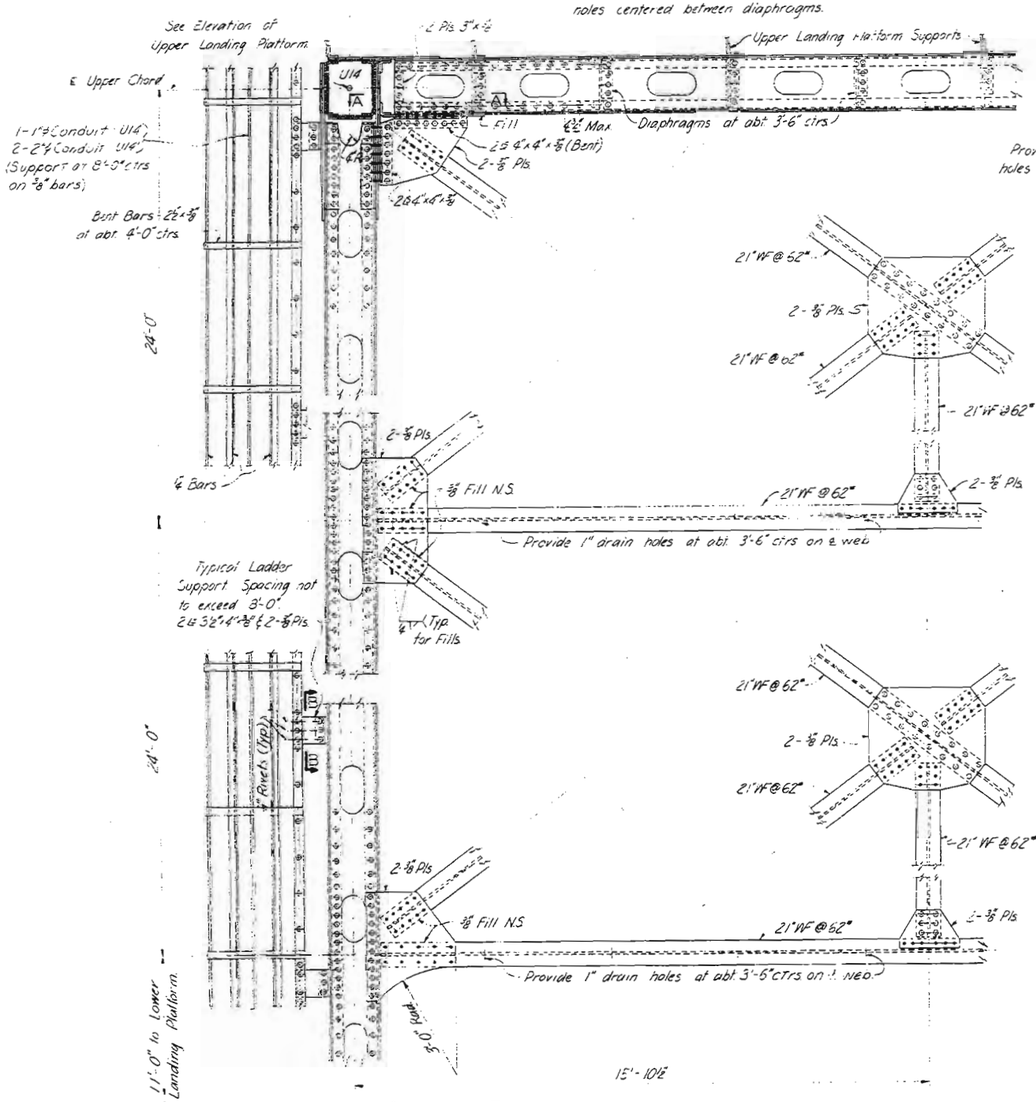


SECTION C-C
Typical support shown.



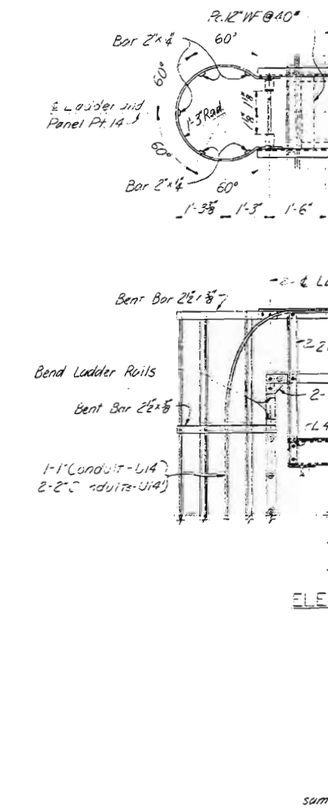
CONTROL PANEL AT U14'

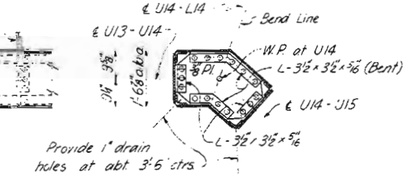
Mount transformer, 2 Photoelectric Controls, and 2 load contactors on ¼" plate on outside of platform. Orient Photoelectric Controls to North. Also mount flasher, disconnect switch, and 2 circuit breakers on ¼" plate on inside of platform.



Note: See Sheet 31 for details of ladder and cage at Lower Ladder Platform.

Note: Ladder and platform to be on downstream side of bridge only.





PLAN

ELEVATION OF UPPER LANDING PLATFORM

Rivets in platform and railings to be ¾"

NOTES

All rivets to be ⅞ diam. unless otherwise noted.
Sway Frame and Aerial Beacon Access at U14' same as at J14 except as noted in detail of Control Panel at U14'.
For Ladder Detail and Ladder Splice, see Sheet 22.
All floor plates to be raised pattern plates.
Ladder and cage to be shop welded in convenient lengths with at least two supports per section.
See Sheets 30 & 31 for electrical details.
Fillet welds to be ⅛" minimum.
All conduit to be rigid galvanized conduit.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

SWAY FRAME AT U14
& AERIAL BEACON ACCESS

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

1259	Drawn by: J. M. Hanson, May 1956
1259	Checked by: E. Lemcoe, June 1956

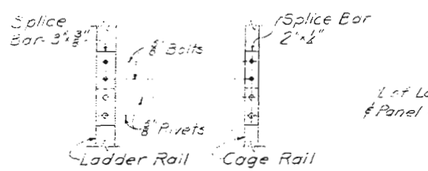
Note: Do not scale this drawing. Follow dimensions.

SHEET 21 OF 31

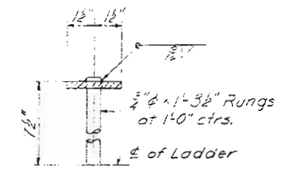
AS BUILT DRAWING

FINAL DESIGN DRAWING

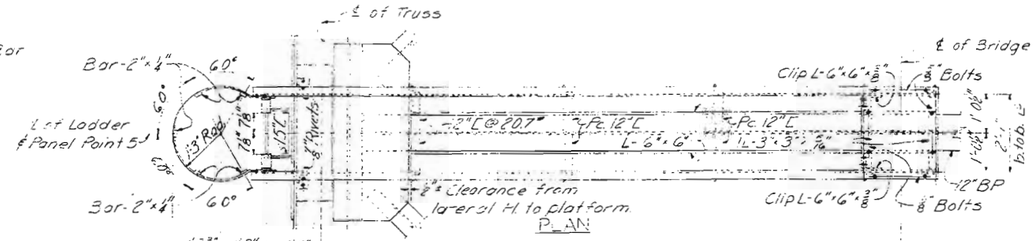
A-450
Platte Co
Ky 69

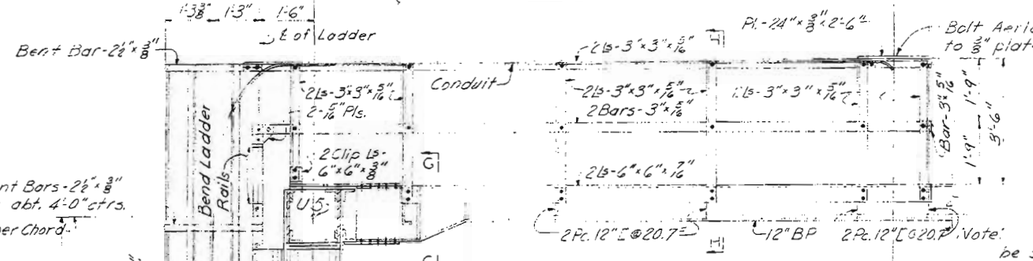


SPLICE



LADDER DETAIL

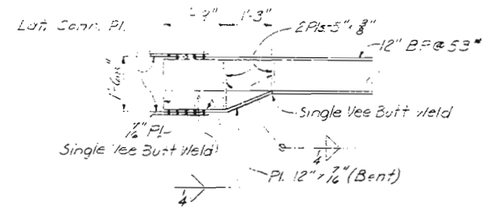




Bent Bars-2½"x⅜" at obt. 4'-0" ctrs.

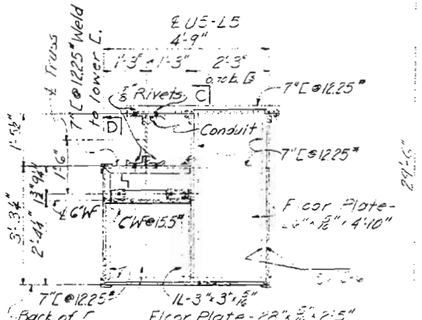
℄ of Upper Chord

Note: 12"BP, channels, and 6"x6" Ls to be shop welded and shipped as a unit.
Rivets in railing to be ¾".

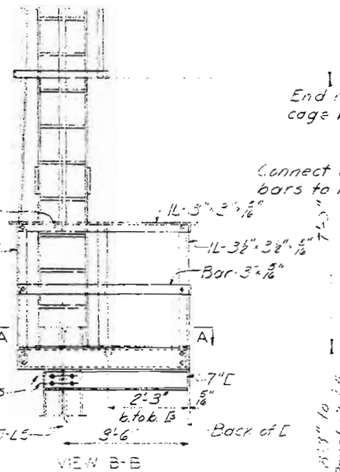


TOP STRUT

For details of typical top strut on simple truss spans, see Sheet 19.

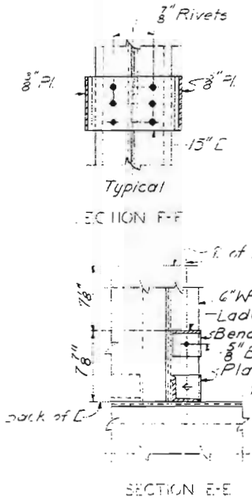


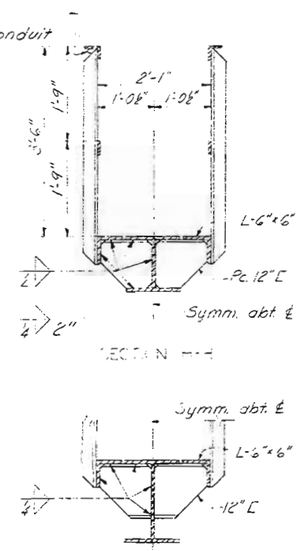
SECTION A-A

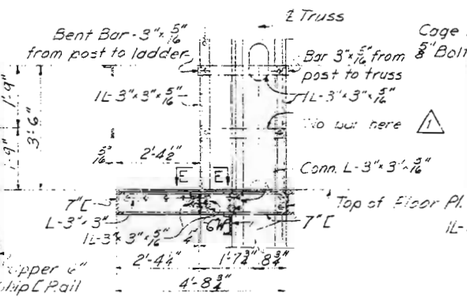


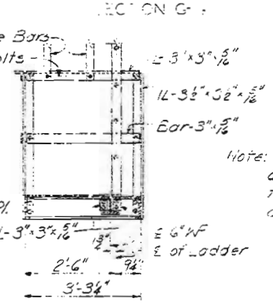
VIEW B-B

ELEVATION









Note: Floor plates, rail posts, rails, and supporting members in platforms to be shop welded and riveted and shipped as a unit.
Rivets in platform and railings ¾".
Connection to truss as shown.

NOTES

Ladder and cage to be shop welded in convenient lengths with at least two supports per section.
Fillet welds to be ¼" minimum.
All conduit to be 1" ϕ rigid, galvanized conduit.
All floor plates to be raised pattern plates.
See Sheets 30 and 31 for electrical details.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

[illegible]
[illegible] CONSULTING ENGINEERS
SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

1959
Drawn by: M.C. Williams, May 1956
Checked by: E. Lemcke, June 1956

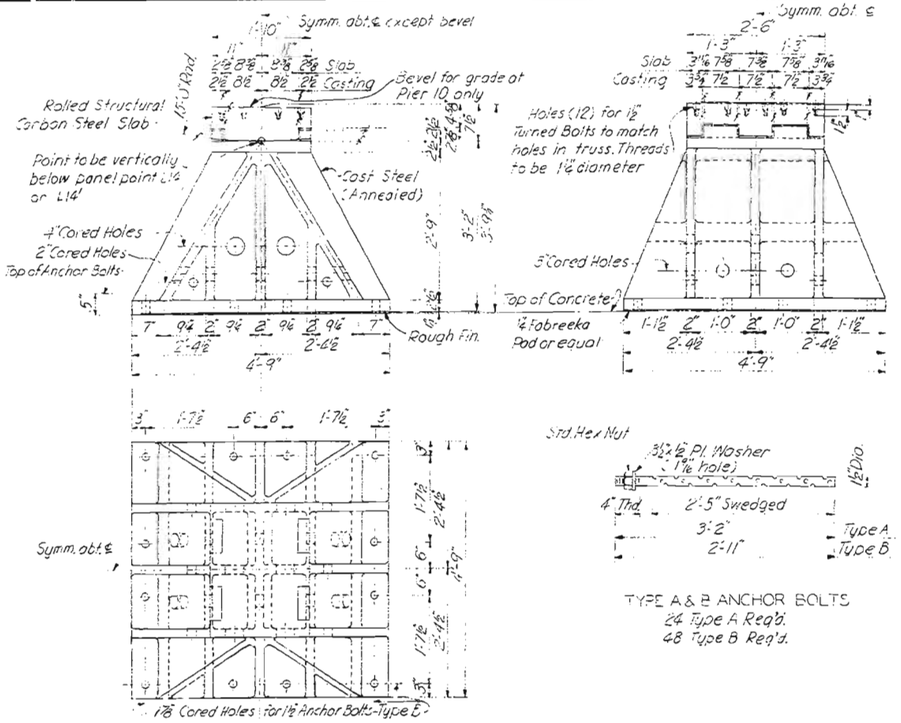
Revision 1 Section C-C 1-21-59 By Q.E.B. Ck'd. J.E.C.

AS BUILT DRAWING

SHEET 22 OF [illegible]

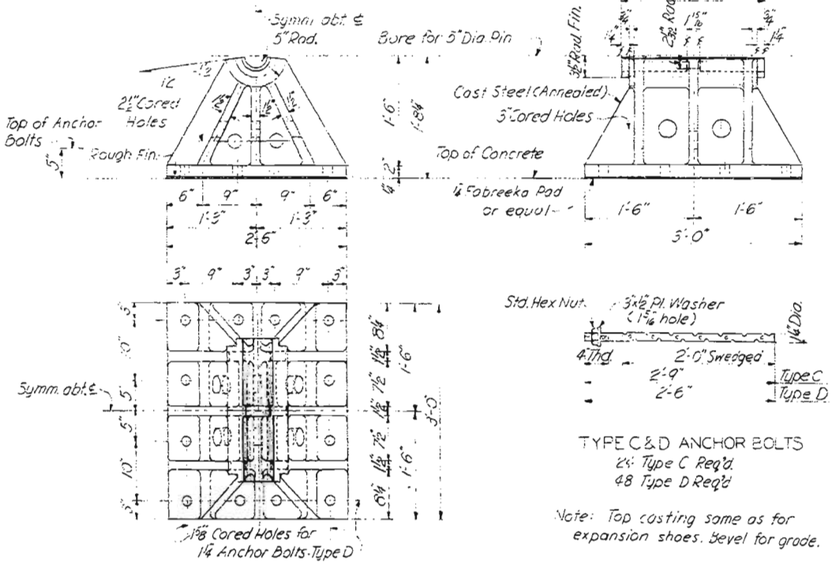
FINAL DESIGN DRAWING

H-450
Platte Co Rt 69



TYPE A & B ANCHOR BOLTS
24 Type A Req'd.
48 Type B Req'd.

CANT. TRUSS SPANS-FIXED SHOE AT PIERS 9 & 10
(4 Required)

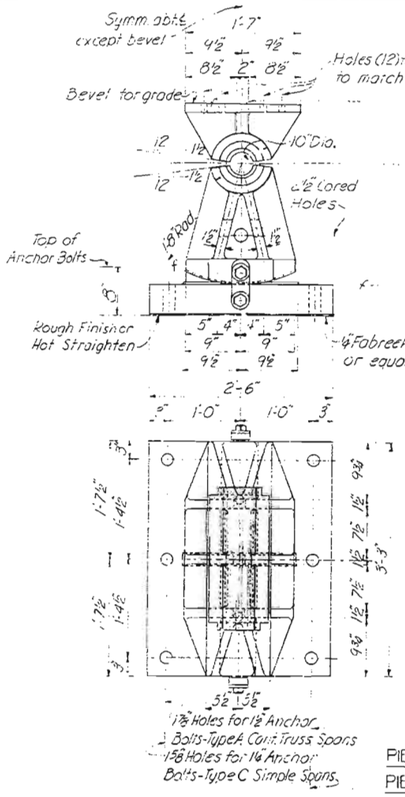


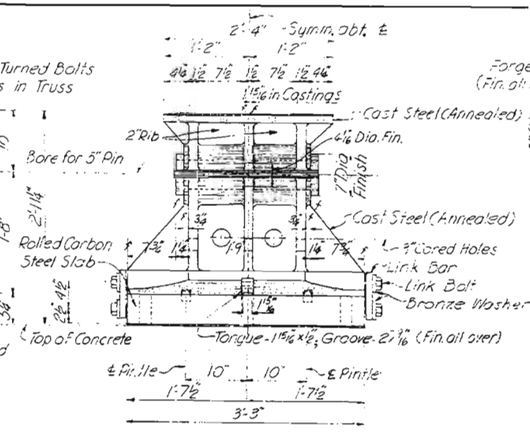
TYPE C & D ANCHOR BOLTS
24 Type C Req'd.
48 Type D Req'd.

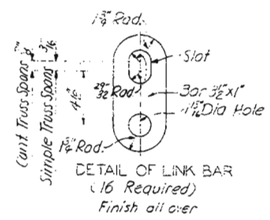
Note: Top casting same as for expansion shoes. Bevel for grade.

SIMPLE TRUSS SPANS-FIXED SHOE AT PIERS 8 & 11
(4 Required)

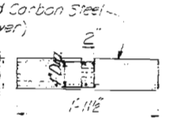
16.38 16.53.39	Drawn by: J.S. Alagia April, 1956
	Checked by: E. Lemcke June, 1956



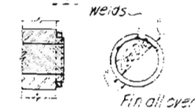




DETAIL OF LINK BAR
(16 Required)
Finish all over

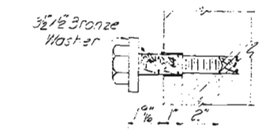


DETAIL OF PIN
(12 Required)

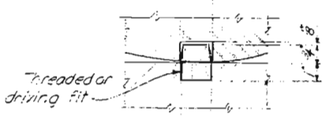


DETAIL OF RING
(24 Required)
Structural Carbon Steel

Note: Pin and ring details for all shoes at Piers 7, 8, 11 and 12.



DETAIL OF LINK BOLT
(32 Required)



DETAIL OF PINTLE
(16 Required)

EXPANSION SHOE
PIERS 8 & 11 - CANT. TRUSS SPANS (4 Required)
PIERS 7 & 12 - SIMPLE TRUSS SPANS (4 Required)

NOTES

For Anchor Bolt Plan See Sheet 3.
All fillets on castings to be ¾ radius.
All castings shall conform to A.S.T.M. Designation A 27, Grade 65-35; full annealed.
The tongues in base slabs of the expansion shoes shall be machined from the parent rolled slabs.
Bronze washers shall conform to A.S.T.M. Designation B 100, Alloy No. 2.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

TRUSS SPANS - SHOES

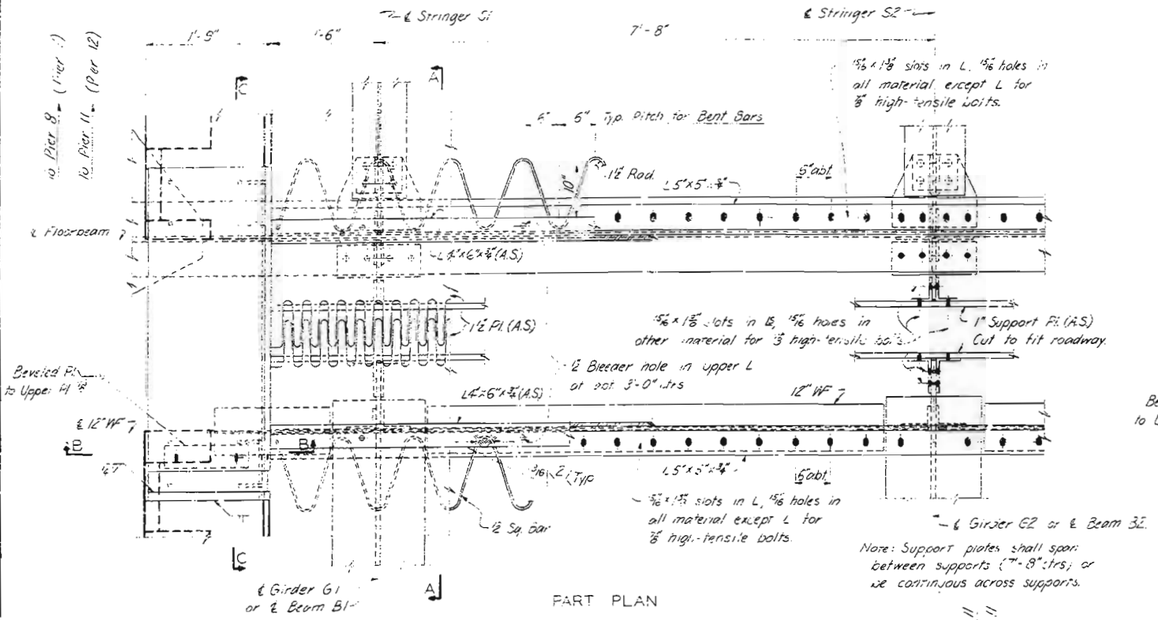
SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

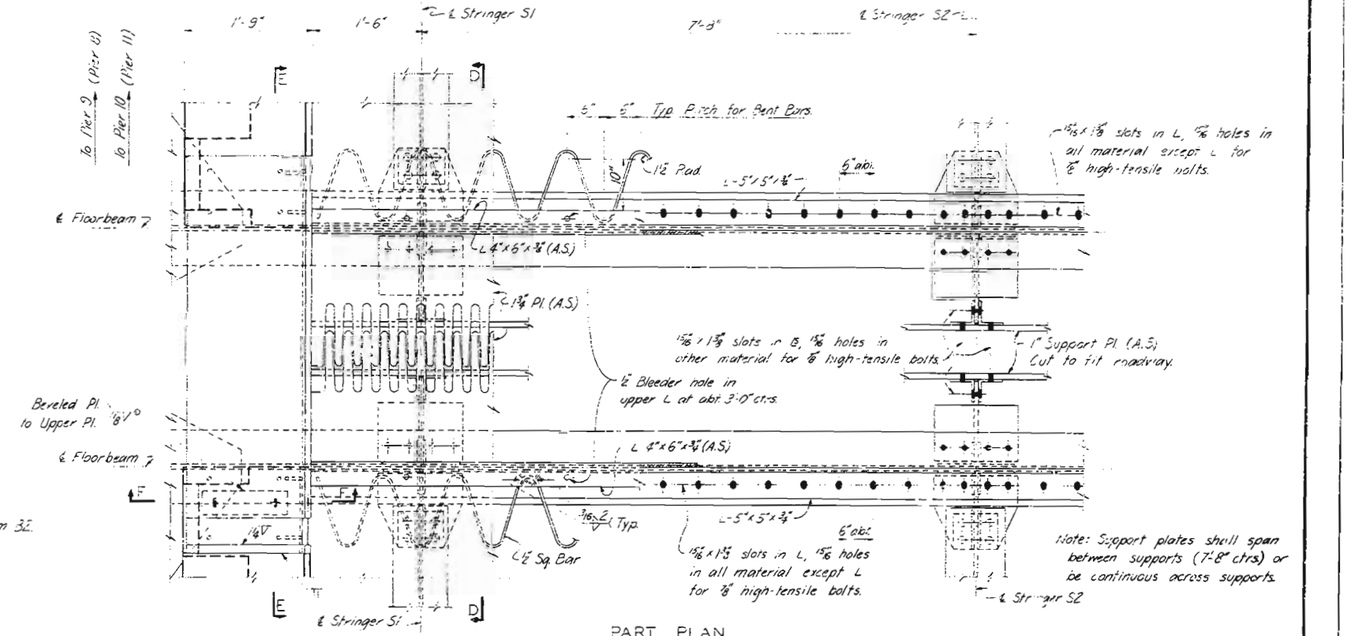
SHEET 23 OF 31

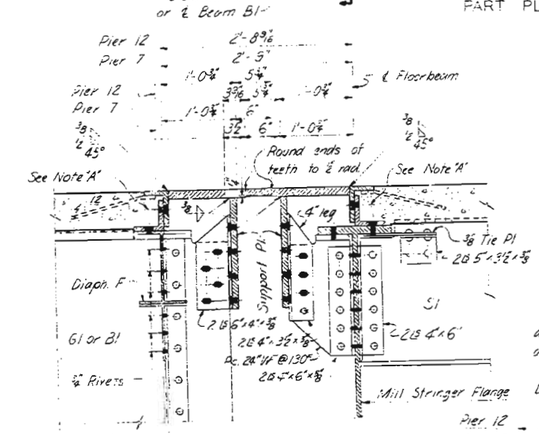
A 450
Platte Co.
Rd. 69

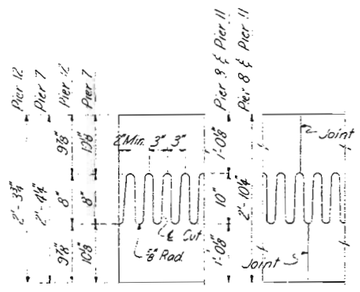
AS BUILT DRAWING

FINAL DESIGN DRAWING

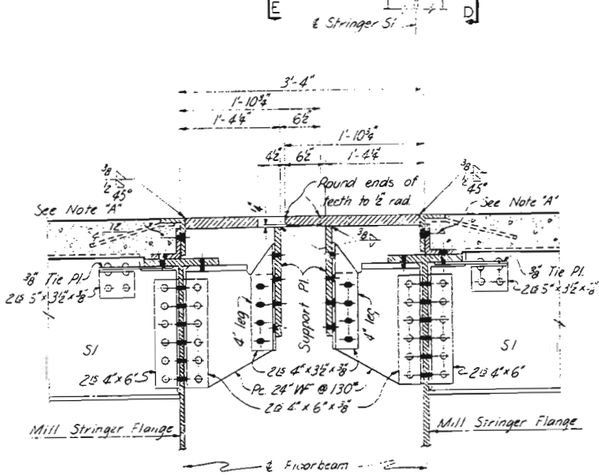


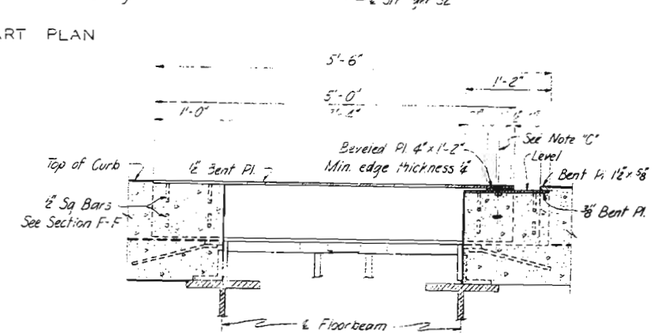


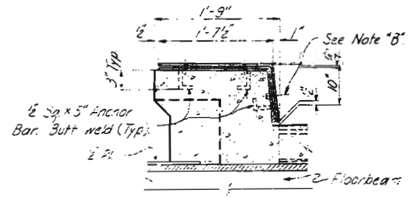


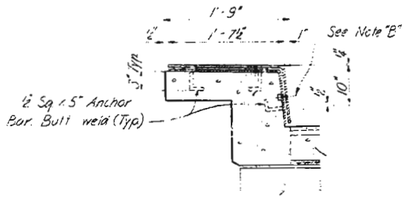


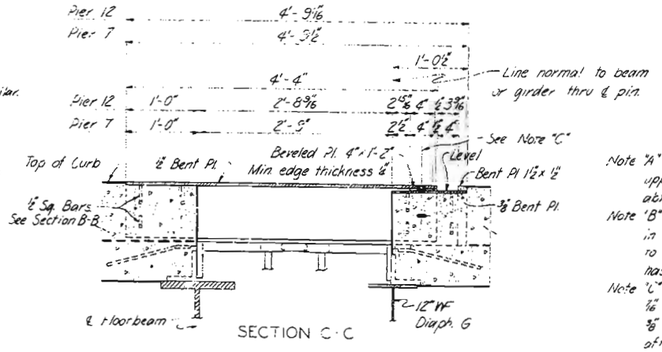
Note: Finger Plate dimensions include ¼" allowance for flame cut. See Expansion Device Notes.











EXPANSION DEVICE AT PIER 7 & PIER 12

Note "A" - ⅞" holes in lower L, 15/16 x 1⅜" slots in upper L for ⅞" high-tensile bolts at abt. 6" ctrs.

Note "B" - 15/16 x 1½" slot in outside pl. ⅞" hole in inside pl. for ⅞" bolt. Weld ⅜" sq. nut to inside pl. Remove bolt after concrete has set.

Note "C" - 7/16 x 1½" slots in top and beveled pl. 1⅛" holes in bottom pl. for ⅜" bolts. Weld ⅜" sq. nuts to bottom pl. Remove bolts after concrete has set.

EXPANSION DEVICE AT PIER 8 & PIER 11

NOTES

For Expansion Device Notes, see Sheet 25.
All rivets ⅞" dia. unless noted otherwise.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

ROADWAY EXPANSION DEVICES AT PIERS 7, 8, 11 & 12

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

1250
Drawn by: J. M. Hanson, Apr. 1956
Checked by: G. R. Pennington, May 1956

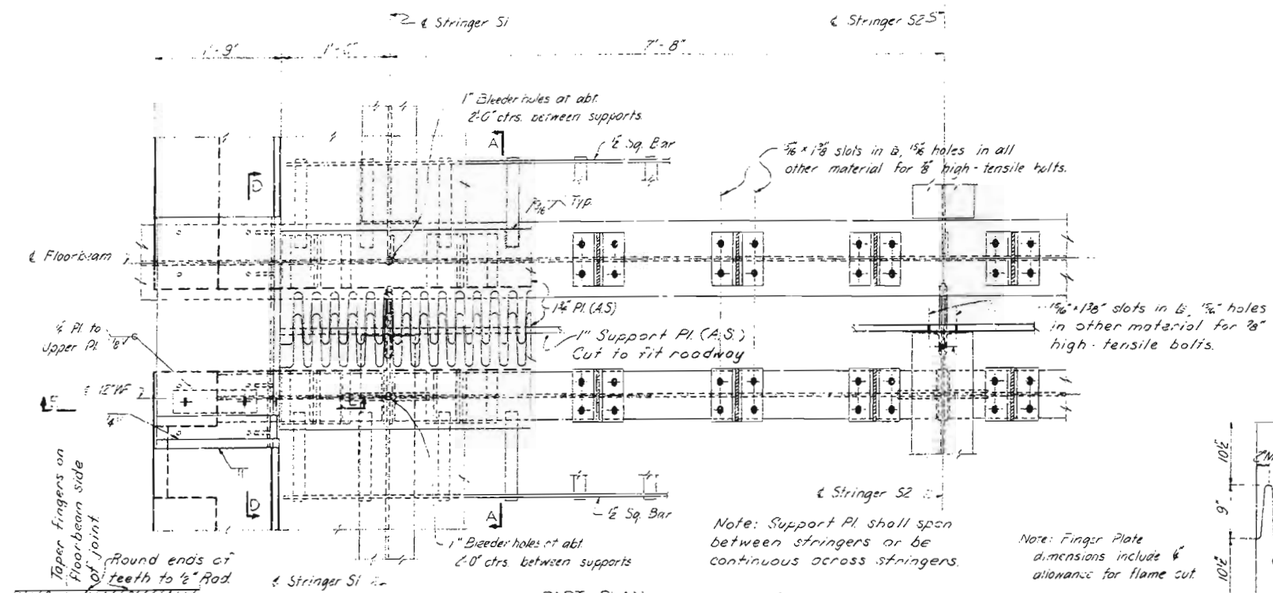
Note: Do not scale this drawing. Follow dimensions.

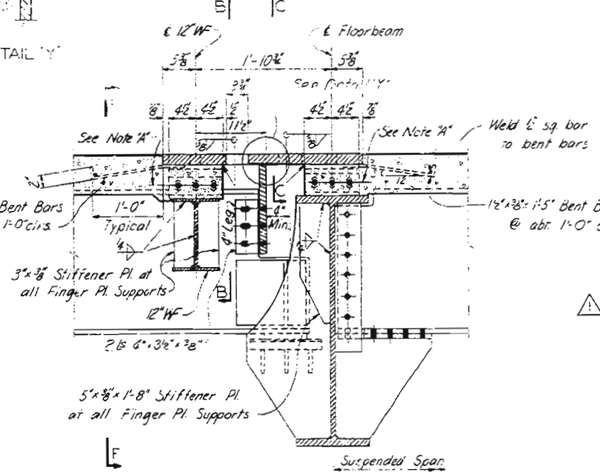
SHEET 24 OF 31

A 450
Platte Co.
EX 69

AS BUILT DRAWING

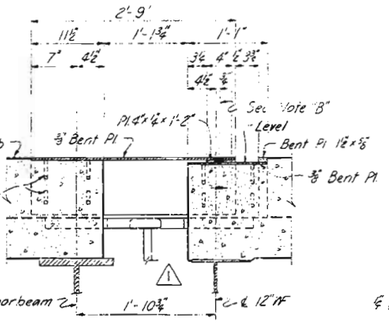
FINAL DESIGN DRAWING



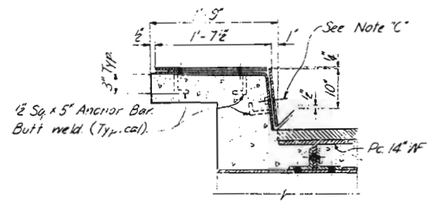


SECTION A - A
Section at interior stringer similar

Note "A" - 15/16 holes in B, 15/16 x 1 3/8 slots in Pc. WF for 7/8" high-tensile bolts
Note "B" - 7/8 x 1 1/2 slots in top and 4" plates, 7/8 holes in bottom plate for 7/8 bolts. Weld 7/8 sq. nuts to bottom plate. Remove bolts after concrete has set.
Note "C" - 7/8 x 1 1/2 slot in outside plate, 7/8 hole in inside plate for 7/8 bolt. Weld 7/8 sq. nut to inside plate. Remove bolt after concrete has set.



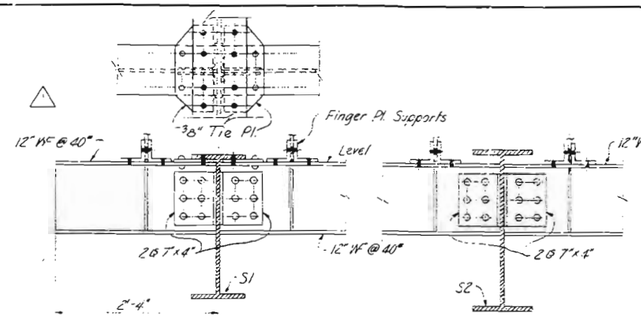
SECTION D-D



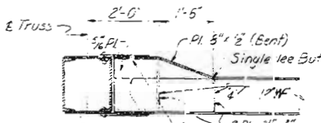
SECTION E-E

EXPANSION DEVICE AT L19

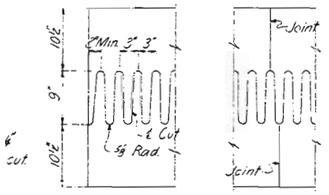
Note: Work these details with Detail of Stringer Expansion Device at L19 on Sheet 18.



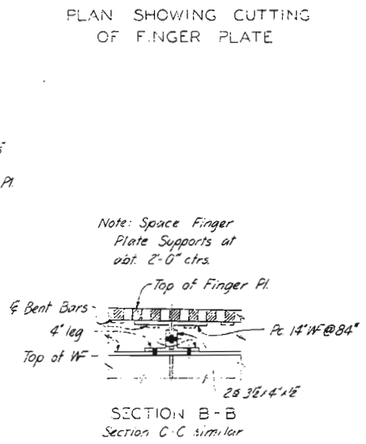
SECTION F - F



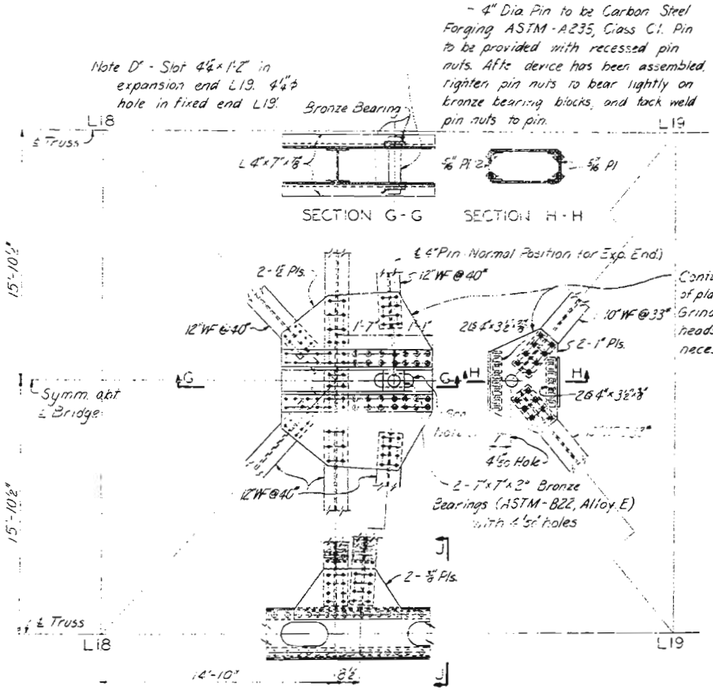
VIEW J-J



PLAN SHOWING CUTTING OF FINGER PLATE



SECTION B-B
Section C-C similar



WIND TRANSFER DEVICE AT EXPANSION END OF SUSPENDED SPAN

Wind Transfer Device at fixed end of Suspended Span same except as noted. Rivets to ℄ 7/8"

EXPANSION DEVICE NOTES

All material marked (A.S.) shall be structural low-alloy steel; all other steel shall be structural carbon steel.

Expansion devices are shown in normal position at a temperature of 60°F.

Flame cutting of finger plates shall be as narrow as practicable and shall not exceed 1/4" width. A mechanical guide shall be used to guide the cutting torch. All burrs shall be ground smooth.

Finger plates may be convenient lengths, but joints must occur at 14" WF supports.

Expansion devices shall be fabricated to fit roadway.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

ROADWAY EXPANSION DEVICE AT L19 & WIND TRANSFER DEVICE

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

12510
Mo. 331
Drawn by: J. M. Hanson, May 1956
Checked by: G.P.P. & E.L. June 1956

Note: Do not scale this drawing. Follow dimensions.

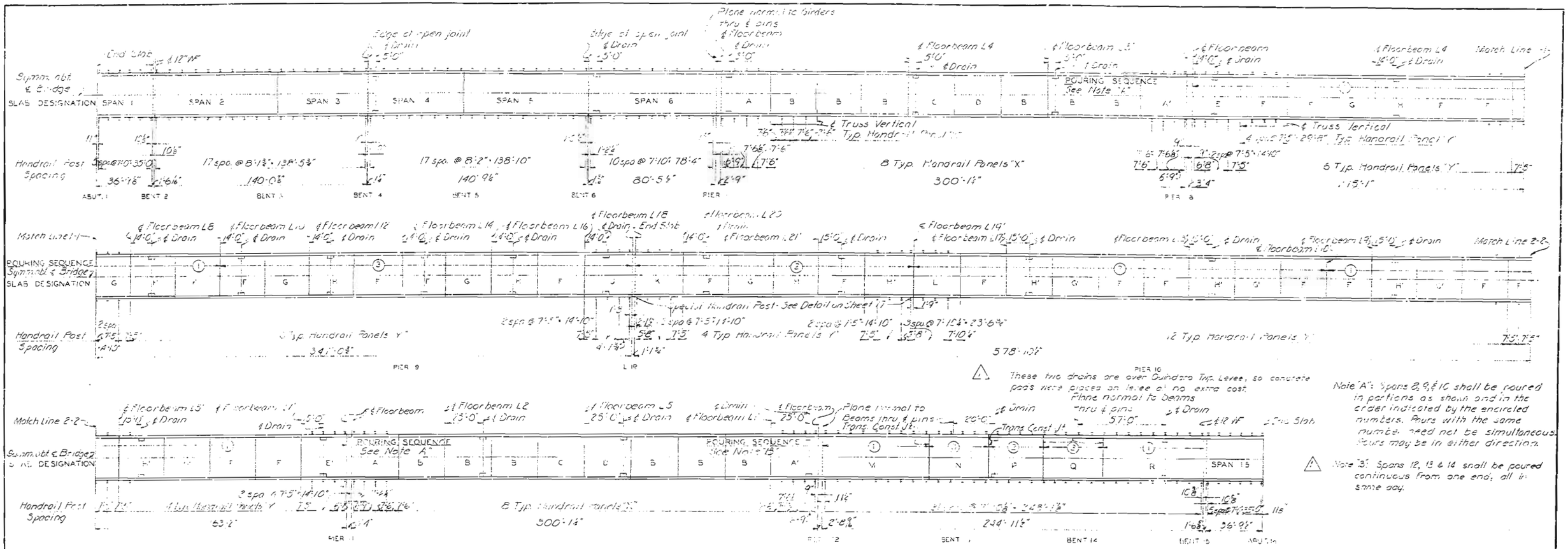
Revision ⚠ Revised Exp. Device @ L19 12-10-56 By V.L.S. Chkd. G.R.P.

AS BUILT DRAWING

SHEET 25 OF 31

FINAL DESIGN DRAWING

A 450
Platte Co.
Rt 69



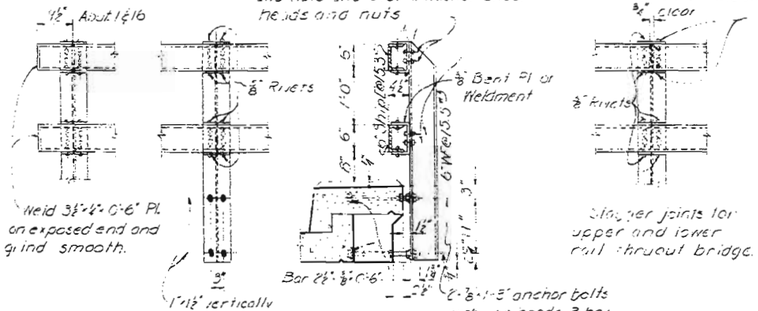
These two drains are over Quindaro Twp. Levee, so concrete pads were placed on levee at no extra cost.

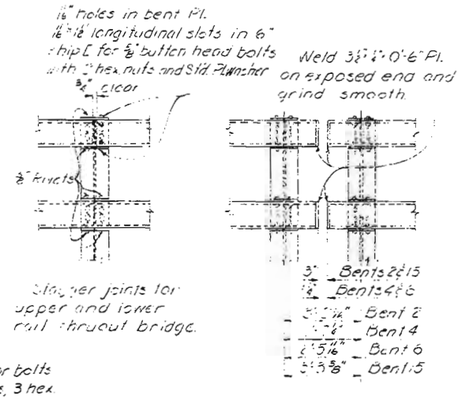
Note "A": Spans 2, 9, & 10 shall be poured in portions as shown and in the order indicated by the encircled numbers. Pours with the same number need not be simultaneous. Pours may be in either direction.

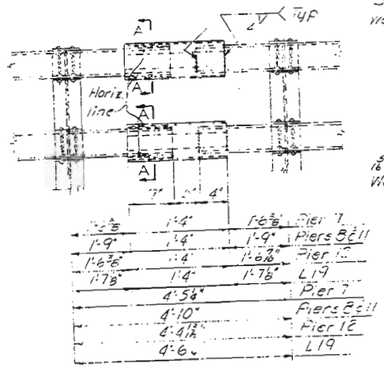
Note "B": Spans 12, 13 & 14 shall be poured continuous from one end; all in same day.

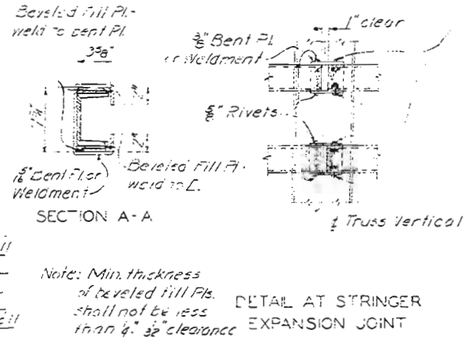
PLAN

Note: Handrail post spacing is measured along top of curb.



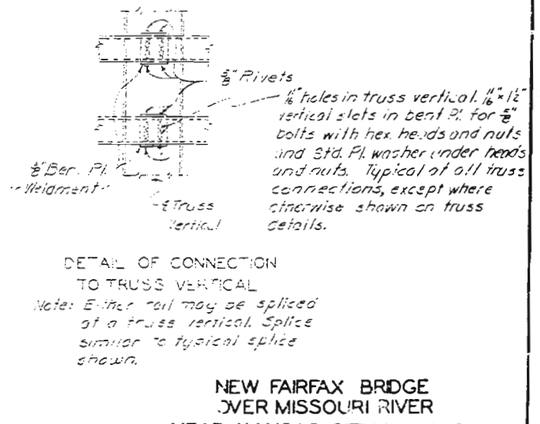






Note: Min. thickness of beveled fill Pls. shall not be less than ¼". ⅜2" clearance to be provided between sliding surfaces.

DETAIL AT STRINGER EXPANSION JOINT



Note: Either rail may be spliced at a truss vertical. Splice similar to typical splice shown.

11/16"x1½" vertical slots in bent Pl. for ⅞" bolts with hex. heads and nuts and Std. Pl. washer under heads and nuts. Typical of all truss connections, except where otherwise shown on truss details.

NOTES

Mark this Sheet with Sheets 27, 28, & 29. Expansion Joints shown in normal position at 60°F.

STRUCTURAL STEEL HANDRAIL

Note: Handrail posts to be set normal to grade.

Note: Do not scale this drawing. Follow dimensions.

Revision ⚠1 Note "B" & Plan 1-21-59 by R.S.B. Ck'd. J.E.C.

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

STRUCTURAL STEEL HANDRAIL & ROADWAY DRAIN LOCATION

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST LOUIS, MO.

1759
500.340

Drawn by: R. Hammer Jr., May 1958

Checked by: G.R. Pennington, May 1958

FINISHED

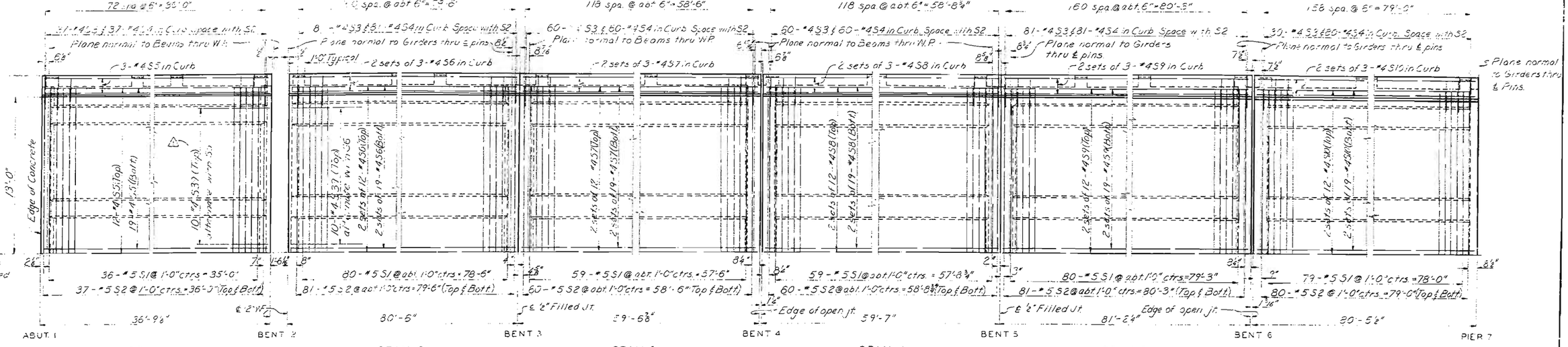
SHEET 28 OF 31

A-450

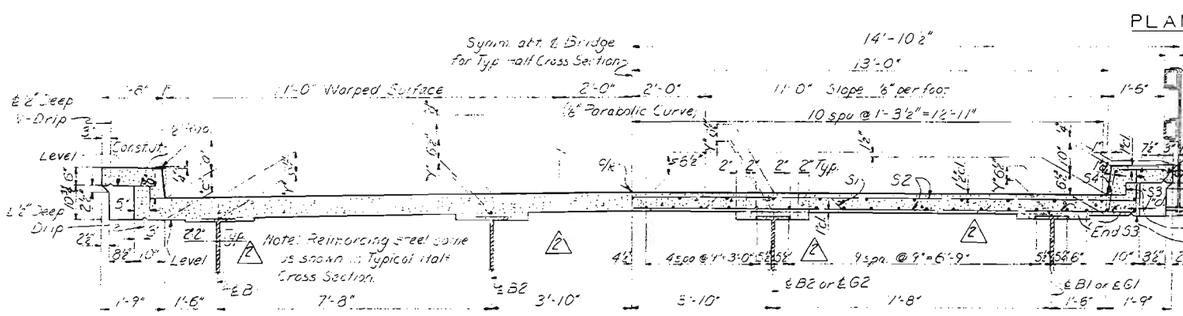
Platte Co. Sh. 59

AS BUILT DRAWING

FINAL DESIGN DRAWING



PLAN



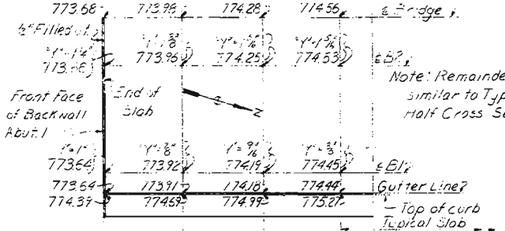
HALF CROSS SECTION THRU WARPED SLAB

TABLE OF VARIABLE DIMENSIONS				
Station	a	b	c	d
12+06.07	9"	3'-7⅛"	2'-6"	7"
12+14.07	9⅜"	3'-8"	2'-6"	7"
12+20.07	9¾"	3'-8⅝"	2'-6"	7¼"
12+25.78	10"	3'-9"	2'-6"	7½"

Note: Curb dimensions for remaining portion of Bridge same as for Sta 12+25.78

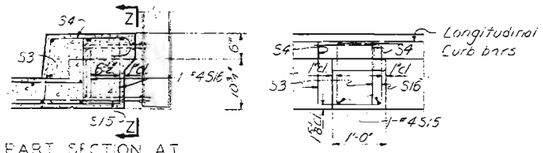
TABLE OF HAUNCH HEIGHTS 'Y' SPAN 1							
Location		Point					
		0	¼	½	¾		
West Half	B1	5/16	1/2	5/8	3/4	13/16	7/8
	B2	1/8	1/4	5/16	3/8	7/16	1/2

Note: Haunch Heights 'Y' include Total Dead Load Deflections as shown on Sheet 4. For warped portion, see Plan of Warped Slab Span 1. Use appropriate West half Haunch Heights for normal portion of East half of Bridge.



PLAN OF WARPED SLAB - SPAN 1

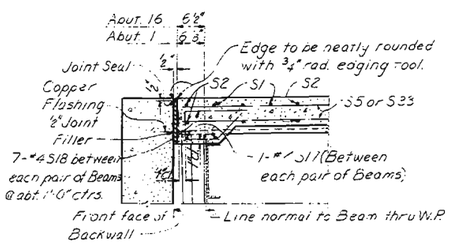
Warped Slab on East half of Bridge only. Elevations shown are top of concrete.



PART SECTION AT HANDRAIL POST BRACKET

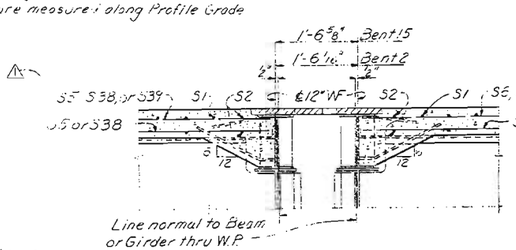
VIEW Z-Z

TYPICAL HALF CROSS SECTION

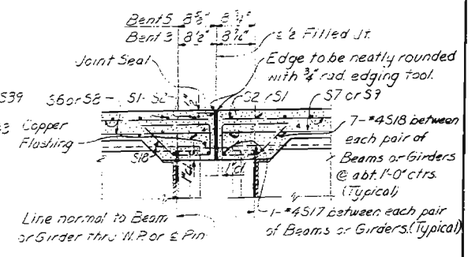


SECTION AT ABUTMENTS 1 & 16

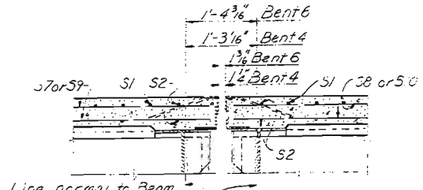
Note: Longitudinal dimensions shown on Plan are measured along Profile Grade



SECTION AT BENTS 2 & 15



SECTION AT BENTS 3 & 5



SECTION AT BENTS 4 & 6

TABLE OF HAUNCH HEIGHTS 'Y'										
Location		0	⅛	¼	⅜	½	⅝	¾	⅞	1
Span 2	B1	5/16	5/16	5/16	5/16	1/2	9/16	11/16	13/16	15/16
	B2	1/2	1/2	7/8	2 1/16	2 3/16	2 5/16	1 7/16	1 5/8	1 3/4
Spans 3 & 4	B1	5/16	5/16	5/16	5/16	3/8	7/16	1/2	9/16	5/8
	B2	1/8	1/8	1/8	1/8	1/4	1/4	3/8	3/8	3/8
Spans 5 & 6	S1	1/2	5/8	3/4	1	1 1/16	1 1/8	1 3/16	1 5/16	1 3/8
	B2	1/8	1/8	1/4	1/4	3/8	3/8	1/2	1/2	5/8

Note: Haunch Heights 'Y' include Total Dead Load Deflections as shown on Sheet 4 and offsets for Vertical Curve.

Note: Do not scale this drawing. Follow dimensions.

NOTES

Work this Sheet with Sheets 26, 28 & 29

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

SLAB - SPANS 1 TO 6

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

Drawn by: W.H. Beste May, 1955
Checked by: G.P. Pennington May, 1955

Revision △ Revise Slip Device @ Bents 2 & 5 and add S39 conts. 12-10-58 By W.H.B. and S.B.P. SHEET 27 OF 31

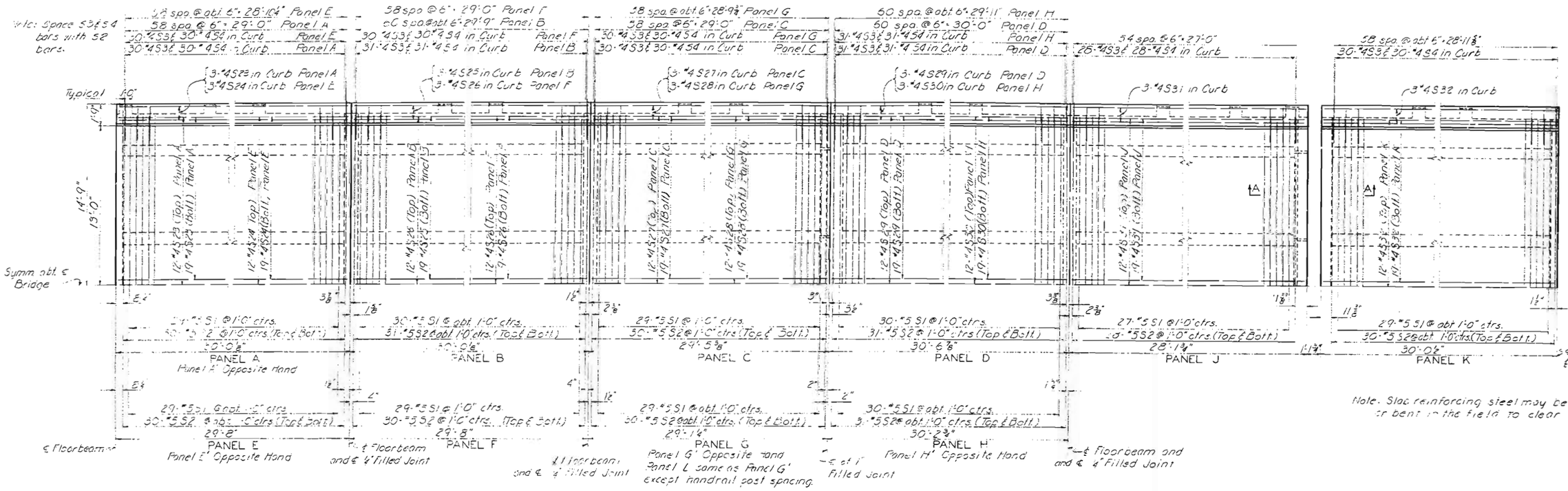
AS BUILT DRAWING

FINAL DESIGN DRAWING

A 450
Plat's Co.
Pl. 69

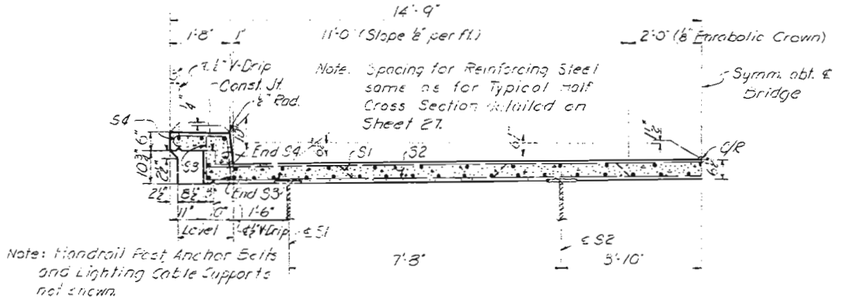
Note: Space S3 & S4 bars with S2 bars.

Note: Spa. @ S3 & S4 bars with S2 bars.

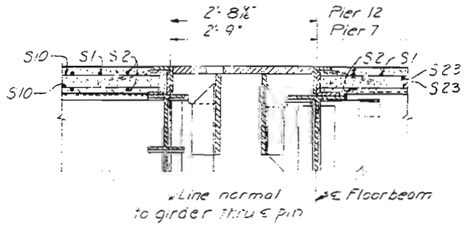


Note: Slab reinforcing steel may be moved or bent in the field to clear roadway drains.

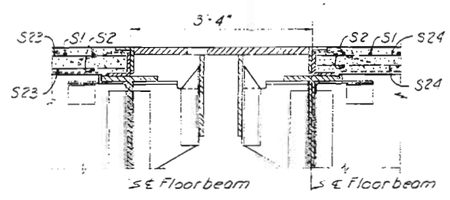
PLAN



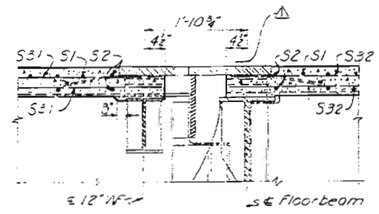
TYPICAL HALF CROSS SECTION THRU TRUSS SPANS



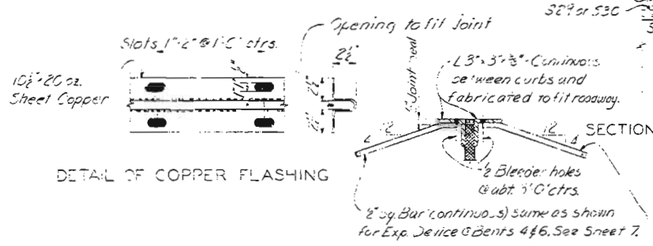
SECTION AT PIER 7
Pier 12 Opposite Hand and Similar



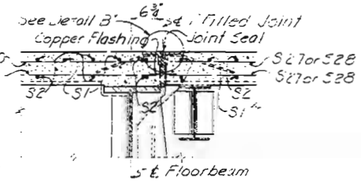
SECTION AT PIER 8
Pier 11 Opposite Hand



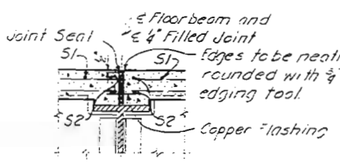
SECTION A-A



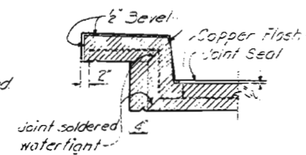
DETAIL OF COPPER FLASHING



SECTION AT STRINGER EXPANSION DEVICES



SECTION AT TYPICAL INTERIOR FLOORBEAM



LIMITS OF FLASHING & JOINT FILLER
Hatched area indicates extent of joint filler.

DETAIL 'B'

Note: Do not scale this drawing. Follow dimensions.

NOTES

For location of slab panels and pouring sequence, see Sheet 26. Work this sheet with Sheets 26, 27, & 29. See Sheet 30 for inserts cast in concrete for Lighting Cable Supports.

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

SLABS - SPANS 7 TO 11

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

FINISHED

Revision 2 Add armour angles & stringer expansion devices 12-10-56 By W.H.B. Chkd. G.R.P.
Revision 1 Revise exp. device @ L19 (Section A-A) 12-10-56 By W.H.B. Chkd. G.R.P.

SHEET 28 OF 31

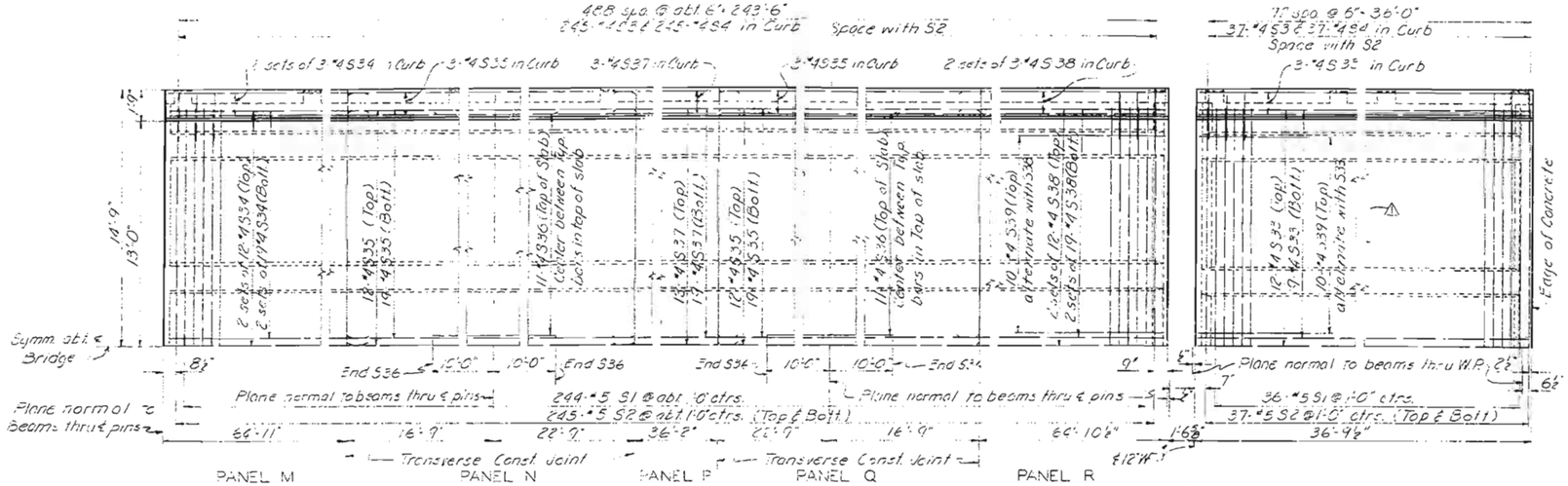
A-450
Platte Co.
Rt. 69

AS BUILT DRAWING

FINAL DESIGN DRAWING

12-57
56.30.16

Drawn by: R. Hammer Jr. May 1956
Checked by: G.R. Pennington, May 1956



PLAN

Note: For Typical Cross Section see Sheet 27.
For Sections at Bent 15 and Abut. 16 See Sheet 27.
For slab pouring sequence see Sheet 26.

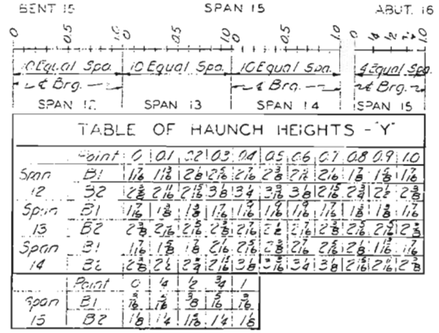


TABLE OF HAUNCH HEIGHTS - 'Y'

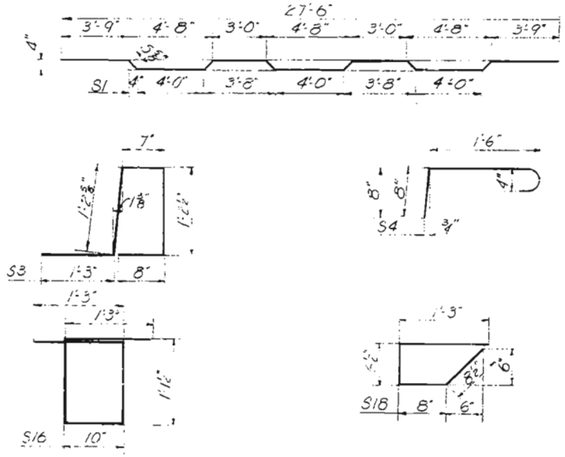
	Point	0	01	02	03	04	05	06	07	08	09	10
Span 12	B1	1 1/16	1 1/8	2 1/8	2 1/16	2 1/16	2 1/8	2 1/8	2 1/16	1 15/16	1 15/16	1 15/16
	B2	2 1/8	2 1/16	2 1/8	2 1/8	3 1/16	3 1/4	3 3/8	3 1/16	2 7/8	2 7/8	2 7/8
Span 13	B1	1 1/16	1 1/8	1 1/8	1 1/16	1 1/16	1 1/16	1 1/16	1 1/16	1 1/8	1 1/8	1 1/16
	B2	2 1/8	2 1/16	2 1/16	2 1/8	2 1/16	2 1/16	2 1/16	2 1/8	2 1/16	2 1/16	2 1/8
Span 14	B1	1 1/16	1 1/8	1 1/8	2 1/16	2 1/16	2 1/8	2 1/16	2 1/16	2 1/16	1 15/16	1 15/16
	B2	2 1/8	2 1/16	2 1/8	2 1/16	3 1/16	3 1/4	3 3/8	3 1/16	2 7/8	2 7/8	2 7/8

	Point	0	4	8	12	16
Span 15	B1	1 1/16	1 1/16	1 1/16	1 1/16	1 1/16
	B2	1 1/16	1 1/16	1 1/16	1 1/16	1 1/16

Haunch heights are given in inches.
For location of dimension 'Y', See Typ. Half Cross Section on Sheet 27.
'Y' is measured to top of beam flange, not top of cover plate.
Haunch heights include Steady Load Deflections shown on Sheet 5.

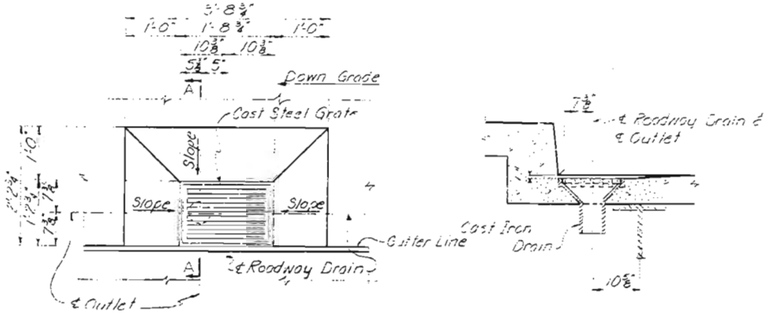
SUPERSTRUCTURE BAR LIST

No. Reqd.	Size	Length	Mark	Type	Location
2551	#5	28'-4"	S1	Spcl	Slab
5246	#5	27'-6"	S2	Str	do
5246	#4	4'-11"	S3	Spcl	Curb
5246	#4	2'-8"	S4	Spcl	do
67	#4	36'-7"	S5	Str	Slab & Curb
134	#4	40'-10"	S6	Str	do
134	#4	30'-3"	S7	Str	do
134	#4	30'-3"	S8	Str	do
134	#4	40'-11"	S9	Str	do
134	#4	40'-9"	S10	Str	do
			S11	Not Used	
			S12	Not Used	
			S13	Not Used	
			S14	Not Used	
1160	#4	2'-0"	S15	Str	Bracket
1160	#4	5'-7"	S16	Spcl	do
36	#4	5'-0"	S17	Str	Haunch
126	#4	3'-2"	S18	Spcl	do
			S19	Not Used	
			S20	Not Used	
			S21	Not Used	
			S22	Not Used	
268	#4	29'-8"	S23	Str.	Slab & Curb
134	#4	29'-6"	S24	Str.	do
804	#4	29'-10"	S25	Str.	do
1340	#4	29'-6"	S26	Str.	do
134	#4	29'-3"	S27	Str.	do
670	#4	28'-11"	S28	Str.	do
134	#4	30'-4"	S29	Str.	do
670	#4	30'-0"	S30	Str.	do
67	#4	27'-11"	S31	Str.	do
67	#4	29'-10"	S32	Str.	do
67	#4	36'-7"	S33	Str.	do
134	#4	33'-8"	S34	Str.	do
134	#4	39'-4"	S35	Str.	do
44	#4	20'-0"	S36	Str.	do
67	#4	38'-10"	S37	Str.	do
134	#4	33'-8"	S38	Str.	do.
80	#4	6'-0"	S39	Str	Slab



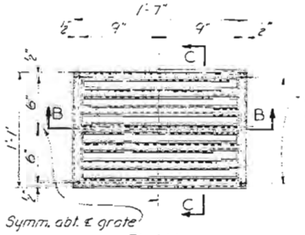
SPECIAL BENDING DETAILS

Note: All bar dimensions are out to out.
Bar size numbers indicate diameter of bar in 8 inches.



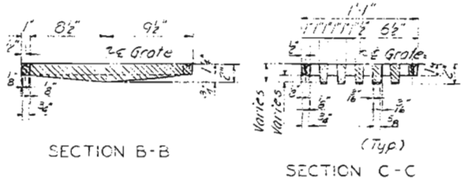
Note: For Spans 4 and 6, notch top flange of beam or girder sufficiently to clear drain casting.

ROADWAY DRAIN



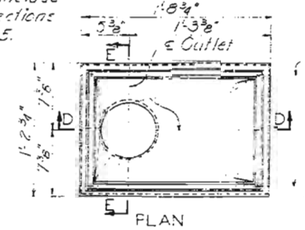
PLAN

- 2-⅛" Ctsk. holes for screws.
(4-1⅝" 1¾" long ctsk. head brass screws required for each grate.)

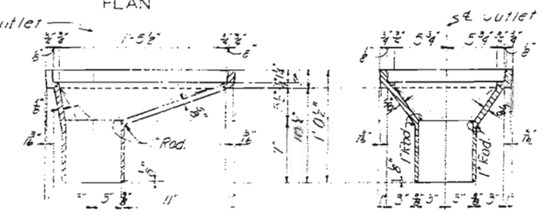


DETAILS OF GRATE

Grate to be made of Cast Steel.
(Weight 50" 50 Required)



Note: Fit grate to casting in shop and ship in place.



DETAIL OF CASTING

Casting to be made of Gray Iron
(Weight 98" 50 Required)

NOTES

Note this Sheet with Sheets 26, 27 & 28.
See Sheet 30 for inserts cast in concrete for Lighting Cable Supports.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

SLABS - SPANS 12 TO 15 &
ROADWAY DRAINS

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO

1959	Drawn by: R. Hommer Jr., May 1956	
2633/7		
	Checked by: G.R. Pennington, June, 1956	

Note: Do not scale this drawing. Follow dimensions.

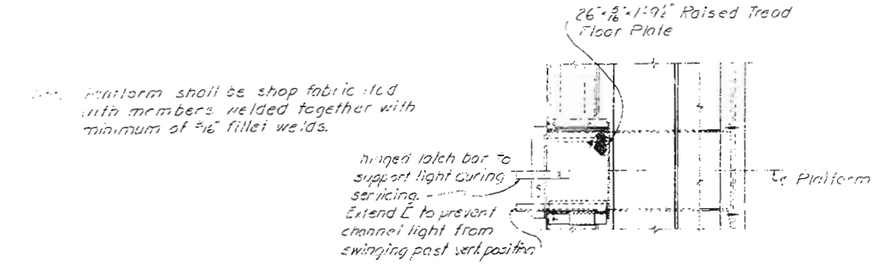
Revision ⚠ Add bar S39 12-10-56 J. H.H.B. Chkd. G.R.P.

AS BUILT DRAWING

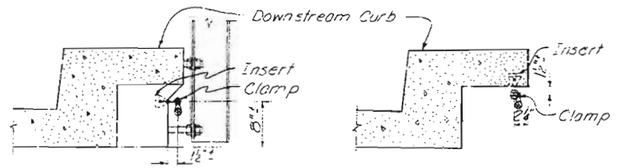
SHEET 29 OF 31

FINAL DESIGN DRAWING

4-650
Platte Co.
Rt. 69

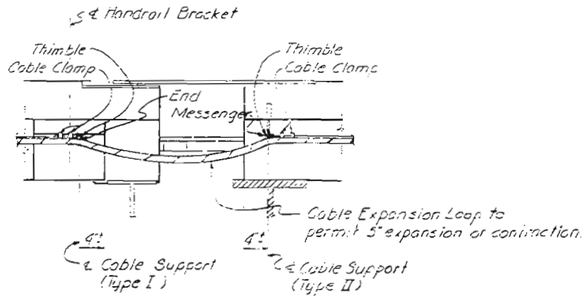


SECTION B-B

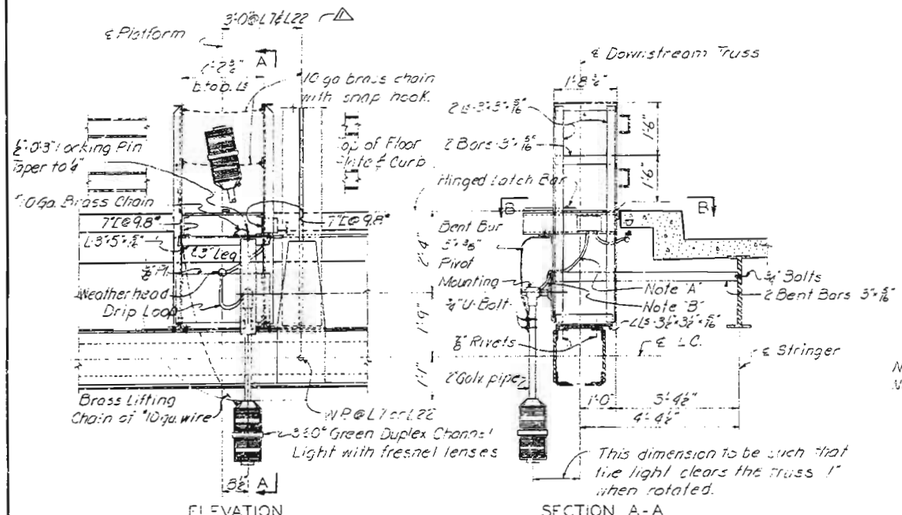


CABLE SUPPORT - TYPE I
Note: Use at handrail brackets.
Inserts to be Hohmann and Barnard Threaded Insert "HD or equal with ⅝" galv. threaded rod and 2 galv. hex. nuts.
Clamps to be Hubbard Cable Suspension Clamps "8901 or equal.

CABLE SUPPORT - TYPE II
Note: Use near panel points on truss spans (where there are no handrail brackets) and at other points between handrail brackets where support for the cable may be necessary.

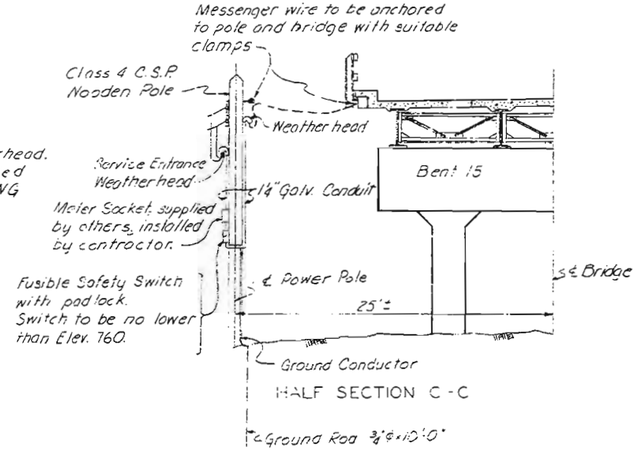


CABLE EXPANSION LOOP AT ROADWAY EXPANSION DEVICES
Note: Drawn for L19. Similar detail at Piers 8, 11, 12 and Bent 15.



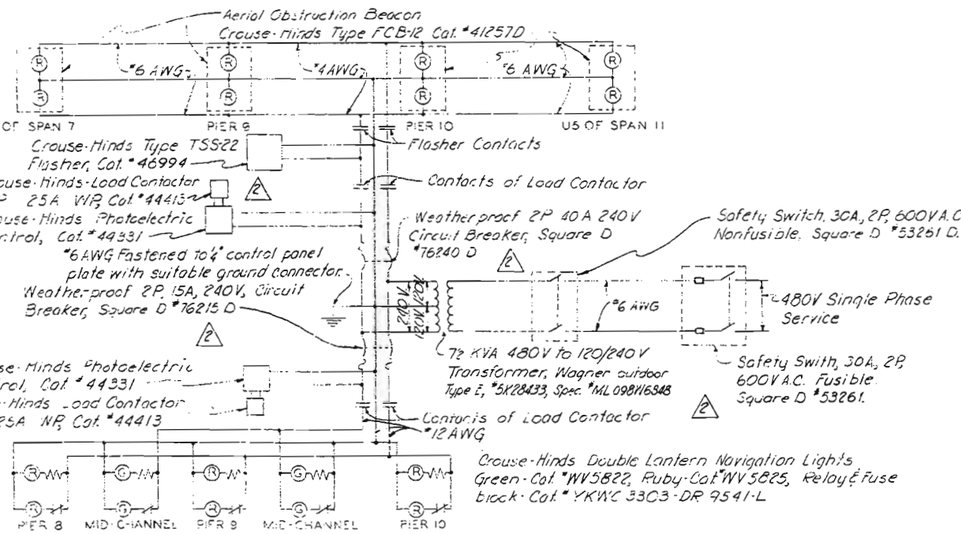
DETAILS FOR MID-CHANNEL LIGHTS
Note: Drawn for L7; L22 is similar. Pipe support bracket not shown.

Note "A" Rigid galv. conduit to weatherhead.
Note "B" Extra-flexible rubber insulated neoprene jacketed ⅝"c 12 AWG cable.

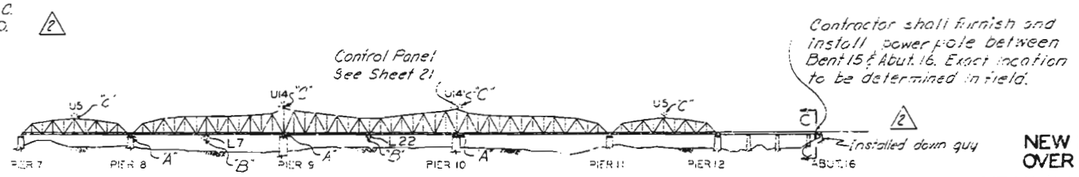


HALF SECTION C-C

NOTES
Work this Sheet with Sheets 21 & 31.
Cable running longitudinally along bridge from point of entrance on Span 15 to Panel Point L5 on Span 7 shall be supported by Cable Supports, Type I or Type II, at all handrail brackets, panel points and other points as required by expansion loops or junction boxes.



SCHEMATIC WIRING DIAGRAM
Transformer and Photoelectric Control to be located at Pier 10. (U14')



ELEVATION SHOWING LOCATION OF LIGHTS

Note: Lights marked "A" are 180° Red Pier Lights on the downstream end of the pier.
Lights marked "B" are 360° Green Mid-Channel Lights on the downstream side of the bridge.
Lights marked "C" are 360° Red Aerial Obstruction Beacons at the ℄ of the bridge.

12-19-56	Drawn by: P. Hammer Jr. May 1956
5-23-57	Checked by: G.P. Pennington, June 1956

Note: Do not scale this drawing. Follow dimensions.

Revision 2 Wiring Diagram, Notes & Elevation 1-21-59 By R.E.B. Ck'd. J.E.C.
Revision 1 Mid Channel Light Location Dimension, 11-20-56 By R.H.H. Jr. Ck'd G.P.P. SHEET 30 OF 31

AS BUILT DRAWING

FINAL DESIGN DRAWING

NEW FAIRFAX BRIDGE OVER MISSOURI RIVER NEAR KANSAS CITY, KANSAS

FOR

PLATTE COUNTY, MISSOURI

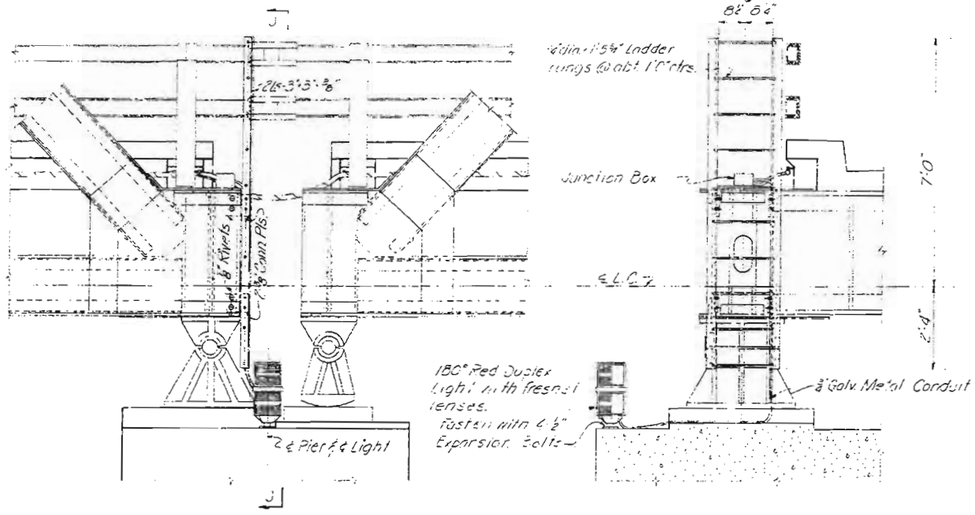
NAVIGATION LIGHTING DETAILS

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

FINISHED

A-450

Platte Co. Rt. 69

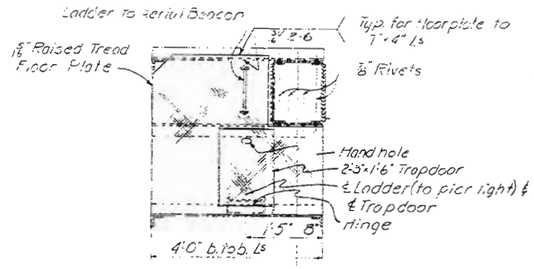


ELEVATION

SECTION J-J

DETAIL OF LIGHT AND LADDER AT PIER 8

Note: Roadway expansion device and pipe support bracket not shown.

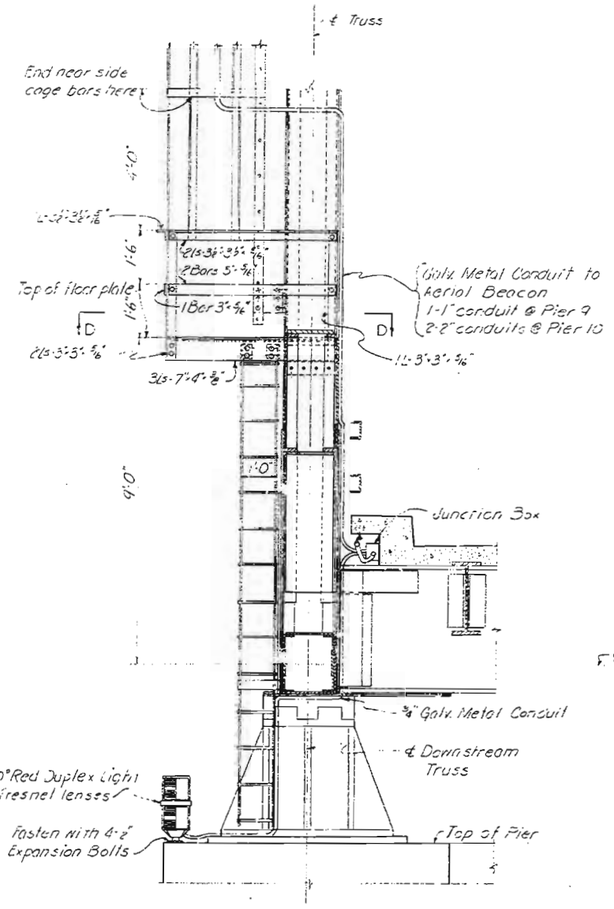


SECTION D-D

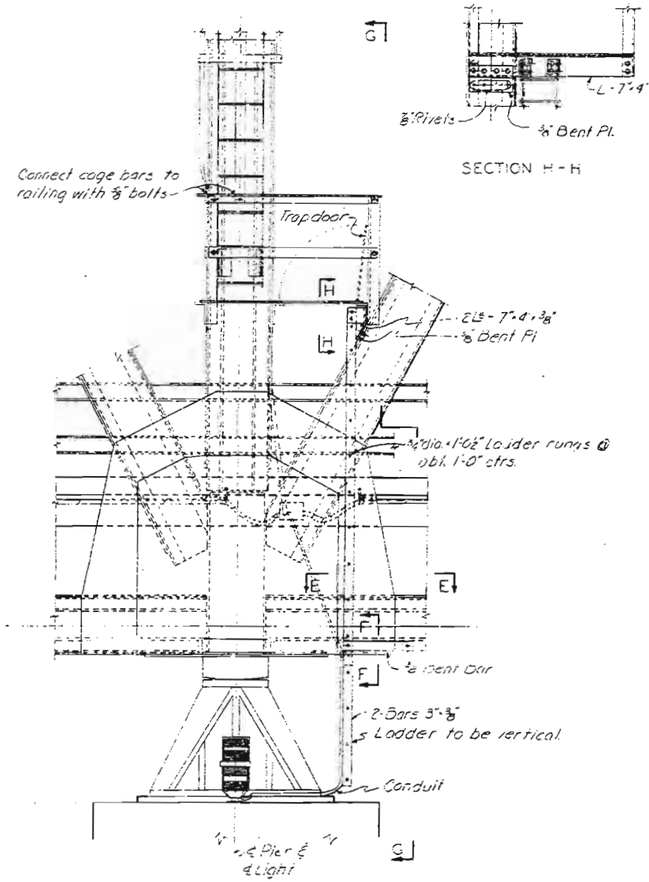
SECTION E-E

SECTION F-F

RUNG DETAIL



SECTION G-G



ELEVATION

DETAIL OF LIGHT AND LADDER AT PIER 9

Details at Pier 10 opposite hand.

Note: Pipe support & part of Truss details not shown. See Sheet 21 for details of Aerial Beacon Access.

NOTES

Work this Sheet with Sheets 21 & 30.
All rivets are ⅞" unless otherwise noted.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

NAVIGATION LIGHTING DETAILS

SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

FINISHED

1259
563409

Drawn by: R. Hammer Jr. June 1958
Checked by: G. R. Pennington June 1956

Note: Do not scale this drawing. Follow dimensions.

SHEET 31 OF 31

A-450
Platte Co.
Pl. 69

AS BUILT DRAWING

FINAL DESIGN DRAWING

311

1259
5/15/41

PLATTE PURCHASE BRIDGE

BUILT BY

PLATTE COUNTY, MISSOURI

WITH THE COOPERATION OF

MISSOURI STATE HIGHWAY COMMISSION

AND

STATE HIGHWAY COMMISSION OF KANSAS

A.D. 1957

COMMEMORATING THE PLATTE PURCHASE, BEING THAT TERRITORY NOW COMPRISING PLATTE, BUCHANAN, ANDREW, HOLT, ATCHISON AND NODAWAY COUNTIES, FROM THE IOWAY, SAC AND FOX INDIANS SEPTEMBER 17, 1836

COUNTY COURT OF PLATTE COUNTY

WM. ANDERSON - PRESIDING JUDGE 1956

HOLT COFFEY - PRESIDING JUDGE

O. WAYNE THOMPSON - JUDGE WESTERN DISTRICT

HOMER E. NASH - JUDGE EASTERN DISTRICT

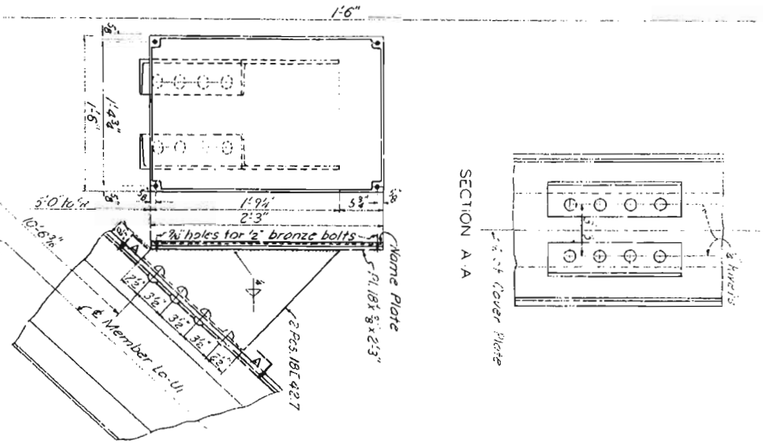
SVERDRUP & PARCEL, INC. - CONSULTING ENGINEERS

KANSAS CITY BRIDGE CO. - BRIDGE CONTRACTOR

J. A. TOBIN CONSTRUCTION CO. - APPROACH CONTRACTOR

NAME PLATE
(2 Required)

Note: Do not scale this drawing, follow dimensions.



SUPPORT FOR NAME PLATE
(2 Required)

NOTES

Name plates shall be located on simple truss spans on member Lo-Ui downstream, south end of bridge and member Lo-Ui upstream, north end of bridge.

Supports for name plates to be used for as fabricated structural steel.

Name plates to be made of bronze ¾" thick with 3" raised polished surface letters and border, with a pebbled finished background.

Bolts for attaching name plates to be ¾" bronze bolts with hexagonal nuts, nuts to be brazed to bolts after assembly.

NEW FAIRFAX BRIDGE
OVER MISSOURI RIVER
NEAR KANSAS CITY, KANSAS
FOR
PLATTE COUNTY, MISSOURI

NAME PLATES & SUPPORTS

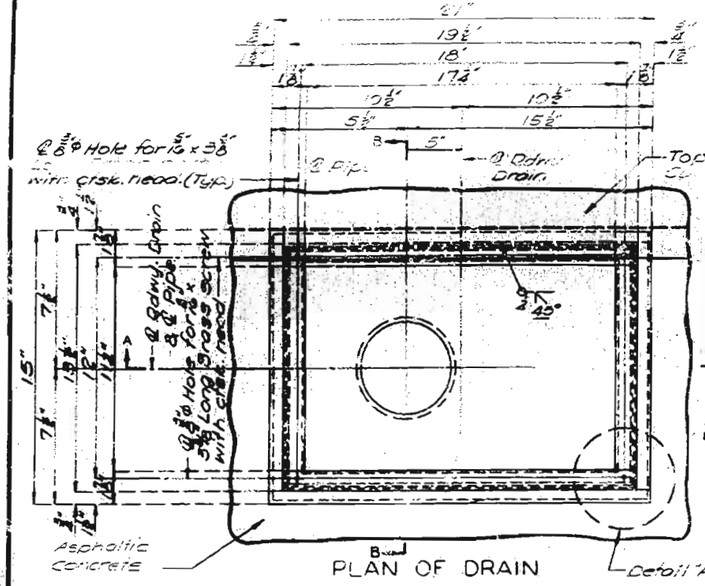
SVERDRUP AND PARCEL, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

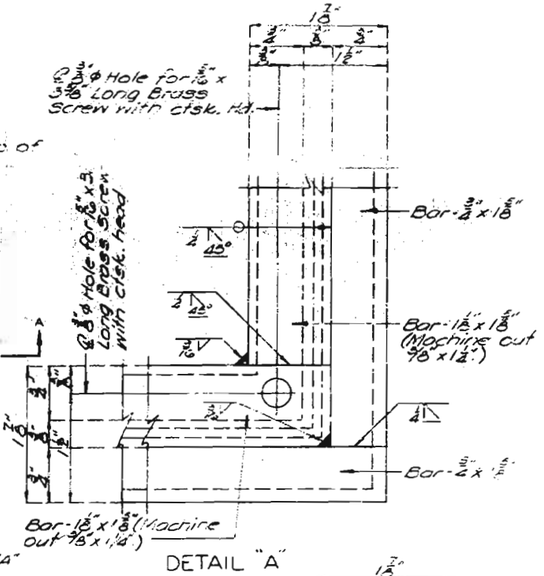
SHEET 31A

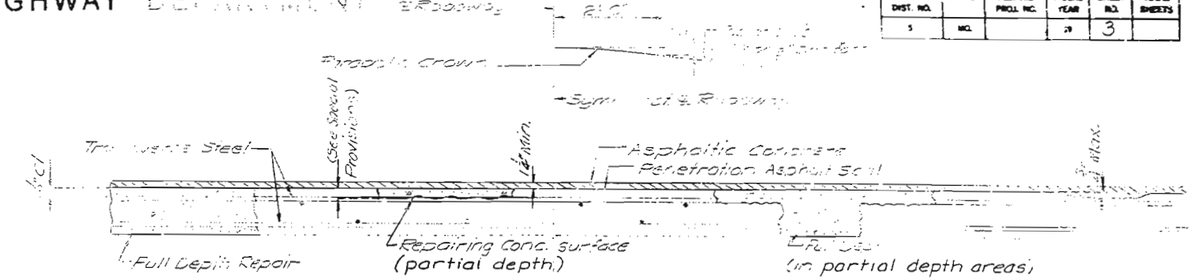
A-470
Platte C
Pl. 69

MISSOURI STATE HIGHWAY DEPARTMENT

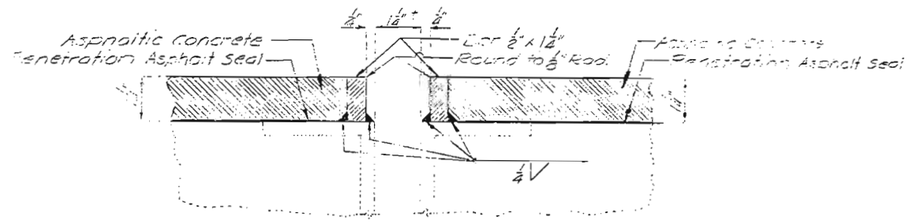
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	MO.		19	3	







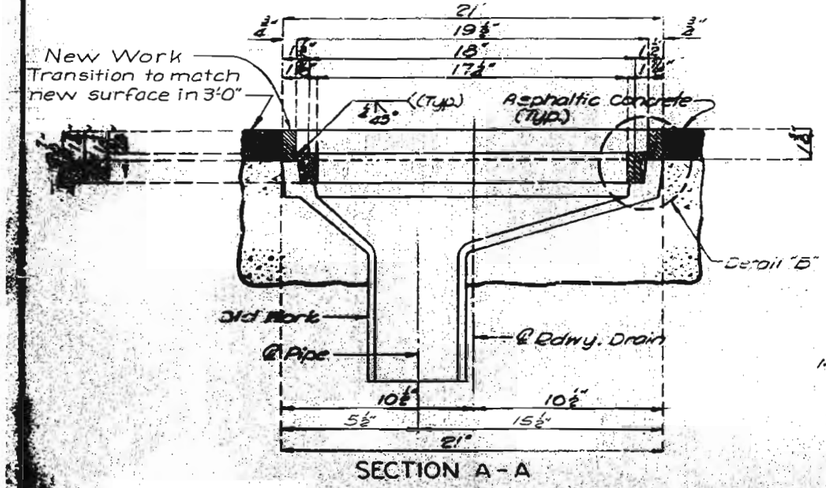
PART SECTION THRU SLAB

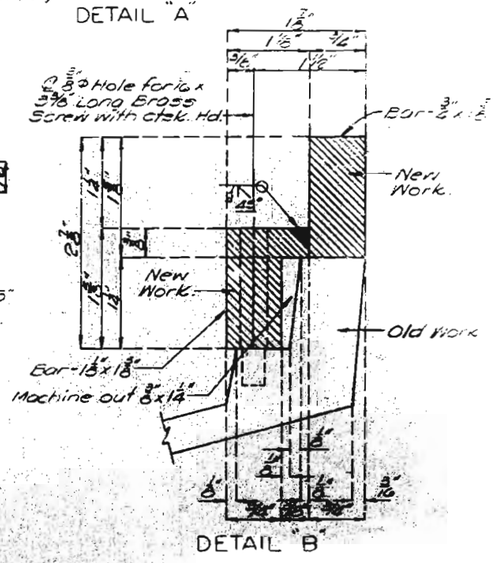


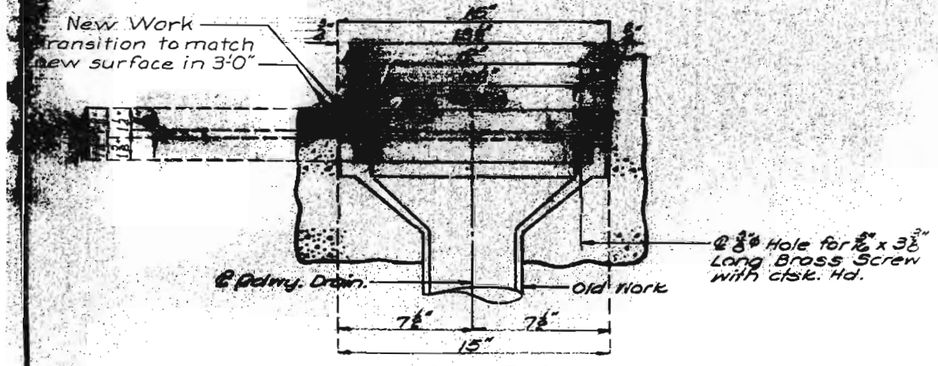
PART SECTION THRU EXP. JOINT AT BENTS NO. 4 & NO. 6

Note: For details of bordoms for other expansion joints and General Notes for bar bending, see Std. 716.40

For space "A" in Std. 712.40, match existing expansion openings.







ESTIMATED QUANTITIES		
ITEM		TOTAL
Asphalt Cement (Asphaltic Concrete)	Ton	460
Mineral Aggregate (Asphaltic Concrete)	Ton	870
Bituminous Material (Seal Coat)	Gal.	1271
Cover Aggregate (Seal Coat)	Ton	54
Reinforced Concrete Deck (partial depth)	Sq. Ft.	9000
Full Depth Repair	Sq. Ft.	900
Drain, Rdwy. Inlet	Each	5
Steel Pipe Drains	Lin. Ft.	8
Special Work	Lump Sum	1

Note: All [illegible] shall be used [illegible] other [illegible]. Contractor shall verify all dimensions in field before [illegible]

DETAILED JAN. 1977
CHECKED Jan. 1977

DETAILS OF DRAIN MODIFICATIONS

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

SEE FINAL PLANS

Sheet A

REPAIRS TO
DRIFTWOOD RIVER MISSOURI RIVER

STATE AID ROUTE 69

AT RIVERSIDE MISSOURI

PROJECT NO. [illegible] STA. 12+07.07
JOB NO. 4-U-69-225 RTE. 69

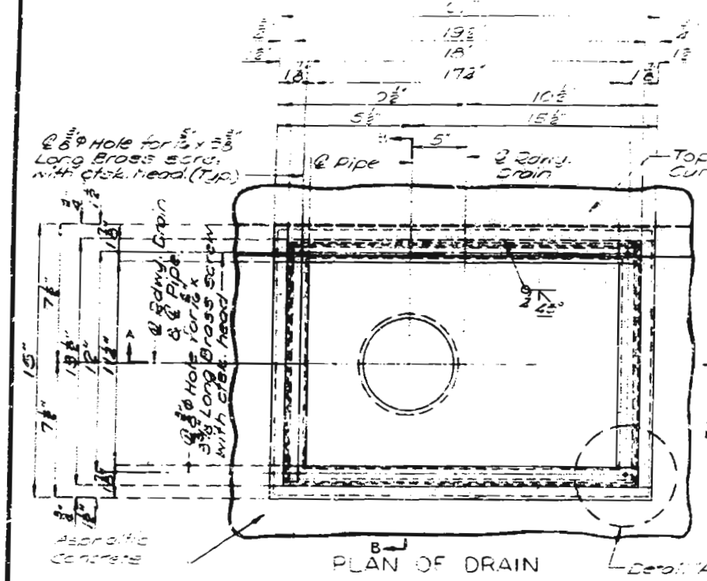
PLATTE COUNTY, MISSOURI
WYANDOTTE COUNTY, KANSAS

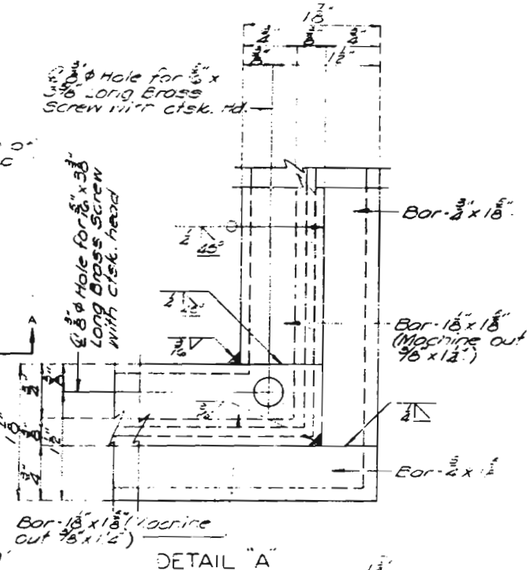
STD. DWG. NO.
A 450.R

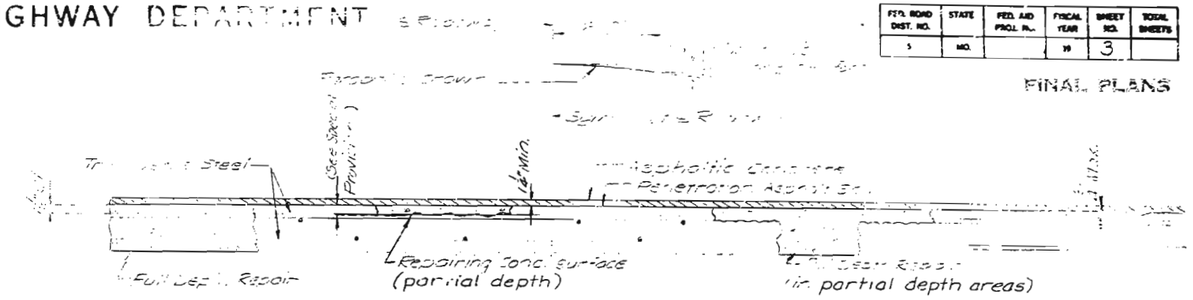
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	3	

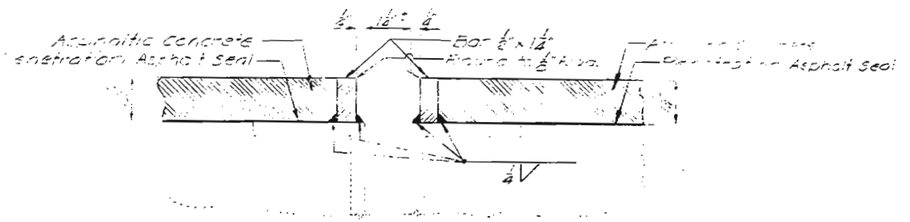
FINAL PLANS







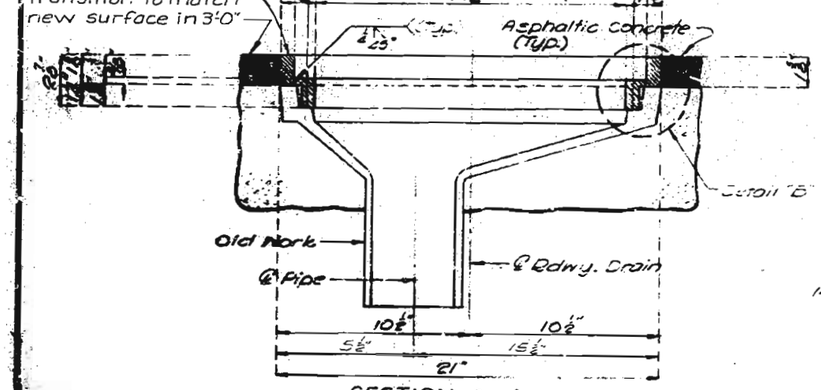
PART SECTION THRU SLAB

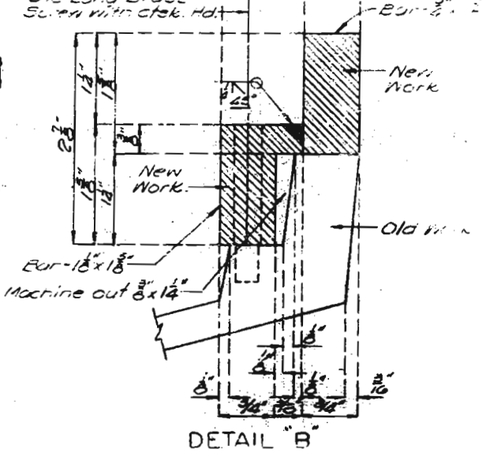


PART SECTION THRU "A" JOINT AT BENTS NO. 4 & NO. 6

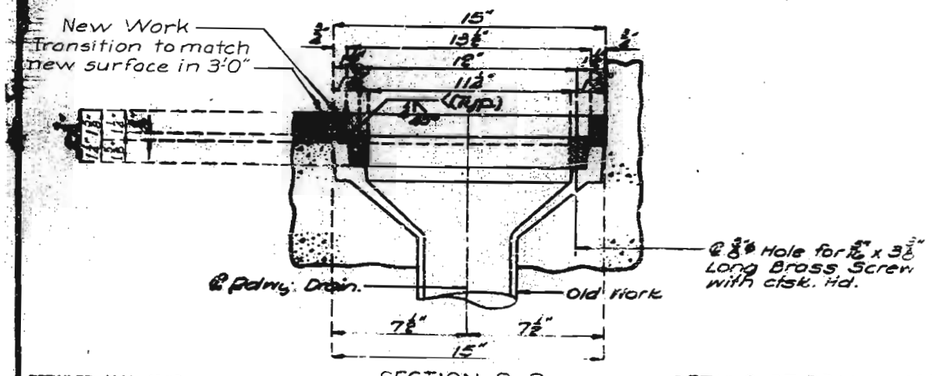
Note: For details and dimensions for other expansion joints, see General Notes for [illegible] see Std. 712.40

For space "A" in Std. 712.40, match existing expansion openings.





DETAIL "B"



DETAILS OF DRAIN MODIFICATIONS

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

DETAILED JAN. 1977
CHECKED Jan. 1977

FINAL QUANTITIES		
ITEM		TOTAL
Asphalt Cement (Asphaltic Concrete)	Ton	24.6
Mineral Aggregate (Asphaltic Concrete) (Special Mix)	Ton	487
Bituminous Material (Seal Coat)	Gal.	2360
Cover Aggregate (Grade 3)	Ton	94
Repairing Concrete Deck (partial depth)	Sq. Ft.	9000
Full Depth Repair	Sq. Ft.	900
Drain Modifications	Each	50
Steel Bar Dams	Each	9
Special Work	Lump Sum	1

Note: All new steel for drain modifications is A-36 and was galvanized after fabrication. Contractor verified dimensions in field before ordering new steel.

REPAIRS TO
BRIDGE OVER MISSOURI RIVER

STATE ROAD: ROUTE 69

AT RIVERSIDE MISSOURI

PROJECT NO. 4-U-69-255 STA. 12+07.07
JOB NO. 4-U-69-225 RTE. 69

PLATTE COUNTY, MISSOURI
WYANDOTTE COUNTY, KANSAS

STD. 712.40
A-450 R

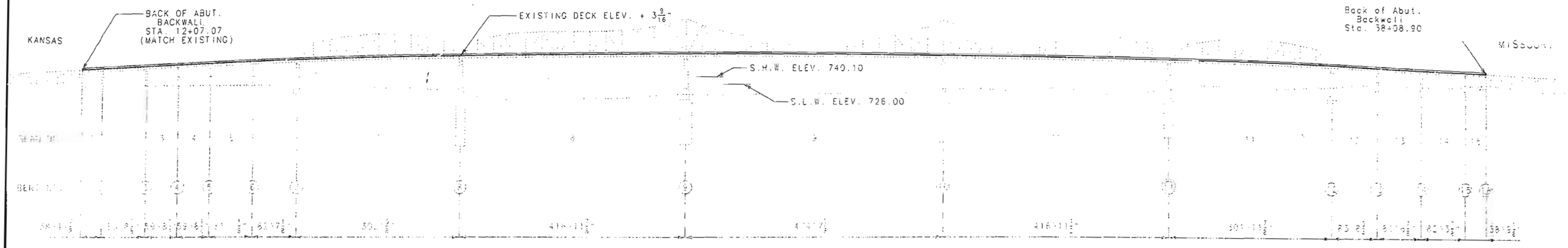
Sheet No 1 of 1

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

REPLACE EXISTING DECK & USE-IN-PLACE
2601.83' WIDE FLANGE/GIRDER/TRUSS SPANS

STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3312(415)	12
SEC./SUR. 8	TWP. 50N	RGE. 33W

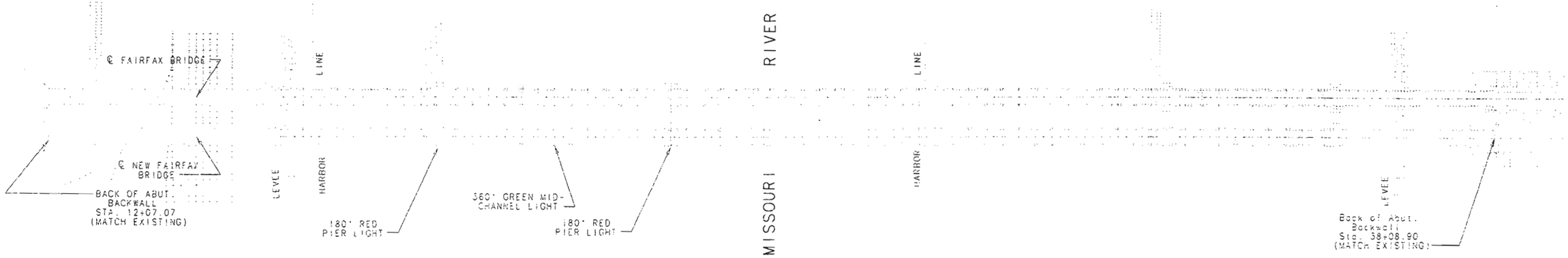
Back of Abut.
Backwall
Sta. 38+08.90



NOTE: LONGITUDINAL DIMENSIONS ARE TAKEN FROM ORIGINAL CONSTRUCTION PLANS AND ARE MEASURED ALONG PROFILE GRADE. (MATCH EXISTING)

DASHED LINES INDICATE EXISTING STRUCTURE.
SOLID LINES INDICATE NEW WORK.

ELEVATION



PLAN

NOTICE AND DISCLAIMER REGARDING BORING LOG DATA

The boring data as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, should be obtained from the commission upon written request as outlined in the project special provisions.

The commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the commission.

I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

12/4/96

REPAIRS TO: NEW FAIRFAX BRIDGE OVER MISSOURI RIVER

BRIDGE OVER MISSOURI RIVER BETWEEN THE STATES OF KANSAS & MISSOURI

PROJECT NO.
JOB NO. J4U0852

STA. 12+07.07
(MATCH EXISTING)
RTE. 69 N.B.L.

PLATTE COUNTY

DATE 12/2/96

STD.	504.00
STD.	605.10
STD.	606.22
STD.	609.00
STD.	706.35
STD.	902.15
A450R1	

DESIGNED JAN. 1996
DETAILED JAN. 1996
CHECKED JUNE 1996

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

37

STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3312(415)	13

FINAL QUANTITIES

ITEM		SUBSTR.	SUPERSTR	TOTAL
Remove abandoned Utility Bracket	Each			6
Partial Removal of Substructure Concrete	Lump Sum			1
Removal and Storage of Existing Bridge Rail	Lin. Ft.		5,204	5,204
Removal of Existing Bridge Deck	Sq. Ft.		76,754	76,754
Bridge Approach Slab (Bridge)	Sq. Yd.		162.0	162.0
Protective Coating-Concrete Bents(Deleterious Agents)	Each			10
Substructure Repairs (Formed)	Sq. Ft.	1,509		1,509
Substructure Repairs (Uniformed)	Sq. Ft.	938		938
Slab on Steel	Sq. Yd.		8,475	8,475
Safety Barrier Curb	Lin. Ft.		5,204	5,204
Preformed Compression Expansion Joint Seal (2.5 In.)	Lin. Ft.		405	405
Preformed Compression Expansion Joint Seal (3.5 In.)	Lin. Ft.		81	81
Navigation Lighting System	Lump Sum			1
Expansion Device (Finger Plate) (Bts.#7 & #12)	Lin. Ft.		54	54
Expansion Device (Finger Plate) (Bts.#8 & #11)	Lin. Ft.		54	54
Expansion Device (Finger Plate) (at L19)	Lin. Ft.		27	27
Slab Drains	Each		102	102
Surface Preparation for Painting Structural Steel	Lump Sum			1
Field Application of Inorganic Zinc Primer	Lump Sum			1
Field Coat (System G) Gray	Lump Sum			1
Transporting Lead Contaminated Residue to Storage Area	Lump Sum			1
Transporting Lead Contaminated Residue to the Smelter	Lump Sum			1
Disposal of Lead Contaminated Residue	Lump Sum			1
Add Shear Connectors to Stringers (on Truss)	Each		29,184	29,184
End Bent Replacement	Each	2		2
Bridge Deck Grinding	Lump Sum		1	1
Structural Steel Repair	Unit	76,350.53		76,350.53

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

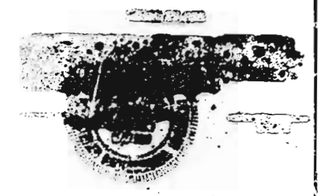
ESTIMATED QUANTITIES FOR ALTERNATE SLABS

TYPE OF SLAB	REINF. (LBS.)		CONC.
	EPOXY	PLAIN	(CU. YDS.)
CAST-IN-PLACE CONVENTIONAL FORMS	476,500	0	2138.0
STAY-IN PLACE FORMS	476,500	0	2138.0

The table of Estimated Quantities for Alternate Slabs represents the quantities used by the state in preparing the cost estimate for concrete slabs. Variations may be encountered in these estimated quantities but these variations cannot be used for an adjustment in the contract unit price per square yard of Slab on Steel .

See Special Provisions for alternate methods of forming slabs.

PLATTE COUNTY A450R1 INDEX OF DRAWINGS



GENERAL NOTES:

DESIGN SPECIFICATIONS:

A.A.S.H.T.O.-1992 AND INTERIMS THRU 1995
LOAD FACTOR DESIGN
A.A.S.H.T.O-1983 GUIDE SPECIFICATIONS
FOR SEISMIC DESIGN
SEISMIC PERFORMANCE CATEGORY A

DESIGN LOADINGS:

HS20
EARTH 120#/CU. FT.
EQUIVALENT FLUID PRESSURE = 45#/CU. FT.
35#/SQ. FT. FUTURE WEARING SURFACE

DESIGN UNIT STRESSES:

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) fy = 60,000 PSI.

JOINT FILLER:

ALL JOINT FILLER SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATION 1057.2.4, EXCEPT AS NOTED.

REINFORCING STEEL:

MINIMUM CLEARANCE TO THE REINFORCING STEEL SHALL BE 1-1/2" UNLESS OTHERWISE SHOWN.

ALL REINFORCING STEEL SHALL BE EPOXY COATED .

PAINTING:

Protective Coating: System G by the contractor in accordance with special provisions .

Prime Coat: The cost of the prime coat shall be included in the contract unit price of the Fabricated Structural Steel. Tint of the prime coat for System G shall be similar to the color of the field coat to be used.

Field Coat: The cost of the intermediate and finish coats shall be included in the contract unit price per Lump Sum of Field Coat (System G) Gray . See Special Provisions.

MISCELLANEOUS:

Rehabilitation plans have been developed based on available plans. Shop drawings for structural steel and expansion devices were not available. The contractor shall verify all dimensions of the existing structure that affect dimensions of new construction before ordering new steel components for the rehabilitation work. If dimensions of miscellaneous steel parts vary from rehabilitation plans to accommodate actual construction conditions, no additional payment will be allowed

Contractor shall maintain uninterrupted power to navigational lights. See special provisions.

Contractor shall prevent debris and other material from dropping into the river. See special provisions.

Remove abandoned utilities brackets (west side)- 6 near bt.#1 and 2 near bt.#16 . Payment for the removal of these brackets will be per each.See Special Provisions

Remove and salvage steel rail components (Store at M.H.T.D. Oak Grove maintenance lot).

Close structure to traffic during construction .

Roadway surfacing adjacent to bridge ends to match new slab .

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

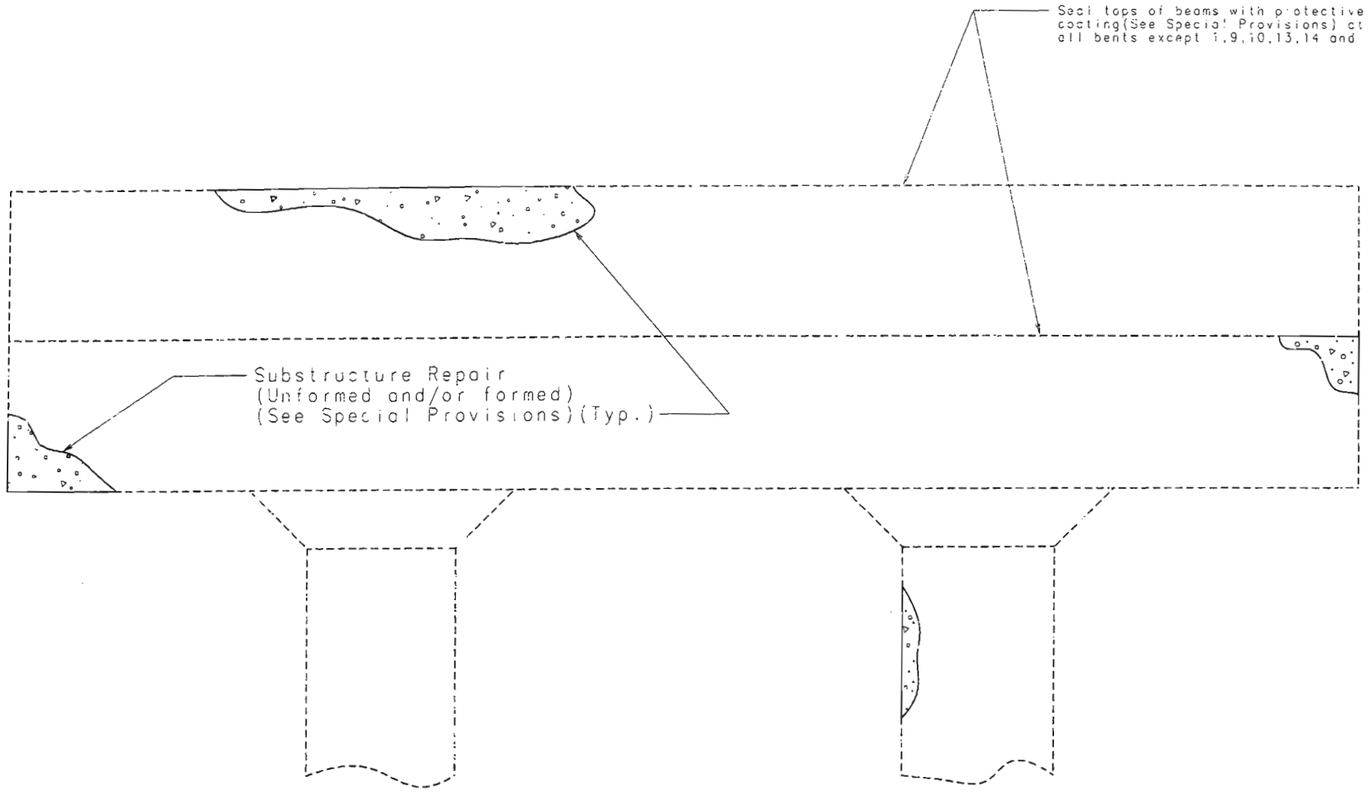
A minimum vertical clearance of 21'6" from top of rails and a minimum lateral clearance of 10'0" from the centerline of track to nearest temporary construction falsework shall be maintained during construction .

I HEREBY CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

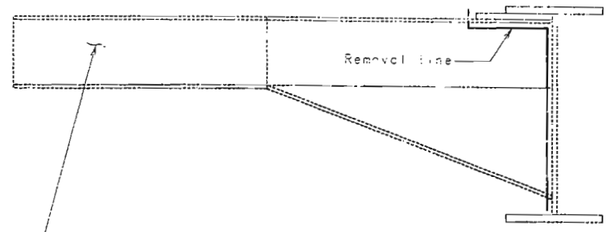
DETAILED JUN. 1996
CHECKED JUN. 1996

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

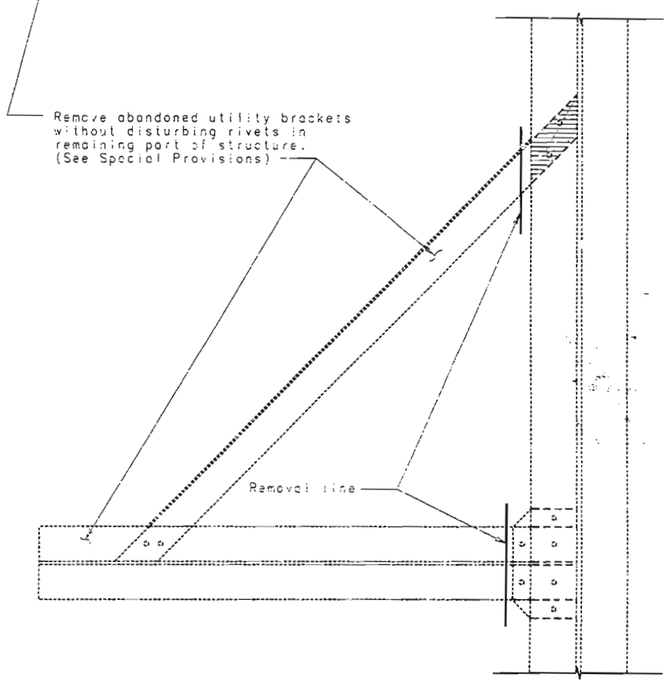
STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3312(415)	14



DETAIL SHOWING SUBSTRUCTURE REPAIR AREAS



ELEVATION VIEW



PLAN VIEW

FINAL PLANS

I CERTIFY THAT THIS DESIGN ... REFLECTS THE ... THE ROADWAY ... CONSTRUCTION ON THIS ...

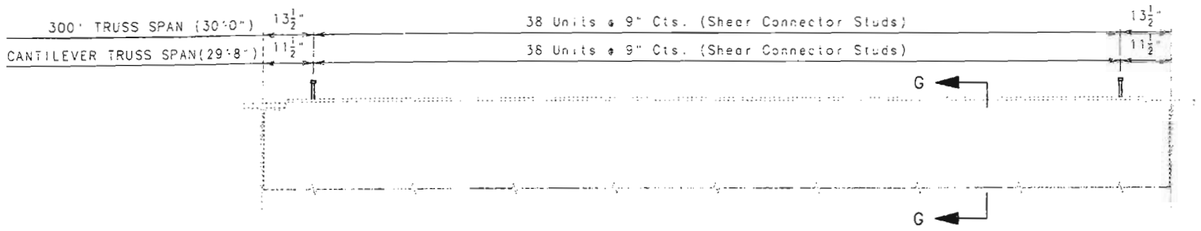
TYPICAL
ABANDONED UTILITY BRACKET
REMOVAL DETAILS

DETAILED JAN. 1996
CHECKED JULY 1996

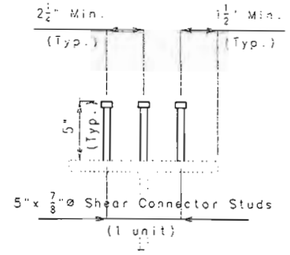
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

PLATTE COUNTY A450R1

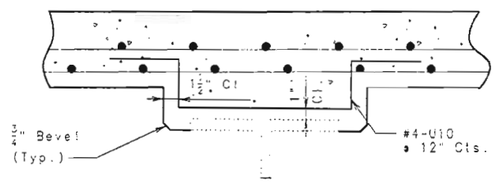
STATE	PROJ. NO.	SHEET NO.
NO.	ACSTP-ACBRS-3312(415)	15



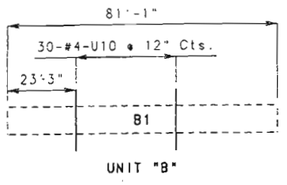
ELEVATION OF STRINGER(300' TRUSS SPAN)
& CANTILEVER TRUSS SPAN



PART SECTION G-G



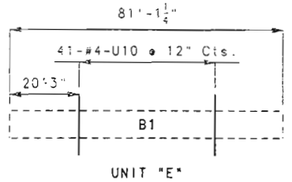
PART SECTION H-H



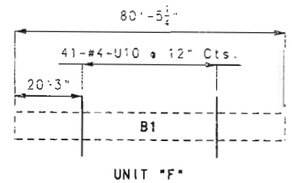
UNIT "B"

NOTE: FOR LOCATIONS OF SLAB UNITS "A" THRU "X", SEE SHEET NO. 15.

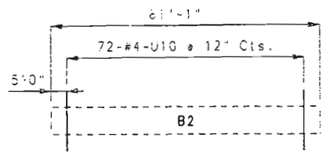
B1 = EXTERIOR STRINGERS
B2 = INTERIOR STRINGERS



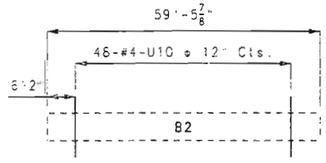
UNIT "E"



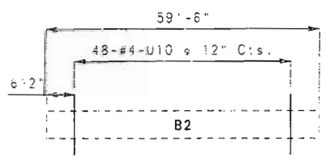
UNIT "F"



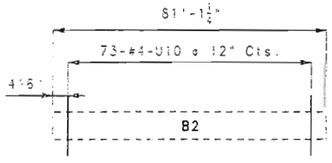
UNIT "B"



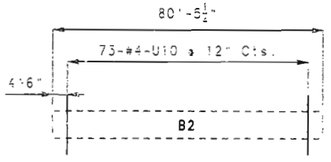
UNIT "C"



UNIT "D"

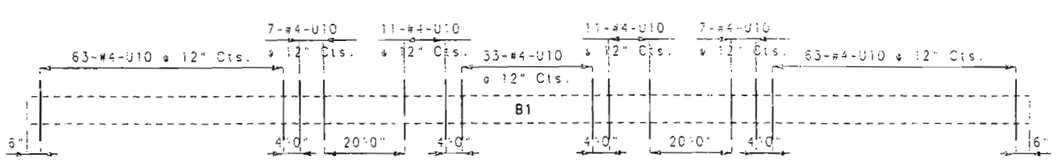


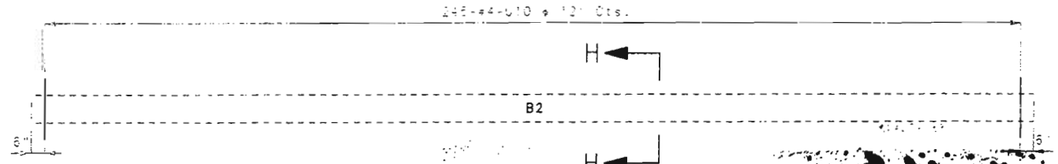
UNIT "E"



UNIT "F"

HAUNCH REINFORCEMENT PLAN (UNITS "B","C","D","E" & "F")





HAUNCH REINFORCEMENT PLAN (UNIT "W")

DETAILS OF (TRUSS) SHEAR CONNECTOR STUDS & HAUNCHING REINFORCEMENT

FINAL PLANS
CERTIFY THAT THIS DRAWING REFLECTS THE CONSTRUCTION AS BUILT ON THE MAIN LINE AND NOTED ON
4-11-97

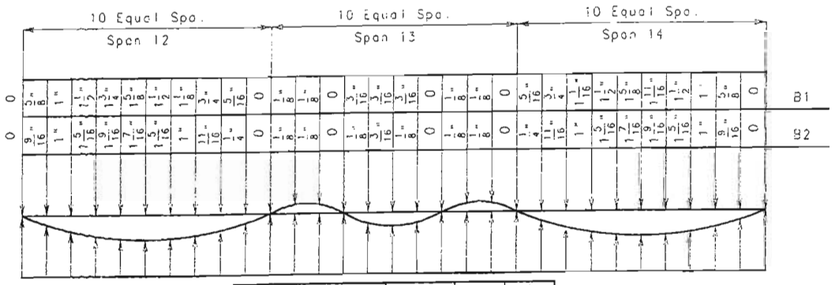
DETAILED MAY 1996
CHECKED JULY 1996

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

PLATTE COUNTY A450R1

33X

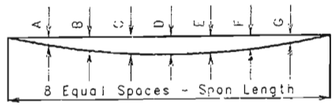
STATE	PROJ. NO.	SHEET NO.
NO.	ACSTP-ACBRS-3312(415)	16



SPANS	BEAMS	P	Q
Spans 12,13 & 14	B1,B2	21%	10%

DEAD LOAD DEFLECTION ORDINATES

Note: Column P shows the percentage of total dead-load deflection due to dead load of steel only. Column Q shows the percentage of total dead load deflection due to dead load of existing utilities.



SPAN	BEAM	A	B	C	D	E	F	G	P	Q
1&15	B1,B2	-	$\frac{3}{16}$	-	$\frac{5}{16}$	-	$\frac{3}{16}$	-	14%	14%
3&4	B1,B2	$\frac{5}{16}$	$\frac{5}{8}$	$1\frac{3}{16}$	$1\frac{5}{16}$	$1\frac{3}{16}$	$\frac{5}{8}$	$\frac{5}{16}$	17%	10%
2,5&6	G1,G2	$\frac{5}{8}$	1	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{5}{16}$	1	$\frac{5}{8}$	21%	10%

DEAD LOAD DEFLECTION ORDINATES

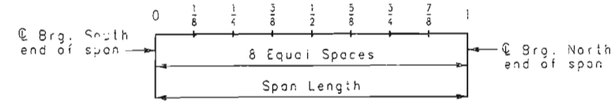


TABLE OF HAUNCH HEIGHTS - "Y"										
LOCATION		0	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
SPAN 2	G1	$1\frac{3}{4}$	$2\frac{3}{8}$	$2\frac{7}{8}$	$3\frac{3}{16}$	$3\frac{3}{8}$	$3\frac{1}{4}$	$2\frac{15}{16}$	$2\frac{7}{16}$	$1\frac{3}{4}$
	G2	$2\frac{11}{16}$	$3\frac{5}{16}$	$3\frac{13}{16}$	$4\frac{1}{8}$	$4\frac{5}{16}$	$4\frac{3}{16}$	$3\frac{7}{8}$	$3\frac{5}{8}$	$2\frac{11}{16}$
SPANS 3 & 4	B1	$1\frac{3}{4}$	$2\frac{1}{8}$	$2\frac{1}{2}$	$2\frac{11}{16}$	$2\frac{13}{16}$	$2\frac{11}{16}$	$2\frac{1}{2}$	$2\frac{1}{8}$	$1\frac{3}{4}$
	B2	$2\frac{11}{16}$	$3\frac{1}{16}$	$3\frac{7}{16}$	$3\frac{5}{8}$	$3\frac{5}{4}$	$3\frac{5}{8}$	$3\frac{7}{16}$	$3\frac{1}{16}$	$2\frac{11}{16}$
SPANS 5 & 6	G1	$1\frac{3}{4}$	$2\frac{7}{16}$	3	$3\frac{5}{16}$	$3\frac{1}{2}$	$3\frac{5}{16}$	3	$2\frac{7}{16}$	$1\frac{3}{4}$
	G2	$2\frac{11}{16}$	$3\frac{5}{8}$	$3\frac{15}{16}$	$4\frac{1}{4}$	$4\frac{7}{16}$	$4\frac{1}{4}$	$3\frac{15}{16}$	$3\frac{5}{8}$	$2\frac{11}{16}$
POINT		0	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1				
SPANS 1&15	B1	$1\frac{3}{4}$	$1\frac{15}{16}$	$2\frac{1}{16}$	$1\frac{15}{16}$	$1\frac{3}{4}$				
	B2	$2\frac{11}{16}$	$2\frac{7}{8}$	3	$2\frac{7}{8}$	$2\frac{11}{16}$				

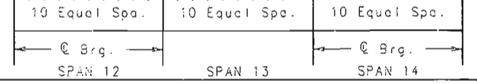
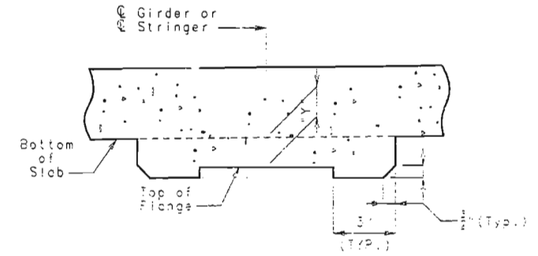
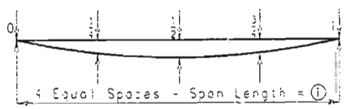


TABLE OF HAUNCH HEIGHTS - "Y"												
POINT		0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
SPAN 12	B1	3	$3\frac{5}{8}$	$4\frac{1}{8}$	$4\frac{1}{2}$	$4\frac{3}{4}$	$4\frac{5}{8}$	$4\frac{1}{2}$	$4\frac{1}{8}$	$3\frac{3}{4}$	$3\frac{5}{16}$	3
	B2	$3\frac{15}{16}$	$4\frac{1}{2}$	$4\frac{15}{16}$	$5\frac{1}{4}$	$5\frac{1}{2}$	$5\frac{3}{8}$	$5\frac{1}{4}$	$4\frac{15}{16}$	$4\frac{5}{8}$	$4\frac{5}{16}$	$3\frac{15}{16}$
SPAN 13	B1	3	$2\frac{7}{8}$	$2\frac{7}{8}$	3	$3\frac{3}{16}$	$3\frac{3}{16}$	$3\frac{3}{16}$	3	$2\frac{7}{8}$	$2\frac{7}{8}$	3
	B2	$3\frac{15}{16}$	$3\frac{13}{16}$	$3\frac{13}{16}$	$3\frac{15}{16}$	$4\frac{1}{16}$	$4\frac{1}{8}$	$4\frac{1}{16}$	$3\frac{15}{16}$	$3\frac{13}{16}$	$3\frac{13}{16}$	$3\frac{15}{16}$
SPAN 14	B1	3	$3\frac{5}{16}$	$3\frac{3}{4}$	$4\frac{1}{16}$	$4\frac{1}{2}$	$4\frac{5}{8}$	$4\frac{11}{16}$	$4\frac{1}{2}$	$4\frac{1}{8}$	$3\frac{5}{8}$	3
	B2	$3\frac{15}{16}$	$4\frac{3}{16}$	$4\frac{5}{8}$	$4\frac{15}{16}$	$5\frac{1}{4}$	$5\frac{3}{8}$	$5\frac{1}{2}$	$5\frac{1}{4}$	$4\frac{15}{16}$	$4\frac{1}{2}$	$3\frac{15}{16}$

Note: "Y" is measured to top of beam flange, not top of cover plate.



PART SECTION THRU SLAB SHOWING HAUNCH "Y"



POINTS		0	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	P
TRUSS SPANS 7&11	S1	0	$1\frac{5}{16}$	$2\frac{7}{8}$	$1\frac{5}{16}$	0	13%
	S2	0	$1\frac{13}{16}$	$1\frac{5}{16}$	$1\frac{15}{16}$	0	11%
TRUSS SPANS 8,9&10	S1	0	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{4}$	0	10%
	S2	0	$\frac{7}{8}$	$1\frac{1}{8}$	$\frac{7}{8}$	0	11%

DEAD LOAD DEFLECTION ORDINATES

① FOR TRUSS SPANS 7,11
FOR TRUSS SPANS 8,9&10

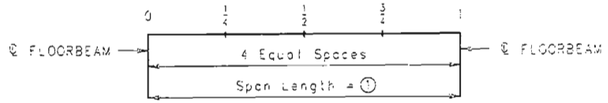
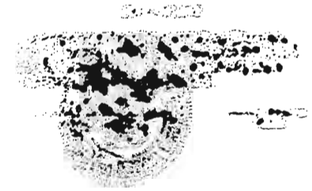


TABLE OF HAUNCH HEIGHTS-"Y"						
LOCATION		0	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1
TRUSS SPANS 7&11	S1	$\frac{3}{4}$	$2\frac{1}{16}$	$2\frac{5}{8}$	$2\frac{1}{16}$	$\frac{3}{4}$
	S2	$\frac{3}{4}$	$1\frac{11}{16}$	$2\frac{1}{16}$	$1\frac{11}{16}$	$\frac{3}{4}$
TRUSS SPANS 8,9&10	S1	$\frac{1}{2}$	2	$2\frac{1}{2}$	2	$\frac{1}{2}$
	S2	$\frac{1}{2}$	$1\frac{5}{8}$	2	$1\frac{5}{8}$	$\frac{1}{2}$

FINAL PLANS

I HEREBY CERTIFY THAT THIS DRAWING REFLECTS THE AS CONSTRUCTED CONFIGURATION OF THE BRIDGE AND APPROACHES



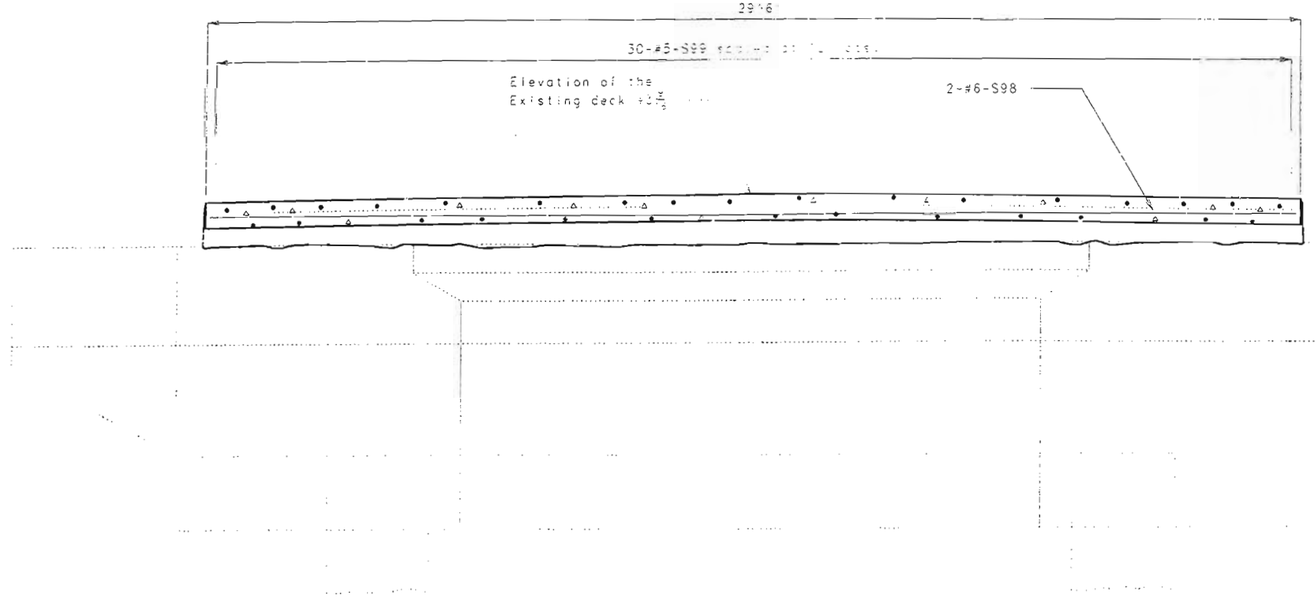
DEAD LOAD DEFLECTION AND HAUNCHING

DETAILED MAY 1998
CHECKED JULY 1998

NOTE: THIS DRAWING IS NOT TO SCALE FOLLOW DIMENSIONS.

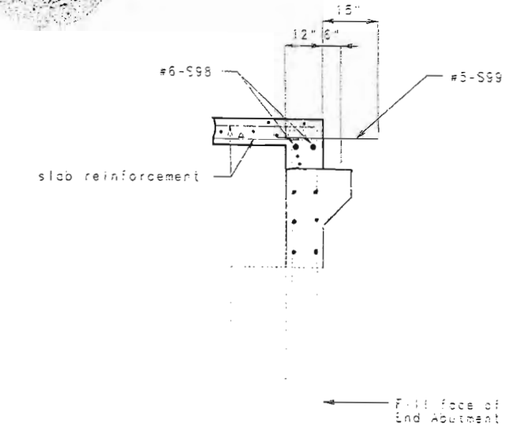
PLATTE COUNTY A450R1

STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3312(415)	17

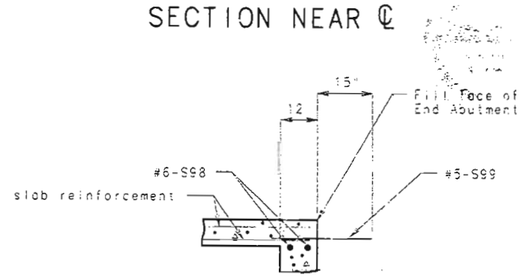


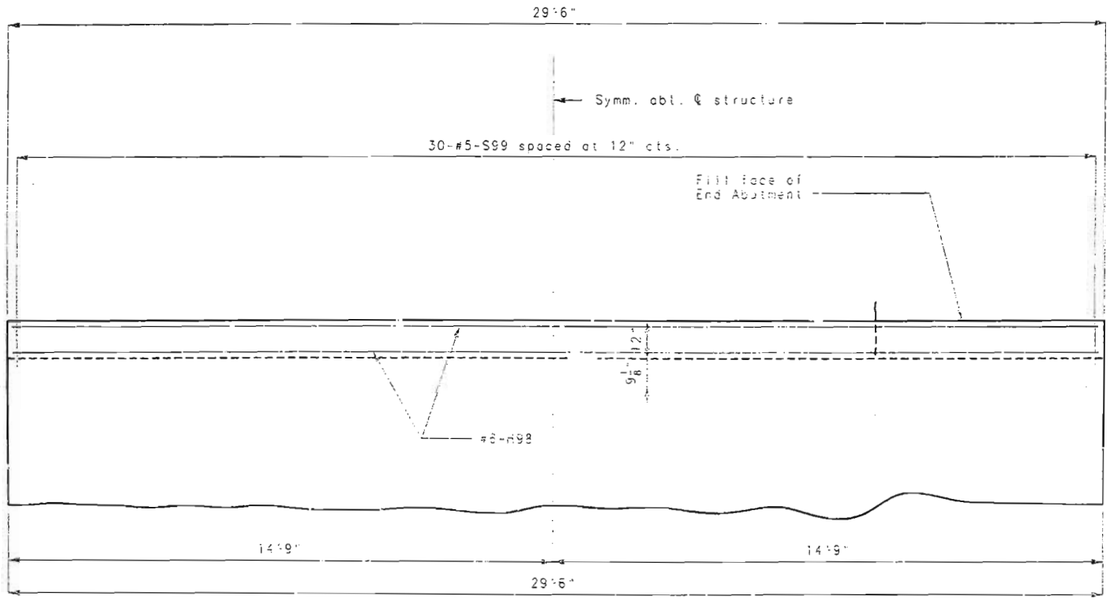
ELEVATION

Note: For location of existing "permissible" const. joint see sheet no. 4 of 13 on plans of existing bridge substructure .



SECTION NEAR ℄





PLAN

SECTION W-W

Note: Existing vertical reinforcing bars shall be cleanly stripped and reused in place.

For slab reinforcement not shown, see [illegible] no.15 and no.33 .

The cost of excavation and concrete [illegible] shall be included in the price bid for Portland Cement Concrete Substructure Concrete (Lump Sum) .

DETAILS OF END ABUTMENTS NO.1 AND NO.16

DETAILED MAY 1996
CHECKED JULY 1996

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

PLATTE COUNTY A450R1

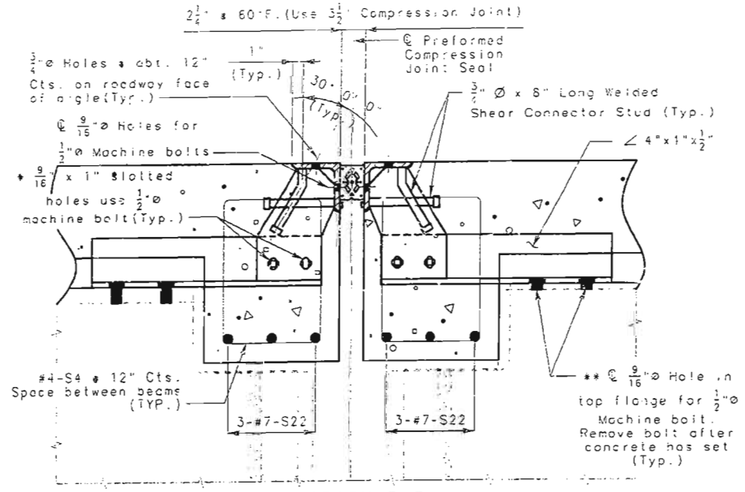
336

STATE	PROJ. NO.	SHEET NO.
NO.	ACSTP-ACBRS-3312(415)	18

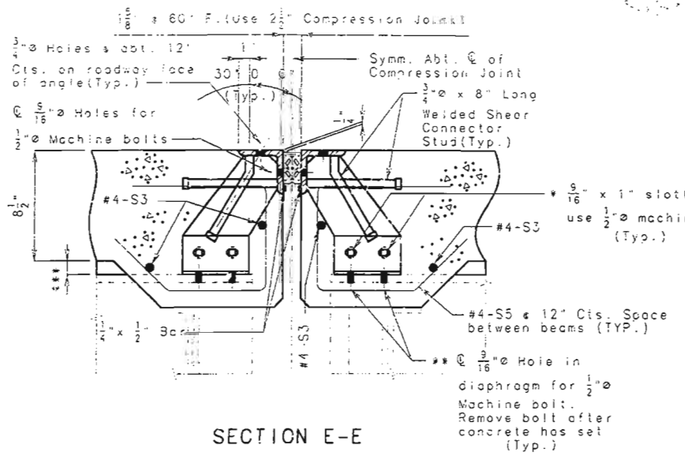
▸ { Vertically slotted holes in 5/16" ℄ (Typ.)
{ Horizontally slotted holes in vert. leg of angle (Typ.)
{ See detail "B" on sheet No. 8.

** Field drill holes in existing top flange to match holes in horizontal leg of angle.

*** See sheet No. 5 for haunching heights.

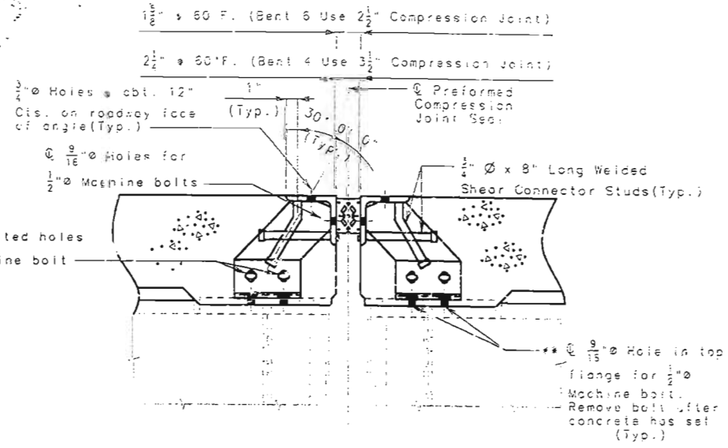


SECTION D-D



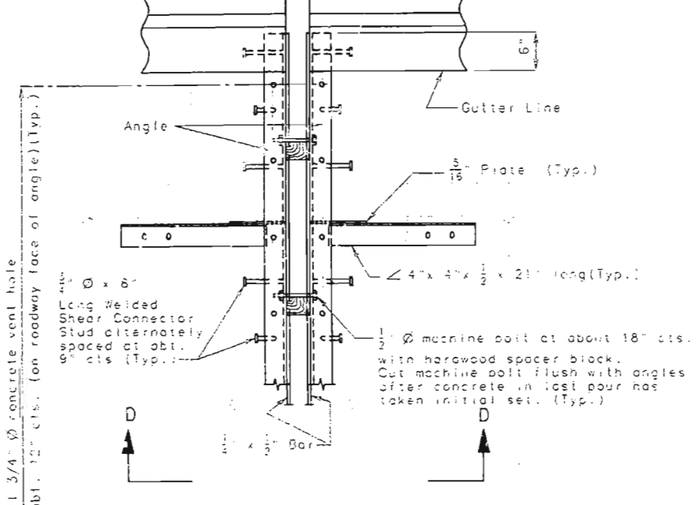
SECTION E-E

Center compression joint between ℄ bearings.

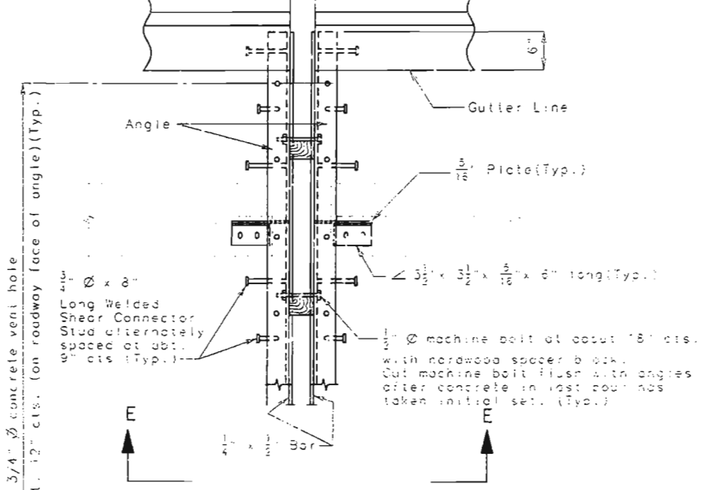


SECTION F-F

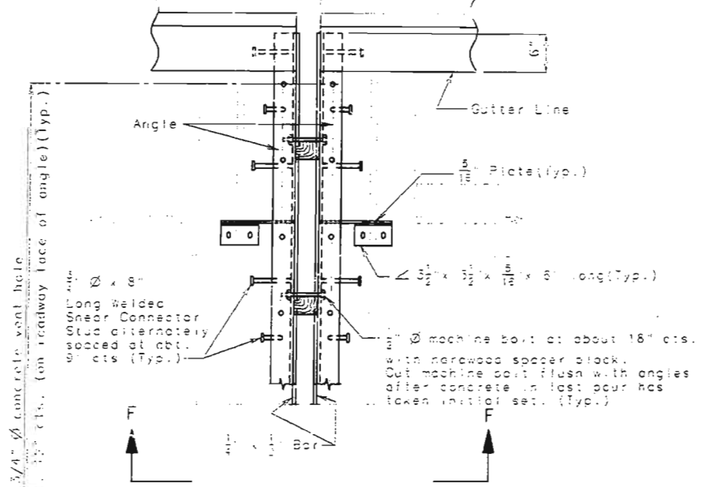
I SAT THIS DRAWING ACCU... THE CONFIGURATION AND I... ...APPURTE... ...ON THIS PROJECT.



PART PLAN
(BENTS 2 & 15)



PART PLAN
(BENTS 3 & 5)



PART PLAN
(BENTS 4 & 6)

Note: For general notes for preformed compression joints, see sheet No. 8.

DETAILS OF PREFORMED COMPRESSION JOINT SEALS

DETAILED MAY 1996
CHECKED JULY 1996

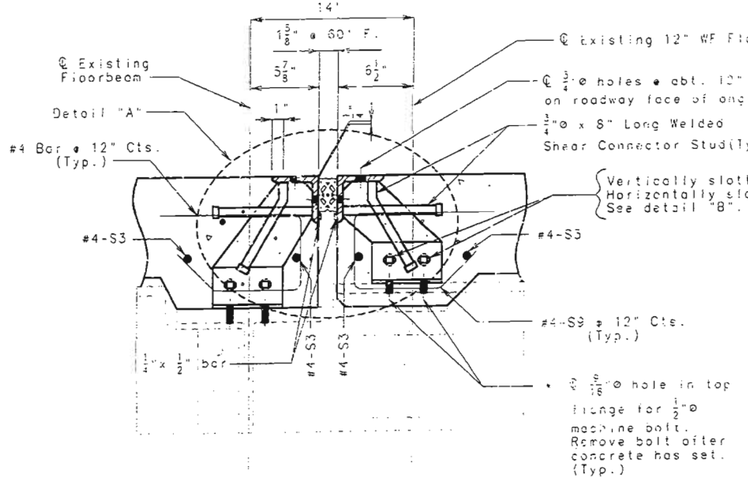
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 7 OF 50

PLATTE COUNTY A450R1

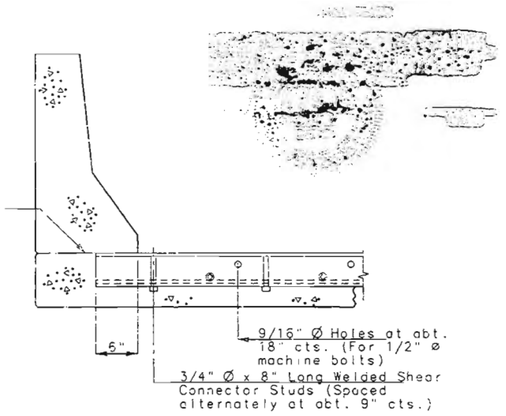
337

STATE	PROJ. NO.	SHEET NO.
WO.	ACSTP-ACBRS-3312(415)	19



PART SECTION C-C

* Field drill holes in existing diaphragms to match holes in horizontal leg of angle.



PART SECTION A-A

GENERAL NOTES:

Structural steel for expansion device shall be fabricated in one section, except for stage construction and when the length is over 50', a complete joint penetration grove welded splice is permissible.

The expansion device shall be bent to conform to crown and grade of roadway.

Material for the expansion device shall be (ASTM A709 GRADE 36 STRUCTURAL STEEL).

Plan dimensions are based on installation at 60°F.

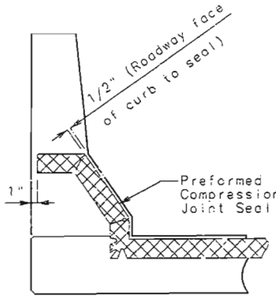
Dimension ① shall be increased ③ for each 10° fall in temperature and decreased ③ for each 10° rise in temperature at installation.

See Special Provisions for the requirements of compression joint seal.

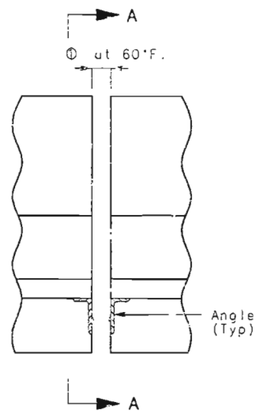
Structural steel for the expansion device and curb plate shall be painted with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Furnishing, coating or galvanizing, and installing the structural steel armored joint shall be included in contract unit price for preformed compression expansion joint seal.

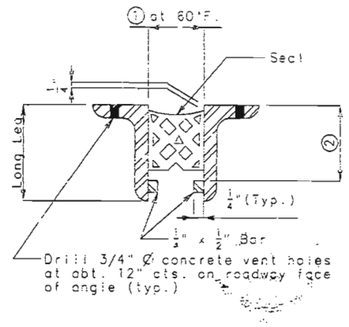
Neoprene extrusions shall meet A.S.T.M. D3542.



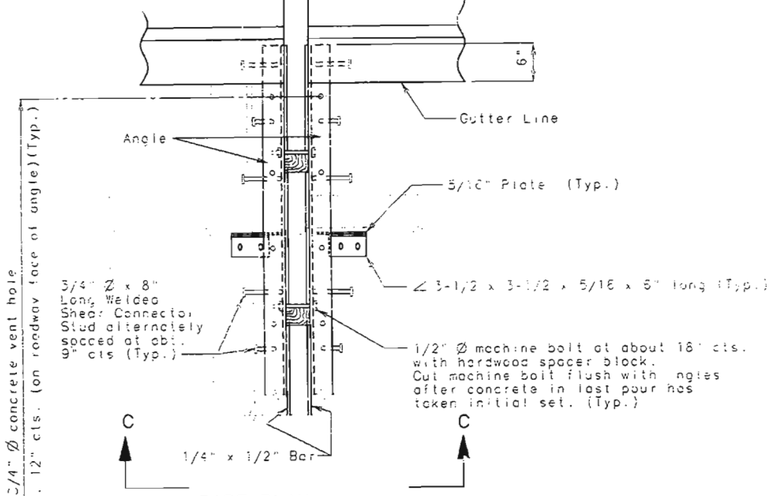
PART SECTION THRU JOINT SEAL



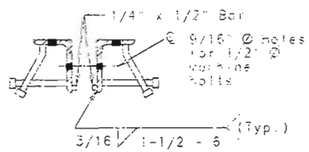
PART ELEVATION OF CURB



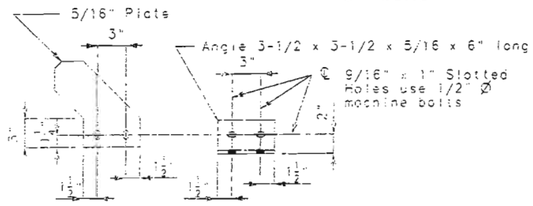
PART CROSS SECTION THRU EXPANSION JOINT



PART PLAN
(TRUSS SPAN COMPRESSION JOINTS)
CONT. SPAN TRUSS PANEL POINTS L4,L4', L8,L8',L12,L12',L16,L16',L19' & L22
SIMPLE SPANS TRUSS PANEL POINTS L5.



DETAIL "A"



DETAIL "B"

For Details of compression joints at bents 2,3,4,5,6 & 15. See sheet No. 7.

TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS			
Seal (Width)	①	②	Required Movement Range
2.5"	1-5/8"	Manufacturer's Recommended Height	0.9"
3.5"	2-1/4"	Manufacturer's Recommended Height	1.3"

Note: Depth of seal shall not be less than width of seal.
③ ½" @ Panel points L5, ¼" @ all other locations.

SIZE OF ARMOR JOINT

Vertical leg of angle shall be a minimum of ② + 3/4". 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 the dimensions for the armor angles shall be shown on the shop drawings.

Concrete shall be forced under armor angle and around studs by trowelling or other approved methods for proper consolidation and anchorage.

FINAL PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE BOLTS AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

SIGNATURE

DATE

DETAILS OF PREFORMED COMPRESSION JOINT SEALS

DETAILED MAY 1996
CHECKED JULY 1996

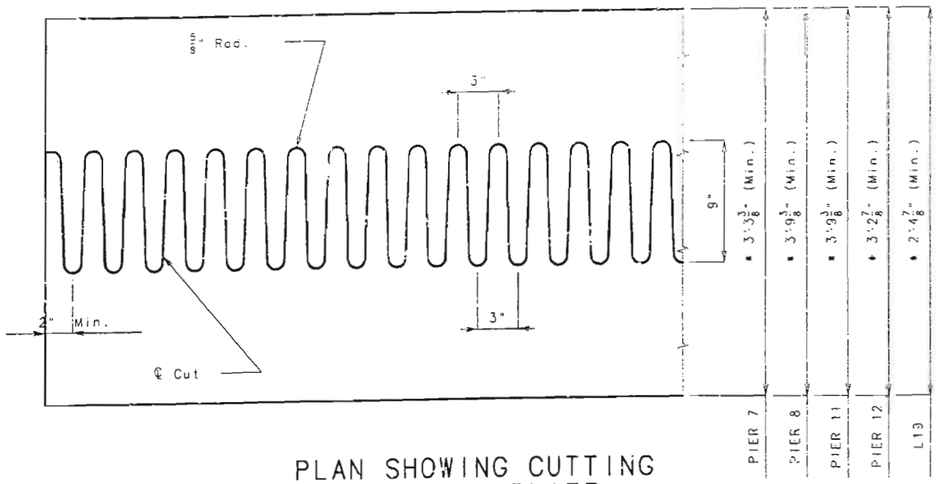
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 8 OF 60

PLATTE COUNTY A450R1

3,338

STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3312(415)	20



* Includes allowance for 3/8" cut width.

PLAN SHOWING CUTTING OF FINGER PLATE

General Notes:

Finger plates shall be cut with a machine guided gas torch from one plate. The plate from which fingers are cut may be spliced before fingers are cut. The surface of cut shall be perpendicular to the surface of the plate. The cut shall not exceed 1/8" in width. The centerline of cut shall not deviate more than 1/16" from the position of centerline or cut shown. No splicing of finger plate or finger plate assembly will be allowed after fingers are cut.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased 3/8" for each 10°F fall in temperature and increased 3/8" for each 10°F rise in temperature at installation.

Structural steel for the expansion device and curb plate shall be painted with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanize in accordance with ASTM A123. Anchors need not be protected from overspray.

Payment for furnishing, coating or galvanizing, and installing structural steel for the expansion device will be made at the contract unit price for expansion device (Finger plate) per lin. ft.

All holes shown for connections to be subpunched 11/16" Ø and reamed to 13/16" Ø in field.

1-1/2" and 1-3/4" Finger Plate and Pc. W14 x 43 shall be bent to conform to crown of roadway.

Longitudinal reinforcing steel shall be placed so that ends shall not be more than 1" from web of Pc. W14 x 43 at expansion device.

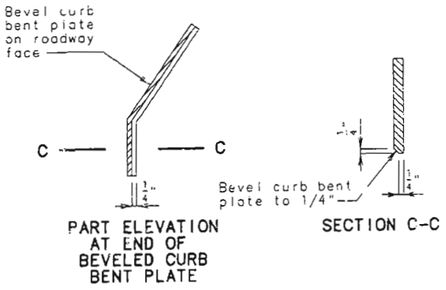
Material for the expansion device shall be ASTM A709, GRADE 36 structural steel, except that material for the finger plate & support ℄ shall be ASTM A709 GRADE 50 structural steel.

Concrete shall be forced under and around finger plate supporting hardware, studs, angles and bars by troweling or other approved methods for proper consolidation and anchorage.

FINAL

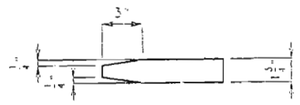
I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND DIMENSIONS OF THE ROADWAY AND APPURTENANCES CONSTRUCTED ON THIS PROJECT.

4-18-99

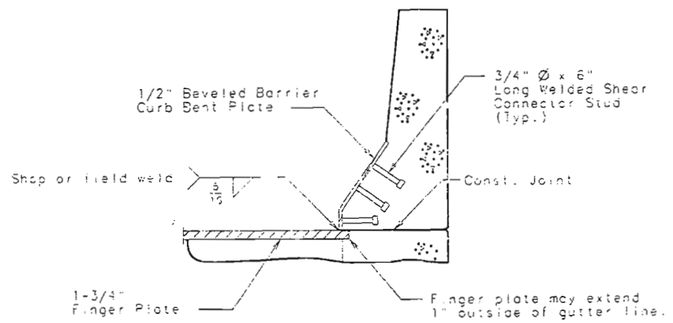


PART ELEVATION AT END OF BEVELED CURB BENT PLATE

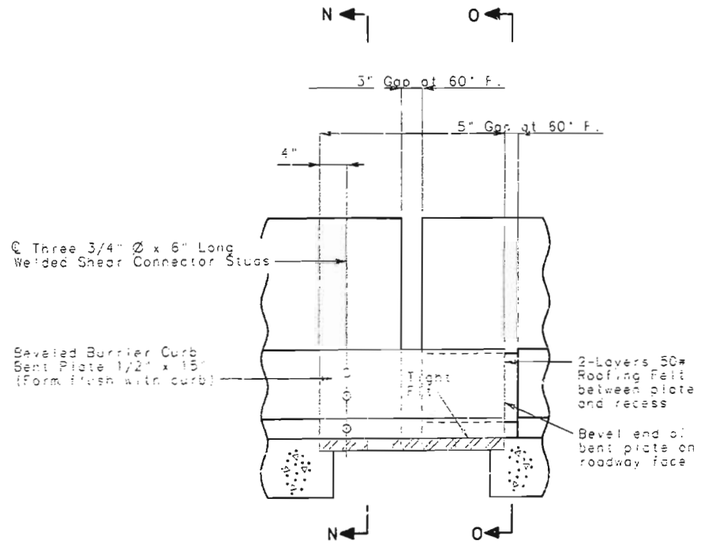
SECTION C-C



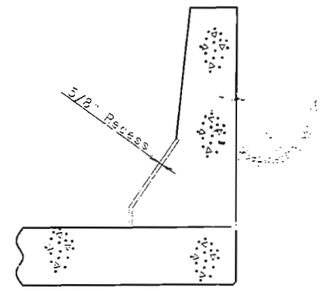
FINGER DETAIL



PART SECTION N-N



ELEVATION OF BARRIER CURB



PART SECTION O-O

DETAILS OF FINGER PLATE EXPANSION DEVICES

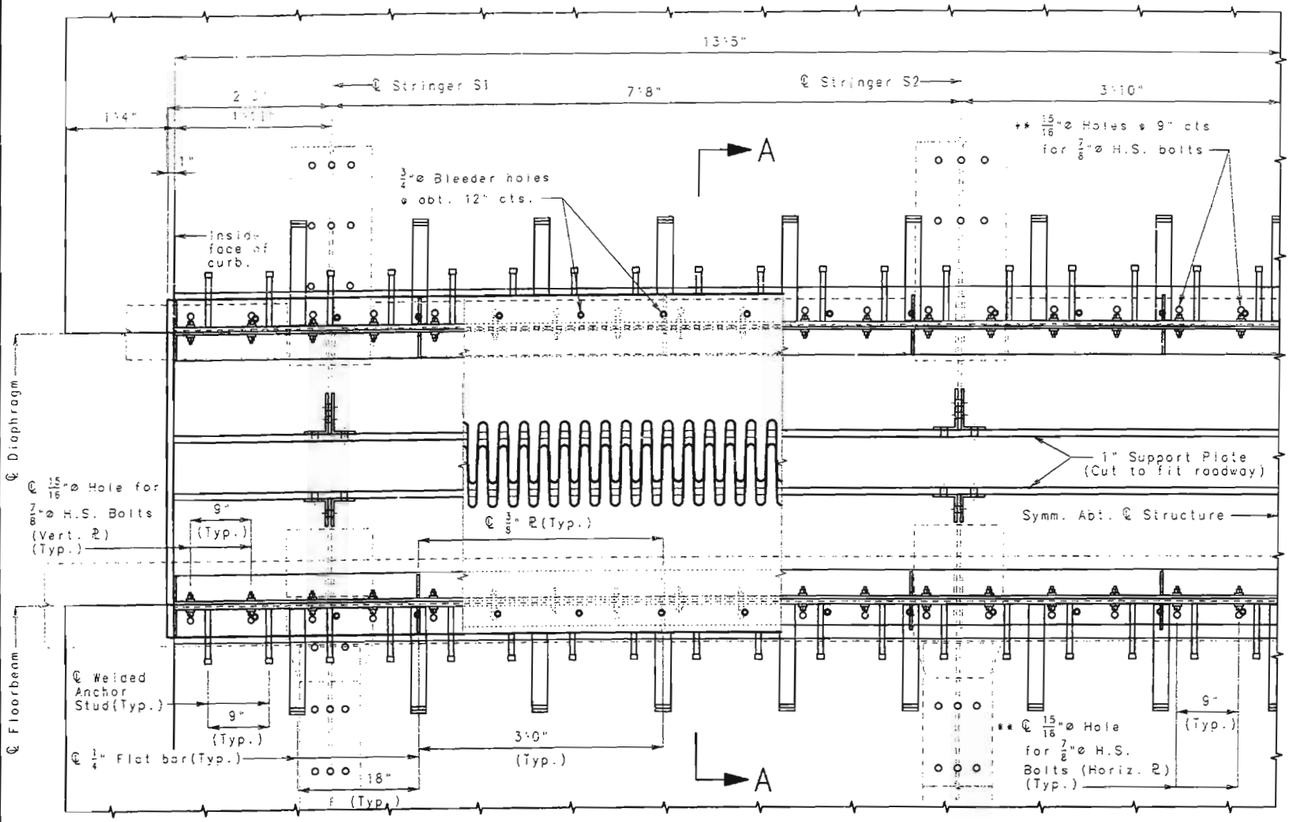
DETAILED JAN. 1996
CHECKED JUNE 1996

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

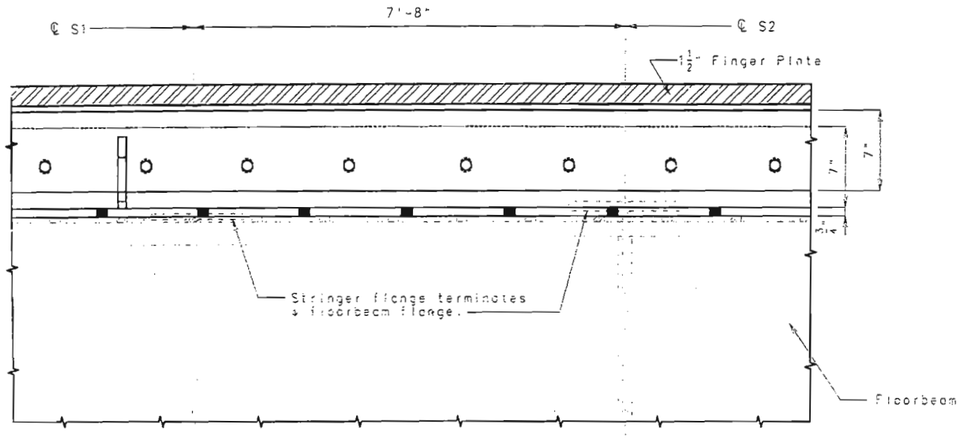
SHEET NO. 9 OF 50

PLATTE COUNTY A450R1

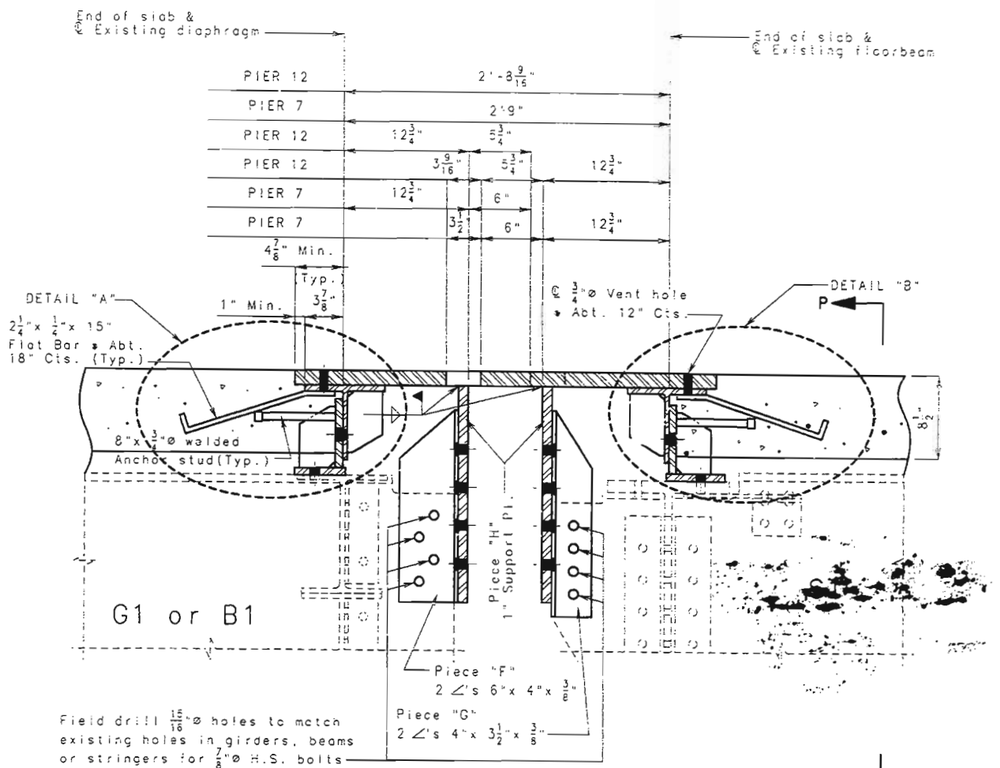
STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3312(415)	21



HALF PLAN VIEW



SECTION P-P



SECTION A-A

I CERTIFY THAT THIS DRAWING ... REFLECTS THE CONFIGURATION AND ... OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.
4-16-96

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased 5/16" for each 10°F fall in temperature and increased 5/16" for each 10°F rise in temperature at installation.

1-1/2" Finger Plate and Pc. M14 x 43 shall be bent to conform to crown of roadway.

** Space between existing holes in diaphragms or floorbeams.

For Details and related pieces, see sheet No. 11.

FINGER PLATE EXPANSION DEVICE @ PIERS 7 & 12

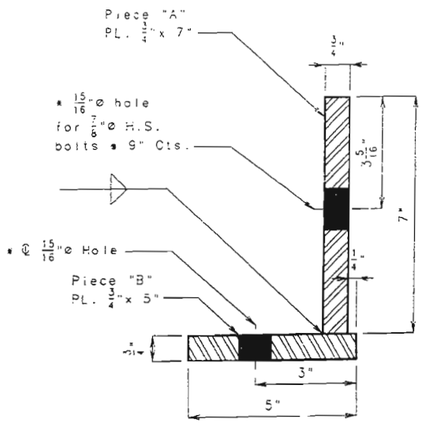
340

DETAILED JAN. 1996
CHECKED JUNE 1996

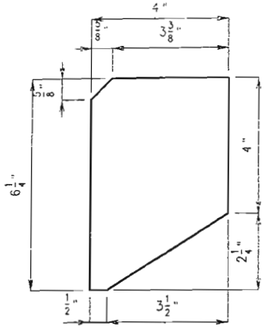
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

PLATTE COUNTY A450R1

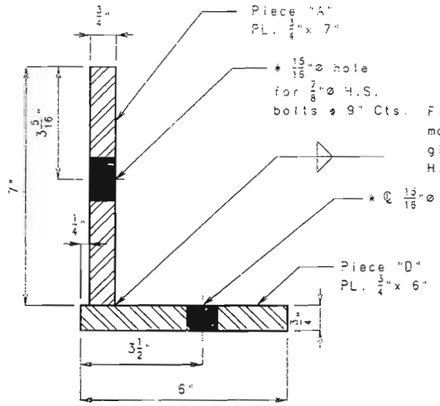
STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-33i2(415)	22



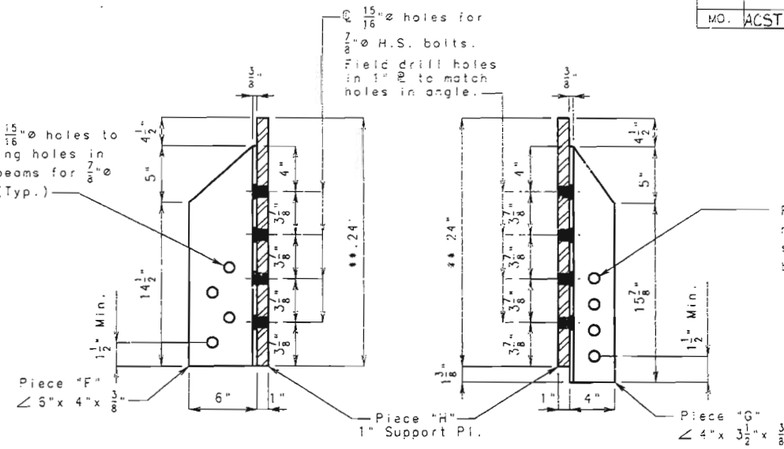
PIECE "A" & "B"



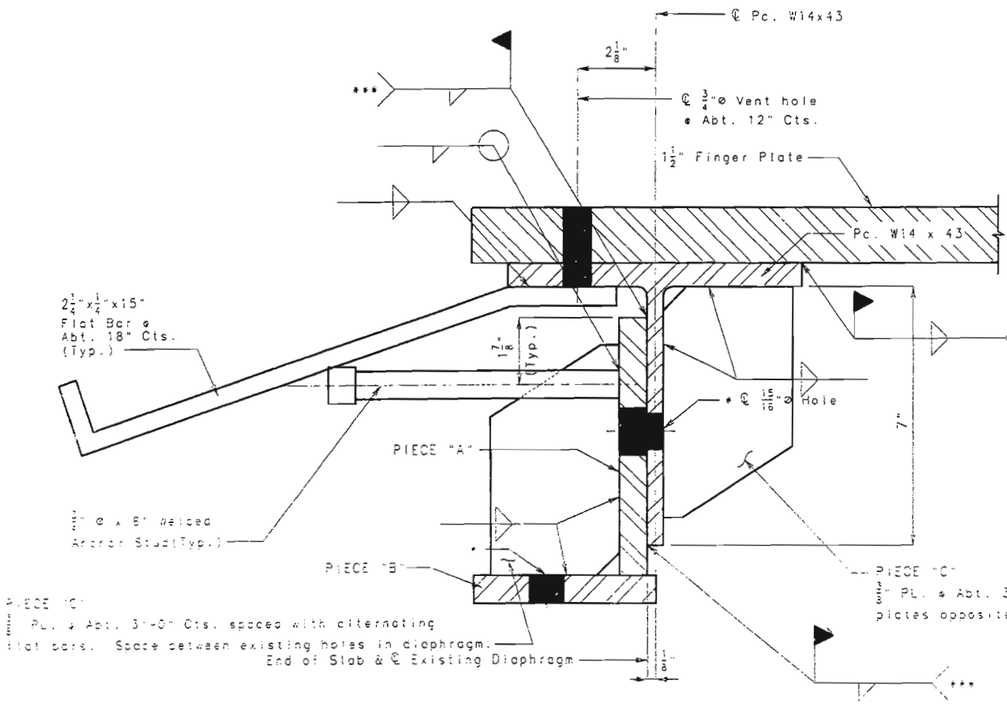
PIECE "C"



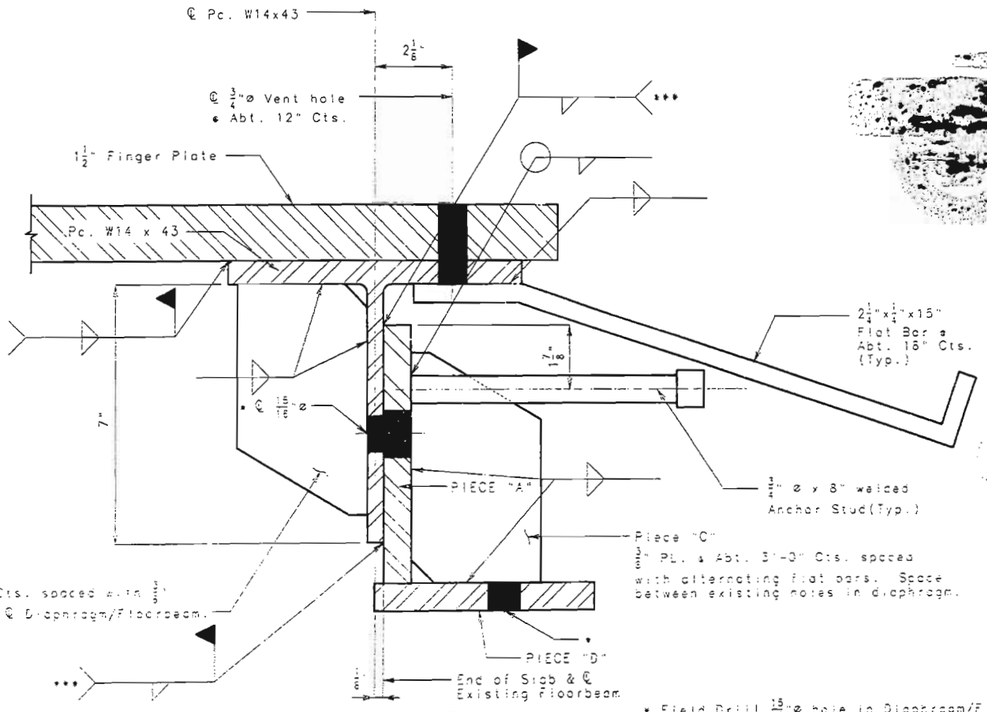
PIECE "A" & "D"



PIECE "F" & "H" PIECE "G" & "H"



DETAIL "A"



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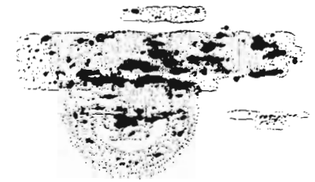


* Field Drill 15/16"ø hole in Diaphragm/Floorbeam or Pc. W14x43 for 7/8"ø H.S. bolts @ 9" Cts. Space between existing holes or slots in diaphragms or floorbeams.

** Top of Piece "H" shall be cut to conform to slope of roadway. If bottom of Piece "H" is not cut to conform to crown of roadway, then the dimension will vary.

*** Weld in all accessible areas after final vertical adjustments have been made and has been approved by the engineer.

All welding shall be in accordance with STD. SPEC. 712.

For locations of details & related pieces, See Sheet No. 10

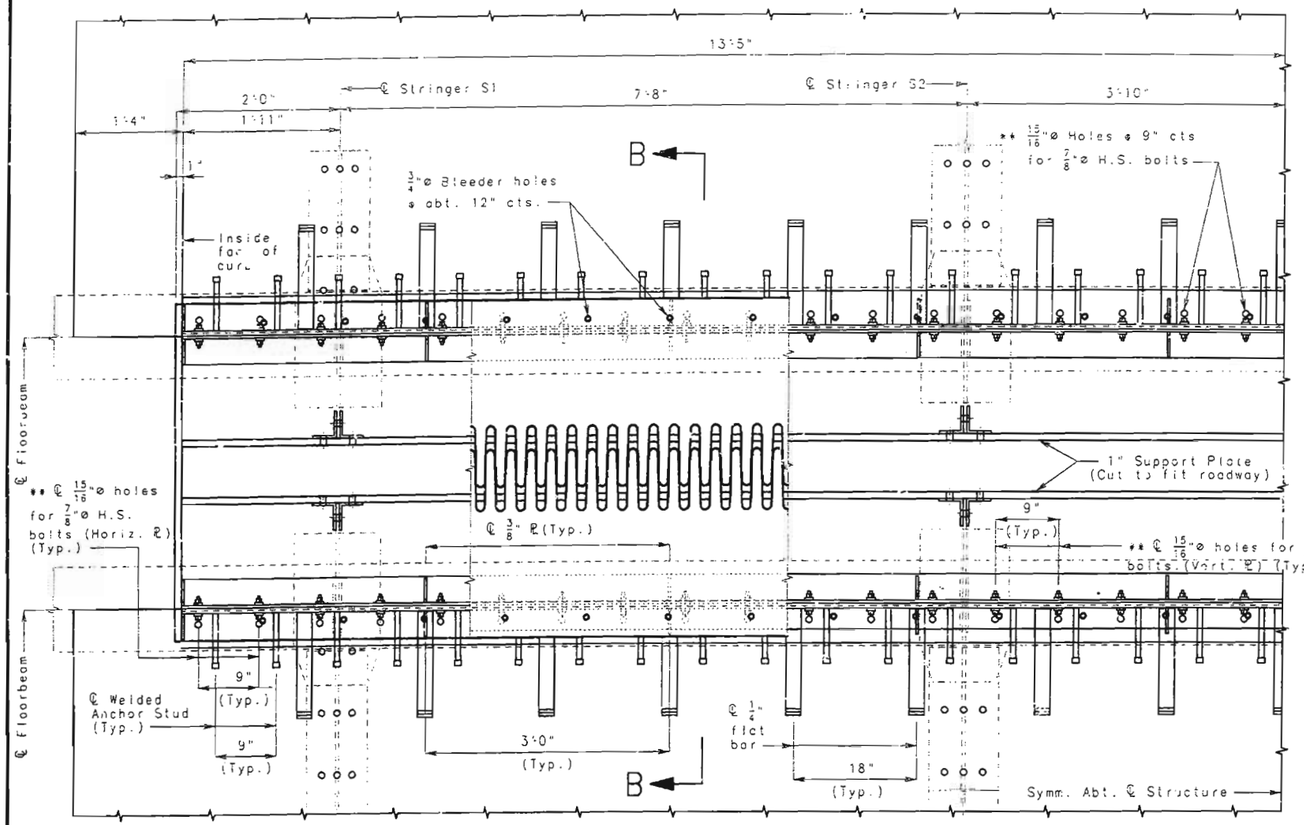
DETAILS OF FINGER PLATE @ PIERS 7 & 12.

DETAILED JAN. 1995
CHECKED JUNE 1995

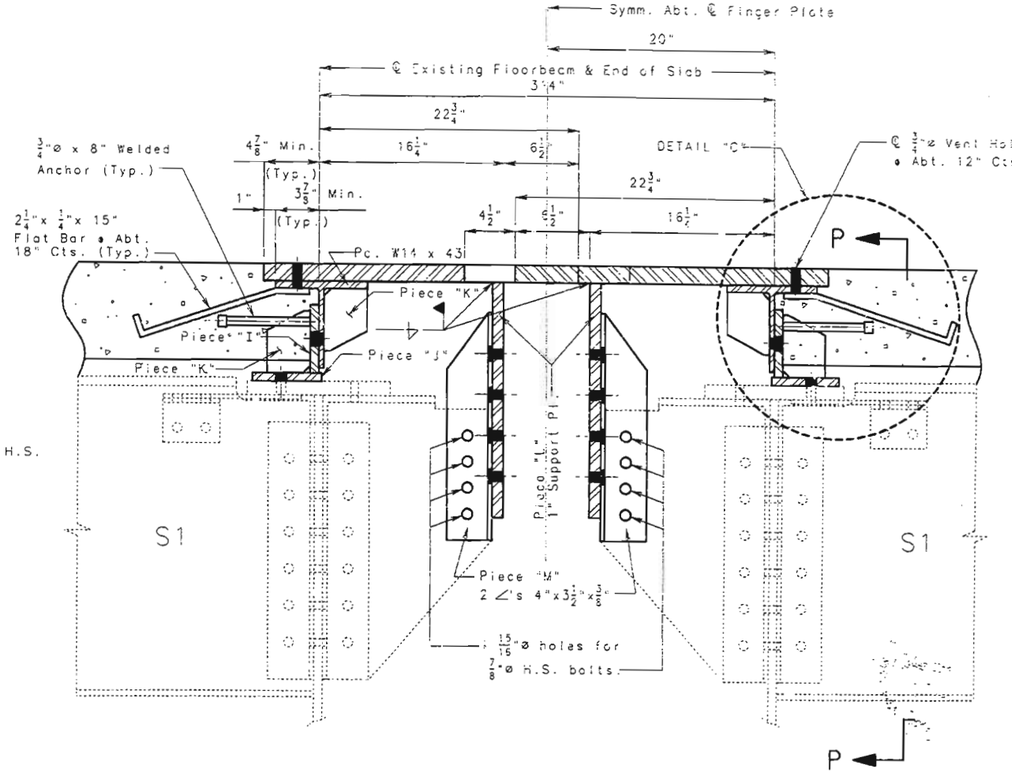
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

PLATTE COUNTY A450R1

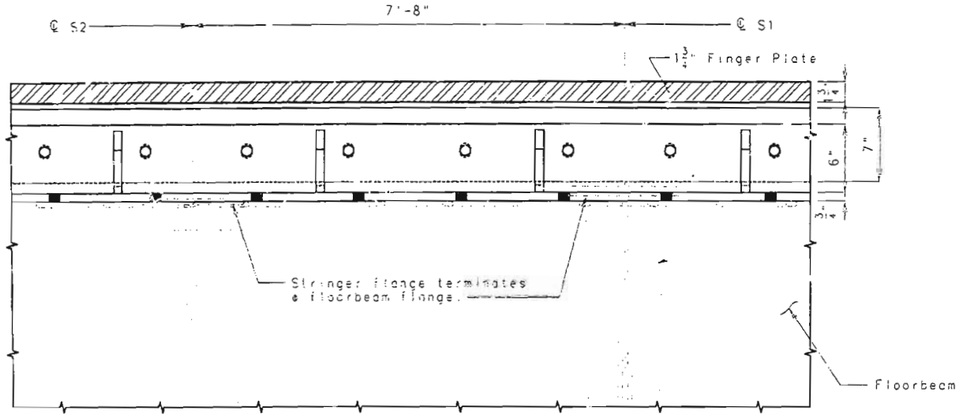
STATE	PROJ. NO.	SHEET NO.
MT	ACSTP-ACBRS-3312(415)	23



HALF PLAN VIEW



SECTION B-B



SECTION P-P

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased 5/16" for each 10°F fall in temperature and increased 5/16" for each 10°F rise in temperature at installation.

1-3/4" Finger Plate and Pc. W14 x 43 shall be bent to conform to crown of roadway.

* Field drill 15/16"ø hole in piece "M" to match existing hole in stringer for 7/8"ø H.S. bolts.

** Space between existing holes in floorbeams.

For details and related pieces, See Sheet No. 13.

FINGER PLATE EXPANSION DEVICE @ PIERS 8 & 11

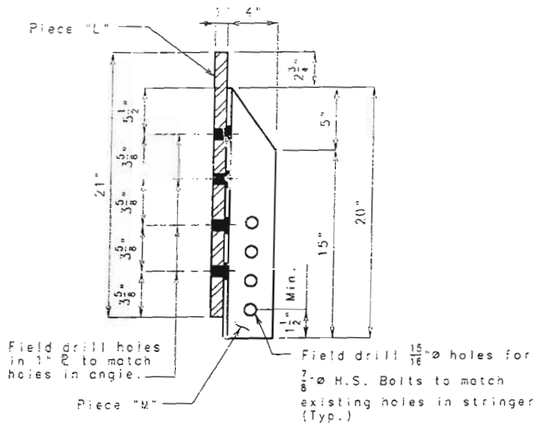
DETAILED JAN. 1996
CHECKED JULY 1996

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

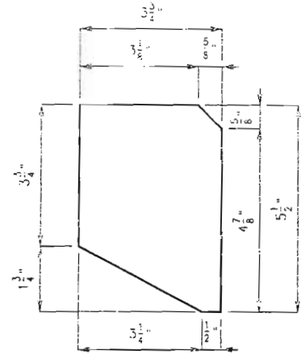
SHEET NO. 12 OF 50

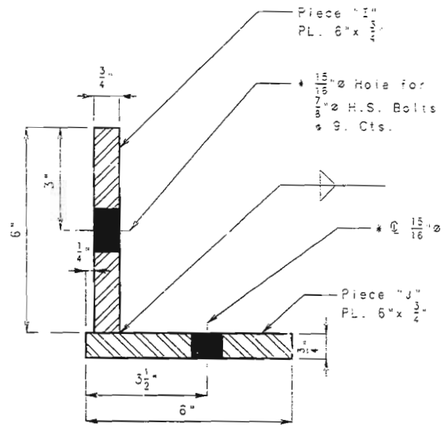
PLATTE COUNTY A450R1

STATE	PROJ. NO.	SHEET NO.
MO.	A(STP-ACBRS-3312(415)	24

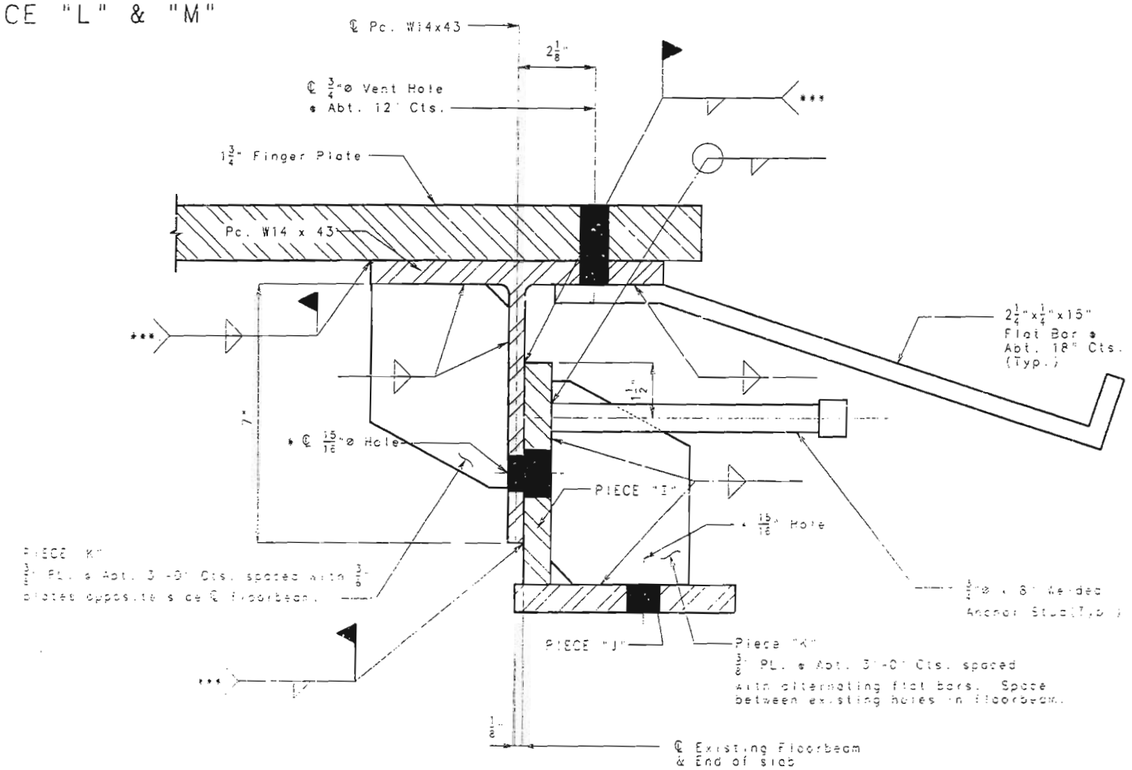


PIECE "L" & "M"





PIECE "I" & "J"



DETAIL "C"

* Field drill 15/16"ø hole in Pc. W14x43 or existing floorbeam to match holes in piece "I" or "J" for 7/8"ø H.S. bolts @ 9" Cts. Space between existing slots in floorbeam..

*** Weld in all accessible areas after final vertical adjustments have been made and has been approved by the engineer.

All welding shall be in accordance with STD. SPEC. 712.

For locations of details and related pieces, See Sheet No. 12.

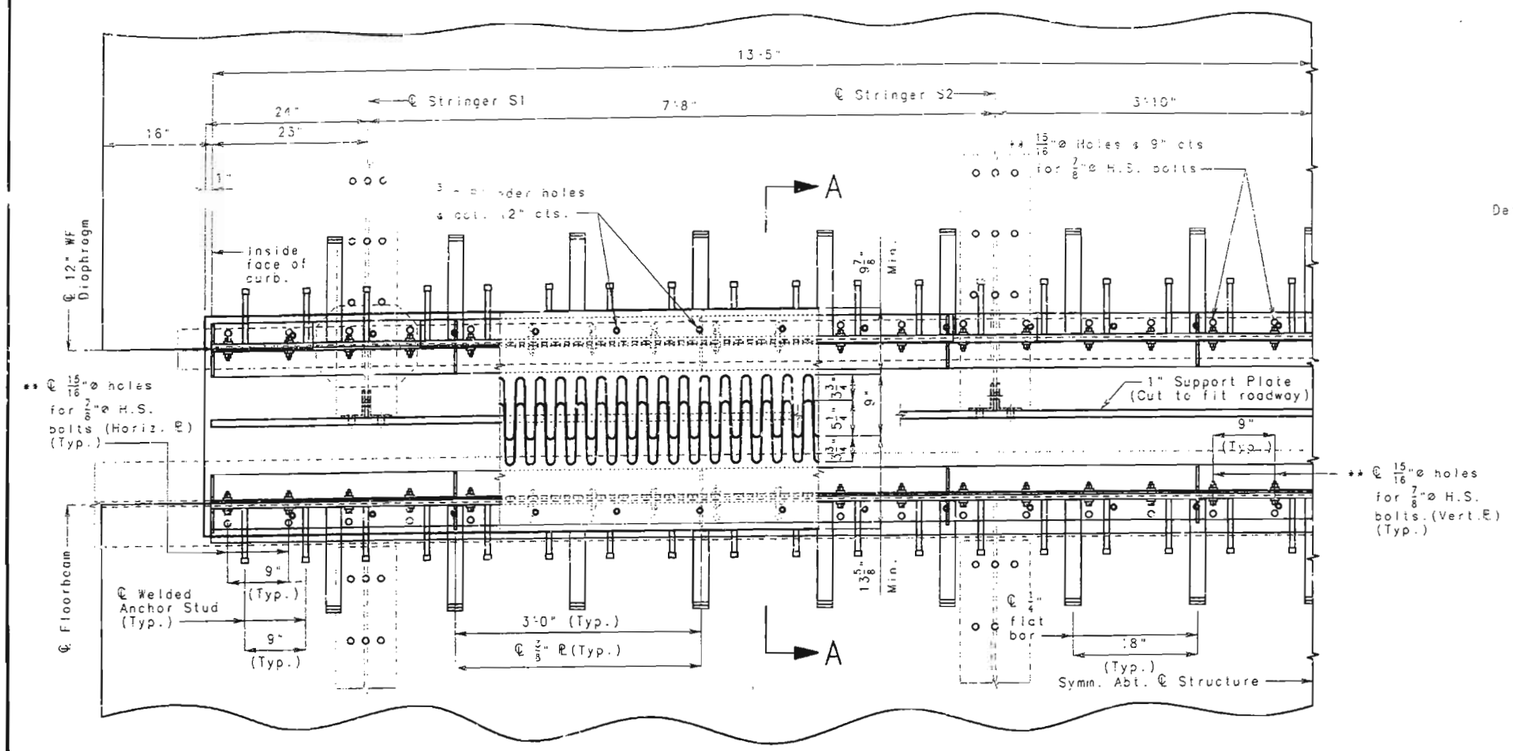
FINGER PLATE EXPANSION DEVICE @ PIERS 8 & 11

DETAILED JAN. 1996
CHECKED JULY 1995

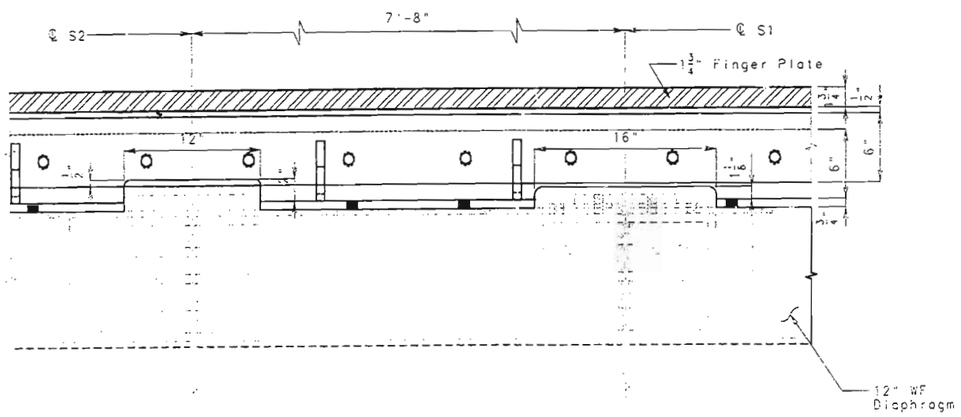
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

PLATTE COUNTY A450R1

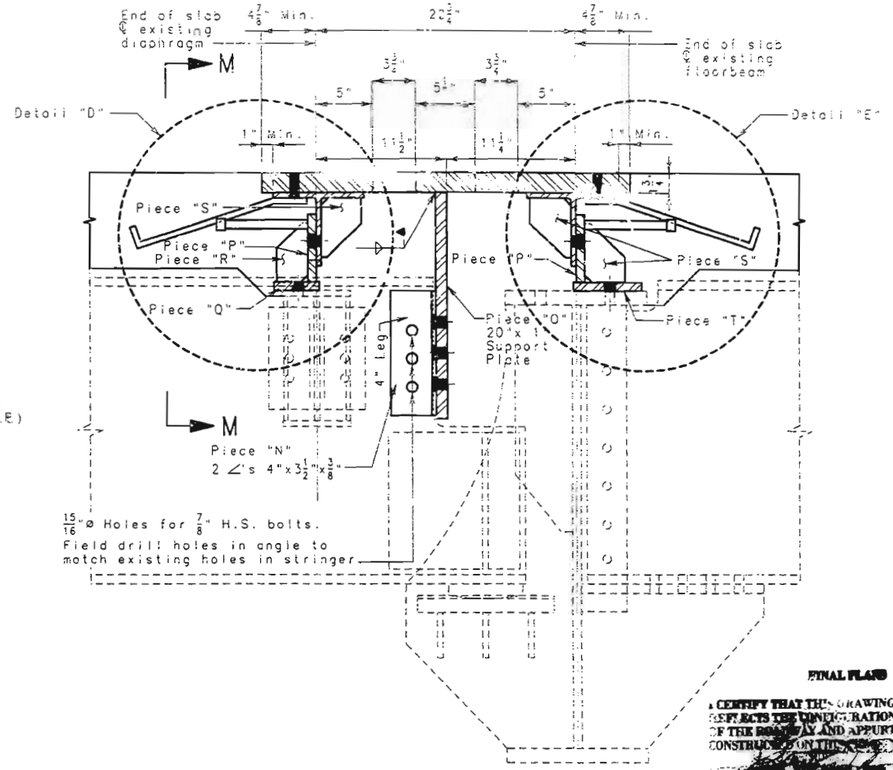
STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-33'2(915)	25



HALF PLAN VIEW



SECTION M-M



SECTION A-A

FINAL PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

SIGNATURE _____ DATE _____

Notes:

Concrete shall be forced under and around finger plate supporting hardware, studs, angles and bars by troweling or other approved methods for proper consolidation and anchorage.

Plan dimensions are based on installation at 50°F. The expansion gap and other dimensions shall be increased 3/8" for each 10°F fall in temperature and increased 3/8" for each 10°F rise in temperature at installation.

Structural steel for the expansion device and curb, shall be painted with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with AS™ A123. Anchors need not be protected from overspray.

1-3/4" Finger Plate and Pc. W14 x 43 shall be bent to conform to crown of roadway.

For details and related pieces, see sheet No. 15.

** Space between existing holes in diaphragms or floor beam.

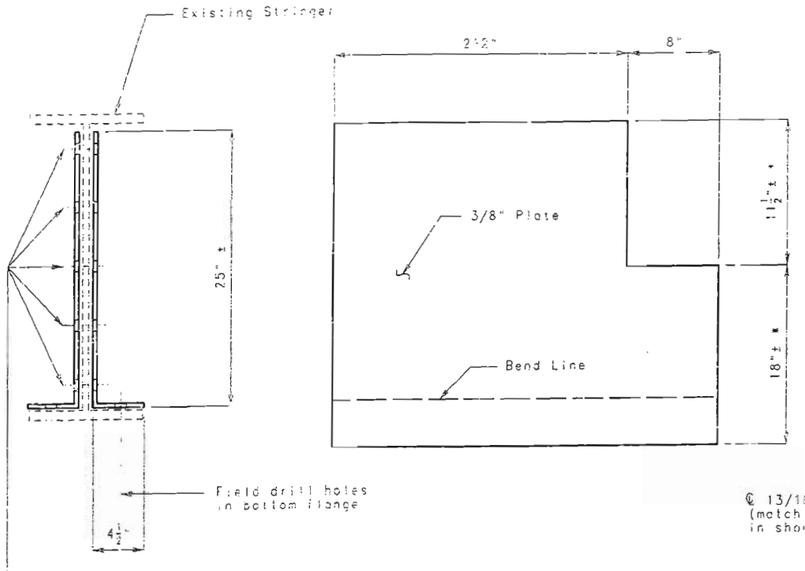
FINGER PLATE EXPANSION DEVICE @ L19

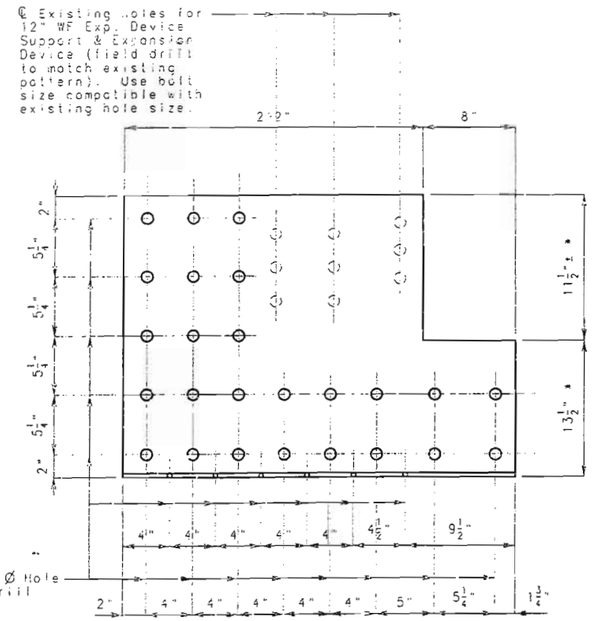
DETAILED JAN. 1996
CHECKED JULY 1996

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

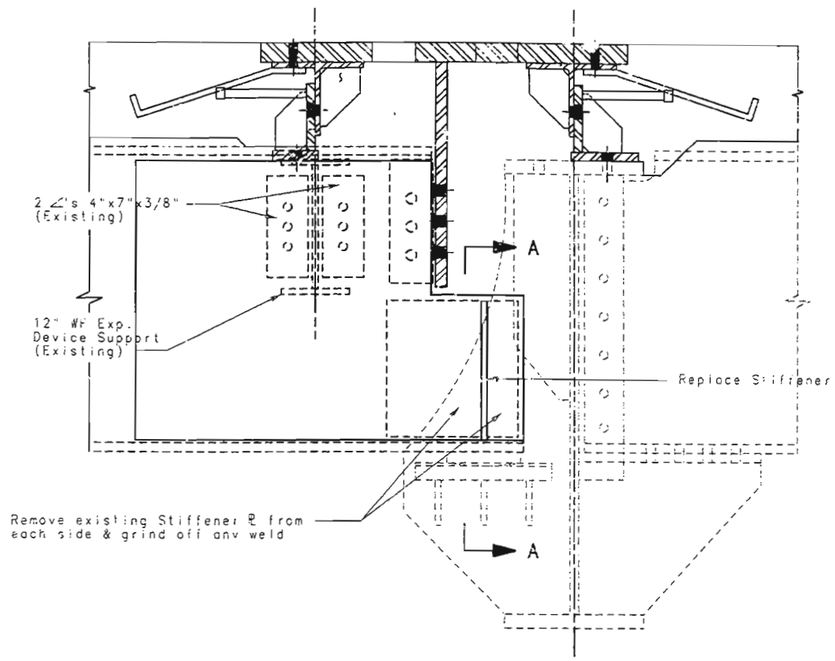
PLATTE COUNTY A450R1

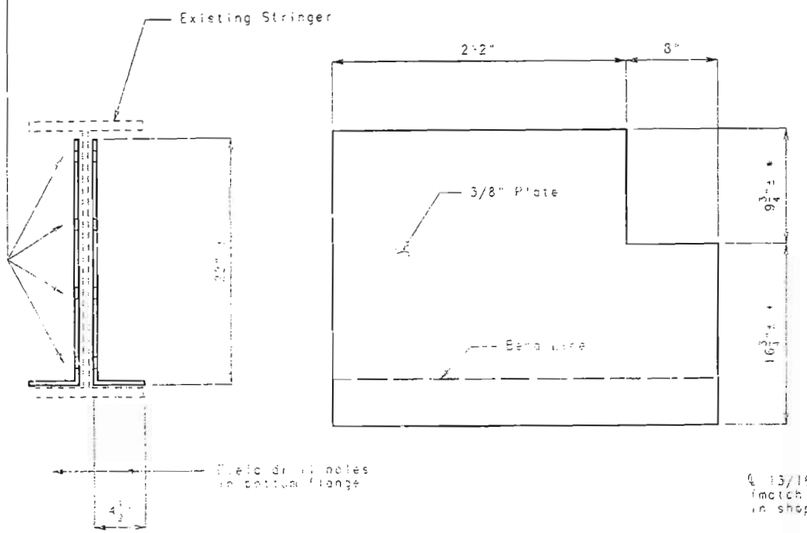
STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3312(415)	25 A

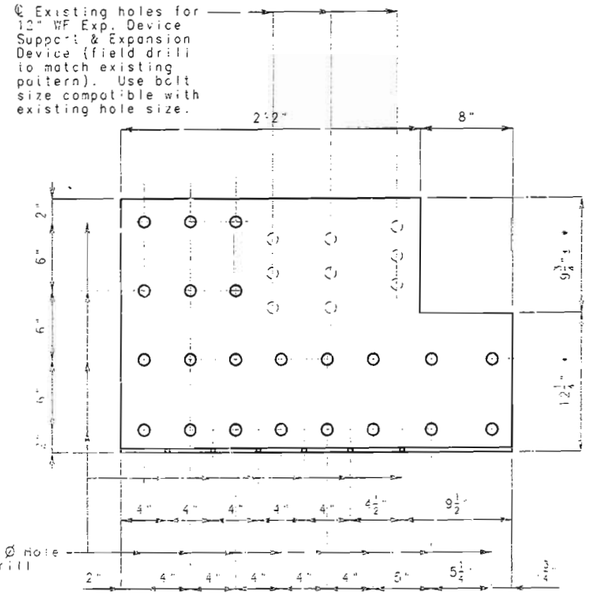




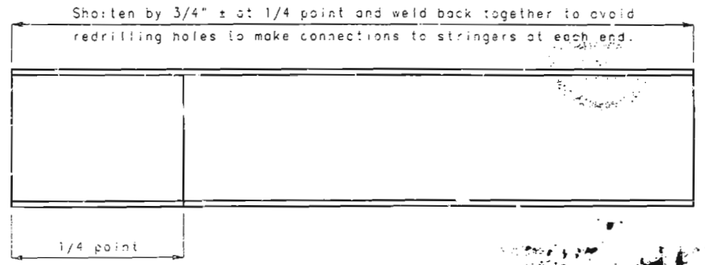
FOR INTERIOR STRINGERS (27 WF 102)
(2 PAIR REQUIRED)



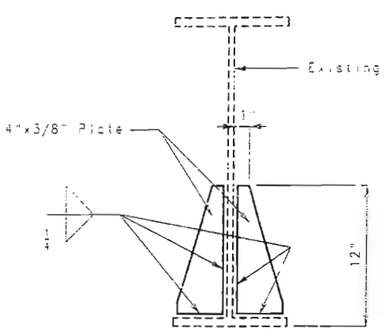




FOR EXTERIOR STRINGERS (24 WF 84)
(2 PAIR REQUIRED)



ELEVATION OF 12 WF EXP. DEVICE SUPPORT



SECTION A-A

Fabricated structural steel shall be ASTM A709 Grade 36, except as noted.

The bent plates shall be bent in accordance with Standard Specification 712.3.3.13.

Field connections, high strength bolts 3/4 Ø, holes 13/16 Ø, except as noted.

Payment for repair work will be negotiated by resident engineer.

Dashed lines indicate existing structure. Solid lines indicated new work.

* Field verify dimension.

DETAILS OF STRINGER REPAIR AT L19

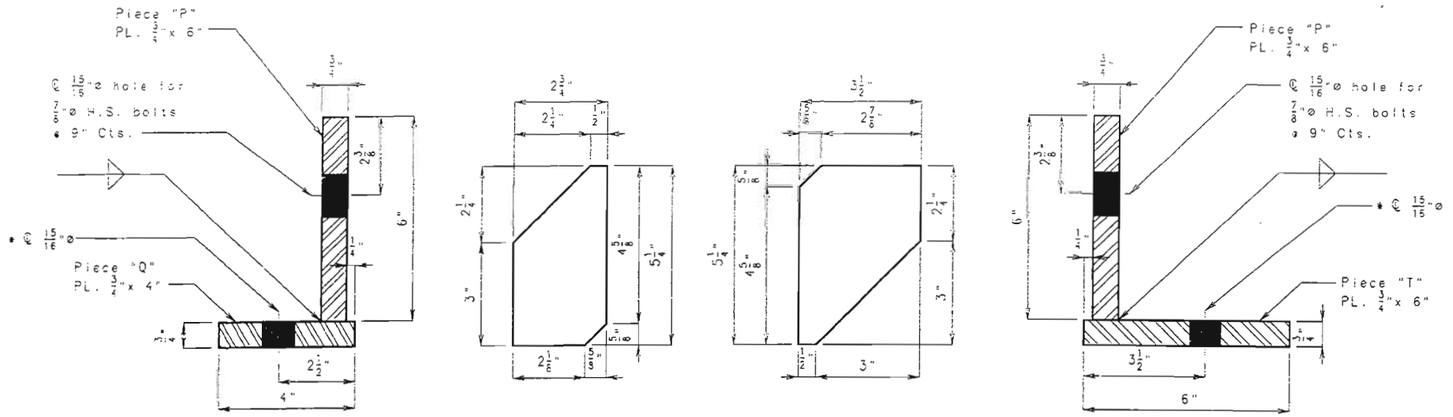
DETAILED JUNE 1997
CHECKED JUNE 1997

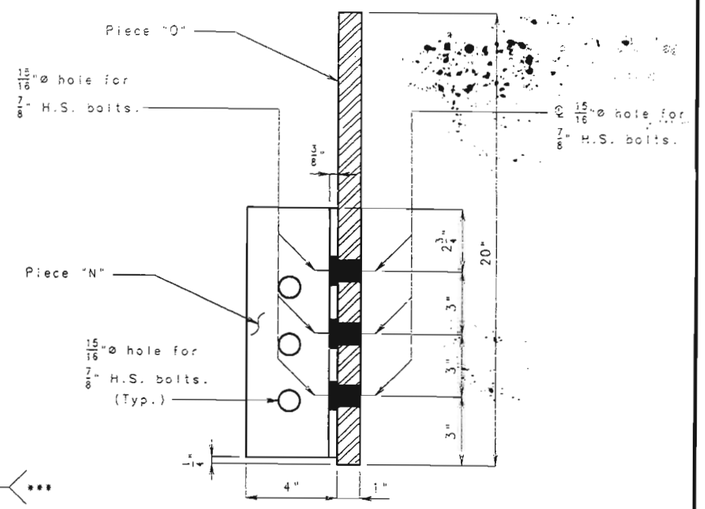
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

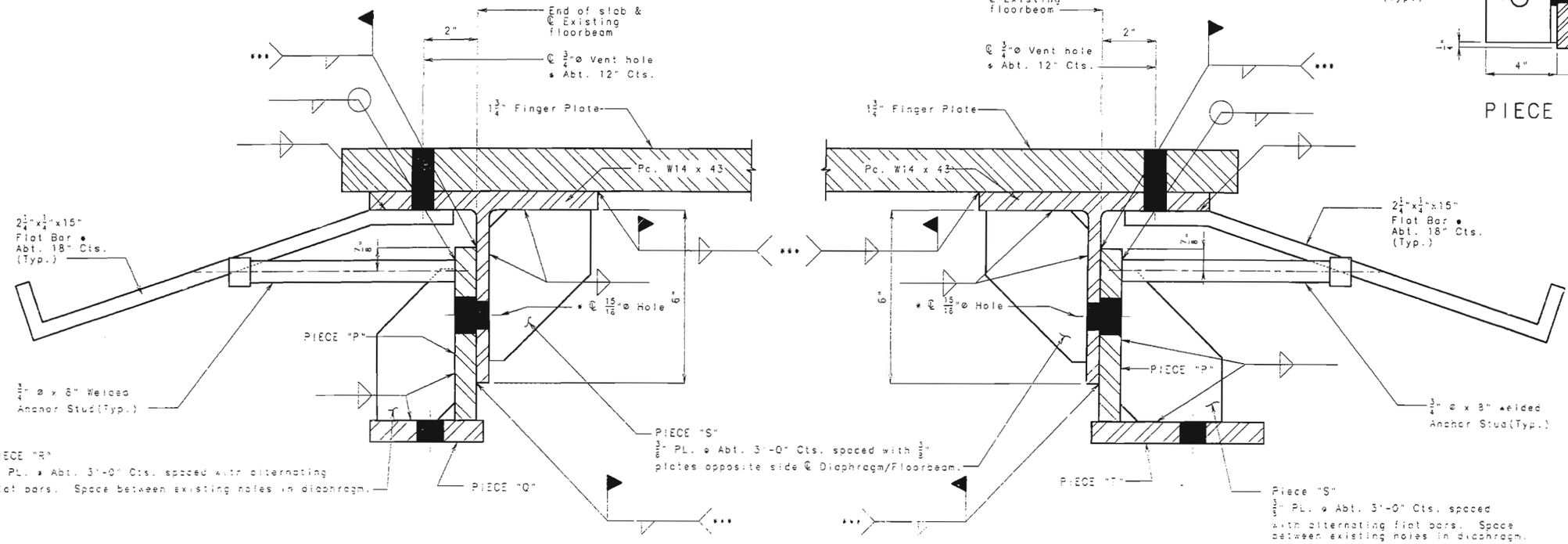
1 ADDED 7/1/97

PLATTE COUNTY A450R1

STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-AC8RS-3312(415)	26







FINAL PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND DETAILS OF BROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

* Field Drill 15/16"ø hole to match existing holes in Diaphragm/Floorbeam for 7/8"ø H.S. bolts.

*** Weld in all accessible areas after final vertical adjustments have been made and has been approved by the engineer.

All welding shall be in accordance with STD. SPEC. 712.

For locations of details & related pieces, See Sheet No. 14.

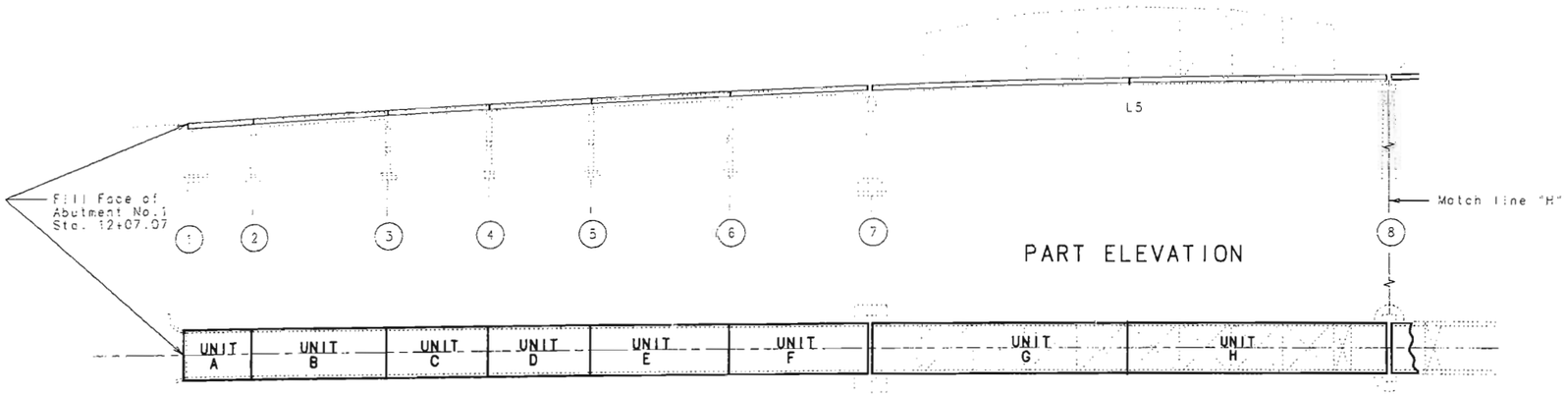
DETAILS OF L19 FINGER PLATE EXPANSION DEVICE

DETAILED JAN. 1996
CHECKED JULY 1995

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

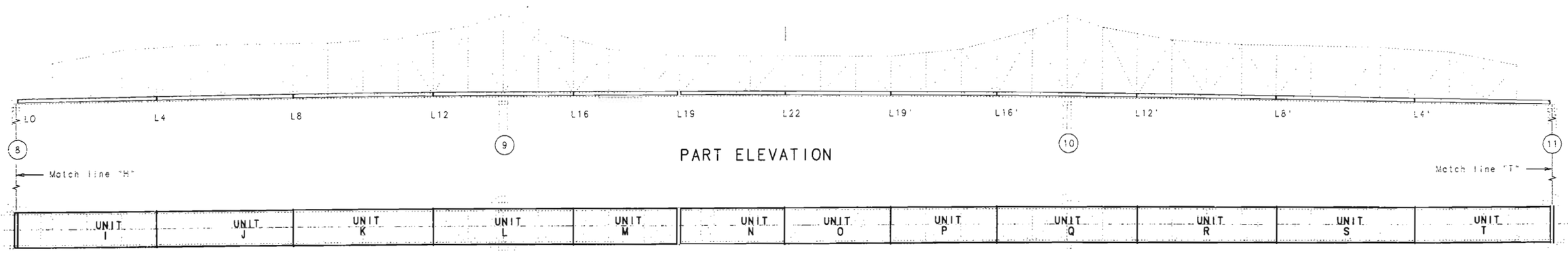
PLATTE COUNTY A450R1

STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3312(415)	27



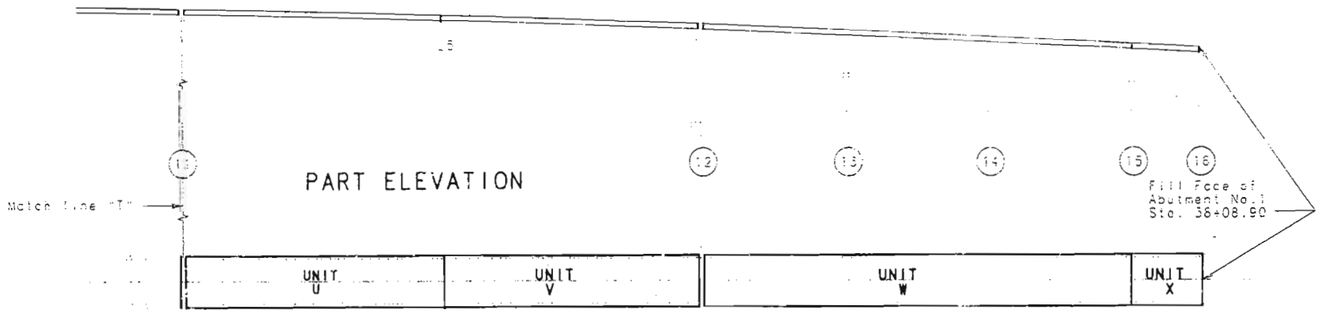
PART ELEVATION

PART PLAN



PART ELEVATION

PART PLAN



PART ELEVATION

PART PLAN

GENERAL NOTES FOR SLAB :

Longitudinal dimensions are taken from original construction plans and are measured along Profile Grade.

Preformed Compression Joint Seals in slab on Trusses are to be centered on existing filled joint locations.

Longitudinal reinforcing steel shall be placed so that ends shall not be more than 1"± from vertical armor at expansion device.

Haunches for the slab replacement were estimated by increasing original dead load deflection by the ratio of new slab weight to the existing slab weight and adding a constant 1-9/16"(3/4" minimum haunch plus 13/16" for the top flange thickness of stringers on trusses). The new slab grade is to be 3-9/16" above the existing grade (due to 2" increased slab thickness plus a 1-9/16" grade adjustment on the whole structure mentioned previously). Haunches given are from the top of the steel beams (not top of cover plates) to the bottom of the new slab.
Concrete in the slab haunches is included in the Estimated Quantities for Slab on Steel.

For location of slab drains see sheets no.34 and no.35 .

For Slab Pouring Sequence see sheet no. 17 .

LOCATION OF SLAB UNITS AND SLAB POURING SEQUENCE

FINAL PLANS

THIS DRAWING ACCURATELY
E CONFIGURATION AND LOCATIO
WAY AND APPURTENANCES AS
THIS PROJECT.

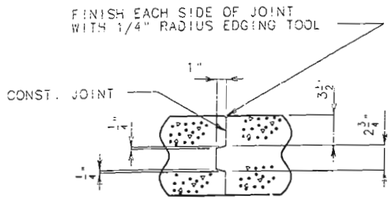
DETAILED MAY 1996
CHECKED JUNE 1996

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

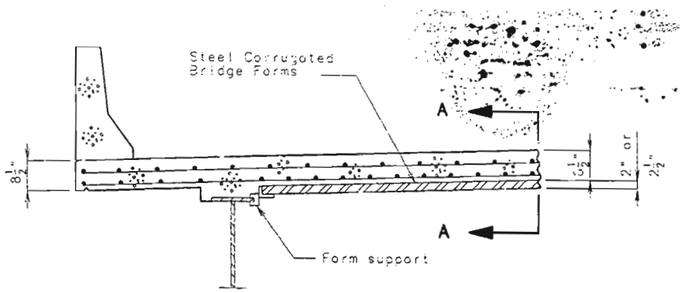
PLATTE COUNTY A450R1

347

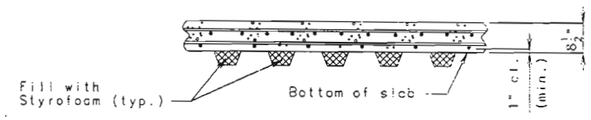
STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACRRS-3312(415)	28



DETAIL OF CONST. JT.
FOR CAST-IN-PLACE SLAB

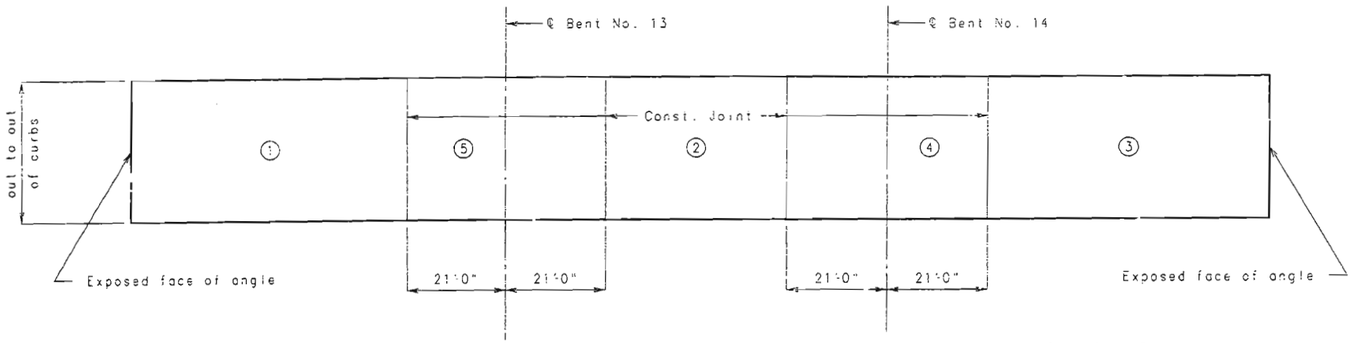


PART SECTION



SECTION A-A

DETAILS OF OPTIONAL STAY-IN-PLACE FORMS



PLAN OF SLAB UNIT W

	SEQUENCE OF POURS					MIN. RATE OF POUR CU. YDS./HR.	
	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	32	25
	END TO 5		1 TO 4		2 TO END		
ALTERNATE "B" POURS	1 + 5 + 2				4 + 3		
	END TO 4				2 TO END		
ALTERNATE "C" POURS	1 + 5 + 2 + 4 + 3						
	END TO END						

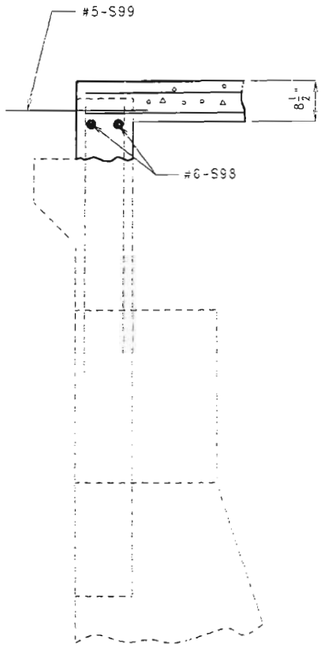
SLAB POURING SEQUENCE FOR SPANS (12-13),(13-14)&(14-15)
SLAB UNIT W

SEQUENCE OF CONSTRUCTION FOR CONTINUOUS TRUSS	
OPTION #1	REMOVE ALL EXISTING SLAB IN THIS ORDER AND REPLACE
	(1) REMOVE : L10 to L19 and L19'to L10
	(2) REMOVE : L19 to L19'
	(3) REMOVE : L0 to L10 and L10'to L0'
	(4) REPLACE: L0 to L8 and L8'to L0'
	(5) REPLACE: L19 to L19'
	(6) REPLACE: L8 to L19 and L19'to L8'
OR	
OPTION #2	REMOVE AND REPLACE EXISTING SLAB IN THIS ORDER
	(1) REMOVE : L19 to L19'
	(2) REMOVE and REPLACE : L0 to L8 and L8' to L0'
	(3) REPLACE: L19 to L19'
	(4) REMOVE AND REPLACE : L8 to L19 and L19' to L8'

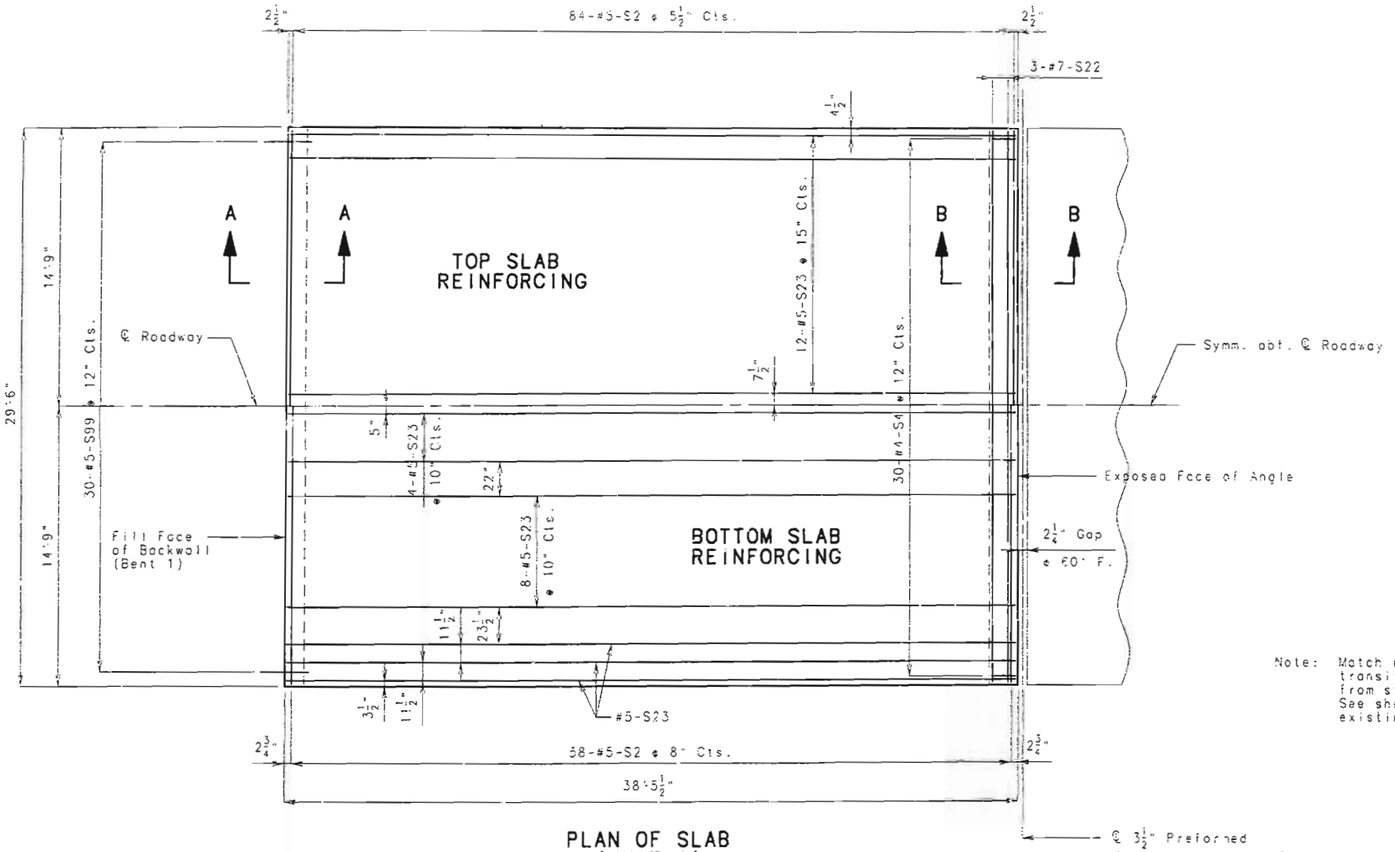
SLAB POURING SEQUENCE FOR SPANS (8-9),(9-10)&(10-11)
Note: Minimum rate of pour shall be 25 cu.yds. per hour
SLAB UNITS I THRU T

SLAB POURING SEQUENCE

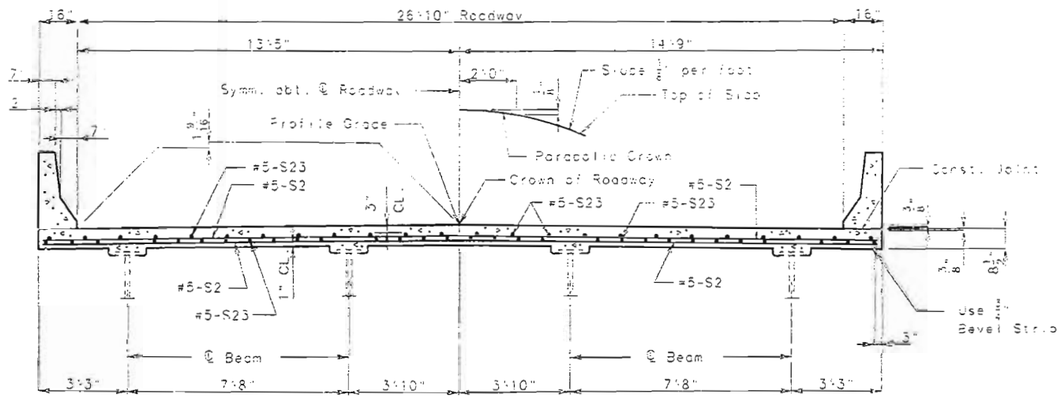
STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3312(415)	29



SECTION A-A



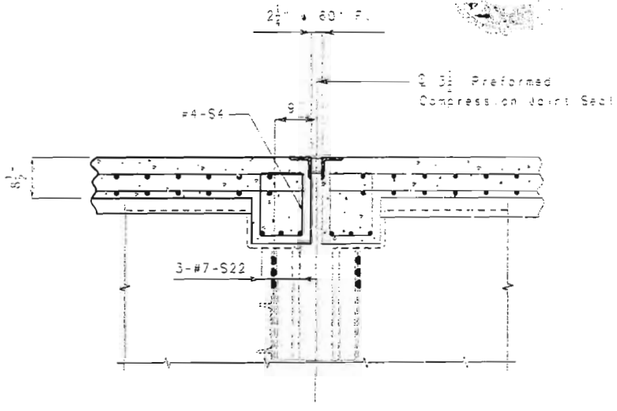
PLAN OF SLAB
(UNIT A)



SECTION NEAR BENT 2

Note: For Details and Reinforcement of Safety Barrier Curb not shown see sheet no. 36.
For slab haunching see sheet no. 5.

Note: Match existing slab cross slopes in transition "warped" section (for drainage) from station 12+08.07 to station 12+25.78. See sheet 27 of 31 on the plans for the existing bridge.



SECTION B-B

THIS DRAWING... CONFIGURATION AND ... OF AND APPURTENANCE ... THIS PROJECT.
41609

345

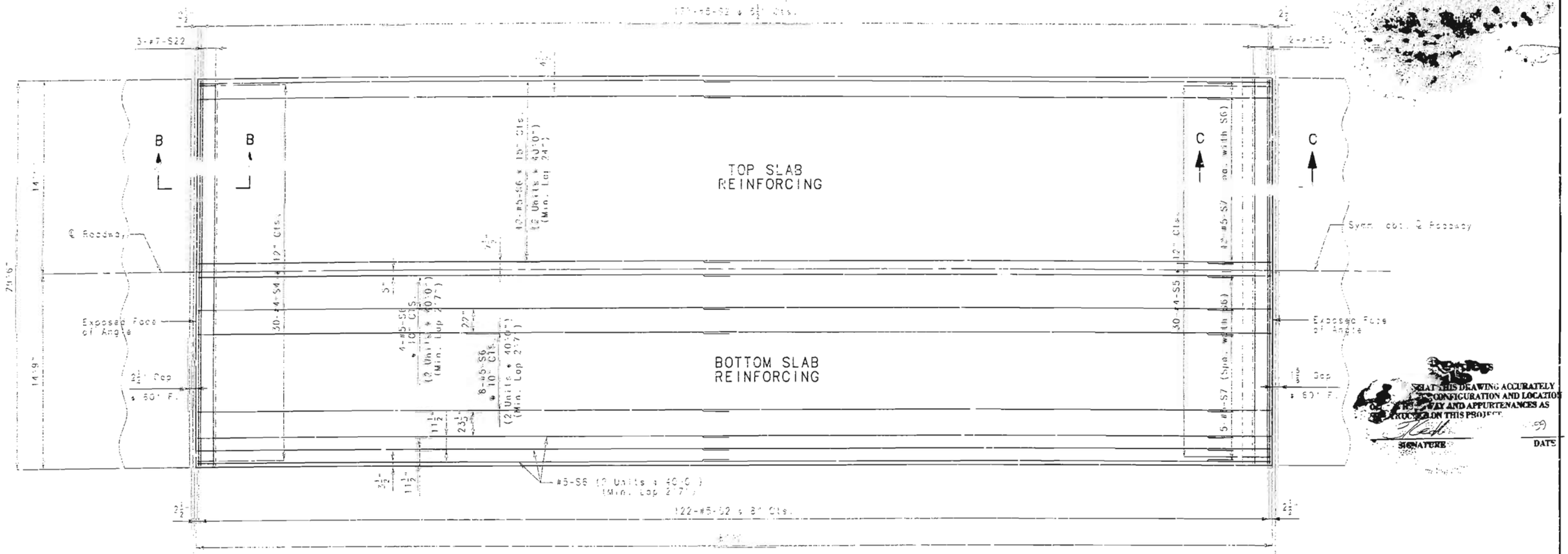
DETAILED MAY 1996
CHECKED JUNE 1996

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

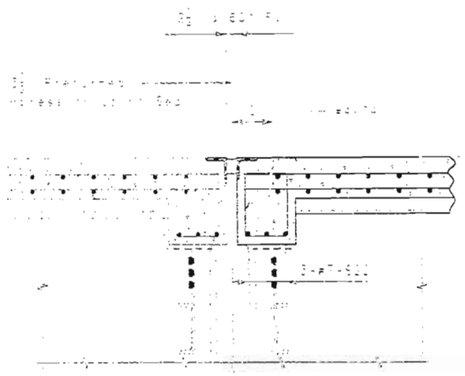
SHEET NO. 18 OF 50.

PLATTE COUNTY A450R1

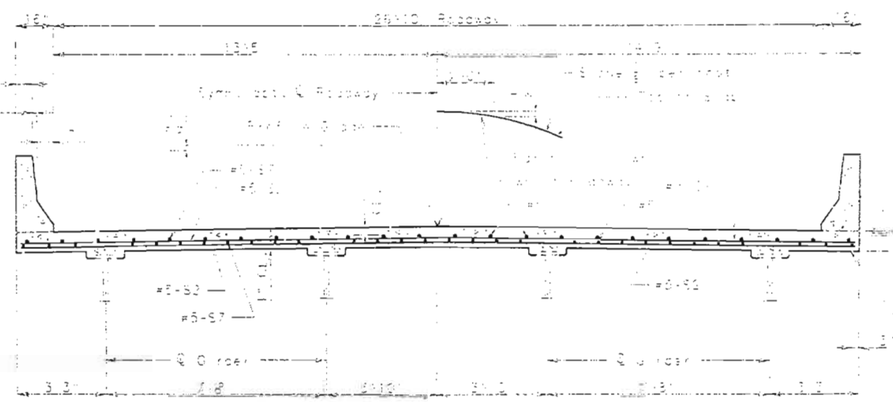
STATE | PROJ. NO. | SHEET NO.
NO. | NSTP-R-R5-3312(415) | 30



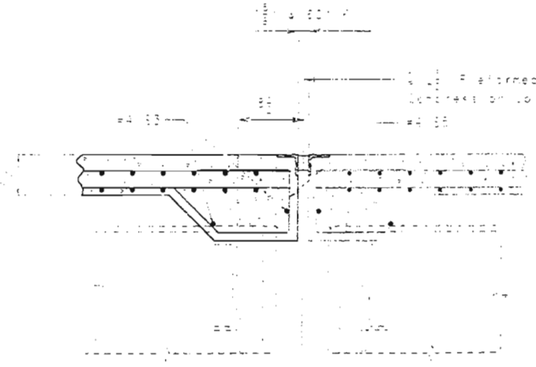
PLAN OF SLAB
(UNIT B)



SECTION B-B



SECTION NEAR BENT 3



SECTION C-C

I HEREBY CERTIFY THAT THIS DRAWING ACCURATELY REPRESENTS THE CONFIGURATION AND LOCATION OF THE HIGHWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

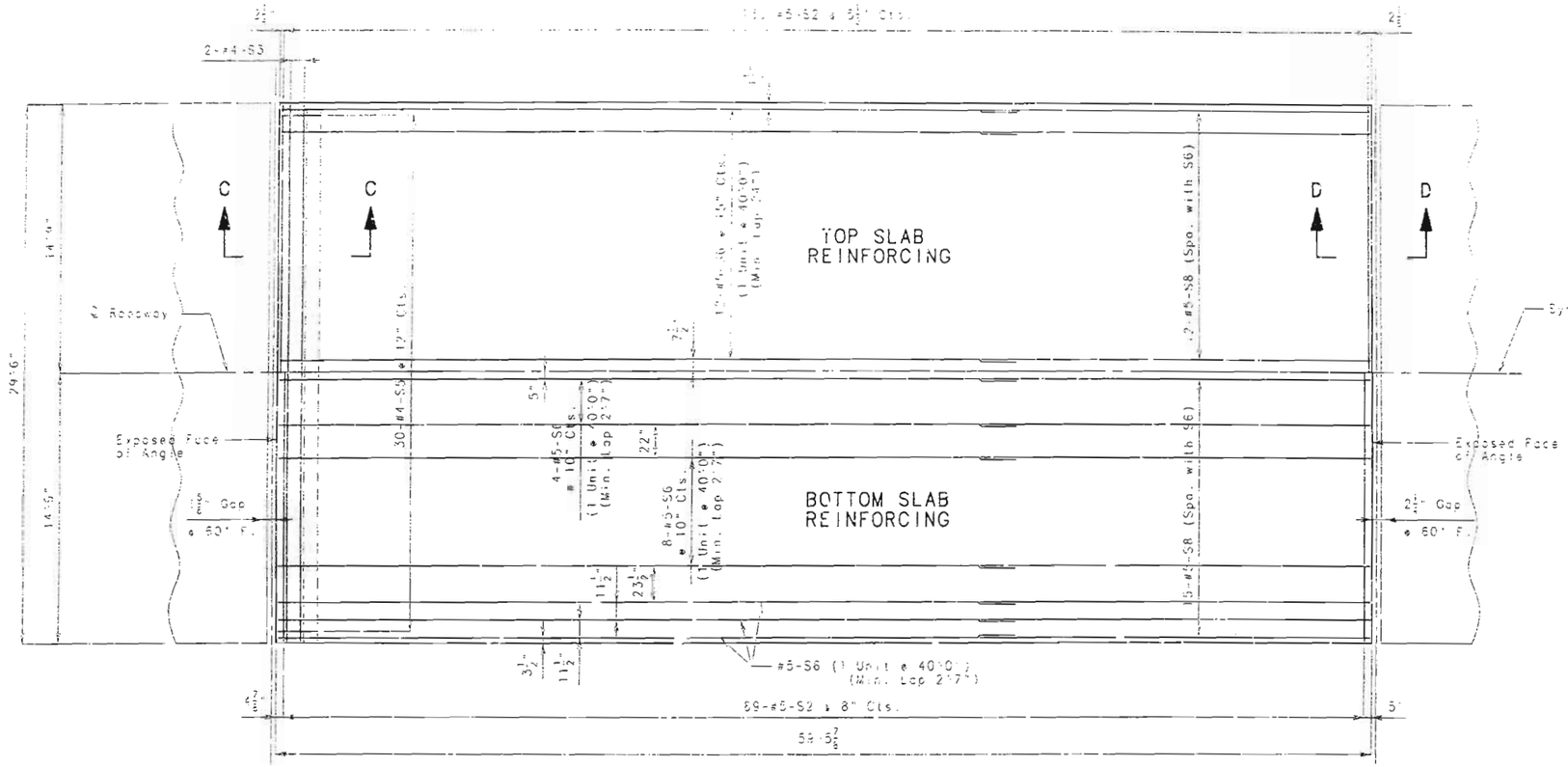
SIGNATURE

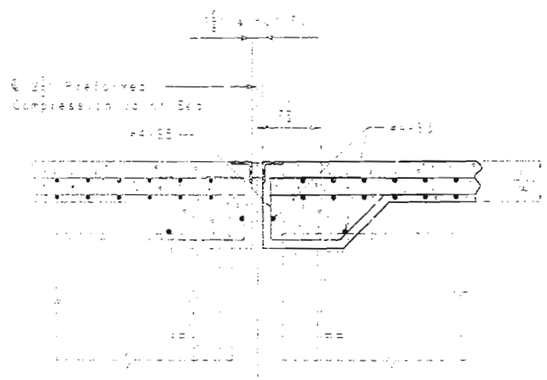
DATE

350

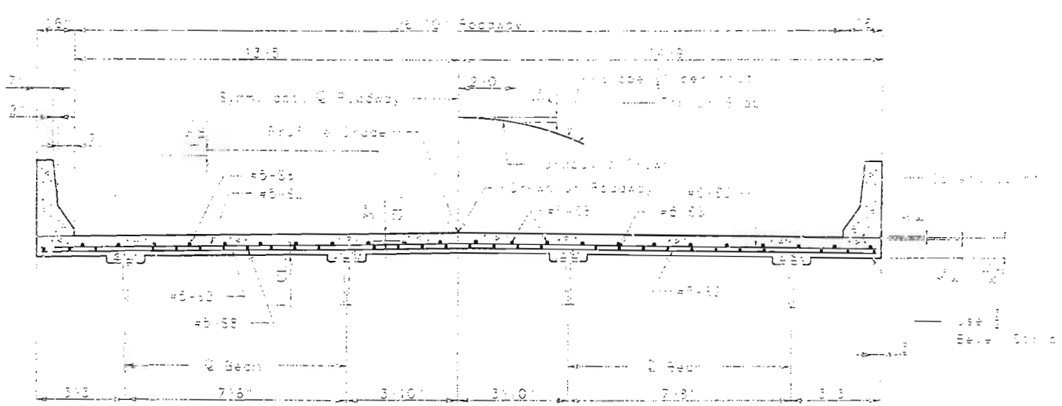
PLATTE COUNTY A450R1

STATE	PROJ. NO.	SHEET
MO.	ACSTP-ACBRS-3312(415)	37

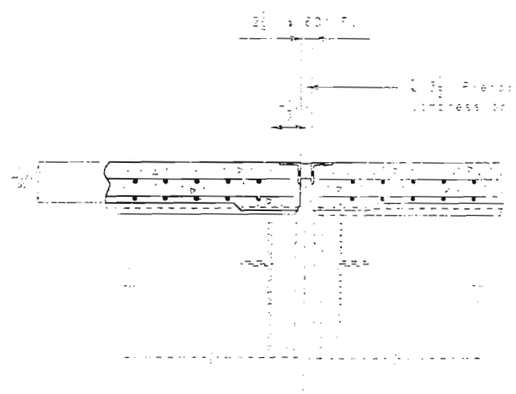




SECTION C-C



SECTION NEAR BENT 4



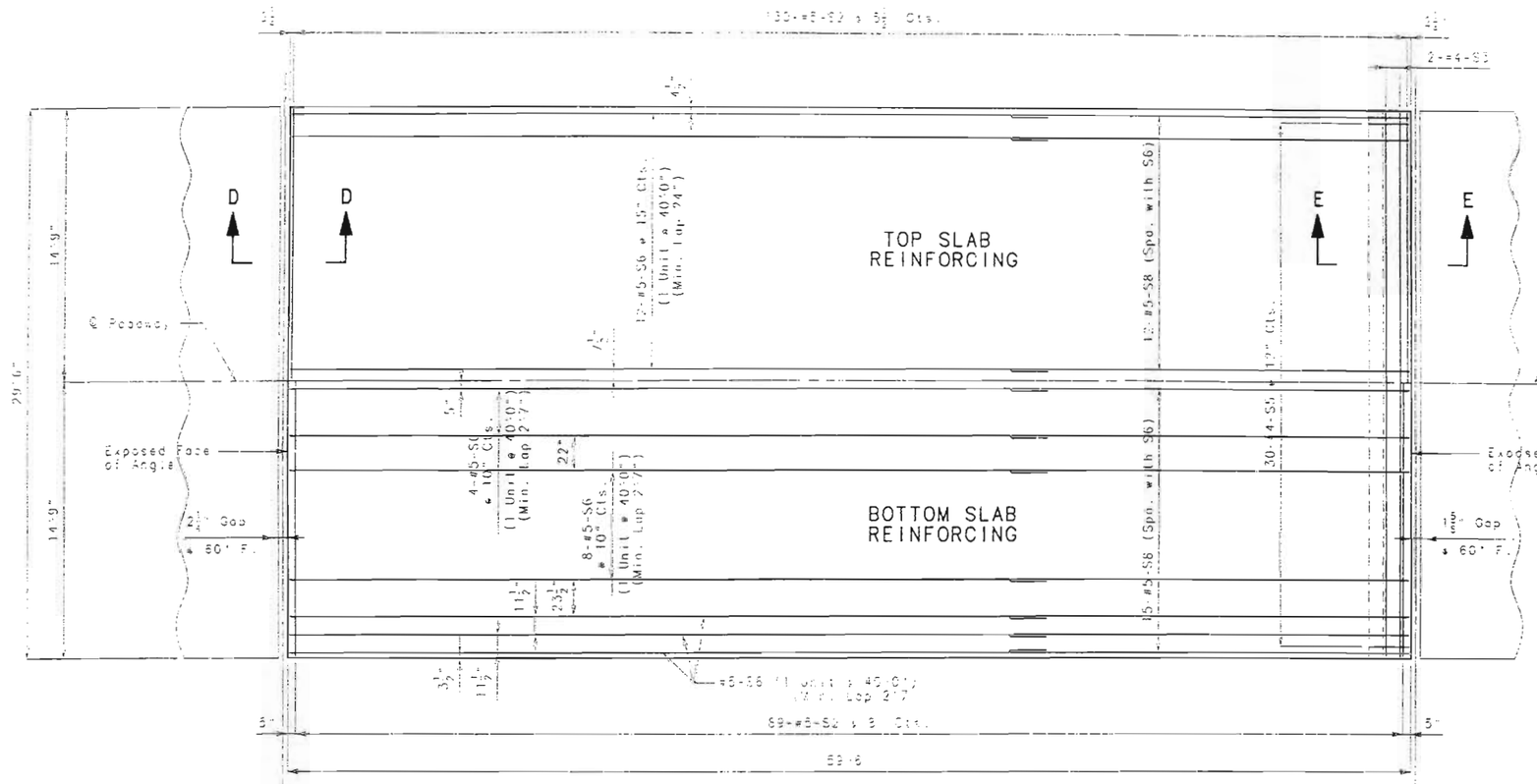
SECTION D-D

FINAL PLANS

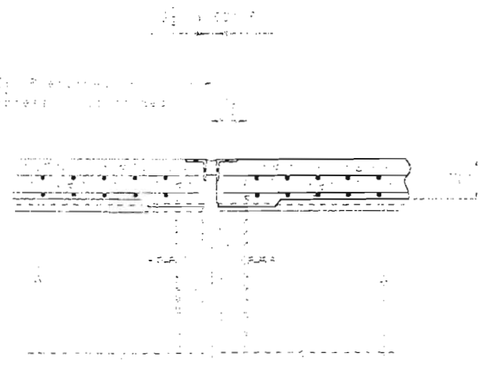
I CERTIFY THAT THIS DRAWING ... REFLECTS THE CONSTRUCTION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

PLATTE COUNTY A450R1

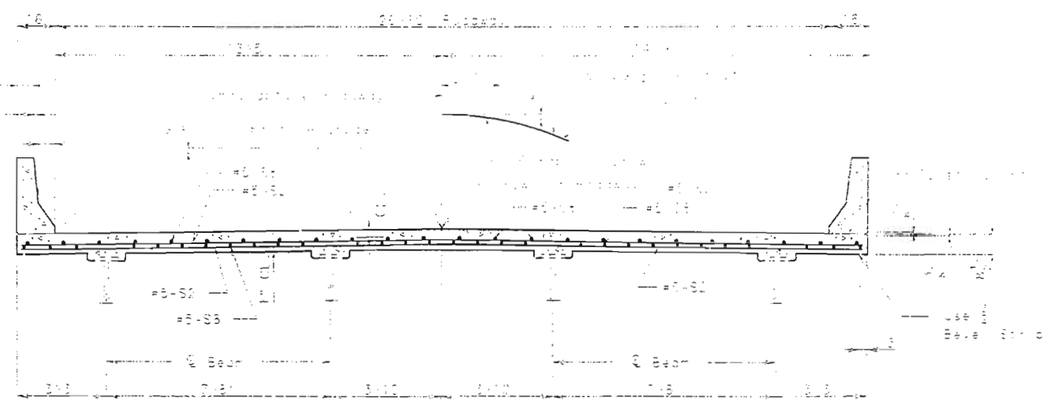
STATE	PROJ. NO.	SHEET NO.
NO.	ACSTP-ACBRS-3312(415)	32



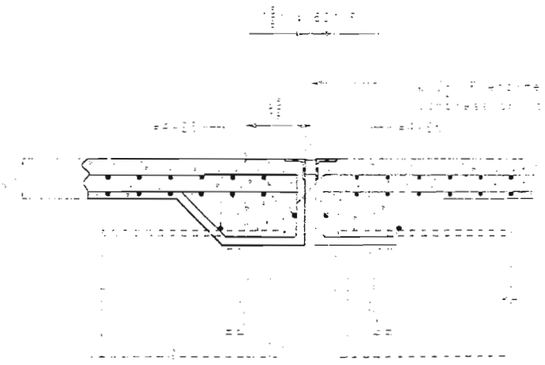
PLAN OF SLAB
(UNIT D)



SECTION D-D



SECTION NEAR BENT 5



SECTION E-E

FINAL PLANS

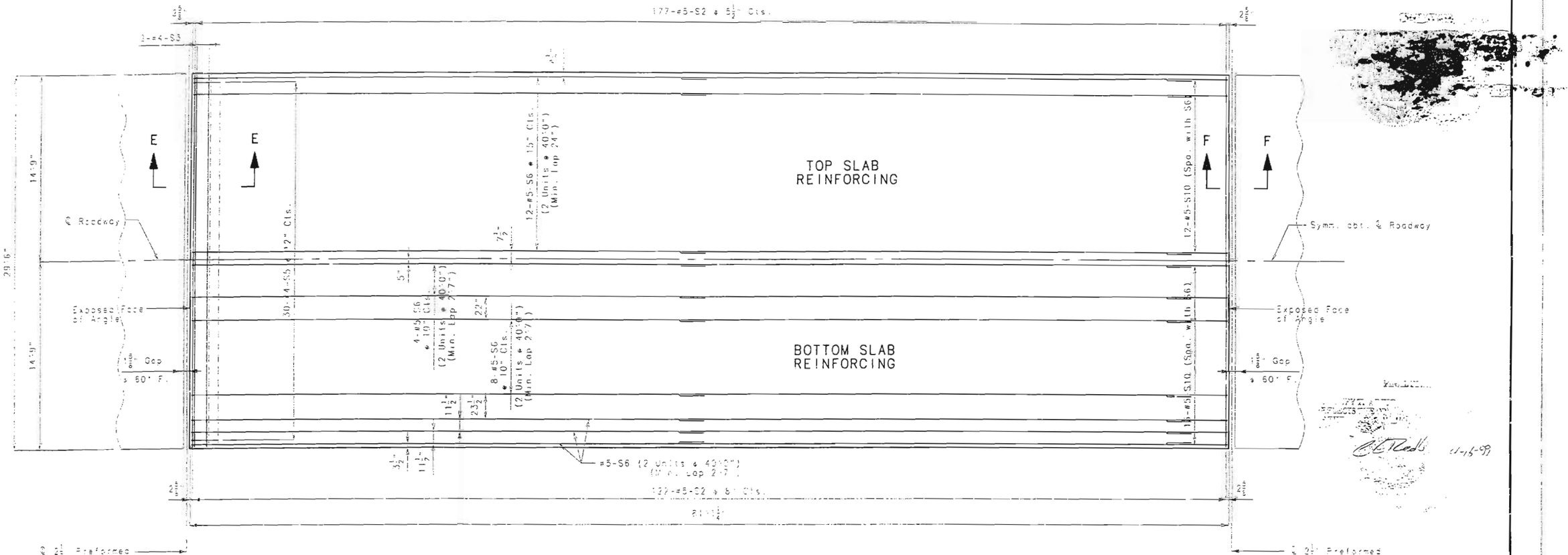
I HEREBY CERTIFY THAT THESE PLANS REFLECTS THE CONSTRUCTION DETAILS OF THE PLANS AND SPECIFICATIONS

4/16/09

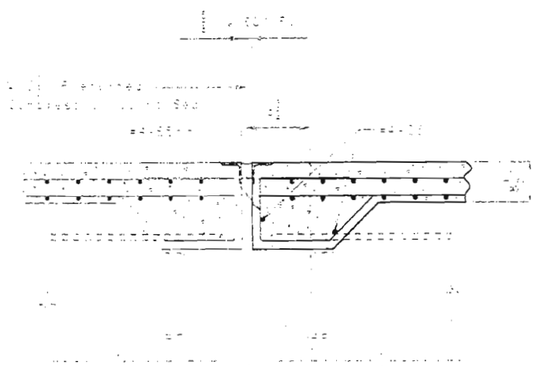
Notes: For Data relative to Alignment of Survey Base or Curve Data, see sheet No. 2.
For Slab Reinforcing, see Sheet No. 3.

PLATTE COUNTY A450R1

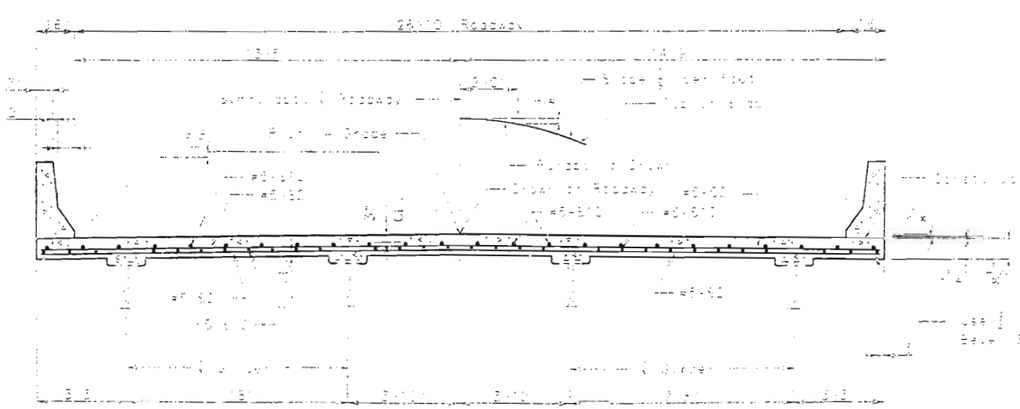
STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3312(415)	33



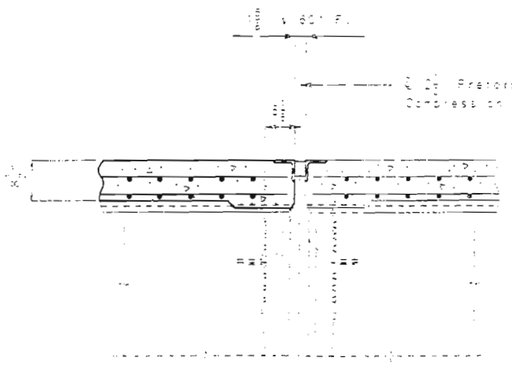
PLAN OF SLAB
(UNIT E)



SECTION E-E



SECTION NEAR BENT 6



SECTION F-F

Notes for Details and Reinforcement at Bents Bent 6 are same not shown see sheet no. 31
For 4 at Bent 5 see sheet no. 31

DESIGNED - JAN 1999
CHECKED - JUNE 1999

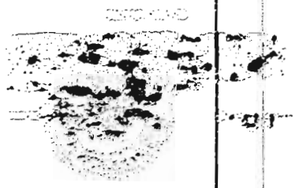
NOTES: THIS DRAWING IS NOT TO SCALE. PLEASE DIMENSION

SHEET NO. 32 OF 40 SHEETS

PLATTE COUNTY

A450R1

STATE	PROJ. NO.	SHEET NO.
MO.	(AC)STP-ACSRS-3312(415)	34



175-#6-S2 @ 5½" Cts.

TOP SLAB REINFORCING

12-#5-S6 @ 15" Cts. (2 Units @ 40'-0") (Min. Lap 24")

12-#5-S11 (Spa. with S6)

BOTTOM SLAB REINFORCING

4-#5-S6 @ 10" Cts. (2 Units @ 40'-0") (Min. Lap 2'-7")

8-#5-S6 @ 10" Cts. (2 Units @ 40'-0") (Min. Lap 2'-7")

10-#5-S11 (Spa. with S6)

#5-S6 (2 Units @ 40'-0") (Min. Lap 2'-7")

121-#5-S2 @ 8" Cts.

60'-5¼"

F F

G G

14'-9"

2'-6"

℄ Roadway

Exposed Face of Angle

1⅜" Gap @ 60° F.

Symm. abt. ℄ Roadway

End of Slab

℄ 2½" Preformed Compression Joint Seal (Bent 6)

℄ Finger Plate Exp. Device (Pier 7) (LO)

PLAN OF SLAB (UNIT F)

1⅜" @ 60° F.

℄ 2½" Preformed Compression Joint Seal

SECTION F-F

Slope ⅛" per foot

Top of Slab

Parallel to Flow Line

℄ Girder

SECTION NEAR (LO)

℄ Diaphragm

℄ Floorbeam (LO)

SECTION G-G

Note: For Details and Reinforcement of Spiral Barrier Curb not shown see sheet no. 38. For slab mounting see sheet no. 5.

FINAL PLANS

I CERTIFY THAT THIS DR[illegible] ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

[illegible] 6-16-99

SIGNATURE DATE

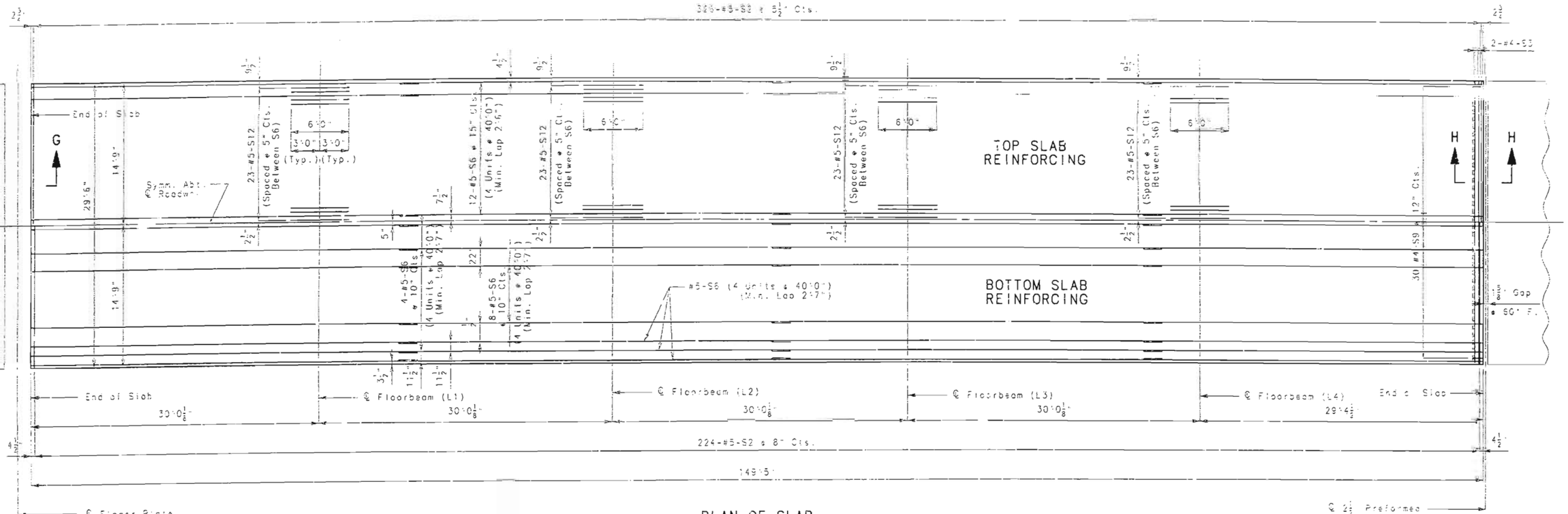
DETAILED MAY 1996
CHECKED JUNE 1996

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

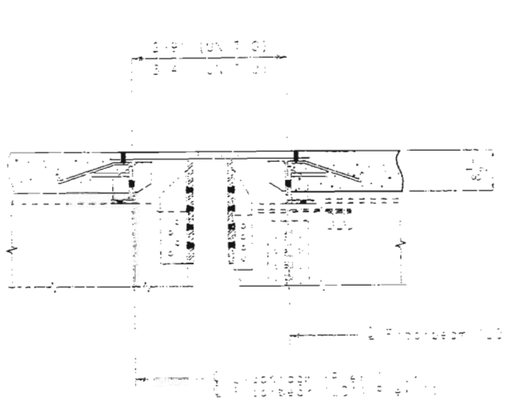
SHEET NO. 33 OF 80.

PLATTE COUNTY A450R1

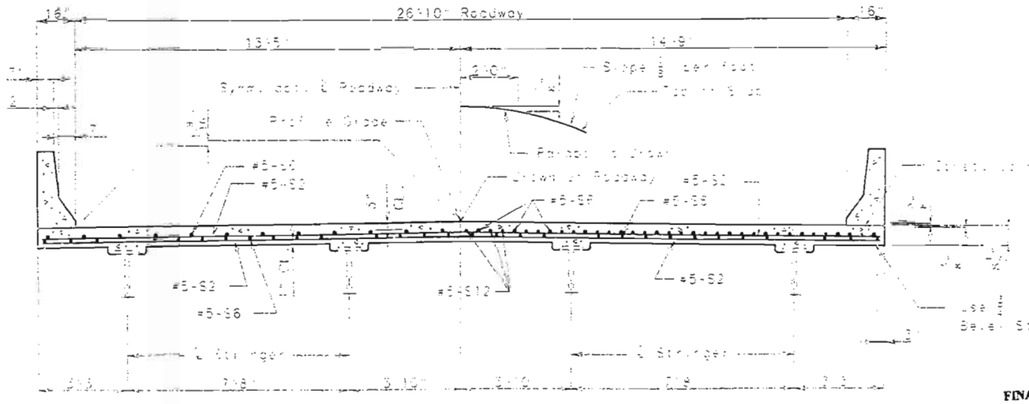
STATE	PROJ. NO.	SHEET NO.
NE	NHSTP-ACBRS-3312(415)	135



PLAN OF SLAB
(UNIT G)
(UNIT U)

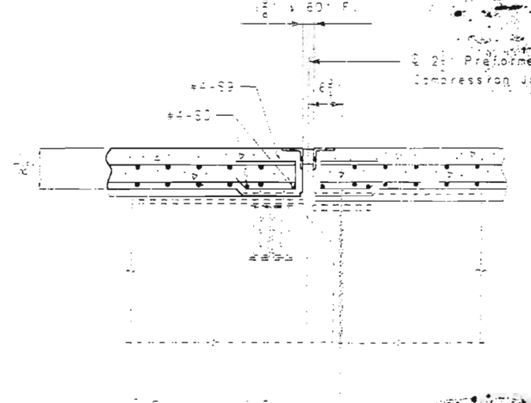


SECTION G-G



HALF SECTION
NEAR (L5)

HALF SECTION
NEAR FLOORBEAM



SECTION H-H

Notes: For Details and Reinforcement of Safety Barrier Curb not shown see sheet no. 36.
For slab haunch fig see sheet no. 81.

FINAL PLANS

I CERTIFY THAT THIS DR... ACCURATELY REFLECTS THE CONFIGURATION AND LENGTH OF THE ROADWAY AND APPURTENANCES CONSTRUCTED ON THIS PROJECT.

SIGNATURE

DATE

DETAILED MAY 1996
CHECKED JUNE 1996

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 24 OF 82

PLATTE COUNTY

A450R1

STATE	PROJ. NO.	SHEET NO.
NEBR.	(ACSTP-ACBRS-3312(415)	36

318-#6-S2 @ 5½" Ctrs

2-#4-S5

9½"

23-#5-S12 (Spaced @ 5" Ctrs Between S6)

6'-0" (3'-0" (Typ.) 3'-0" (Typ.)

4½"

12-#5-S6 @ 15" Ctrs (4 Units @ 40'-0") (Min. Lap 2'-6")

23-#5-S12 (Spaced @ 5" Ctrs Between S6)

9½"

23-#5-S12 (Spaced @ 5" Ctrs Between S6)

6'-0"

9½"

23-#5-S12 (Spaced @ 5" Ctrs Between S6)

6'-0"

TOP SLAB REINFORCING

H H

I I

Symm. Abt. ℄ Roadway

7½"

5"

2½"

2½"

2½"

2½"

12" Ctrs.

29'-6"

14'-9"

14'-9"

30-#4-S9

4-#5-S6 @ 10" Ctrs (4 Units @ 40'-0") (Min. Lap 2'-7")

22"

8-#5-S6 @ 10" Ctrs (4 Units @ 40'-0") (Min. Lap 2'-7")

23½"

#5-S6 (4 Units @ 40'-0") (Min. Lap 2'-7")

BOTTOM SLAB REINFORCING

1" Gap @ 60'-0" Ctrs

5½" 11½" 11½"

End of Slab

℄ Floorbeam (L4')

℄ Floorbeam (L3')

℄ Floorbeam (L2')

℄ Floorbeam (L1')

End of Slab

30'-6"

30'-0⅛"

30'-0⅛"

30'-0⅛"

30'-0⅛"

3¼"

226-#5-S2 @ 8" Ctrs.

3¼"

150'-6¼"

℄ 2½" Preformed Compression Joint Seal (L5)

℄ Finger Plate Exp. Device Pier 6 or Pier 12) (L01)

PLAN OF SLAB
(UNIT H)
(UNIT V)

1⅛" @ 60'-0" Ctrs

℄ 3½" Preformed Compression Joint Seal

#4-S9

#4-S1

℄ Floorbeam (L4')

SECTION H-H

26'-10" Roadway

13'-5"

13'-5"

Slope ½" per Foot

Symm. Abt. ℄ Roadway

2'-0"

Parapet Face

#5-S1

#5-S2

#5-S4

#5-S6

#5-S12

℄ Stringer

℄ Stringer

3'-5" 7'-6" 5'-10" 5'-10" 7'-6" 3'-5"

HALF SECTION NEAR (LO')

HALF SECTION NEAR FLOORBEAM

Note: For Details and Reinforcement of Curb, Barrier Curb not shown see sheet No. 38. For Slab Notes see sheet No. 5

3'-6" (Unit H) 2'-6" (Unit V)

Parapet

℄ Floorbeam (L01') (Pier 6) ℄ Expansion Joint (Pier 12)

℄ Floorbeam (L01')

SECTION I-I

FINAL PLANS

I CERTIFY THAT THIS DRAWING REFLECTS THE CONFIGURATION AND LAYOUT OF THE ROADWAY AND APPURTENANCES CONSTRUCTED ON THIS PROJECT.

SIGNATURE

DATE

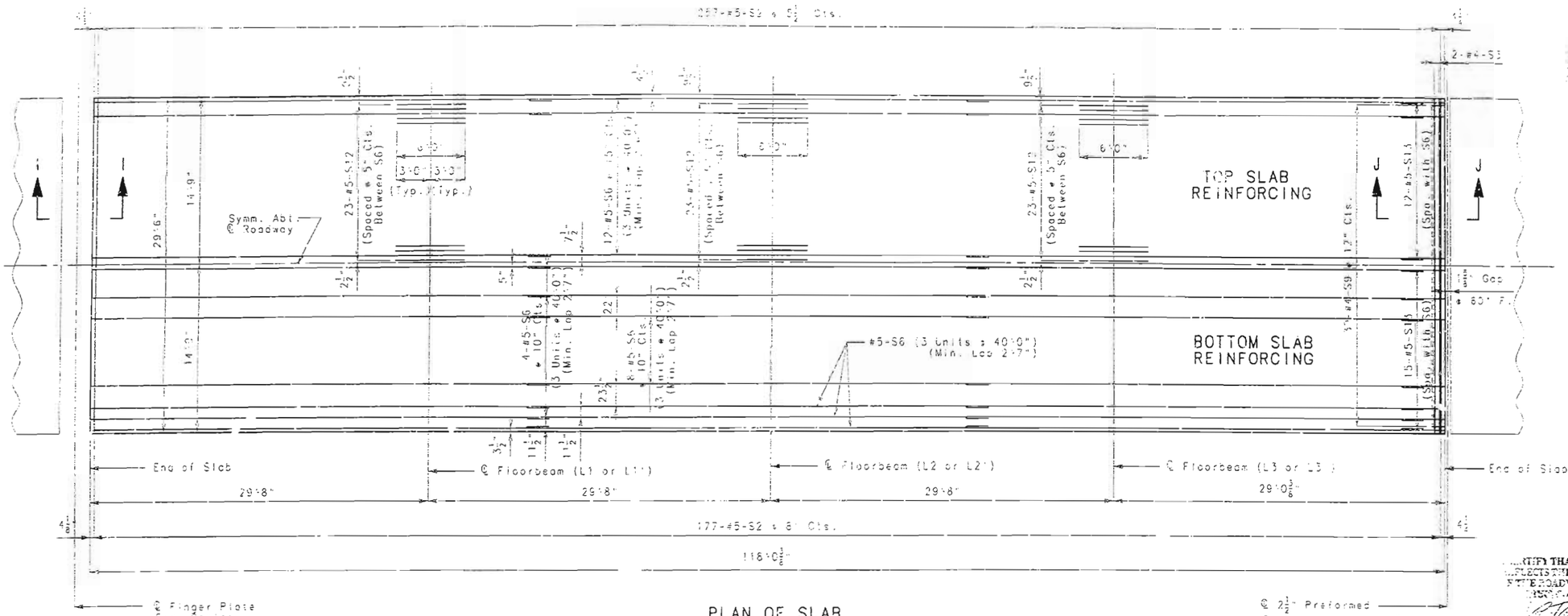
DATE JAN 1995
PREPARED JUNE 1995

NOTE: THIS DRAWING IS NOT TO SCALE. FIGURES DIMENSIONS

PLATTE COUNTY A450R1

276

STATE	PROJ. NO.	SHEET NO.
NO.	ACSTP-ACSRS-3312(415)	37

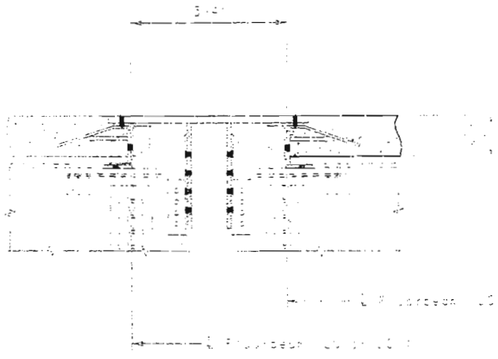


PLAN OF SLAB
(UNIT I)
(UNIT T)

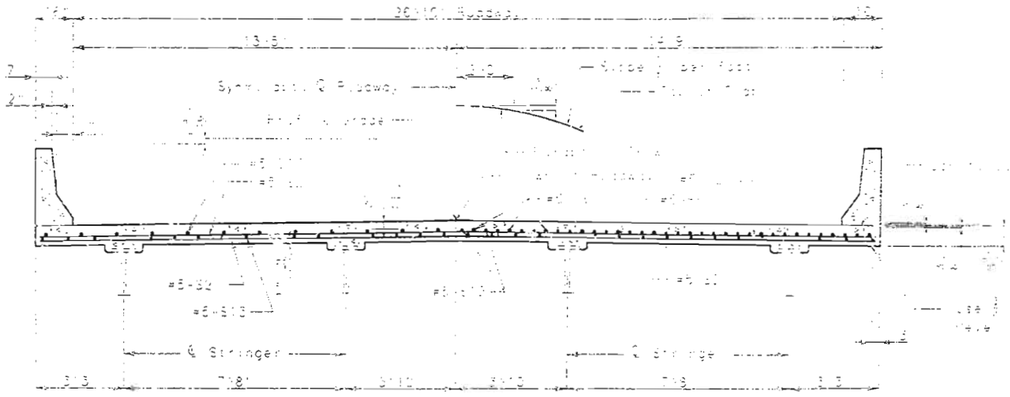
FINAL PLANS

...TIFY THAT THIS ...
...FLECTS THE CONFIGU... AND
...STATE ROADWAY AND APPURTENANCES
...ION ON THIS PROJECT

...

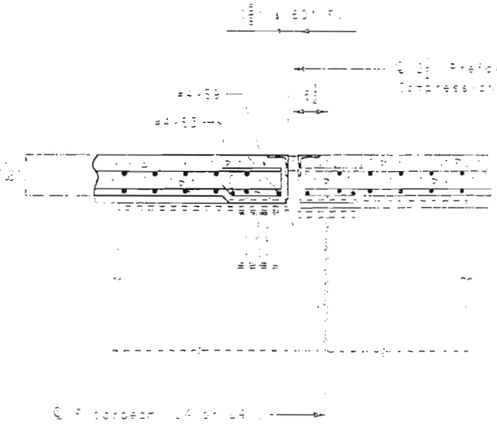


SECTION I-I



HALF SECTION NEAR (L4)

HALF SECTION NEAR FLOORBEAM



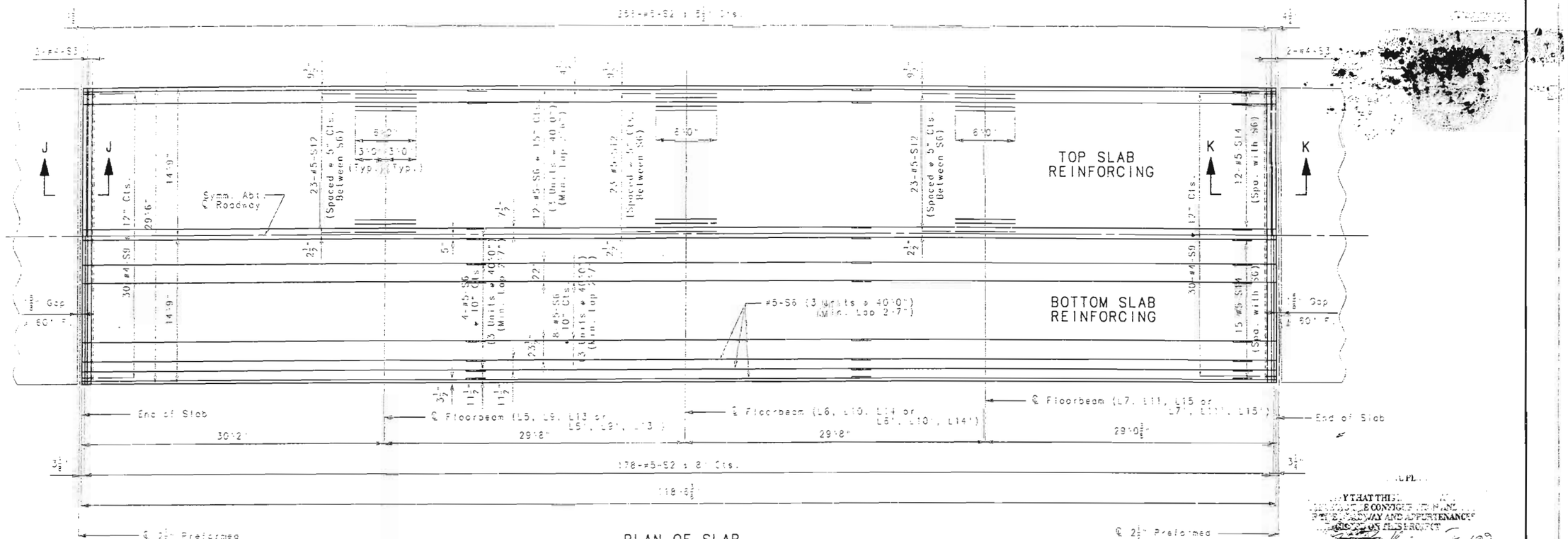
SECTION J-J

37

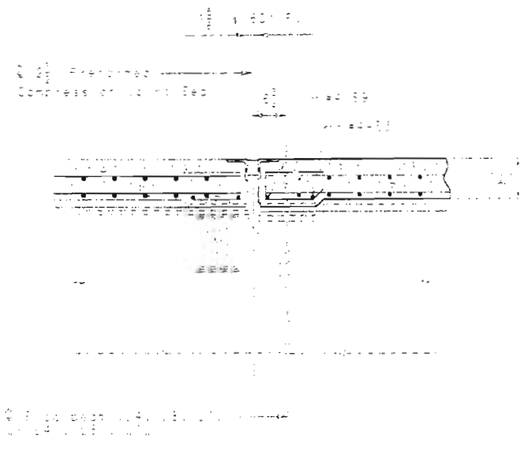
DETAILED MAY 1996
CHECKED JUNE 1996

PLATTE COUNTY A450R1

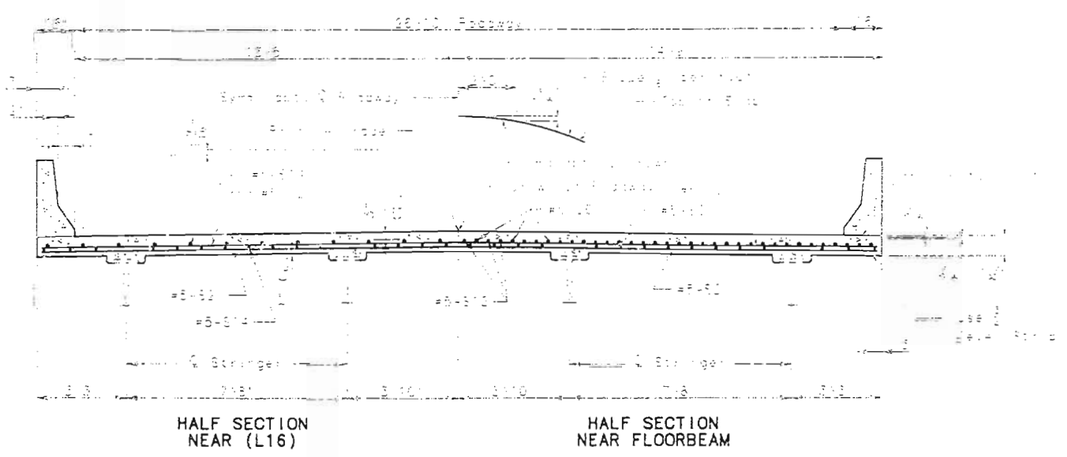
STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3512(415)	38



PLAN OF SLAB
(UNIT J) (UNIT K) (UNIT L)
(UNIT S) (UNIT R) (UNIT Q)

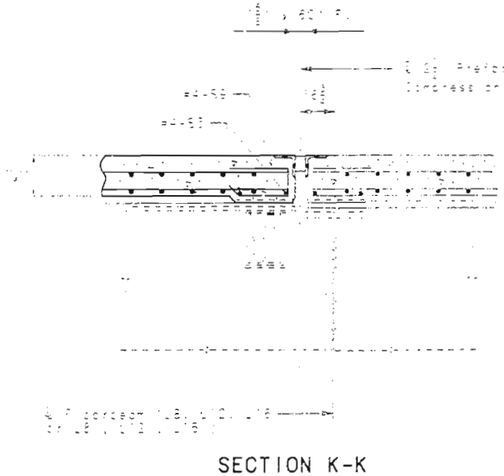


SECTION J-J



HALF SECTION NEAR (L16)

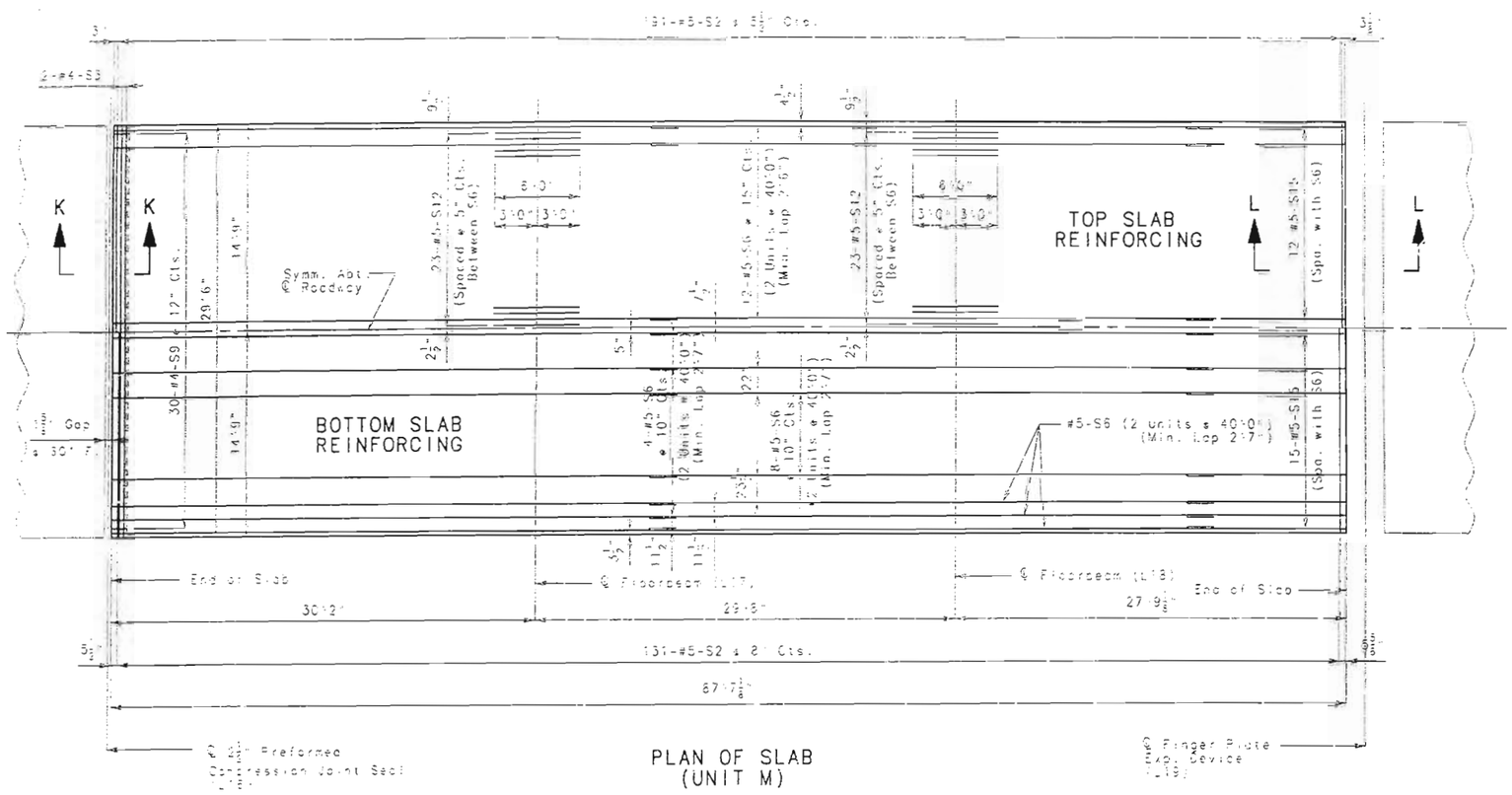
HALF SECTION NEAR FLOORBEAM



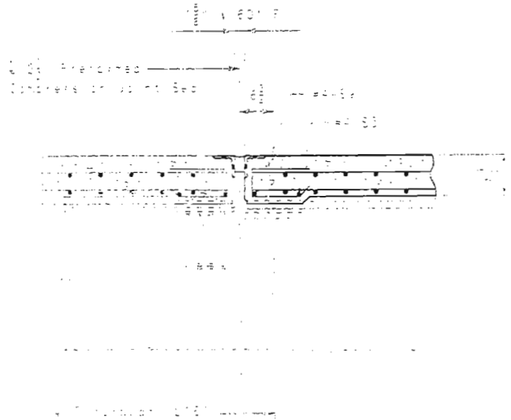
SECTION K-K

358

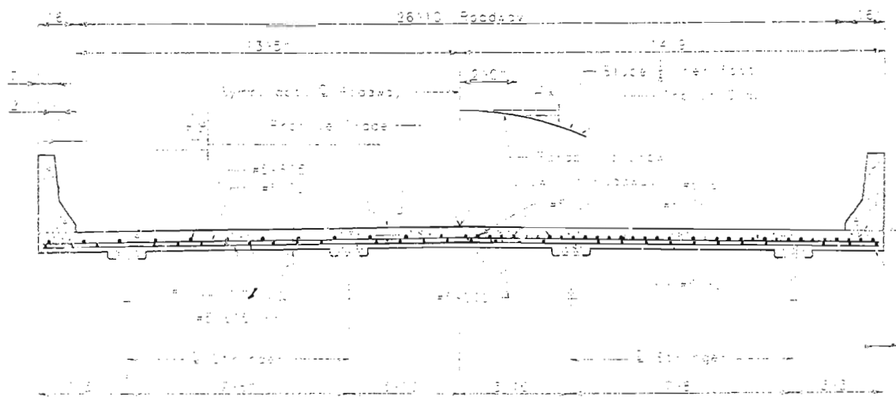
STATE	PROJ. NO.	SHEET NO.
NO.	AZSTP-AC3RS-3312(415)	32



PLAN OF SLAB
(UNIT M)

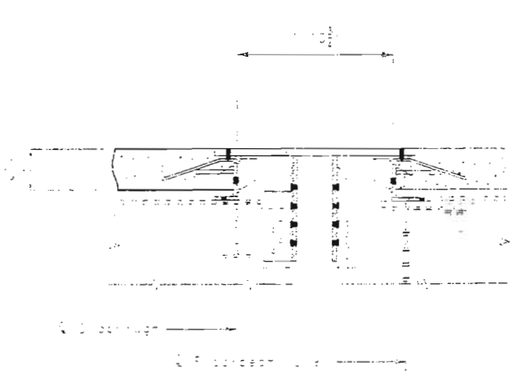


SECTION K-K



HALF SECTION
NEAR (L19)

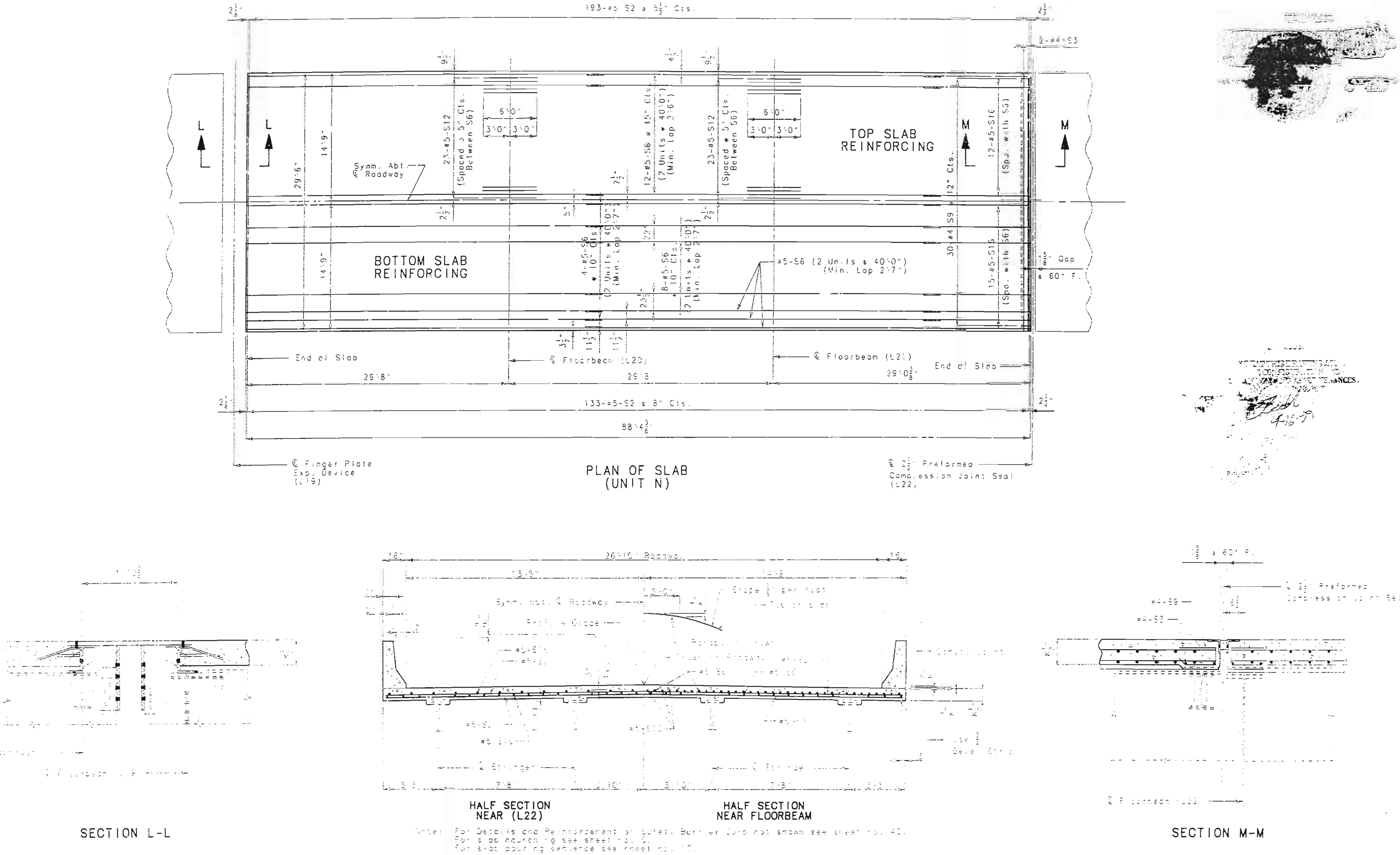
HALF SECTION
NEAR FLOORBEAM



SECTION L-L

PLATTE COUNTY A450R1

STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-RCBRS-3312 (415)	40



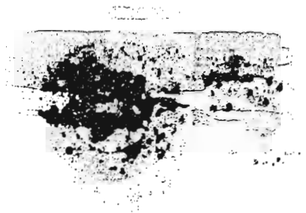
Note: For Details and Reinforcement of Safety Barrier Curb not shown see sheet no. 40.
For slab haunching see sheet no. 6.
For slab pouring sequence see sheet no. 17.

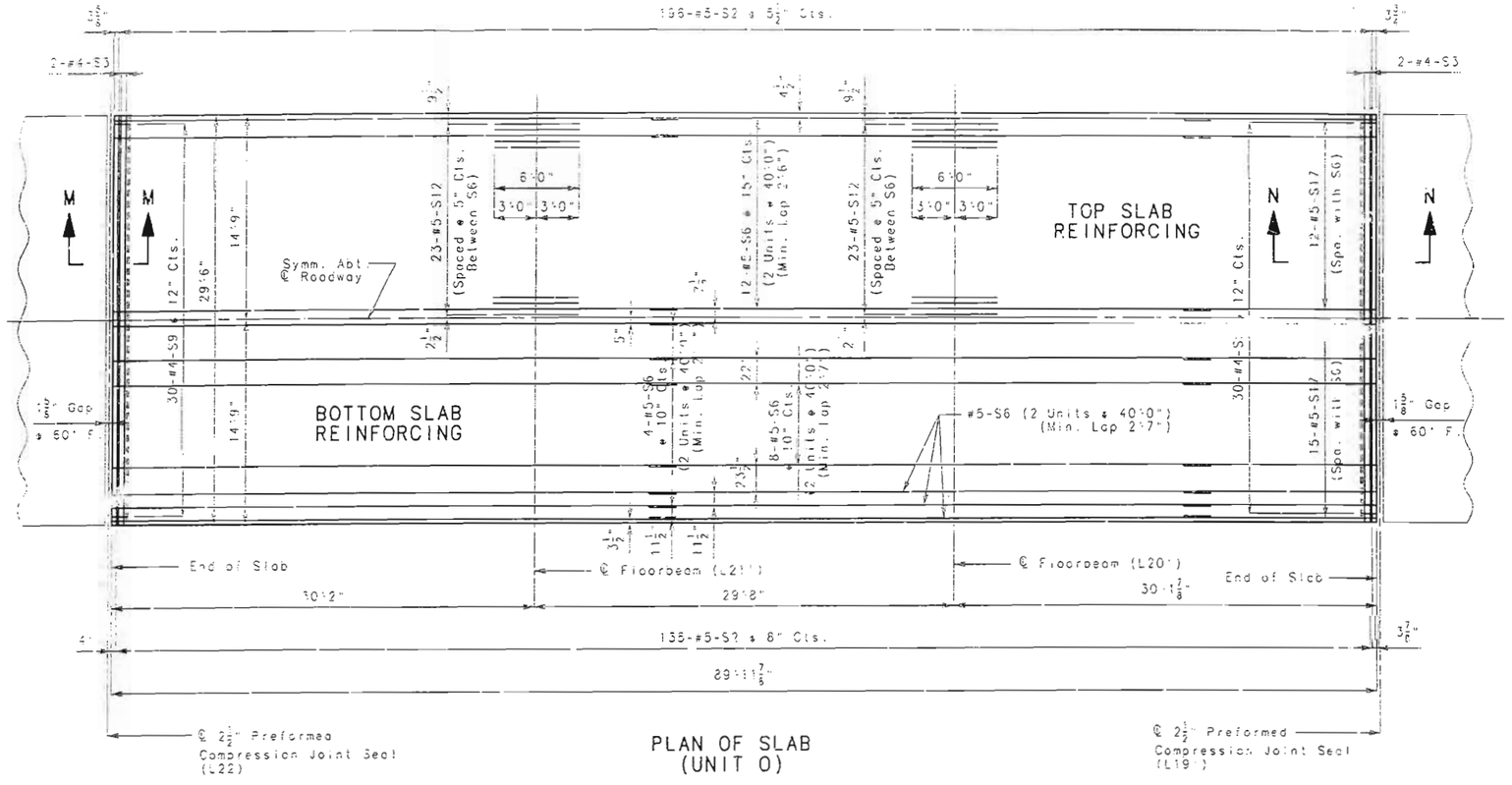
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

360

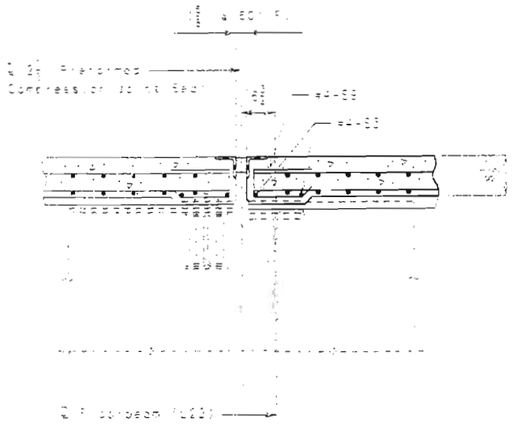
PLATTE COUNTY A450R1

STATE	PROJ. NO.	SHEET NO.
MO.	(ACSTP-ACBRS-3312(415)	141

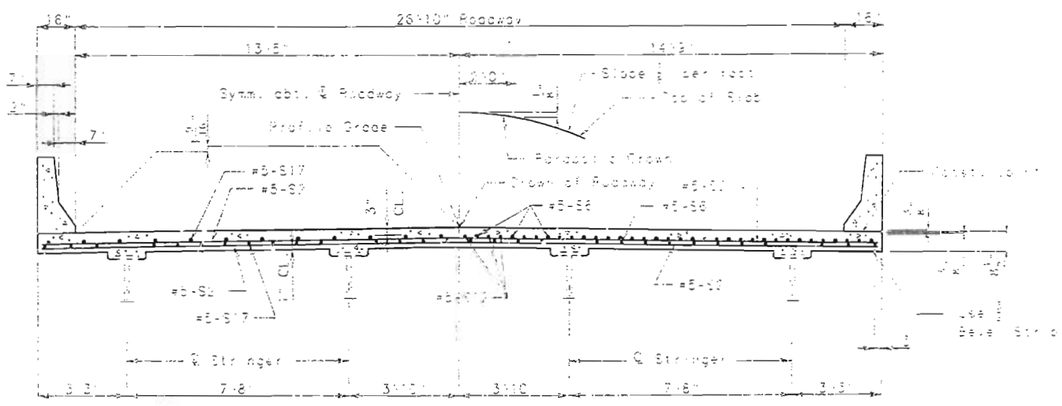




PLAN OF SLAB
(UNIT 0)

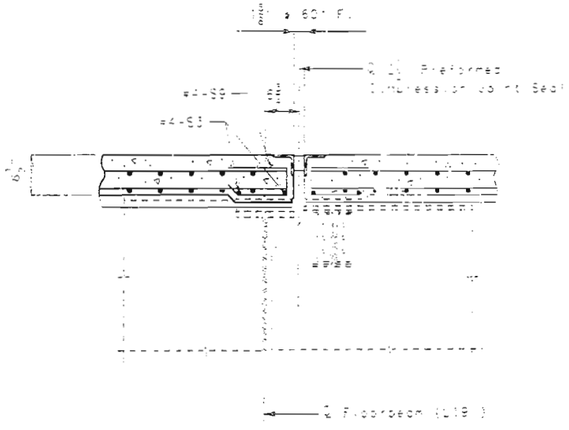


SECTION M-M



HALF SECTION
NEAR (L19')

HALF SECTION
NEAR FLOORBEAM



SECTION N-N

Note: For Details and Reinforcement of Safety Barrier Curb not shown see sheet no. 40.
For slab haunching see sheet no. 5.
For slab pouring sequence see sheet no. 17.

FINAL PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS STRUCTURE.

SIGNATURE

DATE

261

DETAILED MAY 1998
CHECKED JUNE 1998

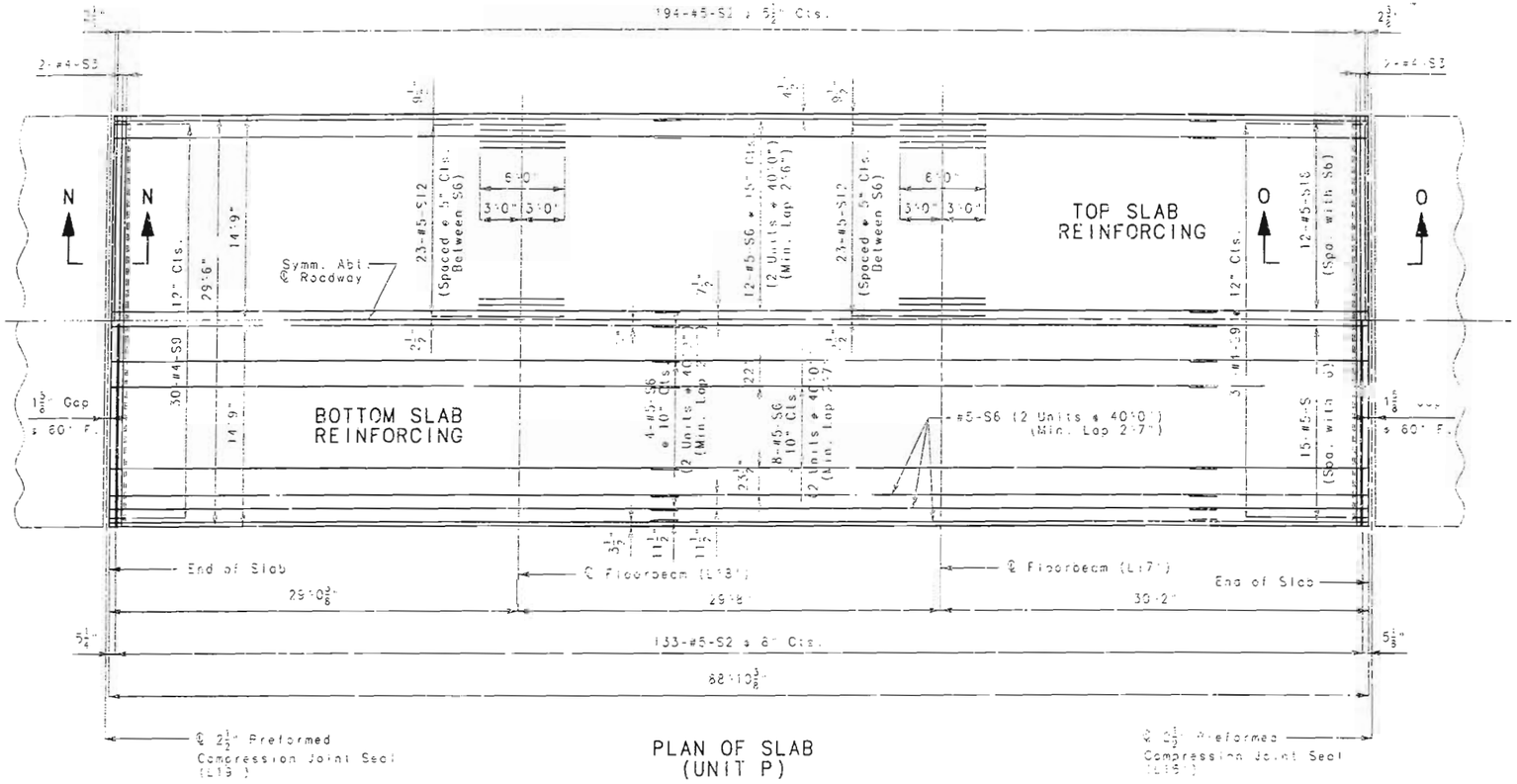
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 30 OF 80.

PLATTE COUNTY

A450P1

STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3312(415)	42

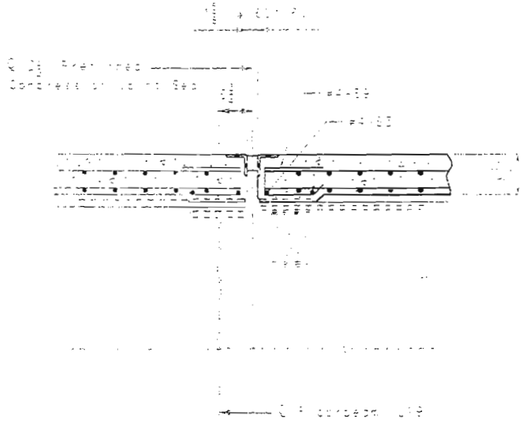


PLAN OF SLAB
(UNIT P)

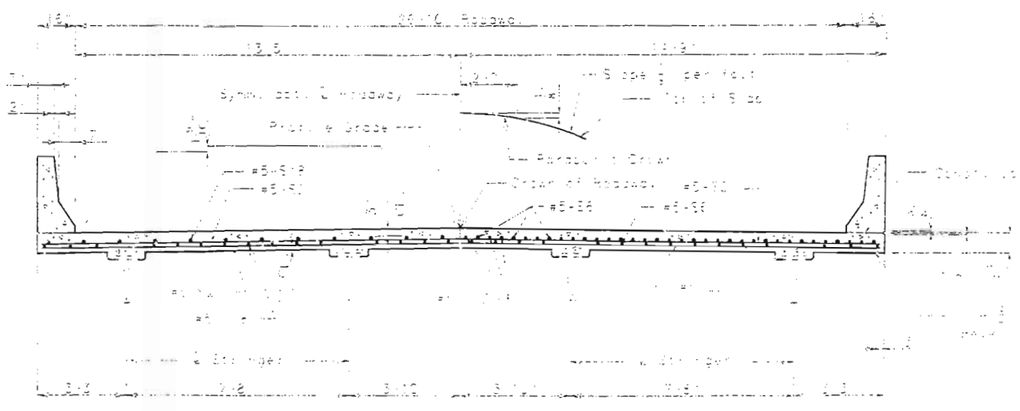
FINAL PLANS

I CERTIFY THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

SIGNATURE 4-15-99

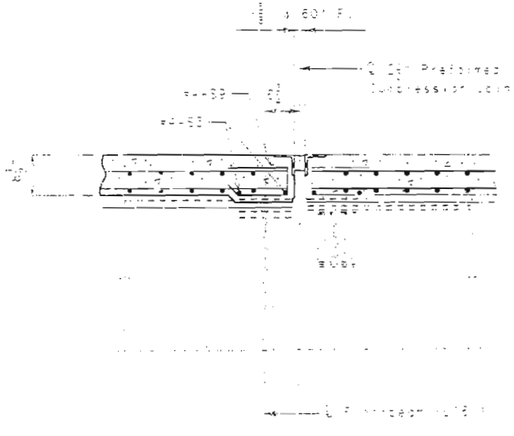


SECTION N-N



HALF SECTION
NEAR (L16')

HALF SECTION
NEAR FLOORBEAM



SECTION O-O

Note: For Details and Reinforcement of Curb, Barrier Curb not shown see sheet no. 40.
For slab haunching see sheet no. 5.
For slab pouring sequence see sheet no. 19.

DETAILED JUNE 1998
CHECKED JUNE 1998

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

SHEET NO. 31 OF 80

PLATTE COUNTY A450R1

STATE	PROJ. NO.	SHEET NO.
MO.	NCSTP-ACBRS-3312(415)	43

PLAN OF SLAB
(UNIT W)

SECTION I-I

HALF SECTION
NEAR BENT 15

HALF SECTION
NEAR BENT 14

SECTION P-P

FINAL PLANS
I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.
SIGNATURE

DETAILED MAY 1996
CHECKED JUNE 1996

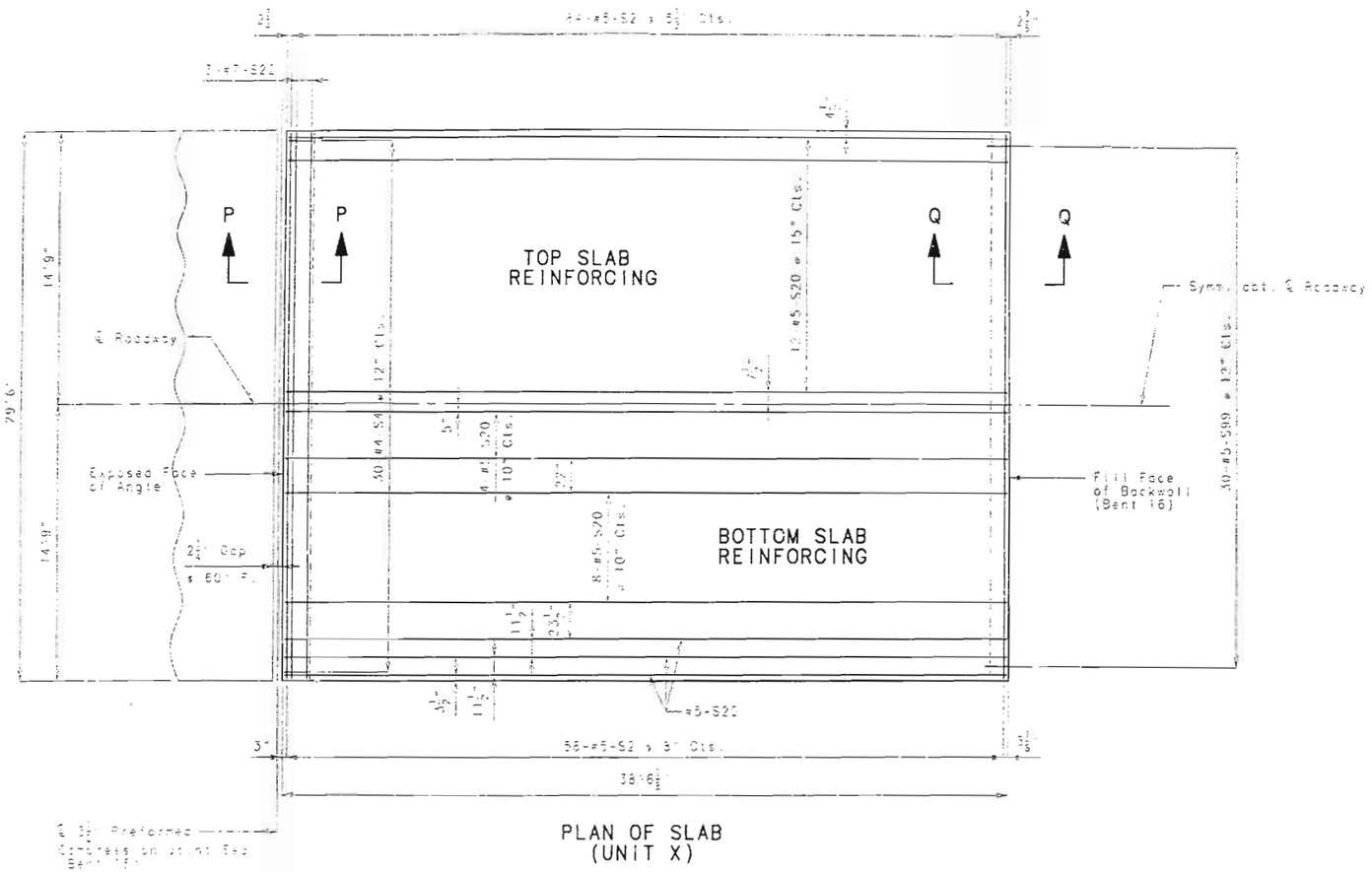
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 33 OF 50

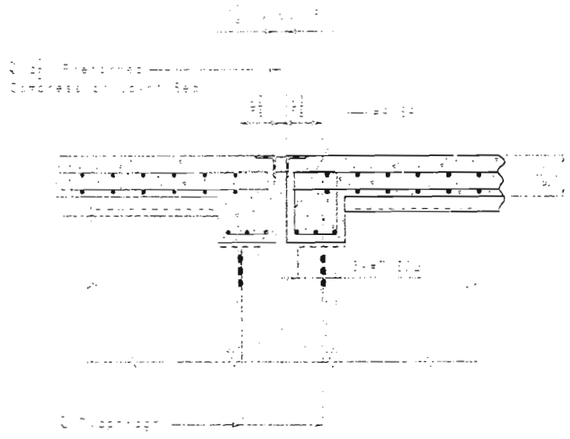
PLATTE COUNTY

A450R1

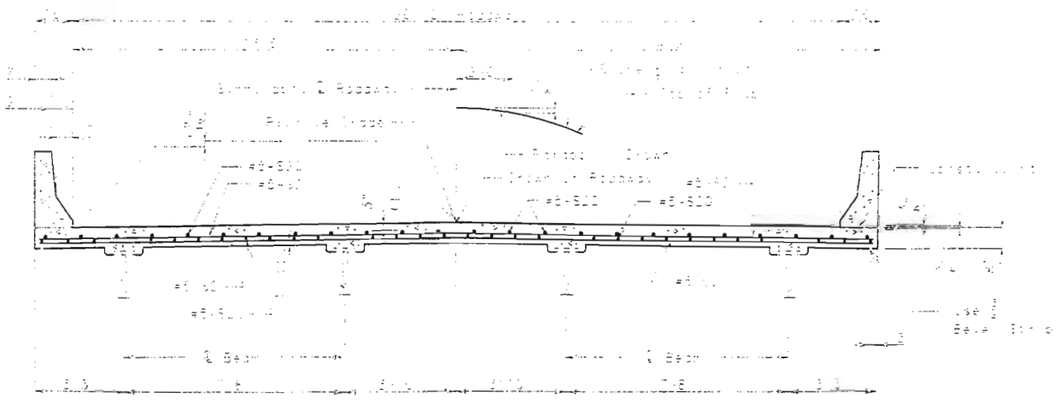
STATE	PROJ. NO.	SHEET NO.
NO.	ACSTP-ACBRS-3312(415)	44



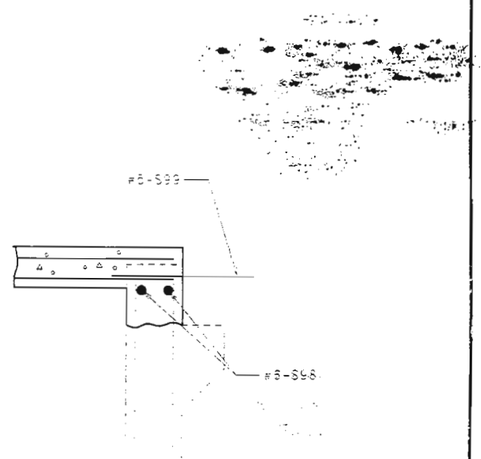
PLAN OF SLAB
(UNIT X)



SECTION P-P



SECTION NEAR BENT 15



SECTION Q-Q

FINAL PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND DETAILS OF THE ROADWAY AND APPURTENANCES CONSTRUCTED ON THIS PROJECT.

DESIGNED MAY 1998
DETAILED JUNE 1998

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

PLATTE COUNTY A450R1

STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3312(415)	45

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

Outside dimensions of drains are 8" x 4".

Locate drains in the slab by dimensions shown in the Part Elevation.

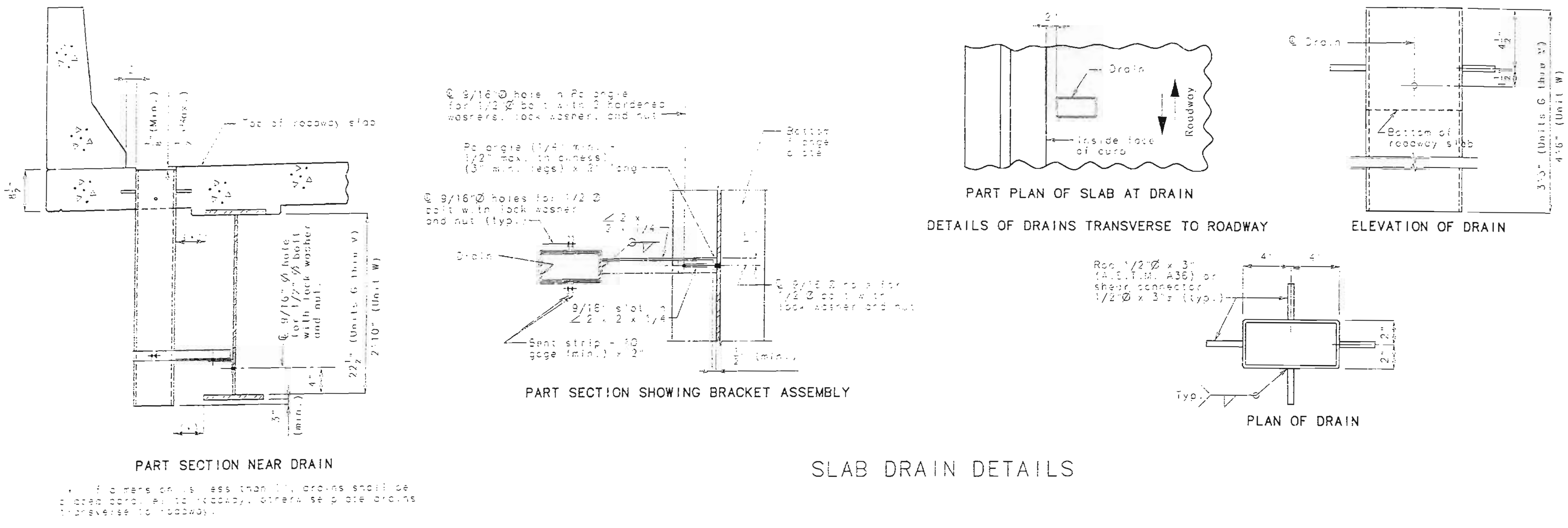
Shift reinforcing in field where necessary to clear drains.

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

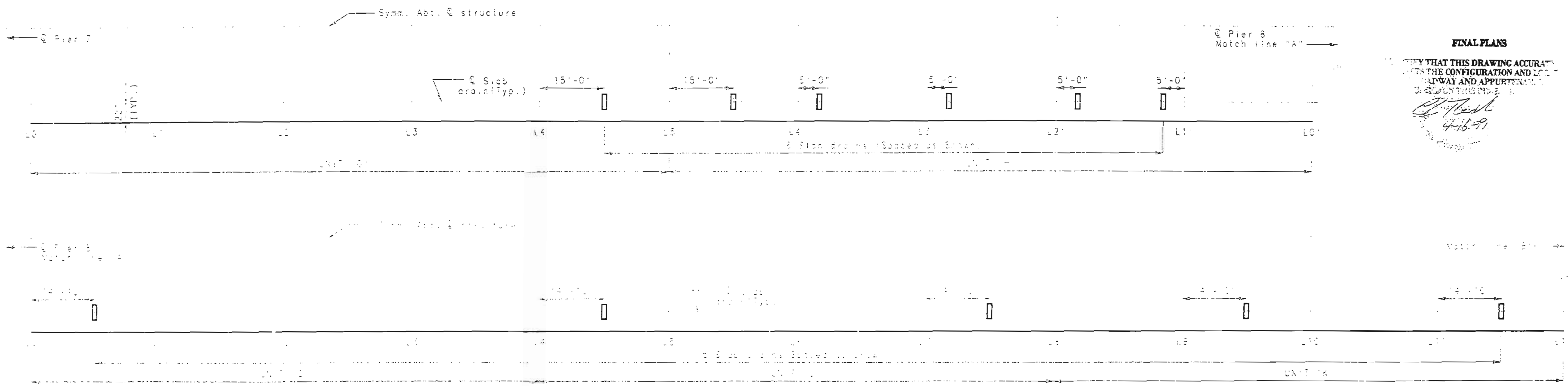
All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

The bolt hole for the bracket assembly attachment shall be located on the plate girder shop drawings.

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



SLAB DRAIN DETAILS



PART PLAN SHOWING SLAB DRAIN LOCATIONS

FINAL PLANS

SLAB DRAIN DETAILS & LOCATIONS

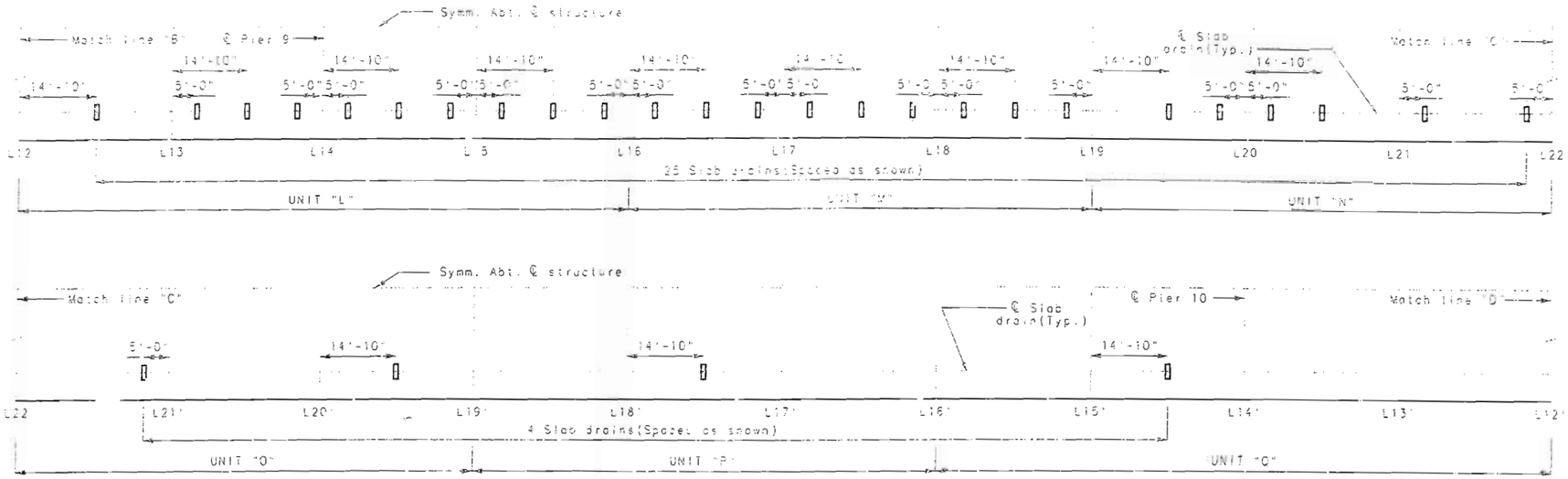
PLATTE COUNTY A450R1

STATE | PROJ. NO. | SHEET NO.
NEBR. | ACSTP-ACBRS-3312(415) | 46

FINAL PLANS

I HEREBY CERTIFY THAT THIS DRAWING ACCURATELY REPRESENTS THE CONFIGURATION AND DETAILS OF THE BRIDGE AND APPURTENANCES CONSTRUCTED UNDER THIS PROJECT.

[signature] 4/16/99



For skew and horizontal curve data, see sheet No. 34.

PART PLAN SHOWING SLAB DRAIN LOCATIONS

DETAILED JUNE 1998
CHECKED JULY 1998

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

SHEET NO. 35 OF 80

PLATTE COUNTY

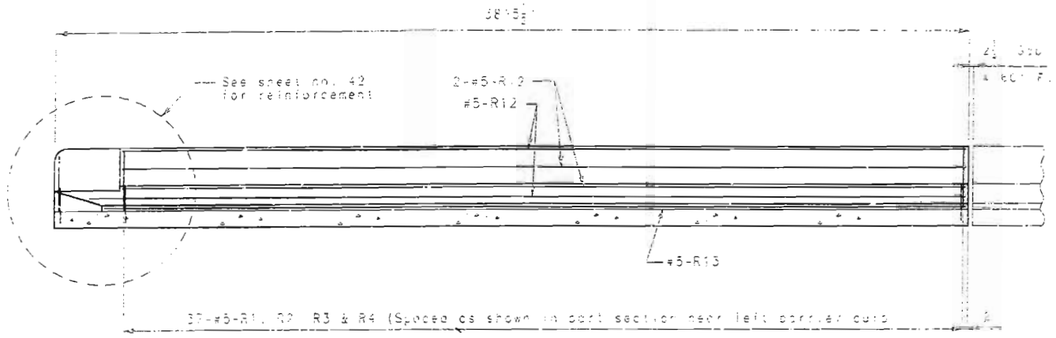
A450R1

Steel Girder Bridge
Revised
June 1998
September 1992

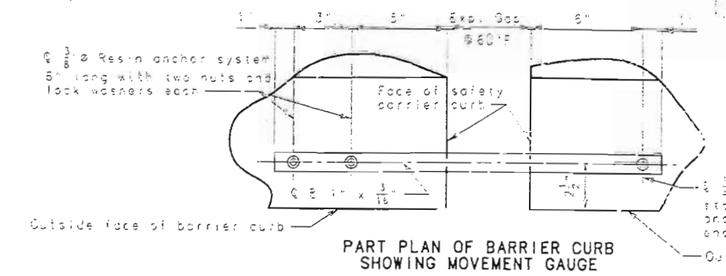
STATE	PROJ. NO.	SHEET NO.
NO.	ACSTP-ACBRS-3312(415)	47

Note: A movement gauge shall be provided on one side of bridge at all safety barrier curb expansion joints at sites shown on the plans.

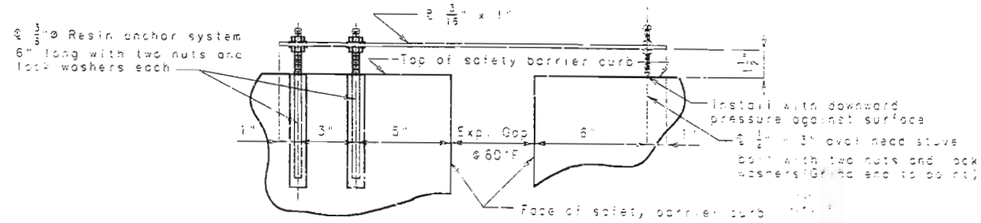
Cost of movement gauge complete in place shall be included in contract unit price bid for safety barrier curb.



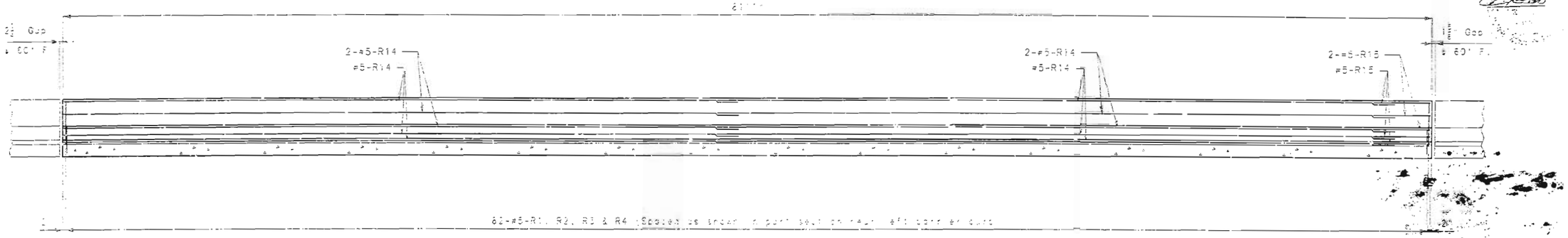
SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT A)



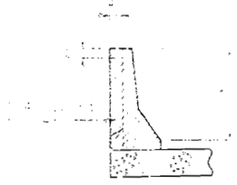
PART PLAN OF BARRIER CURB
SHOWING MOVEMENT GAUGE



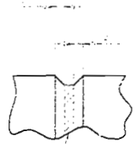
PART ELEVATION OF BARRIER CURB
SHOWING MOVEMENT GAUGE



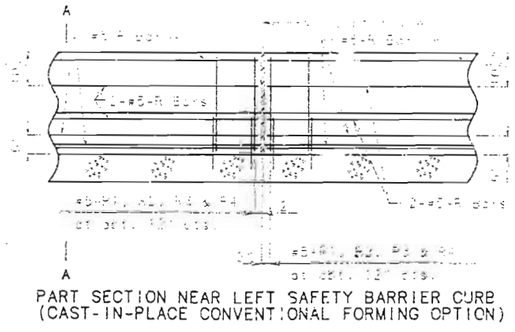
SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT B)



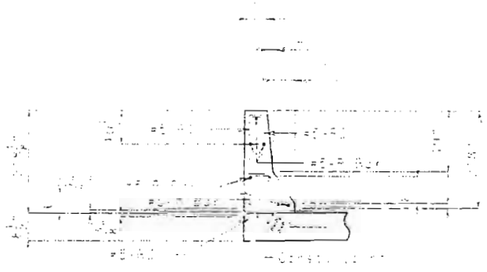
DETAILS OF PLASTIC WATERSTOP



FILLED JOINT DETAIL



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



PART SECTION A-A

General Notes for Barrier Curb:

Top of safety barrier curb and gutter shall be built to the grade of the safety barrier curb on the highest side of the curb unless noted to grade.

Exposed edges of safety barrier curb shall have a chamfer of 1" x 1" or a 1" radius, or as otherwise noted.

After the safety barrier curb is built, the contractor shall be responsible for the cost of any damage and replacement, both labor and cost.

Measurement of safety barrier curb is to the nearest foot for each structure, measured along the face of the curb from end of wing to end of wing.

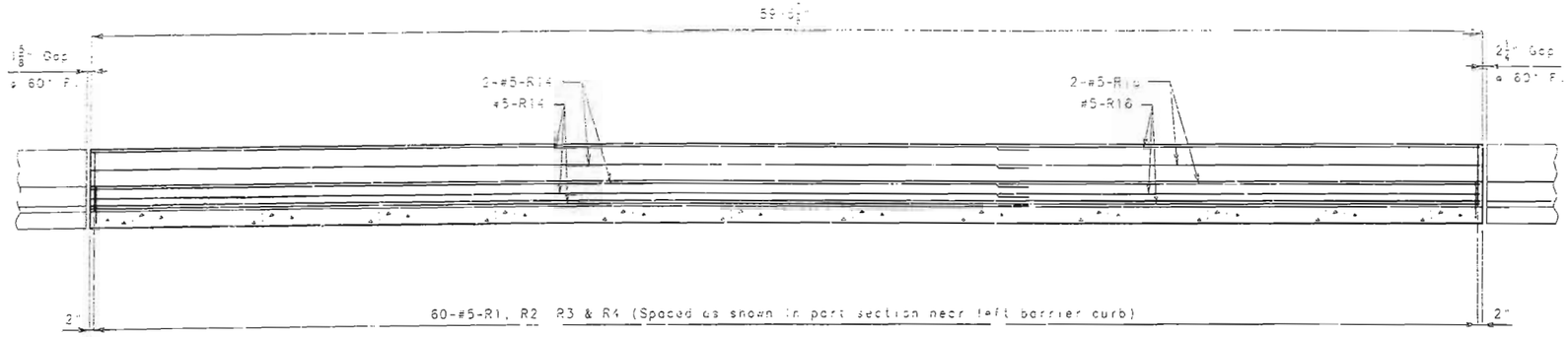
Any joining dimensions are taken from the construction joints and are used for calculating the length.

Work is a great work sheet no. 42.

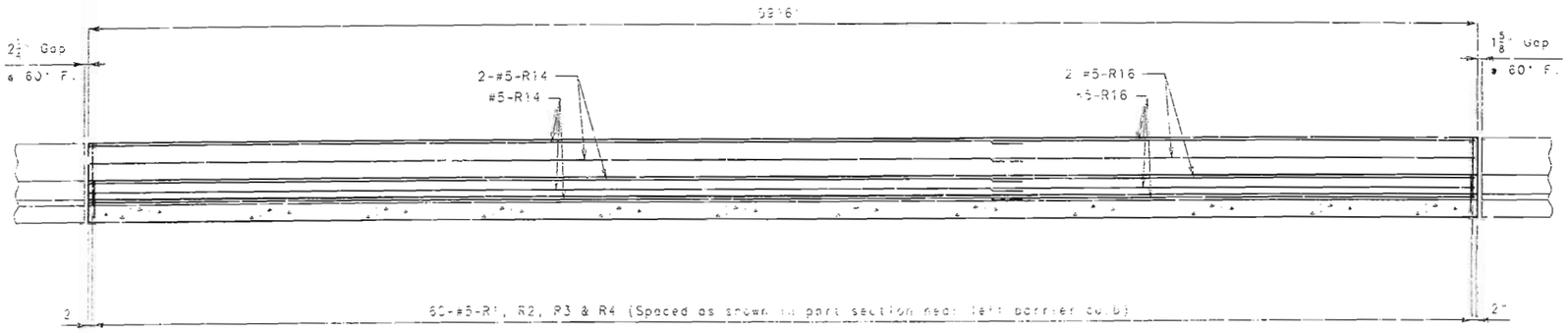
For details of concrete & cost of bevel & curb, see sheet no. 44, 45 and 46.

PLATTE COUNTY A450R1

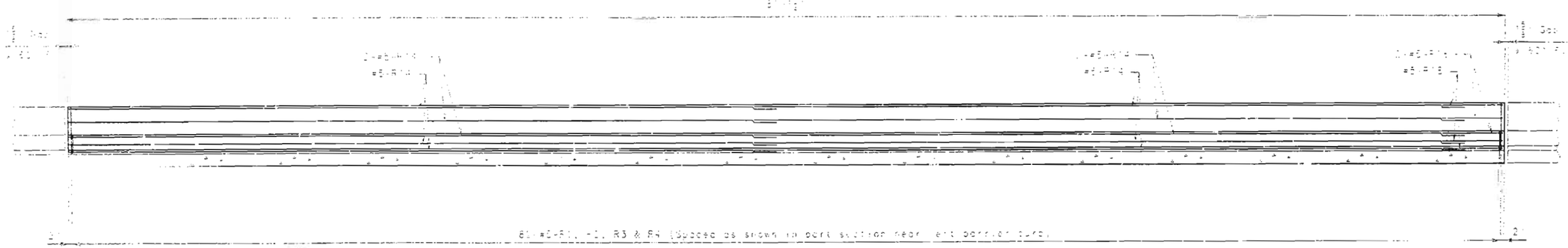
STATE	PROJ. NO.	SHEET NO.
NE.	ACSTP-4CBRG-3312(4&5)	48



SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT C)



SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT D)



SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT E)

I CERTIFY THAT THIS DRAWING ACCURATELY REPRESENTS THE CONFIGURATION AND DIMENSIONS OF THE ROADWAY AND APPURTENANCES CONSTRUCTED ON THIS PROJECT.

4-15-97

DATE

DETAILED JUNE 1996
CHECKED JUNE 1996

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

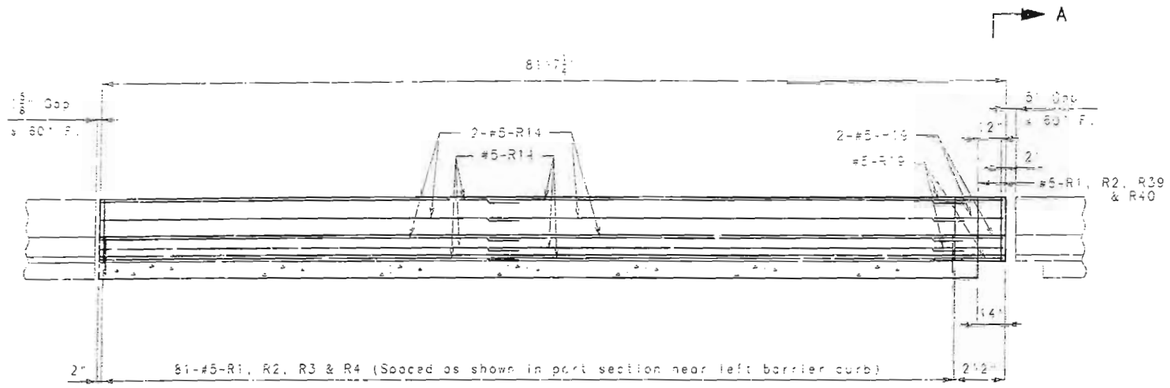
SHEET NO. 37 OF 60 SHEETS

PLATTE COUNTY

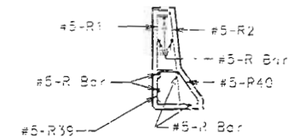
A450R1

BARRIER CURB ELEVATION REVISED: MAR. 1995
JAN. 1990

STATE	PROJ. NO.	SHEET NO.
NO.	A-STP-AC3F5-3312(415)	149

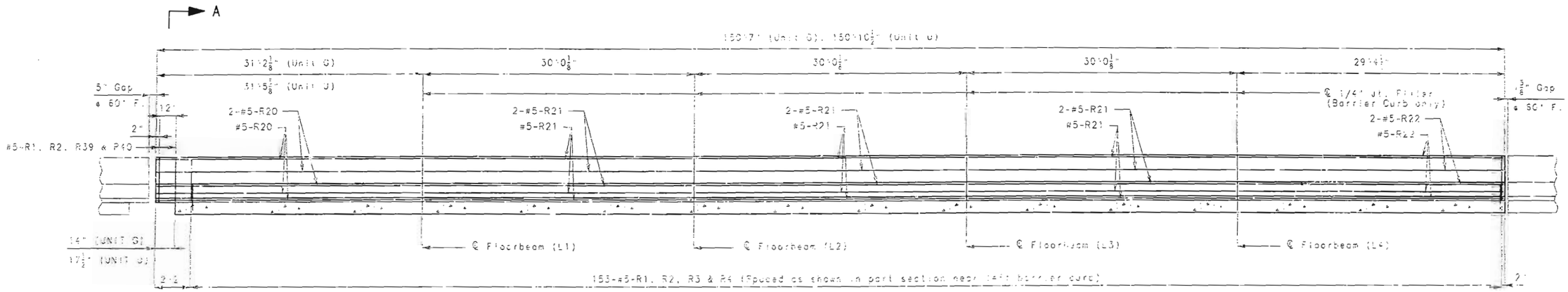


SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT F)

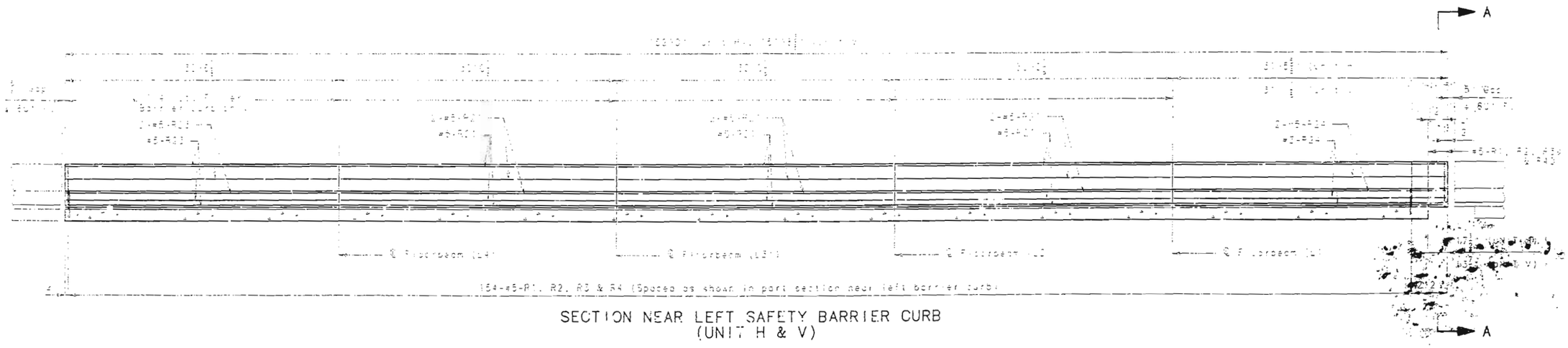


PART SECTION A-A

Note: 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.



SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT G & U)



SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT H & V)

149

BARRIER CURB ELEVATION (REVISED)
JAN. 1990 MAR. 1995

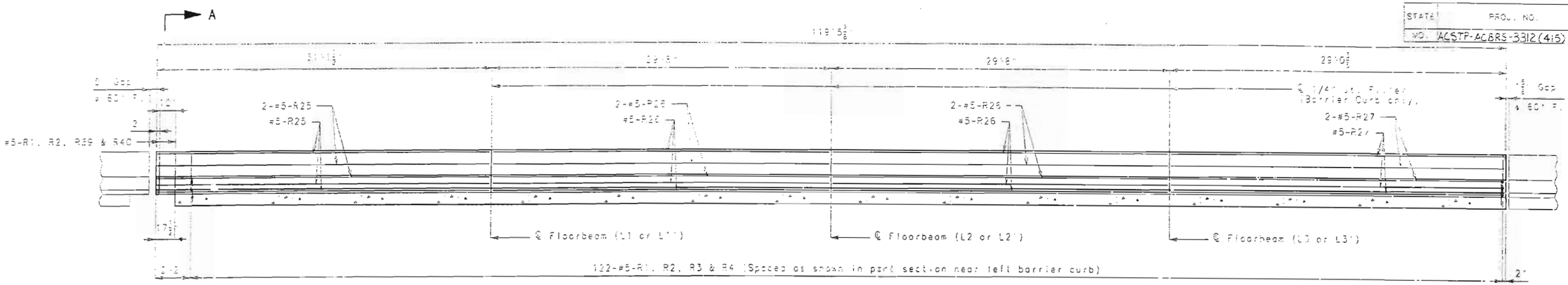
DETAILED JUNE 1998
CHECKED JUNE 1998

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

SHEET NO. 38 OF 80.

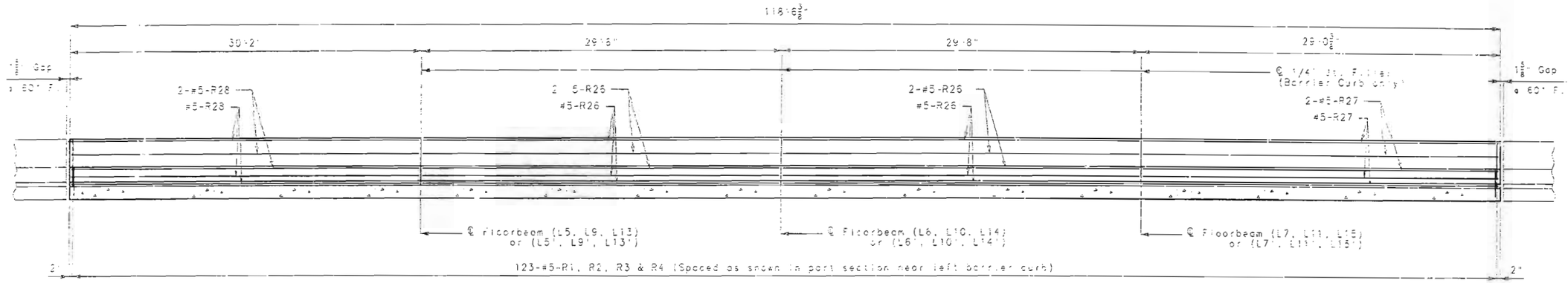
PLATTE COUNTY A450R1

STATE	PROJ. NO.	SHEET NO.
WD.	AGSTP-ACBRS-3312(415)	50

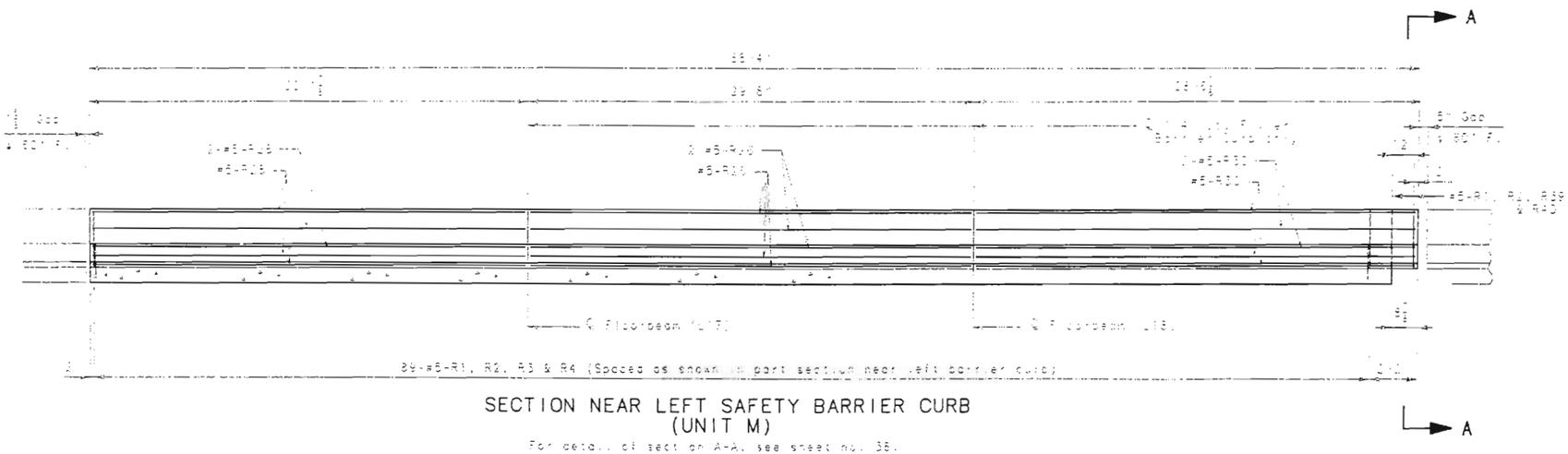


SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT I) (UNIT T)

For detail of section A-A, see sheet no. 38.



SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT J) (UNIT S)
(UNIT K) (UNIT R)
(UNIT L) (UNIT Q)



SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT M)

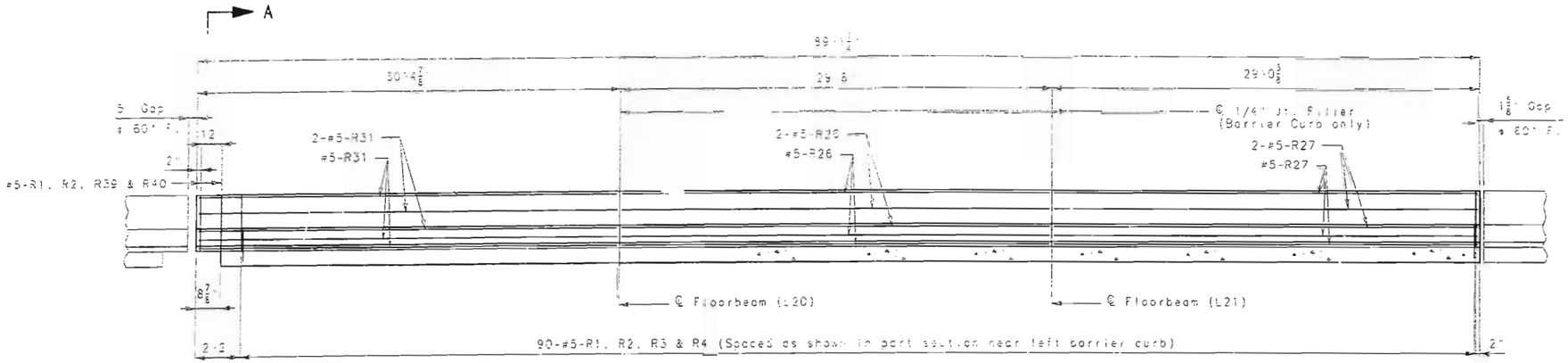
For detail of section A-A, see sheet no. 38.

370

GUARDRAIL CURB ELEVATION	REVISED:	MAR. 1995
	DATE	
JAN. 1990	CHECKED	JUNE 1990

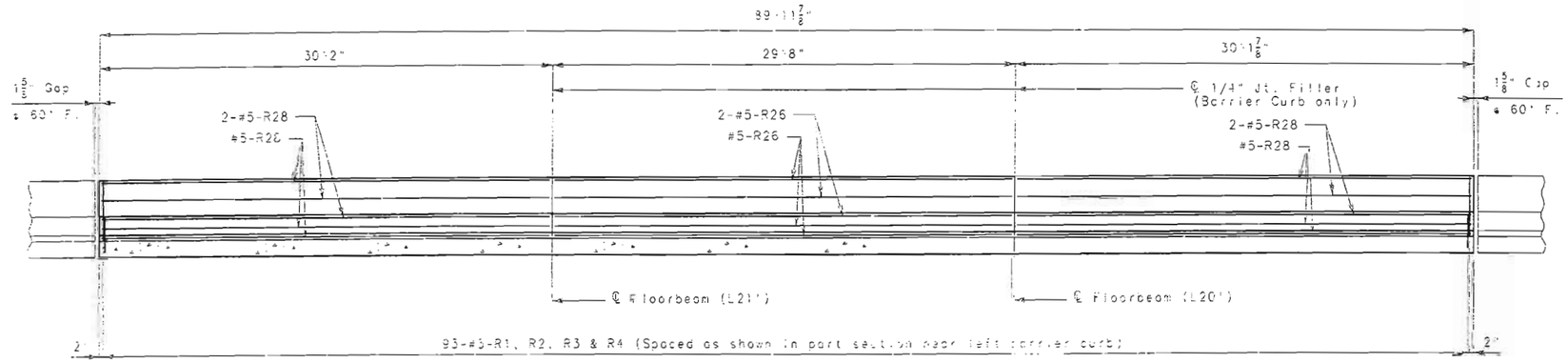
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

STATE	PROJ. NO.	SHEET NO.
NO.	ACSTP-ACBRS-3312(415)	51

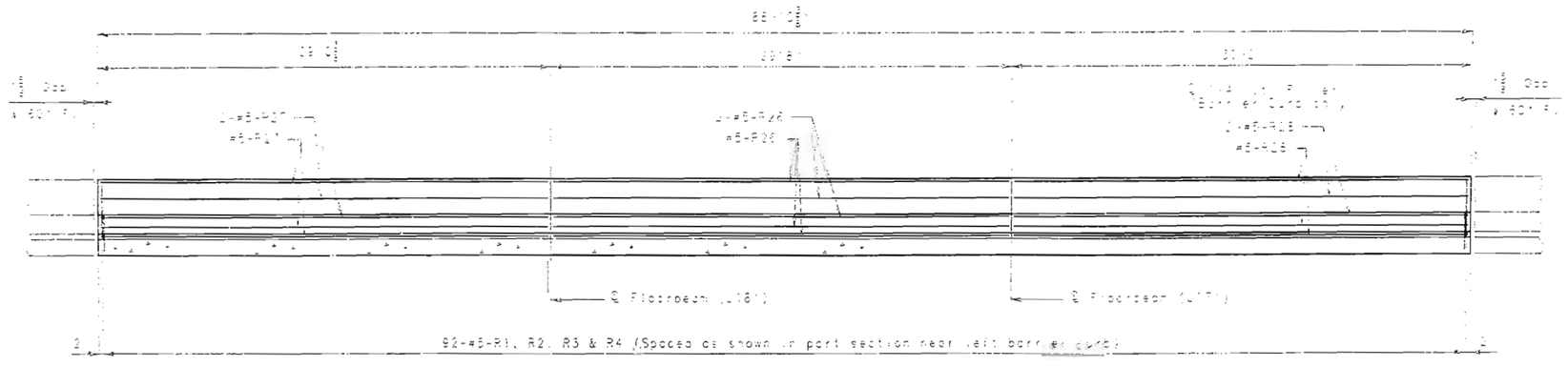


SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT N)

For detail of section A-A, see sheet no. 36.



SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT O)



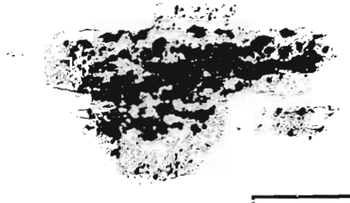
SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT P)

FINAL PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

SIGNATURE

4-199
DATE



BARRIER CURB ELEVATIONS REVISED
JAN. 1990 MAR. 1995

DESIGNED JUNE 1986
CHECKED JUNE 1986

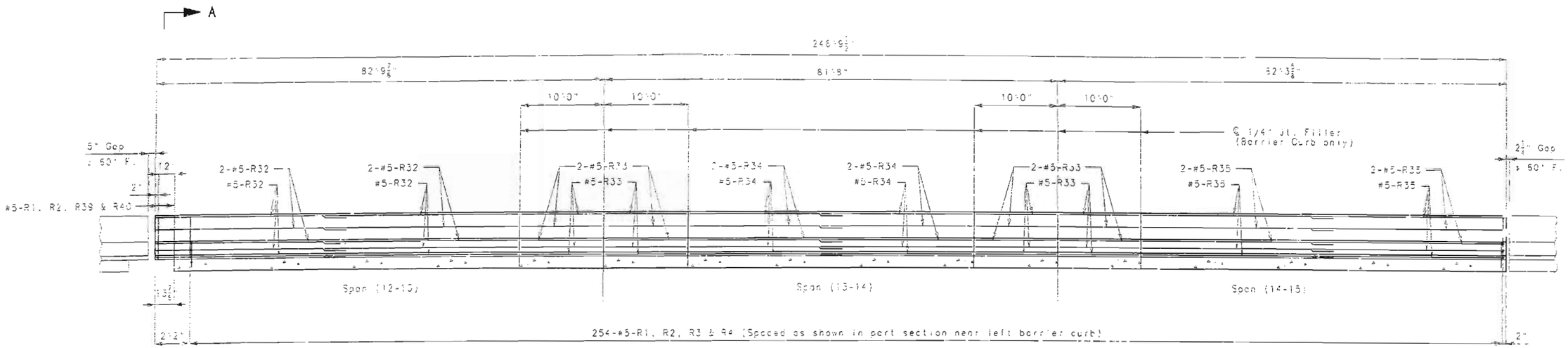
NOTE: IF DRAWING IS NOT TO SCALE, FOLLOW DIMENSIONS.

SHEET NO. 40 OF 64 SHEETS

PLATTE COUNTY

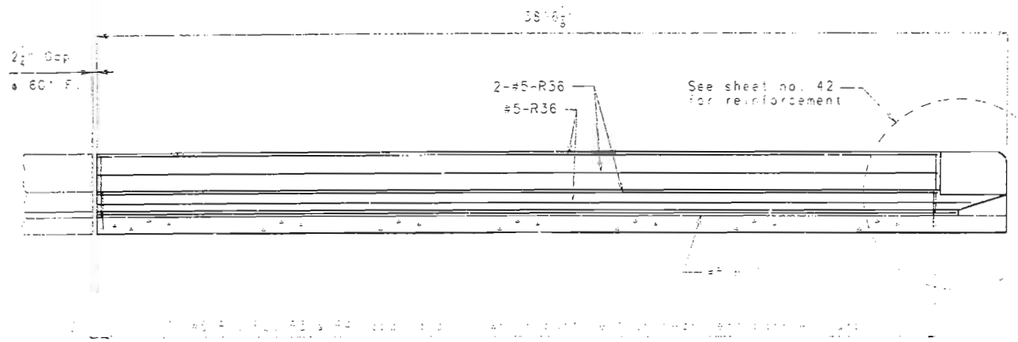
A450R1

STATE	PROJ. NO.	SHEET NO.
NO.	ACSTP-ACBRS-3312(415)	52



SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT W)

For details of section A-A see sheet no. 38.



SECTION NEAR LEFT SAFETY BARRIER CURB
(UNIT X)

FINAL PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

SIGNATURE _____ DATE _____

5100

BARRIER CURB ELEVATIONS
JAN. 1990 MAR. 1995

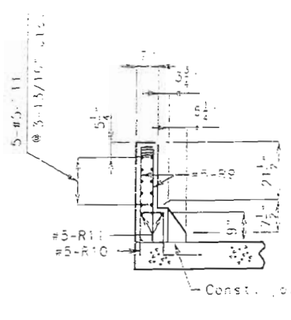
DESIGNED JUNE 1996
CHECKED JUNE 1996

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

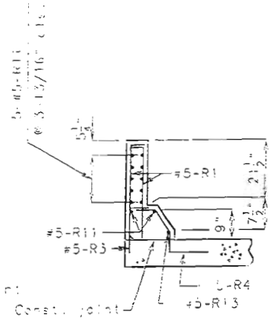
SHEET NO. 4 OF 60

PLATTE COUNTY A450R1

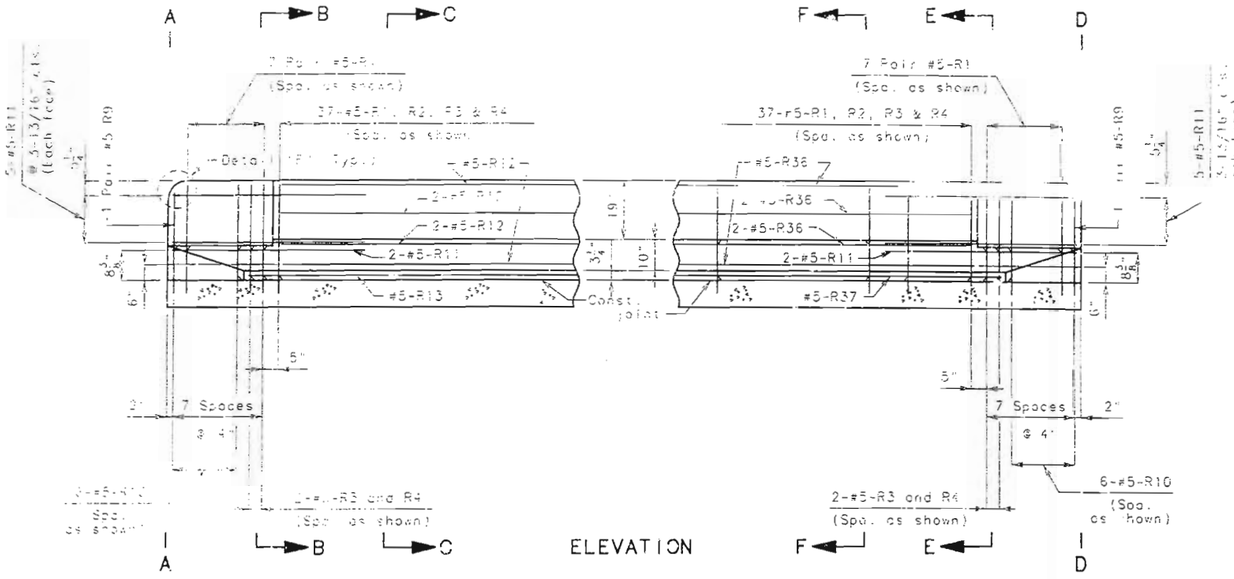
STATE	PROJ. NO.	SHEET NO.
NO.	ACSTP-ACBRS-3312(415)	53



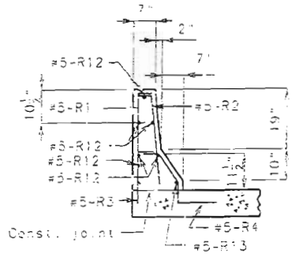
PART SECTION A-A



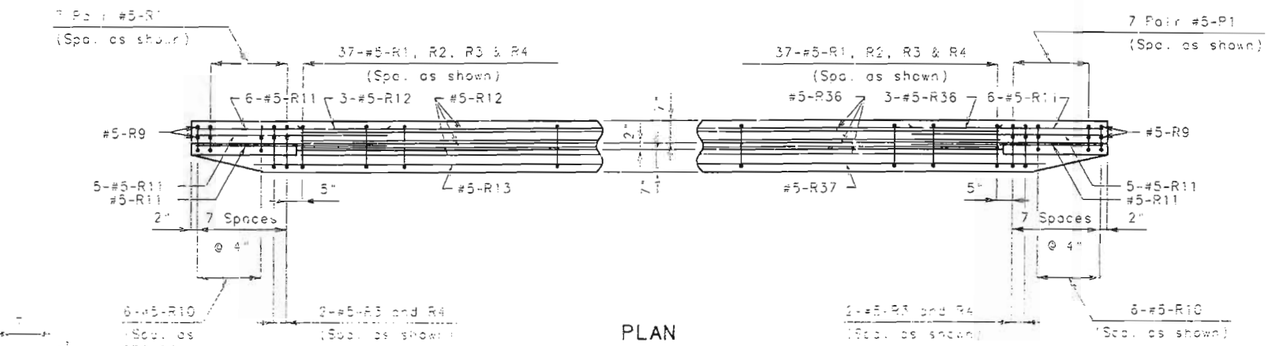
PART SECTION B-B



ELEVATION



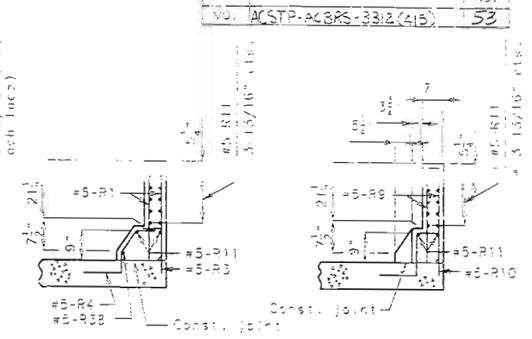
PART SECTION C-C



PLAN

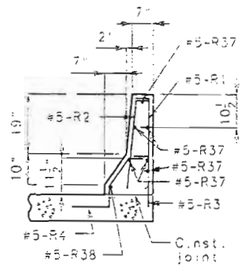
UNIT A (LEFT SIDE)
UNIT X (RIGHT SIDE)

UNIT X (LEFT SIDE)
UNIT A (RIGHT SIDE)

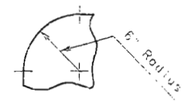


PART SECTION E-E

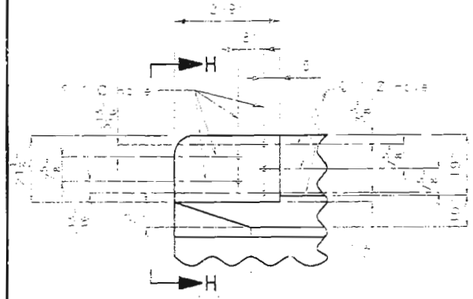
PART SECTION D-D



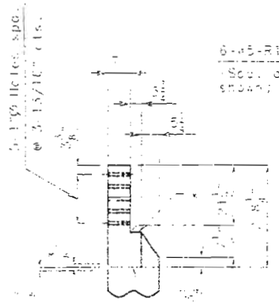
PART SECTION F-F



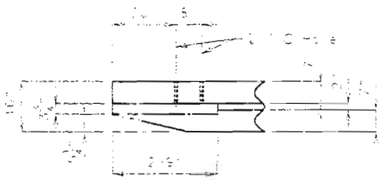
DETAIL "F"



PART ELEVATION



PART ELEVATION H-H



PART PLAN

DETAILS OF GUARD RAIL ATTACHMENT

DETAILS OF SAFETY BARRIER CURB AT END BENTS

FINAL PLAN.

I HEREBY CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE BRIDGE, ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

FINAL DATE

REVISED	SEPT. 1995
CHECKED	JUNE 1995

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

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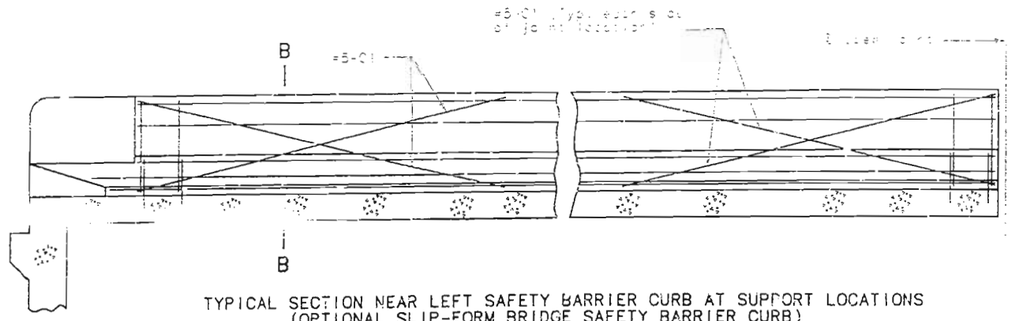
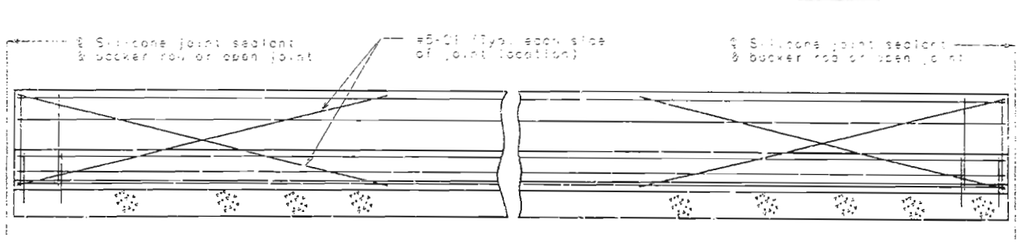
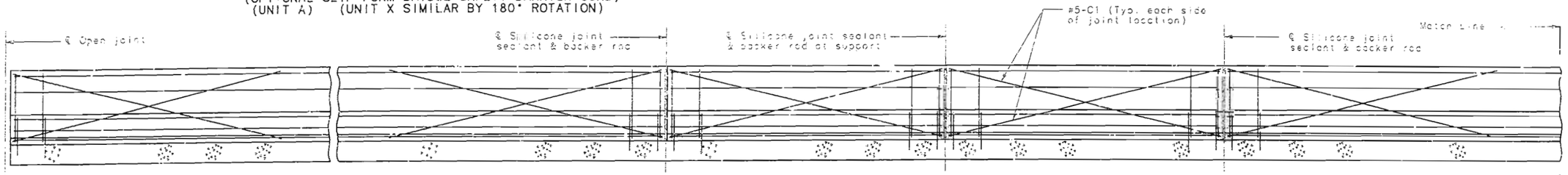


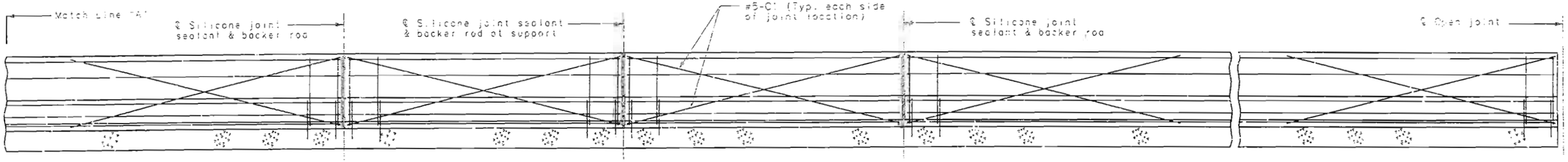
TYPICAL SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS
(OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)
(UNIT A) (UNIT X SIMILAR BY 180° ROTATION)



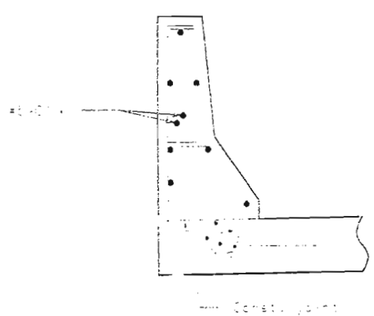
TYPICAL SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS
(OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)
(UNIT B THRU UNIT V)



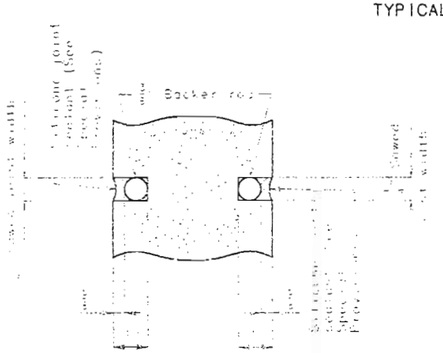
TYPICAL SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS
(OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)
(UNIT W)



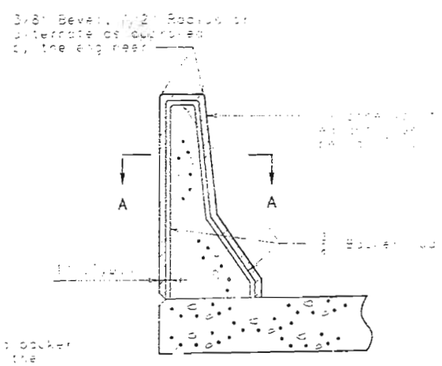
TYPICAL SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS
(OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)
(UNIT W)



PART SECTION B-B



SECTION A-A



SECTION THRU JOINT

OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB

Note:

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SEPT. 1995

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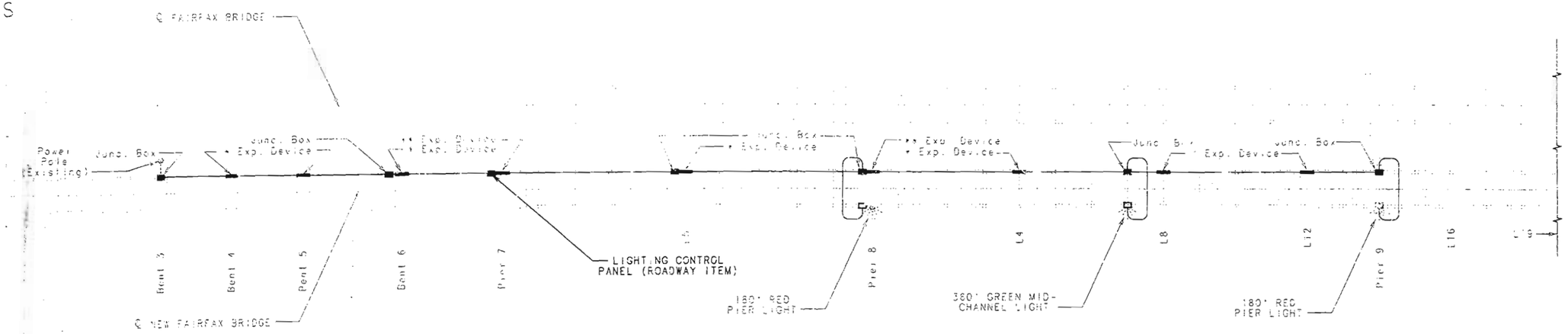
MO.	IACSTP-ACORS-B312(415)	55

KANSAS

MISSOURI



NOTES:

Navigation lighting system shall include light fixtures, lamps, reflective markers, and all incidentals required to complete the work.

The lighting control cabinet and wiring shall be paid for as a roadway item.

Concrete anchors shall be resin anchors and installed according to the manufacturer's specifications. The hole shall be pre-drilled with a conventional carbide masonry bit.

All bolts, nuts and washers shall be galvanized.

Any field drilled holes required for attachment of above items shall be considered as part of the navigation lighting system.

Each section of conduit shall bear the underwriters laboratories, inc. (UL) label. (Sec. 1060)

The location and direction of conduit may be shifted to meet field conditions as directed by the engineer.

Navigation lighting shall meet the requirements of the U.S. COAST GUARD.

All optical unit fixtures shall be type [illegible] as manufactured by [illegible] or approved equal.

Existing navigation lighting and appurtenances shall remain in operation during construction and after installing the new system, the existing system and all power systems and wiring shall be removed from the river. The entire existing system shall be removed and disposed of as directed by the engineer and shall be included in the cost of item for navigation lighting system, and sum.

* Denotes erection or coupling with 3" minimum movement capacity.

** Denotes expansion coupling with 8" minimum movement capacity.

All conduit materials are part of a roadway junction box.

FINAL PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REPRESENTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES CONSTRUCTED ON THIS PROJECT.

[signature]

PLAN SHOWING CONDUIT & NAVIGATIONAL LIGHTING

PLATTE COUNTY

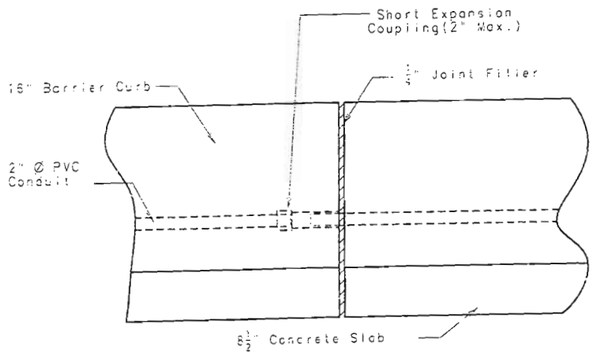
A450R1

REVISED MAY 1996
MARCH 1994

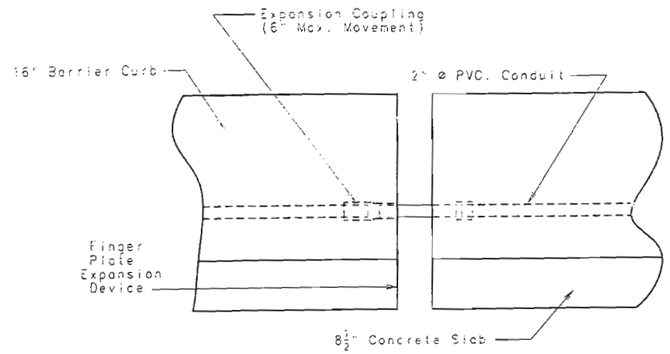
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 44 OF 60

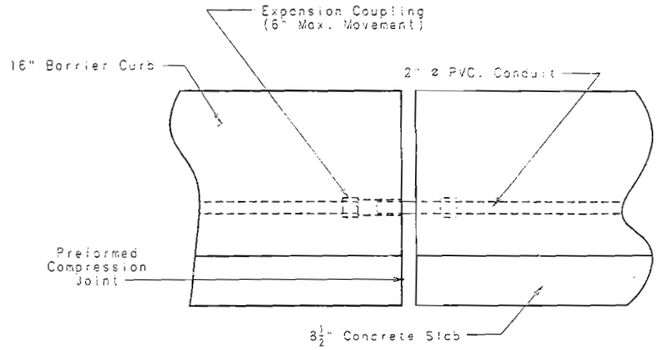
STATE	PROJ. NO.	SHEET NO.
MO.	ACSTP-ACBRS-3512(415)	57



PART
ELEVATION OF 16" BARRIER CURB SHOWING SHORT EXPANSION COUPLING ● FILLED JOINTS.



PART
ELEVATION OF BARRIER CURB SHOWING EXPANSION COUPLING (Typ. ● Piers 7 & 8 of Continuous Truss Span).

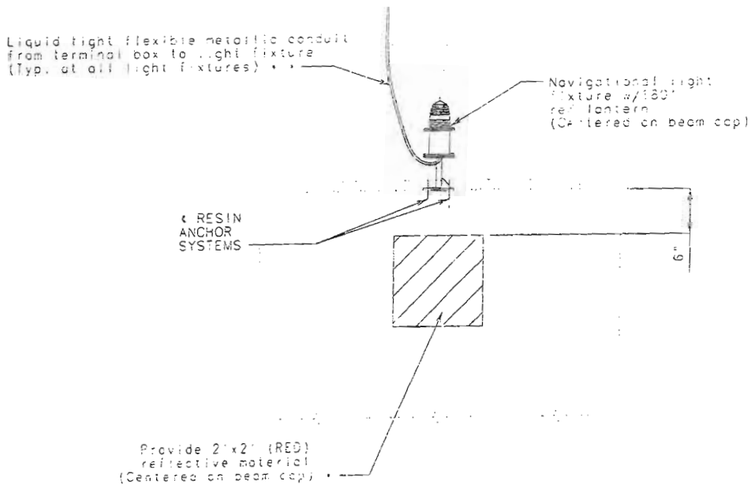


PART
ELEVATION OF BARRIER CURB SHOWING EXPANSION COUPLING(TYP. ● Bents 4 5, 6 & L4, L8, L12 OF CONTINUOUS TRUSS SPAN & L5 OF SIMPLE TRUSS SPAN(7-8).

For locations of expansion couplings, see sheet No. 44.
For notes on expansion couplings, see sheet No. 45

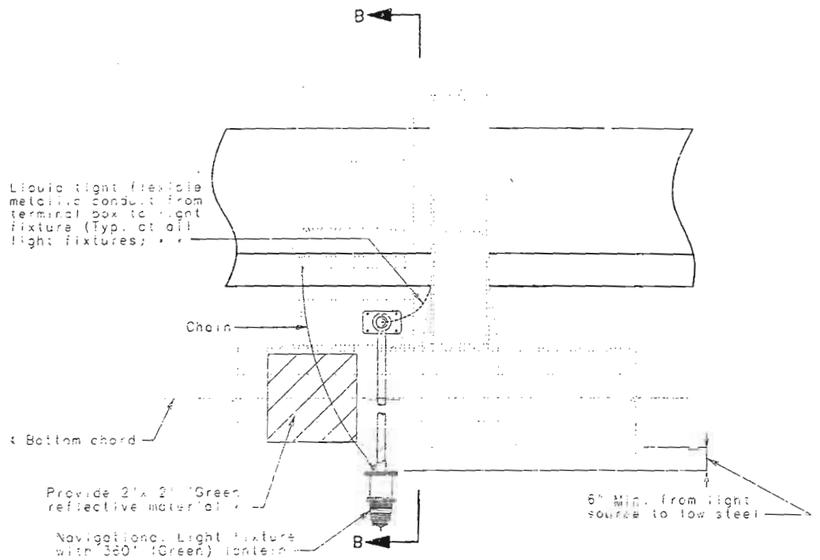
DETAILS OF CONDUIT SYSTEM COUPLINGS

STATE	PROJ. NO.	SHEET NO.
NO.	HCSTP-ACBRS-3312(415)	52



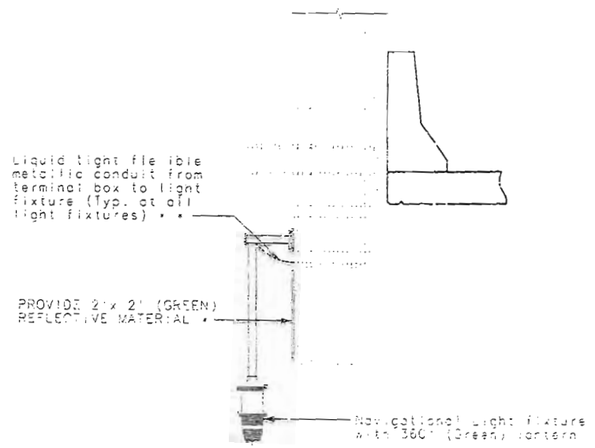
NAVIGATIONAL LIGHTING AT TOP OF PIER 9

NOTE: Galvanized studs used for the resin anchor systems shall be the same size and number as recommended by the manufacturer and approved by the engineer.

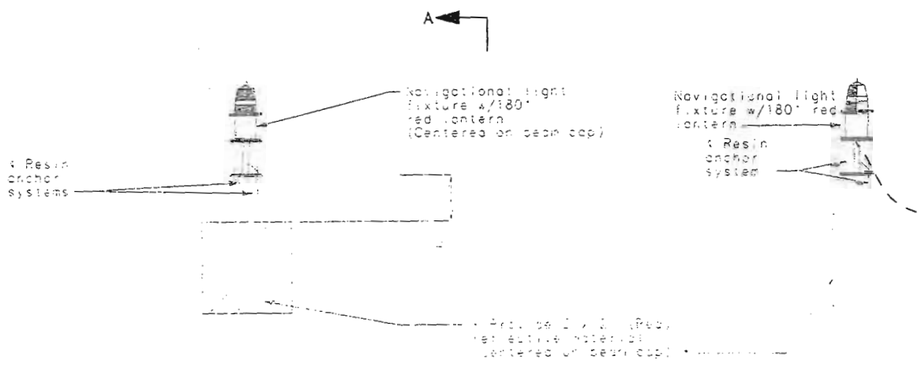


NAVIGATION LIGHT DETAIL AT MID-CHANNEL (SPAN 8-9)

Drawn for L7 pier support bracket not shown.



SECTION B--B



NAVIGATIONAL LIGHTING AT TOP OF PIER 8

SECTION A-A

NOTE:
1. Type 2 reflective sheeting on an aluminum flat sheet in accordance with sec. 1042. For mounting use 3/8"Ø stainless Steel studs, washers and nuts with resin anchor systems, See Special provisions, space plate 1/2" flat plate away from existing concrete or steel with 3/4" stainless steel spacers.
2. [illegible] be repaired if damaged during construction as directed by the engineer.
3. [illegible] drawing [illegible] to depth used. [illegible]
4. [illegible] to be mounted on [illegible] and must be [illegible] see detail sheet [illegible] number as recommended by the manufacturer and approved by the engineer.

CONFIGURATION OF THIS BRIDGE AND APPURTENANCES ARE DESIGNED ON THIS PROJECT.

NAVIGATION LIGHTING DETAILS

DETAILED JUNE 1996
CHECKED JULY 1996

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

SHEET NO. 47 OF 55

PLATTE COUNTY

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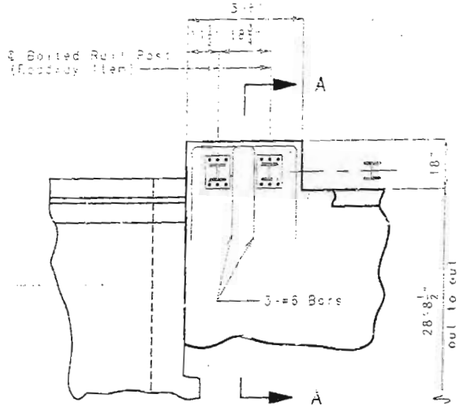
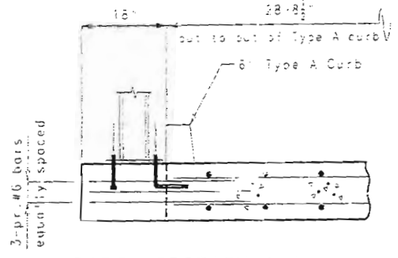
MO.	ACSTP-ACBRS-3312(415)	59

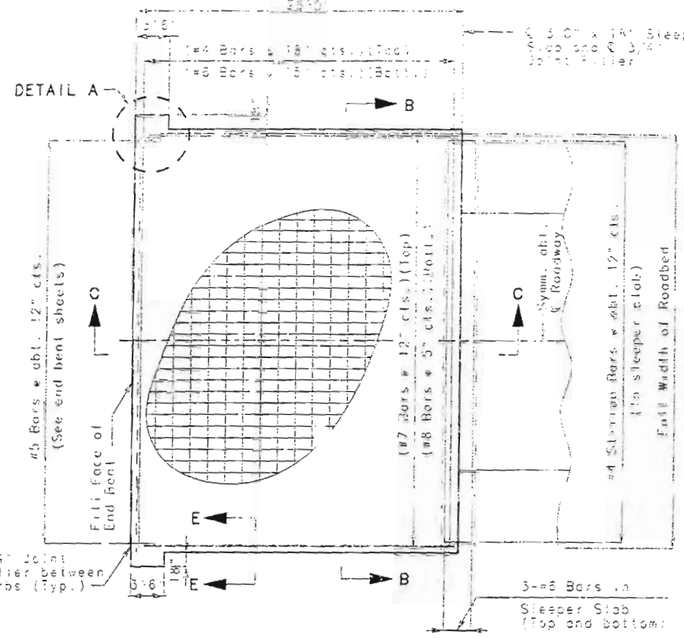


DETAIL A

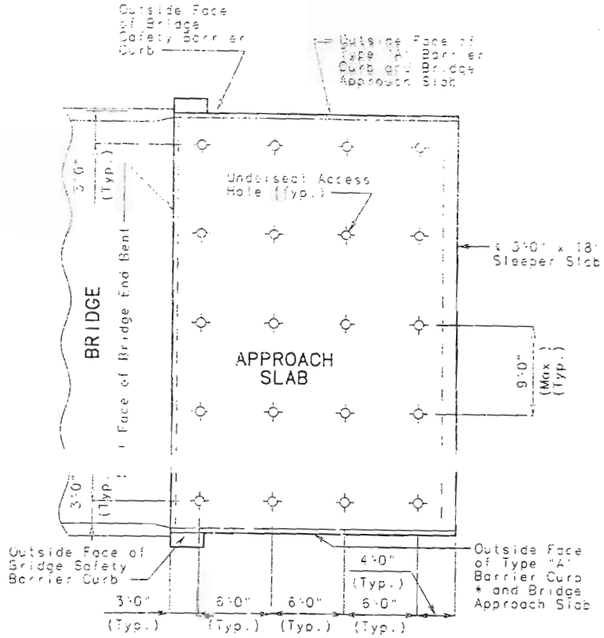


PART SECTION A-A

Note: For Details of Bolted Rail Post (Rdwy. Item) see sheet no. 49.
Cost of Installing Anchors for Bolted Rail Post, placed in Bridge Approach slab shall be included in cost bid for other items.
* Type A curb on right side at end bent #15 to be terminated 15' from the front face of end bent as approved by the engineer.



PART PLAN SHOWING REINFORCEMENT



PART PLAN
(Showing typical underseal access hole locations)

GENERAL NOTES:

All concrete for the bridge approach slab and sleeper slab shall be P accordance with Sect or 503 (f'c = 4,000 psi).

All joint filler and ... meet the requirements of Section 1051.2.5, except be noted.

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

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 & #6 bars 27" and 40" respectively.

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

Mechanical bar splices shall be epoxy coated in accordance with Mo. Std. Spec. 710.

... published manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Place Class A underdrain at face of sleeper slab under bridge approach slab and slope to lowest grade of ground line, also missing the bottom of the sleeper slab by 1-1/2".

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

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

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

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

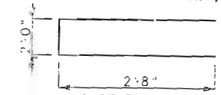
See Missouri Standard Plans Drawing 504.00 for details of Concrete Approach Pavement.

Underdrains shall be placed under bridge approach slab. See Missouri Standard Plans Drawing 605.10 for details of Class A Underdrain.

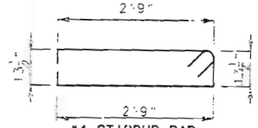
See Missouri Standard Plans Drawing 609.00 or 609.00 for details of Type A Barrier Curb.

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

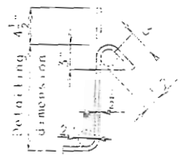
When Grade 40 reinforcement is substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the ... abutment, the reinforcement may be bent up to 90 degrees with a 2" min. radius for the abutment to allow incorporation of the epoxy ... mesh. Damage to epoxy coating shall be repaired according to Mo. Std. Spec. 710.3.3.



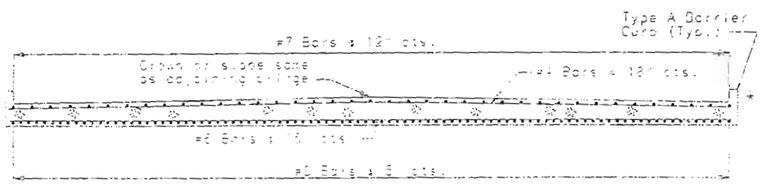
#6 STIRRUP BAR
(ACTUAL LENGTH = 6'-8")



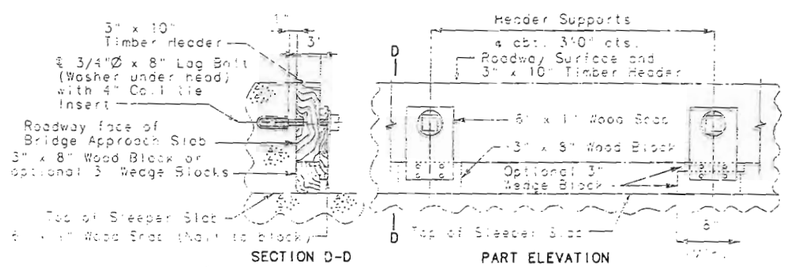
#4 STIRRUP BAR
(ACTUAL LENGTH = 8'-3")



TYPICAL 135° STIRRUP HOOK DIMENSIONS BENDING DIAGRAM



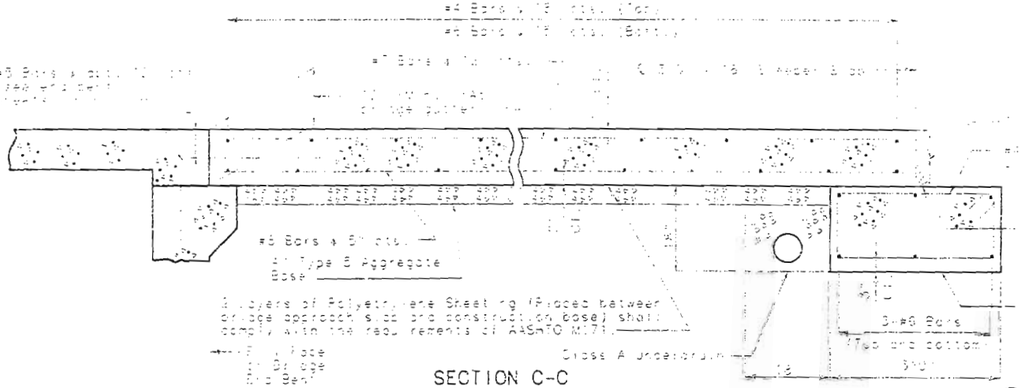
SECTION B-B



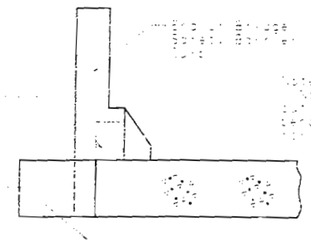
SECTION D-D PART ELEVATION

Note: Remove timber header after concrete pavement is placed.

DETAILS OF TIMBER HEADER

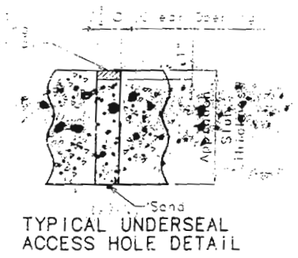


SECTION C-C



SECTION E-E
(Between Curbs)

CONST. JOINT DETAIL
(If required)



TYPICAL UNDERSEAL ACCESS HOLE DETAIL

BRIDGE APPROACH SLAB

PLATTE COUNTY

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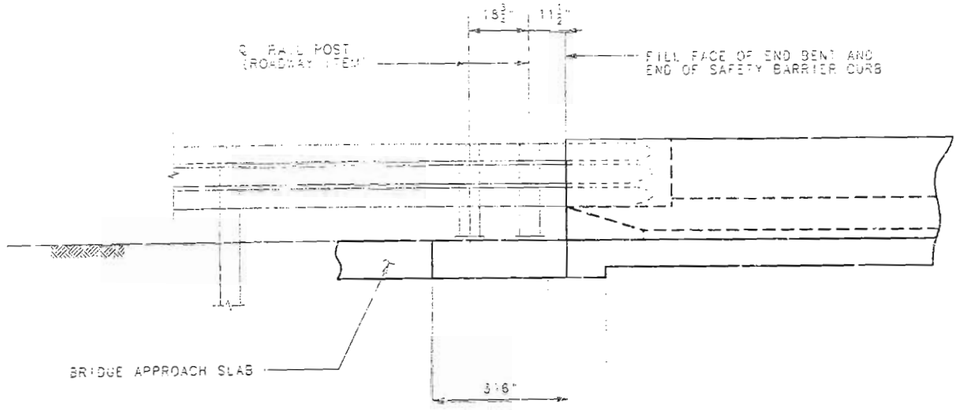
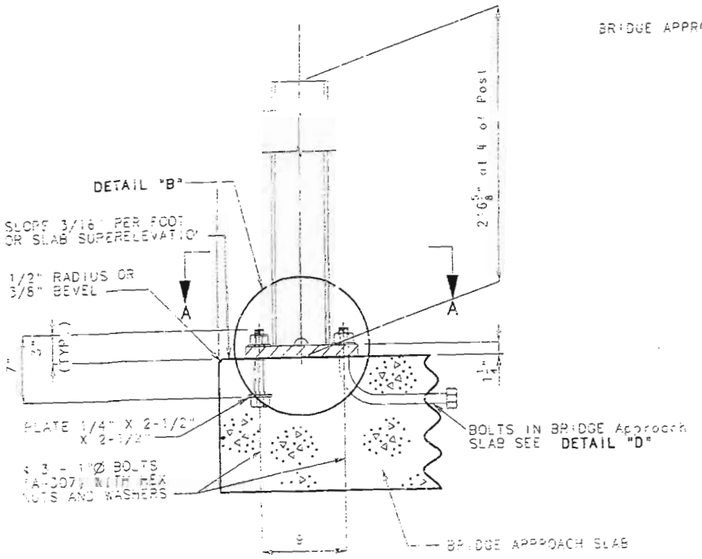
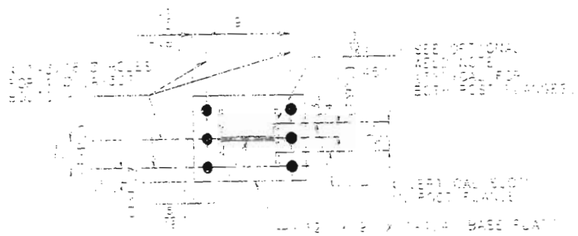


PART ELEVATION NEAR END BENT SHOWING BOLTED RAIL POSTS ON APPROACH SLAB

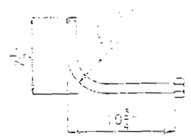


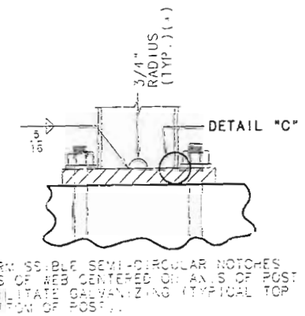
PART SECTION AT BOLTED RAIL POST



SECTION A-A

NOTE: OPTIONAL WELDING OF THE POST TO THE BASE PLATE IS A 3/16" FILLET WELD ALL AROUND, INCLUDING THE EDGES OF THE POST FLANGES IN LIEU OF THE WELD SHOWN.





(*) PERMISSIBLE SEMI-CIRCULAR NOTCHES IN ENDS OF WEB CENTERED ON AXIS OF POST TO FACILITATE GALVANIZING (TYPICAL TOP AND BOTTOM OF POST).

DETAIL "B"

DETAIL "C"

GENERAL NOTES:

ALL BOLTS, NUTS, WASHERS, PLATES AND ELASTOMERIC MATERIALS ARE CONSIDERED AS PARTS OF THE BRIDGE ANCHOR SECTION (ROADWAY ITEM).

RAIL POSTS SHALL BE SET PERPENDICULAR TO ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION, AND ALIGNED ACCORDING TO SECTION 713 OF THE MISSOURI STANDARD SPECIFICATIONS, EXCEPT THAT THE RAIL POSTS SHALL BE ALIGNED BY THE USE OF SHIMS SO THAT IN THE FINAL ADJUSTMENT NO PART SHALL DEVIATE MORE THAN ONE INCH FROM TRUE HORIZONTAL ALIGNMENT. THE SHIMS SHALL BE 3" X 1-3/4" AND PLACED BETWEEN THE POST AND THE THRIE BEAM RAIL. THE THICKNESS OF THE SHIMS SHALL BE DETERMINED BY THE CONTRACTOR AND VERIFIED BY THE ENGINEER BEFORE ORDERING MATERIAL FOR THIS WORK.

RAIL POSTS SHALL BE SEATED ON ELASTOMERIC PADS HAVING THE SAME DIMENSIONS AS THE POST BASE PLATE AND 1/8" THICK. SUCH PADS MAY BE ANY ELASTOMERIC MATERIAL, PLAIN OR FIBERED, HAVING A HARDNESS (DUROMETER) OF 50 OR ABOVE, AS CERTIFIED BY THE MANUFACTURER. ADDITIONAL PADS OR HALF PADS MAY BE USED IN SHIMMING FOR ALIGNMENT. POST HEIGHTS SHOWN WILL BE DECREASED BY THE THICKNESS OF THE PAD.

POSTS AND BASE PLATES SHALL BE FABRICATED FROM ASTM A709 GRADE 36 STEEL AND GALVANIZED.

THREADED RODS OF [illegible] WITH 2 HEX NUTS AND WASHERS MAY BE SUBSTITUTED FOR THE A307 ANCHOR BOLTS.

EACH OF THE THREE (3) SHORTER ANCHOR BOLTS SHALL BE FURNISHED WITH A 1/4" X 2-1/2" X 2-1/2" PLATE (ASTM A709 GRADE 36) TACK WELDED TO THE HEAD OF THE BOLT; OR, AT THE CONTRACTOR'S OPTION, ONE PLATE 1/4" X 2-1/2" X 12" CONTINUOUS FOR ALL THREE BOLTS MAY BE USED.

FABRICATION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH SECTION 7.2 OF THE MISSOURI STANDARD SPECIFICATIONS.

NOTE: FOR DETAILS OF THRIE BEAM ANCHOR SECTION SEE MISSOURI STANDARD PLANS NO. 606.22 EXCEPT AS SHOWN ON THIS SHEET.

FOR GUARD RAIL POSTS THAT ARE WITHIN LIMITS OF EXISTING CONCRETE DRAINS, REMOVE CONCRETE TO DRIVE GUARD RAIL POSTS AND GROUT POST IN PLACE AFTER DRIVING.

PAYMENT FOR ALL INCIDENTAL WORK RELATED TO GUARD RAIL INSTALLATION IS INCLUDED IN THE UNIT PRICE BID FOR BRIDGE ANCHOR SECTION (ROADWAY ITEM).

AS BUILT PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONSTRUCTION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

SIGNATURE DATE

DETAILS OF BOLTED RAIL POST

PLATTE COUNTY A450R1

380

DETAILED BY [illegible] 1996
CHECKED BY [illegible] 1996

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

SHEET NO. 60 OF 84

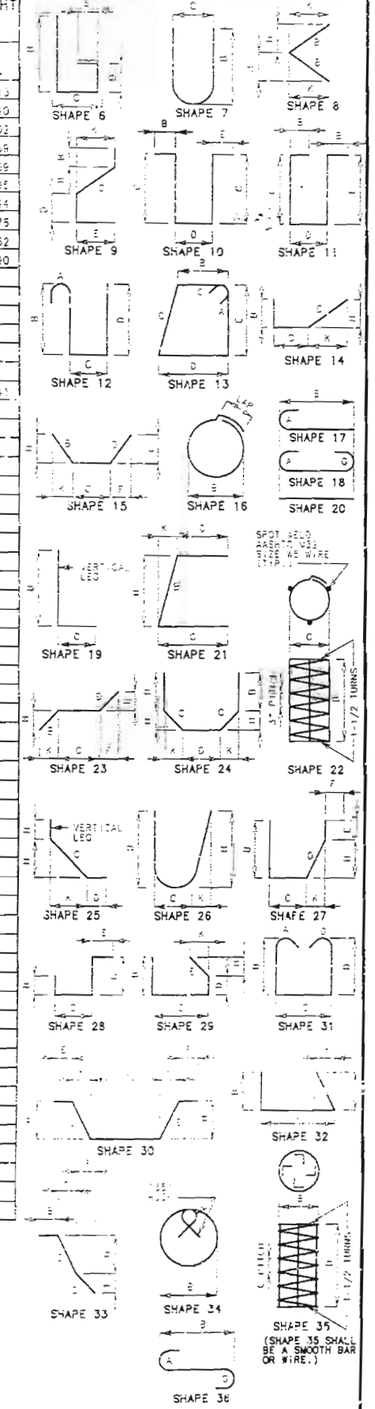
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
			SUPERSTRUCT.																
			MAIN SLAB																
9516	5	S2	SLAB	E	20					38 3.000							79 3	29 3	680273
581	4	S3	HAUNCH	E	20					29 3.000							29 3	29 3	11133
120	4	S4	HAUNCH	E	13	S				9.000	12.500	9.000	12.500				4 4	4 1	337
120	4	S5	HAUNCH	E	29	S				2 0.000	8.000	10.000	8.500		6.000	6.000	4 3	4 0	331
3348	5	S6	SLAB	E	20					40 0.000							40 0	40 0	139679
54	5	S7	SLAB	E	20					6 0.000							6 0	6 0	338
108	5	S8	SLAB	E	20					21 10.000							21 10	21 10	2459
720	4	S9	HAUNCH	E	29	S				2 0.000	6.000	9.000	4.250		3.000	3.000	3 7	3 5	1543
54	5	S10	SLAB	E	20					6 1.000							6 1	6 1	343
54	5	S11	SLAB	E	20					5 5.000							5 5	5 5	305
2208	5	S12	SLAB	E	20					6 0.000							6 0	6 0	13818
108	5	S13	SLAB	E	20					5 7.000							5 7	5 7	629
324	5	S14	SLAB	E	20					6 1.000							6 1	5 1	2056
56	5	S15	SLAB	E	20					12 6.000							12 6	12 6	730
54	5	S16	SLAB	E	20					13 4.000							13 4	13 4	751
54	5	S17	SLAB	E	20					14 11.000							14 11	14 11	840
54	5	S18	SLAB	E	20					13 10.000							13 10	13 10	779
54	5	S19	SLAB	E	20					20 11.000							20 11	20 11	1105
54	5	S20	SLAB	E	20					38 3.000							38 3	38 3	2154
92	5	S21	SLAB	E	20					41 0.000							41 0	41 0	5666
14	7	S22	HAUNCH	E	20					29 3.000							29 3	29 3	837
54	5	S23	SLAB	E	20					38 2.000							38 2	38 2	2150
6	6	S98	BACKWALL	E	20					29 3.000							29 3	29 3	254
60	5	S99	SLAB	E	20					2 6.000							2 6	2 6	156
3780	4	U10	HAUNCH	E	10					6.000	6.625	12.000	8.000				3 5	3 0	7575
			BARRIER CURB																
3426	5	R1	BARRIER CURB	E	19	S				2 0.000	3.500						2 10	2 8	15036
5080	5	R2	BARRIER CURB	E	15	S				2 6.125	3.500				2 6.000	3.000	2 10	2 9	15345
5318	5	R3	BARRIER CURB	E	19	S				17.000	6.000						0 23	0 22	10189
5318	5	R4	BARRIER CURB	E	27	S					6.000	11.125	7.000	12.000	9.125	6.375	3 0	2 10	15716
6	5	R9	BARRIER CURB	E	19	S				2 2.000	3.500						2 5	2 4	19
24	5	R10	BARRIER CURB	E	10	S					10.000	7.500	12.000				4 2	3 10	96
48	5	R11	BARRIER CURB	E	20					5 0.000							5 0	5 0	250
12	5	R12	BARRIER CURB	E	20					35 5.000							35 5	35 5	443
2	5	R13	BARRIER CURB	E	20					35 6.000							35 6	35 6	76
112	5	R14	BARRIER CURB	E	20					40 0.000							40 0	40 0	4673
14	5	R15	BARRIER CURB	E	20					8 8.000							8 8	8 8	97
25	5	R16	BARRIER CURB	E	20					22 2.000							22 2	22 2	647
14	5	R17	BARRIER CURB	E	20					6 9.000							6 9	6 9	98
14	5	R18	BARRIER CURB	E	20					7 3.000							7 3	7 3	102
28	5	R19	BARRIER CURB	E	20					33 11.000							33 11	33 11	914
168	5	R20	BARRIER CURB	E	20					24 9.000							24 9	24 9	2411
28	5	R22	BARRIER CURB	E	20					42 1.000							42 1	42 1	647
48	5	R23	BARRIER CURB	E	20					30 3.000							30 3	30 3	868
28	5	R24	BARRIER CURB	E	20					32 10.000							32 10	32 10	920
28	5	R25	BARRIER CURB	E	20					33 10.000							33 10	33 10	950
280	5	R26	BARRIER CURB	E	20					29 5.000							29 5	29 5	8547
140	5	R27	BARRIER CURB	E	20					28 9.000							28 9	28 9	4196
140	5	R28	BARRIER CURB	E	20					29 11.000							29 11	29 11	4206

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
14	5	R30	BARRIER CURB	E	20					28 3.000							28 3	28 3	413
14	5	R31	BARRIER CURB	E	20					30 2.000							30 2	30 2	440
28	5	R32	BARRIER CURB	E	20					37 9.000							37 9	37 9	1102
56	5	R33	BARRIER CURB	E	20					9 9.000							9 9	9 9	565
28	5	R34	BARRIER CURB	E	20					32 2.000							32 2	32 2	946
28	5	R35	BARRIER CURB	E	20					37 6.000							37 6	37 6	1095
12	5	R36	BARRIER CURB	E	20					35 6.000							35 6	35 6	444
2	5	R37	BARRIER CURB	E	20					36 7.000							36 7	36 7	75
40	5	R39	BARRIER CURB	E	19	S				10.000	6.000						0 10	0 15	52
40	5	R40	BARRIER CURB	E	21	S				11.125	13.000	5.000			9.125	6.375	2 6	2 2	90
			SLIP-FORM																
			CURB ONLY																
6081	5	C1	SLIP-FORM	E	20					10 0.000							10 0	10 0	6341
			* INCLUDES 2 ADDITIONAL #4-S3, #5-S15, #7-S22 & #6-S98 BARS FOR TESTING																

TWO ADDITIONAL #4-S3, #5-S15, #7-S22 & #6-S98 ARE INCLUDED IN THE BAR TOTALS FOR TESTING.



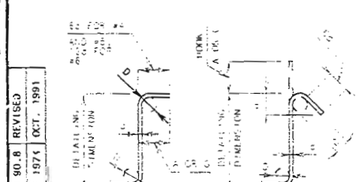
PROJ. NO. SHEET NO.
NO. ACSTP-ACRRS-8312(415) 61

CERTIFY THAT THIS DRAWING ~~ACCURATELY~~ REFLECTS THE CONFIGURATION AND LOCATION OF THE ROAD-WAY AND APPURTENANCES CONSTRUCTED ON THIS PROJECT.

~~[illegible]~~ SIGNATURE

~~[illegible]~~ DATE

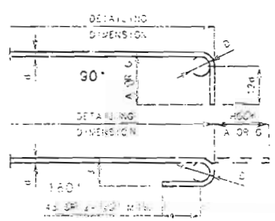
STD 90.8 REVISED MAY 1974 OCT. 1991



DETAILED OCT. 1996
CHECKED OCT. 1996

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 SPECIFIED DIAMETER OF BEND THE SAME FOR ALL BENDS AND HOOKS OF A BAR.



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	ALL STAGES 180° HOOKS A OR G	ALL STAGES 180° HOOKS J	90° HOOKS 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"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT IN THE SAME PROCEDURE AS FOR 90 DEG. STIRRUP HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = SUBSTRUCTURE QUANTITIES.
V = VARIABLE DIMENSIONS MAY BE EQUAL INCREMENTS BETWEEN 2 MEMBERS AS SHOWN ON THE SLOPE AND THE CENTERLINE.
NO. EACH = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTH = ARE BASED ON OUT DIMENSIONS SHOWN ON BEND DIAGRAMS AND ARE ROUNDED TO THE NEXT HIGHER FOOT.
ACTUAL LENGTH = ARE BASED ON OUT DIMENSIONS SHOWN ON BEND DIAGRAMS AND ARE ROUNDED TO THE NEXT HIGHER INCH.
BARS MARKED WITH AN * ARE TO BE BENT TO FIT.
HOOKS ARE REQUIRED FOR BAR SUPPORTS, SPIRALS, SPACERS ARE TO BE PLACED AT EACH END OF A SPIRAL AND AT INTERMEDIATE SPACINGS NOT TO EXCEED 4'-0".
BARS MARKED WITH A ~ ARE TO BE BENT TO FIT OR PLACED AS SHOWN. SPACERS OR TIES ARE NOT TO ENCLOSE SPACERS OR SPACERS.
BARS MARKED WITH A + ARE TO BE FIELD BENT.

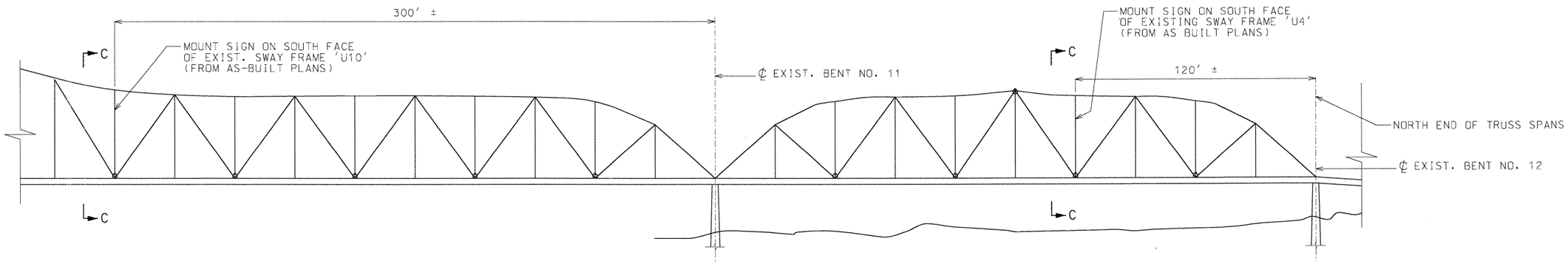
NOTICE: THIS DRAWING IS NOT TO SCALE. FULL OR REVERSE SIZE

SHEET NO. 50 OF 50.

PLATTE COUNTY

A450R1

State	Proj. No.	Sheet No.
MO		0129



PARTIAL ELEVATION
EXISTING N.B. 69 BRIDGE
OVER MISSOURI RIVER, BR. NO. A-450

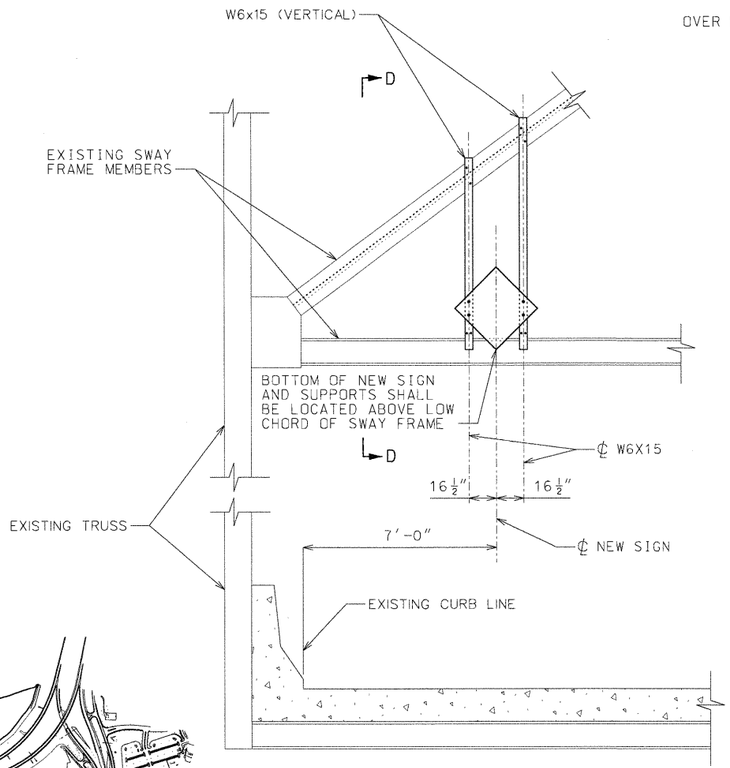
Note:
Bottom of Signs and Supports must be located above Bottom of sway frame low chord

Notes:
Contractor shall field verify existing conditions and dimensions prior to fabricating supports.

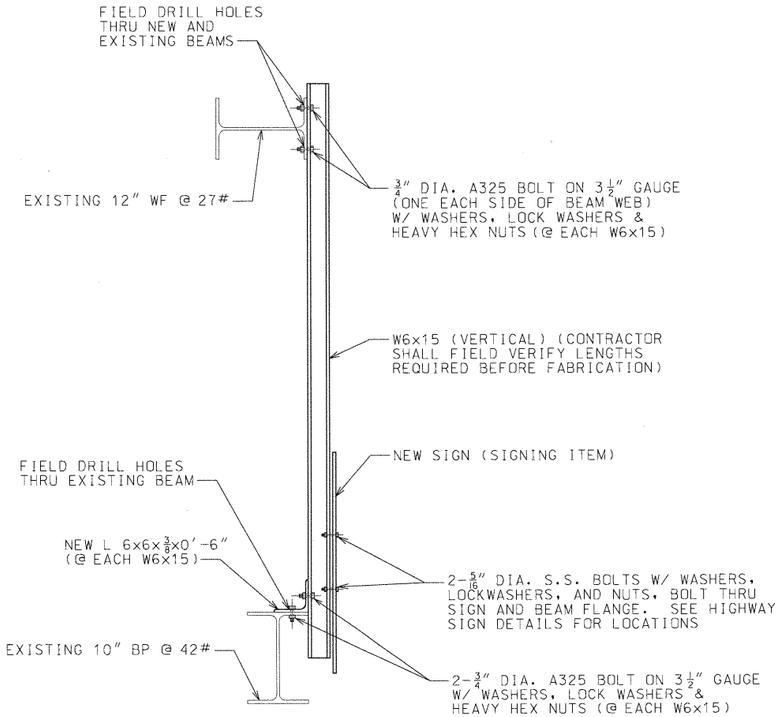
Signs shall be bid as Signing Items.

See Job Special Provisions for specifications on required material, fabrication & installation procedures, and incidental work required.

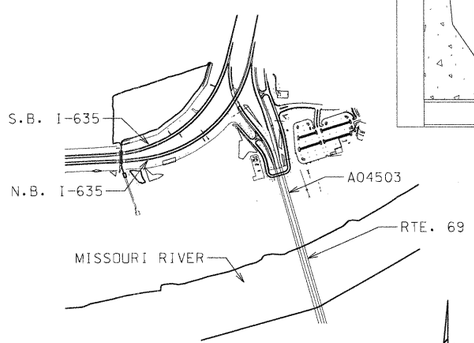
Payment for sign supports on the bridges, completed and accepted work including all materials, equipment, tools, labor, installation and all incidental work necessary shall be made and considered completely covered under the contract unit price for "Sign Supports on Bridges", per each.



SECTION C-C
(LOOKING NORTH)



SECTION D-D



LOCATION SKETCH

ESTIMATED QUANTITIES		
ITEM		QUANTITY
SIGN SUPPORTS ON BRIDGES	EACH	2

BRIDGE: N.B. RTE. 69 OVER THE MISSOURI RIVER

STATE ROAD FROM MISSOURI RIVER TO RTE. I-635
ABOUT 0.5 MILES SOUTH OF RTE. I-635
PROJECT NO. STA.
JOB NO. J4I1709 RTE. 69

10-05-2005
STATE OF MISSOURI
DAVID A. MASTEN
NUMBER E-2000150018
REGISTERED PROFESSIONAL ENGINEER

PLATTE COUNTY
DATE: 10/19/05

A04503

Designed AUGUST 2005
Detailed AUGUST 2005

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

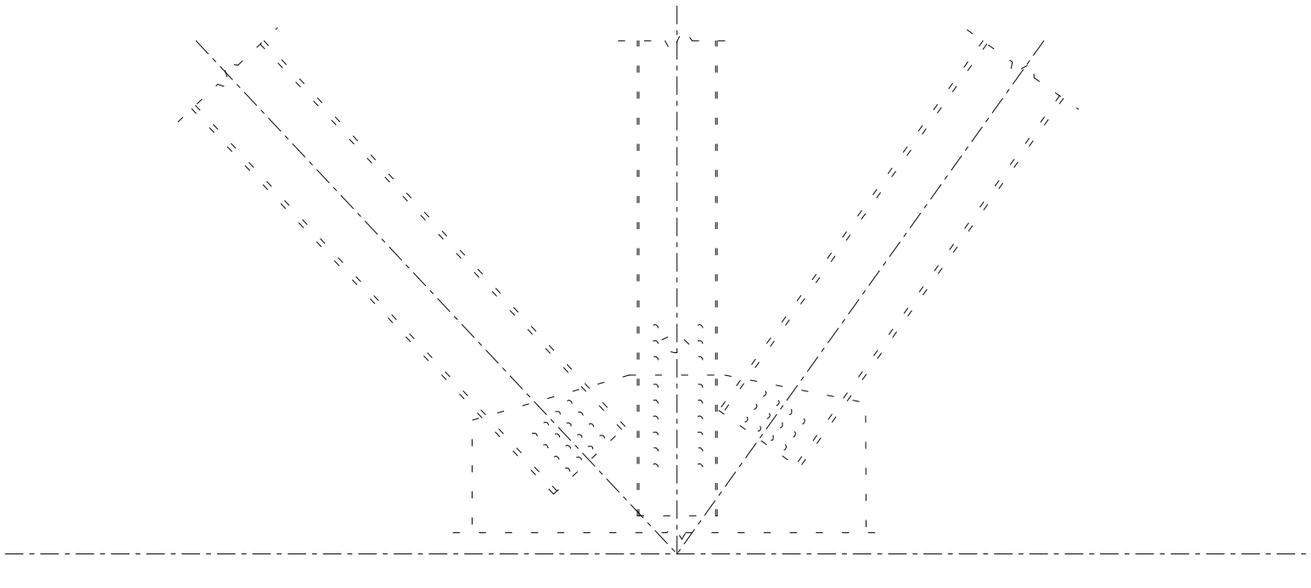
Sheet No. 1 of 1

10/05/05

ROUTE	STATE	DISTRICT	SHEET NO.
69	MO	BR	1
JOB NO.			
CONTRACT ID.			
PROJECT NO.			
COUNTY PLATTE			

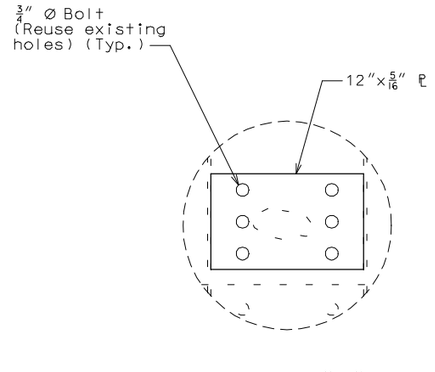
"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE_____

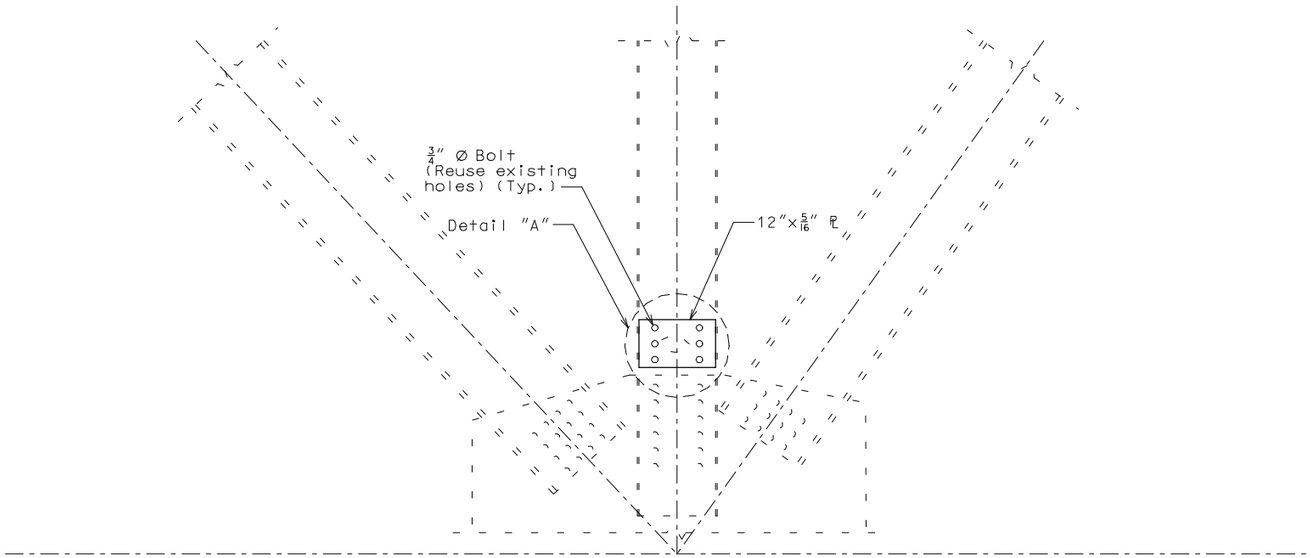


PART ELEVATION SHOWING EXISTING CONDITION

Note:
Holes are for illustrative purposes. Different configurations exist at different panel points.

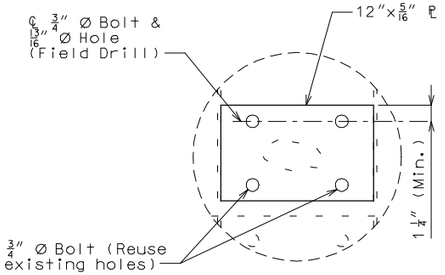


DETAIL "A"



PART ELEVATION SHOWING PROPOSED CONSTRUCTION

Note:
Holes are for illustrative purposes. Different configurations exist at different panel points.



OPTIONAL DETAIL "A"

Notes:

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

Fabricated structural steel shall be ASTM A709 Grade 36.

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

Thicker plates, larger diameter bolts and higher grades of steel may be substituted.

DETAILS OF SPLICE TO REPAIR VERTICAL MEMBERS AT SPAN 7 (L4W & L8W), SPAN 8 (L2, L6W & L10W), SPAN 9 (L16'), SPAN 10 (L4'E, L6', L8' & L2') & SPAN 11 (L2E)

Detailed June 2008
Checked June 2008

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

A04503 REV.

ROUTE	STATE	DISTRICT	SHEET NO.
69	MO	BR	2

JOB NO.

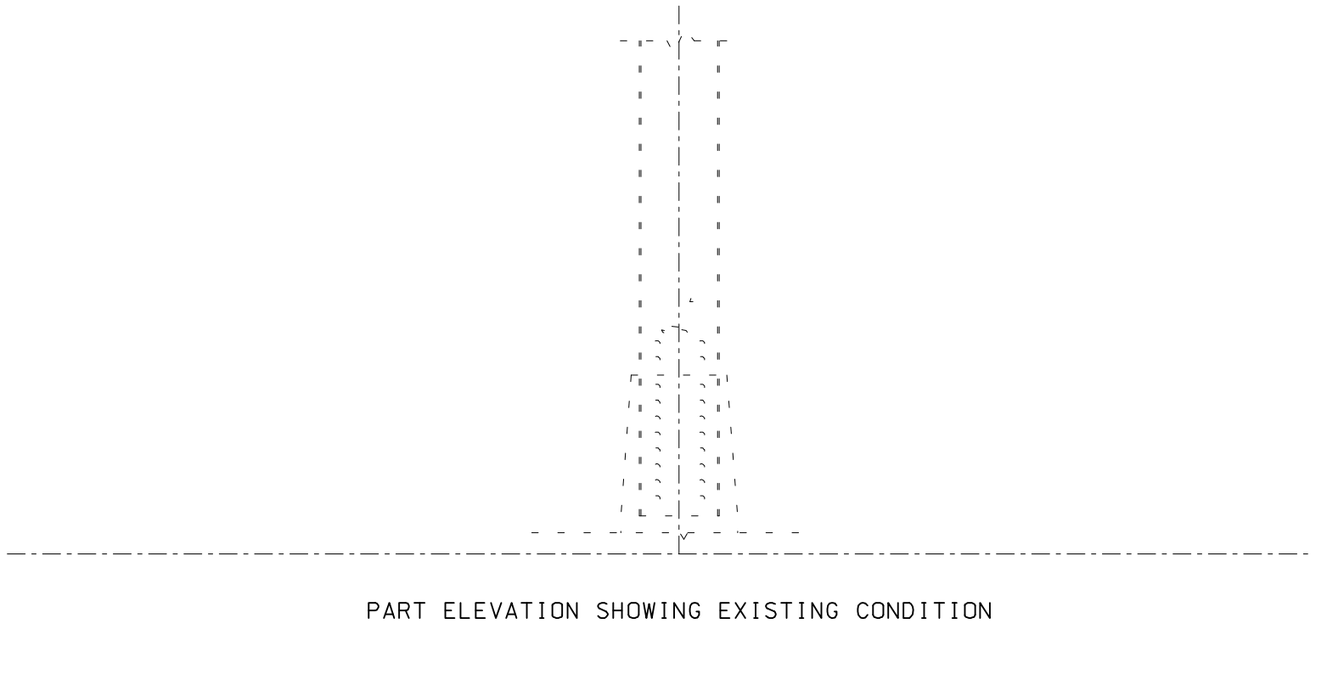
CONTRACT ID.

PROJECT NO.

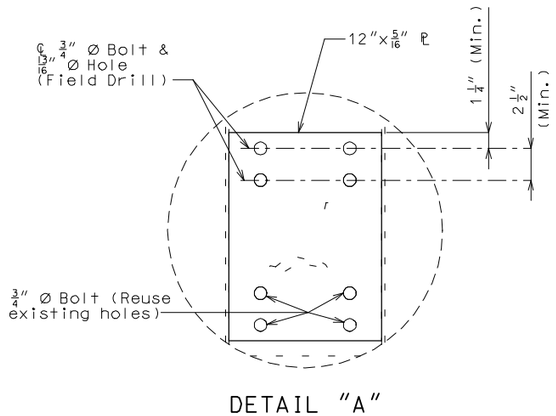
COUNTY PLATTE

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

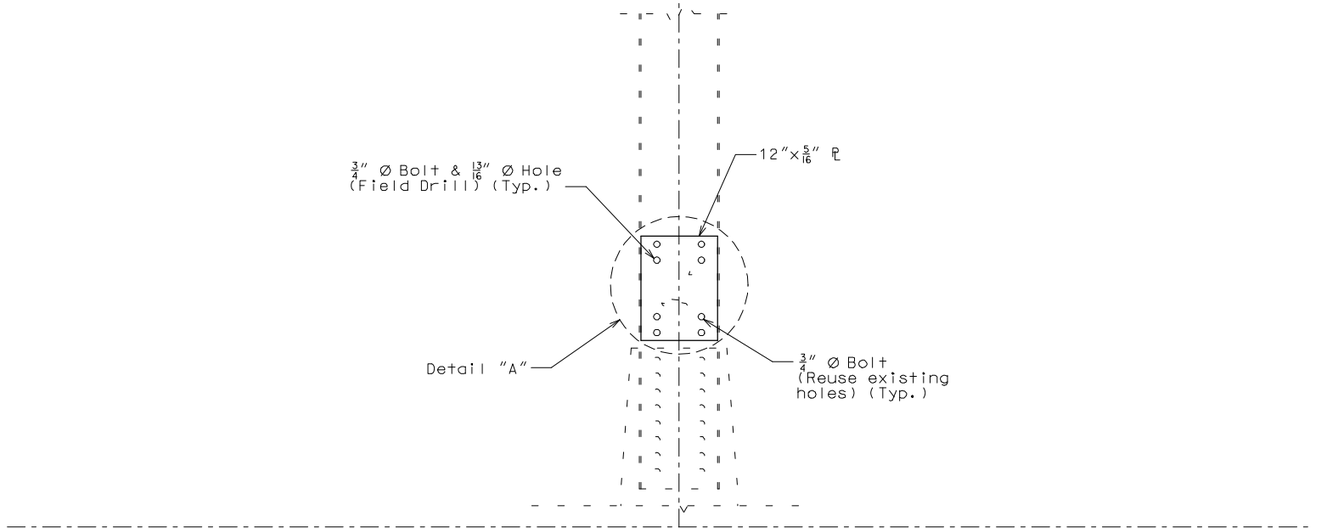
DATE_____



PART ELEVATION SHOWING EXISTING CONDITION



DETAIL "A"



PART ELEVATION SHOWING PROPOSED CONSTRUCTION

Notes:

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

Fabricated structural steel shall be ASTM A709 Grade 36.

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

Thicker plates, larger diameter bolts and higher grades of steel may be substituted.

DETAILS OF SPLICE TO REPAIR VERTICAL MEMBER AT SPAN 9 (L15)

Detailed June 2008
Checked June 2008

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

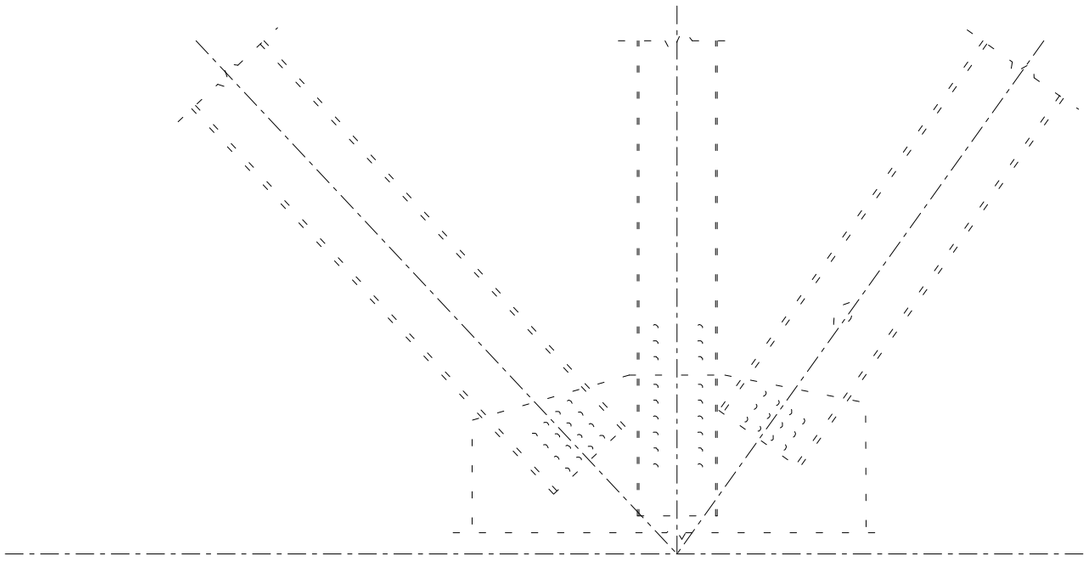
A04503 REV.

d:\pwise_local\Alderj1\dms50284\A04503_Repair_Details.dgn 12:20:01 PM 06/06/2008

ROUTE	STATE	DISTRICT	SHEET NO.
69	MO	BR	3
JOB NO.			
CONTRACT ID.			
PROJECT NO.			
COUNTY PLATTE			

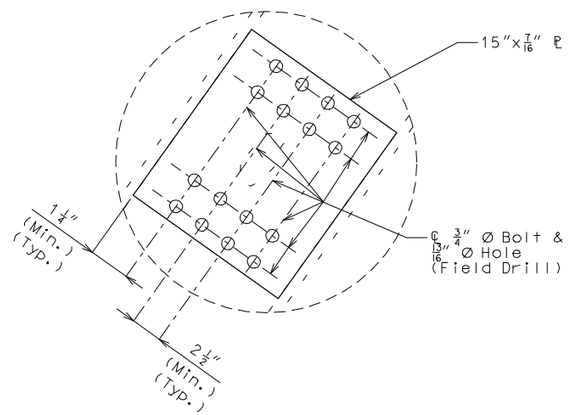
"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE_____

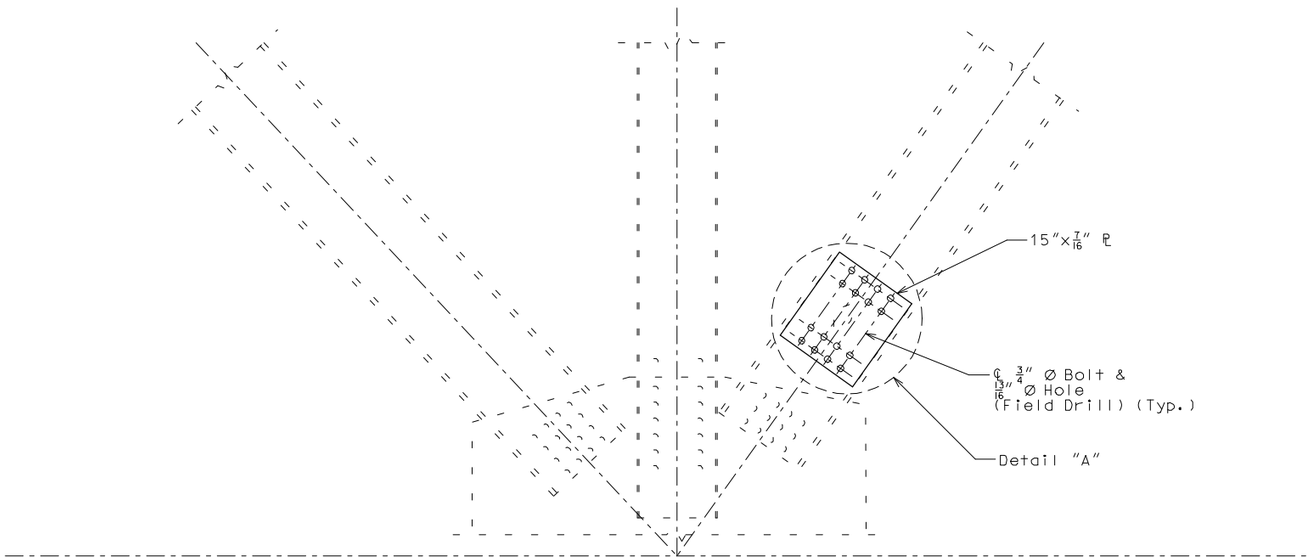


PART ELEVATION SHOWING EXISTING CONDITION

Note:
Holes are for illustrative purposes. Different configurations exist at different panel points.



DETAIL "A"



PART ELEVATION SHOWING PROPOSED CONSTRUCTION

Note:
Holes are for illustrative purposes. Different configurations exist at different panel points.

Notes:

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

Fabricated structural steel shall be ASTM A709 Grade 36.

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

Thicker plates, larger diameter bolts and higher grades of steel may be substituted.

DETAILS OF SPLICE TO REPAIR DIAGONAL MEMBER AT L2

Detailed June 2008
Checked June 2008

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

A04503 REV.