

GENERAL NOTES

SPECIFICATIONS: St. Louis County Standard Construction Specifications with Special Provisions.

DESIGN LOADING: In accordance with Division I of the A.A.S.H.O. Standard Specifications for Highway Bridges, 1957 Edition.
Live Load: H20-S16-44 or an alternate load of 2-24,000 lb. axles spaced at 4 foot centers.
Dead Load: Provision is made for a future wearing surface of 15 pounds per square foot of roadway surface.

DESIGN UNIT STRESSES: Concrete $f_c = 1,200$ p.s.i.
Reinforcing Steel $f_s = 20,000$ p.s.i.
Structural Steel $f_s = 18,000$ p.s.i.
(Base on A7 Steel)

ROADWAY WEARING SURFACE: The roadway slab as detailed includes a 2" wearing surface poured monolithically with the slab.

CONCRETE: All concrete shall be Class A. See Specifications.

BEVELED EDGES: All exposed edges of concrete shall be beveled $\frac{3}{4}$ " unless otherwise shown or noted.

CONSTRUCTION JOINTS: Construction joints shall be made only where shown on the plans, or as otherwise directed by the Engineer. Provide keys at all construction joints.

REINFORCEMENT: All dimensions to reinforcing steel on the detail drawings are to center line of bar except where the clear distance is noted from the face of concrete. All reinforcing steel shall be lapped a minimum of 32 diameters unless otherwise shown or noted.

CONCRETE FINISH: All exposed surfaces of concrete except the roadway floor shall be given a Class 1, ordinary surface finish. See Specifications.

FILLED JOINTS: Where filled joints are specified on the plans, the joint filler shall conform to the requirements for "Gray Rubber Compound Joints", see Special Provisions.
Payment for furnishing and placing this item shall be included in the unit contract price bid for concrete.

FABRIC PADS: See Special Provisions.

SURFACE SEALING: Superstructure deck shall be surface sealed. See Special Provisions.

PAINTING: Shop Coat: One coat of red lead.
First Field Coat: One coat of tinted shop paint.
Second Field Coat: One coat of aluminum.
No paint shall be applied to any surfaces of steel which will be in contact with or cast in concrete. See Specifications.

PILING: All piling shall be driven to refusal into solid rock, shale, or other hard material and shall be capable of sustaining a minimum load of 37 tons per each 10 BP42 pile and 47 tons per each 12 BP53 pile.

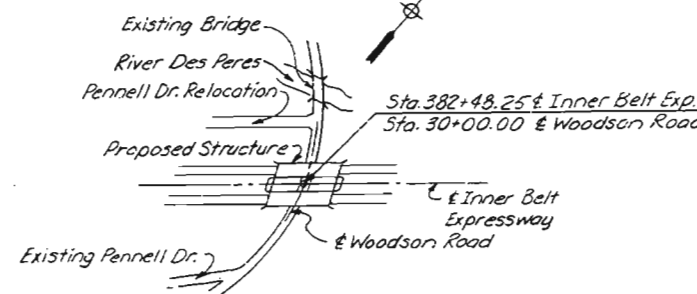
UTILITIES: See Special Provisions.

INDEX OF DRAWINGS

- 1 GENERAL PLAN AND ELEVATION
- 2 LOG OF BORINGS AND TABLE OF ESTIMATED QUANTITIES
- 3 ABUTMENTS 1 AND 4
- 4 END POSTS
- 5 MEDIAN CLOSURES
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- 7 STEEL FRAMING PLAN AND DETAILS
- 8 SHOES AND ANCHOR BOLTS
- 9 SLAB AND SAFETY CURBS
- 10 HANDRAIL
- 11 TYPICAL BAR TYPES AND HOOK DIMENSIONS
- 12 BAR LIST AND SPECIAL BENDING DETAILS

BENCH MARK (U.S.G.S. DATUM)

31.1' 35" on N.W. abutment of bridge
over creek on Woodson Rd. Elev. 551.80



LOCATION SKETCH

RECEIVED

JAN 17 1966

Division of Bridges

ST. LOUIS COUNTY
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DIVISION OF HIGHWAYS
INNER BELT EXPRESSWAY

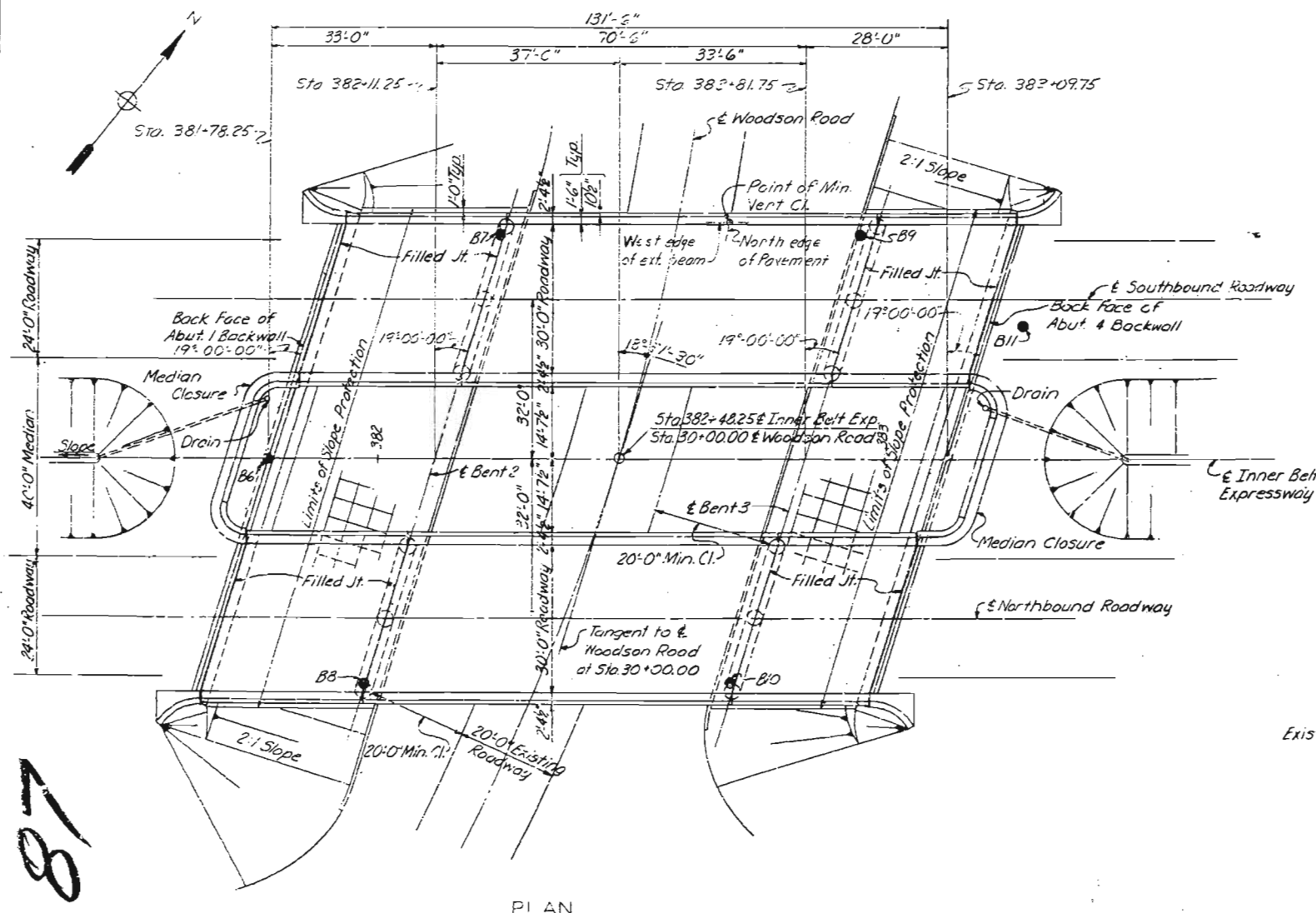
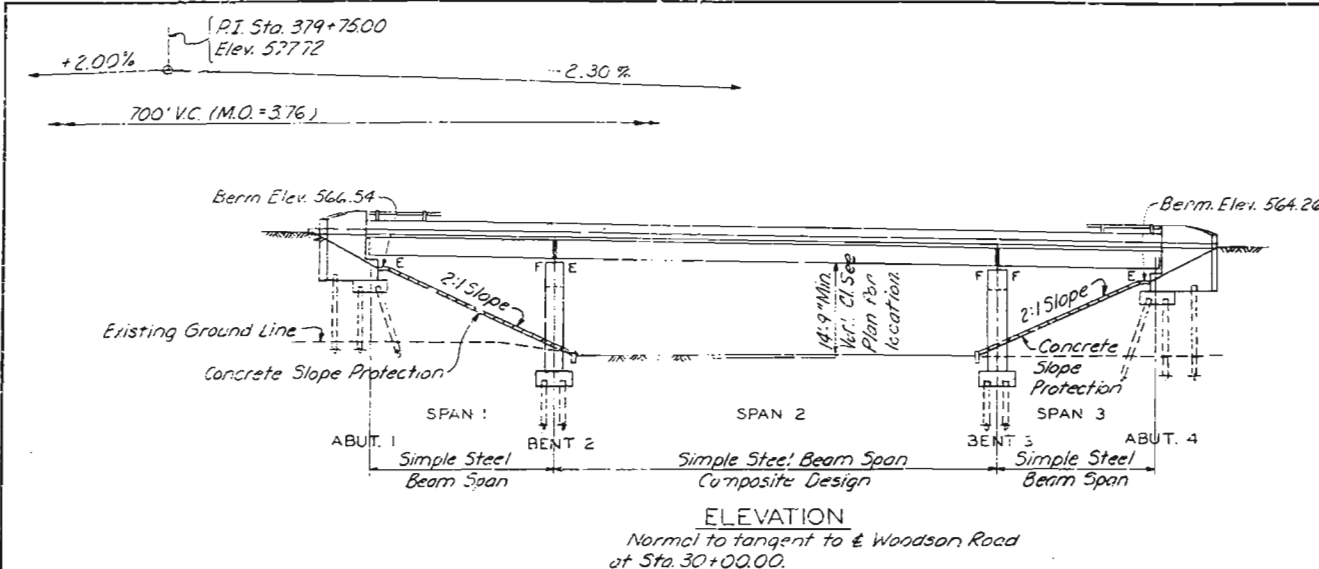
WOODSON ROAD OVERPASS
GENERAL PLAN AND ELEVATION

SVERDRUP & PARCEL ENGINEERING CO.
ST. LOUIS, MO.

FILE 725

SHEET 1 OF 12

A-2807



Note: Do not scale this drawing. Follow dimensions.

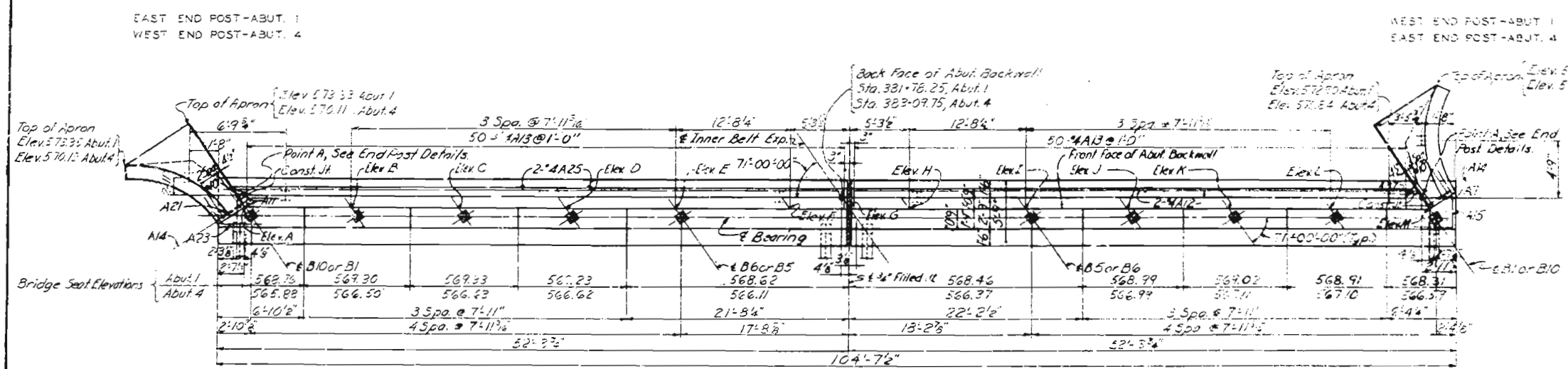
ST. LOUIS COUNTY	SEC.	SHEET NO.	TOTAL SHEETS
BOND ISSUE PROPOSITION NO. 5	GA	42	105
INNER BELT EXPRESSWAY			

BORING NOTES

▲ indicates elevation at which standard penetration test was made.

Estimated quantity of Foundation Excavation and Fill includes only that amount below existing ground line.

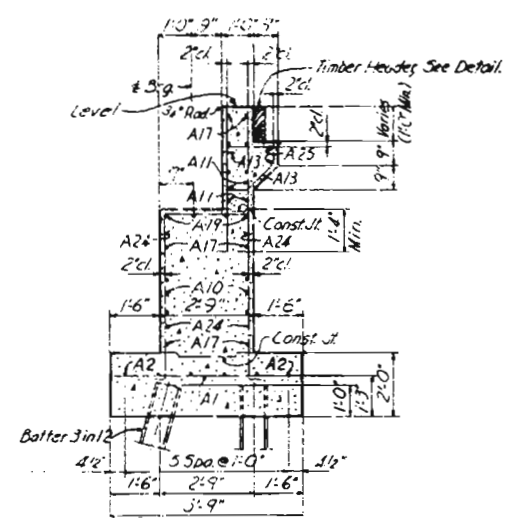
SHEET 2 OF 12 *A-2807*
A-3807



PLAN
Note: Elevations A thru M are at front
face and top of Abutment Backwall.

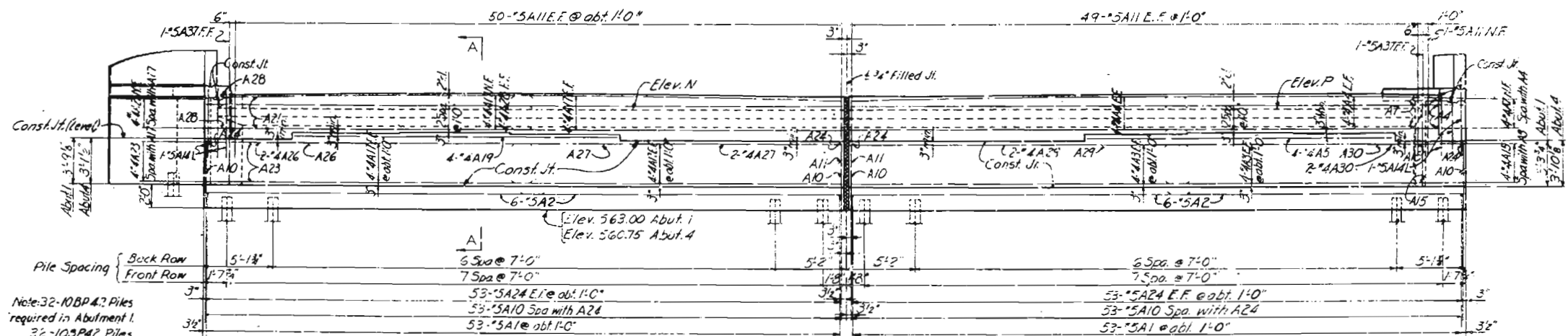
Note: Anchor Bolts to be cast-in-place.
For shoe types, see Beam Layout Sheet.
For Anchor Bolt Spacing & Projection,
see Shoe Details.

Note: E.F. indicates Each Face.
F.F. indicates Far Face.
N.F. indicates Near Face.



SECTION A-A

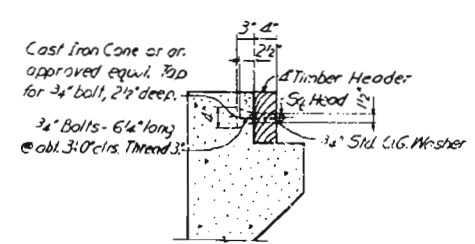
TABLE OF ELEVATIONS		
Elev.	Abut. 1	Abut. 4
A	572.56	569.69
B	572.60	569.76
C	572.63	569.91
D	572.53	569.90
E	572.42	569.87
F	572.24	569.84
G	572.12	569.88
H	572.19	569.92
I	572.25	570.13
J	572.30	570.27
K	572.33	570.39
L	572.22	570.38
M	572.10	570.35
N	571.82	568.64
P	571.10	568.88



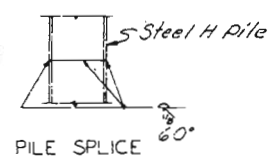
ELEVATION

Note: Bar A10 may be shifted slightly
to clear anchor bolts.

NOTES
For reinforcing and dimensions of End
Posts and Apron, see Sheet 4.



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



PILE SPLICE
Top of lower section to be cut square.

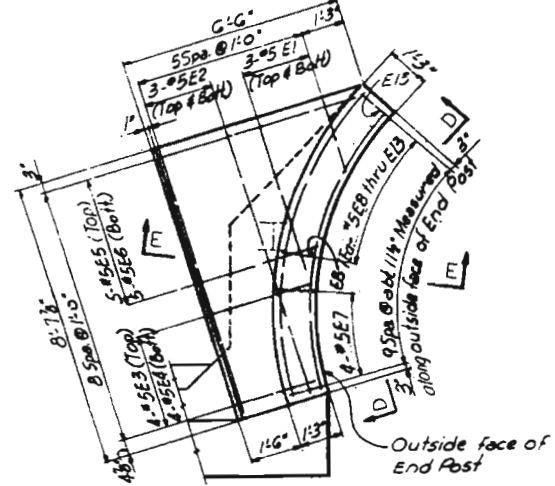
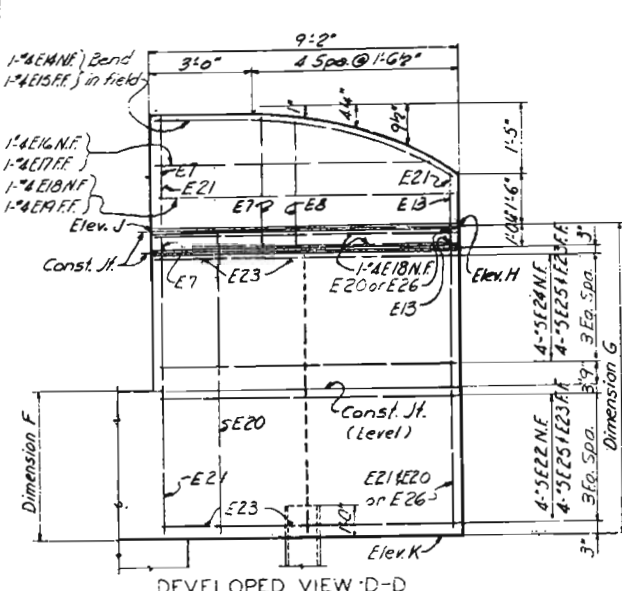
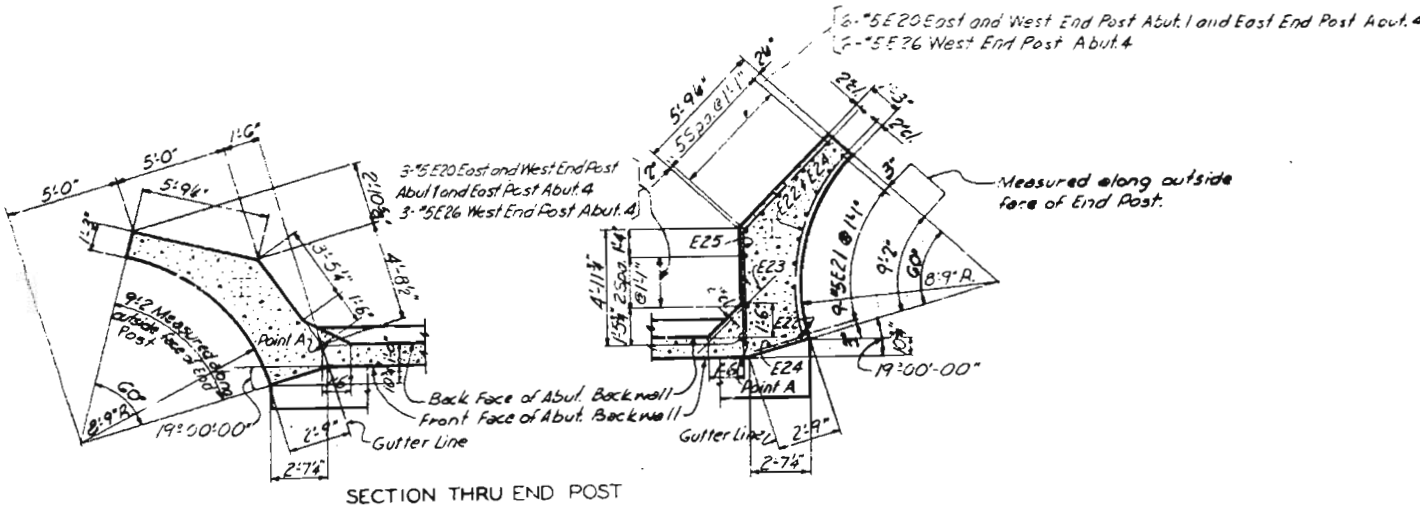
Note: Do not scale this drawing. Follow dimensions.

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INNER BELT EXPRESSWAY
WOODSON ROAD OVERPASS
ABUTMENTS 1 AND 4

DATE: May 23, 1962
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ST. LOUIS, MO.

SHEET 1 OF 12
A-2807
A-2807

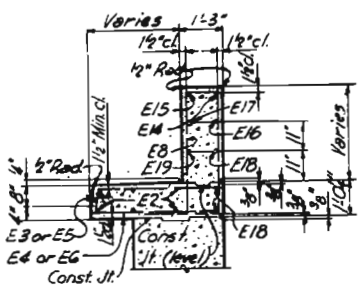
REVISIONS
DRAWN BY R. Sutter DATE: Aug. 1961
CHECKED BY L. Glaser DATE: Aug. 1961
6/5/230



	Dimension F	Dimension G	Elev. H	Elev. J	Elev. K
East End Post Abut. 1	3'-9 1/2"	8'-4 1/4"	573.35	573.25	565.00
West End Post Abut. 1	3'-3 3/4"	7'-11"	572.92	572.79	565.00
East End Post Abut. 4	3'-10 1/8"	8'-1 1/8"	570.86	571.04	562.75
West End Post Abut. 4	3'-1 1/2"	7'-4 1/2"	570.13	570.33	562.75

TABLE OF DIMENSIONS AND ELEVATIONS

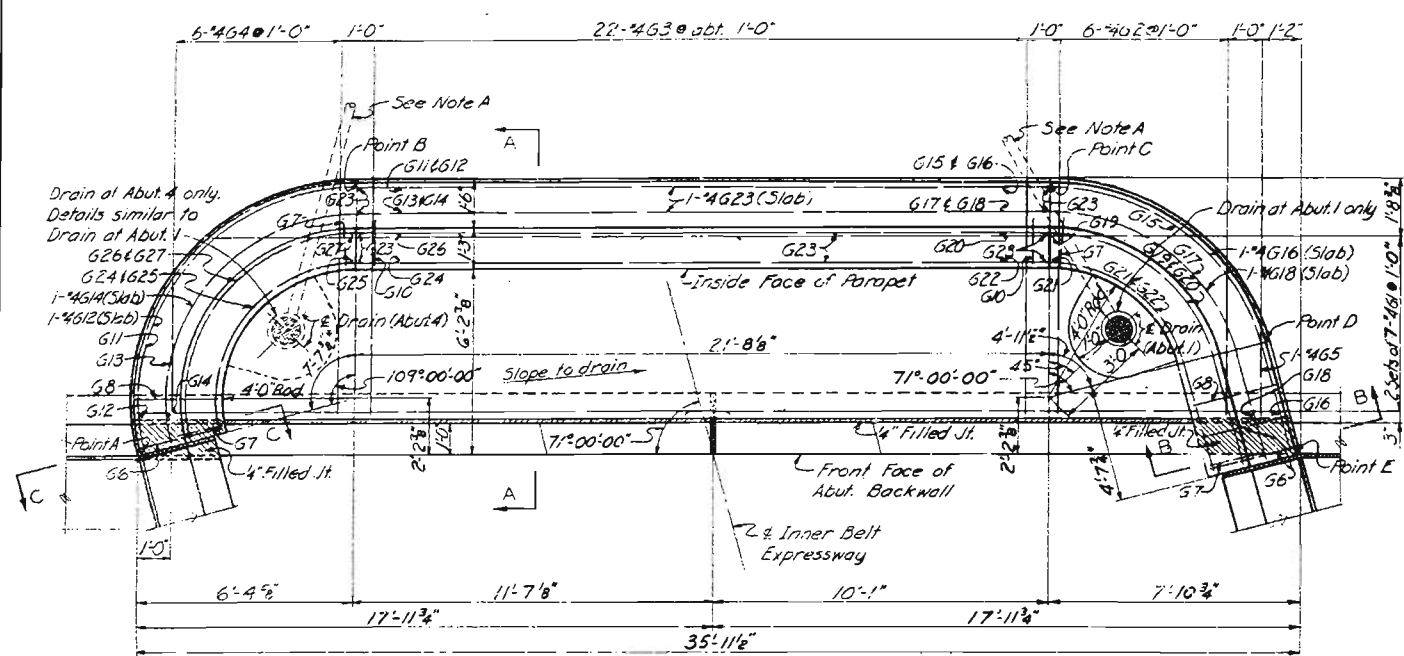
END POST



Note: Do not scale this drawing. Follow dimensions.

ST. LOUIS COUNTY
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INNER BELT EXPRESSWAY
WOODSON ROAD OVERPASS
END POSTS

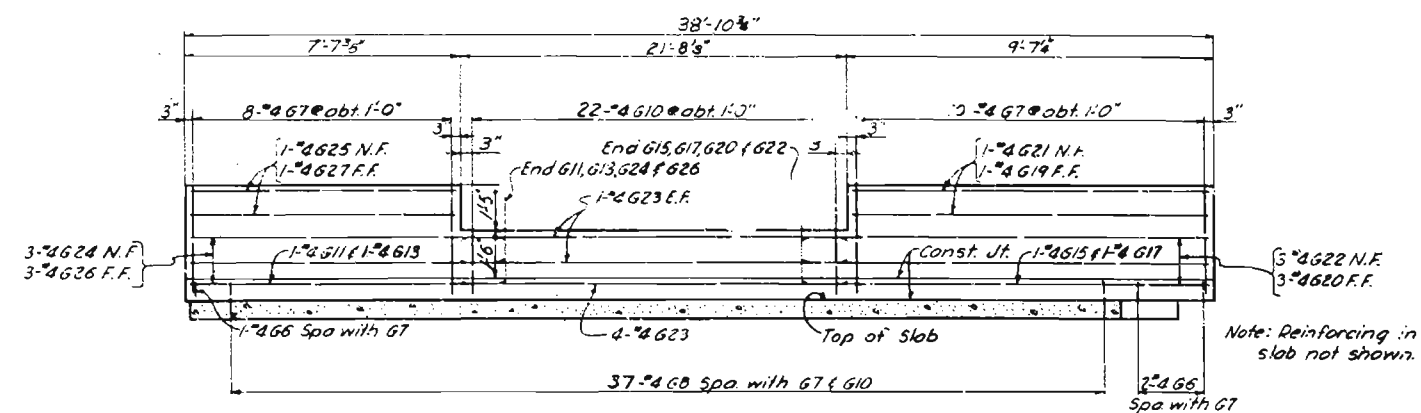
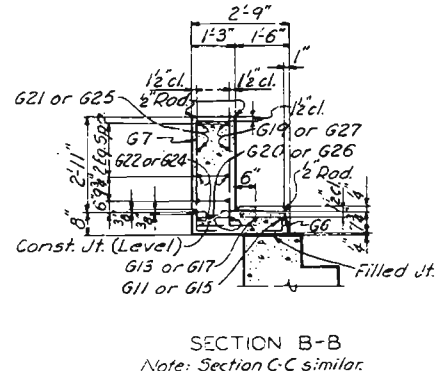
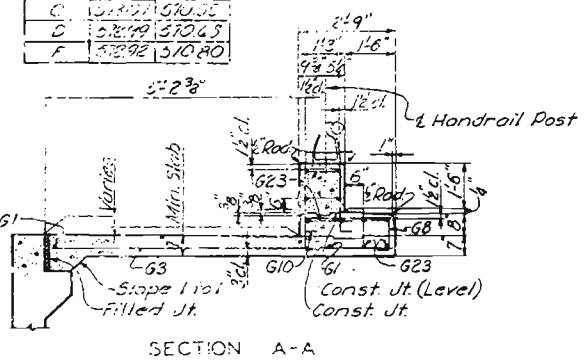
DATE: May 23, 1962
SVERDRUP & PARCEL ENGINEERING CO.
ST. LOUIS, MO.



Point	Abut. 1	Abut. 4
A	57.08	57.54
B	57.17	57.44
C	57.27	57.55
D	57.49	57.63
E	57.92	57.80

PLAN
Note: Shift reinforcing where necessary to clear drains.

Note A:
Extend drain pipe to end of ditch or Inner Belt Expressway. See General Plan, Sheet 1.

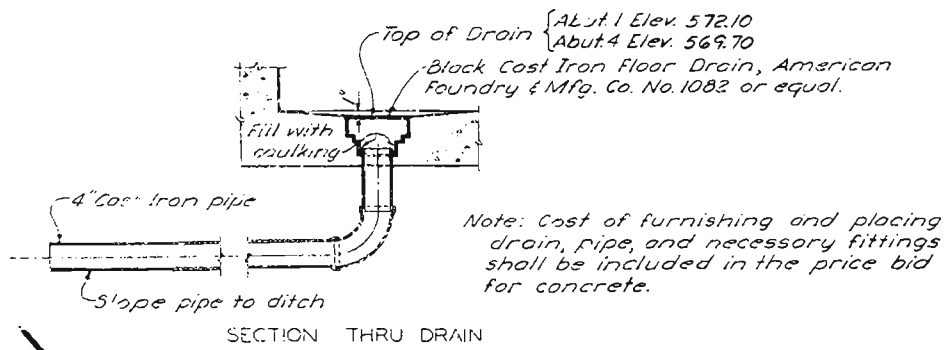


Note: N.F. indicates Near Face.
F.F. indicates Far Face.
E.F. indicates Each Face.

DEVELOPED ELEVATION ALONG INSIDE FACE OF PARAPET

* Indicates dimensions measured along Inside Face of Parapet.

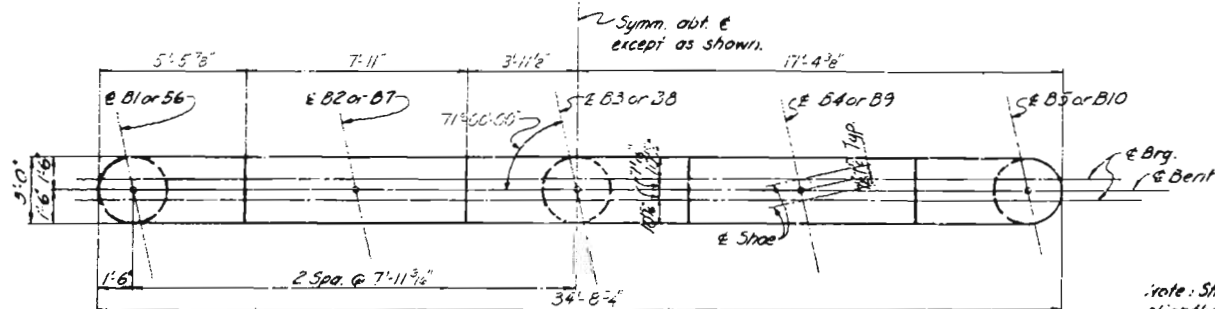
NOTES
For handrail post spacing on median closure and details of handrail, see Sheet 10.



Note: Cost of furnishing and placing drain, pipe, and necessary fittings shall be included in the price bid for concrete.

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INNER BELT EXPRESSWAY
WOODSON ROAD OVERPASS
MEDIAN CLOSURES
DATE: May 23, 1962
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ST. LOUIS, MO.

Note: Do not scale this drawing. Follow dimensions.

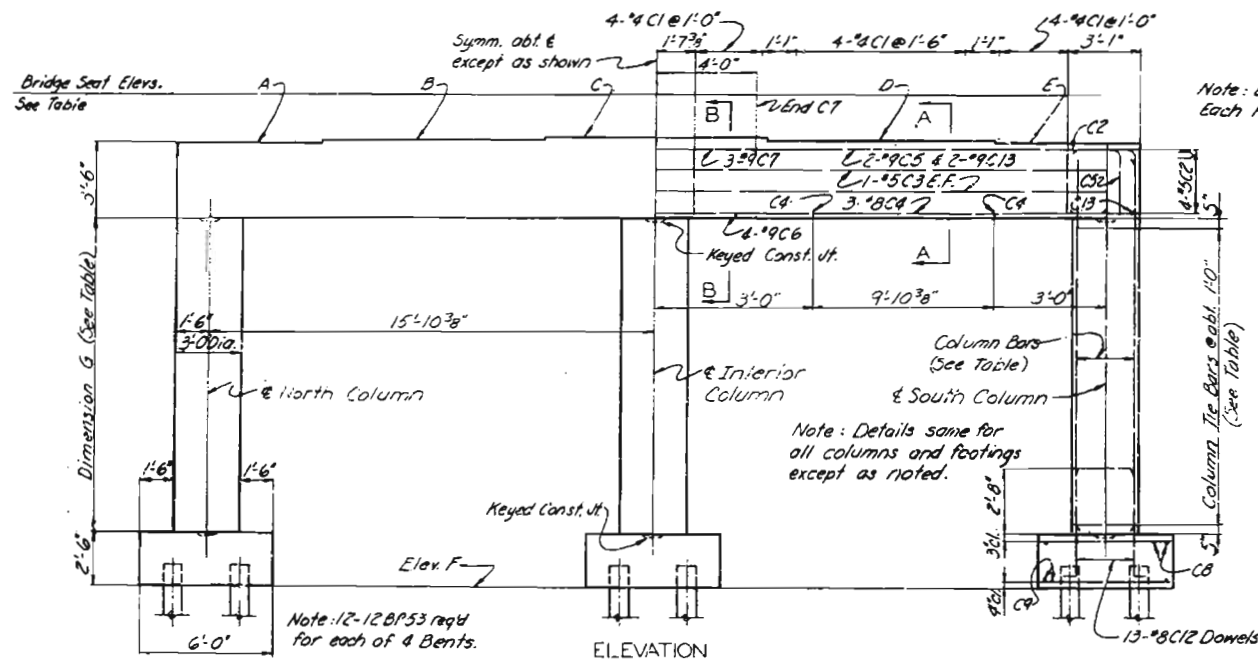


PLAN

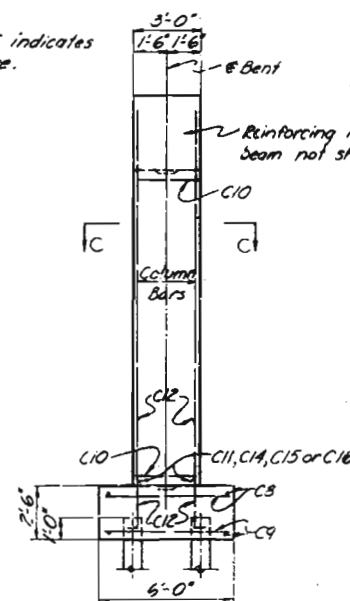
BRIDGE SEAT ELEVATIONS					FLEV. DIMENSIONS AND REINF.			
Bent	A	B	C	D	E	F	Column Bar	Col. Tie Bar
2 S.B.	567.65	567.77	567.89	567.88	567.82	547.50	14-#4	13-#8C11
2 N.B.	568.01	568.13	568.24	568.21	568.17	547.50	14-#4	13-#8C14
3 S.B.	566.37	566.50	566.62	566.61	566.58	547.50	12-#4	13-#8C15
3 N.B.	566.82	566.95	567.07	567.05	567.02	547.50	12-#4	13-#8C16

Note: Stirrups may be shifted slightly to clear anchor bolts.

Note: Anchor bolts to be cast in place.
For shoe types see Beam Layout, Sheet 7
For anchor bolt spacing and projection, see Shoe Details.



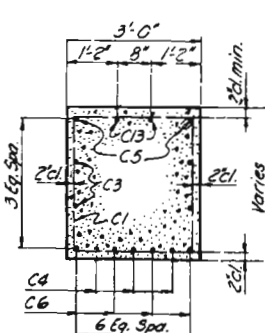
ELEVATION



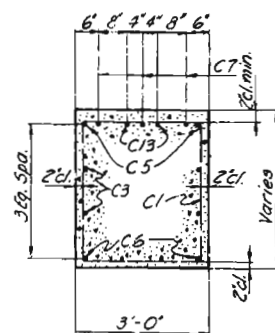
END ELEVATION

Note: S.B. indicates Southbound Roadway.
N.B. indicates Northbound Roadway.

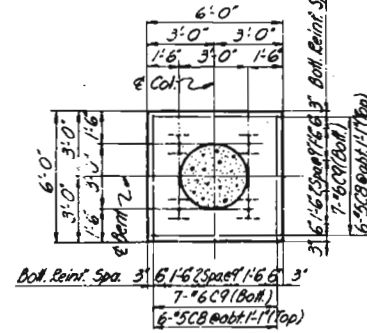
NOTES
For pile splice see Sheet 3



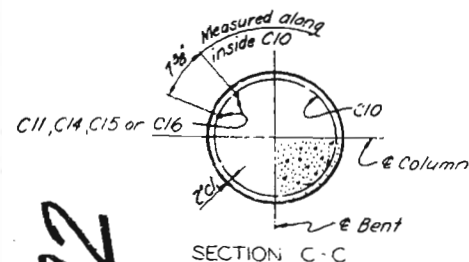
SECTION A-A



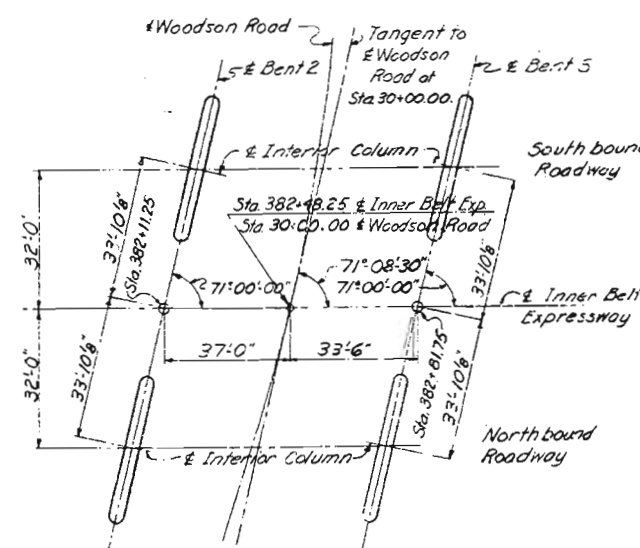
SECTION B-B



FOOTING PLAN



SECTION C-C



BENT LOCATION PLAN

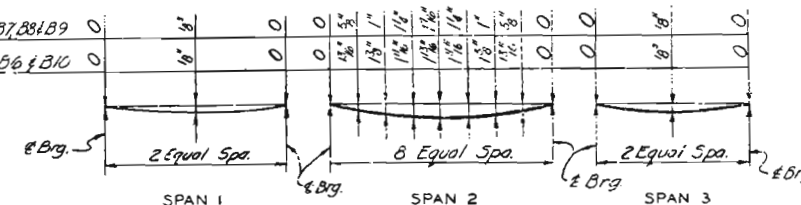
ST. LOUIS COUNTY
BOARD OF PUBLIC WORKS
DIVISION OF HIGHWAYS
INNER BELT EXPRESSWAY
WOODSON ROAD OVERPASS
BENTS 2 AND 3

DATE: May 23, 1962
SVERDRUP & PARCEL ENGINEERING CO.
ST. LOUIS, MO.

Note: Do not scale this drawing. Follow dimensions.

SHEET 6 OF 12
A-2807
A-2807

Interior Beams B2, B3, B4, B7, B8, B9
Exterior Beams B1, B5, B6 & B10

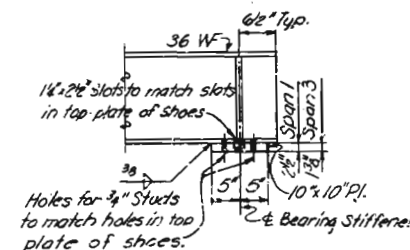


DEAD LOAD DEFLECTION ORDINATES

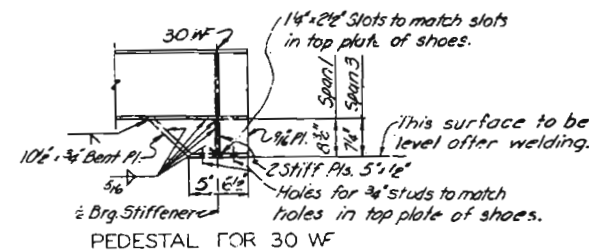
Note: Dead load deflection due to weight of steel only is approximately 20% of above ordinates for Beams B2 thru B4 and Beams B7 thru B9, and 15% of above ordinates for Beams B1, B5, B6 and B10. Beams are not to be cambered for dead load deflection.

DETAIL OF LUG

Note: 1-1/2" x 5" Long Nelson Flux-filled stud, or equal, may be used as an alternate for each 1-1/2" x 3" Bar. Payment will be made on the basis of 1-1/2" x 3" Bar.



FILL PLATE FOR 36 W



PEDESTAL FOR 30 W

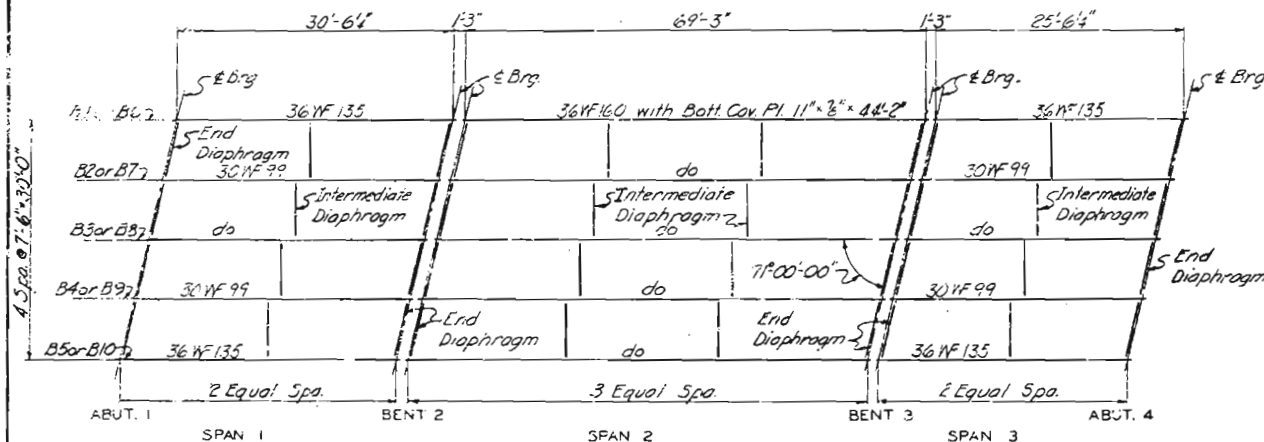
BEARING DETAILS FOR BEAMS OF SPANS 1 & 3 ON BENTS 2 & 3

Note: Shoes of other bearings bolt directly to bottom flange. Bottom Flange of Beams in Spans 1 & 3 on Abutments 1 & 4 are to have 1-1/2" x 2-1/2" slots to match slots in top plate of shoes.

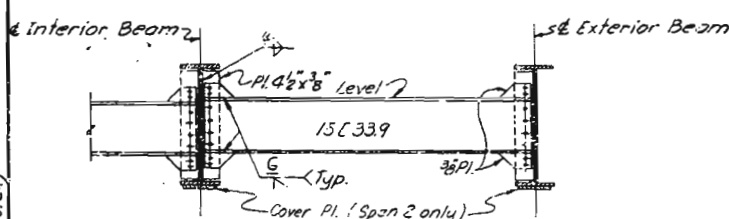
NOTES

Structural steel plates and shapes shall conform to A.S.T.M. Specification Designation A36 for structural carbon steel. All rivets shall be 3/4" High Tensile bolts may be substituted for rivets.

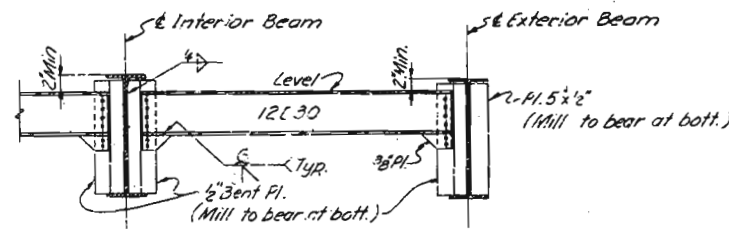
BEAM	TOP OF BEAM ELEVATIONS AT \pm BRG.					
	SPAN 1	SPAN 2	SPAN 3	SPAN 1	SPAN 2	SPAN 3
B1	571.51	571.02	571.00	569.61	569.64	569.08
B2	571.62	571.14	571.12	569.80	569.77	569.21
B3	571.73	571.25	571.23	569.92	569.90	569.34
B4	571.70	571.22	571.20	569.99	569.88	569.33
B5	571.66	571.19	571.17	569.8	569.56	569.31
B6	571.82	571.38	571.36	570.12	570.10	569.57
B7	571.94	571.49	571.47	570.25	570.23	569.70
B8	572.04	571.60	571.58	570.37	570.35	569.82
B9	572.01	571.57	571.55	570.35	570.33	569.81
B10	571.96	571.53	571.51	570.33	570.30	569.79



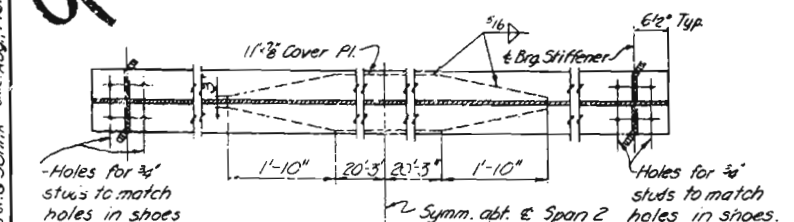
FRAMING PLAN
Note: All dimensions are horizontal.



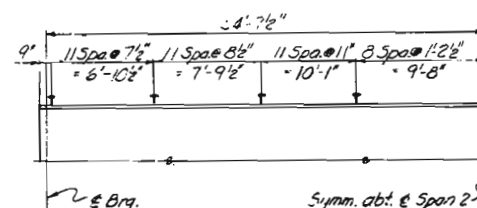
INTERMEDIATE DIAPHRAGM
(All Spans)



END DIAPHRAGM



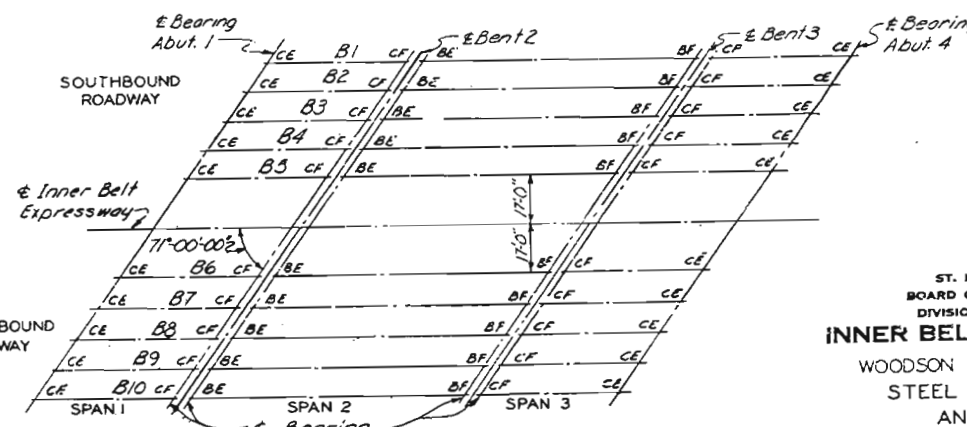
PLAN OF BOTTOM FLANGE
Note: For Span 2 only except as noted. Cut Top Flange where necessary to clear filled joint in Roadway Slab.



SHEAR CONNECTOR SPACING
Note: For Span 2 only.

Note: Use Type 53F 3/8" x 5" Long Nelson flux-filled studs or equal.

SHEAR CONNECTOR DETAIL



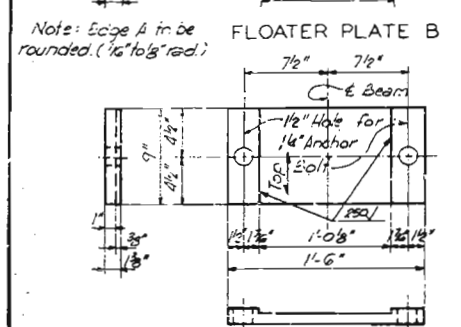
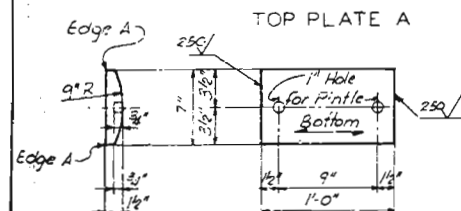
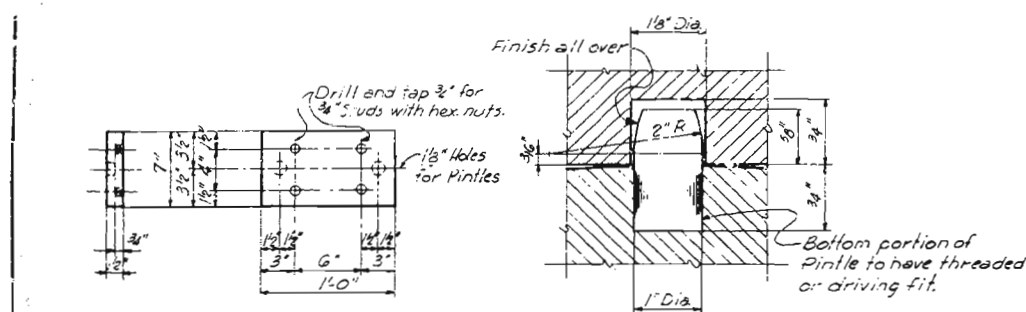
SCHEMATIC PLAN
BEAM LAYOUT

Note: CE indicates Type C-Expansion Shoe CF indicates Type C-Fixed Shoe BE indicates Type B-Expansion Shoe BF indicates Type B-Fixed Shoe

ST. LOUIS COUNTY
BOARD OF PUBLIC WORKS
DIVISION OF HIGHWAYS
INNER BELT EXPRESSWAY
WOODSON ROAD OVERPASS
STEEL FRAMING PLAN
AND DETAILS

SVERDRUP & PARCEL ENGINEERING CO.
ST. LOUIS, MO.

Note: Do not scale this drawing. Follow dimensions.

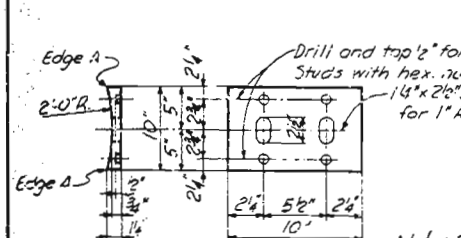


BASE PLATE C

EXPANSION SHOE (10 Required)

TYPE B SHOES

Note: For location of Type B shoes see Schematic Beam Layout, Sheet 7.



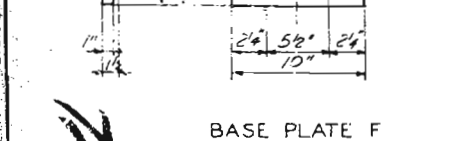
TOP PLATE E

BASE PLATE F

EXPANSION SHOE (20 Required)

TYPE C SHOES

Note: For location of Type C shoes see Schematic Beam Layout, Sheet 7.



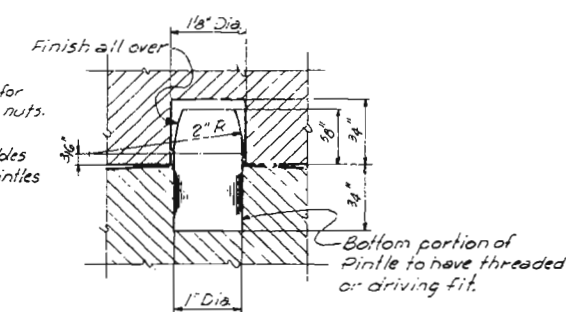
TOP PLATE G

BASE PLATE H

EXPANSION SHOE (20 Required)

TYPE C SHOES

Note: After the beams are in place, completely fill the voids between the shoe plates and anchor bolts with joint seal material.

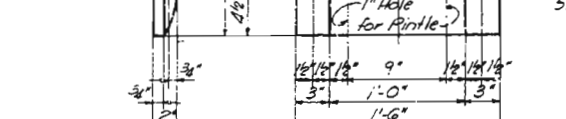


PINTLE

EXPANSION SHOE (10 Required)

TYPE B SHOES

Note: For location of Type B shoes see Schematic Beam Layout, Sheet 7.

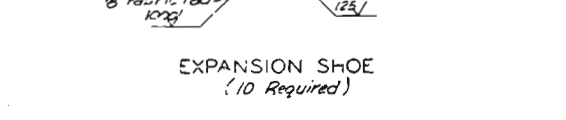


BASE PLATE D

EXPANSION SHOE (10 Required)

TYPE B SHOES

Note: For location of Type B shoes see Schematic Beam Layout, Sheet 7.



TOP PLATE A

BASE PLATE C

EXPANSION SHOE (10 Required)

TYPE B SHOES

Note: For location of Type B shoes see Schematic Beam Layout, Sheet 7.



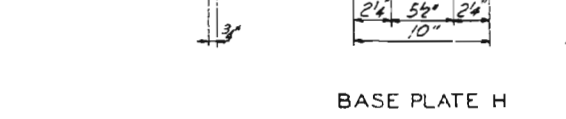
TOP PLATE E

BASE PLATE F

EXPANSION SHOE (20 Required)

TYPE C SHOES

Note: After the beams are in place, completely fill the voids between the shoe plates and anchor bolts with joint seal material.



TOP PLATE G

BASE PLATE H

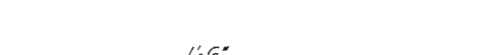
EXPANSION SHOE (20 Required)

TYPE C SHOES



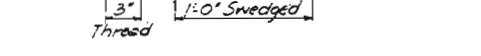
ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



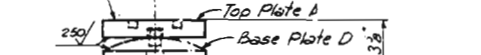
ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



ANCHOR BOLTS

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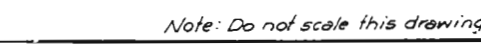
ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



ANCHOR BOLTS

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ANCHOR BOLTS

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ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



ANCHOR BOLTS

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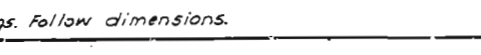
ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



ANCHOR BOLTS

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ANCHOR BOLTS

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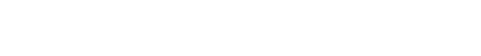
ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



ANCHOR BOLTS

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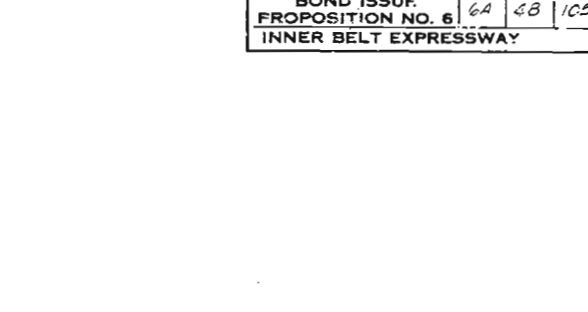
ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



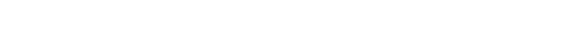
ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



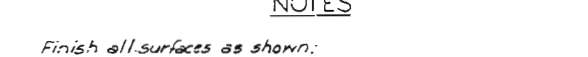
ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



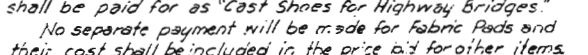
ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



ANCHOR BOLTS

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ANCHOR BOLTS

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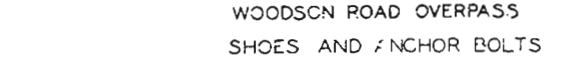
ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.



ANCHOR BOLTS

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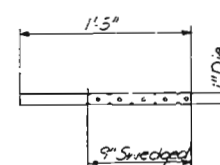


ANCHOR BOLTS

Note: Anchor Bolts to be cast in concrete.

NOTES

Finish all surfaces as shown.
All bolts and nuts shall be paid for as "Structural Steel (Rolled Beam Spans)".
Material for shoe castings shall be either gray iron alloy or cast steel. Material for pintles shall be cold finished carbon steel A.I.S.I. C-1042 or C-1045. Shoe castings and pintles shall be paid for as "Cast Shoes for Highway Bridges".
No separate payment will be made for Fabric Rads and their cost shall be included in the price bid for other items.



ANCHOR BOLTS

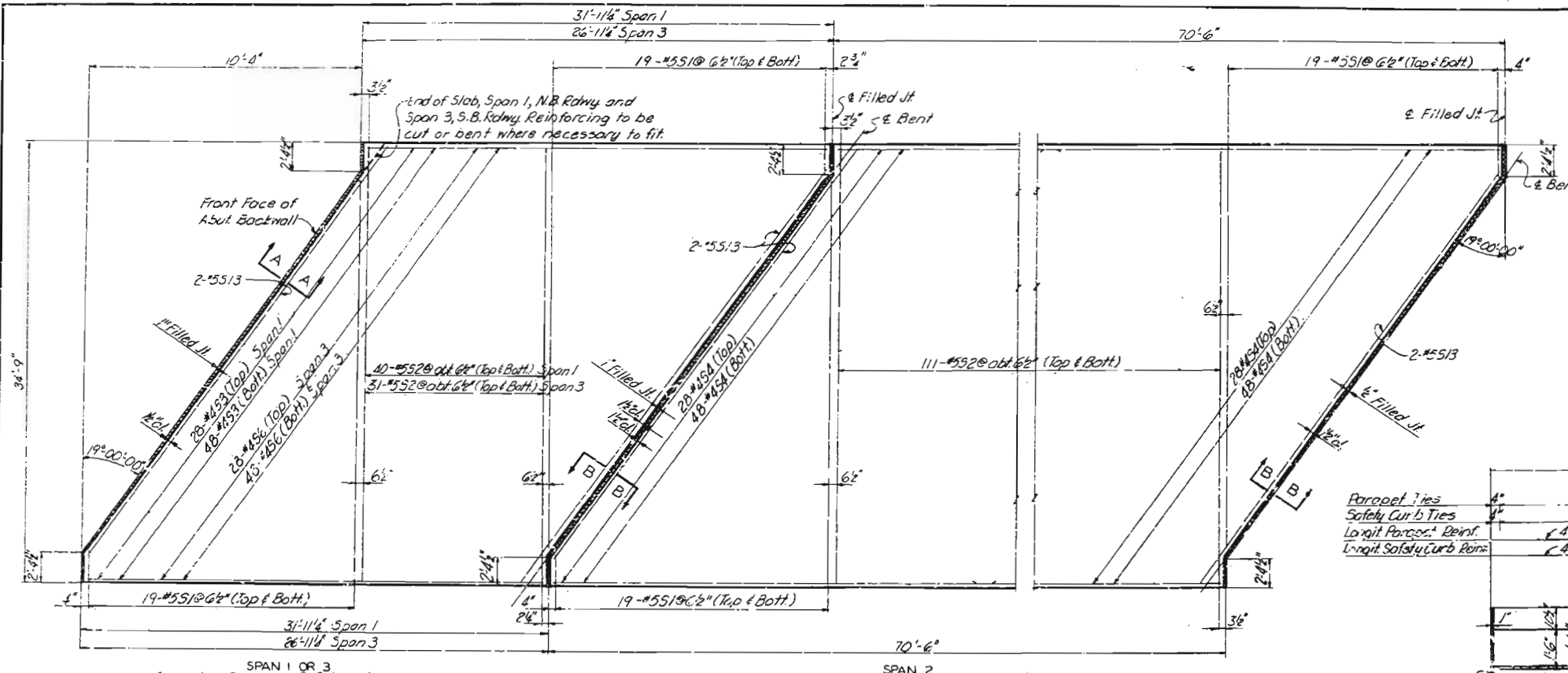
Note: Anchor Bolts to be cast in concrete.

ST. LOUIS COUNTY
BOARD OF PUBLIC WORKS
DIVISION OF HIGHWAYS
INNER BELT EXPRESSWAY
WOODSON ROAD OVERPASS
SHOES AND ANCHOR BOLTS

DATE: May 23, 1962
SVERDRUP & PARCEL ENGINEERING CO.
ST. LOUIS, MO.

SHEET 5 OF 12
A-2807
A-2807

Note: Do not scale this drawings. Follow dimensions.

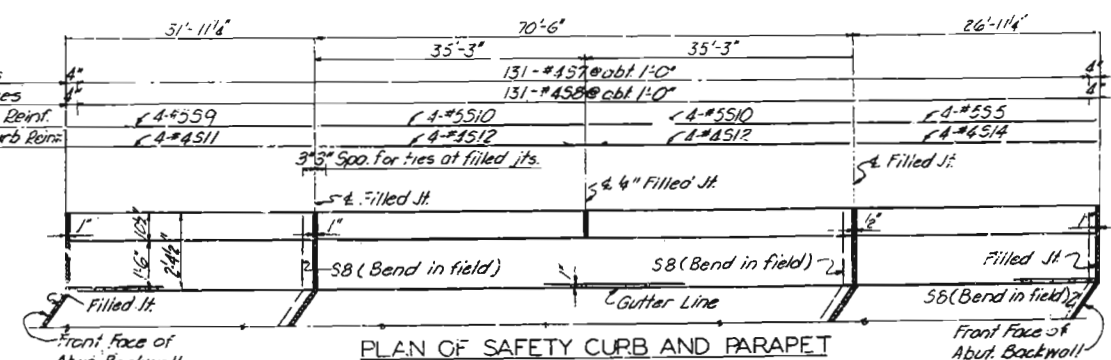
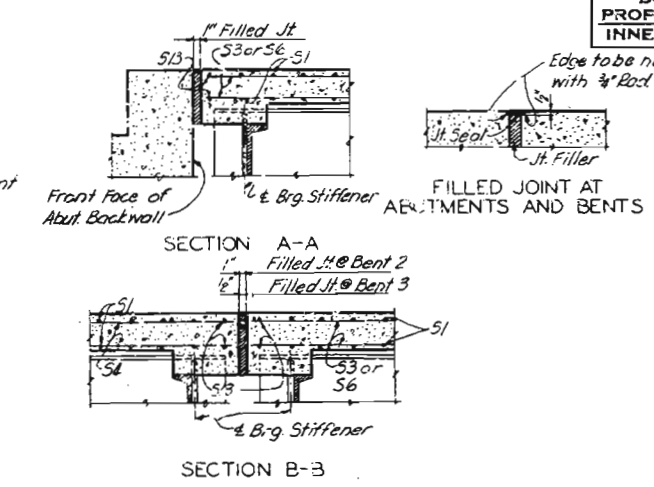


SPAN 1 OR 3
Span 1, N.B. and S.B. Rdwy. shown.
Span 3, N.B. and S.B. Rdwy. same
by 180° Rotation.

PART PLAN

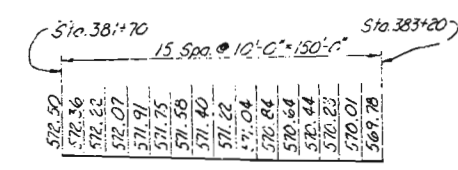
Note: Safety Curb and Parapet not shown.
Transverse reinforcing may be shifted in
field where necessary to clear shear connectors.

Note: N.B. indicates Northbound.
S.B. indicates Southbound.

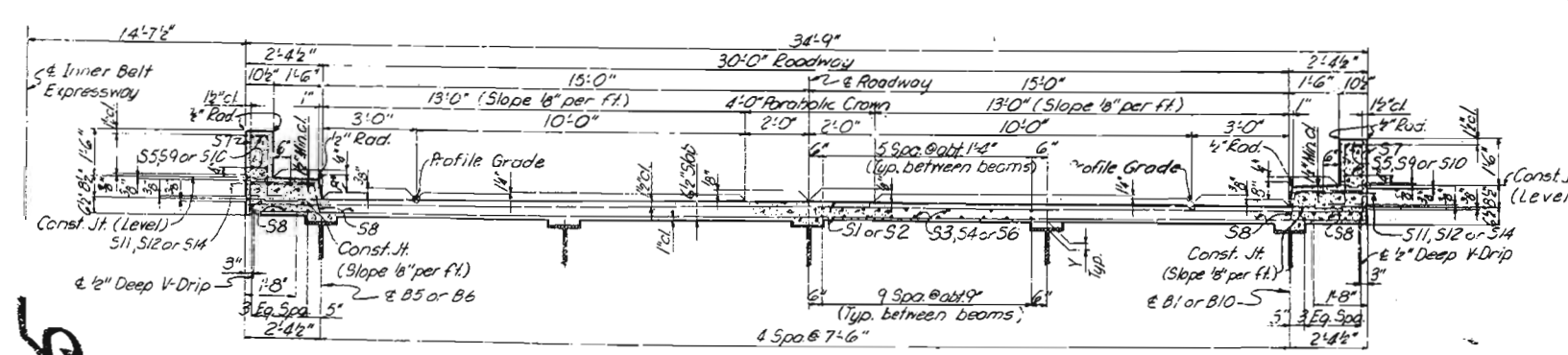


West Safety Curb and Parapet shown for Northbound
and Southbound Roadways. East Safety Curb and
Parapet for Northbound and Southbound Roadway same
by 180° Rotation.

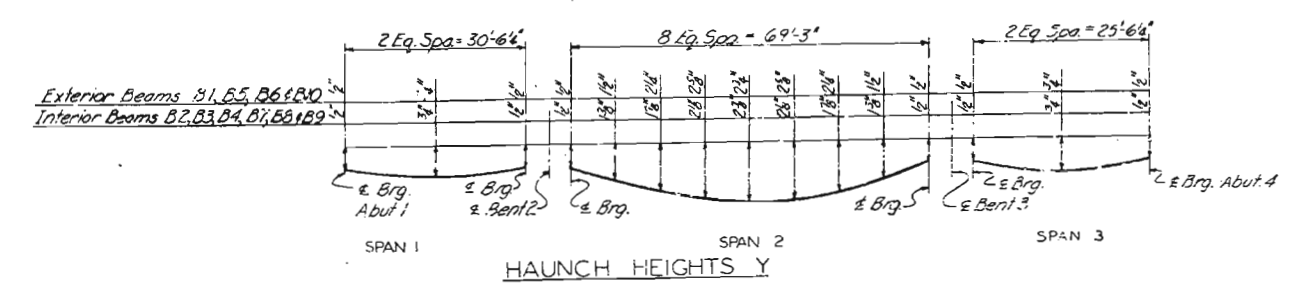
Note: The slab shall be built to proper finished
grade and to a uniform thickness of 6\"/>



PROFILE GRADE ELEVATIONS



CROSS SECTION



HAUNCH HEIGHTS Y

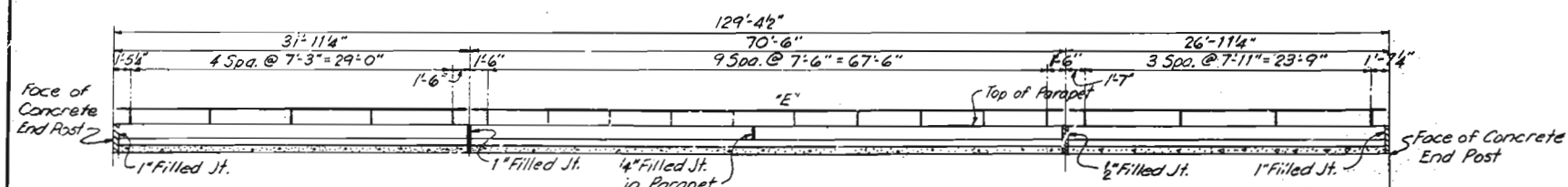
NOTES
All longitudinal and transverse dimensions
shown are horizontal.

ST. LOUIS COUNTY
BOARD OF PUBLIC WORKS
DIVISION OF HIGHWAYS
INNER BELT EXPRESSWAY
WOODSON ROAD OVERPASS
SLAB AND SAFETY CURBS
DATE: May 23, 1962
SVERDRUP & PARCEL ENGINEERING CO.
ST. LOUIS, MO.

Note: Do not scale this drawing. Follow dimensions.

1872
6/15/72
DESIGNED BY: G.J. De...
CHECKED BY: L. Ober...
DATE: 4/11/65 (G.U.D.)

95



ELEVATION OF WEST HANDRAIL - SOUTHBOUND AND NORTHBOUND BRIDGES

(East Handrail, - Southbound and Northbound Bridges same)

Note: All longitudinal dimensions are measured

e. All longitudinal dimensions are the horizontally at top of parapet.

"E" indicates location of 3' expansion joint

Σ indicates location of expansion joint in handrail tube.

in monorail tube.

BRIDGE RAIL NOTES (One Tube Type)

Material for all parts of Bridge Rail, except as noted, shall be aluminum.

All rail posts shall be set normal to top of parapet.

Rail shall be bent to conform to vertical alignment of carpet.

Rail to be fabricated in two or three panel lengths unless otherwise approved.

All rail splices shall be located near the 1/2 point between rail posts.

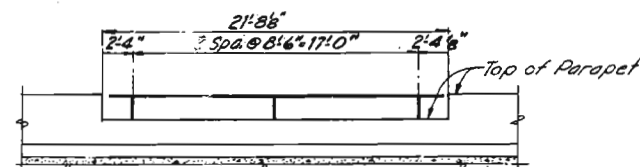
All outside corners of posts to have 6" radius except as noted. All fillers 4" and

a radius except as noted. All filters 4 and drafts 2° except as noted.

Aluminum washer shims between top of parapet and rail post base may be used for adjusting rail alignment. Maximum thickness of shims to be 8". Where more tilting of rail post is required for proper alignment, concrete bearing area shall be ground down.

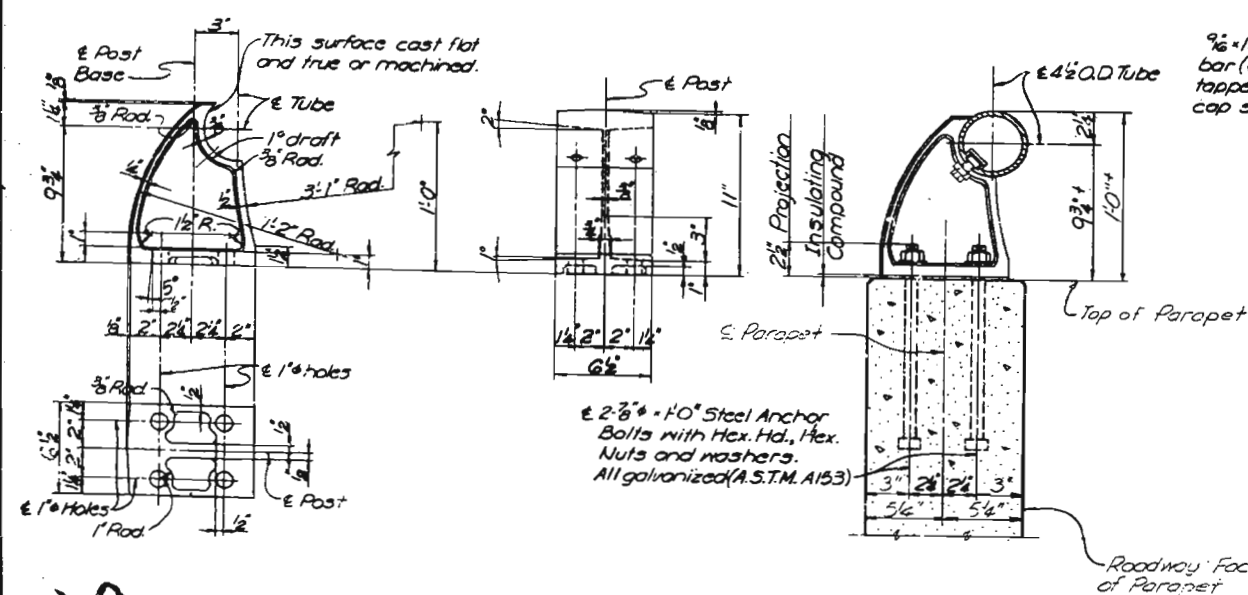
The contract unit price per linear foot of "H.S. Bridge Rail (One Tube Type)", shall include furnishing and erecting the bridge rail complete with anchor bolts, shims, and insulating compound.

See Special Provisions.



ELEVATION OF HANDRAIL AT MEDIAN CLOSURES

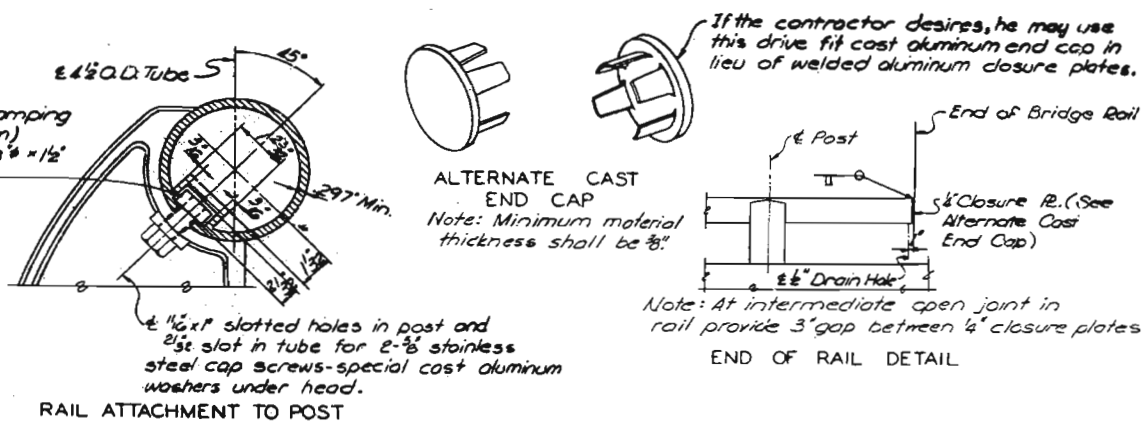
Note: For section thru Handrail on median closure, see Section A-A, Sheet 5.



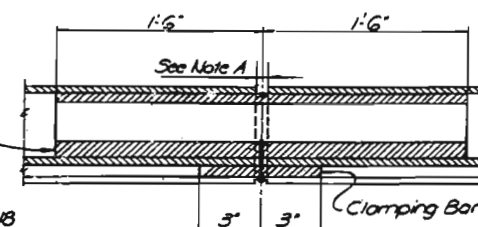
RAIL POST

SECTION THRU BRIDGE RAIL

BRIDGE RAIL



RAIL SPLICE



SECTION A-A

Note A: $\frac{3}{4}$ " at Point marked "E" in elevation view on this Sheet, $\frac{1}{8}$ " at other rail splices.

Note: Do not scale this drawing. Follow dimensions

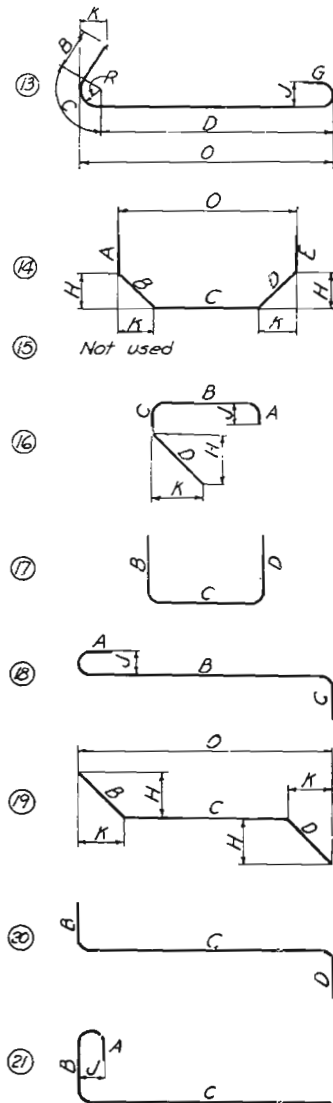
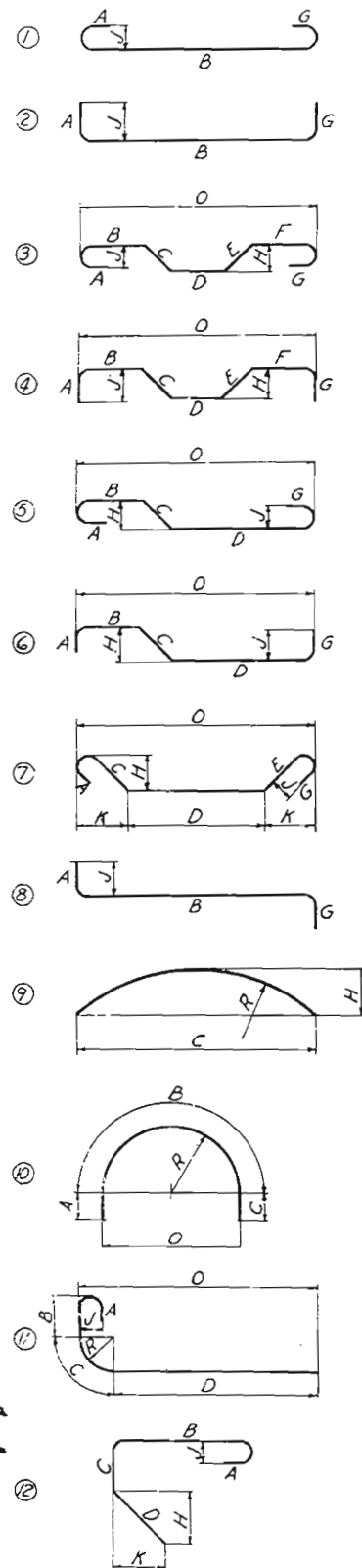
ST. LOUIS COUNTY
BOARD OF PUBLIC WORKS
DIVISION OF HIGHWAYS
INNER BELT EXPRESSWAY
WOODSON ROAD OVERPASS
HANDRAIL

DATE: May 23, 1962

SVERDRUP & PARCEL ENGINEERING CO.
ST. LOUIS, MO.

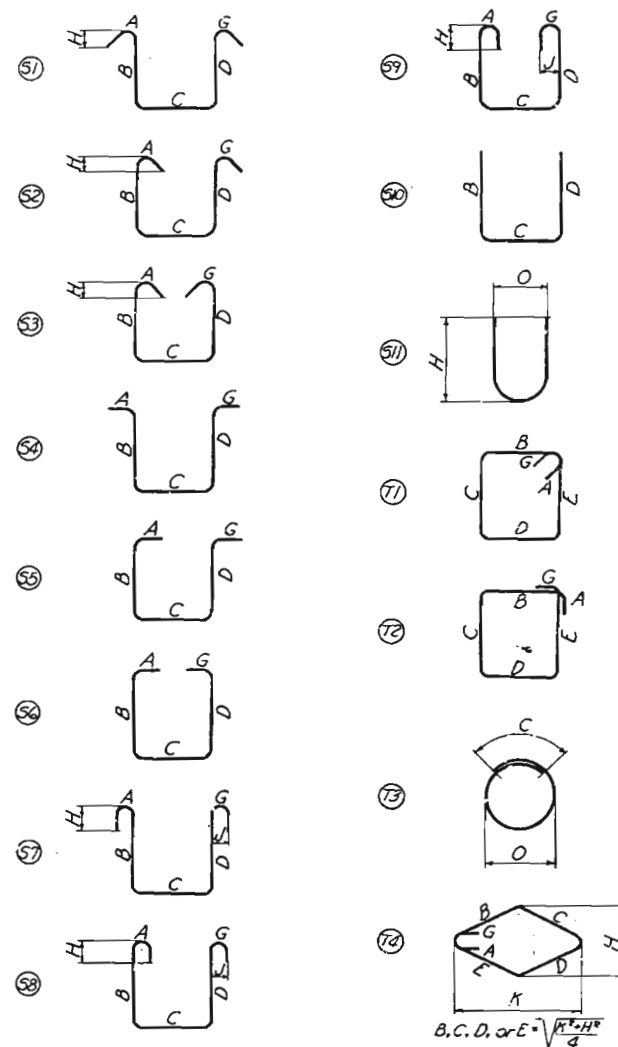
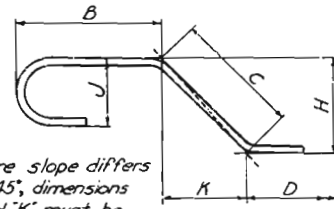
SHEET 10 OF 12 A-2807

TYPICAL BAR TYPES



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

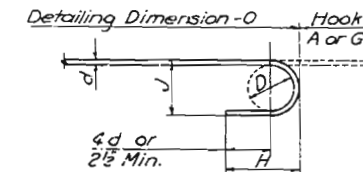
ENLARGED VIEW SHOWING BAR BENDING DETAILS



NOTES

- All dimensions are out to out, except "R" which is to inside of bend.
- "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.
- 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.
- "H" Dimension on stirrups to be shown on Bar List where necessary to restrict hooks.
- 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.
- All bends shown are bent around a standard mandrel, except where radius "R" is indicated.
- Figures in circles show bar types.
- 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 T3 shall also be measured along outside of bar.

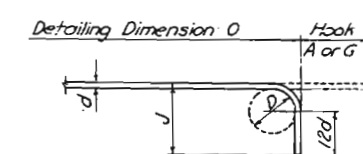
STANDARD HOOK DIMENSIONS



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

180° HOOK

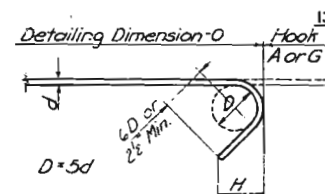
Bar Size	Hook A or G	J	Approx H
#2	4"	2"	3 1/2"
#3	5"	3"	4"
#4	6"	4"	4 1/2"
#5	7"	5"	5"
#6	8"	6"	6"
#7	10"	7"	7"
#8	11"	10"	9"
#9	13"	11 1/2"	10 1/2"
#10	15"	13 1/2"	11 1/2"
#11	17"	15"	13 1/2"



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

90° HOOK

Bar Size	Hook A or G	Approx H
#2	3 1/2"	4"
#3	5 1/2"	6"
#4	7 1/2"	8 1/2"
#5	9"	10 1/2"
#6	10 1/2"	12 1/2"
#7	12 1/2"	14 1/2"
#8	14 1/2"	16 1/2"
#9	16 1/2"	18 1/2"
#10	18 1/2"	20 1/2"
#11	20 1/2"	22 1/2"



D = 5d

135° STIRRUP HOOK

Bar Size	Hook A or G	H
#2	3 1/2"	2 1/4"
#3	4"	2 1/2"
#4	5"	3"
#5	6"	3 1/2"
#6	7"	4 1/2"

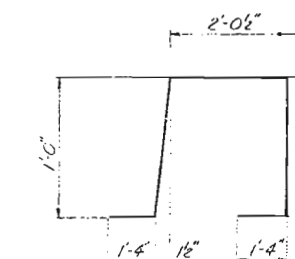
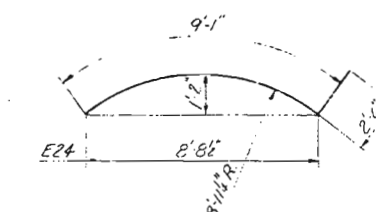
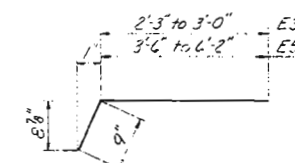
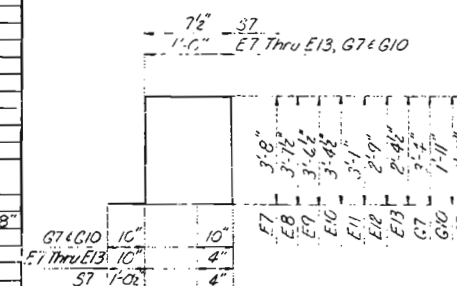
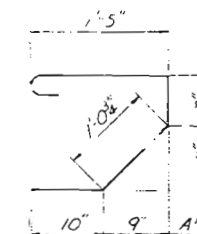
BAR SIZE EQUIVALENTS

#2	6"	#7	7/8"
#3	3/8"	#8	1"
#4	1/2"	#9	1 1/8"
#5	5/8"	#10	1 1/4"
#6	3/4"	#11	1 1/2"

ST. LOUIS COUNTY
BOARD OF PUBLIC WORKS
DIVISION OF HIGHWAYS
INNER BELT EXPRESSWAY
WOODSON ROAD OVERPASS
TYPICAL BAR TYPES
AND HOOK DIMENSIONS

DATE: May 23, 1967
SVERDRUP & PARCEL ENGINEERING CO.
ST. LOUIS, MO.

DIMENSIONS FOR BENDING																			DIMENSIONS FOR BENDING																			
NO. REQD.	SIZE NO.	LENGTH	MARK	TYPE	LOCATION	A	B	C	D	E	F	G	H	J	K	R	O	NO. REQD.	SIZE NO.	LENGTH	MARK	TYPE	LOCATION	A	B	C	D	E	F	G	H	J	K	R	O			
ABUTMENTS 1 & 4 AND END POSTS																			MEDIAN CLOSURES (CONT'D.)																			
212	3	5'-3"	A1	Str.	Footings													6	4	12'-1"	G20	Spcl.	Parapet + Curb															
48	3	26'-9"	A2	Str.	do													4	4	9'-6"	G21	Spcl.	Parapet															
32	4	26'-8"	A3	Str.	Bridge Seat													6	4	11'-7"	G22	Spcl.	Parapet + Curb															
32	4	25'-3"	A4	Str.	Backwall													20	4	21'-8"	G23	Str.	do															
8	4	23'-5"	A5	Str.	Bridge Seat													6	4	9'-2"	G24	Spcl.	do															
Not Used			A6															4	4	7'-8"	G25	Spcl.	Parapet															
8	4	3'-11"	A7	19	Wing Wall		2'-7"	1'-4"						10'		2'-5 1/2"	3'-9 1/2"	6	4	10'-10"	G26	Spcl.	Parapet + Curb															
Not Used			A8															4	4	9'-4"	G27	Spcl.	Parapet															
Not Used			A9																																			
212	3	8'-3"	A10	17	Bridge Seat		2'-11"	2'-5"	2'-11"																													
398	3	6'-4"	A11	2	Backwall		3'-7"																															
8	4	25'-2"	A12	Str.	Pavement Lug																																	
200	4	4'-5"	A13	Spcl.	do																																	
12	3	6'-10"	A14	2	Wing Wall		9"	6'-1"																														
8	4	7'-5"	A15	12	Bridge Seat		3'-9"	2'-4"	1'-4"					1'-3 1/4"		5 1/4"																						
Not Used			A16																																			
34	4	24'-8"	A17	Str.	Br Seat + Backwall																																	
Not Used			A18																																			
8	4	23'-5"	A19	Str.	Bridge Seat																																	
Not Used			A20																																			
8	4	5'-8"	A21	14	Wing Wall		1'-8"	3'-0"						6 1/2"		1'-7"	4'-7"	36	4	12'-6"	C1	11	Cap		5"	2'-8"	3'-2"	2'-8"	3'-2"		5"							
Not Used			A22															32	5	7'-6"	C2	10	do		1'-8"	4'-2 1/2"	1'-8"						1'-3 1/2"	2'-8"				
8	4	7'-6"	A23	19	Bridge Seat		3'-0"	4'-0"						11 1/2"		2'-10"	6'-10"	16	5	31'-9"	C3	Str.	do															
424	3	4'-7"	A24	2	do		3'-10"											24	8	9'-11"	C4	Str.	do															
8	4	25'-8"	A25	Str.	Pavement Lug													8	9	39'-5"	C5	17	do			3'-4"	32'-8 1/2"	3'-4"										
2	4	8'-11"	A26	Str.	Bridge Seat													16	9	31'-9"	C6	Str.	do															
4	4	22'-10"	A27	Str.	do													12	9	8'-0"	C7	Str.	do															
6	4	25'-8"	A28	Str.	Backwall													144	5	5'-6"	C8	Str.	Footings															
4	4	23'-5"	A29	Str.	Bridge Seat													168	6	5'-6"	C9	Str.	do															
4	4	7'-6"	A30	Str.	do													168	4	9'-9"	C10	73	Column			1'-4"												
Not Used			A31															39	8	16'-10"	C11	Str.	do															
Not Used			A32															156	8	5'-11"	C12	2	Footings		1'-2 1/2"	4'-8"												
Not Used			A33															8	9	40'-11"	C13	17	Cap			3'-4"	34'-3 1/2"	3'-4"										
Not Used			A34															39	2	17'-2"	C14	5 1/2	Column															
Not Used			A35															39	8	15'-7"	C15	Str.	do															
Not Used			A36															39	3	16'-0"	C16	Str.	do															
4	3	6'-4"	A37	Str.	Wing Wall																																	
																			BENTS 2 & 3																			
24	5	Varies	E1	Str.	Safety Curb	6 Series of 3 Bars (2'-2" to 4'-6")																																
24	5	Varies	E2	Str.	do																																	
16	3	Varies	E3	Spcl.	do	4 Series of 4 Bars (3'-0" to 3'-9")																																
16	3	Varies	E4	Str.	do	4 Series of 4 Bars (2'-4" to 3'-11")																																
20	3	Varies	E5	Spcl.	do	4 Series of 5 Bars (4'-3" to 6'-11")																																
20	3	Varies	E6	Str.	do	4 Series of 5 Bars (3'-7" to 6'-3")																																
16	3	9'-6"	E7	Spcl.	End Post																																	
4	3	9'-5"	E8	Spcl.	do																																	
4	3	9'-3"	E9	Spcl.	do																																	
4	3	8'-11"	E10	Spcl.	do																																	
4	3	8'-4"	E11	Spcl.	do																																	
4	3	7'-8"	E12	Spcl.	do																																	
4	3	6'-11"	E13	Spcl.	do																																	
4	4	9'-2"	E14	Str.	do																																	
4	4	10'-2"	E15	Str.	do																																	
4	4	7'-8"	E16	9	do									10 1/2			8'-11 1/2"																					
4	2	8'-5"	E17	9	do									11 1/2			9'-9 1/2"																					
12	4	9'-11"	E18	9	do									1'-2"			8'-11 1/2"																					
4	4	9'-11"	E19	9	do									1'-3 1/4"			9'-9 1/2"																					
27	5	7'-9"	E20	Str.	Wall													32	5	34'-11"	510	Str.	do															
36	5	8'-0"	E21	Str.	do													16	4	31'-6"	511	Str.	Safety Curb															
16	3	9'-1"	E22	9	do													32	4	35'-7"	512	Str.	do															
32	5	5'-0"	E23	Str.	do													12	5	34'-0"	513	Str.	Slab															
16	3	11'-7"	E24	Spcl.	do													16	4	26'-7"	514	Str.	Safety Curb															
32	5	10'-4"	E25	19	do																																	
9	3	7'-3"	E26	Str.	do																																	
																			SLABS, PARAPETS AND SAFETY CURBS																			
436	5	Varies	51	Str.	Slab	24 Series of 19 Bars (2'-6" to 30'-9")																																
728	5	34'-6"	52	Str.	do																																	
152	4	31'-6"	53	Str.	do																																	
304	4	35'-7"	54	Str.	do																																	
16	5	26'-7"	55	Str.	Parapet																																	
152	4	26'-6"	56	Str.	Slab																																	
524	4	5'-10"	57	Spcl.	Parapet																																	
324	4	4'-9"	58	Spcl.	Safety Curb																																	
16	5	31'-6"	59	Str.	Parapet																																	
32	5	34'-11"	610	Str.	do																																	
16	4	31'-6"	611	Str.	Safety Curb																																	
32	4	35'-7"	612	Str.	do																																	



Mark	A	B	C	D	H	R
G11	—	12° 34'	1° 4'	10° 44'	2° 8'	6° 6'
G12	—	11° 3'	1° 4'	9° 5'	2° 34'	6° 6'
G13	—	10° 43'	1° 4'	9° 33'	2° 44'	5° 38'
G14	—	10° 08'	1° 4'	8° 10'	2° 08'	5° 38'
G15	1° 4'	8° 16'	4° 53'	7° 7'	1° 28'	6° 6'
G16	1° 4'	8° 16'	3° 33'	7° 7'	1° 28'	6° 6'
G17	1° 4'	7° 14'	4° 53'	6° 28'	1° 04'	5° 38'
G18	1° 4'	7° 14'	3° 04'	6° 28'	1° 04'	5° 38'
G19	—	6° 12'	4° 53'	5° 10'	10° 8'	5° 38'
G20	1° 4'	6° 36'	4° 53'	5° 10'	11° 6'	5° 04'
G21	—	5° 04'	4° 53'	4° 49'	9° 4'	2° 08'
G22	1° 4'	5° 28'	4° 53'	4° 13'	9° 6'	4° 2'
G24	—	7° 10'	1° 4'	6° 9'	1° 84'	4° 2'
G25	—	7° 2'	—	6° 18'	1° 84'	4° 2'
G26	—	9° 6'	1° 4'	8° 2'	2° 08'	5° 06'
G27	—	9° 4'	—	8° 1'	2° 0'	5° 06'

NOTES

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:

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

Bars listed as Spcl. in type column require special bending, see details.

ST. LOUIS COUNTY
BOARD OF PUBLIC WORKS
DIVISION OF HIGHWAYS
INNER BELT EXPRESSWAY

BAR LIST AND
SPECIAL BENDING DETAILS
DATE *May 23, 1966*
SVERDRUP & PARCEL ENGINEERING CO.
ST. LOUIS, MO.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	229	
SEC 32		TWP 46 N	RG 9 E		

GENERAL NOTES:

Design Specifications:
A.A.S.H.T.O.-1977 Load Factor Design

Design Loading:
HS20-44
15#/sq.ft. Future Wearing Surface
Modified 24,000# Tandem Axle
Earth 120# Equivalent Fluid Pressure 20#
Fatigue Stress-Case I

Design Unit Stresses:
Class B Concrete (Substructure) $f_c = 3000$ psi.
Class B1 Concrete (Safety Barrier & Median Barrier Curb) $f_c = 4000$ psi.
Class B2 Concrete (Superstructure) (except Safety Barrier and Median Barrier Curb) $f_c = 4000$ psi.
Reinforcing Steel (Grade 60) $f_y = 60,000$ psi.
Structural Carbon Steel $f_y = 36,000$ psi.
Steel Pile $f_b = 20,000$ psi.

Field connections, High Strength Bolts & Nuts 1/2" & except as noted.

All joint filler shall meet the requirements of Std. Spec. 1057.2.4.

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

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

Traffic over structure to be maintained during construction.

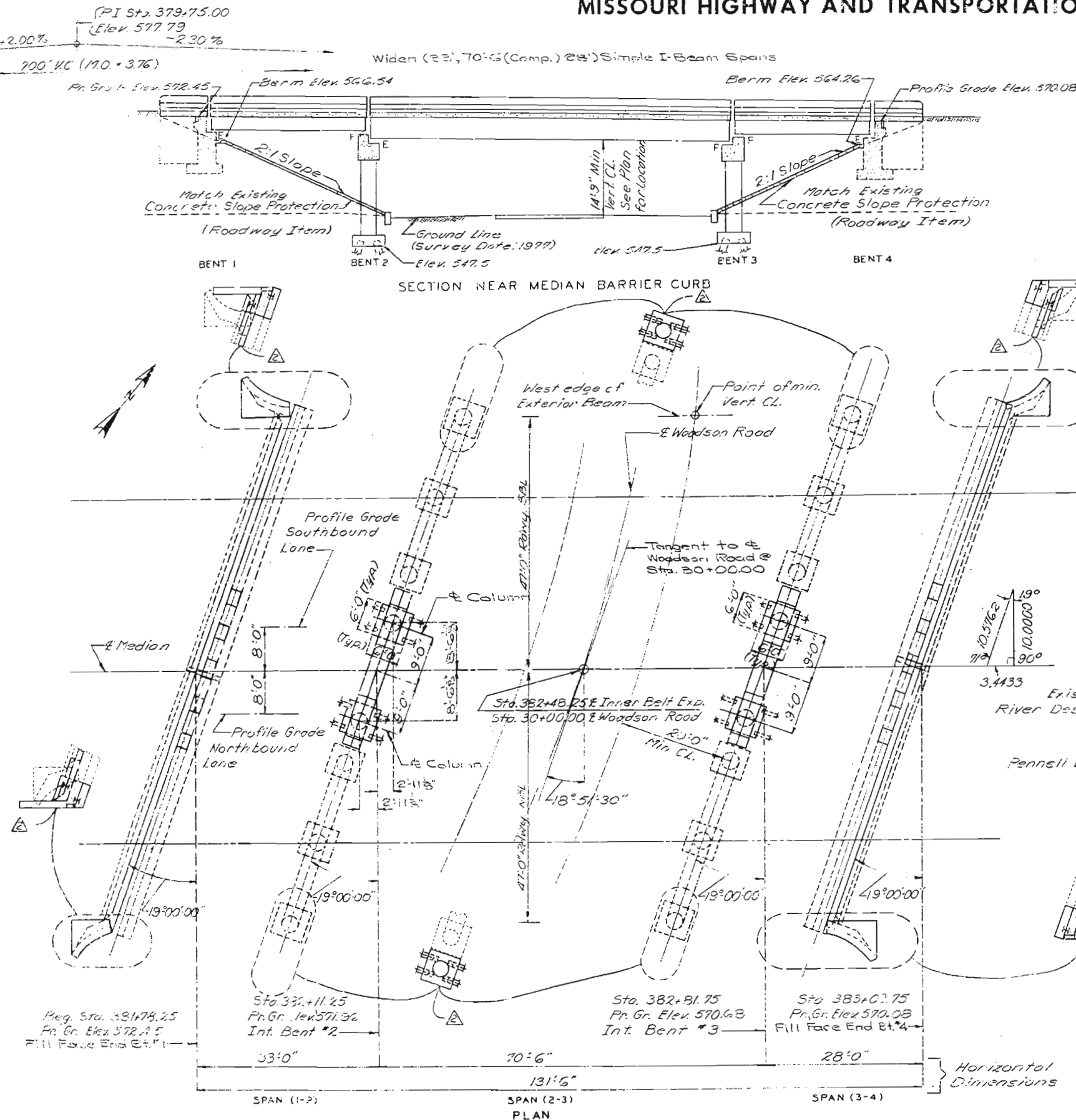
Minimum clearance to reinforcing steel shall be 1 1/2" unless otherwise shown.

All reinforcing bars in tops of substructure beam or caps shall be spaced to clear anchor bolts by at least 1/2".

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

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

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



B.M. #20 Elev. 572.89 "a" on curb line S.W. Cor. S.E.L. Bridge A-2807 Sta. 381+94 (U.S.G.S. Datum)

BRIDGE OVER WOODSON ROAD

STATE ROAD FROM RTE.40 TO RTE.D

ABOUT 0.4 MILE SOUTH OF RTE.D

PROJECT NO. F-FG-BRF-725-1(12) STA. 381+78.25

JOB NO. 6-170-529

RTE. I-170

ST LOUIS

COUNTY

DATE 3/24/83

STD. 706.35

STD. 611.60

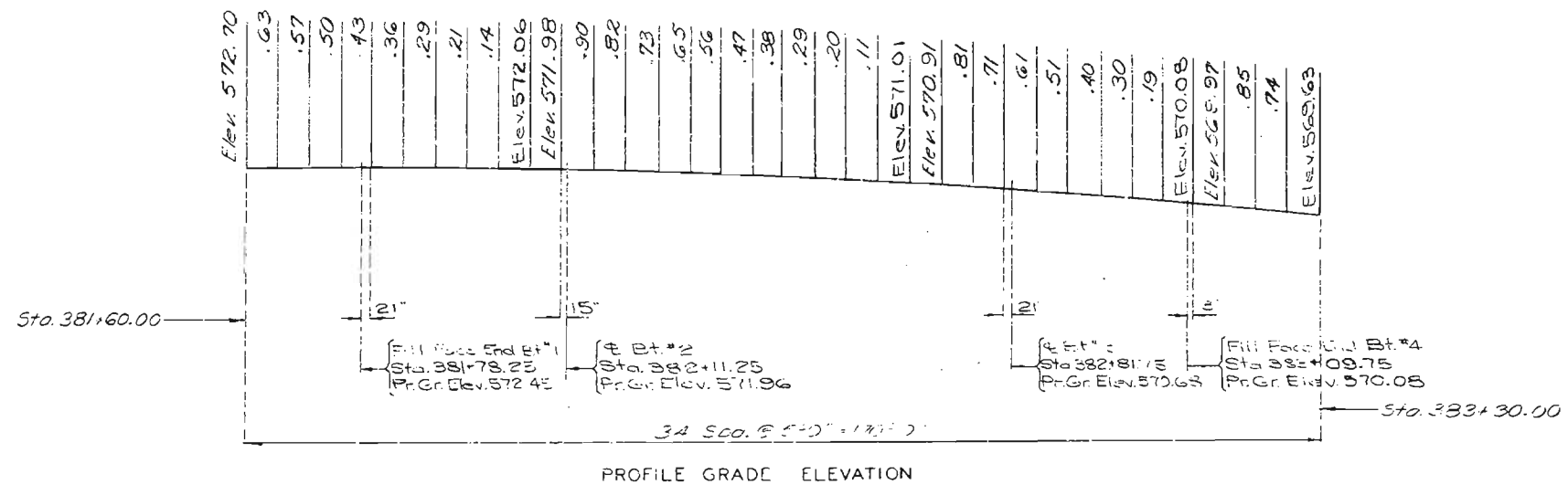
A-2807 R

DESIGNED Dec. 19 79
DETAILED Aug. 19 81
CHECKED Aug. 19 81

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

Sheet No. 1 of 17

Revised Nov. 30, 1983



* See Special Provisions

ESTIMATED QUANTITIES				ADDITIONAL QUANTITIES DUE TO REVISION Δ
ITEM	SQ. FT.	SUBSTR.	SUPER.	
REMOVAL OF EXISTING BRIDGE DECK	SQ. FT.		8,992	8,992
SPECIAL WORK	LUMP SUM			1
CLEANING EXISTING BEARINGS	EACH		60	60
* PAINTING (SYSTEM A OR B) ALUMINUM	LUMP SUM		1	1
CLASS I EXCAVATION	CU. YD.	80		80
CLASS B CONCRETE	CU. YD.	58.9		58.9
CLASS B2 CONCRETE	CU. YD.		333.6	333.6
STRUCTURAL STEEL PILE 10'	LIN. FT.	360		360
REINFORCING STEEL (EPOXY COATED)	LB.		48,630	48,630
FABRICATED STRUCTURAL CARBON STEEL	LB.		110,780	110,780
LAMINATED NEOPRENE BEARINGS	EACH		30	30
ELASTOMERIC EXPANSION JOINT SEAL 2"	LIN. FT.		656	656
REINFORCING STEEL GRADE 60	LB.	8,270	38,610	46,880
SAFETY BARRIER CURB	LIN. FT.		293	293
MEDIAN BARRIER CURB	LIN. FT.		129	129

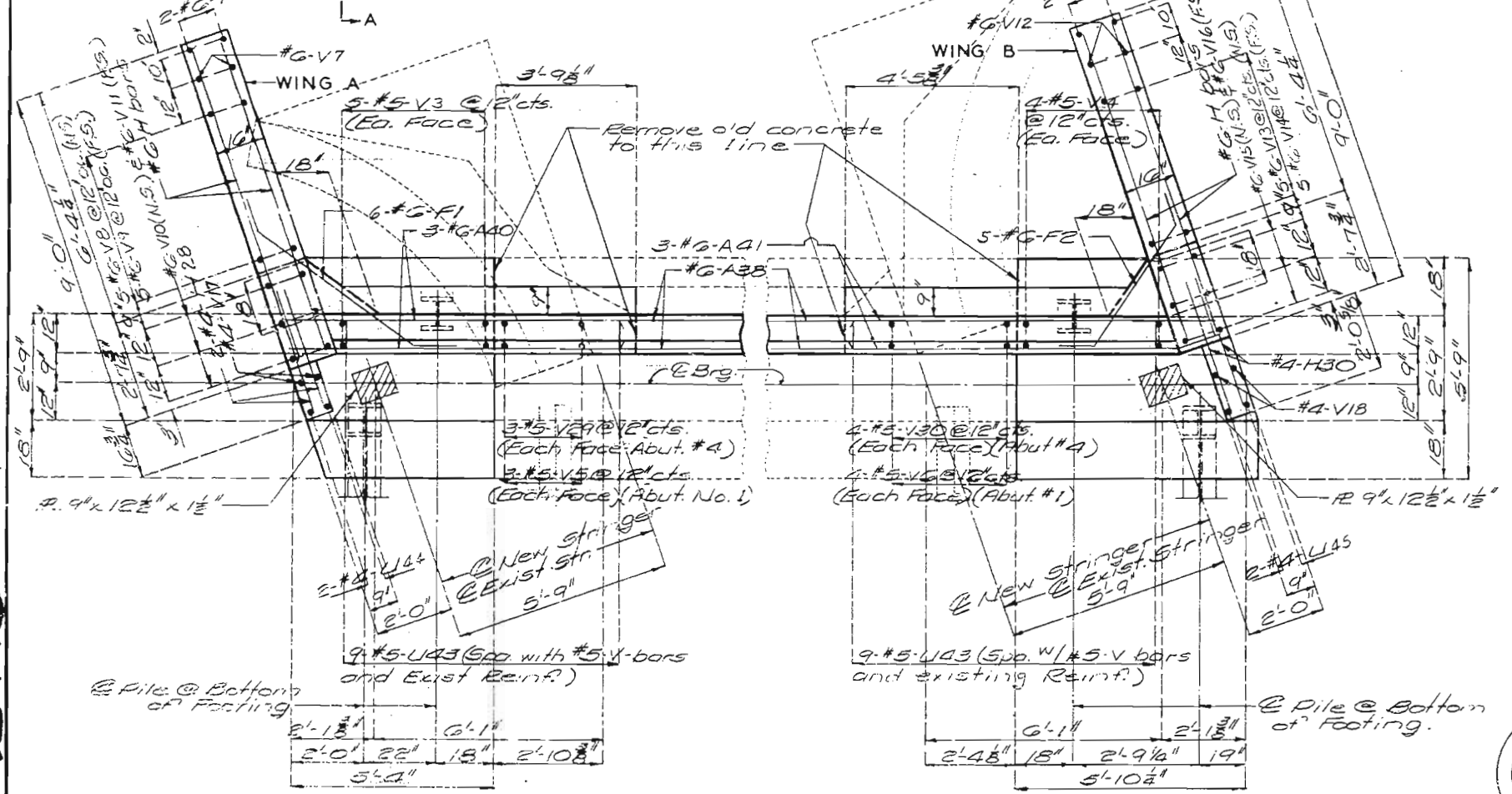
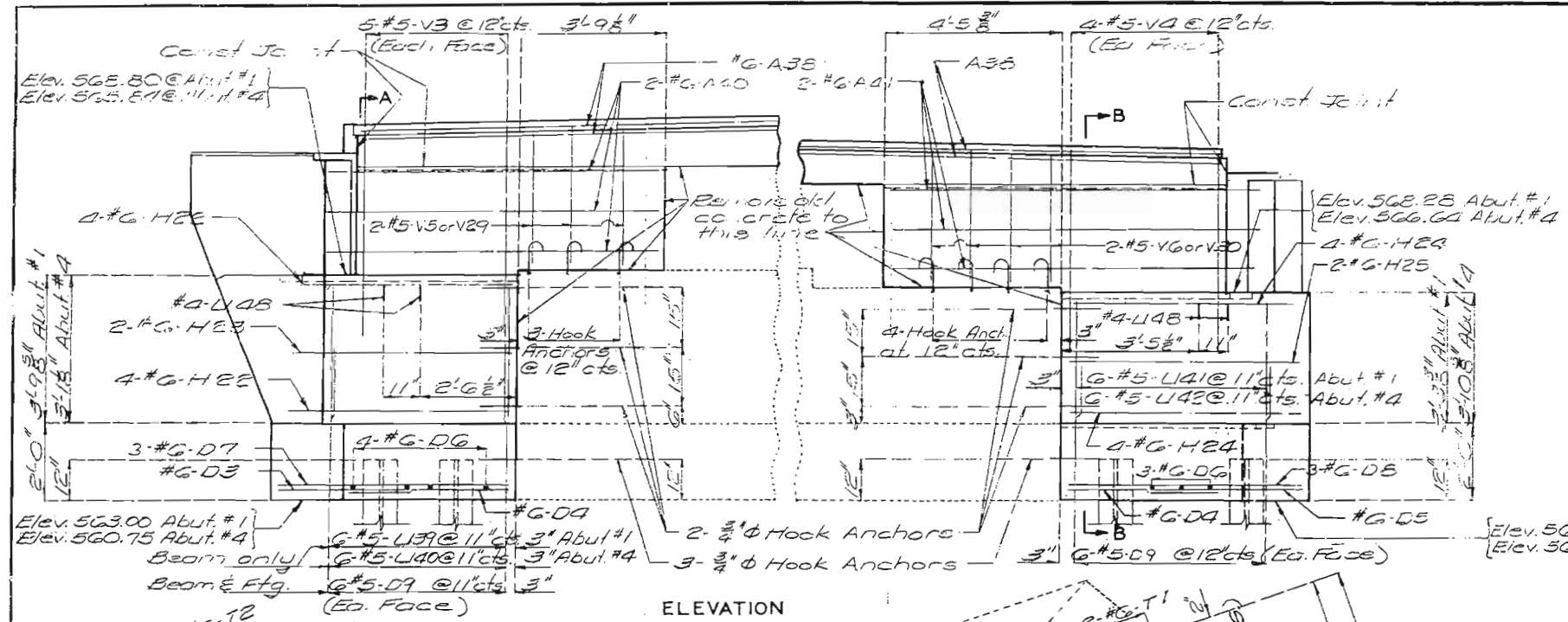
Note: For Boring Data see plans of existing structure.

PILE DATA			
BENT NO.	2	3	1
PILE TYPE AND SIZE	HP 10x42	HP 10x42	HP 10x42
NUMBER	16	16	16
APPROXIMATE LENGTH	FT.	20'	25'
DESIGN BEARING	TONS	51	51
HAMMER ENERGY REQUIRED	FT. LBS.	11,800	11,800

Minimum energy requirement of hammer based on plan length and design bearing values of piles.

All pile shall be driven to practical refusal.

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



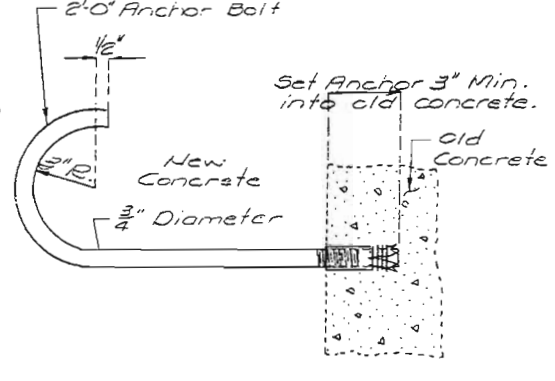
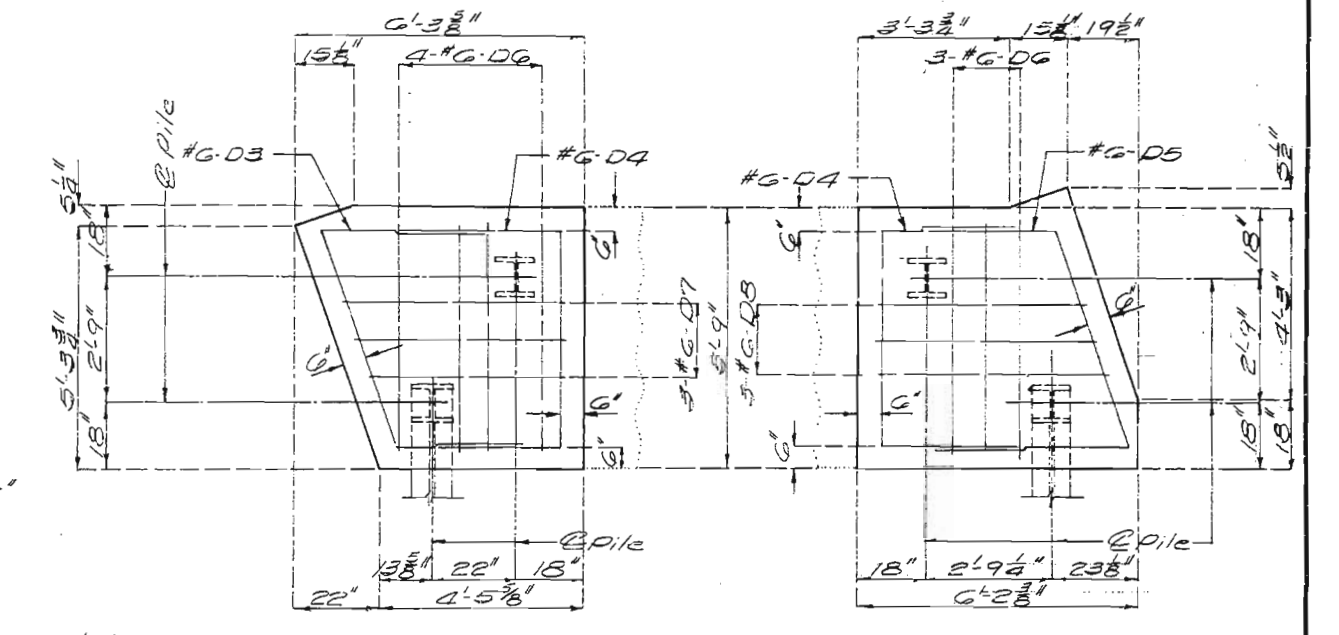
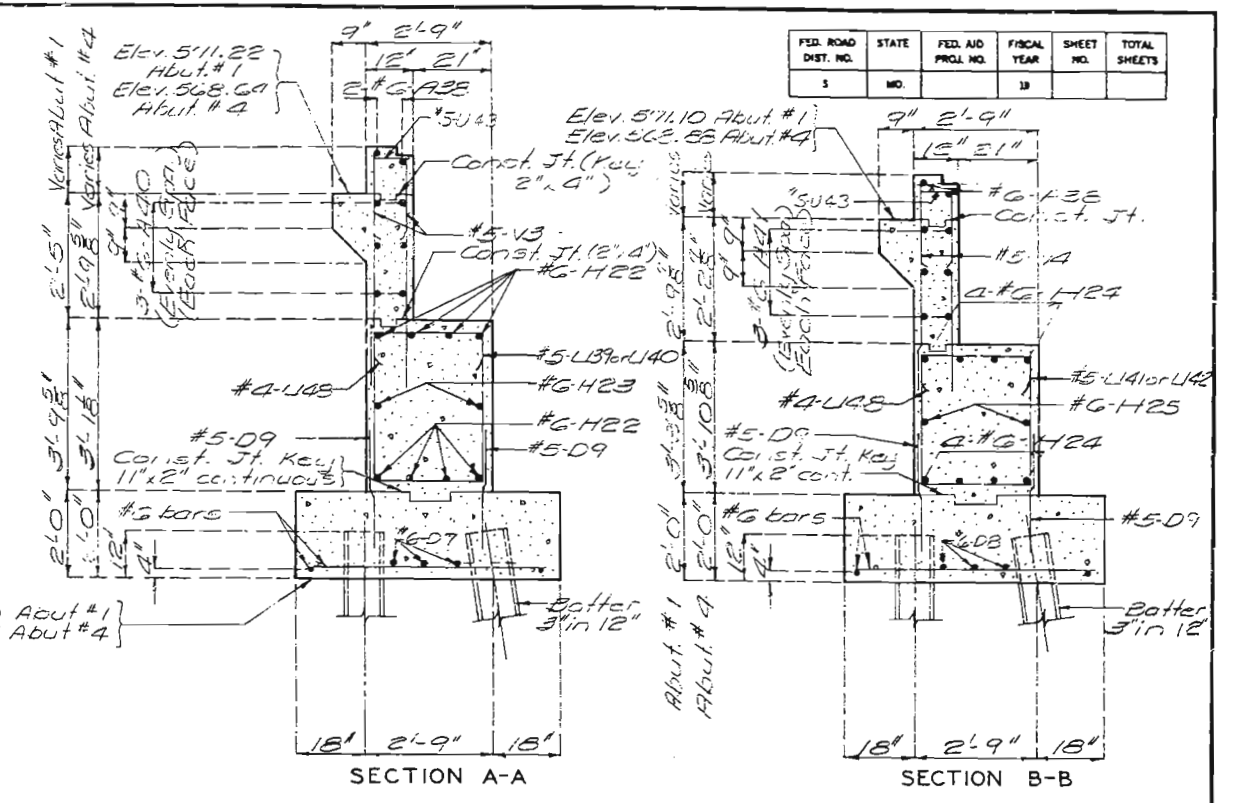
292

Note: Top of backwall and expansion device for Abutment No. 1 & 4 to conform to crown of roadway slab. Backwall above upper construction joint shall not be poured until the superstructure slab has been poured in the adjacent span. All conc. & reinf. in the End Post above upper construction joint shall be included in superstructure quantities.

DETAILED APR 19 83
CHECKED APR 19 83

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

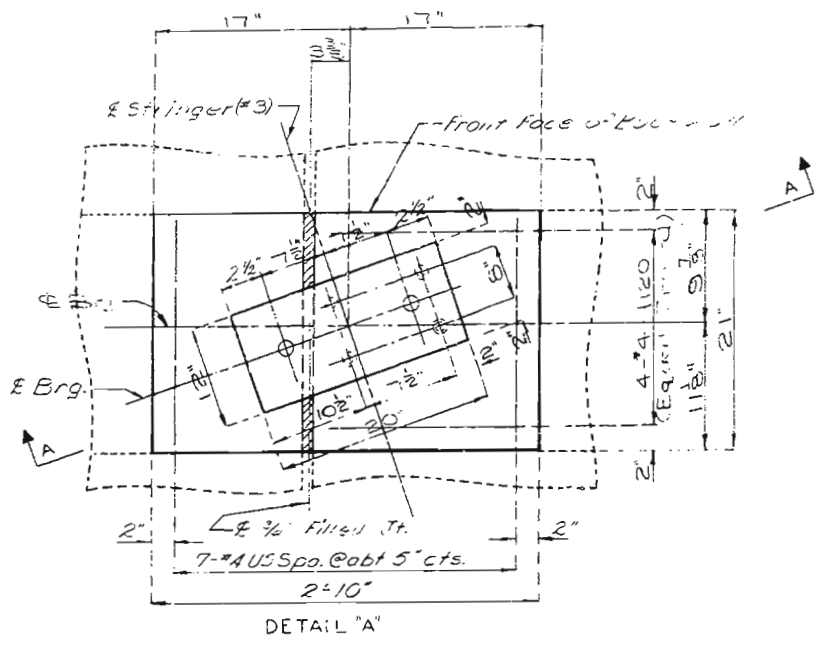
DETAILS OF ABUT. NO. 1 & 4



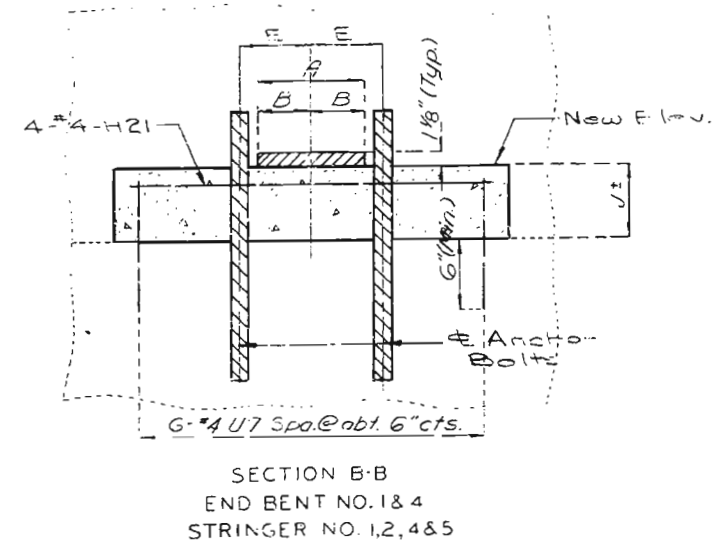
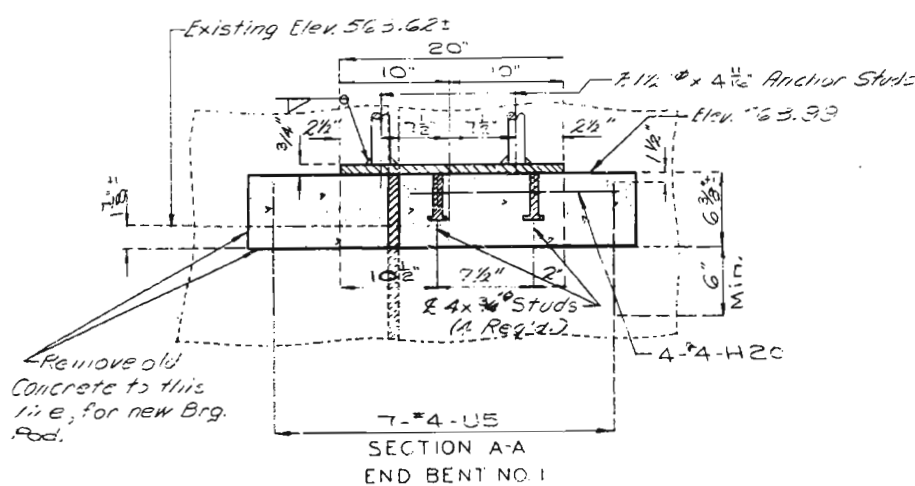
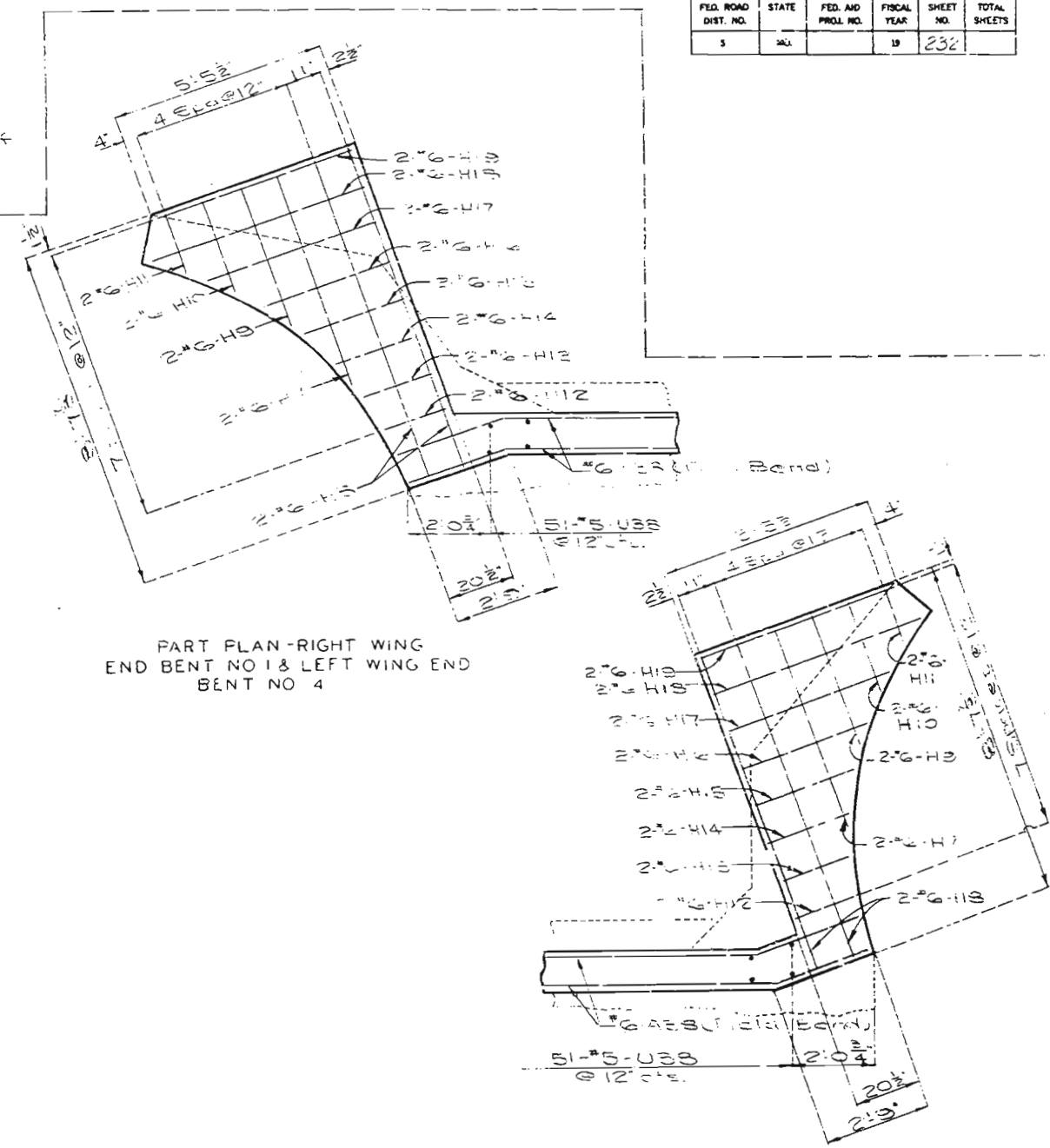
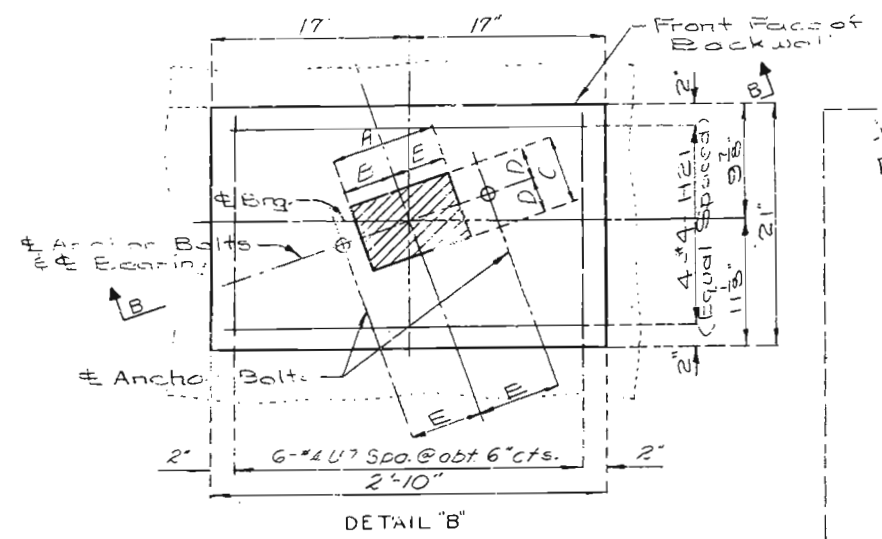
DETAIL OF HOOK ANCHOR BOLT

PLAN OF FOOTINGS

Note: Details for Abut. No. 1 shown. Details for Abut. No. 4 are the same except for wing reinforcement. For Plan of Wings showing reinforcement for Abut. No. 4 see Sheet No. For Elevation views of Wing A & B see Sheet No. Anchors shall be of the self drilling expansion type, made of case hardened and drawn carburized steel, with self-cutting annular broaching grooves. Cost of furnishing and installing hook anchor bolt assemblies shall be included in contract unit price for concrete. For location of Anchor Bolt holes see Sht. 7A.

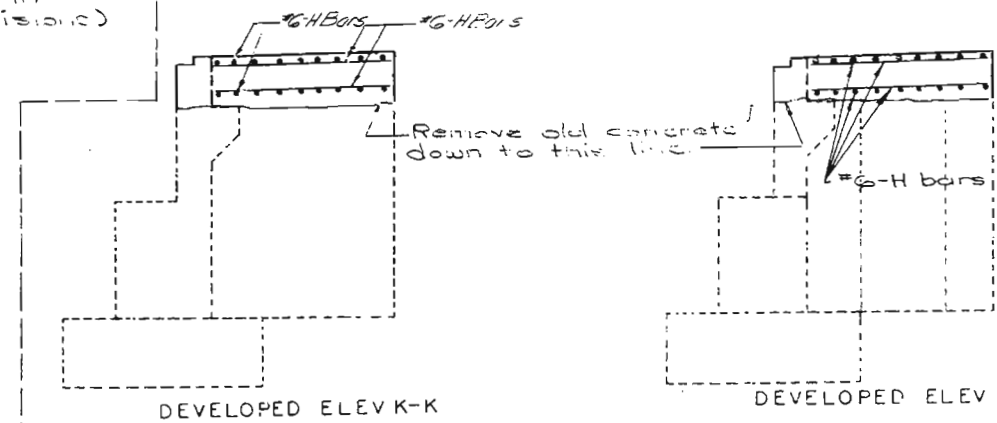
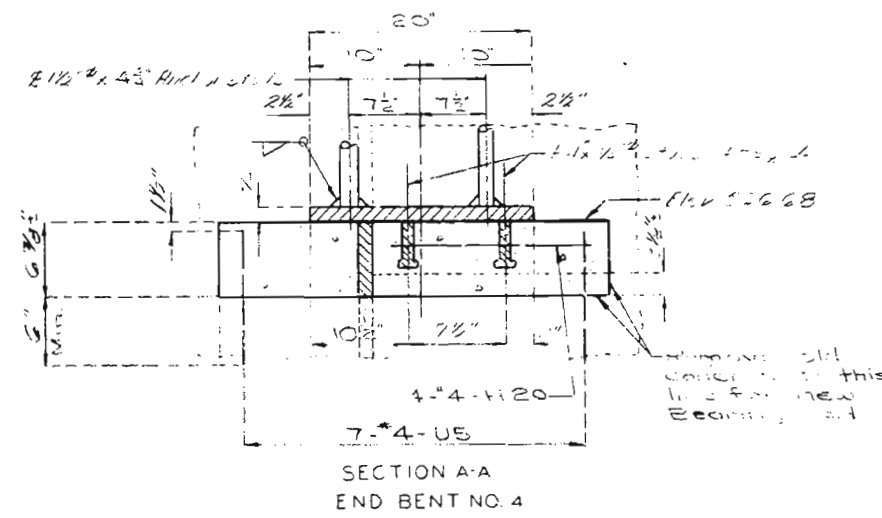


Stringer 1,2,4&5



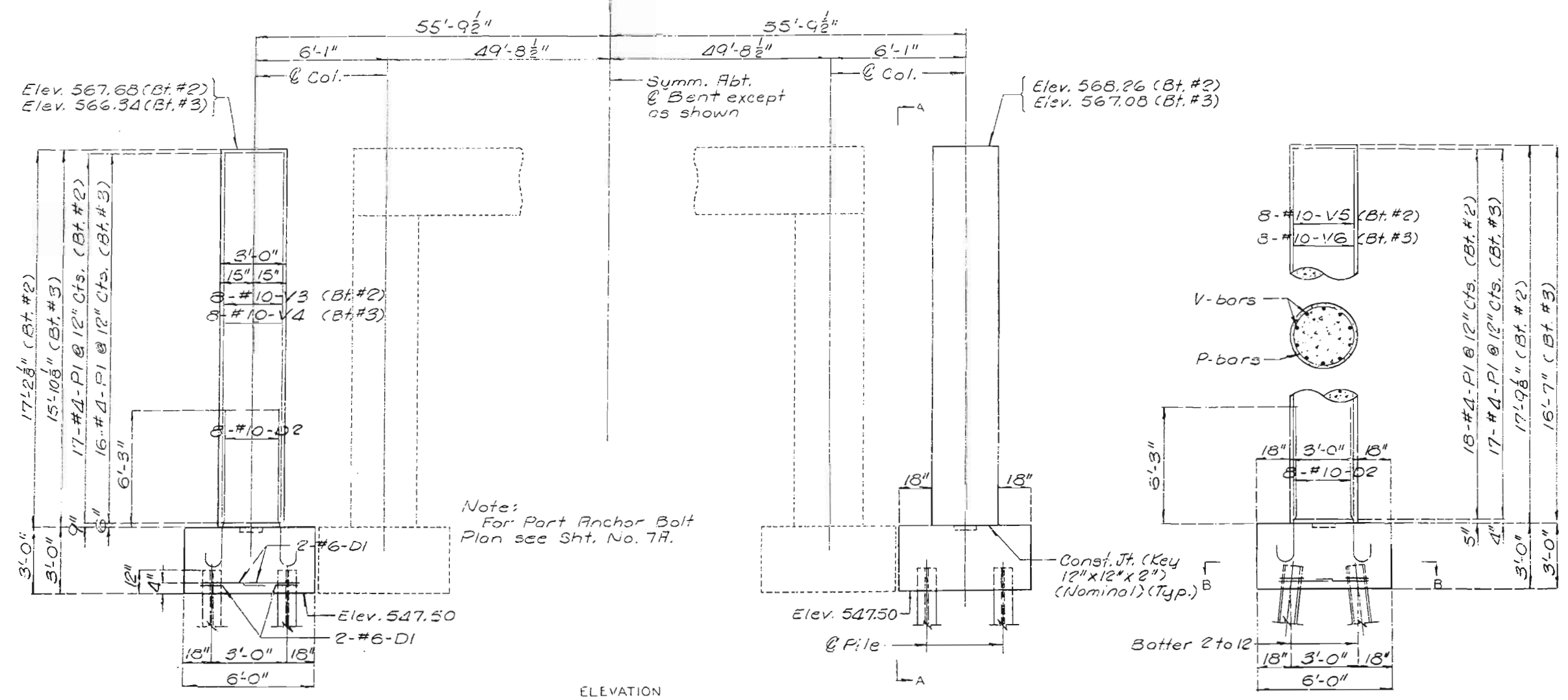
Note: Drill holes in top of existing concrete beams and use an explosive in order to grout in #4-U bars. (See Special Provision 2)

DIMENSIONS & ELEVATIONS FOR NEW CONCRETE STEPS FOR BT.#1 & BT.#4 STR. 1,2,4 & 5									
BT.	STR.	A	B	C	D	E	J	H	NEW ELEV.
1	1	12"	6"	9"	4 1/2"	7 1/2"	10 1/2"	4 1/2"	569.23
1	2	12"	6"	9"	4 1/2"	7 1/2"	9 1/2"	4 1/2"	569.22
1	4	12"	6"	9"	4 1/2"	7 1/2"	7 1/2"	4 1/2"	569.28
1	5	12"	6"	9"	4 1/2"	7 1/2"	9 1/2"	4 1/2"	569.41
4	1	12"	6"	9"	4 1/2"	7 1/2"	10 1/2"	4 1/2"	566.95
4	2	12"	6"	9"	4 1/2"	7 1/2"	9 1/2"	4 1/2"	566.90
4	4	12"	6"	9"	4 1/2"	7 1/2"	7 1/2"	4 1/2"	567.00
4	5	12"	6"	9"	4 1/2"	7 1/2"	9 1/2"	4 1/2"	567.14

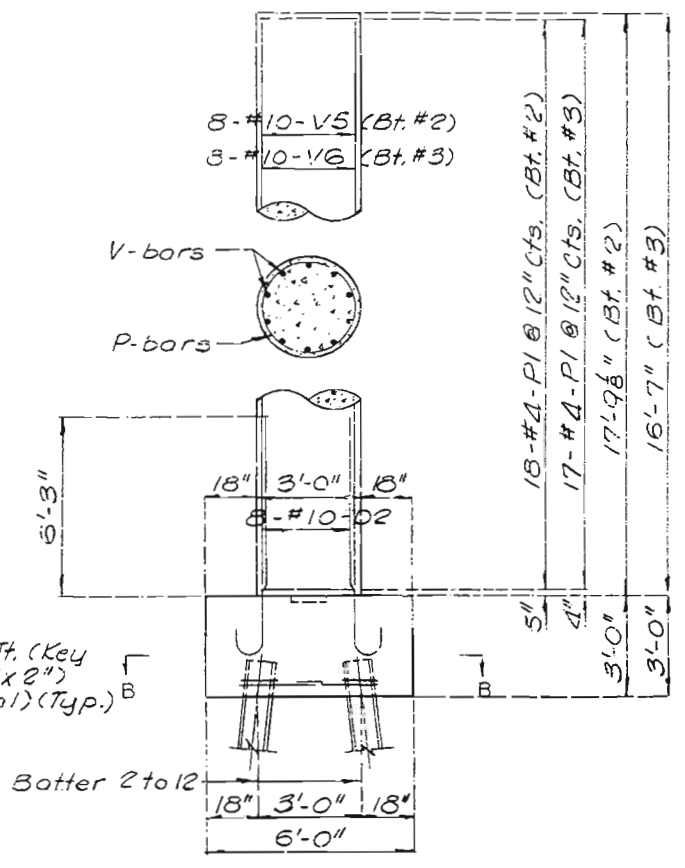


Delete (See Sht. #3A & 3B)

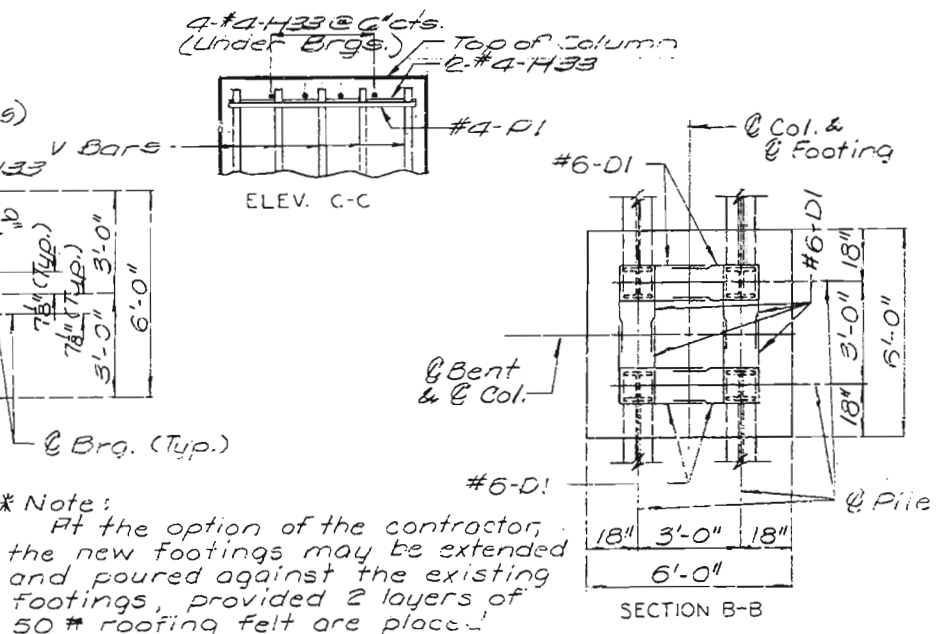
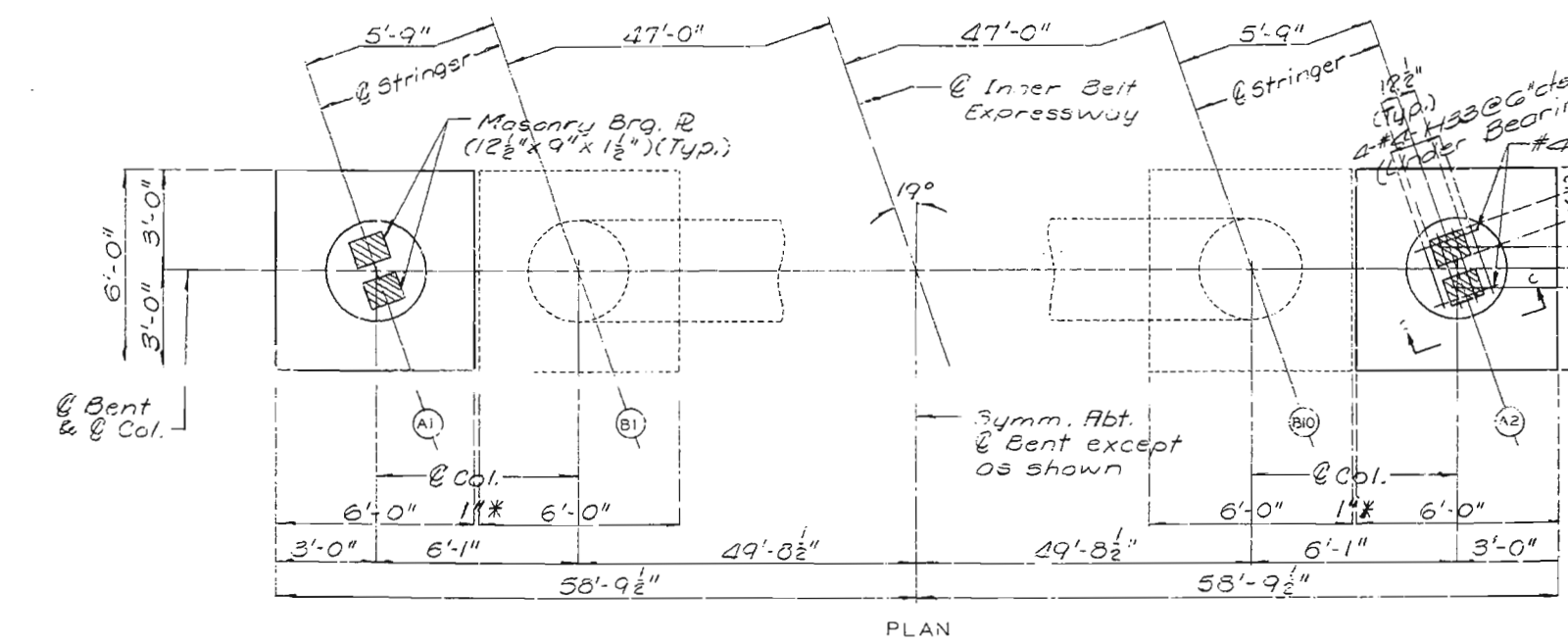
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MO.		18		



Note:
For Part Anchor Bolt
Plan see Sht. No. 7H.

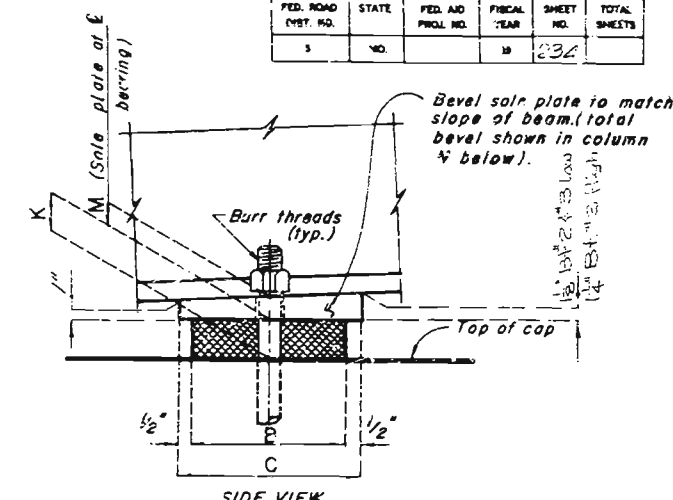
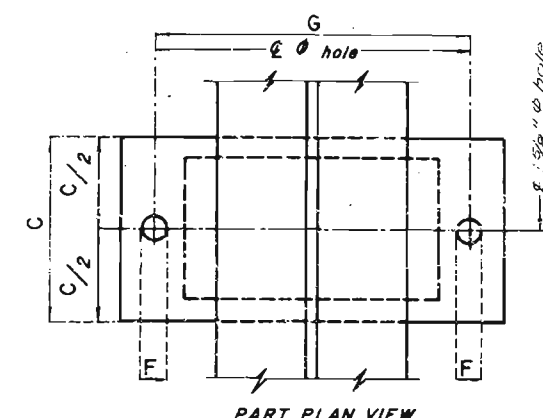


Note:
Outline of old work is indicated
by light dashed lines. Heavy lines
indicate new work.



* Note:
At the option of the contractor,
the new footings may be extended
and poured against the existing
footings, provided 2 layers of
50# roofing felt are placed
between the contact surfaces.

DETAILS OF INT. BTS. NO. 2 & 3


$$* 2\frac{1}{2} - B + * 2, 2\frac{1}{16} - B + \frac{1}{2} = L_{00}, 2\frac{1}{2} - B + * 2 \text{ II. 10. 1.}$$


NEOPRENE ELASTOMERIC
PAD

FIXED BEARINGS

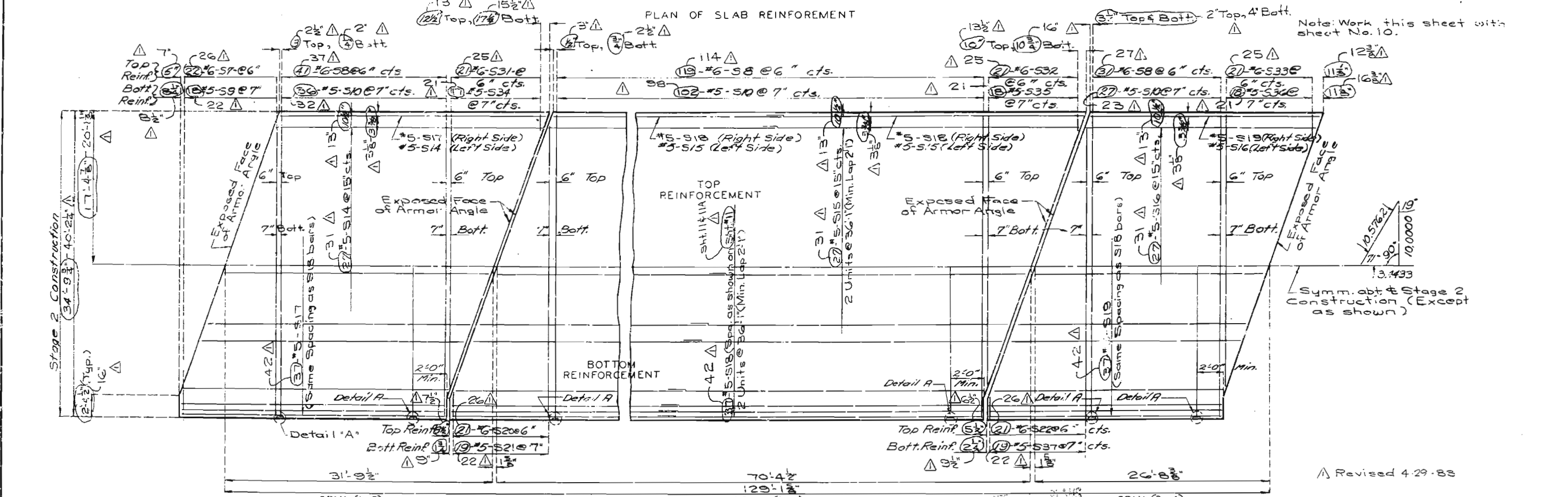
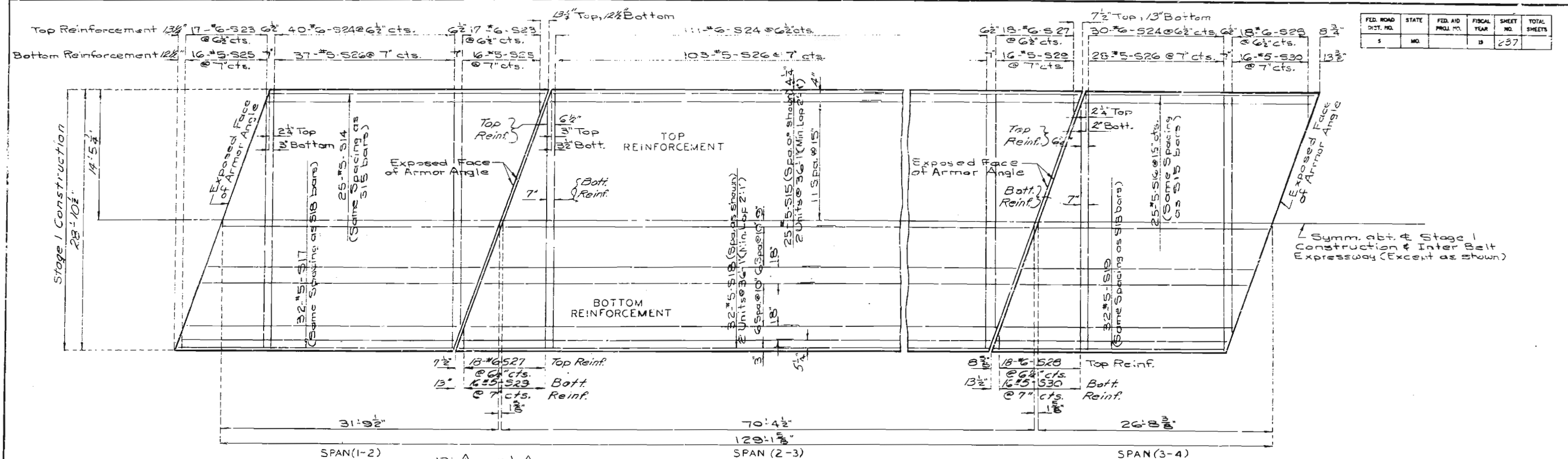
[illegible]

(*) The required shim plate shall be placed between equal layers of elastomer and molded together to form an integral unit.

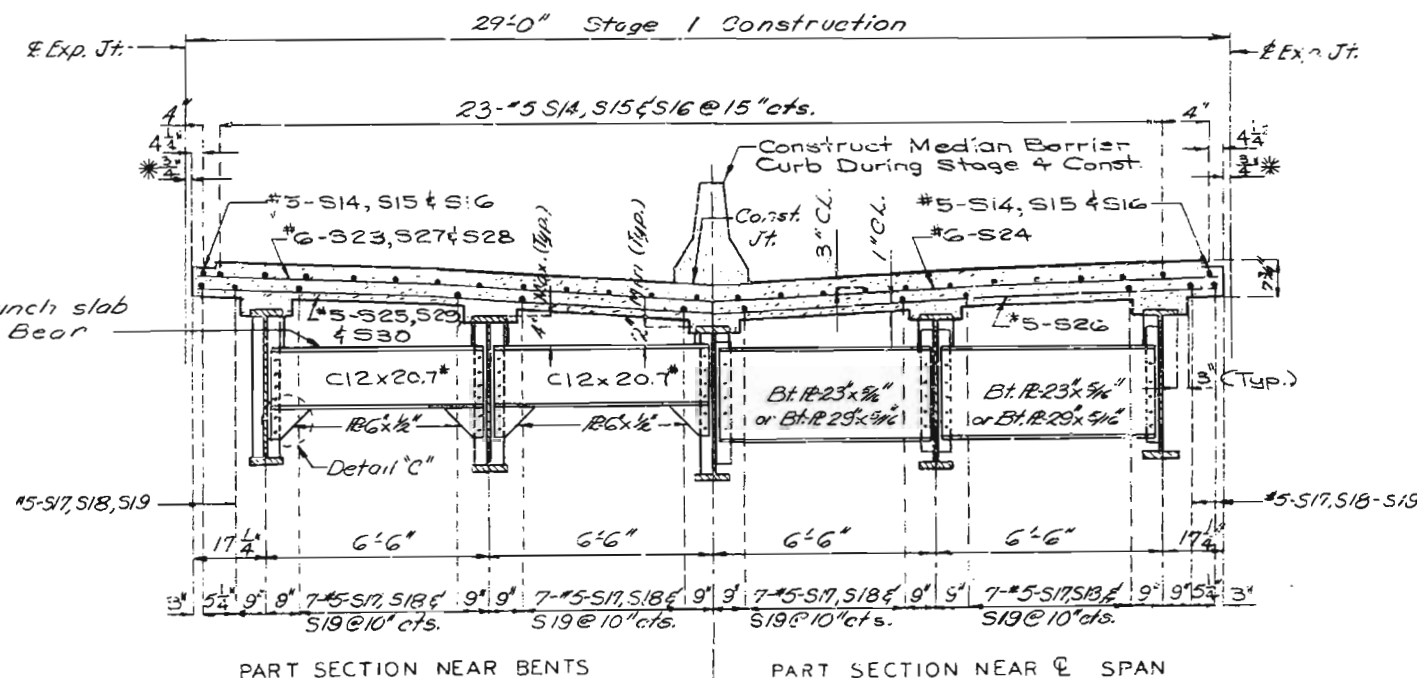
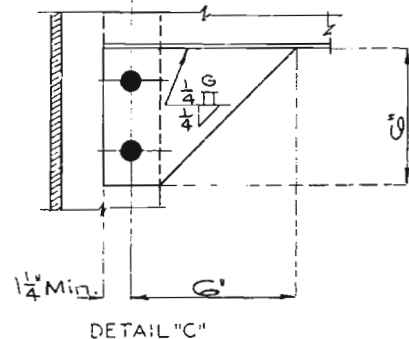
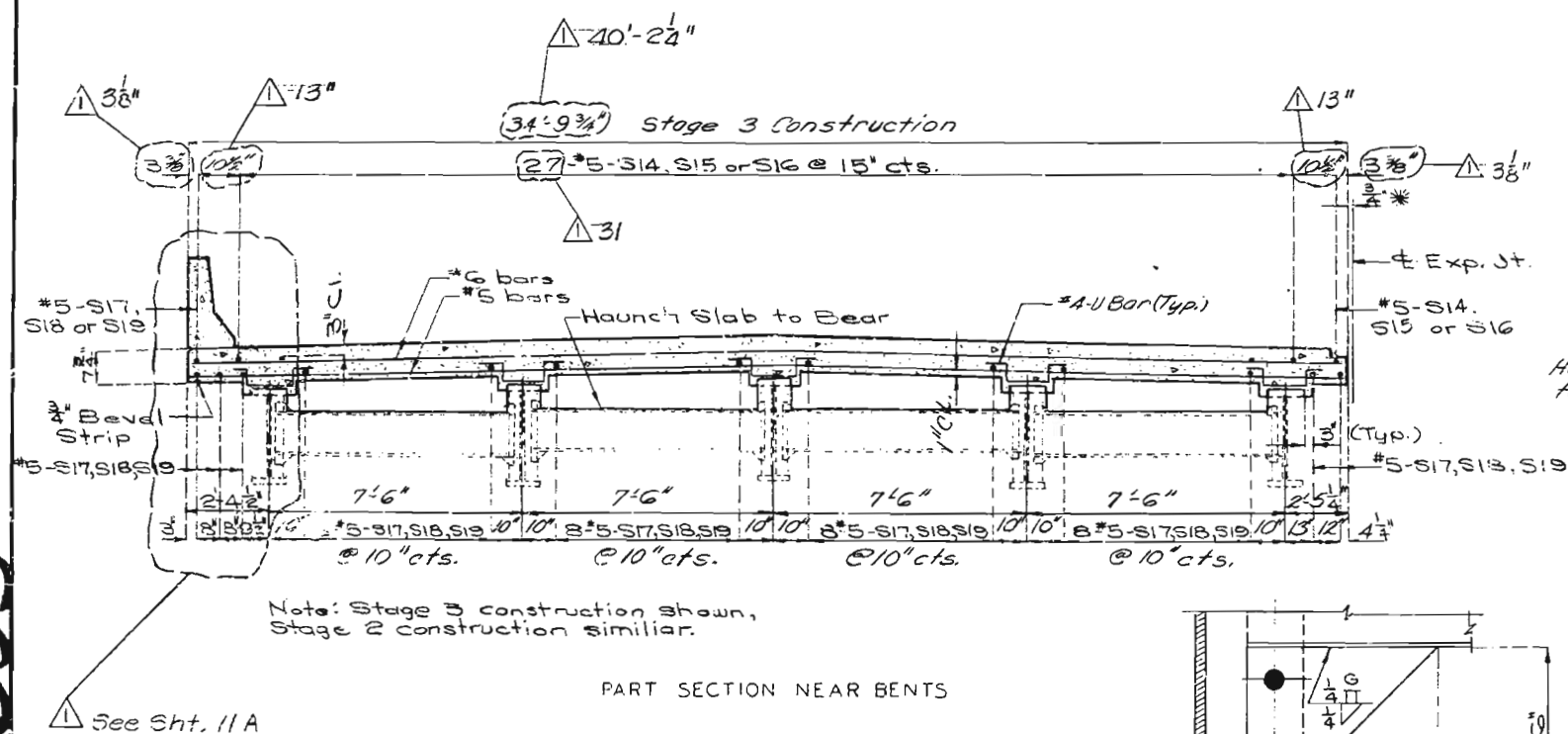
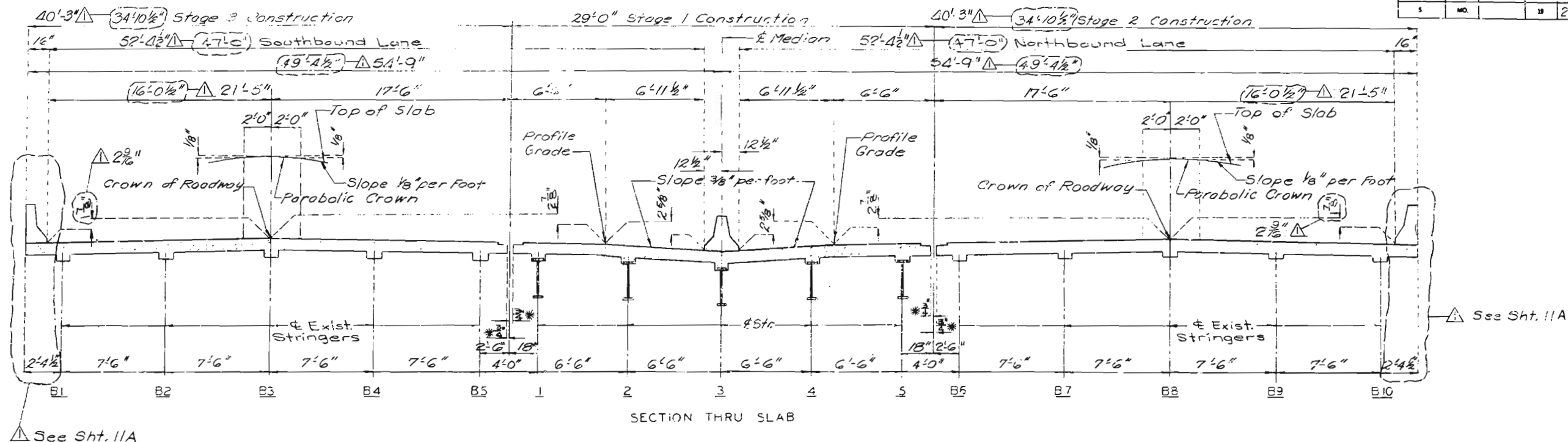
A-2807 R

DETAILED FEB. 1980
CHECKED Aug. 1981

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	237	



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	253	



Note:
* Dimensions are based on 1/2" Expansion Gap at 60°F.
Adjust for any change in expansion Gap as noted on sheet #12.

DETAILED Mo. 19 80
CHECKED Aug 19 81

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

SEE SHT. 11A

Revised 4-29-83

Sheet No. 11 of 17.

ST. LOUIS COUNTY

A-2807P

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

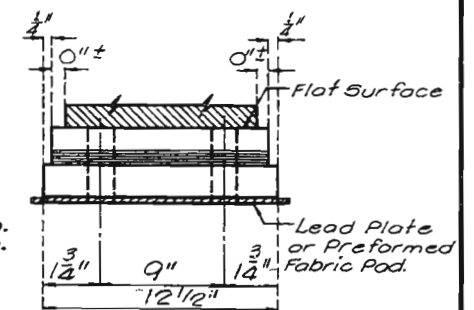
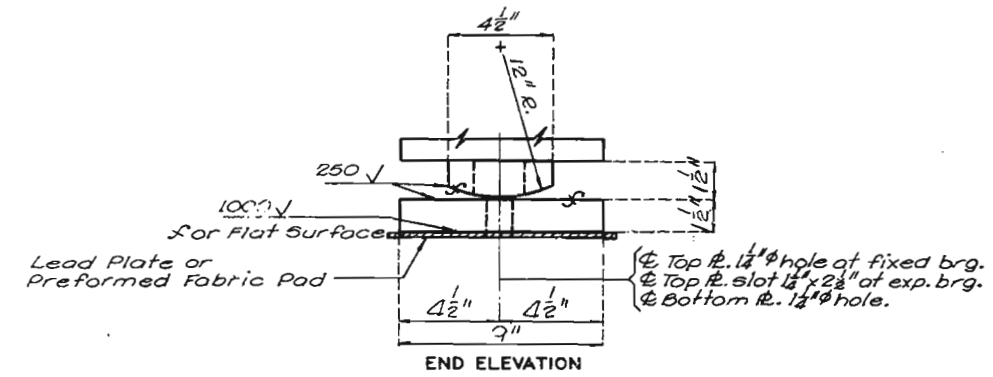
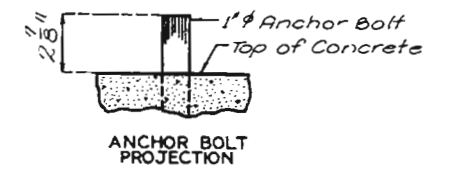
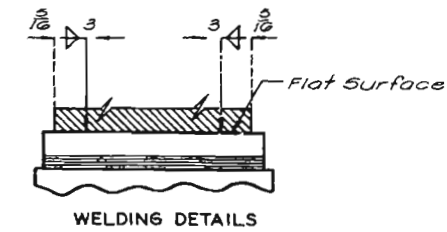
NOTES: TYPE "C" BEARINGS

ANCHOR BOLTS FOR TYPE "C" BEARINGS SHALL BE 1" SWEDGED BOLTS, WITH NO HEADS OR NUTS AND SHALL EXTEND 10" INTO CONCRETE. ANCHOR BOLTS SHALL BE SET DURING THE PLACING OF CONCRETE OR GROUTED IN ANCHOR BOLT WELLS PRIOR TO ERECTION OF STEEL AND THE TOP OF ANCHOR BOLTS SHALL BE SET APPROXIMATELY 1/4" BELOW TOP OF BEARING.

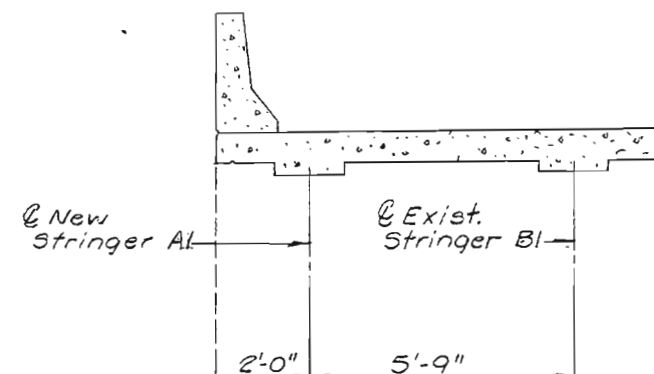
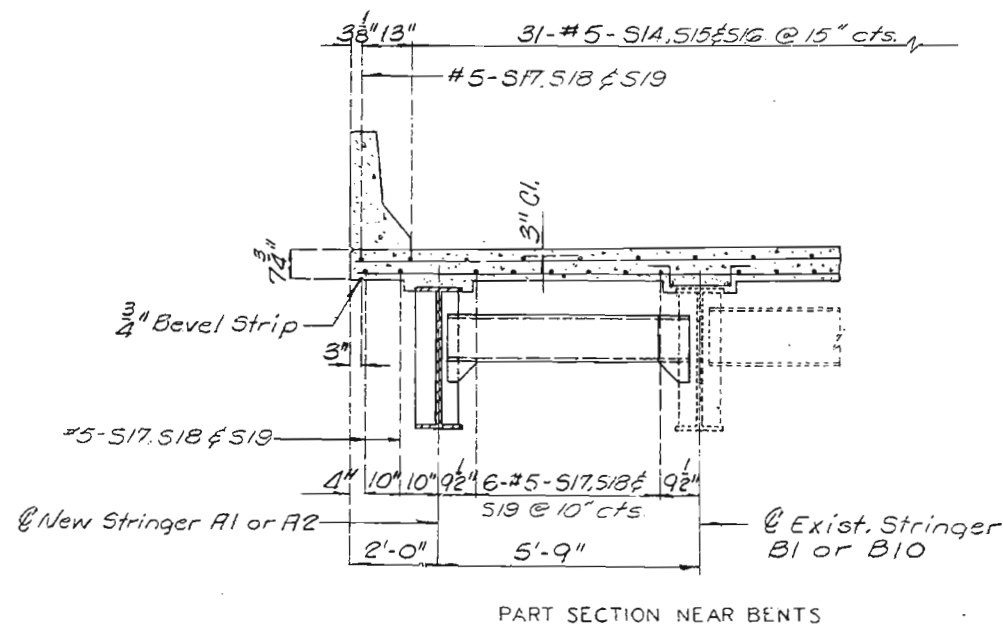
" ESTIMATED WEIGHT" DOES NOT INCLUDE WEIGHT OF ANCHOR BOLTS.

" X " INDICATES MACHINE FINISH SURFACE.

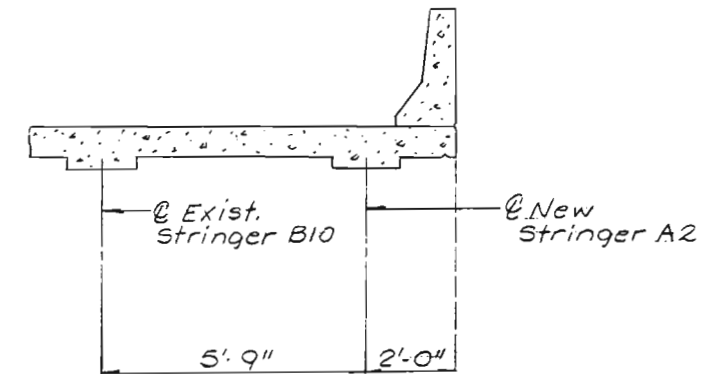
SHOP DRAWINGS ARE NOT REQUIRED FOR LEAD PLATES AND/OR PREFORMED FABRIC PADS.



REQUIRED:
 G - FIXED BEARINGS
 E - EXPANSION BEARINGS
TYPE "C" BEARINGS
 (ESTIMATED WEIGHT 805#)



SECTION THRU SLAB



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

Sheet No. 11A of

New Sheet 4-29-83

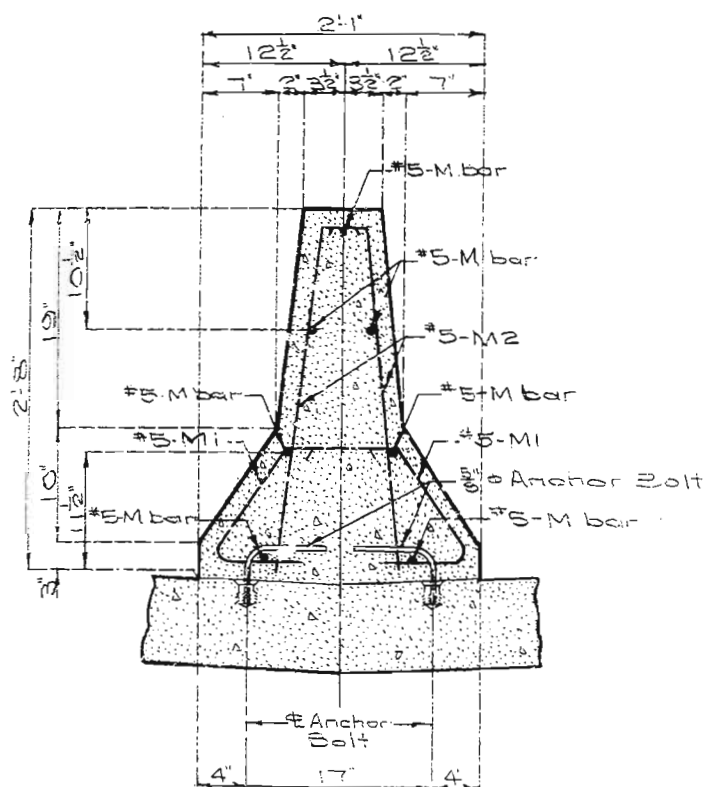
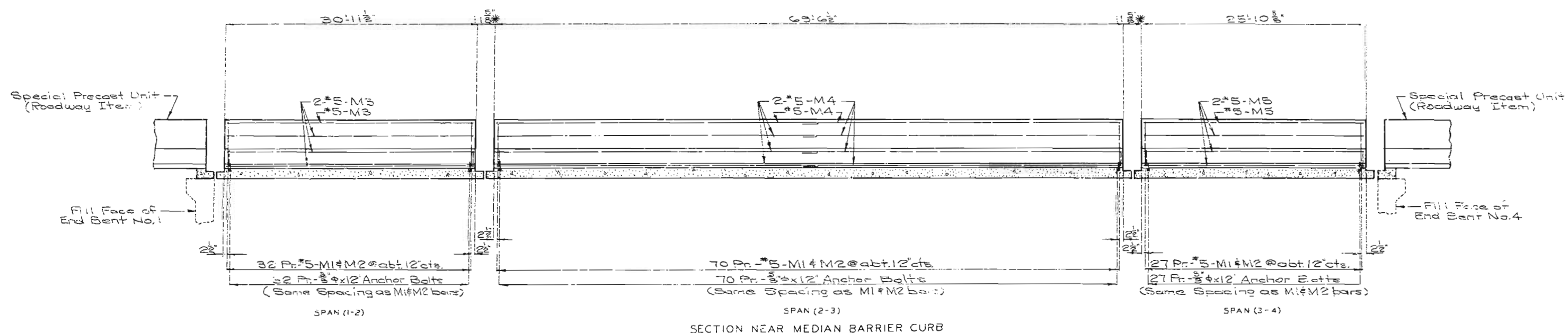
ST. LOUIS COUNTY

A-2807R

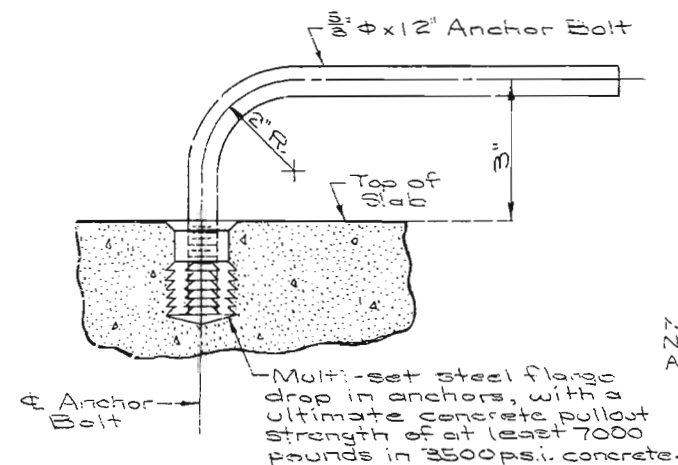
DETAILED Apr. 19 83
 CHECKED Apr. 19 83

204
 AUG. 1965
 OCT. 1977

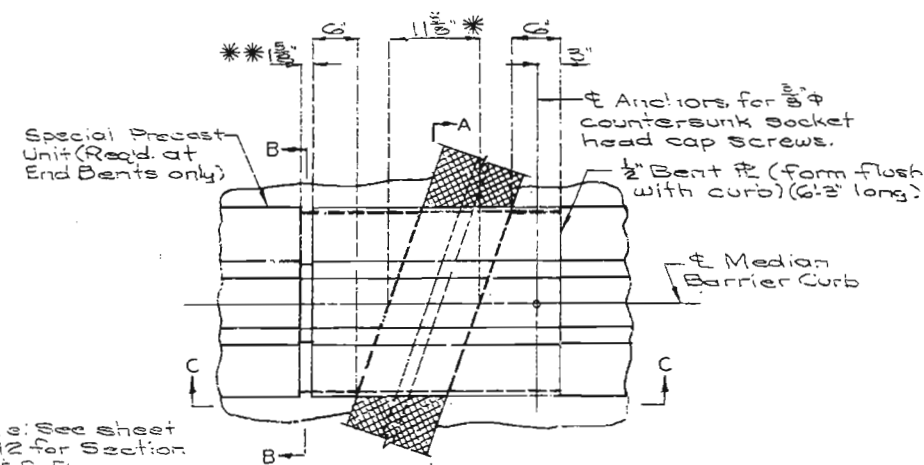
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5	MO.		18	242	



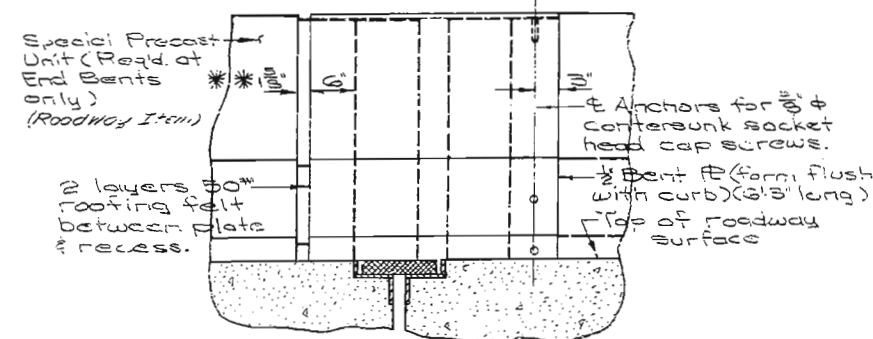
TYPICAL SECTION THRU MEDIAN BARRIER CURB



DETAIL OF ANCHOR BOLT
Note: Cost of furnishing and installing anchor bolt assembly shall be included in price bid for concrete.



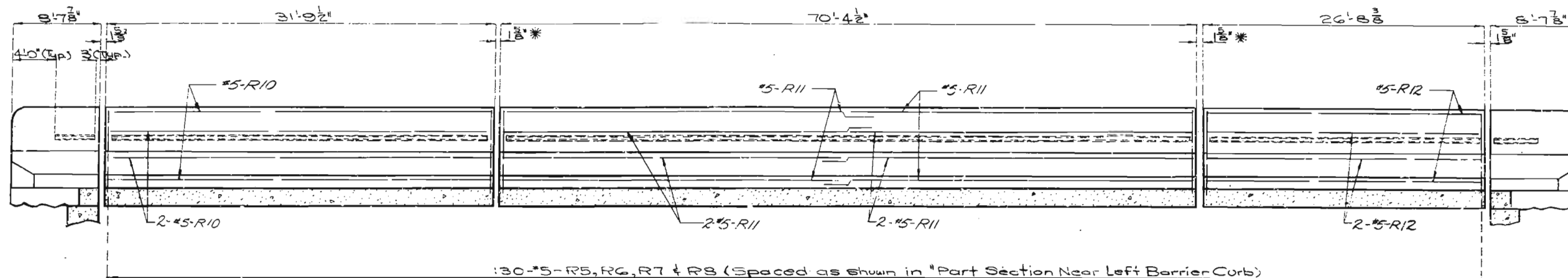
PART PLAN OF MEDIAN BARRIER CURB AT EXPANSION GAP



PART ELEVATION C-C

Note: Longitudinal dimensions shown in "Section Near Median Barrier Curb" are given along & Median at top of slab.
* Dimensions are based on a expansion device width of 11". Adjust for any change in width as shown on sheet No. 12.
** Dimension is based on an 12" expansion device gap at 50°F. Adjust for any change in expansion gap as shown on sheet No. 12.
Top of median barrier curb to be built parallel to grade with median barrier curb (except at end bents) normal to grade.
All exposed edges of barrier curb shall have 1/2" radius or 3/8" bevel unless otherwise noted.
When the median barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement.
Concrete in the median barrier curb shall be Class B1.
The cross-sectional area above the slab 2.36 ft.2.
Measurement of median barrier curb is to the nearest linear foot for each structure, measured along the top surface of centerline of the curb from front (inside) face of backwall to front (inside) face of backwall.

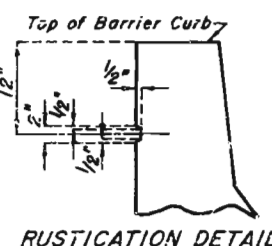
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5	MO.		19	245	



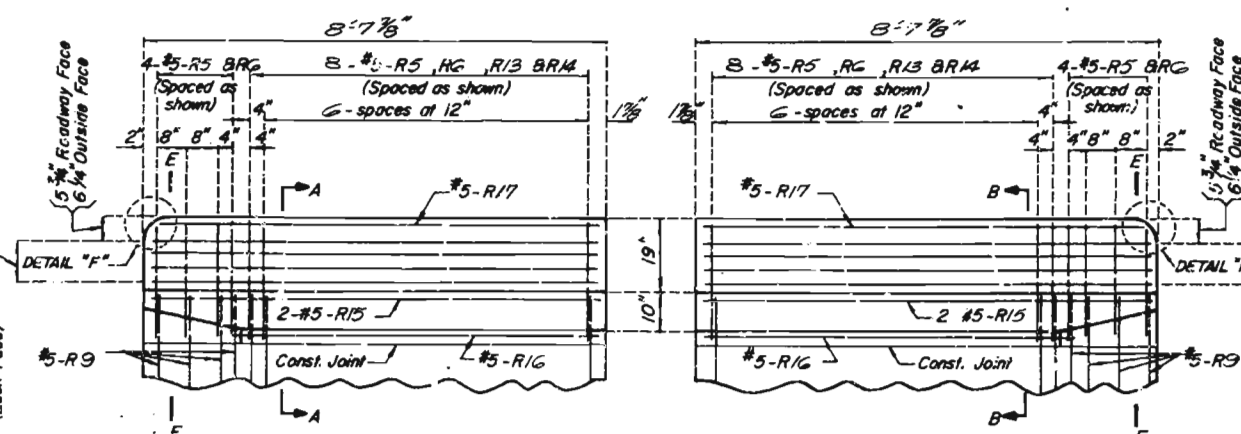
SECTION NEAR LEFT BARRIER CURB

Note:
This sheet is voided
in its entirety.
For new details see
sheet no. 15A.

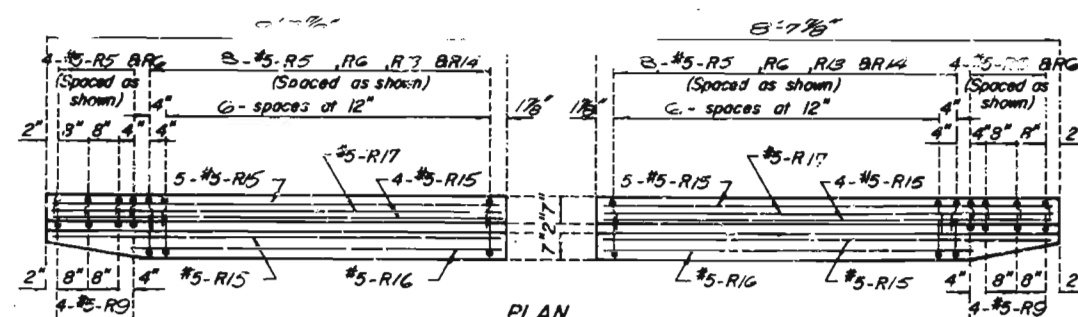
Note: Longitudinal dimensions shown in "Section Near Left Barrier Curb" are taken parallel to grade along top of slab.
* Dimension is based on an expansion device gap of 1/2" at 60°F. Adjust for any change in gap as shown on sheet No. 12.
Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top face of the curb from end of wing to end of wing.



RUSTICATION DETAIL



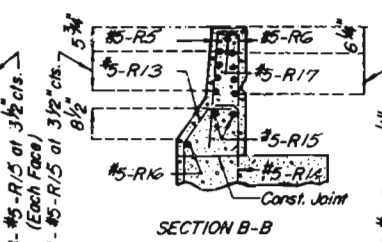
ELEVATION



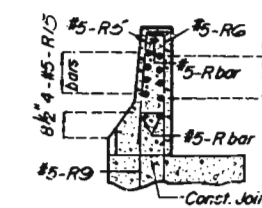
PLAN

NOTES:

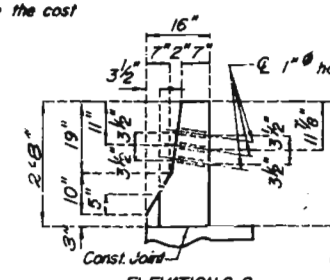
Top of barrier curb to be built parallel to grade with barrier curb joints (except at end bents) normal to grade.
All exposed edges of barrier curb shall have 1/2" radius or 3/8" bevel unless otherwise noted.
When the barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement.
Concrete in the safety barrier curb shall be Class B1.



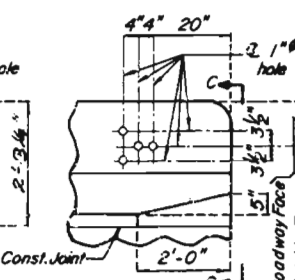
SECTION B-B



SECTION E-E



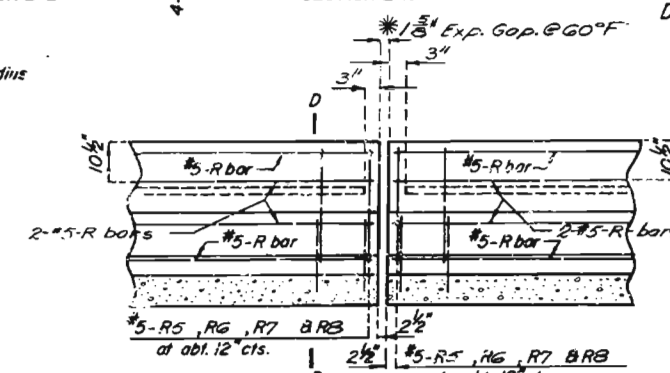
ELEVATION C-C



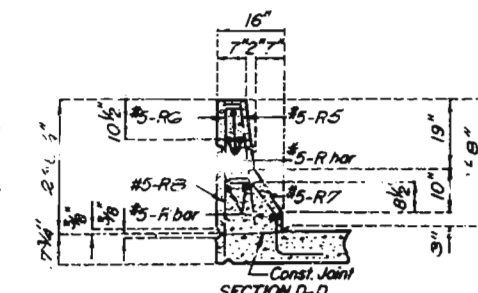
PART ELEVATION D-D



DETAIL 'F' (Typical)



PART SECTION NEAR LEFT BARRIER CURB



Note: Use a minimum lap of 17" for #5 horizontal barrier bars.
The cross-sectional area above the slab = 2.27 sq. ft.

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

DETAILS OF BARRIER CURB AT END BENTS

Sheet No. 15 of 17

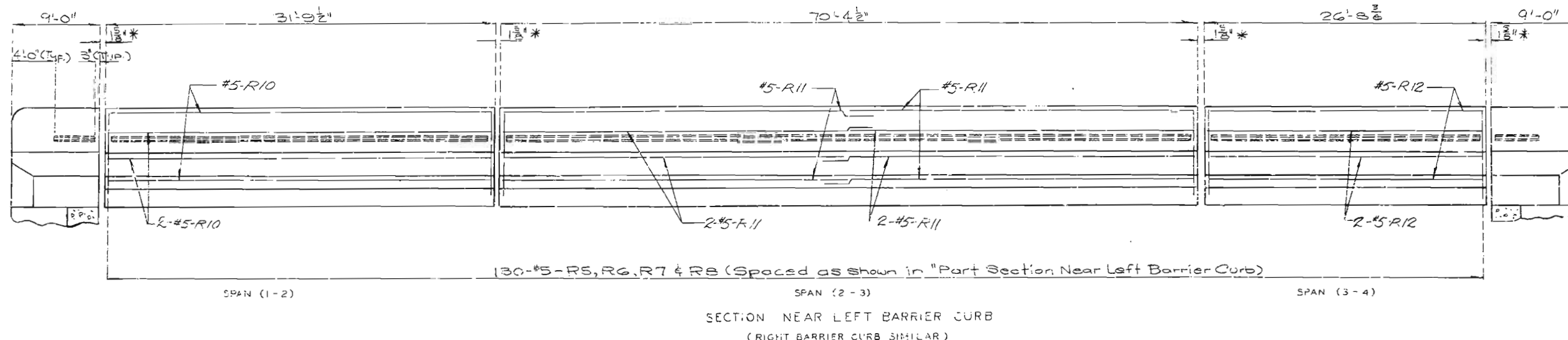
Revised 4-29-83 ST. LOUIS COUNTY

A-2807 R

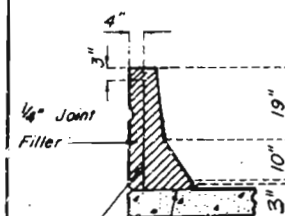
DETAILED Aug. 10/81
CHECKED Aug. 13/81

SPS 11/6/11
AUG. 1978
REVISED
JUNE 1981

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MO.		18		



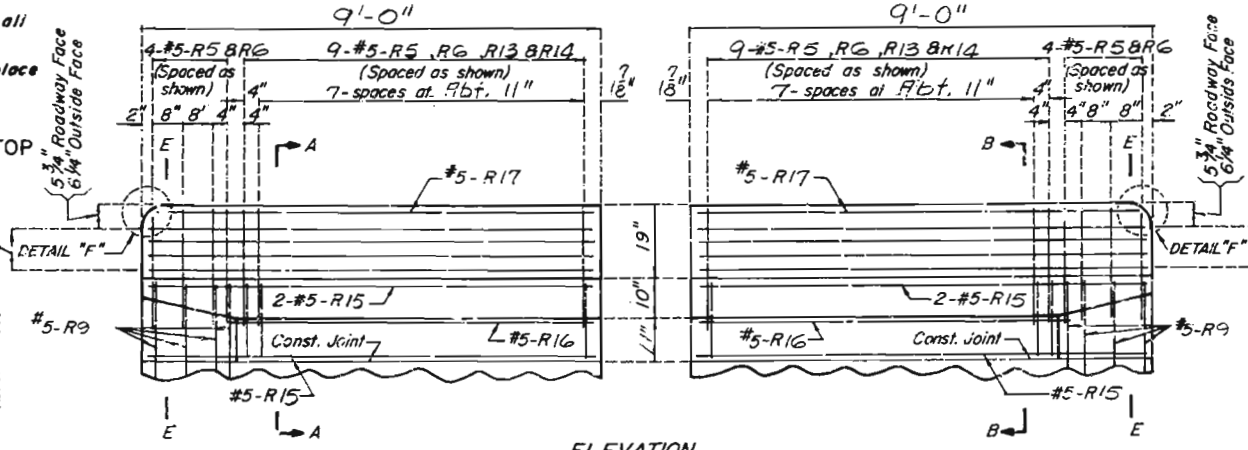
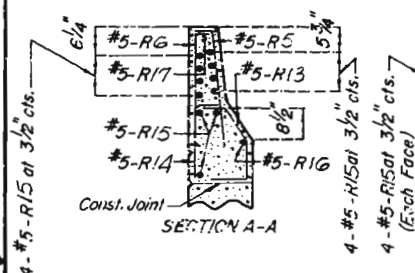
Note: Longitudinal dimensions shown in 'Section Near Left Barrier Curb' are taken parallel to grade along top of slab.
 * Dimension is based on an expansion device gap of 1/2" at 60°F. Adjust for any change in gaps as shown on sheet No. 12.
 Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top face of the curb from end of wing to end of wing.



Const. Joint
 4" plastic waterstop Std. Spec. 10572.1 (Centered on joint)

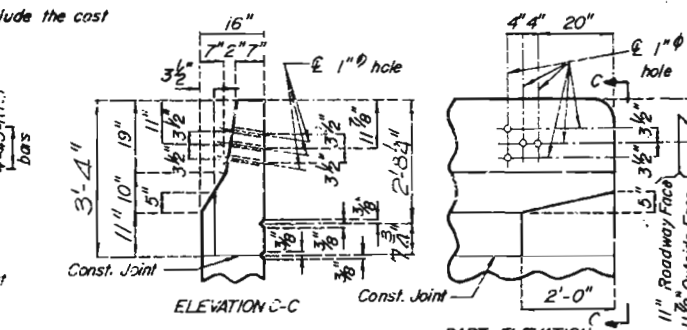
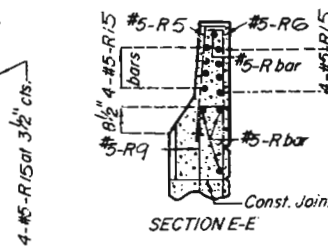
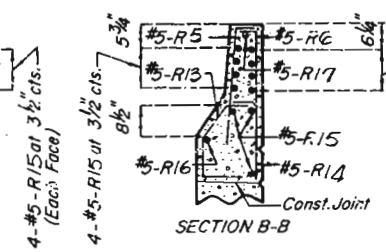
Note: Plastic waterstop shall be placed in all safety barrier curb filled joints.
 Cost of plastic waterstop complete in place to be included in unit price bid for

DETAILS OF PLASTIC WATERSTOP

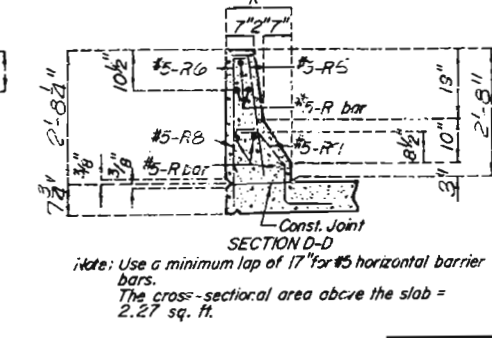
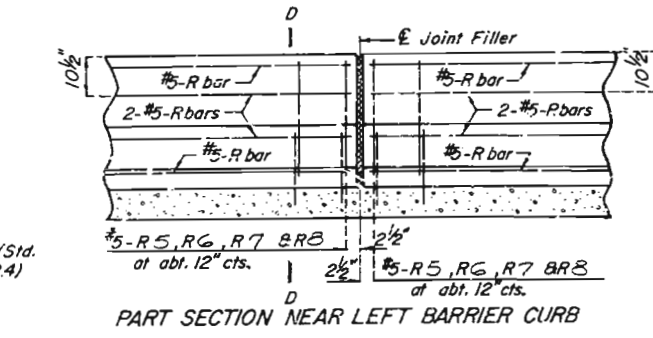
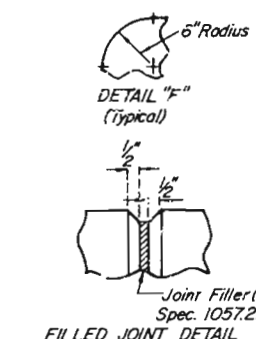


NOTES:

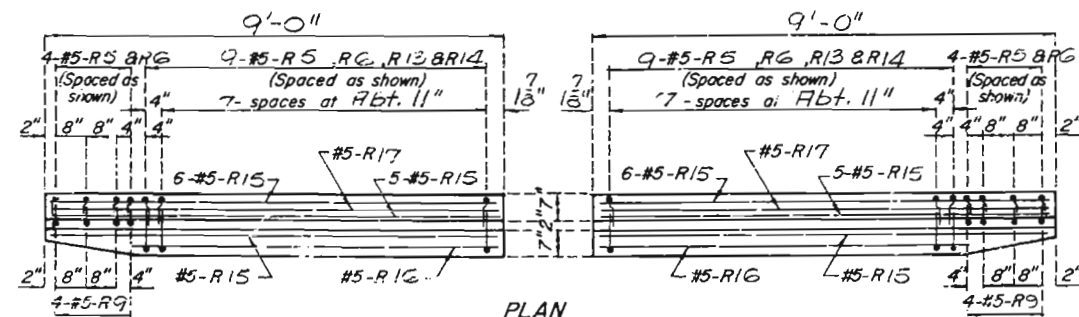
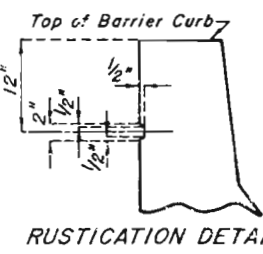
- Top of barrier curb to be built parallel to grade with barrier curb joints (except at end bents) normal to grade.
- All exposed edges of barrier curb shall have 1/2" radius or 3/8" bevel unless otherwise noted.
- When the barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement.
- Concrete in the safety barrier curb shall be Class B1.



DETAILS OF GUARD RAIL ATTACHMENT



Note: Use a minimum lap of 17" for #5 horizontal barrier bars.
 The cross-sectional area above the slab = 2.27 sq. ft.



DETAILS OF BARRIER CURB AT END BENTS

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

Sheet No. 15 of 17.

New Sheet 4-29-83

ST. LOUIS COUNTY

A-2807R

DETAILED Apr. 1983
 CHECKED Apr. 1983

309

SPS 127(N)
 AUG. 1978
 REVISED
 JUNE 1981

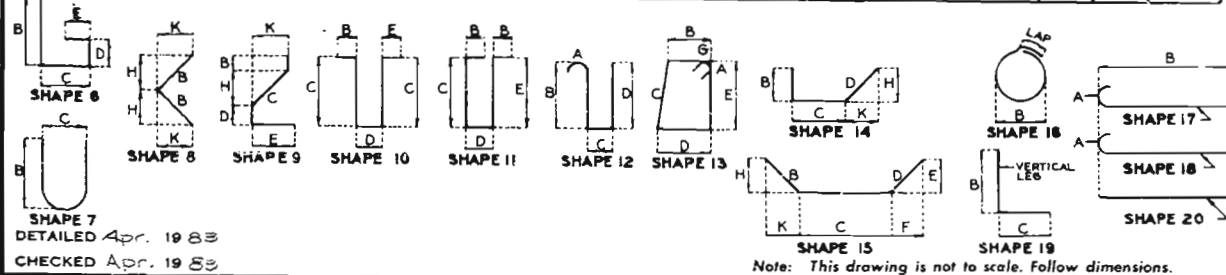
COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO. (S)	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT						
									B		C		D		E					F		H		K	
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.	IN.	FT.	IN.
		END BENT NO. 1																							
4	6A38	BACKWALL	E	20					37	3.000							37	3	37	3	22				
4	6A39	BACKWALL	E	20					15	4.000							15	4	15	4	9				
4	6H7	WING		20					5	4.000							5	4	5	4	3				
8	6H8	WING		20					8	4.000							8	4	8	4	10				
4	6H9	WING		20					3	5.000							3	5	3	5	2				
4	6H10	WING		20					2	3.000							2	3	2	3	1				
4	6H11	WING		20						16.500							17		17						
4	6H12	WING		20						19.000							19		19		1				
4	6H13	WING		20						22.000							22		22		1				
4	6H14	WING		20					2	2.000							2	2	2	2	1				
4	6H15	WING		20					2	8.000							2	8	2	8	1				
4	6H16	WING		20					3	4.000							3	4	3	4	2				
4	6H17	WING		20					4	3.000							4	3	4	3	2				
4	6H18	WING		20					5	6.000							5	6	5	6	3				
4	6H19	WING		20					5	3.000							5	3	5	3	3				
4	6H20	BRG. PAD		20						17.000							17		17						
16	6H21	BRG. PAD		20					2	7.000							2	7	2	7	2				
7	4U5	BRG. PAD		10	S					11.000		18.000					3	4	3	2	1				
24	4U7	BRG. PAD		10	S					14.500		18.000					3	11	3	9	6				
102	5U38	BACKWALL	E	10	S					10.000		9.000					2	5	2	3	23				
		END BENT NO. 4																							
4	6A38	BACKWALL	E	20					37	3.000							37	3	37	3	22				
4	6A39	BACKWALL	E	20					15	4.000							15	4	15	4	9				
4	6H7	WING		20					5	4.000							5	4	5	4	3				
8	6H8	WING		20					8	4.000							8	4	8	4	10				
4	6H9	WING		20					3	5.000							3	5	3	5	2				
4	6H10	WING		20					2	3.000							2	3	2	3	1				
4	6H11	WING		20						16.500							17		17						
4	6H12	WING		20						19.000							19		19		1				
4	6H13	WING		20						22.000							22		22		1				
4	6H14	WING		20					2	2.000							2	2	2	2	1				
4	6H15	WING		20					2	8.000							2	8	2	8	1				
4	6H16	WING		20					3	4.000							3	4	3	4	2				
4	6H17	WING		20					4	3.000							4	3	4	3	2				
4	6H18	WING		20					5	6.000							5	6	5	6	3				
4	6H19	WING		20					5	3.000							5	3	5	3	3				
4	6H20	BRG. PAD		20						17.000							17		17						
16	6H21	BRG. PAD		20					2	7.000							2	7	2	7	2				
7	4U5	BRG. PAD		10	S					11.000		18.000					3	4	3	2	1				
24	4U7	BRG. PAD		10	S					14.500		18.000					3	11	3	9	6				
102	5U38	BACKWALL	E	10	S					10.000		9.000					2	5	2	3	23				
		BARRIER CURB																							
											</														

A-2807B

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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STO. 90.8
MAY 1974
REVISED
SEPT. 1982
3/1
DETAILED Apr. 19 83
CHECKED Apr. 19 83
Note: This drawing is not to scale. Follow dimensions.

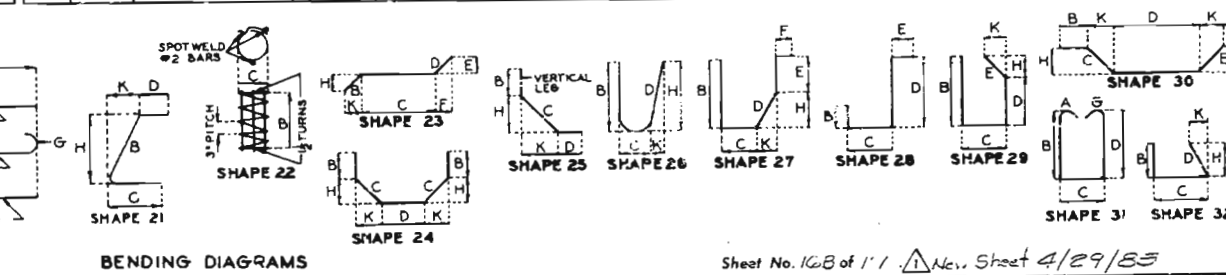
COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT						
									B		C		D		E					F		H		K	
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.	IN.	FT.	IN.
		SUBSTRUCTURE																							
		ABUT NO 1																							
1	603	FOOTINGS		21	S	X			5	0.250	4	3.000	2	7.000			4	9.000	11	10					
2	504	FOOTINGS		10	S	X					3	0.250							10	9					
1	605	FOOTINGS		21	S	X			5	0.250	4	3.000	2	7.000			4	9.000	12	6					
7	606	FOOTINGS		20	X					6.000							4	5.000	19.500	12					
3	607	FOOTINGS		20	X	V	1		4	11.000									5	6					
		INCR = 3.000 IN							5	5.000									5	5					
3	608	FOOTING		20	X	V	1		5	2.000									5	2					
		INCR = 3.000 IN							5	8.000									5	8					
24	509	FOOTING		20	X				4	6.000									4	6					
6	6A40	BK WALL		20	X				9	1.000									9	1					
7	6A41	BK WALL		20	X				9	5.000									9	5					
	6F1	WING BRACE		15	S	X			13.875	5	8.000	13.875	7.750	11.500	7.750	11.500			8	0					
	6F2	WING BRACE		15	S	X			13.875	4	2.250	13.875	11.500	7.750	11.500	7.750			6	6					
3	6H22	BEAM		20	X	V	2		4	9.000									4	9					
		INCR = 3.375 IN							5	7.000									5	7					
2	6H23	BEAM		20	X	V	1		4	9.000									4	9					
		INCR = 10.000 IN							5	7.000									5	7					
8	6H24	BEAM		20	X	V	2		5	0.000									5	0					
		INCR = 3.375 IN							5	10.000									5	10					
2	6H25	BEAM		20	X	V	1		5	0.000									5	0					
		INCR = 10.000 IN							5	10.000									5	10					
8	5H26	WING		20	X				8	9.000									8	9					
14	6H27	WING		20	X	V	2		3	6.000									3	6					
		INCR = 10.000 IN							8	6.000									8	6					
4	4H28	WING		20	X				2	9.000									2	9					
14	6H29	WING		20	X	V	2		3	1.000									3	1					
		INCR = 10.875 IN							8	5.500									8	5					
4	4H30	WING		20	X				3	4.000									3	4					
6	5U39	BEAM		13	S	X			2	6.000	3	6.000	2	6.000	3	6.000			12	11					
6	5U41	BEAM		13	S	X			2	6.000	3	0.000	2	6.000	3	0.000			11	11					
2	4U44	WING		19	X				4	4.500	2	8.500							7	1					
2	4U45	WING		19	X				4	6.000	3	5.000							7	11					
4	4U48	BEAM		10	S	X				6.000	2	6.000							3	6					
10	5V3	BACKWALL	E	20	X				5	1.000									5	1					
8	5V4	BACKWALL	E	20	X				5	0.000									5	0					
6	5V5	BACKWALL	E	20	X				3	10.000									3	10					
8	5V6	BACKWALL	E	20	X				3	9.000									3	9					
2	6V7	WING		20	X				2	0.000									2	0					
5	6V8	WING	E	20	X	V	1		4	0.500									4	1					
		INCR = 10.500 IN							7	7.000									7	7					
5	6V9	WING	E	17	X	V	1		3	10.500									4	7					
		INCR = 10.500 IN							7	5.000									8	1					
3	6V10	WING	E	20	X				9	7.000									9	7					
3	6V11	WING	E	17	X				9	5.000									10	1					
2	6V12	WING		20	X				23.000										23	23					
5	6V13	WING	E	20	X	V	1		3	11.000									3	11					
		INCR = 9.750 IN							7	2.000									7	2					
5	6V14	WING	E	17	X	V	1		3	9.000									4	5					
		INCR = 9.750 IN							7	0.000									7	0					
3	6V15	WING	E	20	X				9	3.000									9	3					
3	6V16	WING	E	17	X				9	1.000									9	9					
2	4V17	WING		20	X				4	4.000									4	4					
2	4V18	WING		20	X				4	6.000									4	6					
4	2W1	AB WELL		22	X				15.000	9.125									23	0					
2	6T1	WING		25	S	X			15.000	8	1.750	2	8.000				5	5.000	6	1.000					
2	6T2	WING		25	S	X			15.000	7	11.125	2	8.000				5	1.000	11	10					

COMPLETE BILL OF REINFORCING STEEL

[illegible]

PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.



BENDING DIAGRAMS

A-2807P

STD. 90.8	REVISED
MAY 1974	SEPT. 1982

COMPLETE BILL OF REINFORCING STEEL

[illegible]

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

SIZE OF 180° HOOKS (GRADE 40 KSI)	SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)
D = 5d FOR #2 THRU #11	D = 6d FOR #3 THRU #8
D = 10d FOR #14 AND #18	D = 8d FOR #9, #10 AND #11
	D = 10d FOR #14 AND #18

NOTES: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E - EPOXY COATED REINFORCEMENT.

S - STIRRUP.

X- BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.

V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.

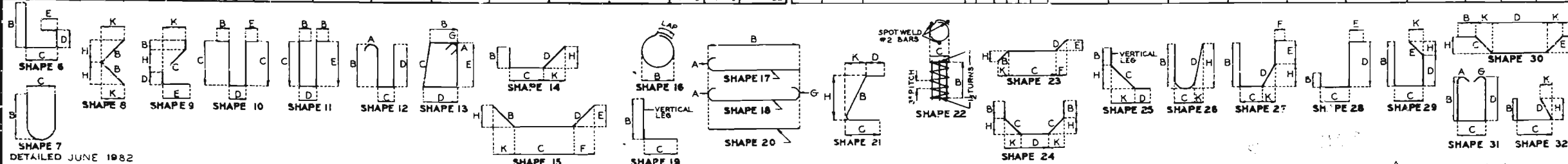
NO. EA. - NUMBER OF BARS OF EACH LENGTH.

NOMINAL LENGTHS - ARE BASED ON OUT TO OR

DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE (NEAREST INCH)

ACTUAL LENGTHS-ARE MEASURED ALONG CENTERLINE

ACTUAL LENGTHS—ARE MEASURED ALONG CENTERLINE
BAR TO THE NEAREST INCH.



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

BENDING DIAGRAMS

Sheet No. 17 of 17

⚠ Revised 4-29-83

ST LOUIS COUNTY

A-2807R

STD. 90.8	REVISED
MAY 1974	JAN. 1981

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.
5	MO.		19	
SEC 22	TWP 46 N	RG 6 E		

FINAL PLANS

GENERAL NOTES:

Design Specifications:
A.A.S.H.T.O. 1977 Load Factor Design

Design Loading:
HS20-44
15#/sq. ft. Future Wearing Surface
Modified 24,000* Tandem Axle
Earth 120*, Equivalent Fluid Pressure 30*
Fatigue Stress-Case I

Design Unit Stresses:
Class B Concrete (Substructure) $f_c = 3000$ psi.
Class B1 Concrete (Safety Barrier & Median Barrier Curb) $f_c = 4000$ psi.
Class B2 Concrete (Superstructure) (except Safety Barrier and Median Barrier Curb) $f_c = 4000$ psi.
Reinforcing Steel (Grade 60) $f_y = 60,000$ psi.
Structural Carbon Steel $f_y = 36,000$ psi.
Steel Pile $f_b = 9,000$ psi.

Field connections, High Strength Bolts $\frac{3}{4}"$, holes $\frac{13}{16}"$ except as noted.

All joint filler met requirements of Std. Spec 1057.2.4.

Paint System B used by contractor in accordance with Std. Spec 712.12. Color of final field coat is al. minimum.

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

Traffic over structure was maintained during construction.

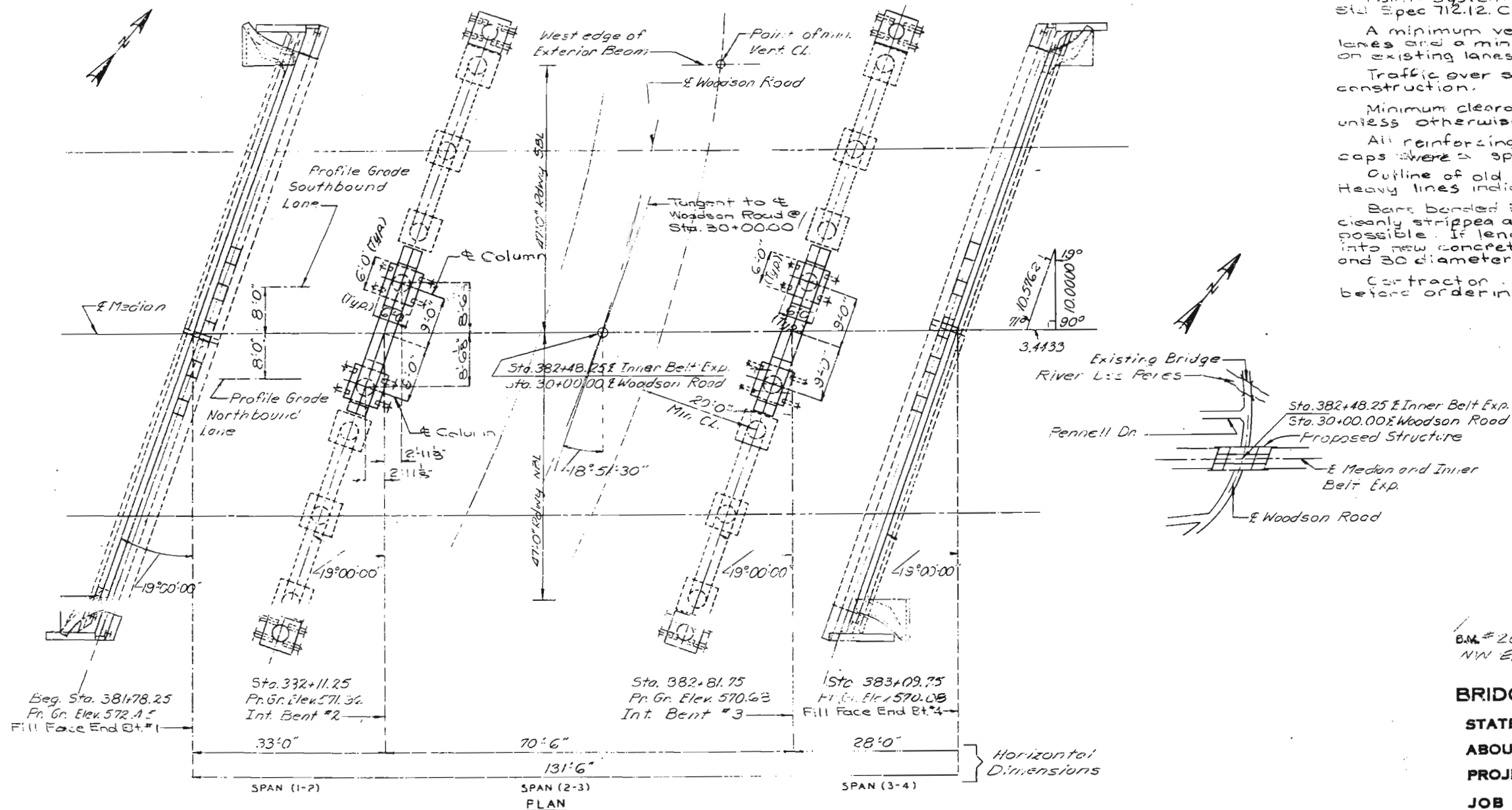
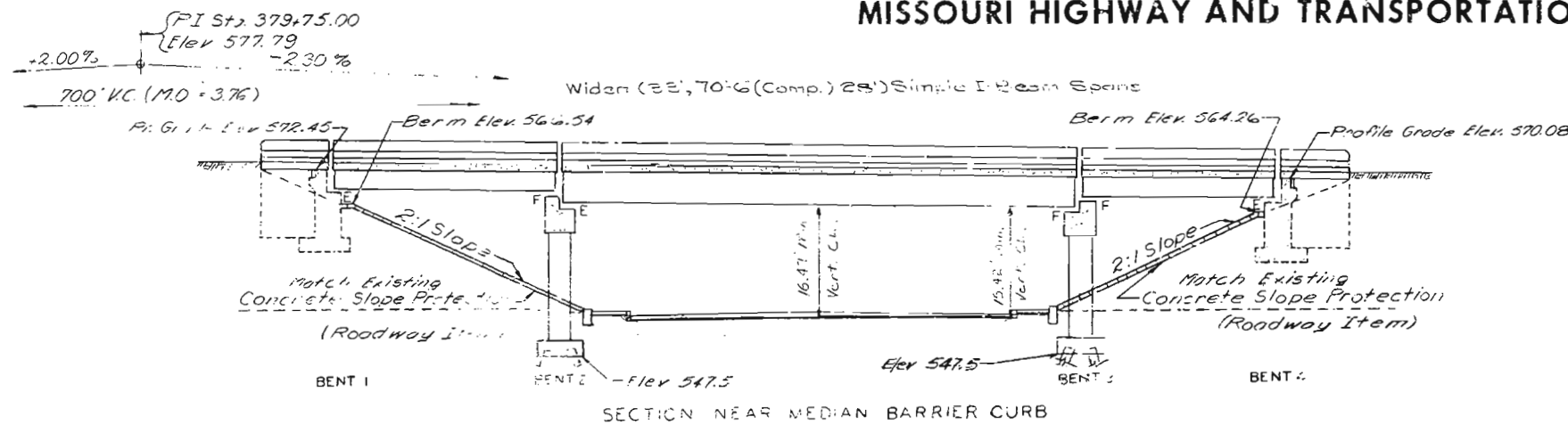
Minimum clearance to reinforcing steel was 2" unless otherwise shown.

All reinforcing bars in tops of substructure beam or caps were spaced to clear anchor bolts by at least $\frac{1}{2}"$.

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

Bars banded in old concrete not removed and was cleanly stripped and embedded into new concrete where possible. If length was available, old bars extended into new concrete at least 40 diameters for deformed bars and 30 diameters for deformed steel.

Contractor verified all dimensions before ordering new steel.



B.M. #20 Elevation 572.51' on SW corner of NW Endpost SBL Br A-2807R Sta 382+00' (USGS datum)

BRIDGE OVER WOODSON ROAD

STATE ROAD FROM RTE.40 TO RTE.D

ABOUT 0.4 MILE SOUTH OF RTE.D

PROJECT NO. I-170-529 (2015) STA. 381+78.25

JOB NO. 6-I-170-529

RTE. I-170

ST LOUIS

COUNTY

DATE 3/24/83

STD. 706.35

STD. 611.60

A-2807 R

DESIGNED Dec. 19 79

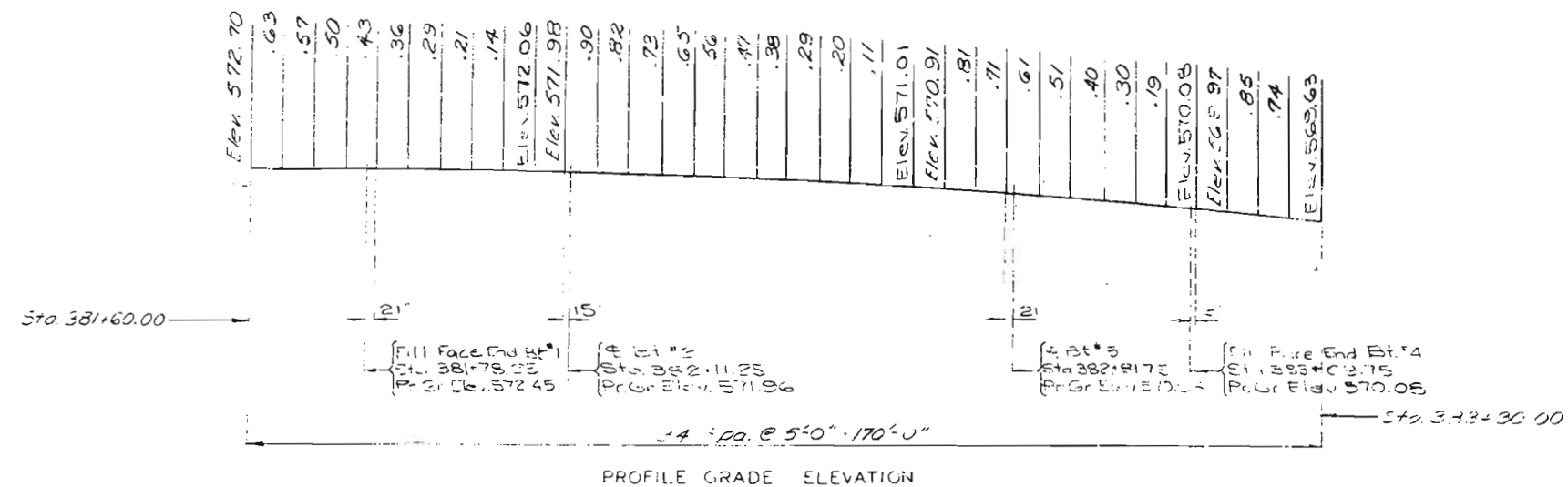
DETAILED Aug. 19 81

CHECKED Aug. 19 81

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

Sheet No. 1A of 17.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		18		



* See Special Provisions

FINAL QUANTITIES				
ITEM		SUBSTR	SUPER	TOTAL
SPECIAL WORK	LUMP SUM			0
PAINTING (SYSTEM A OR B) ALUMINUM	LUMP SUM			0
CLASS I EXCAVATION AT 125 PERCENT	CU. YD.	17.5		17.5
REPLACE FIBER BEARING PADS (SMALL)	EACH		40	40
REPLACE FIBER BEARING PADS (LARGE)	EACH		20	20
SUBSTRUCTURE REPAIR (UNFORMED)	SQ. FT.	8		8
REPLACEMENT OF ANCHOR BOLTS	EACH		4	4
EXTRA FABRICATED STRUCTURAL CARBON STEEL	LBS.		49,990	49,990
REMOVAL OF EXISTING BRIDGE DECK	SQ. FT.		8,992	8,992
REVISED SPECIAL WORK	LUMP SUM			1
CLEANING EXISTING BEARINGS	EACH		60	60
REVISED PAINTING (SYSTEM B) ALUMINUM	LUMP SUM			1
CLASS I EXCAVATION	CU. YD.	166.5		166.5
CLASS I CONCRETE	CU. YD.	124.5		124.5
CLASS II CONCRETE	CU. YD.		367.3	367.3
STRUCTURAL STEEL PILE 10"	LIN. FT.	1236		1236
REINFORCING STEEL (EPOXY COATED)	LB.		55,380	55,380
FABRICATED STRUCTURAL CARBON STEEL	LB.		110,060	110,060
LAMINATED NEOPRENE BEARINGS	EACH		30	30
ELASTOMERIC EXPANSION JOINT SEAL 2"	LIN. FT.		702	702
REINFORCING STEEL GRADE 60	LB.	14,710	42,290	57,000
SAFETY BARRIER CURB	LIN. FT.		295	295
MEDIAN BARRIER CURB	LIN. FT.		129	129

Note: for existing data see plans of existing structure.

PILE DATA				
BENT NO	2	3	1	2
PILE TYPE AND SIZE	HP10x42	HP10x42	HP10x42	HP10x42
NUMBER	10	10	4	4
APPROXIMATE LENGTH FT.	25	27	42	42
DESIGN BEARING TONS	51	51	26	26
HAMMER ENERGY REQUIRED FT. LBS.	11,800	11,800	7000	7000

Minimum energy requirement of hammer based on pile length and design bearing value of piles.
All pile was driven to structural refusal.

DETAILED Aug. 1981
CHECKED Aug. 1981

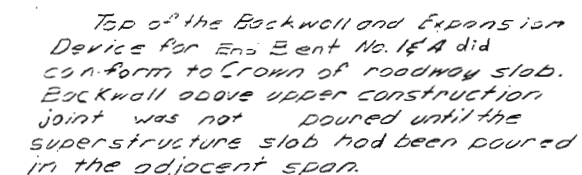
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 2 of 17

ST LOUIS

COUNTY

A-2807R

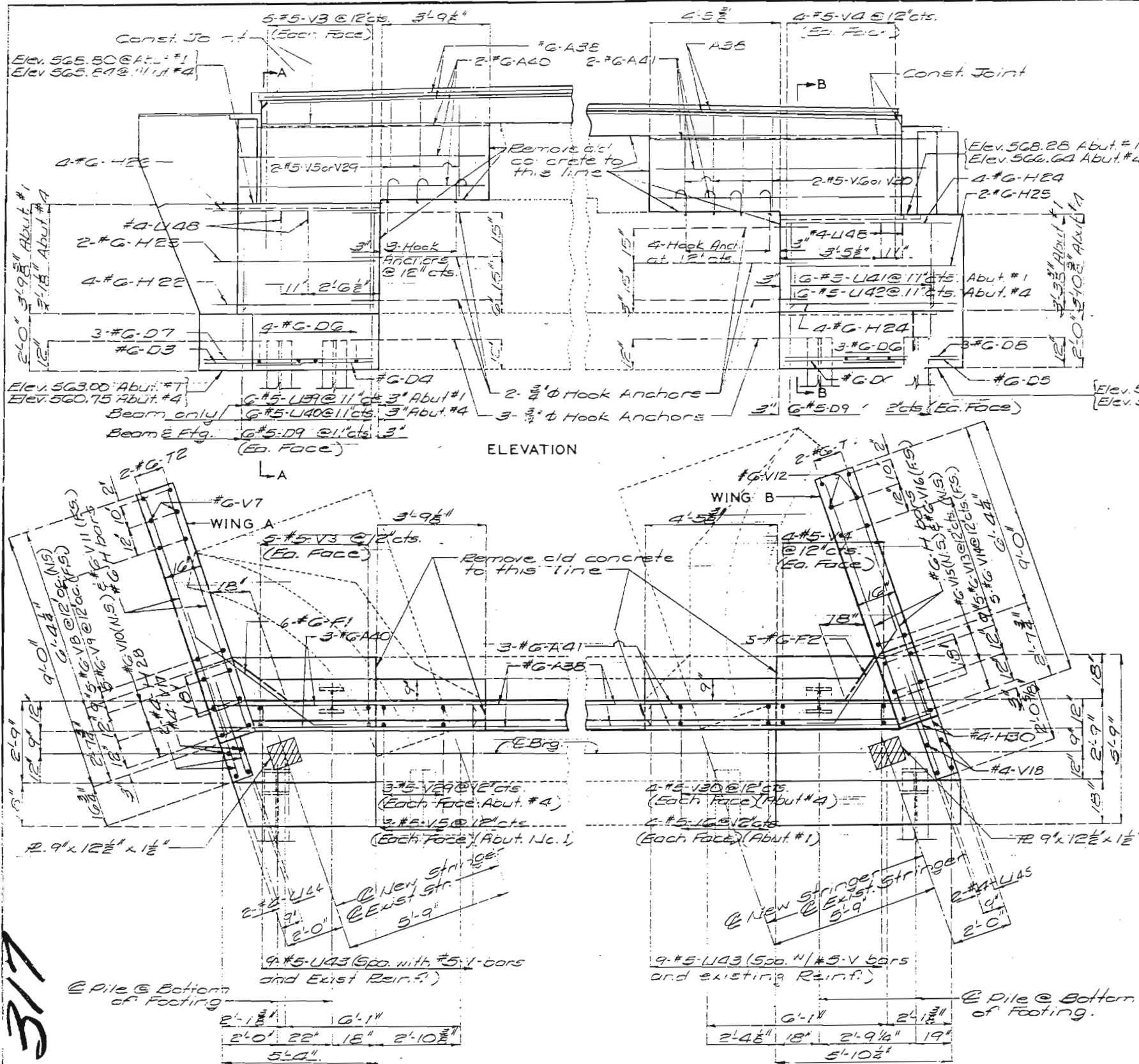


Elev.	End St. 1	End St. 2
A	569.41	567.14
B	569.28	567.00
C	568.99	566.68
D	569.22	566.90
F	569.29	566.95

End Bent No. 1 shown. End Bent No. 4
similar by opposite hand.

WORK THIS SHEET WITH SHEETS 3A & 3B

A-2807 R



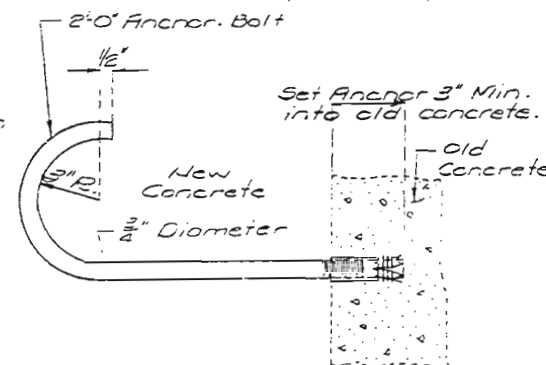
Note: Top of backwall and expansion device for Abutment No. 1 & 4 conform to crown of roadway slab. Backwall above upper construction joint was not poured until the superstructure slab was poured in the adjacent span. All conc. & reinf. in the End Bent above upper construction joint was included in superstructure quantities.

DETAILED APR 16 53
CHECKED APR 19 53

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

DETAILS OF ABUT. NO. 1 & 4

DETAIL OF HOOK ANCHOR BOLT



PLAN OF FOOTINGS

Note: Details for Abut. No. 1 shown. Details for Abut. No. 4 are the same except for wing reinforcement. For Plan of Wings showing reinforcement for Abut. No. 4 see Sheet No. 17. For Elevation views of Wing A & B see Sheet No. 17. Anchors were of the self drilling expansion type, made of casehardened and drawn, carburized steel, with self-cutting annular broaching grooves. Cost of furnishing and installing hook anchor bolt assemblies was included in contract unit price for concrete. For location of Anchor Bolt holes see SH. 7A.

Sheet No. 34 of 17

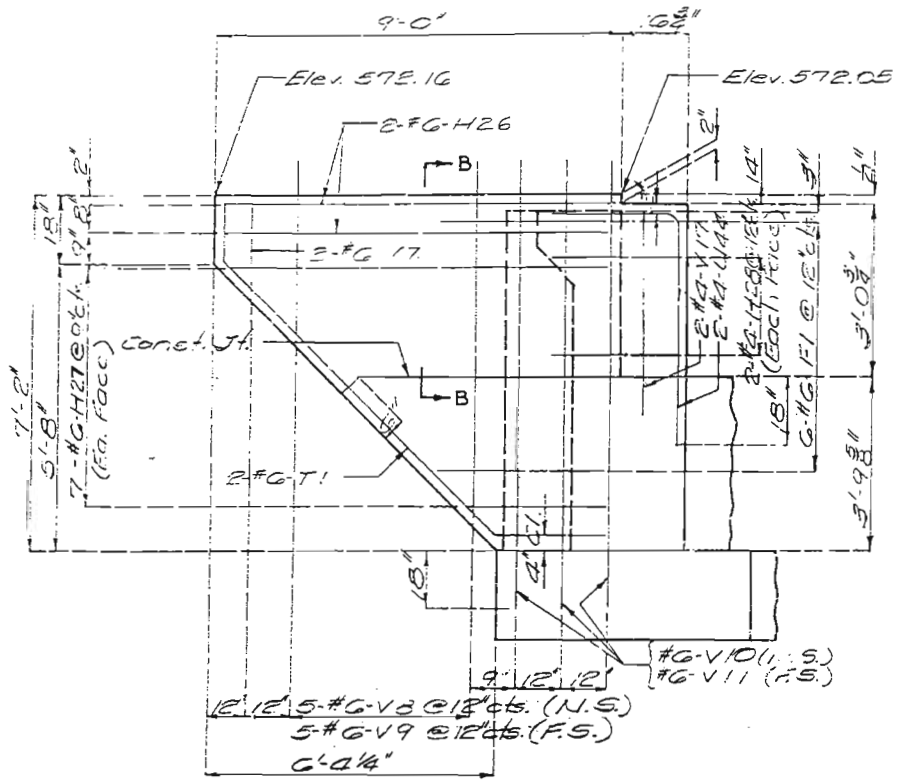
ST. LOUIS

COUNTY

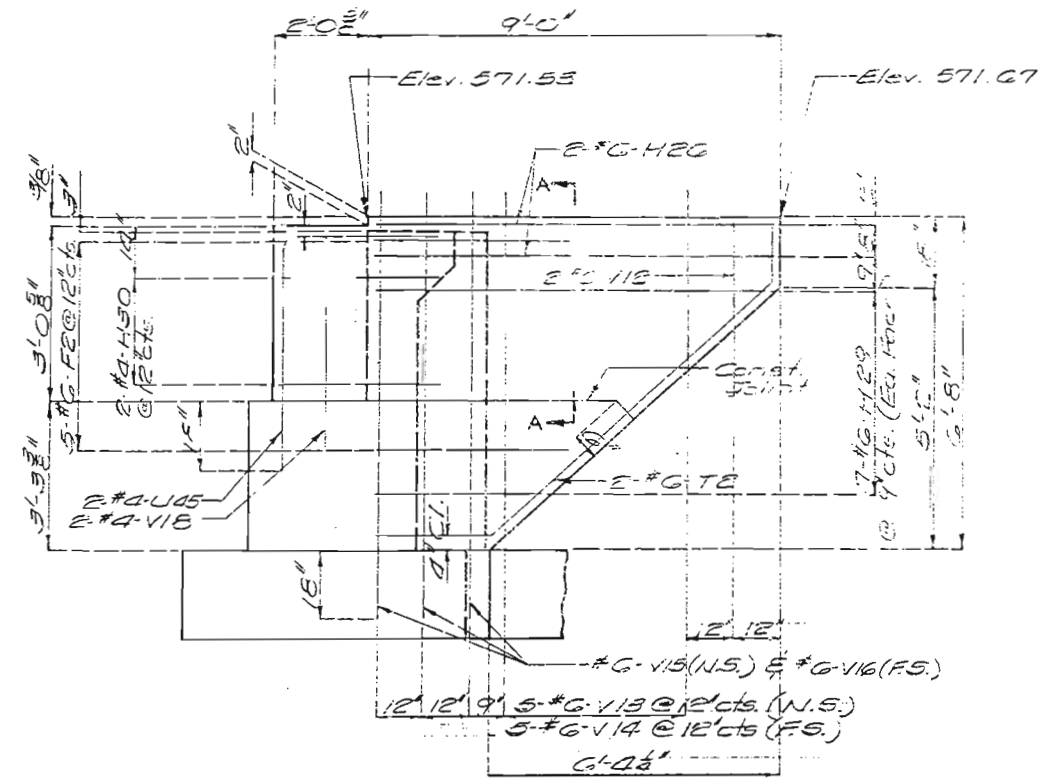
IA2807R

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

FINAL PLAN

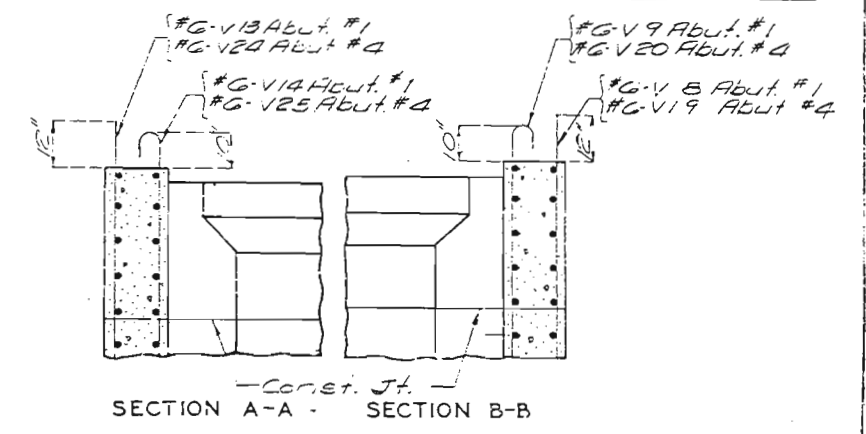


ELEV. WING A

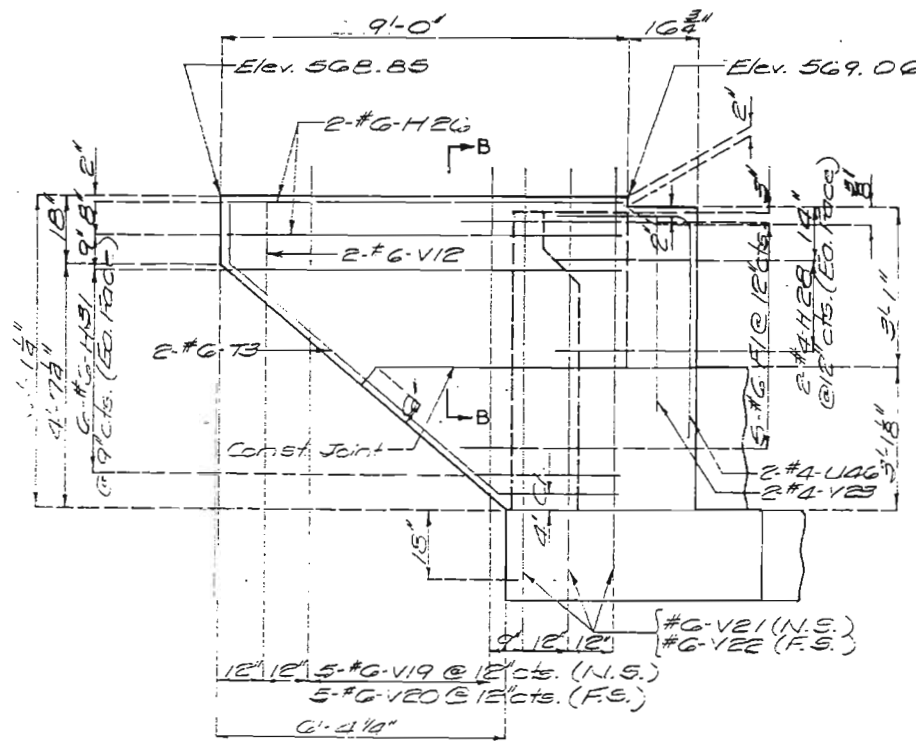


ELEV. WING B

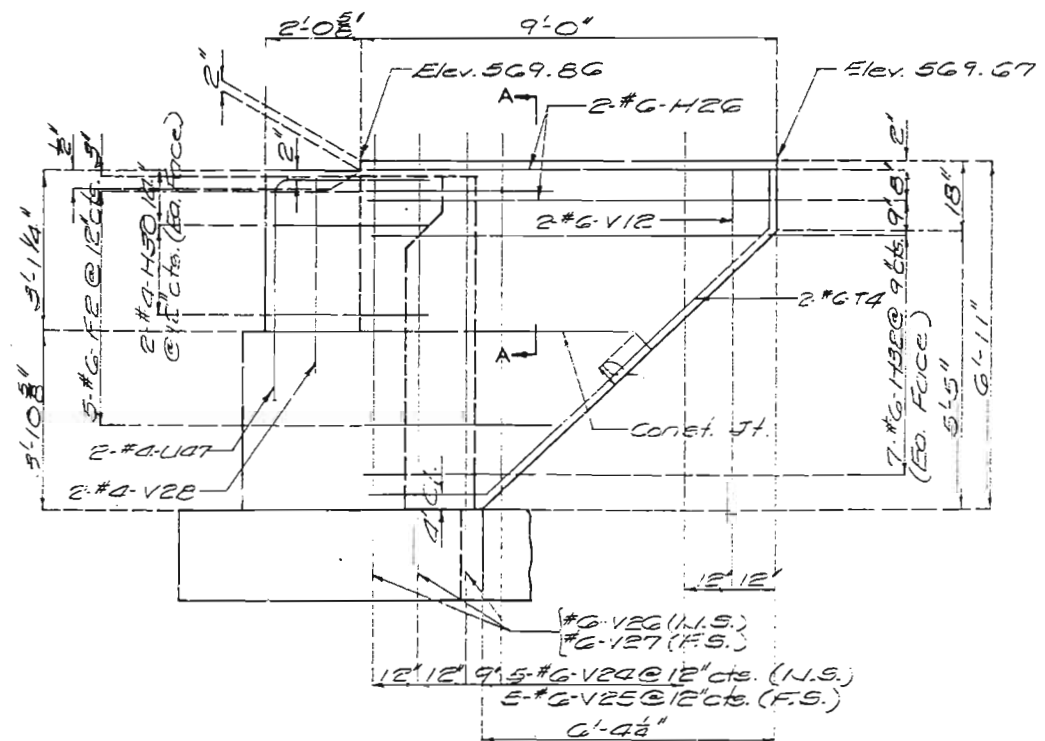
DETAILS OF WINGS AT ABUT. NO. 1



SECTION A-A - SECTION B-B

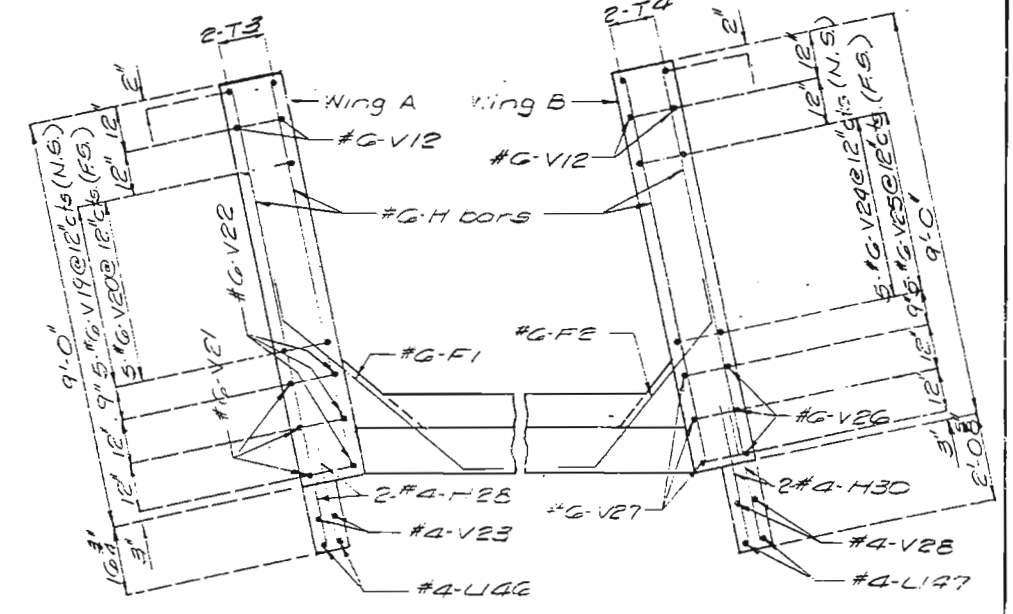


ELEV. WING A



ELEV. WING B

DETAILS OF WINGS AT ABUT. NO. 4



PLAN OF WINGS AT ABUT. NO. 4

318

APR 33

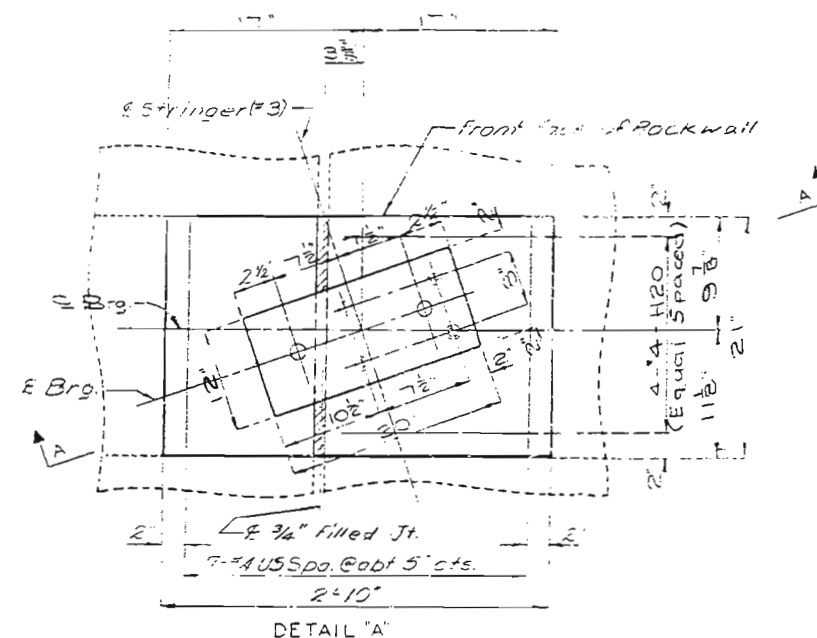
Note: This drawing is not to scale. Follow dimension.

Sheet No. 33 of 17

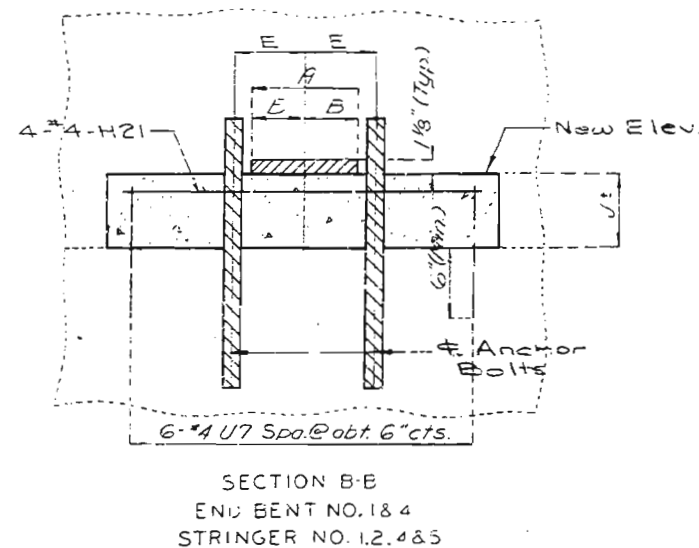
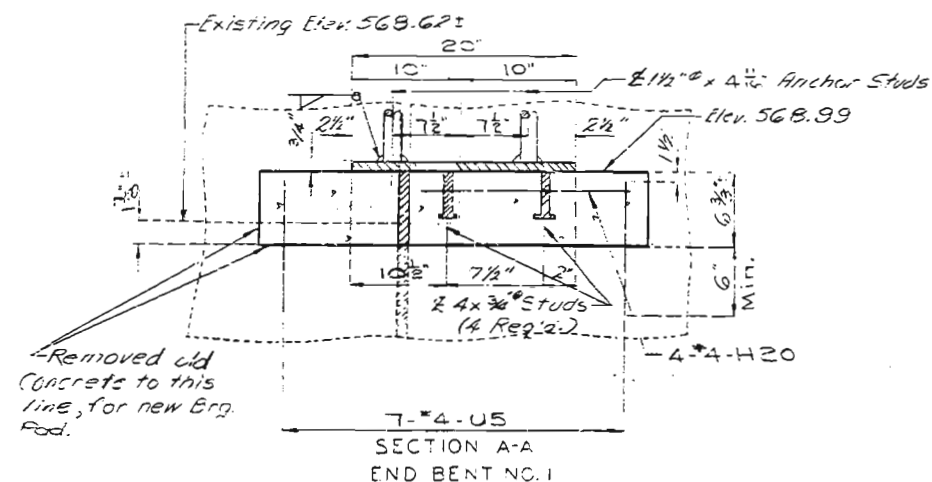
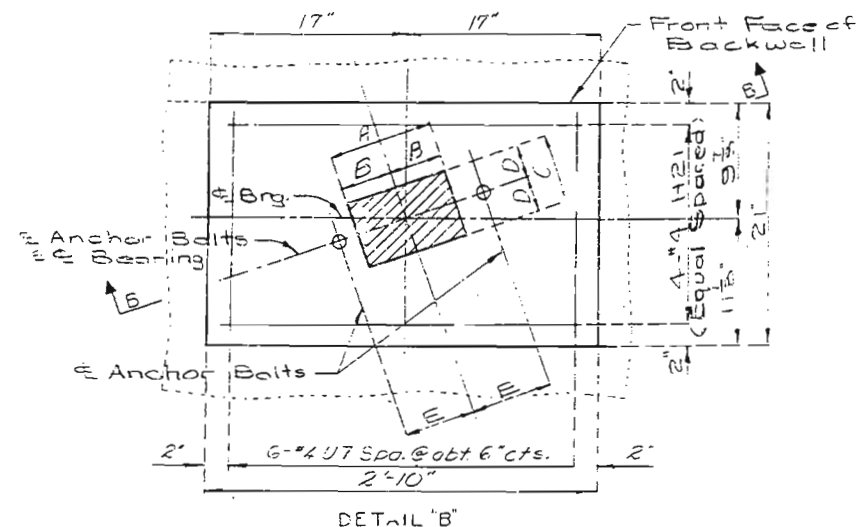
ST LOUIS

COUNTY

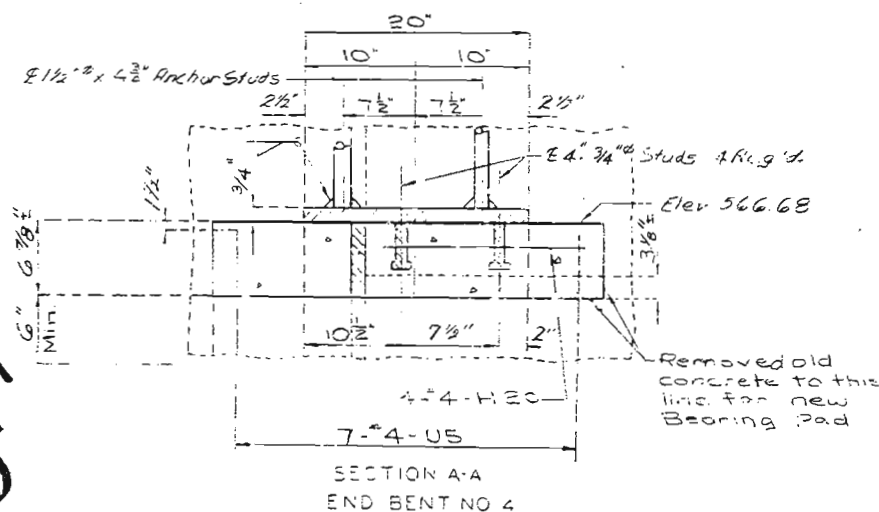
A-28073



2 Stringer 1,2,4&5--



Note: Drilled holes in top of existing concrete beam caps and use an expansive mortar to grout in #4-U bars. (See Special Provisions)

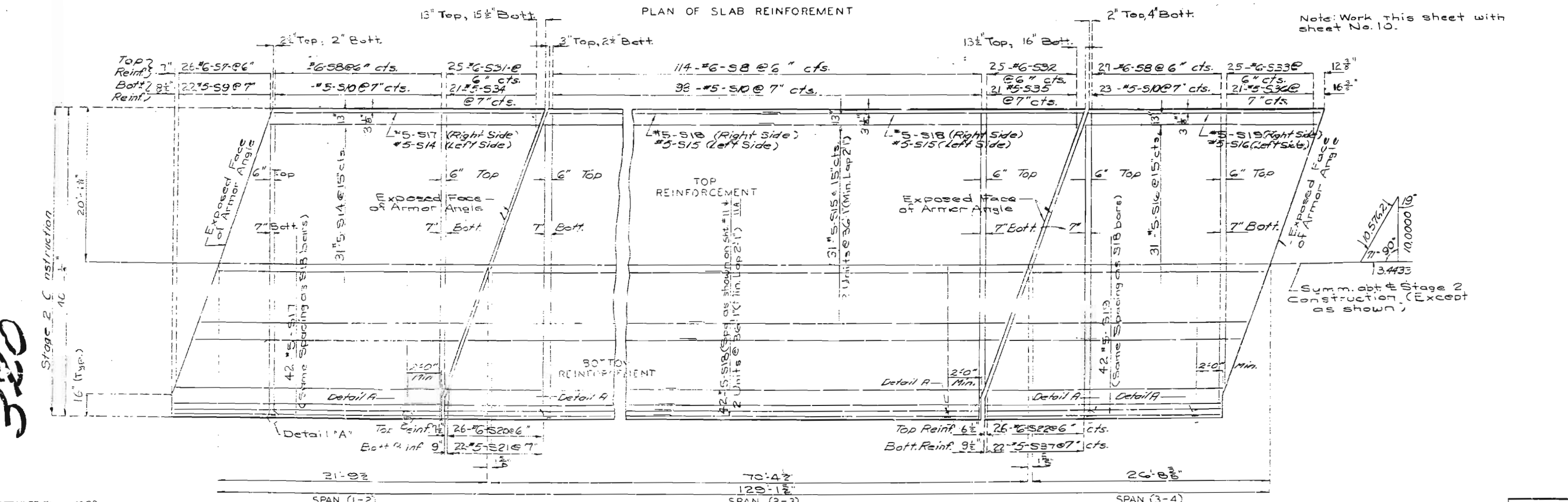
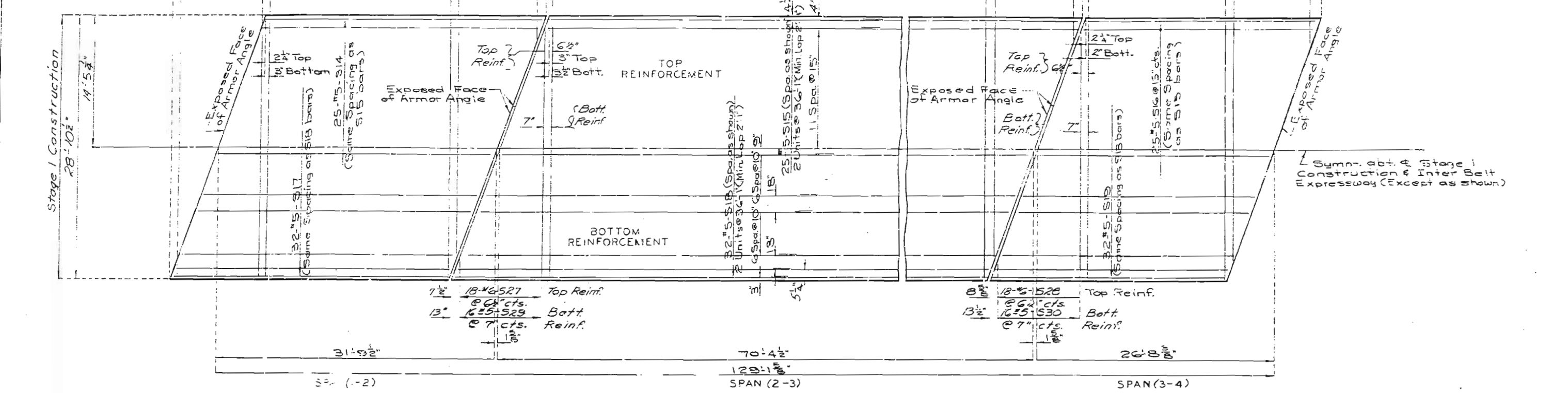


DIMENSIONS & ELEVATIONS FOR NEW CONCRETE STEPS FOR BT.#1 & BT.#4 STR. 1,2,4 & 5									
BT. STR.	A	B	C	D	E	J	H	NEW ELEV.	
1 1	12"	6"	8"	4 1/2"	7 1/2"	10 1/2"	4 1/2"	569.29	
1 2	12"	6"	8"	4 1/2"	7 1/2"	9 1/2"	4 1/2"	569.22	
1 4	12"	6"	8"	4 1/2"	7 1/2"	7 1/2"	4 1/2"	569.28	
1 5	12"	6"	8"	4 1/2"	7 1/2"	9 1/2"	4 1/2"	569.41	
4 1	12"	6"	8"	4 1/2"	7 1/2"	10 1/2"	4 1/2"	566.95	
4 2	12"	6"	8"	4 1/2"	7 1/2"	9 1/2"	4 1/2"	566.90	
4 4	12"	6"	8"	4 1/2"	7 1/2"	7 1/2"	4 1/2"	567.00	
4 5	12"	6"	8"	4 1/2"	7 1/2"	9 1/2"	4 1/2"	567.14	

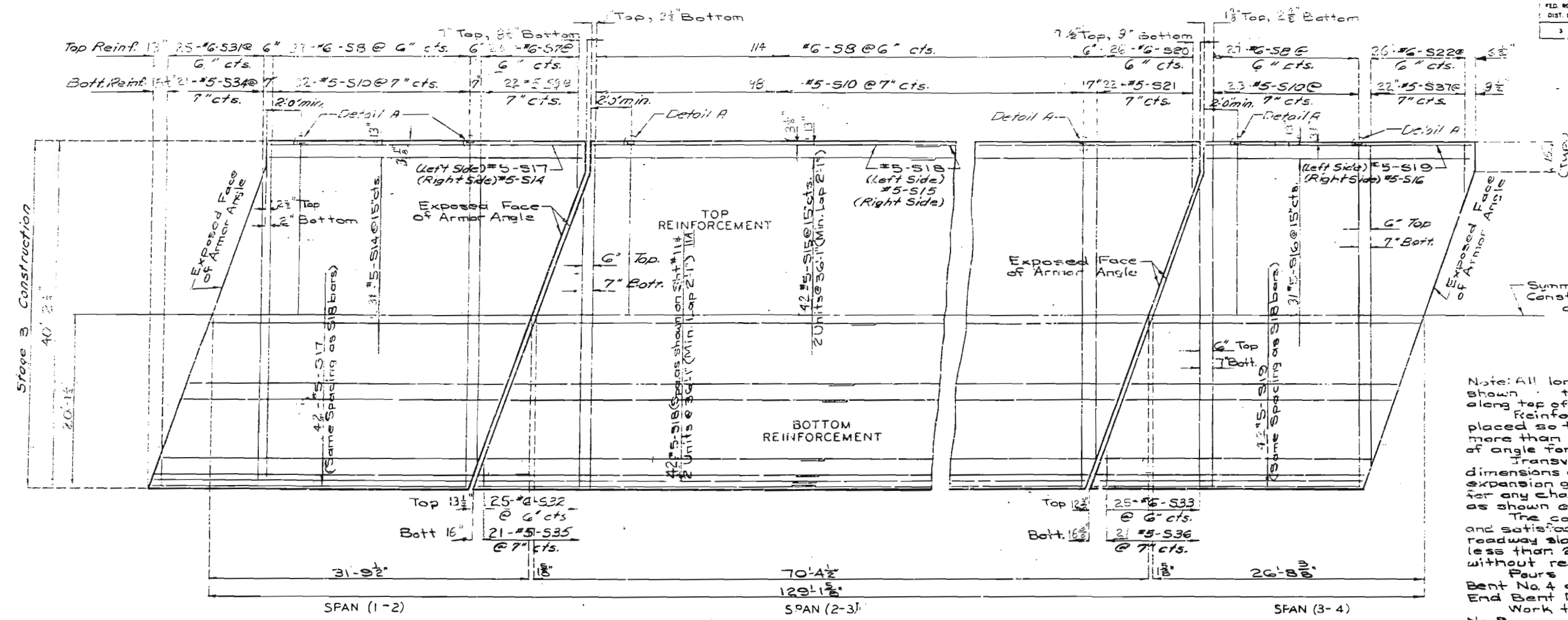
319

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

FINAL PLANS



FED. ROAD DIST. NO.	STATE	FED. AC PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	MO.		18		



Note: All longitudinal dimensions shown taken parallel to grade along top of slab.

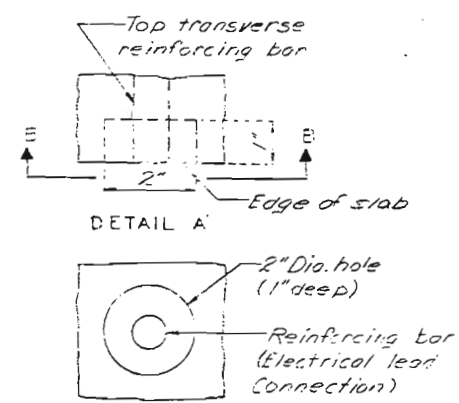
Reinforcing steel is placed so that ends are not more than 1" from vertical leg of angle for Expansion Device. Transverse and longitudinal dimensions are based on a 2" expansion gap at 60°F. Adjusted for any change in expansion gap as shown on sheet No. 12.

The contractor poured and satisfactorily finished the roadway slab at a rate of not less than 25 Cu. Yds. per hour without retarder.

Pours started at End Bent No. 4 and continued thru End Bent No. 1.

Work this sheet with sheet No. 9.

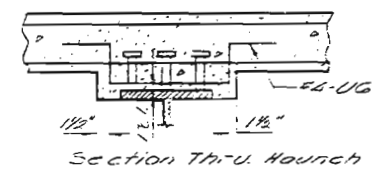
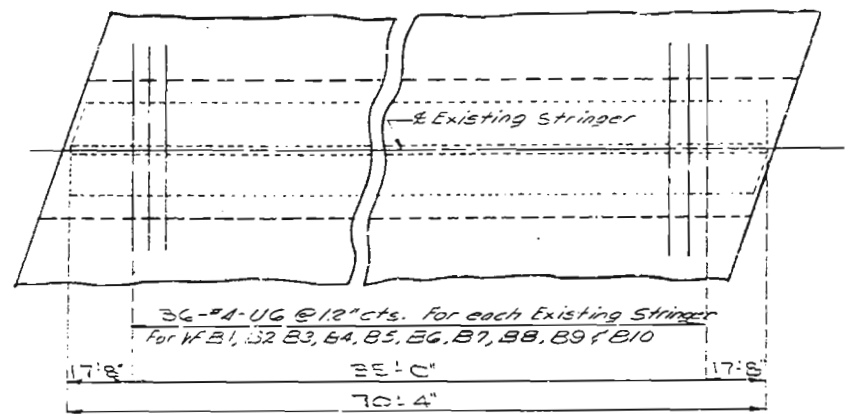
Note: 13% of dead load deflection due to weight of structural steel span (1-2) and span (3-4). Use 23% for span (2-3).



ELEVATION B-E

Note: 12 Electrical lead connections required. Actual locations were designated by the Engineer as part of the test system.

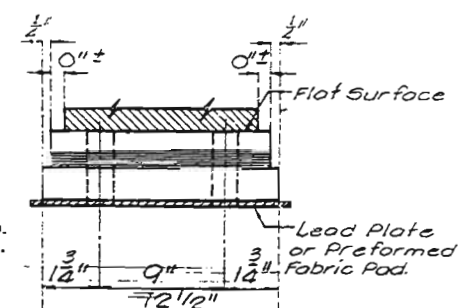
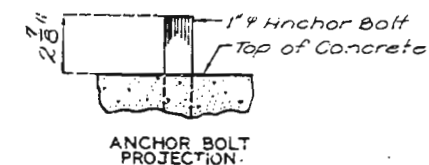
Note: See sheet No. 7A for Theoretical Slab Haunching & Dead Load Deflection Diagram.



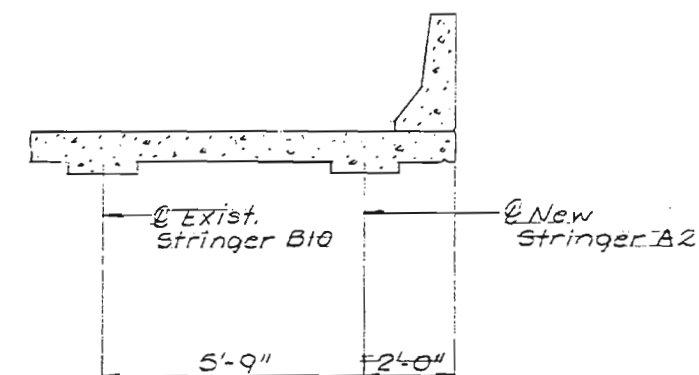
321

FINAL PLANS

SHOP DRAWINGS WERE NOT REQUIRED FOR LEAD PLATES AND OR PREFORMED FABRIC PADS



TYPE "C" BEARINGS
(ESTIMATED WEIGHT 805#)



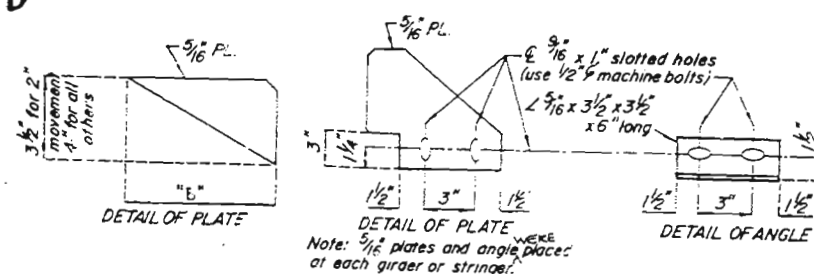
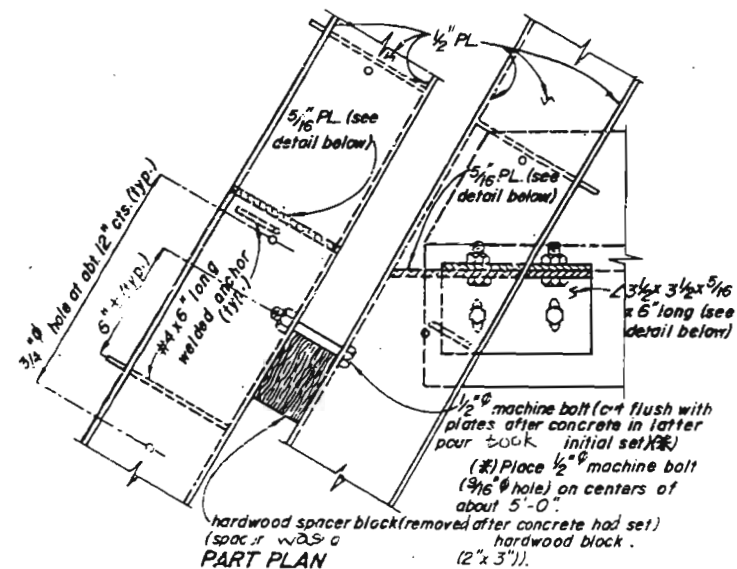
Sheet No. 114 of 17

ST. LOUIS COUNTY

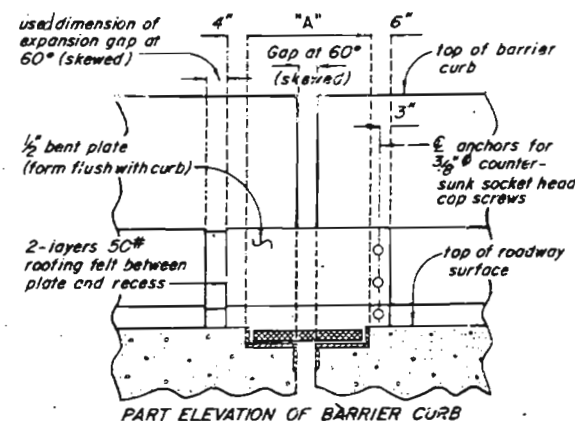
A-2807R

STD. C.B.	REVISED
AUG. 1965	OCT. 1977

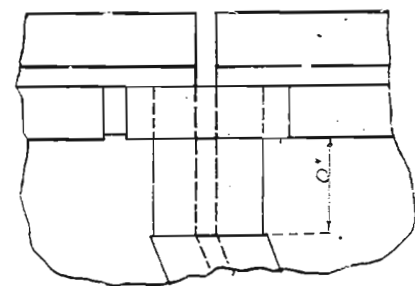
DETAILED Apr. 19 83
CHECKED APC 1983



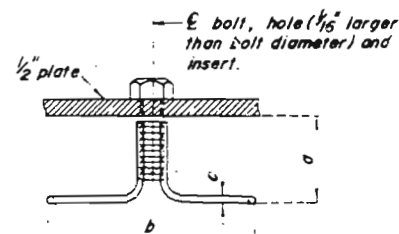
NOTE: All dimensions are at right angles.
Expansion gap and dimension "A" was increased $\frac{1}{32}$ " for each 10° fall in temperature and decreased $\frac{1}{32}$ " for each 10° rise in temperature.



PART ELEVATION OF BARRIER CURB



PART PLAN OF BARRIER CURB



Bolt Diameter	Safe Load Tension (lbs.) (min.)	Approx. Ult. Cap. Tension (lbs.) (min.)	Dimensions		
			a (min.)	b	c
1/2"	800	1,000	1-5/8"	5"	1-1/2"
3/8"	1,300	9,200	2-1/4"	5"	2-1/2"
3/4"	2,200	16,200	2-1/2"	6-1/2"	3-1/2"
1"	2,900	18,200	2-1/2"	6-1/2"	3-1/2"
1-1/8"	2,600	16,200	2-1/2"	6-1/2"	3-1/2"

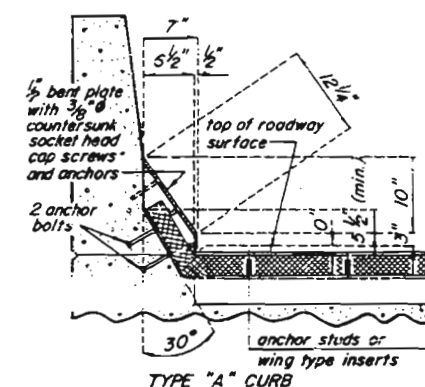
DETAILS OF ALTERNATE WING TYPE THREADED INSERT

(Machine bolts only used to secure the Wing Type Threaded inserts to the steel plate until the concrete had attained 3,000 p.s.i.)

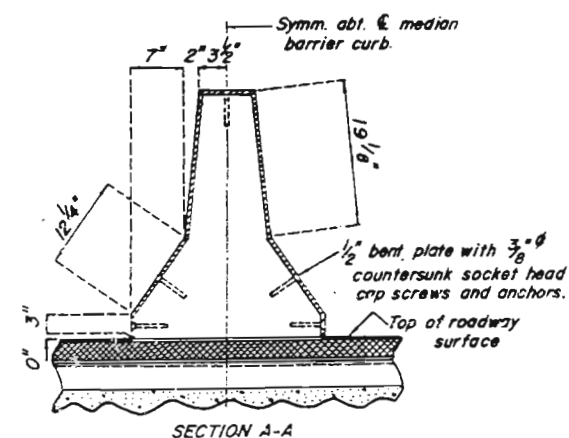
DETAILS OF ELASTOMERIC EXPANSION JOINT SEAL AT BENTS NO. 1 & 4

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

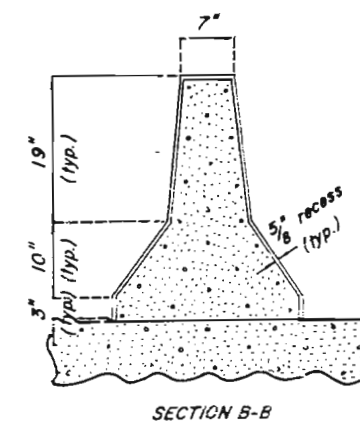
FURNISHING, PAINTING AND INSTALLING THE STRUCTURAL STEEL ARMORED JOINT WAS INCLUDED IN THE CONTRACT UNIT PRICE FOR OTHER ITEMS.



TYPE "A" CURB



SECTION A-A



SECTION B-B

Note: Work this sheet with sheet No. 13.
For location of Section A-A and B-B
see sheet No. 14.

COMPLETE BILL OF REINFORCING STEEL

[illegible]

Figure 10 shows two diagrams illustrating the detailing hook dimensions for 90° and 135° bends. The 90° diagram shows a hook with dimensions 60 or 2d min., 1A or 2, and 90°. The 135° diagram shows a hook with dimensions 60 or 2d min., 1A or 2, and 135°.

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

SIZE OF 180° HOOKS (GRADE 40 KSI)	SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)
D = 5d FOR #3 THRU #11	C = 6d FOR #3 THRU #8
D = 10d FOR #14 AND #18	D = 8d FOR #9, #10 AND #11
	D = 10d FOR #14 AND #18

NOTES: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. WERE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS. HOOKS AND BENDS WERE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E-EPOXY COATED REINFORCEMENT.

S - STIRRUP.

X-BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.

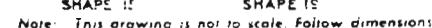
V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.

NO. EA. - NUMBER OF BARS OF EACH LENGTH

NOMINAL LENGTHS WERE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND WERE LISTED FOR FABRICATORS USE. (NEAREST INCH)

ACTUAL LENGTHS WERE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

TWO ADDITIONAL S24 & S26 WERE INCLUDED IN BAR
B' FOR TESTING.



BENDING DIAGRAMS

Sheet No. 16A of 17

ST. LOUIS COUNTY

A-28075

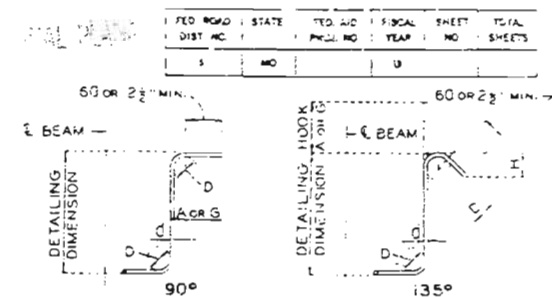
STU. 90. 6	REVIEWED
MAY 1974	JAN. 1991

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS										NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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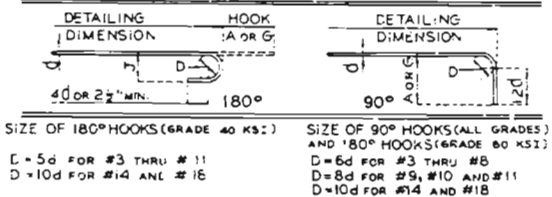
COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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STIRRUP HOOK DIMENSIONS				
BAR SIZE	D (IN.)	90° HOOK		135° HOOK
		A OR G	H OR G	APPROX. H
#3	1-1/2"	4"	4"	2-1/2"
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	8"	7"	4-1/2"

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



END HOOK DIMENSIONS				
BAR SIZE	180° HOOKS		90° HOOKS	
	GRADE 40	GRADE 60	GRADE 40	GRADE 60
#3	5"	2-3/4"	5"	3"
#4	6"	3-1/2"	6"	4"
#5	7"	4-1/2"	7"	5"
#6	8"	5-1/4"	8"	6"
#7	9"	6-1/4"	10"	7"
#8	10"	7"	11"	8"
#9	12"	8"	13"	11-1/4"
#10	13"	9"	17"	12-3/4"
#11	14"	10"	19"	14-1/4"
#14	21-2"	20-1/2"	21-2"	20-1/2"
#18	21-11"	21-2"	21-11"	21-3"

NOTES: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. WERE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS. HOOKS AND BENDS WERE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E - EPOXY COATED REINFORCEMENT.

S - STIRRUP.

X - BARS INCLUDED IN SUBSTRUCTURE QUANTITIES.

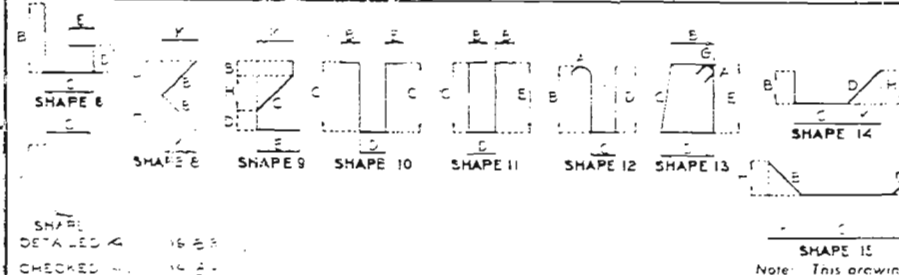
V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.

NO. EA. - NUMBER OF BARS OF EACH LENGTH.

NOMINAL LENGTHS WERE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND WERE LISTED FOR FABRICATORS USE. (NEAREST INCH)

ACTUAL LENGTHS WERE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

PAYWEIGHTS WERE BASED ON ACTUAL LENGTHS



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

BENDING DIAGRAMS

Sheet No. 16A101 17

COMPLETE BILL OF REINFORCING STEEL

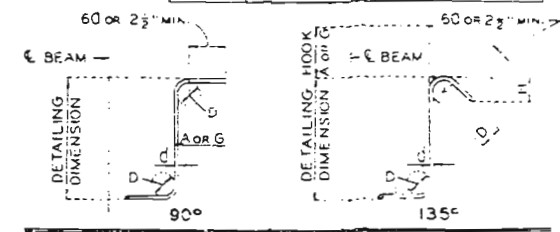
NO.	REQD.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRROPS (S)	SUBSTR (X)	VARIES (V)	NO. EACH	DIMENSIONS																NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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COMPLETE BILL OF REINFORCING STEEL

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FINAL PLANS

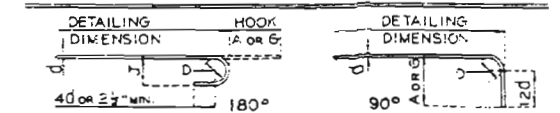
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	MO		23		



STIRRUP HOOK DIMENSIONS

GRADES 40-50-60 KSI				
BAR SIZE	D (IN.)	90° HOOK		135° HOOK
		MOOR A OR G	MOOR A OR G	APPROX. L
#3	1-1/2"	4"	4"	2-1/2"
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/4"	8"	7"	4-1/2"

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



SIZE OF 180° HOOKS (GRADE 40 KSI)	SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)
-----------------------------------	---

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

END HOOK DIMENSIONS

BAR SIZE	180° HOOKS				90° HOOKS	
	GRADE 40		GRADE 60		ALL GRADES	
	A OR S	J	A OR G	J	A OR G	
# 3	5"	2-3/4"	5"	3"		6"
# 4	6"	3-1/2"	6"	4"		8"
# 5	7"	4-1/2"	7"	5"		10"
# 6	8"	5-1/4"	8"	6"		12"
# 7	9"	6-1/4"	10"	7"		14"
# 8	10"	7"	11"	8"		16"
# 9	12"	8"	15"	11-1/4"		19"
# 10	13"	9"	17"	12-3/4"		22"
# 11	14"	10"	19"	14-1/4"		21-0"
# 14	21-2"	20-1/2"	21-2"	20-1/2"		21-7"
# 18	21-11"	21-3"	21-11"	21-3"		31-5"

NOTES: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. WERE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS. HOOKS AND BENDS WERE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E - EPOXY COATED REINFORCEMENT.

S - STIRRUP.

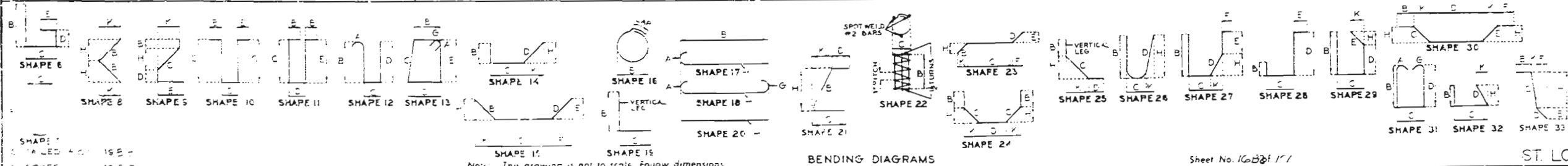
X - BAR WAS INCLUDED IN SUBSTRUCTURE QUANTITIES.
Y - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.

NO. EA. - NUMBER OF BARS OF EACH LENGTH.

NOMINAL LENGTHS WERE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND WERE LISTED FOR FABRICATORS USE. (NEAREST INCH)

ACTUAL LENGTHS- RE MEASURED ALONG CENTERLINE
BAR TO THE NEAREST INCH.

PAYWEIGHTS WERE BASED ON ACTUAL LENGTHS



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

BENDING DIAGRAMS

Sheet No. 163 of 171

ST. LOUIS

COUNTY

A-2807 R |

COMPLETE BILL OF REINFORCING STEEL

[illegible]

NOTES: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STD. HO. HOOKS AND BENDS WERE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E - EPOXY COATED REINFORCEMENT.

S - STIRRUP.

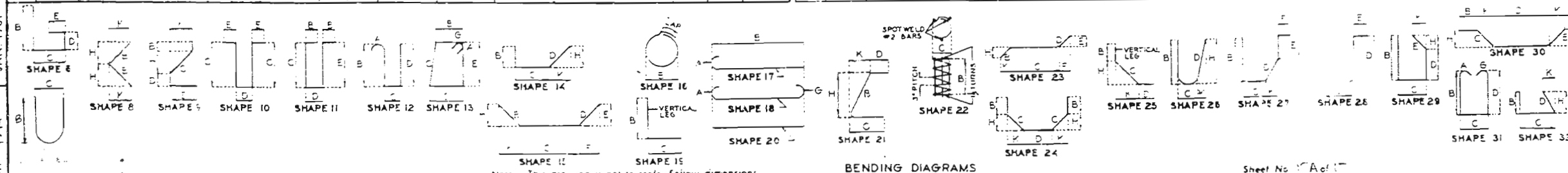
X - BAR WAS INCLUDED IN SUBSTRUCTURE QUANTITIES.

V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.

NO. EA. - NUMBER OF BARS OF EACH LENGTH.

NOMINAL LENGTHS WERE BASED ON OUT TO OUT DIMENSIONS OF BENDING DIAGRAMS AND WERE LISTED FOR FABRICATORS USE. (NEAREST INCH).

ACTUAL LENGTHS WERE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.



State	Proj. No.	Sheet No.
MO		817
SEC/SUR 32 TWP 46N RGE 6E		



2002 - AASHTO 17th Edition
Bridge Deck Rating = 7

Class B-1 Concrete (Safety Barrier Curb & Median Barrier Curb) $f'_c = 4,000$ psi
Class B-2 Concrete (Slab, Diaphragm & Curtain Wall) $f'_c = 4,000$ psi
Reinforcing Steel (Grade 60) $f_y = 60,000$ psi
Structural Carbon Steel (ASTM A709 Grade 36) $f_y = 36,000$ psi

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

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

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

Cost of furnishing and installing the resin anchor system complete-in-place will be considered completely covered by the contract unit price for Class B-1 Concrete.

The 3/4" diameter resin anchor systems shall have a minimum ultimate pullout strength of 20,400 lbs. in concrete with $f'_c = 4,000$ psi.

An epoxy coated #6 Grade 60 reinforcing bar 2'-6" long (not including manufacturer's embedment length) shall be substituted for the 3/4" Ø threaded rod.

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

Traffic over structure to be maintained during construction in accordance with traffic control plans, see Sheet No. 2 for traffic staging on bridge.

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

The contractor shall exercise care to ensure spillage over joint edges is prevented and that a neat line is obtained along any terminating edge of the epoxy polymer concrete.

Roadway surfacing adjacent to bridge ends to match top of new bridge surface (Roadway Item).

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

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.

Protective Coating: Calcium Sulfonate System in accordance with Sec 1081.

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

Rust Penetrating Sealer: The rust penetrating sealer shall be applied to the surfaces of all bearings, overlapping steel plates and other locations where rust bleeding, pack rust and layered rust is occurring. The cost of the rust penetrating sealer will be considered completely covered by the contract lump sum price for "Calcium Sulfonate Rust Penetrating Sealer".

Prime Coat: The cost of the prime coat will be considered completely covered by the contract unit price per sq. foot for "Calcium Sulfonate Primer".

(Normal to Roadway)



Topcoat: The color of the topcoat shall be Gray (Federal Standard #26373). The cost of the topcoat will be considered completely covered by the contract unit price per sq. foot for "Calcium Sulfonate Topcoat".

Temporary stringer supports shall be provided for int. bent repairs.
(See Special Provisions) (See Sheet No. 6 for additional details).

Existing Structural Steel Protective Coatings (Near Expansion Joints)

Protective Coating (System G in accordance with Sec 1081)
 Silicone Expansion Joint Sealant Locations:
 The surfaces of all structural steel located near expansion joints shall be coated with complete System G within a distance not less than 5 feet from the centerline of all deck joints. Within this limit, items to be coated shall include all surfaces of beam, girders, diaphragms, stiffeners, bearings and miscellaneous structural steel items.

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

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

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

Sec 1081.4.5 shall be modified such that the word "RECOATED" is replaced by the words "RECOATED - SYSTEM G - EXPANSION AREAS ONLY". Identification in accordance with Sec 1081.5.5 shall also be performed.

The Calcium Sulfonate System shall overlap the System G epoxy intermediate field coating between 6 inches and 12 inches in order to achieve maximum coverage at the paint limit of each complete system near the expansion areas. The final field coatings shall be masked to provide crisp, straight lines and to prevent overspray beyond the overlap required. (See detail on Sheet No. 8.)

All concrete above top of the existing beam at end bents is included in the estimated quantities for Class B-2 Concrete. All reinforcement in the end bents is included in the estimated quantities for Reinforcing Steel (Epoxy Coated).



RTE. I-170

County
Date: 8 / 12 / 05

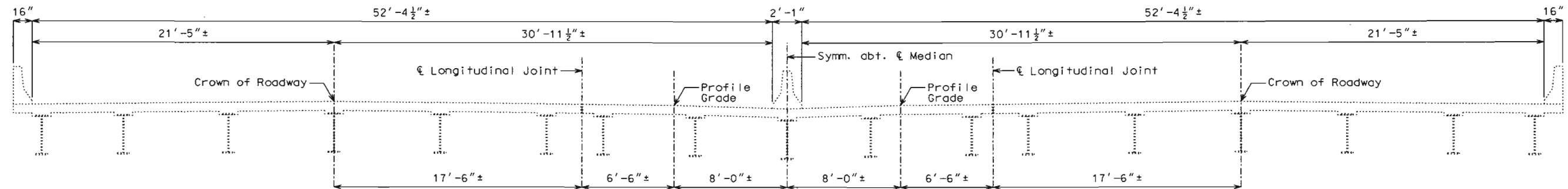
A28072

Designed	Mar.	2005
Detailed	Mar.	2005
Checked	May	2005

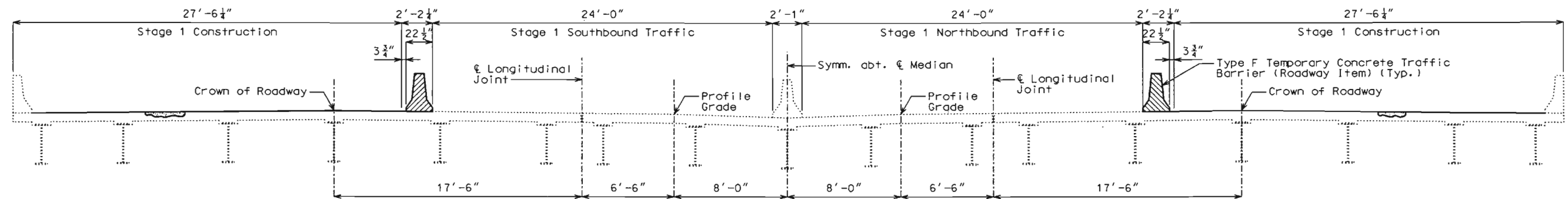
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 9

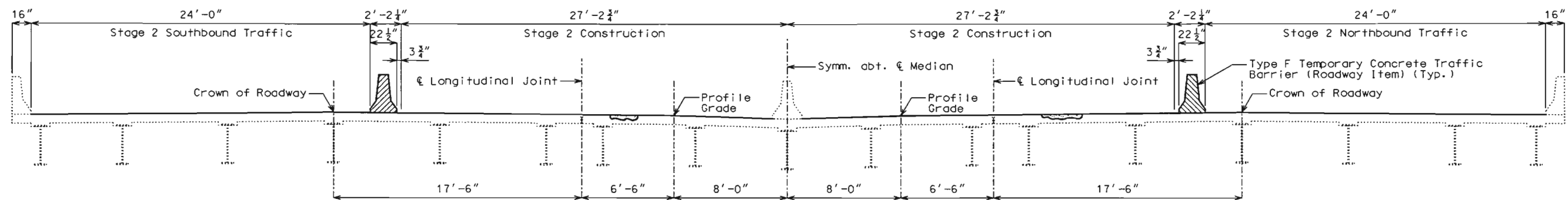
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SECTION THRU EXISTING SLAB
(Normal to Roadway)



STAGE 1 CONSTRUCTION



STAGE 2 CONSTRUCTION

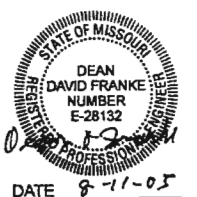
DETAILS SHOWING STAGED CONSTRUCTION

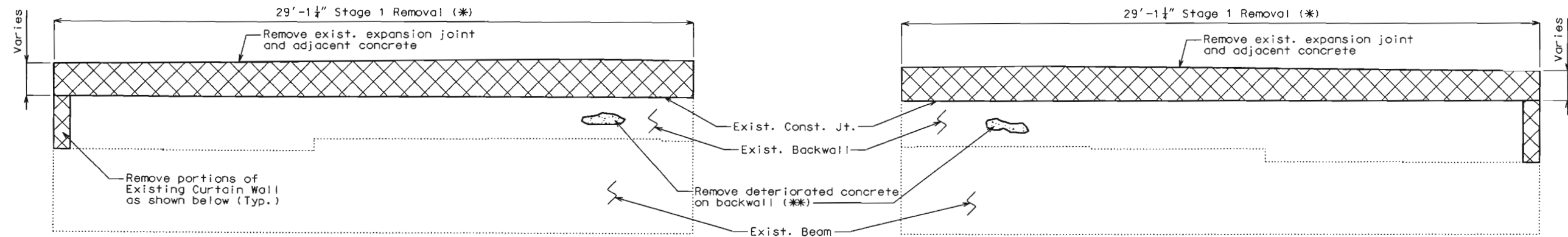
Detailed Feb. 2005
Checked May 2005

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

Sheet No. 2 of 9

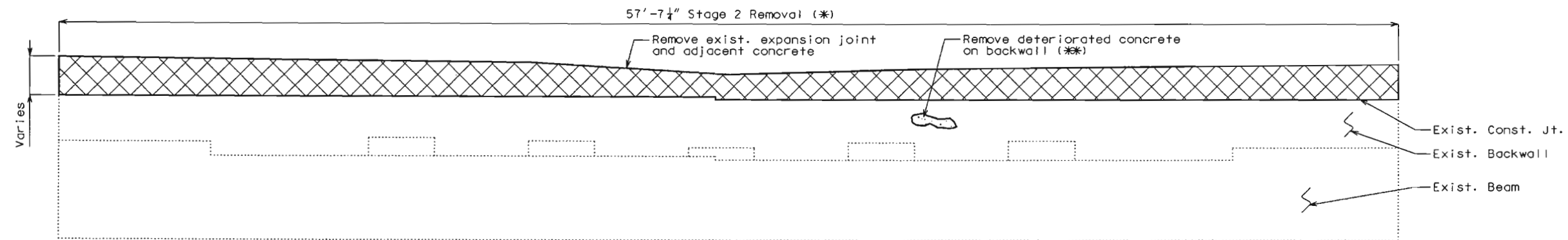
ST. LOUIS COUNTY A28072





DETAILS OF CONCRETE REMOVAL AT END BENTS NO. 1 AND NO. 4

DETAILS OF CONCRETE REMOVAL AT END BENTS NO. 1 AND NO. 4



DETAILS OF CONCRETE REMOVAL AT END BENTS NO. 1 AND NO. 4

(*) Horizontal dimensions are along beam

(**) The deteriorated concrete requirements shall be the same as for substructure repair in accordance with Sec 704 except the class B-2 concrete shall be placed monolithic with the proposed concrete diaphragm. The approach haunch shall be repaired or replaced if the concrete is deteriorated.

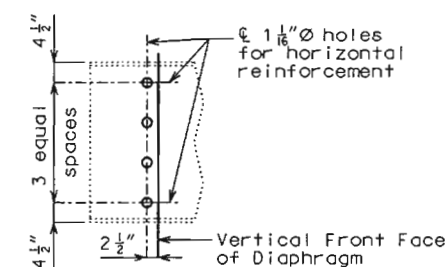
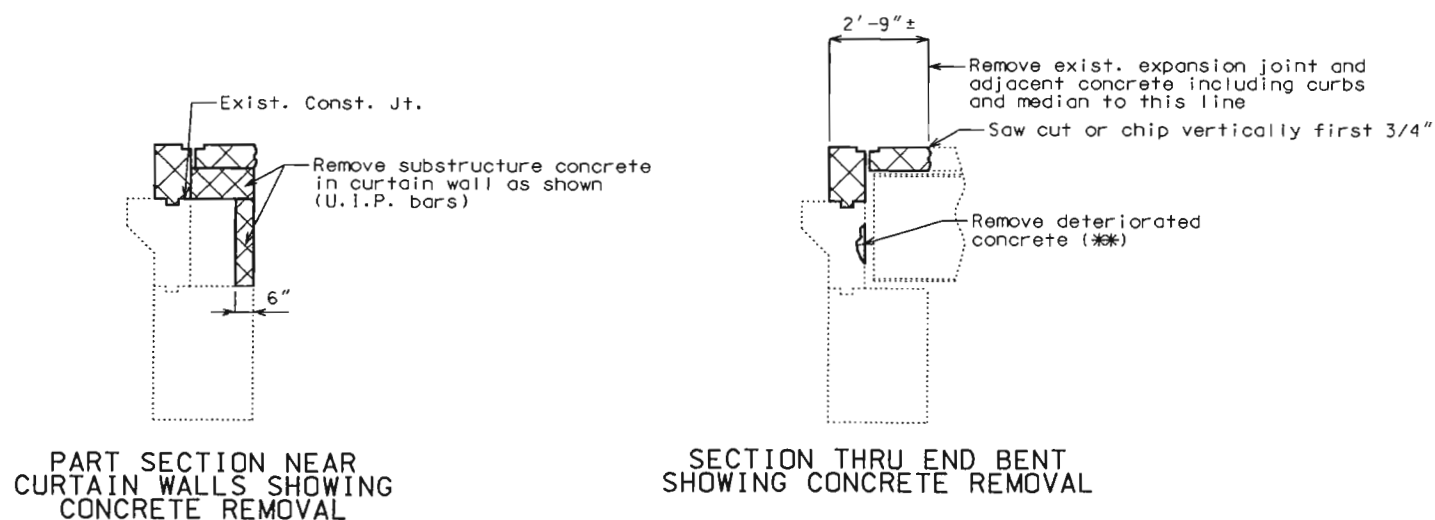
Notes:

The cost of concrete removal for backwall and curtain walls as shown will be considered completely covered by the contract lump sum price for Partial Removal of Substructure Concrete.

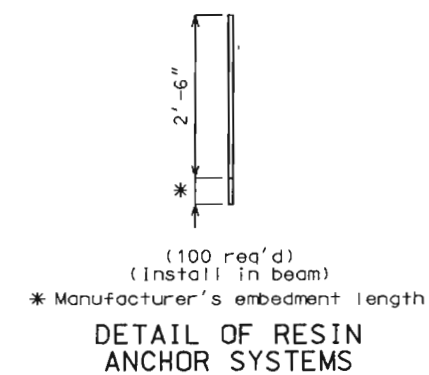
The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-2 surface preparation before concrete is poured. Payment for cleaning steel to be encased in concrete and drilling holes in the stringers will be considered completely covered by the contract unit price for Class B-2 Concrete.

Cost of furnishing and installing the resin anchor system complete-in-place will be considered completely covered by the contract unit price for Class B-2 Concrete.

For details of End Bents No. 1 and No. 4 not shown, see Sheets No. 4 & 5.



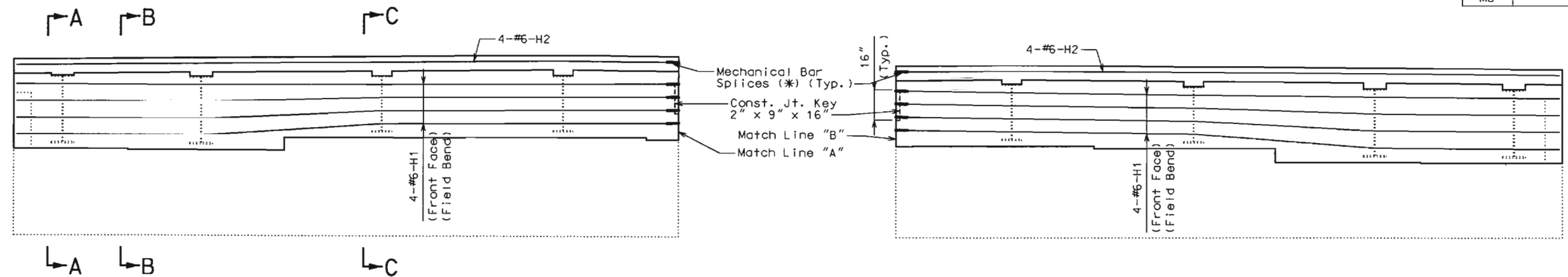
PART ELEVATION OF STRINGERS SHOWING WEB HOLES



DETAIL OF RESIN ANCHOR SYSTEMS

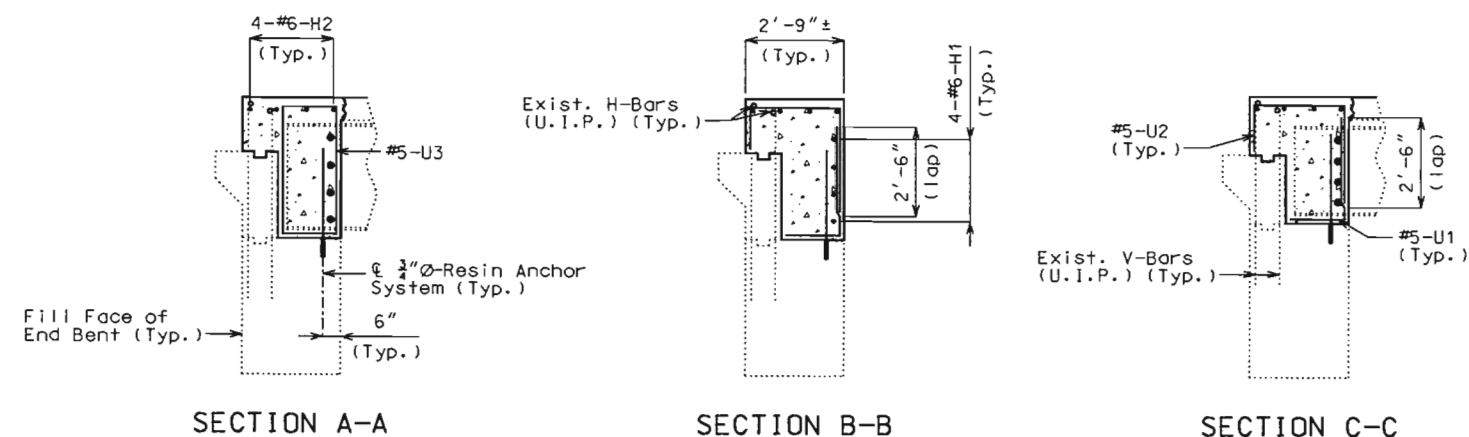


DETAILS OF END BENTS NO. 1 AND NO. 4



ELEVATION NEAR END BENT

ELEVATION NEAR END BENT

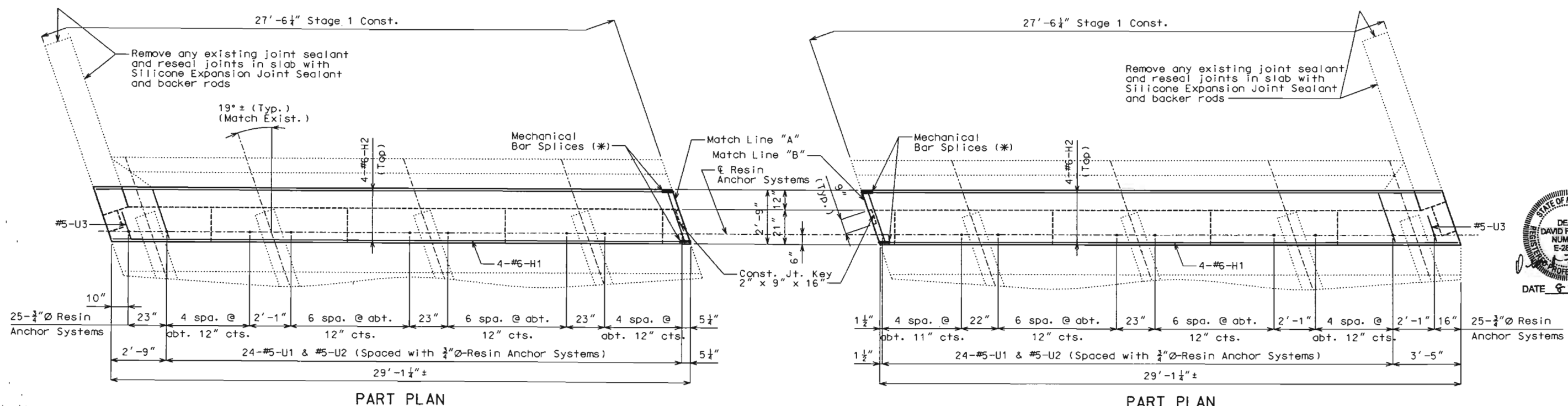


SECTION A-A

SECTION B-B

SECTION C-C

Notes:
 Existing steel end diaphragms not shown for clarity (leave in place).
 U-bars and resin anchor systems in diaphragm not shown for clarity.
 All U-bars in end bent shall be placed parallel to \perp Roadway.
 For details of End Bents No. 1 and No. 4 not shown, see Sheets No. 3 & 5.
 (*) The contractor shall use a mechanical bar splice for #6-H1 & #6-H2 bars at the specified location. The total bar lengths for bars indicated in the bill of reinforcing steel are determined based on the end of the bars being located flush to the face of the construction joint. No additional payment will be made for any additional bar lengths required for the mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 706 except that no measurement will be made for mechanical bar splice and will be considered completely covered by the contract unit price for the reinforcing steel.
 Spacing of resin anchor systems may be adjusted for ease of construction or to meet the manufacturer's spacing or end distance requirements.



PART PLAN

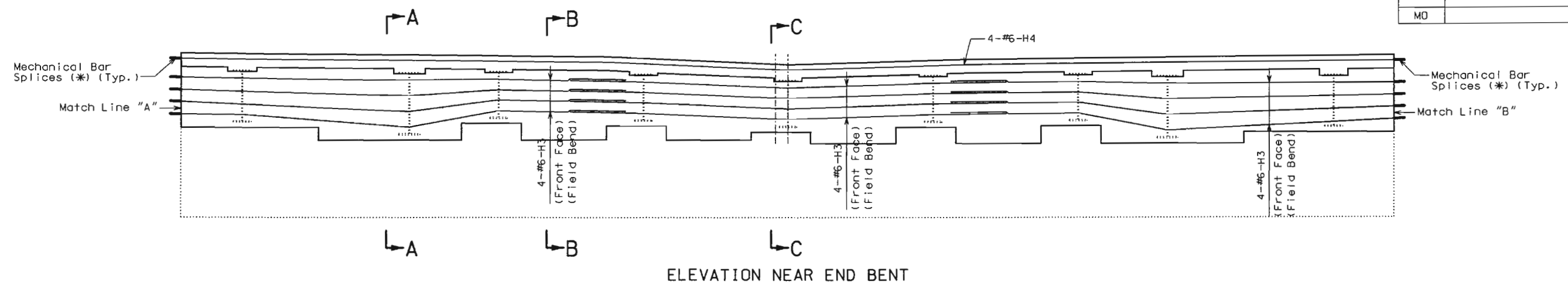
PART PLAN

DETAILS OF END BENTS NO. 1 AND NO. 4 (STAGE 1 CONSTRUCTION)

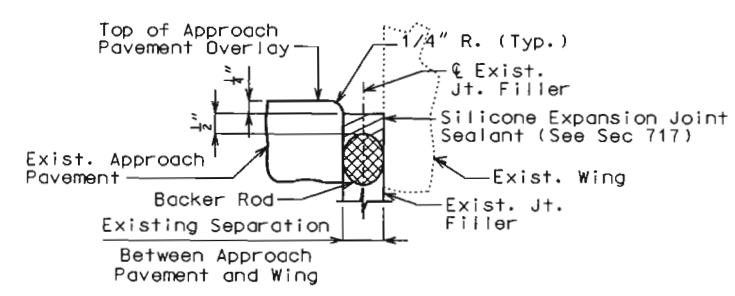
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 4 of 9

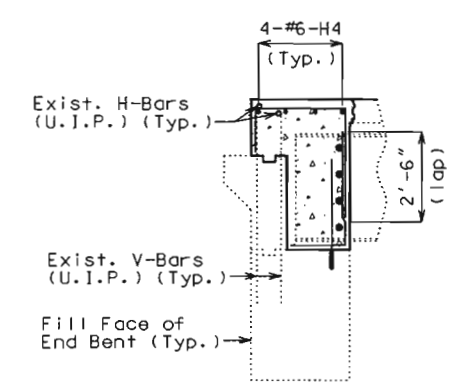
ST. LOUIS COUNTY A28072



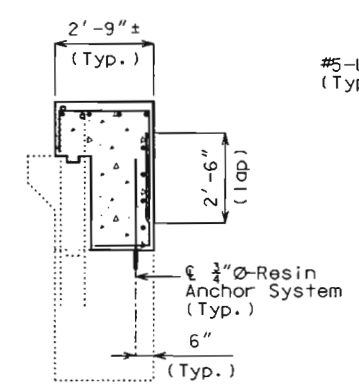
ELEVATION NEAR END BENT



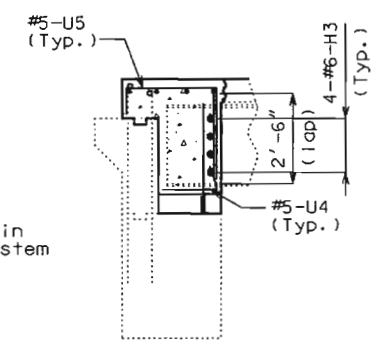
SECTION THRU JOINT SEALANT REPLACEMENT BETWEEN APPROACH PAVEMENT AND WINGS AT END BENTS NO. 1 & 4



SECTION A-A

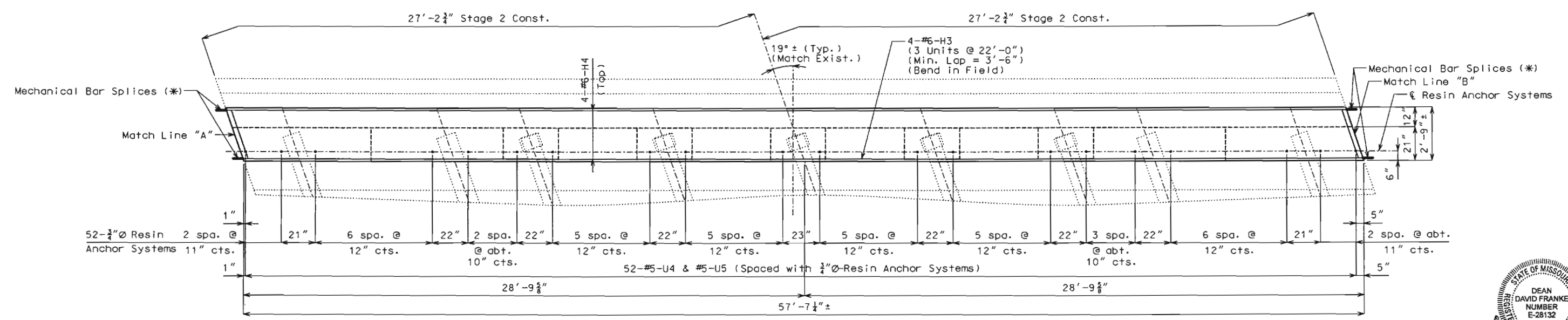


SECTION B-B



SECTION C-C

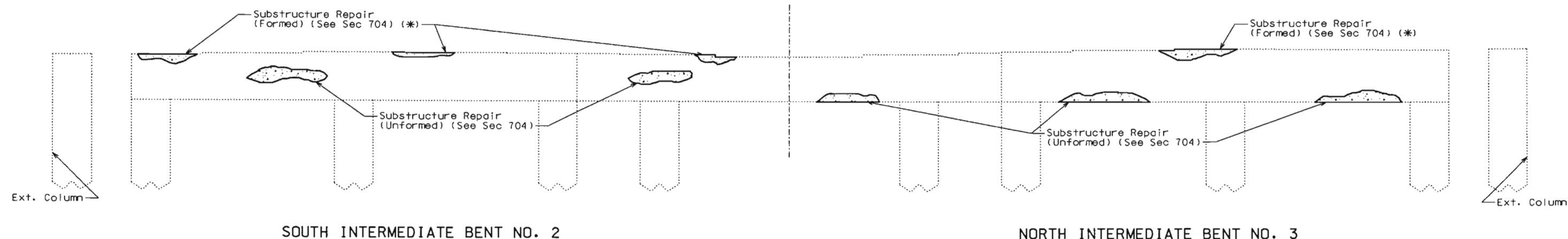
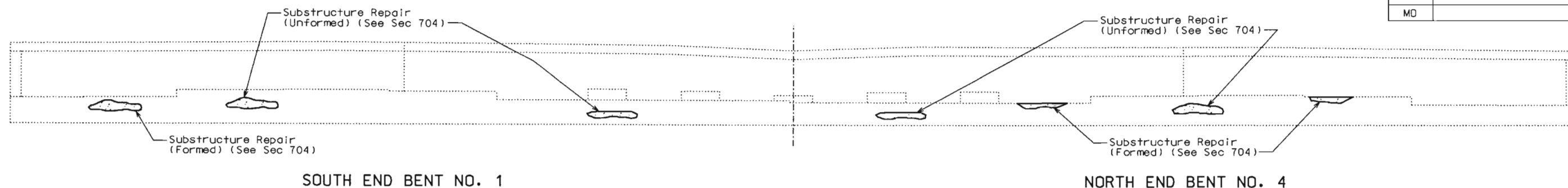
Notes:
 Existing steel end diaphragms not shown for clarity (leave in place).
 U-bars and resin anchor systems in diaphragm not shown for clarity.
 All U-bars in shall are to be placed parallel to \perp Roadway.
 For details of End Bents No. 1 and No. 4 not shown, see Sheets No. 3 & 4.
 Cost of removal of joint sealant will be considered completely covered by the contract unit price for Removal of Existing Expansion Joint Seal or Sealant.
 Payment for furnishing and installing the joint sealant will be considered completely covered by the contract unit price for Silicone Expansion Joint Sealant.
 (*) The contractor shall use a mechanical bar splice for #6-H3 & #6-H4 bars at the specified location. The total bar lengths for bars indicated in the bill of reinforcing steel are determined based on the end of the bars being located flush to the face of the construction joint. No additional payment will be made for any additional bar lengths required for the mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 706 except that no measurement will be made for mechanical bar splice and will be considered completely covered by the contract unit price for the reinforcing steel.
 Spacing of resin anchor systems may be adjusted for ease of construction or to meet the manufacturer's spacing or end distance requirements.



PART PLAN

DETAILS OF END BENTS NO. 1 AND NO. 4 (STAGE 2 CONSTRUCTION)

STATE OF MISSOURI
 DEAN
 DAVID FRANK
 NUMBER
 E-28132
 DATE 8/11/05



SUBSTRUCTURE REPAIR

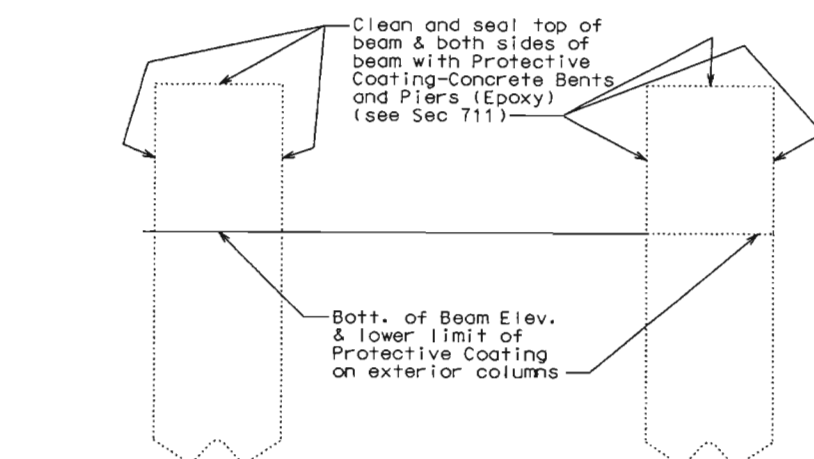
(*) Provide temporary supports for stringers during repair of top of cap. Cost of furnishing will be considered completely covered by the lump sum price for Temporary Support.

Substructure Quantity Table for Bents No. 1, 2, 3 & 4					
Item		Bent 1	Bent 2	Bent 3	Bent 4
Substructure Repair (Formed)	sq. foot	5	40	10	20
Substructure Repair (Unformed)	sq. foot	25	25	50	30

Note: These quantities are included in the Estimated Quantities Table on Sheet No. 1.

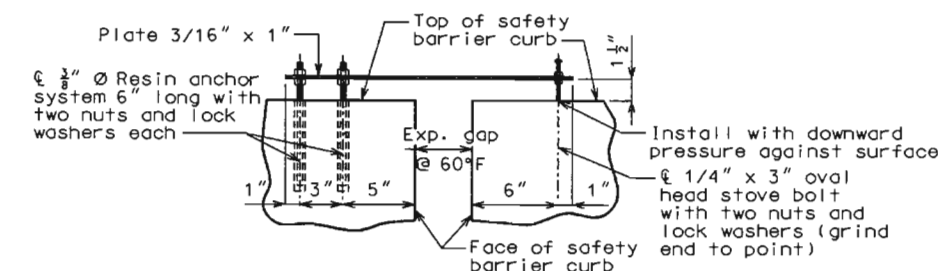
Notes:

A movement gauge shall be provided on one side of bridge at all safety barrier curb expansion joints. All steel shall be galvanized. Cost of movement gauge complete-in-place will be considered completely covered by the contract unit price for Safety Barrier Curb.

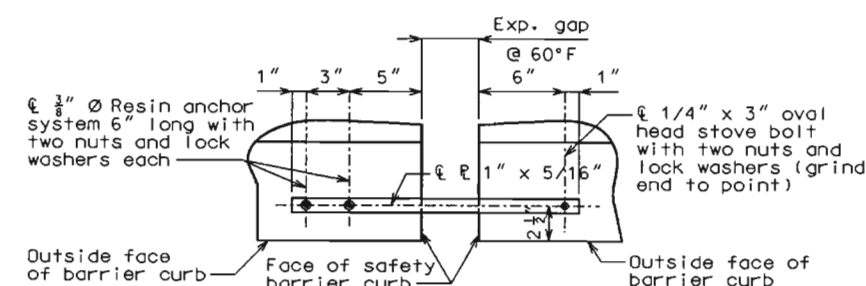


SECTION AT EXT. COLUMN OF BENTS NO. 2 AND 3 SHOWING PROTECTIVE COATING LIMITS

SECTION THRU BENTS NO. 2 AND 3 SHOWING PROTECTIVE COATING LIMITS



PART ELEVATION OF BARRIER CURB SHOWING MOVEMENT GAUGE



PART PLAN OF BARRIER CURB SHOWING MOVEMENT GAUGE

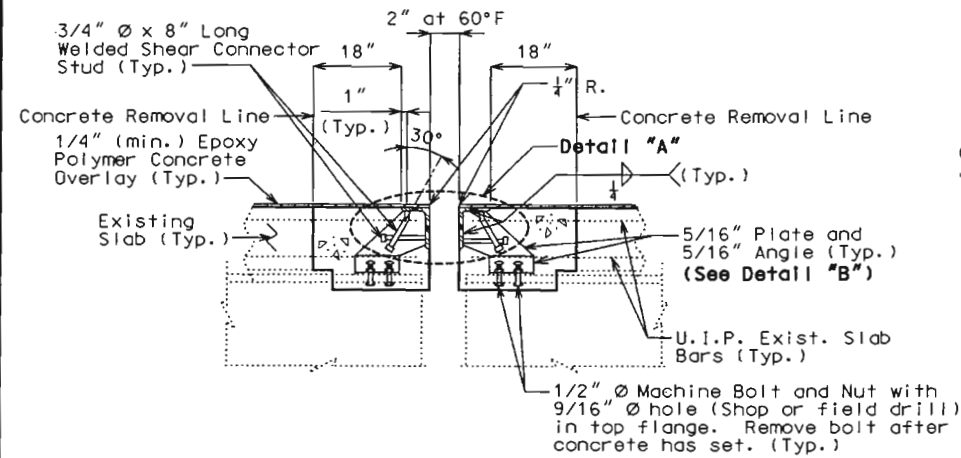
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 6 of 9

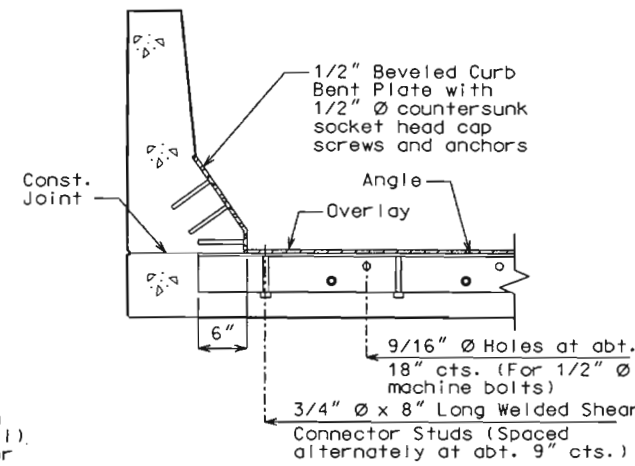
ST. LOUIS COUNTY A28072



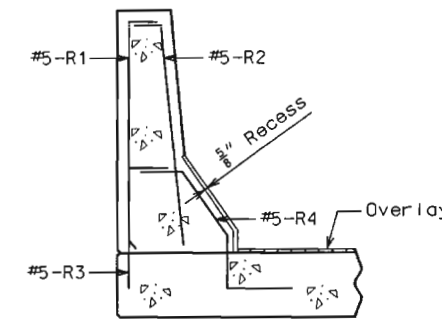
State	Proj. No.	Sheet No.
MO		B90



PART SECTION D-D



PART SECTION B-B



PART SECTION A-A

GENERAL NOTES:

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

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

Structural steel for the expansion joint system shall be ASTM A709 Grade 36. Anchors for the expansion joint system shall be in accordance with Sec 1037. Silicone Expansion Joint Sealant Systems shall be in accordance with Sec 717.

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

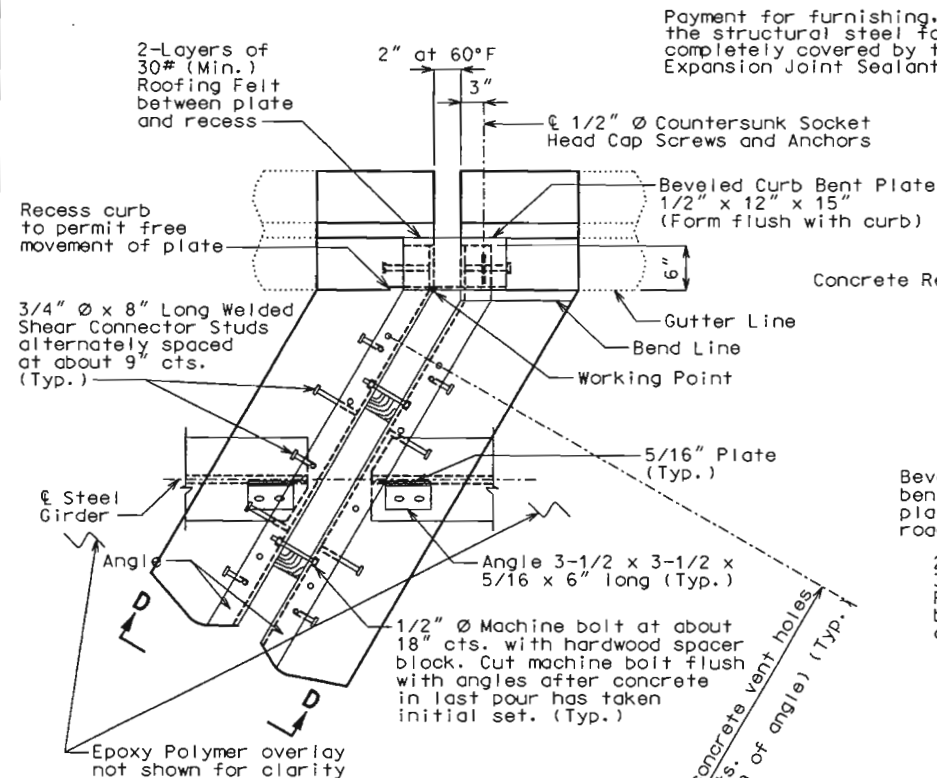
Concrete shall be forced under armor angle and around anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.

Curb plate anchors shall be a drilled cone expansion or a cast-in-place wing type threaded insert. The minimum ultimate pullout capacity for these anchors shall be 2700 lbs in f'c = 4000 psi concrete. Lead anchors will not be permitted. Holes in the barrier curb for anchors shall not be drilled until the concrete is at least 7 days old.

Payment for removal of concrete (including curbs & median) & removal of steel will be considered completely covered by the contract unit price for Removal of Existing Expansion Joints & Adjacent Concrete (see Sec 216).

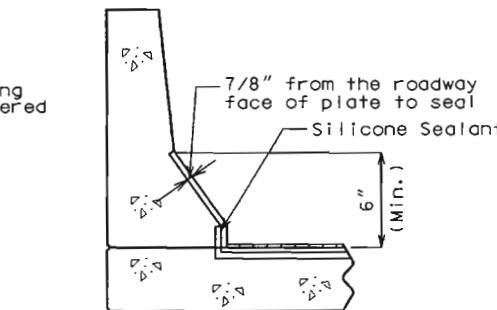
Payment for class B-2 concrete in slab will be considered completely covered by the contract unit price for Class B-2 Concrete.

For details of barrier curb showing movement gauge, see Sheet No. 6.

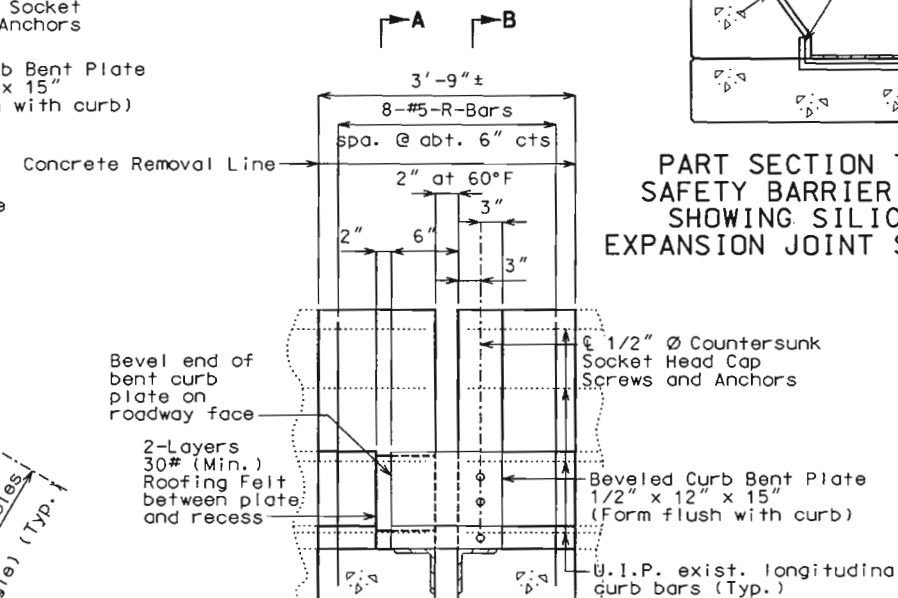


PART PLAN

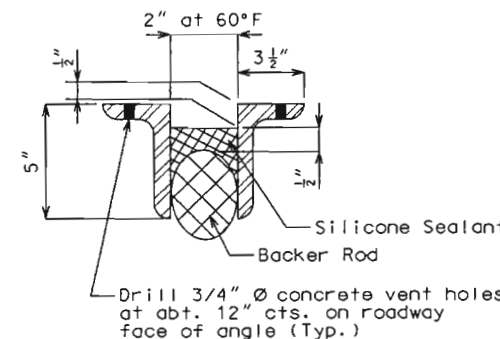
Payment for furnishing, coating or galvanizing and installing the structural steel for the expansion joint will be considered completely covered by the contract unit price for Silicone Expansion Joint Sealant System.



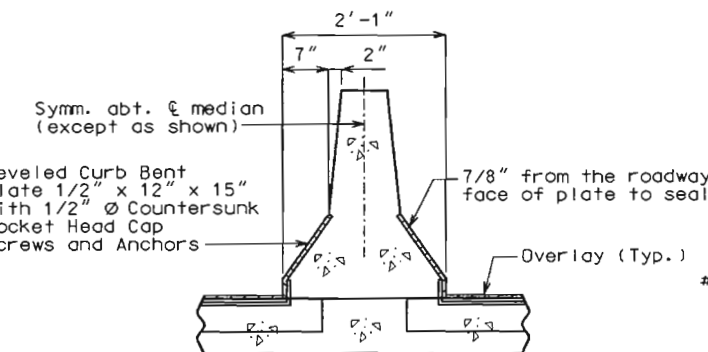
PART SECTION THRU SAFETY BARRIER CURB SHOWING SILICONE EXPANSION JOINT SEALANT



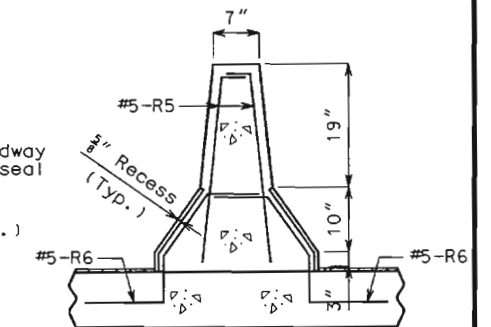
PART ELEVATION OF BARRIER CURB



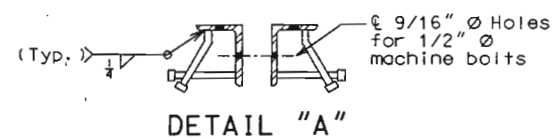
PART CROSS SECTION THRU EXPANSION JOINT



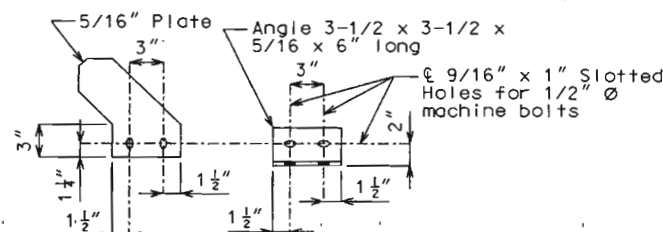
TYPICAL PART SECTION E-E



TYPICAL PART SECTION F-F



DETAIL "A"

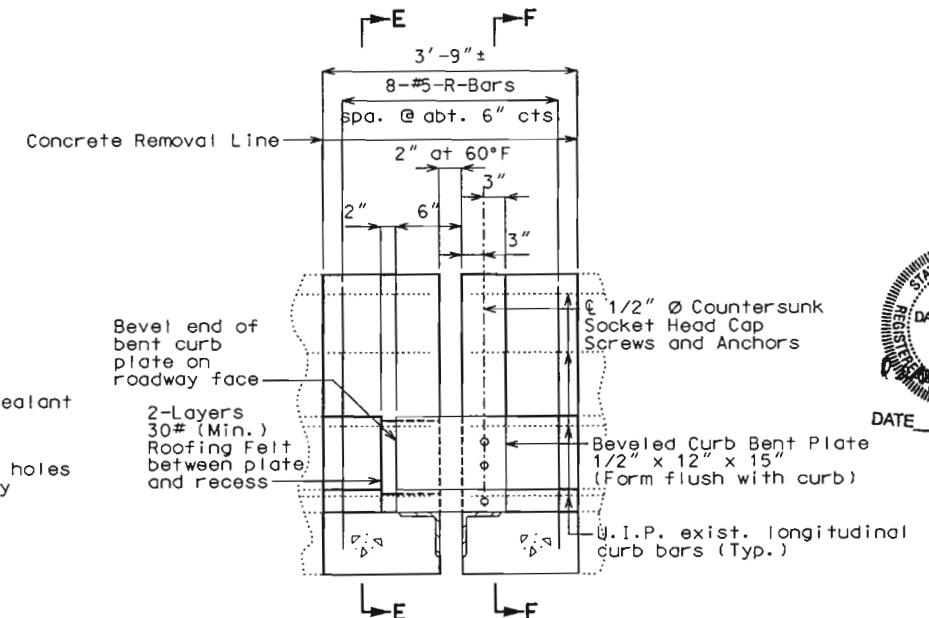


DETAIL "B"

PART ELEVATION AT END OF BEVELED CURB BENT PLATE

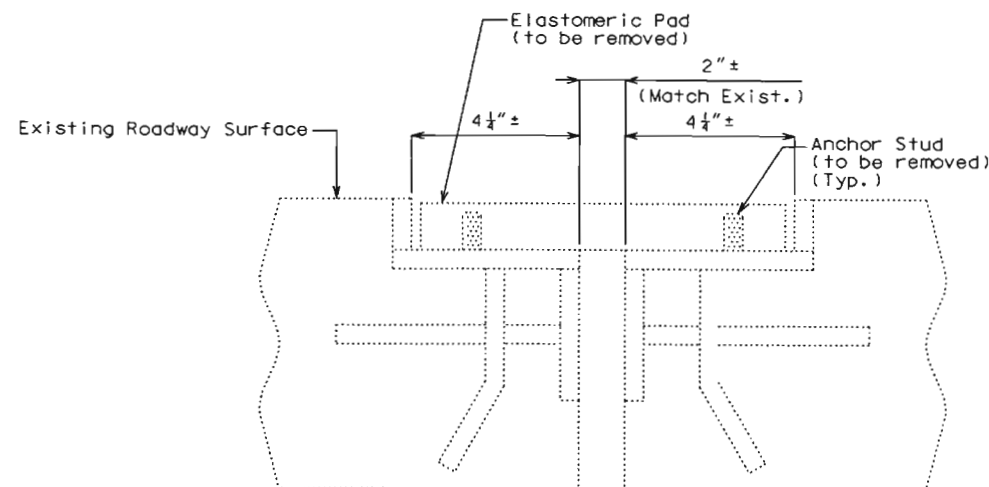
SECTION C-C

DETAILS OF SILICONE EXPANSION JOINT SEALANT SYSTEM AT INT. BENTS NO. 2 AND NO. 3

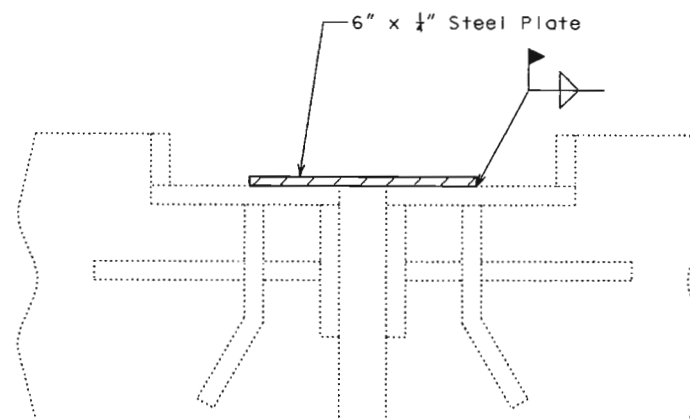


PART ELEVATION OF MEDIAN BARRIER CURB

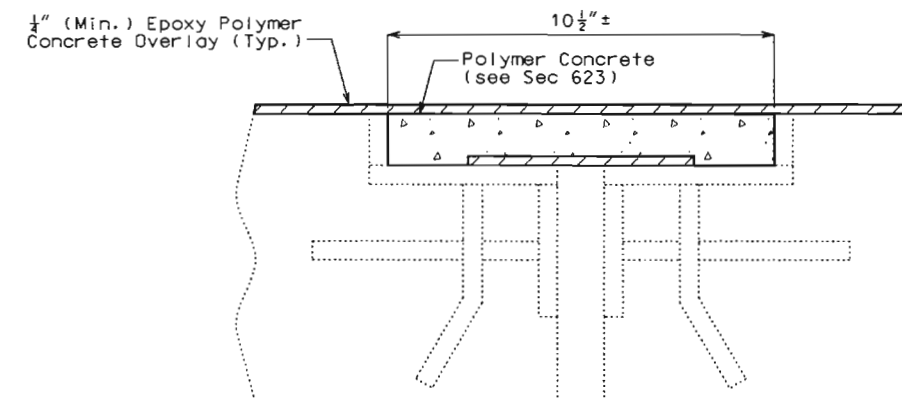
State	Proj. No.	Sheet No.
MO		891



SECTION THRU EXISTING LONGITUDINAL JOINT



SECTION THRU LONGITUDINAL JOINT PRIOR TO PLACEMENT OF POLYMER CONCRETE



SECTION THRU LONGITUDINAL JOINT SHOWING FINISHED MODIFICATION

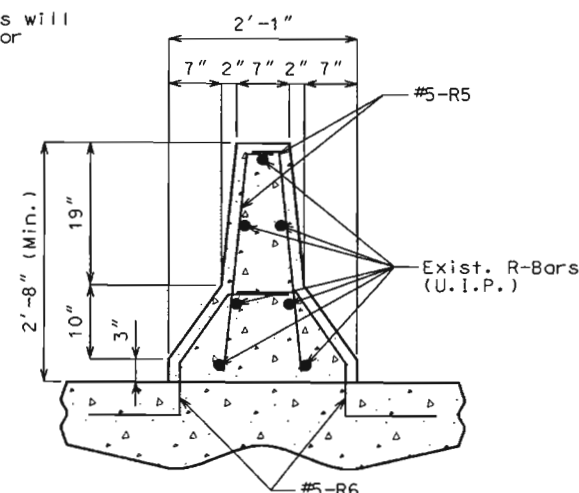
Notes:

Polymer concrete shall be in accordance with Sec 623.

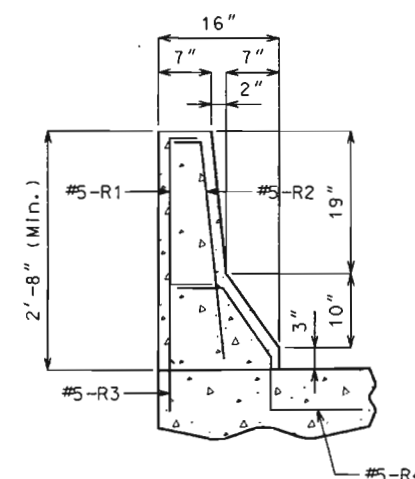
The cost of the steel plate, complete in place, will be considered completely covered by the contract unit price for Steel Plate.

The cost for removing the elastomeric pad and the anchor studs will be considered completely covered by the contract unit price for Removal of Longitudinal Modular Expansion Device.

DETAILS OF LONGITUDINAL JOINT MODIFICATION



SECTION A-A



SECTION B-B

Notes:

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

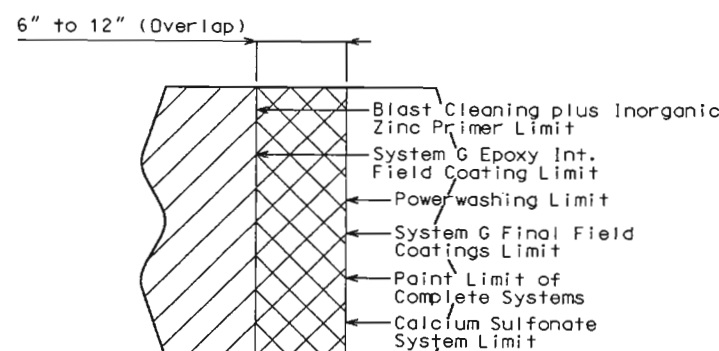
Payment for all concrete and reinforcement, complete-in-place will be considered completely covered by the contract unit price for Safety Barrier Curb or Median Barrier Curb per linear foot.

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

The curb shall be cured by application of Type 1-D or Type 2 Liquid Membrane-Forming Compound in accordance with Sec 1055. Surface sealing for concrete will not be permitted.

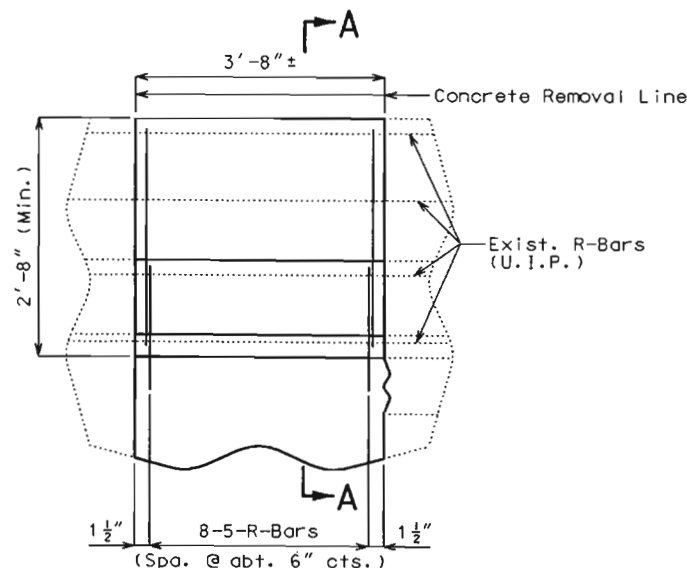
The cross-sectional area for safety barrier curb above the slab = 2.28 sq. ft.

The cross-sectional area for median barrier curb above the slab = 2.96 sq. ft.

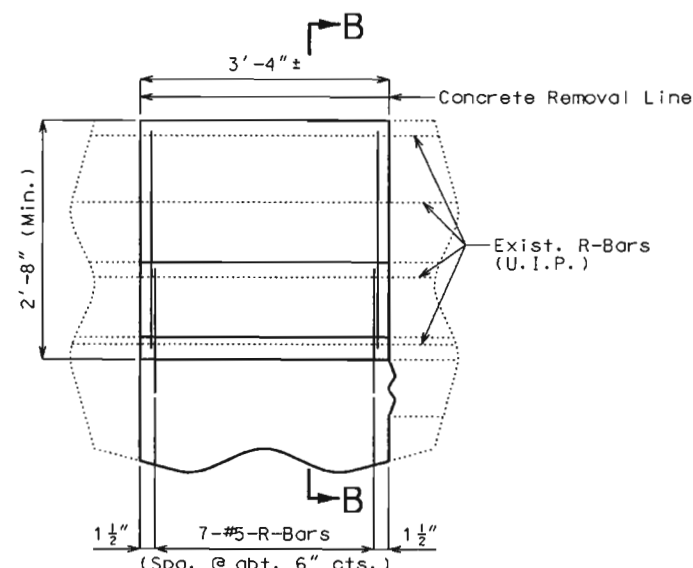


PART ELEVATION SHOWING LIMITS OF PAINT OVERLAP

(Vertical or horizontal paint limit. Horizontal limit shown)



PART ELEVATION NEAR MEDIAN BARRIER CURB REPLACEMENT (AT END BENTS 1 & 4)



PART ELEVATION NEAR SAFETY BARRIER CURB REPLACEMENT (AT END BENTS 1 & 4)



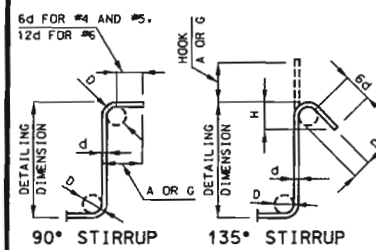
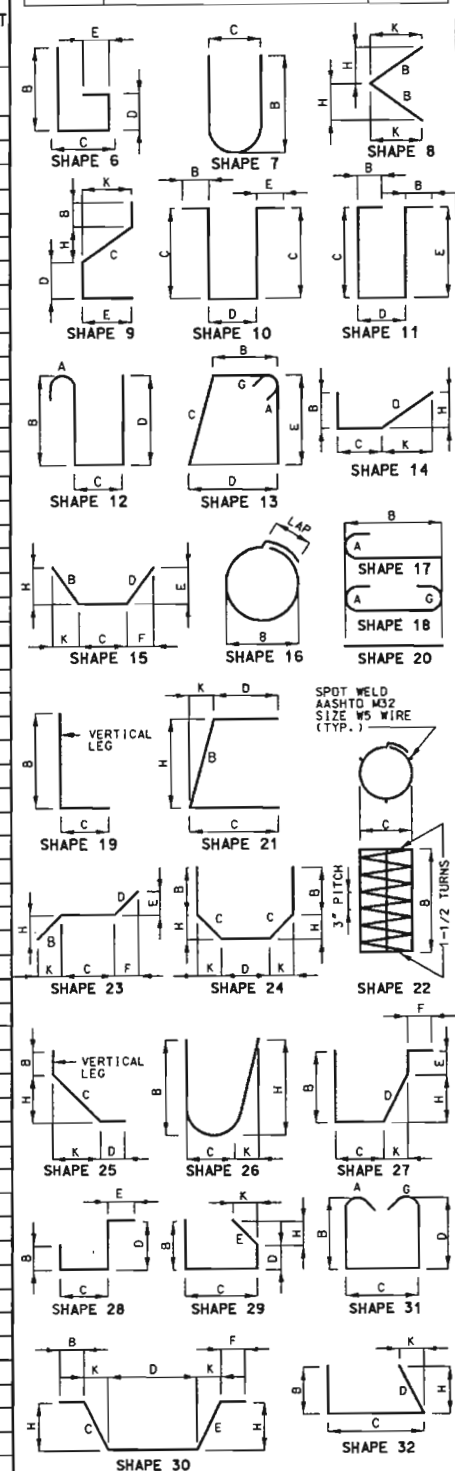
BILL OF REINFORCING STEEL

[illegible]

BILL OF REINFORCING STEEL

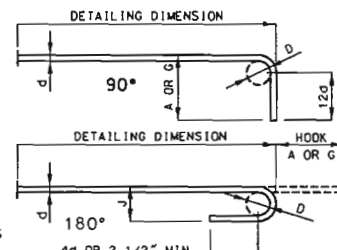
[illegible]

State	Proj. No.	Sheet No.
MO		B92



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

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

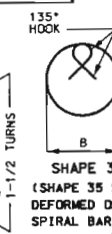
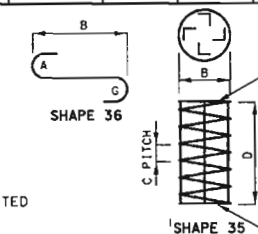


END HOOK DIMENSIONS					
BAR SIZE	D. (IN.)	ALL GRADES			
		180° HOOKS		90° HOOKS	
		A OR G	J	A OR G	J
#3	2 1/4"	5"	3"	6"	
#4	3"	6"	4"	8"	
#5	3 3/4"	7"	5"	10"	
#6	4 1/2"	8"	6"	12"	
#7	5 1/4"	10"	7"	14"	
#8	6"	11"	8"	16"	
#9	9 1/2"	15"	11 3/4"	19"	
#10	10 3/4"	17"	13 1/4"	22"	
#11	12"	19"	14 3/4"	22'-0"	
#14	18 1/4"	23'-3"	21 3/4"	22'-7"	

TWO ADDITIONAL #6-H3 ARE INCLUDED IN THE BAR BILL FOR TESTING.

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME
PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.

1. NO. OF TURNUP.
 2. BARS IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
 3. BARS DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE
 AND THE FOLLOWING LINE.
 4. NO. OF BARS OF EACH LENGTH.
 5. NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED
 FOR FABRICATORS USE. (NEAREST INCH)
 6. LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
 7. PAYWEIGTHS ARE BASED ON ACTUAL LENGTHS.
 8. FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED
 AT THE 9 O'CLOCK POSITION OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS
 REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.



(SHAPE 35 SHALL BE A DEFORMED OR PLAIN SPIRAL BAR OR WIRE.)

BENDING DIAGRAMS.

DATE 8-11-05

Detailed July 2005
Checked July 2005

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

Sheet No. 9 of 9

ST. LOUIS COUNTY	A28072
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MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
U.I.P. EXISTING (33', 70.5' (COMP.), 28') SIMPLE WIDE FLANGE BEAM SPANS

ROUTE	STATE	DISTRICT	SHEET NO.
170	MO	BR	8180
JOB NO. J6I1081B			
CONTRACT ID			
PROJECT NO.			
COUNTY ST. LOUIS			
SEC 32 TWP 46N RGE 6E			

DATE 2-8-06



ESTIMATED QUANTITIES		
Item		Total
Curb Removal	linear foot	131
Median Barrier Curb (Type C)	linear foot	131

GENERAL NOTES:

Design Specifications:

2002 - AASHTO 17th Edition
Bridge Deck Rating = 7

Design Unit Stresses:

Class B-1 Concrete (Median Barrier Curb (Type C)) $f'c = 4,000$ psi
Reinforcing Steel (Grade 60) $f_y = 60,000$ psi

Reinforcing Steel:

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

Joint Filler:

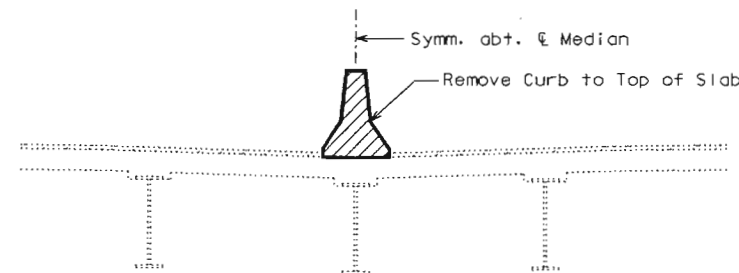
All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Traffic:

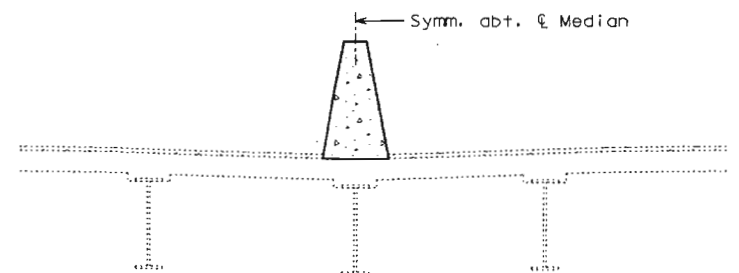
Traffic over structure to be maintained during construction in accordance with traffic control plans.

Miscellaneous:

Outline of old work is indicated by dashed lines. Heavy lines indicate new work.
Contractor shall verify all dimensions in field before ordering new material.
"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.

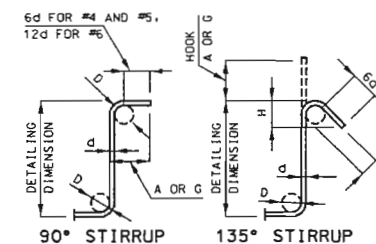


SECTION THRU EXISTING SLAB
(Normal to Roadway)



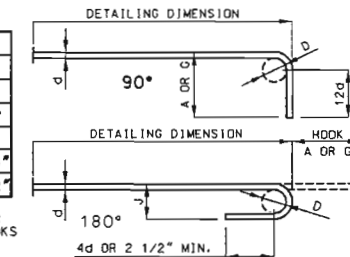
SECTION THRU EXISTING SLAB
(Normal to Roadway)

BILL OF REINFORCING STEEL																			
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K				
									FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.
276	5 M1	MED. CURB	E	15	S				5.500	3 3.750				5.375	1.000	3 9	3 8	1056	
10	5 M2	MED. CURB	E	20					22 8.000							22 8	22 8	236	
42	5 M3	MED. CURB	E	20					9 9.000							9 9	9 9	427	
10	5 M4	MED. CURB	E	20					50 1.000							50 1	50 1	522	
10	5 M5	MED. CURB	E	20					17 8.000							17 8	17 8	184	
40	5 C1	SLIP FORM	E	20					10 0.000							10 0	10 0	417	
		TOTALS																	
5			E															2842	
		TOTAL																0	
		TOTAL	E															2842	
		Safety Barrier Curb																	
5			E															2425	
		TOTAL																2425	
		Slip Form Option																	
5			E															417	
		TOTAL																417	

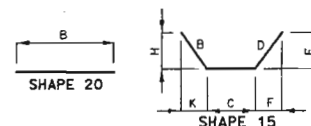


STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

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



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



TWO ADDITIONAL #5-M3 ARE INCLUDED IN THE BAR BILL FOR TESTING.

NOTE:

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

REPAIRS TO BRIDGE OVER WOODSON ROAD

STATE ROAD FROM ROUTE 40 TO ROUTE D

ABOUT 0.4 MILES SOUTH OF ROUTE D

PROJECT NO.

STA. 381+78.25

JOB NO. J6I1081B

RTE. I-170

ST. LOUIS COUNTY

Date: 2/9/06

A28073

DETAILED DEC. 2005
CHECKED DEC. 2005

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

SHEET NO. 1 OF 2

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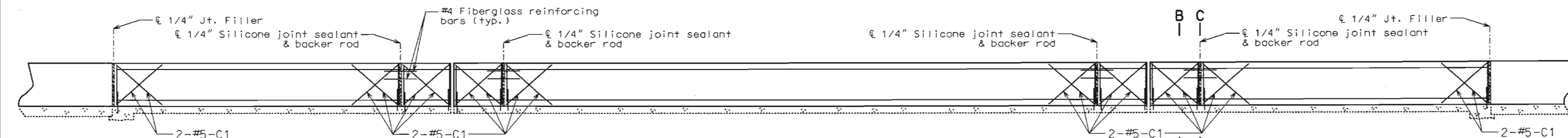
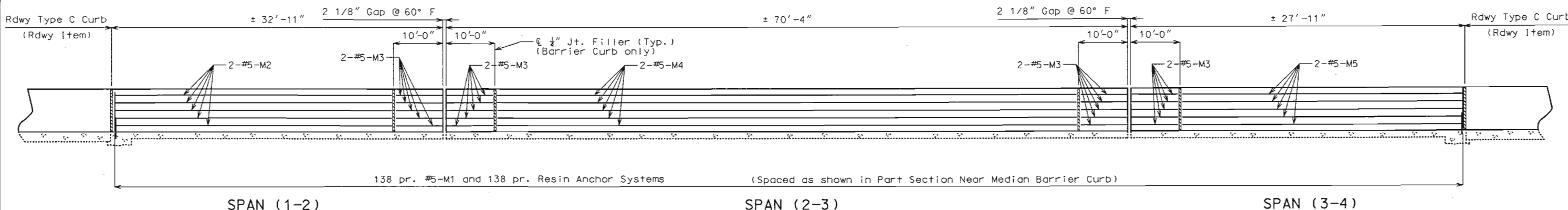
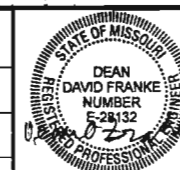
Note: The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor system complete-in-place will be completely covered by the contract unit price for Median Barrier Curb (Type C).

The minimum embedment depth in concrete with $f'c = 4,000$ psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but not be less than 5". A epoxy coated #5 Grade 60 reinforcing bar 35" long shall be substituted for the $\frac{3}{8}$ " diameter threaded rod.

Concrete traffic barrier delineators shall be placed on top of the median barrier curb (Type C) as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for "Median Barrier Curb (Type C)".

ROUTE 170	STATE MO	DISTRICT BR	SHEET NO. B181
JOB NO. J611081B			
CONTRACT ID			
PROJECT NO.			
COUNTY ST. LOUIS			
DATE 2-8-06			DATE



Note: Longitudinal dimensions are horizontal.

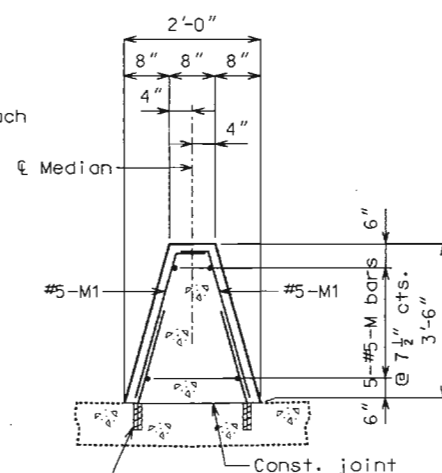
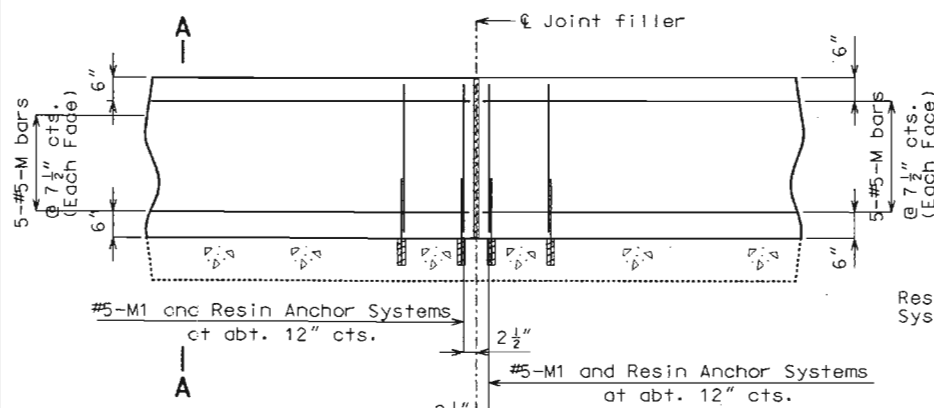
Top of median barrier curb (Type C) shall be built parallel to grade with median barrier curb joints (except at end bents) normal to grade.

All exposed edges of median barrier curb (Type C) shall have either a $\frac{1}{2}$ " radius or a $\frac{1}{8}$ " bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete-in-place will be considered completely covered by the contract unit price for median barrier curb (Type C).

Concrete in the median barrier curb (Type C) shall be Class B-1.

Measurement of median barrier curb (Type C) is to the nearest linear foot for each structure, measured along the top of slab from end of slab to end of slab.



PART SECTION A-A

Note: Use a minimum lap of 2'-11" for #5 horizontal median barrier curb (Type C) bars.

The cross-sectional area above the slab = 4.70 sq. ft.

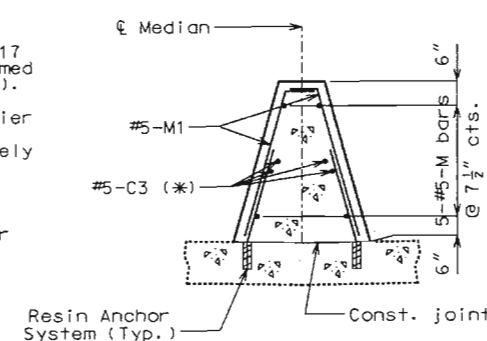
FILLED JOINT DETAIL

Sheet No. 2 of 2

Joint sealant and backer rods shall be used on all slip-form barrier curbs (Type C) instead of joint filler shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints (except at end of slab of the end bents).

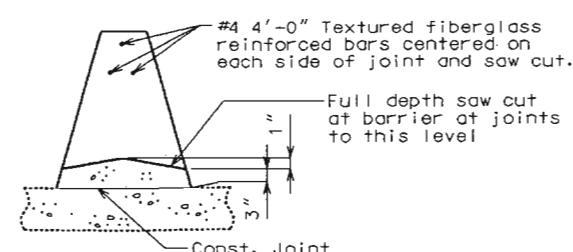
For Slip-Form Option, all sides of median barrier curb (Type C) shall have a vertically broomed finish and the curb top shall have a transversely broomed finish.

C Bars (Slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge median barrier curb (Type C).

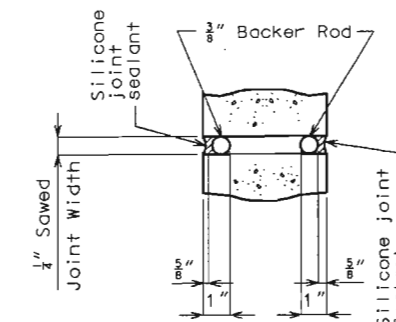


PART SECTION B-B

Note: * Each side of joint location.

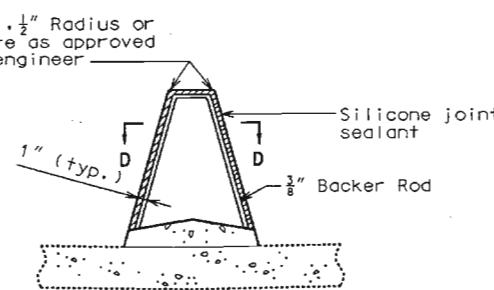


PART SECTION C-C



SECTION D-D

Note: Cost of silicone joint sealant and backer rod complete-in-place will be completely covered by the contract unit price for Median Barrier Curb (Type C).



SECTION THRU JOINT

Detailed Dec. 2005
Checked Dec. 2005

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

ST. LOUIS

COUNTY

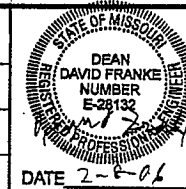
A28073

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MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
U.I.P. EXISTING (33', 70.5' (COMP.), 28') SIMPLE WIDE FLANGE BEAM SPANS

FINAL PLANS

ROUTE	STATE	DISTRICT	SHEET NO.
170	MO	BR	136
JOB NO. J6I1081B			
CONTRACT ID			
PROJECT NO.			
COUNTY ST. LOUIS			
SEC 32 TWP 46N RGE 6E			



ESTIMATED QUANTITIES		
Item		Total
Curb Removal	linear foot	131
Median Barrier Curb (Type C)	linear foot	131

GENERAL NOTES:

Design Specifications:

2002 - AASHTO 17th Edition
Bridge Deck Rating = 7

Design Unit Stresses:

Class B-1 Concrete (Median Barrier Curb (Type C)) $f'_c = 4,000$ psi
Reinforcing Steel (Grade 60) $f_y = 60,000$ psi

Reinforcing Steel:

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

Joint Filler:

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

Traffic:

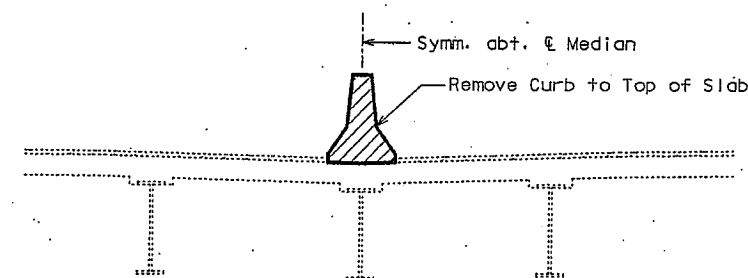
Traffic over structure to be maintained during construction in accordance with traffic control plans.

Miscellaneous:

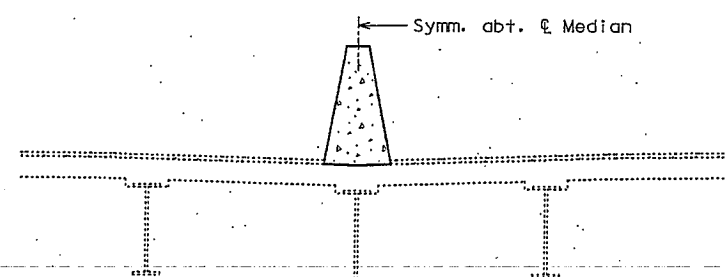
Outline of old work is indicated by dashed lines. Heavy lines indicate new work.

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

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.



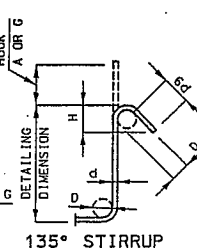
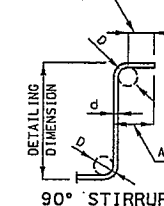
SECTION THRU EXISTING SLAB
(Normal to Roadway)



SECTION THRU EXISTING SLAB
(Normal to Roadway)

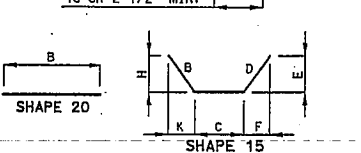
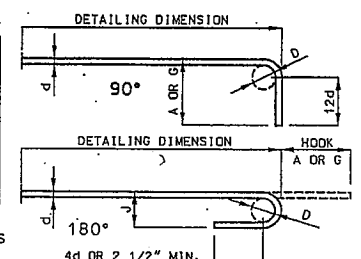
BILL OF REINFORCING STEEL																					
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT		
									B	C	D	E	F	H	K						
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.
276	5 M1	MED. CURB	E	15	S				5.500	3	3.750				5.375	1.000	3	9	3	8	1056
10	5 M2	MED. CURB	E	20					22	8.000							22	8	22	8	236
42	5 M3	MED. CURB	E	20					9	9.000							9	9	9	9	427
10	5 M4	MED. CURB	E	20					50	1.000							50	1	50	1	522
10	5 M5	MED. CURB	E	20					17	8.000							17	8	17	8	184
40	5 C1	SLIP FORM	E	20					10	0.000							10	0	10	0	417
									</												

6d FOR #4 AND #5,
12d FOR #6

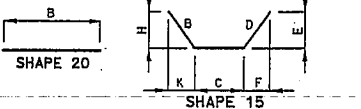


STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

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



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



TWO ADDITIONAL #5-M3 ARE INCLUDED IN THE BAR BILL FOR TESTING.

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

REPAIRS TO BRIDGE OVER WOODSON ROAD

STATE ROAD FROM ROUTE 40 TO ROUTE D

ABOUT 0.4 MILES SOUTH OF ROUTE D

PROJECT NO.

STA. 381+78.25

JOB NO. J6I1081B

RTE. I-170

ST. LOUIS COUNTY

Date: 2/9/06

A28073

DETAILED DEC. 2005
CHECKED DEC. 2005

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

SHEET NO. 1 OF 2

t:\br-proj\frankd\6i1081b\A28073\A28073_001.dgn 07:50:23 AM 02/08/2006

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

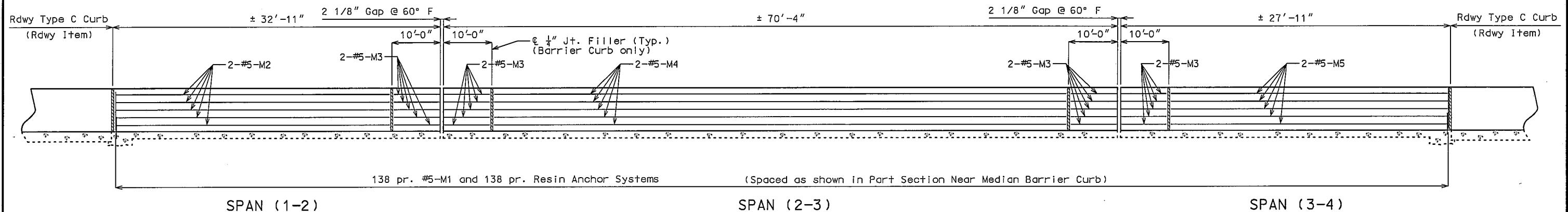
Cost of furnishing and installing the resin anchor system complete-in-place will be completely covered by the contract unit price for Median Barrier Curb (Type C).

The minimum embedment depth in concrete with $f'c = 4,000$ psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039, but not be less than 5". A epoxy coated #5 Grade 60 reinforcing bar 35" long shall be substituted for the $\frac{3}{8}$ " diameter threaded rod.

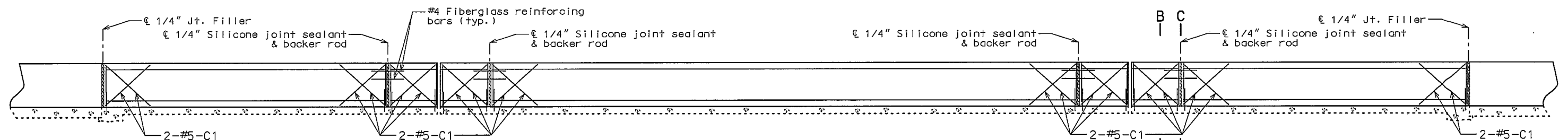
Concrete traffic barrier delineators shall be placed on top of the median barrier curb (Type C) as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for "Median Barrier Curb (Type C)".

FINAL PLANS

ROUTE	STATE	DISTRICT	SHEET NO.
170	MO	BR	B137
JOB NO. J611081B			
CONTRACT ID 060519-601			
PROJECT NO. I-170-5(261)			
COUNTY ST. LOUIS			DATE



PART SECTION NEAR MEDIAN BARRIER CURB (TYPE C)
(CAST-IN-PLACE CONVENTIONAL FORMING OPTION)



PART SECTION NEAR MEDIAN BARRIER CURB (TYPE C)
(OPTIONAL SLIP-FORM)

Note: Longitudinal dimensions are horizontal.

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

All exposed edges of median barrier curb (Type C) shall have either a 1/2" radius or a 3/8" bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete-in-place will be considered completely covered by the contract unit price for median barrier curb (Type C).

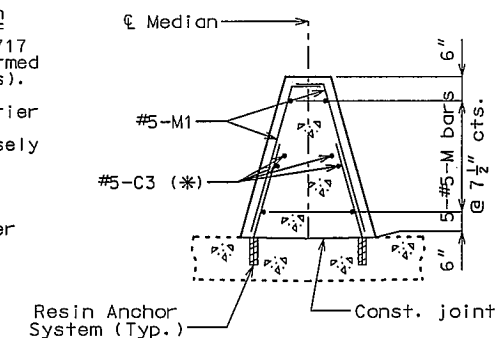
Concrete in the median barrier curb (Type C) shall be Class B-1.

Measurement of median barrier curb (Type C) is to the nearest linear foot for each structure, measured along the top of slab from end of slab to end of slab.

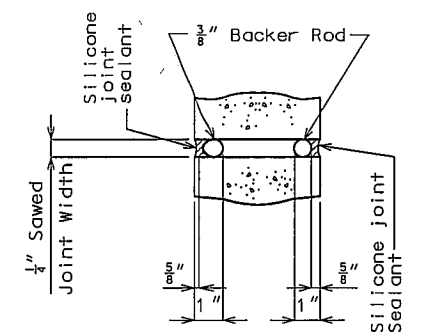
Joint sealant and backer rods shall be used on all slip-form barrier curbs (Type C) instead of joint filler shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints (except at end of slab of the end bents).

For Slip-Form Option, all sides of median barrier curb (Type C) shall have a vertically broomed finish and the curb top shall have a transversely broomed finish.

C Bars (Slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge median barrier curb (Type C).

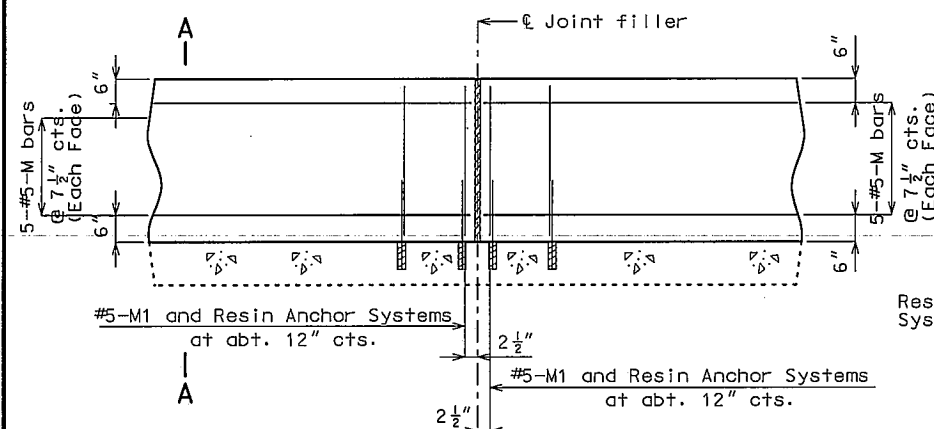


PART SECTION B-B
Note: * Each side of joint location.



SECTION D-D

Note: Cost of silicone joint sealant and backer rod complete-in-place will be completely covered by the contract unit price for Median Barrier Curb (Type C).



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

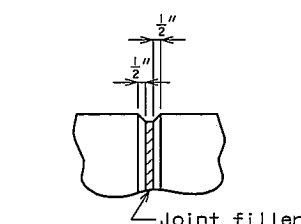
Detailed Dec. 2005
Checked Dec. 2005

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

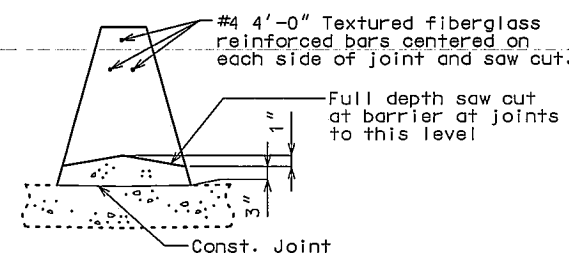
PART SECTION A-A

Note: Use a minimum lap of 2'-11" for #5 horizontal median barrier curb (Type C) bars.

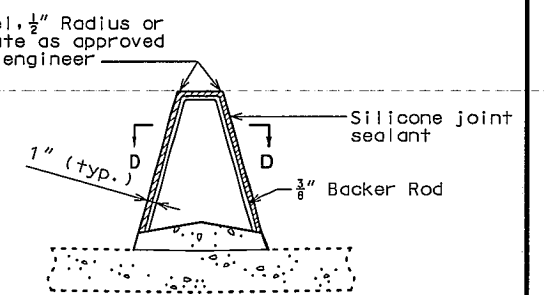
The cross-sectional area above the slab = 4.70 sq. ft.



FILLED JOINT DETAIL



PART SECTION C-C



SECTION THRU JOINT

Sheet No. 2 of 2

ST. LOUIS

COUNTY

A28073

\$FILES \$TIMES \$DATES