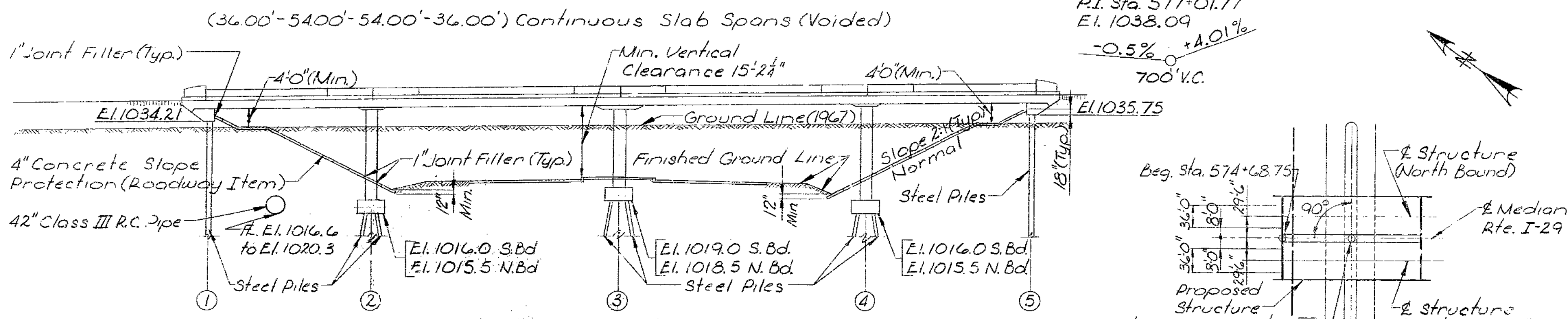


MISSOURI STATE HIGHWAY DEPARTMENT

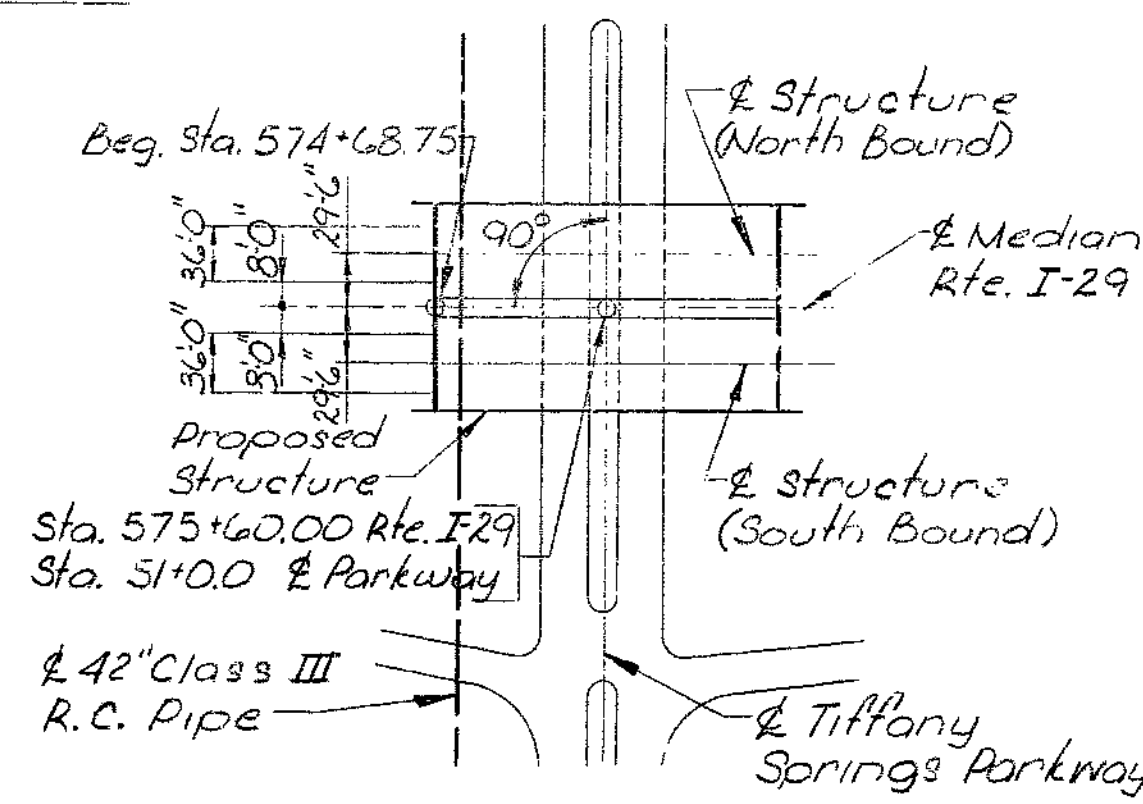
P.I. Sta. 577+01.77  
E.I. 1038.09

-0.5% +4.01%  
700' V.C.

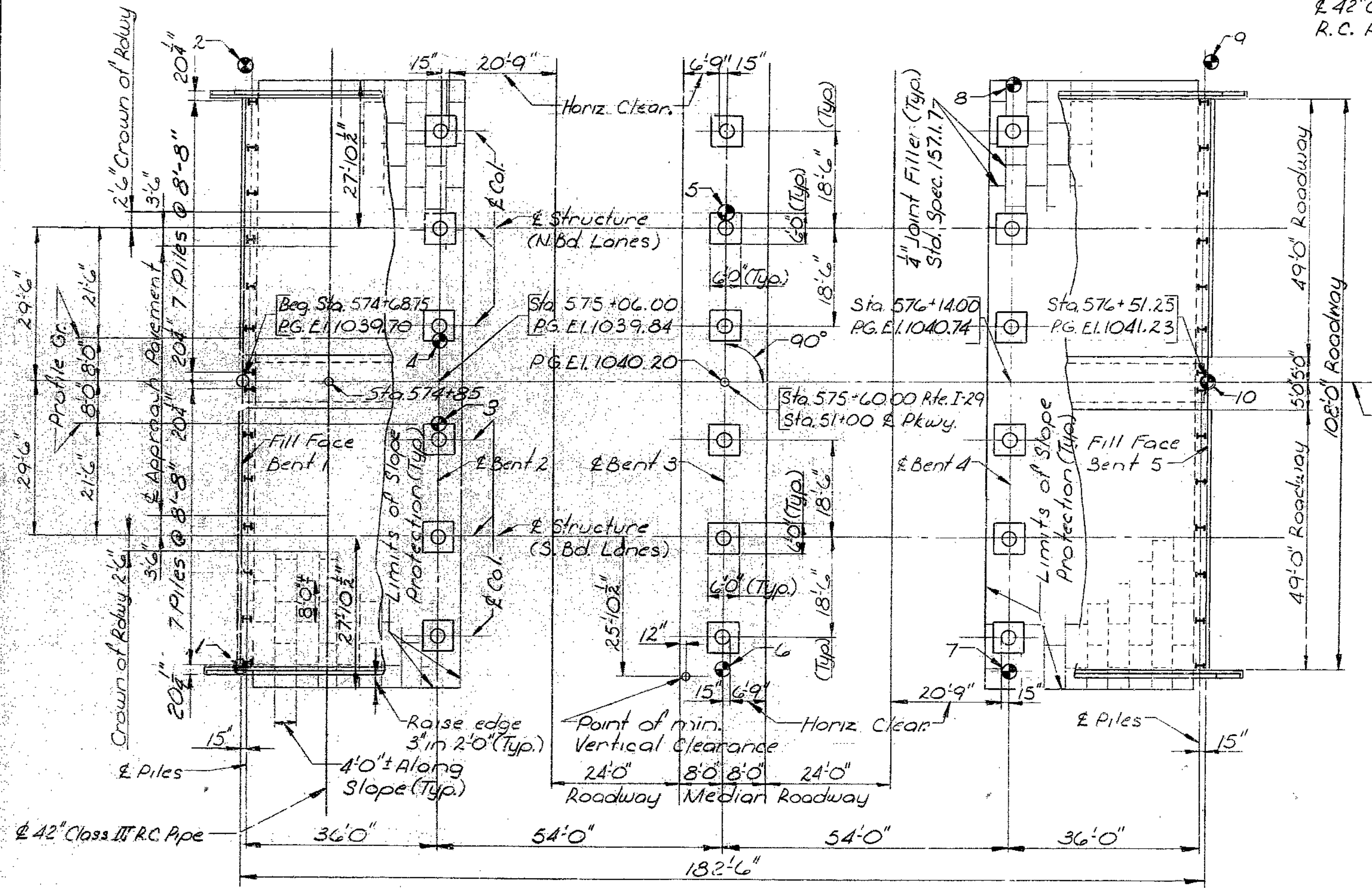
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	107	



GENERAL ELEVATION



LOCATION SKETCH



PLAN

GENERAL NOTES

DESIGN SPECIFICATIONS: A. A. S. H. C. - 1965

DESIGN LOADING:

HS 20-44; 15#/sq. Ft. Future Wearing Surface;  
Modified 24,000# Tandem Axle;  
Earth 120#; Equivalent Fluid Pressure 30#.

DESIGN UNIT STRESSES:

Class B Concrete (Substructure)  $f_c = 1,200$  p.s.i.  
Class B1 Concrete (Superstructure)  $f_c = 1,600$  p.s.i.  
Reinforcing Steel  $f_s = 20,000$  p.s.i.  
Steel Pile (A.S.T.M. A36-66)  $f_b = 9,000$  p.s.i.

SURFACE SEAL: Superstructure deck to be surface sealed.

ITEM	ESTIMATED QUANTITIES		
	SUBSTR.	SUPERSTR.	TOTAL
Class I Excavation for Structures	Cu. Yd. 100	-	100
10" Steel Piles in Place	Lin. Ft. 4304	-	4304
12" Steel Piles in Place	Lin. Ft. 1656	-	1656
Class B Concrete	Cu. Yd. 72.0	-	72.0
Class B1 Concrete	Cu. Yd. -	1316.9	1316.9
Reinforcing Steel	Lb. 1890	292520	294410
Bridge Rail (Single Tube)	Lin. Ft. -	370	370

QUANTITY NOTES:

All concrete and reinforcement above footings is included in superstructure quantities.  
No payment for excavation will be allowed at End Bents No 1 & 5.

BENT NO.	PILE DATA									
	LANE 1		LANE 2		LANE 3		LANE 4		LANE 5	
	N. Bd.	S. Bd.	N. Bd.	S. Bd.	N. Bd.	S. Bd.	N. Bd.	S. Bd.	N. Bd.	S. Bd.
Pile Type and Size	10BP42	10BP42	12BP53	10BP42	10BP42	10BP42	10BP42	10BP42	10BP42	10BP42
Number	14	24	24	12	12	14				
Approximate Length Ft.	65	50	69	51	56	65				
Design Bearing Tons	30	54	57	54	30					
Hammer Energy Req'd. Ft.Lbs.	8,200	12,700	15,400	12,700	8,200					

PILE NOTES:

Minimum energy requirement of hammer based on plan length and design bearing value of piles. Increase by the factor  $(W+w)/2W$  when the weight of the ram (W) is less than the weight of the pile (w).  
All pile shall be driven to practical refusal.

Compacted roadway fill (full roadway width) shall be placed up to elevation of bottom of concrete beam in front of and not less than 25'0" in back of End Bents before steel piles are driven.

BORING DATA:

For Boring Data see Sheet No. 3 of 9.  
⊗ Indicates location of boring.

BENCH MARK: (U.S.G.S. Datum)

B.M. #44 "X" cut on N.E. Cor. E. Hdwl. Culv. 86' Rt. of Survey Line  
Sta. 568+66 E.I. 1035.86

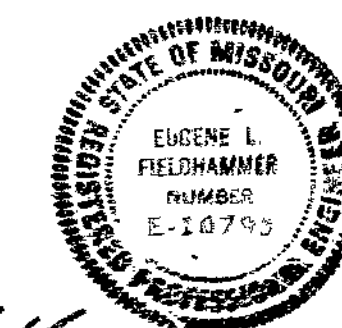
BRIDGE OVER TIFFANY SPRINGS PARKWAY

STATE ROAD INTERSTATE ROUTE 29

ABOUT 7 MILES NORTH OF PARKVILLE

PROJECT NO. I-29-1(12) (RTE. I-29) STA. 574+68.75

PLATTE COUNTY



SUBMITTED BY:

*E. L. Fieldhammer*  
REGISTERED PROFESSIONAL ENGINEER  
MISSOURI NO. E-10795

SUBMITTED BY: *W. R. Conroy* DATE: Feb. 13, 1968

APPROVED BY: *M. J. Sinden* DATE: Feb. 13, 1968

DESIGNED OCT. 1967 BY J. PARIKH  
DETAILED OCT. 1967 BY HOHLT  
CHECKED OCT. 1967 BY R. PARIKH

R. W. BOOKER & ASSOCIATES, INC.  
CONSULTING ENGINEERS  
1139 OLIVE STREET  
ST. LOUIS, MISSOURI 63101

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

Sheet No. 1 of 9.

STD. 86.00

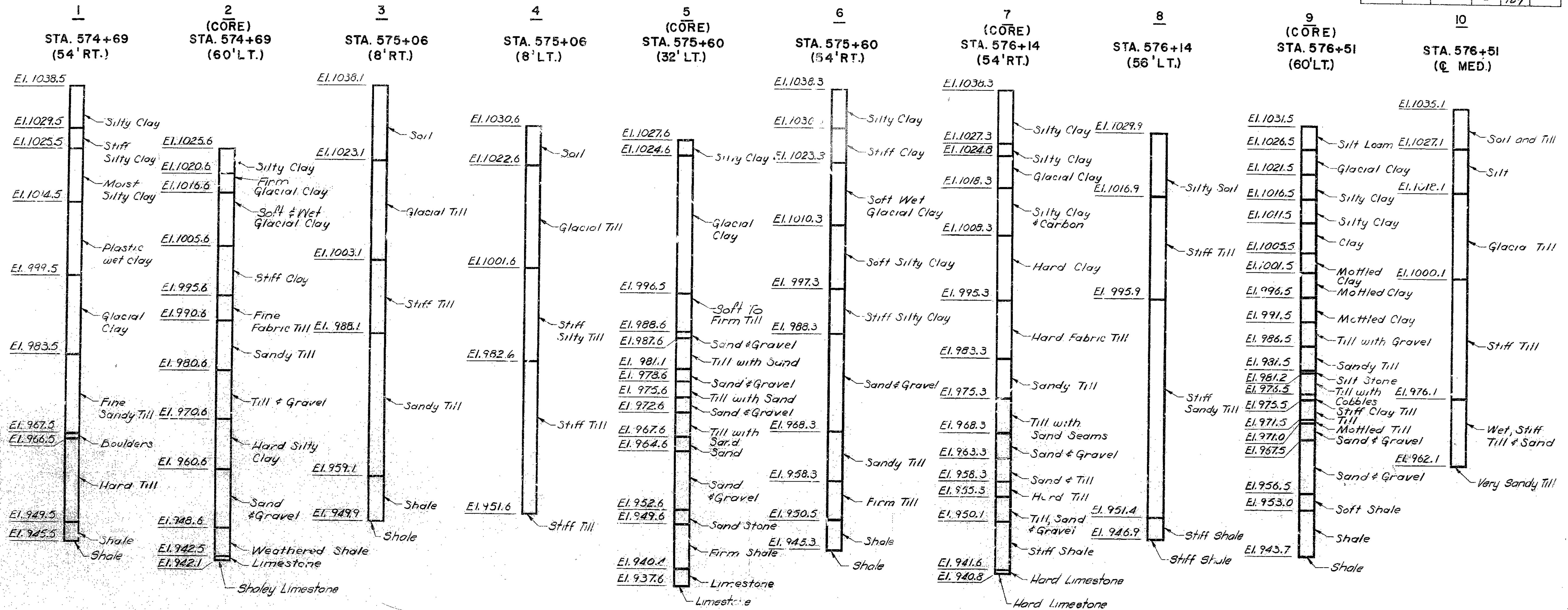
STD. 54.00

A-2283



MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	109	



**BORING DATA**

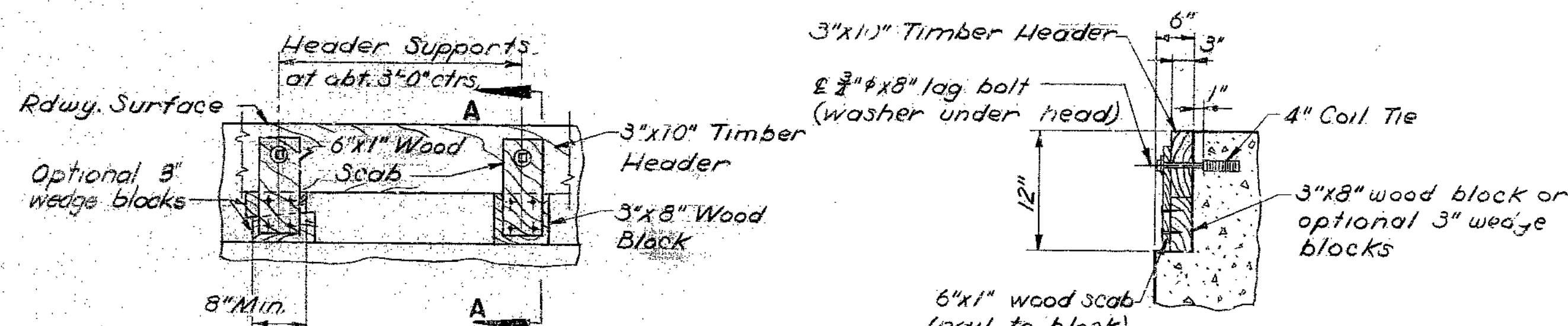
**NOTES:**

**BORINGS:**

For location of borings see sheet no. 1 of 9, Core drill equipment: 2 3/8" double tube core bbi.

**TIMBER HEADER:**

Cost of timber header complete in place to be included in price bid for concrete.



**PART ELEVATION**

**SECTION A-A**

**STEEL PILE SPLICE**

**BRIDGE OVER TIFFANY SPRINGS PARKWAY**

STATE ROAD INTERSTATE ROUTE 29

ABOUT 7 MILES NORTH OF PARKSVILLE

PROJECT NO. I-29-1(12) (RTE. I-29) STA. 574+68.75

PLATTE

COUNTY

DETAILED SEPT. 1967 BY GREENWELL  
 CHECKED OCT. 1967 BY R. PARIKH

R. W. BOOKER & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 1139 OLIVE STREET  
 ST. LOUIS, MISSOURI 63101

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

Sheet No. 3 of 9

A-2283



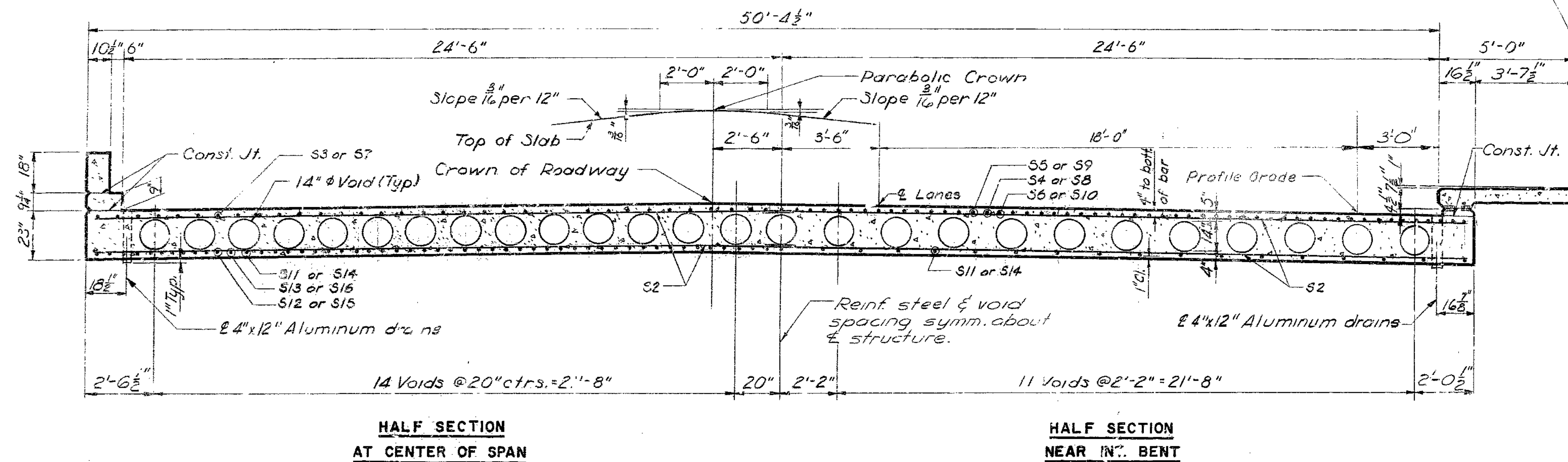






MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	114	

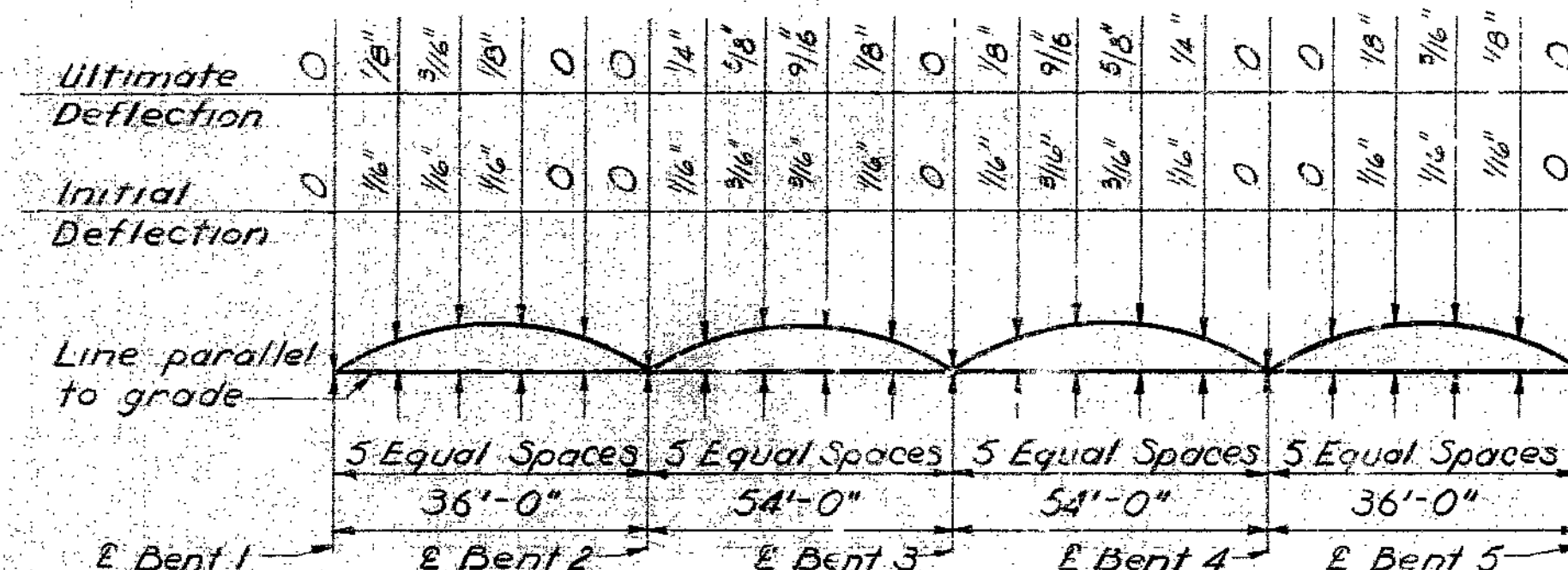


NOTES:

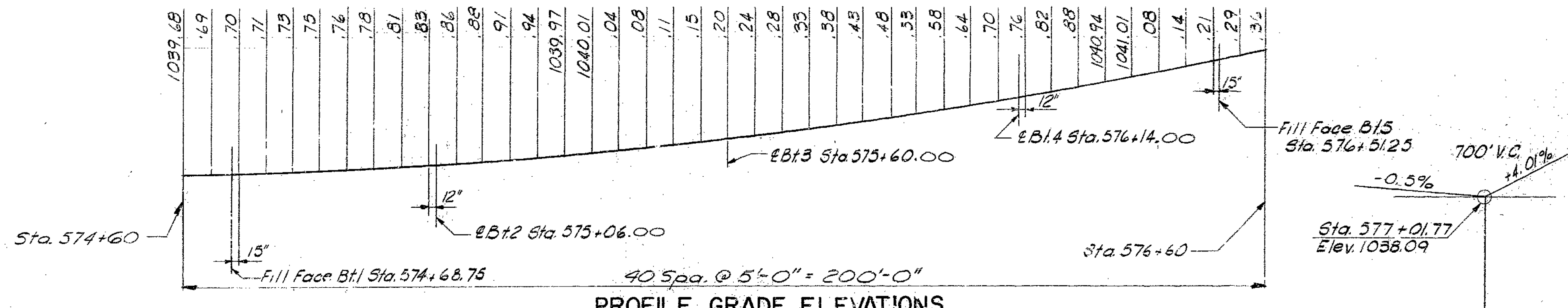
All other details not shown shall comply with Std. 86.00. Grout shall comply with Std. Specs. Sec. 166.15. Tightening of nuts on bolts connecting rail members and post shall be to the extent that longitudinal movement of the bolt is slotted holes is possible. After tightening in this manner the top of the bolt shall be deformed in such a way as to prevent loss of nut. Guard rail posts shall be set normal to grade. All guard rail, posts, blocks, plates, bolts, nuts and washers shall be galvanized in accordance with requirements of A.S.T.M. A-153-65. All galvanizing shall be done after fabrication.

For location of floor drains see sheet 7 of 9. For half section thru median see sheet 7 of 9. Type B guardrail and post assembly will be furnished and paid for as a Roadway Item. Cost of furnishing and placing anchor bolts with leveling nuts for guard rail shall be included in price bid for other items.

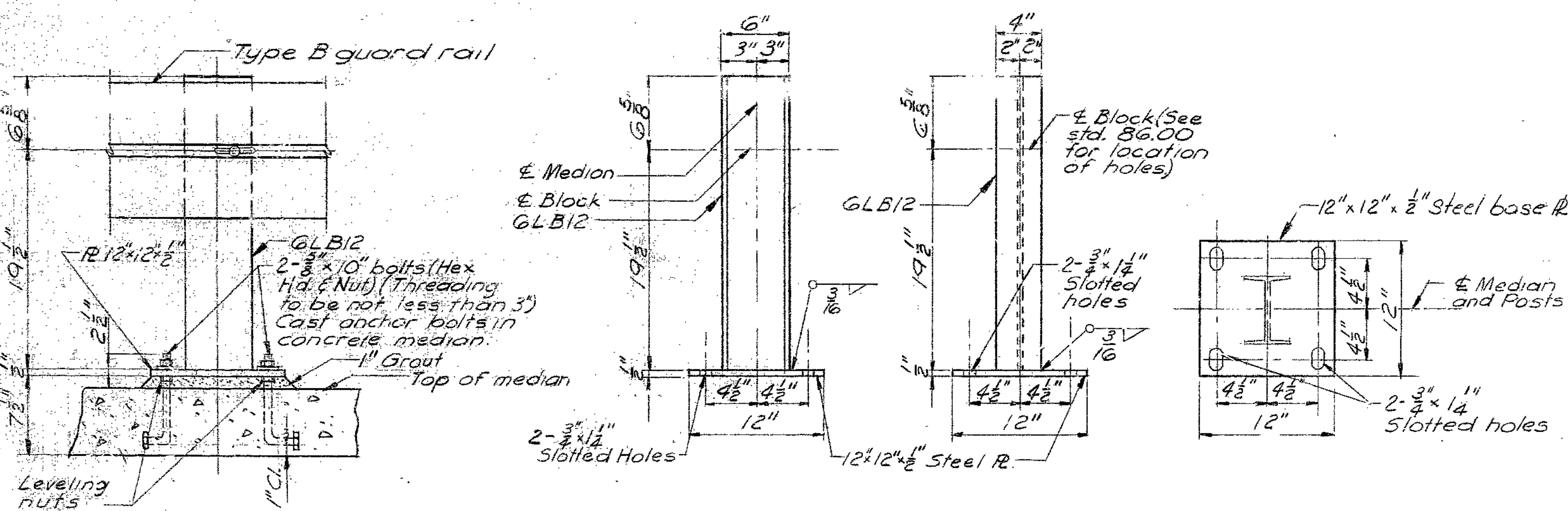
NORTHBOUND LANES



CAMBER DIAGRAM

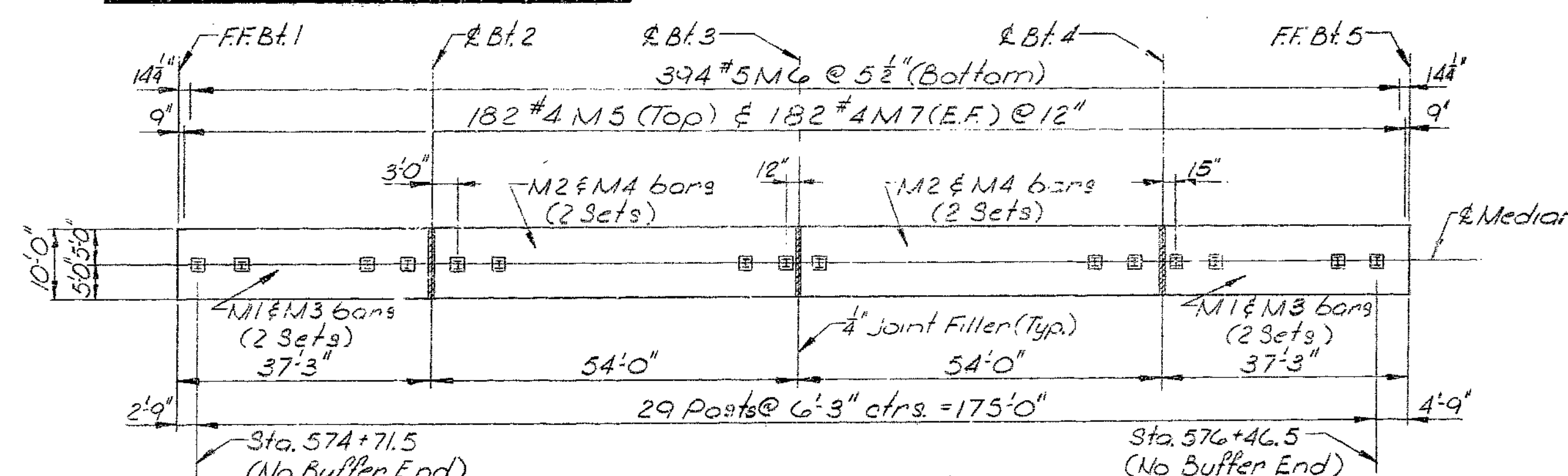


PROFILE GRADE ELEVATIONS



SECTION A-A

RAIL POST DETAILS



PLAN OF MEDIAN

BRIDGE OVER TIFFANY SPRINGS PARKWAY

STATE ROAD INTERSTATE ROUTE 29  
 ABOUT 7 MILES NORTH OF PARKVILLE  
 PROJECT NO. I-29-1(12) (RTE. I-29) STA. 574+68.75  
 PLATTE COUNTY

DETAILED SEP. 7, 1967 BY STAFFORD  
 CHECKED OCT. 19, 1967 BY R. PARIKH

R. W. BOOKER & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 1130 OLIVE STREET  
 ST. LOUIS, MISSOURI 63101

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

Sheet No. 8 of 9

A 2283



**GENERAL HANDRAIL NOTES:**

All handrail posts shall be set normal to grade.  
 Aluminum tube handrail shall be bent to conform to vertical and horizontal alignment of parapet.  
 Aluminum washer shims between top of parapet and post base may be used for adjusting handrail alignment. Maximum thickness of shims to be 1/8". Where more tilting of post is required for proper alignment, concrete securing areas shall be ground down.  
 All parts of handrail, except anchor bolts, nuts washers, and set screws are to be of aluminum material.  
 The contract unit price per linear foot of "Bridge Rail" shall include furnishing and erecting the handrail complete with anchor bolts, shims and insulating compound.  
 All fillets 1/4" except as noted.  
 All drafts 3° except as noted.  
 Pipe rail to be fabricated in a minimum of 2 panel lengths.  
 Omit set screw on side adjacent to filled joint in parapet and curb at all expansion posts.  
 Top of curbs and parapets to be built parallel to grade with curb and parapet joints (except at end posts) normal to grade.  
 Concrete end posts to be vertical.  
 All exposed edges of end posts shall have 1/2" bevel.  
 All exposed edges of curbs and parapets shall have 1/2" radius or 3/8" bevel unless otherwise noted.  
 If the contractor desires, he may use drive fit cast aluminum end caps in lieu of welded aluminum closure plates.  
 Integrally cast test coupons and a coat of clear lacquer specified in Std. Spec. 56.2.4 and 56.3.5 respectively will not be required for these rail posts.

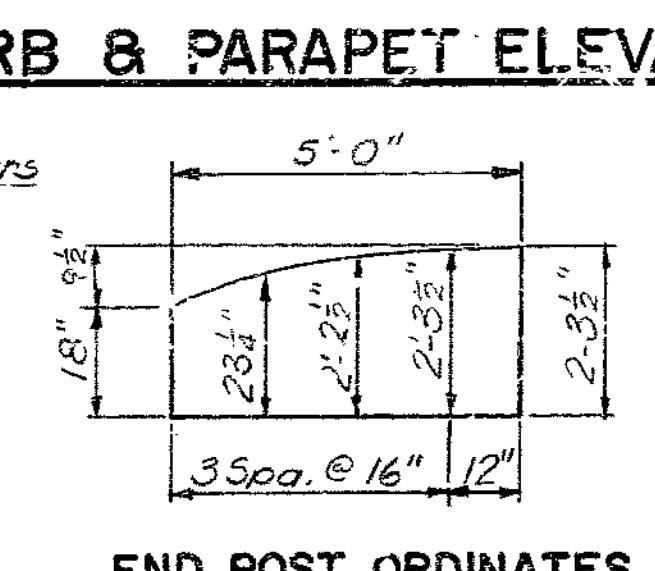
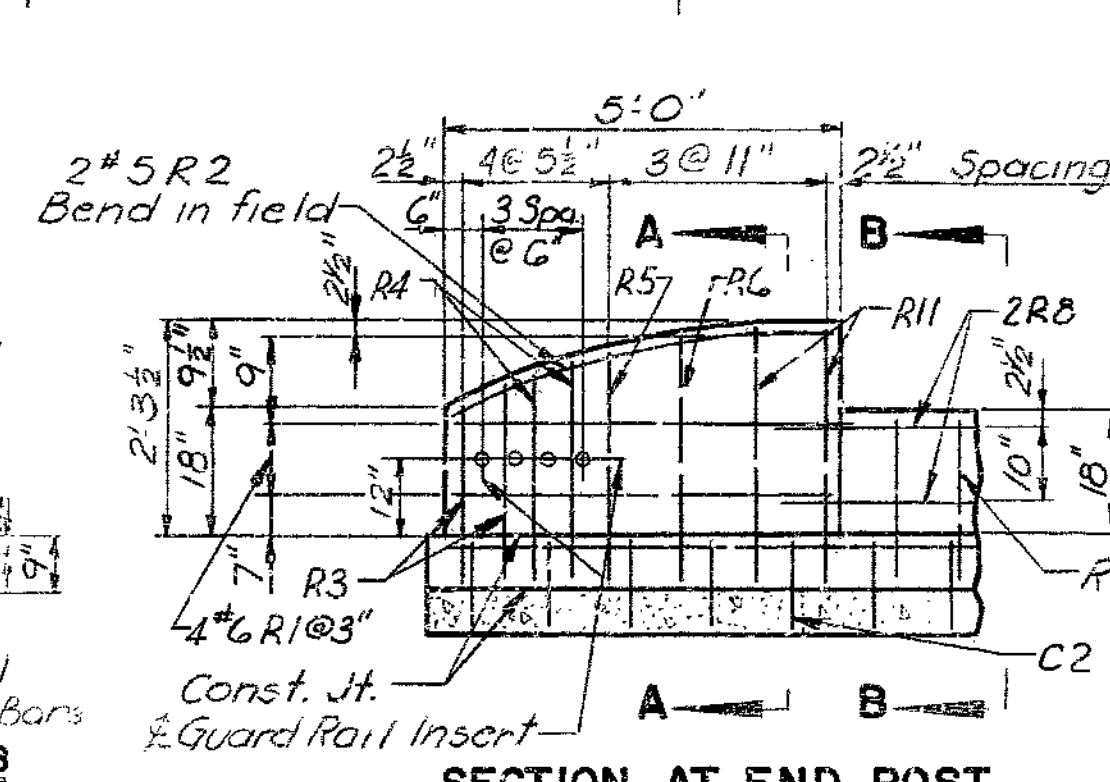
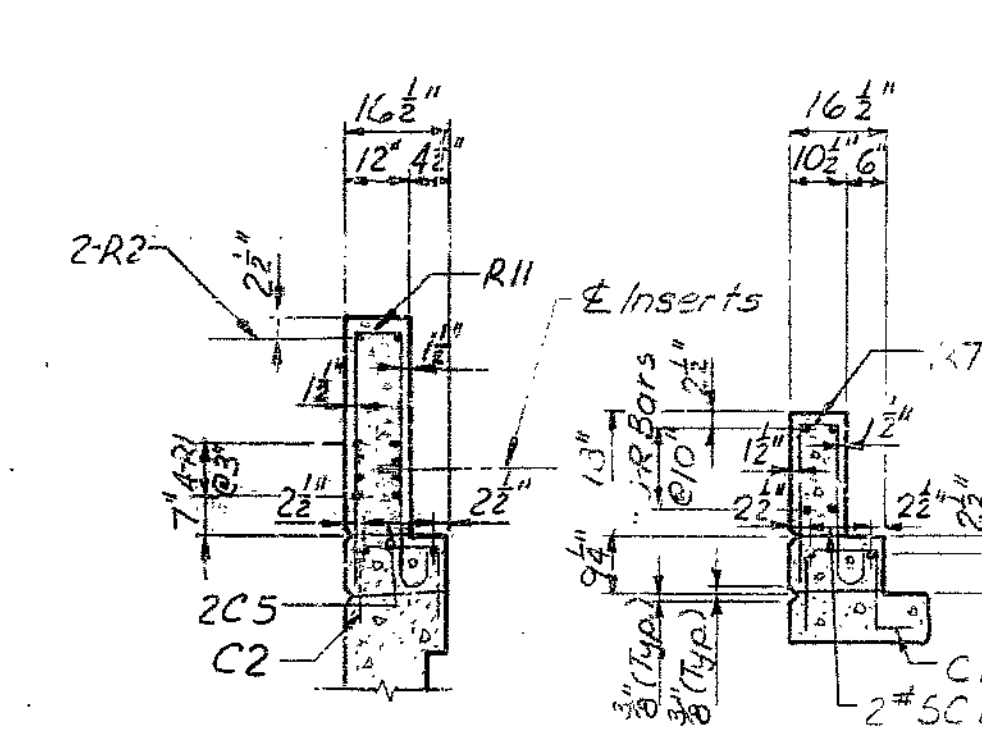
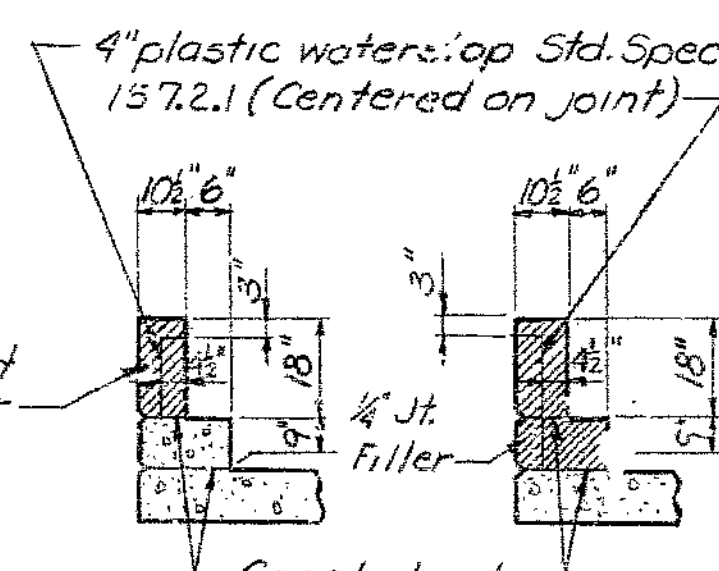
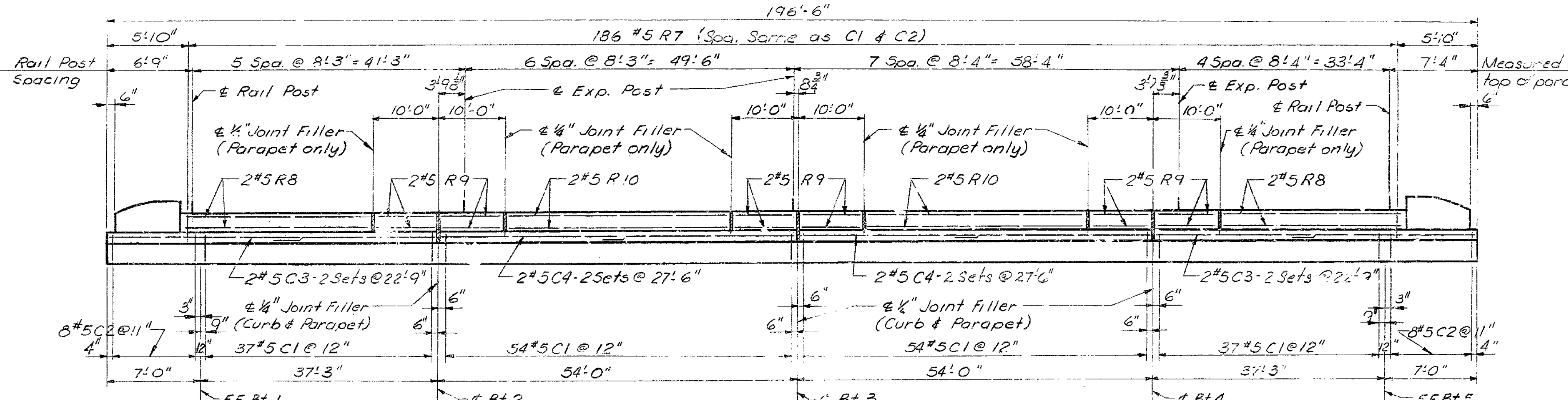
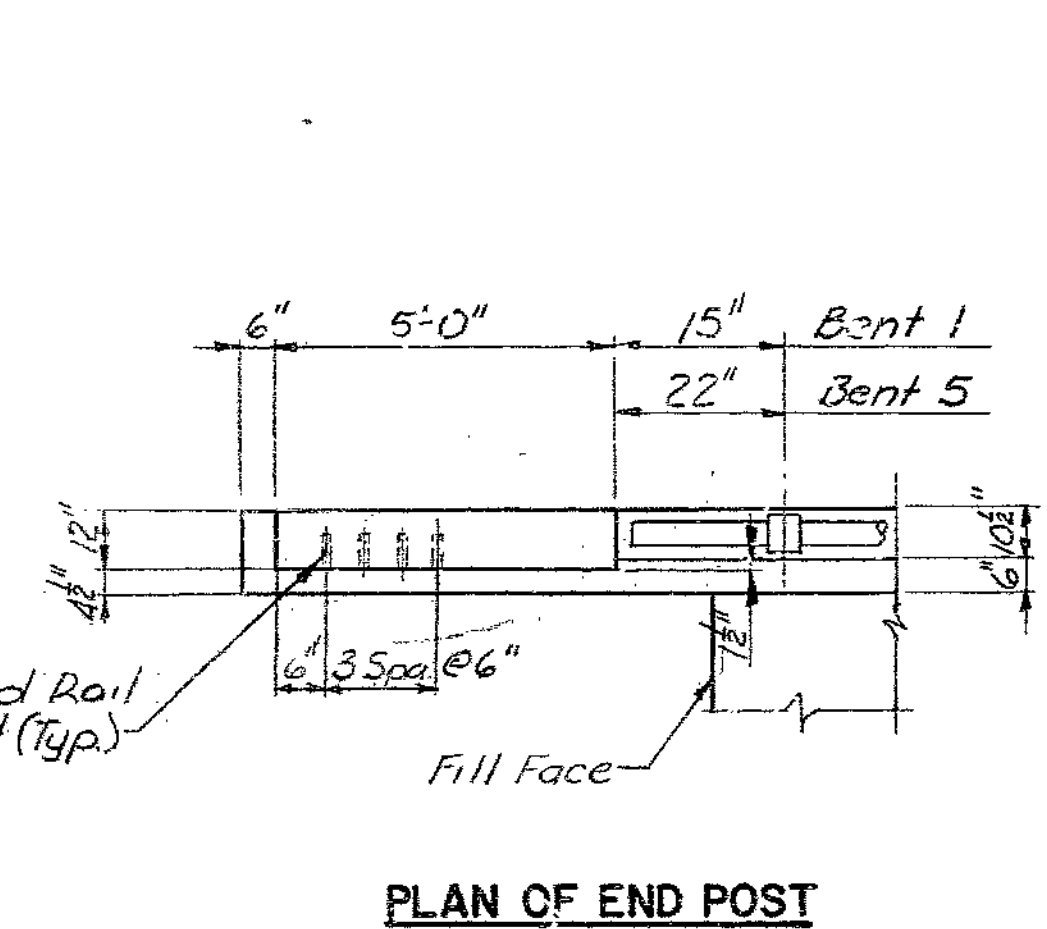
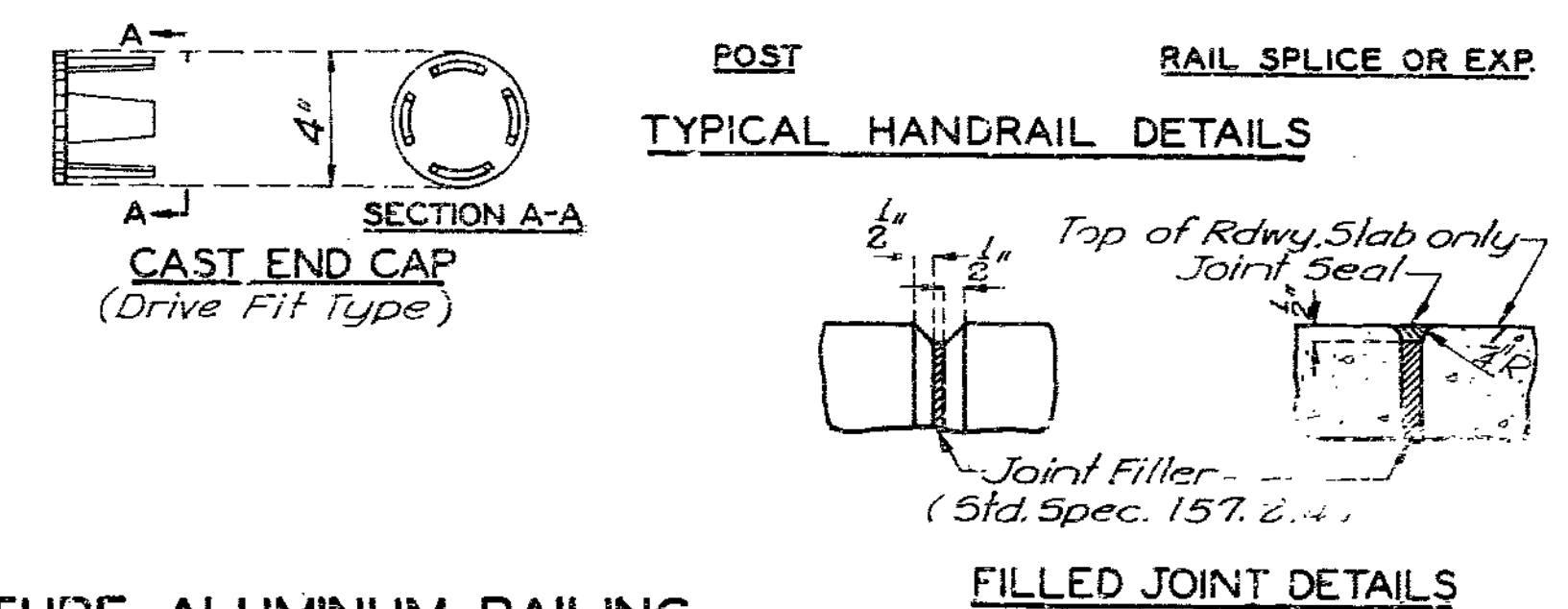
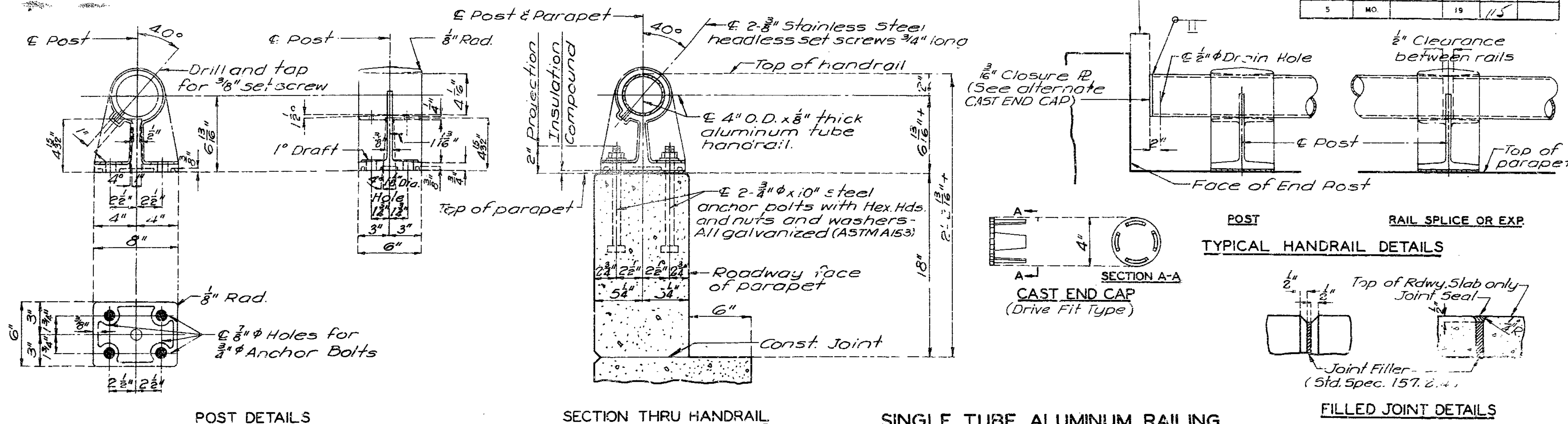
**GUARD RAIL INSERT:**

Anchor for attaching guard rail shall be 3/4" threaded malleable iron (Galv) inserts having a Min. depth of 3 1/2" and filled with a plastic closing plug. Cost for furnishing and installing inserts and plugs will be included in price bid for other items.

MISSOURI STATE HIGHWAY DEPARTMENT

2" Min. except for Exp. Gap. in parapet use 3" @ 60° F

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	115	



**NOTES:**  
 Plastic waterstop shall be placed in all parapet and curb filled joints.  
 Cost of plastic waterstop complete in place to be included in unit price bid for concrete.

**BRIDGE OVER TIFFANY SPRINGS PARKWAY**  
 STATE ROAD INTERSTATE ROUTE 29  
 ABOUT 7 MILES NORTH OF PARKSVILLE  
 PROJECT NO. F-29-1 (12) (RTE. I-29) STA. 574+68.75  
 PLATTE COUNTY

100  
 REVISED JAN. 1967  
 MAR. 1964  
 STD. 15.2

DETAILED SEPT. 1967 BY BRAUN & HOHLT  
 CHECKED OCT. 1967 BY R. PARIKH  
 R. W. BOOKER & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 1139 OLIVE STREET  
 ST. LOUIS, MISSOURI 63101

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

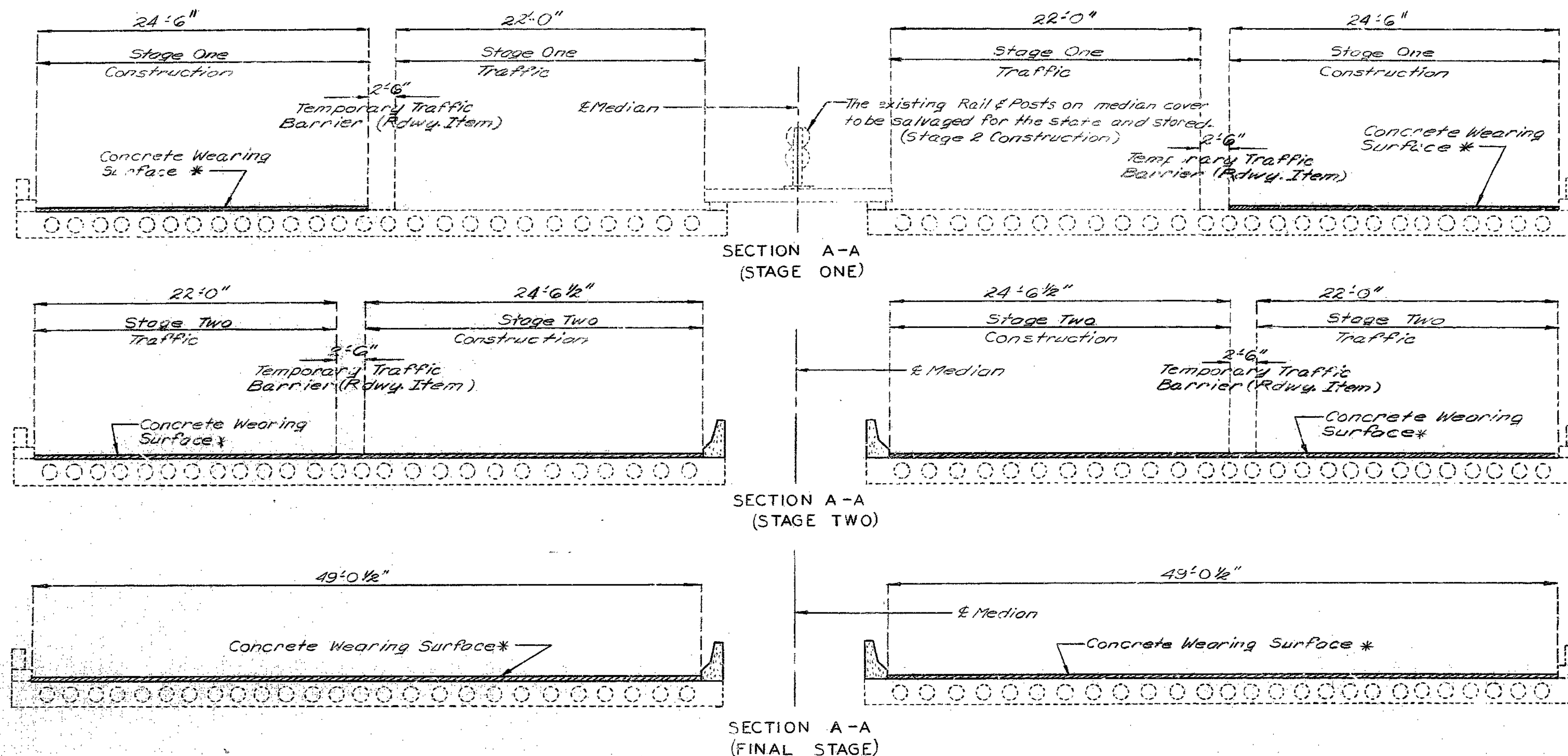
Sheet No. 9 of 9

A-2283



MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.		23
SEC. 36	TWP. 52N	RGE. 34W

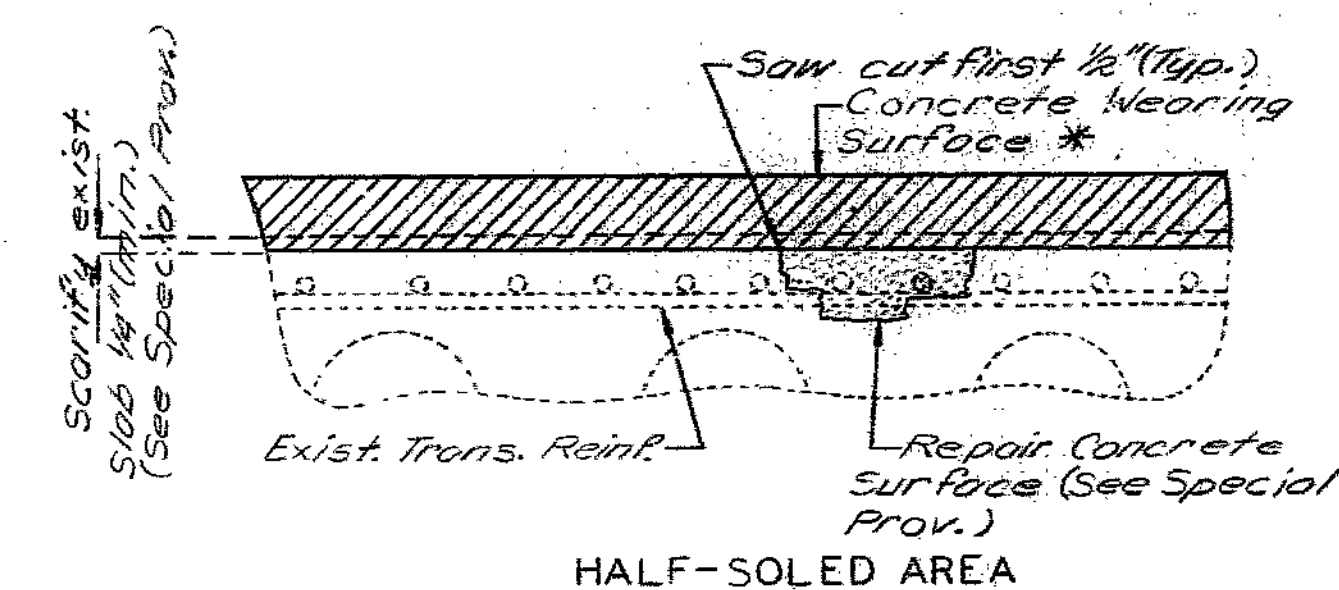


GENERAL NOTES:

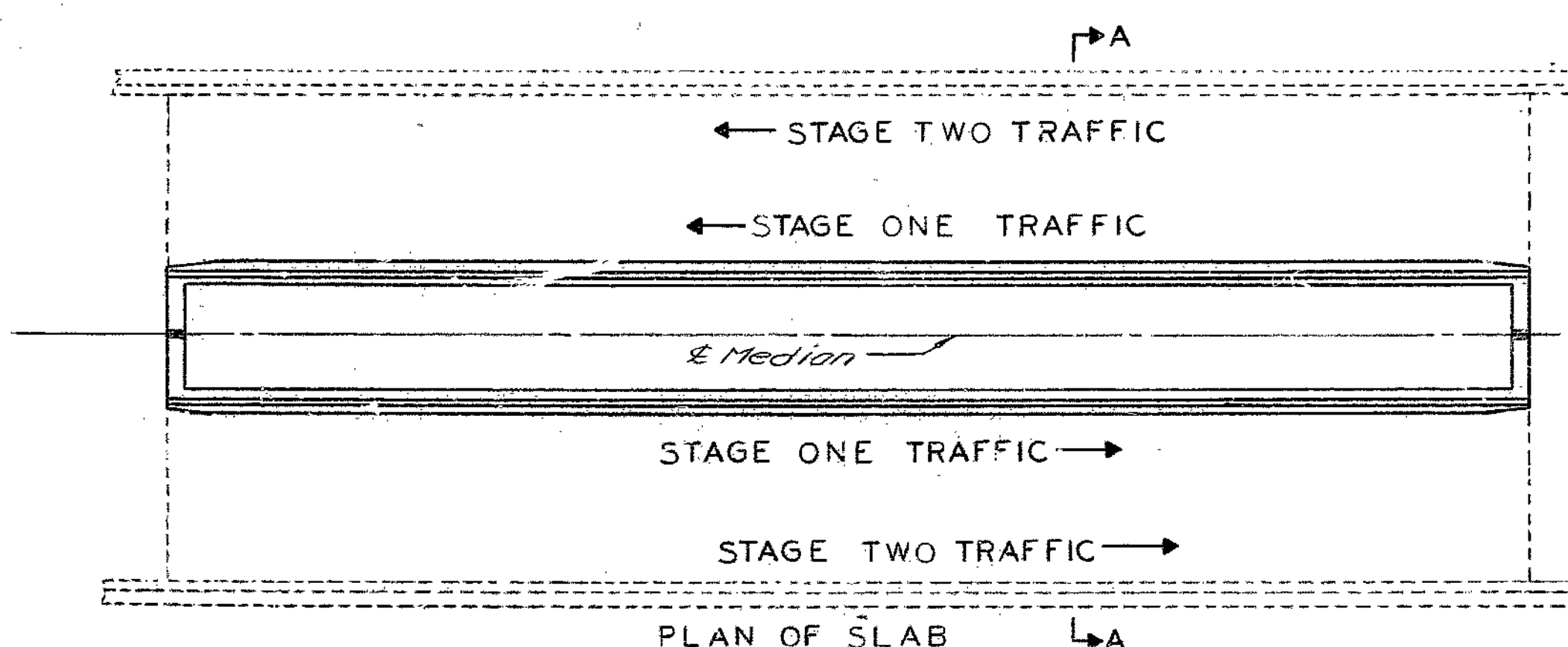
Design specifications: AASHTO, -1977 and Interims thru. 1983.  
 Design Unit Stresses:  
 Class B1 Concrete (Safety Barrier Curb & Median Closure Wall).  $f_c = 4,000$  P.S.I.  
 Reinforcing steel (Grade 60)  $f_y = 60,000$  P.S.I.  
 Joint Filler:  
 All Joint Filler shall meet the requirement of Std. Spec. 1057.2.4 except as noted.  
 Reinforcing steel:  
 Minimum clearance to reinforcing steel shall be 1 1/2" unless otherwise shown.  
 Outline of old work is indicated 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, the old bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars.  
 Traffic over structure to be maintained during construction.

BAR BILL (EPOXY COATED)						Dimensions are out-to-out
QUANTITY	SIZE	MARK	SHAPE	LENGTH	WEIGHT	
32	5	H1	20	3'-11"	131	SHAPE 20
396	5	R1	155	2'-10 1/2"	1187	SHAPE 195
396	5	R2	195	2'-9"	1144	
4	5	R3	20	2'-10"	12	SHAPE 155
48	5	R4	20	4'-9"	238	
28	5	R5	20	22'-0"	643	SHAPE 155
86	5	R6	20	9'-9"	875	
28	5	R7	20	33'-9"	986	SHAPE 155
22	6	V1	20	2'-1"	69	SHAPE 155

Note: Two additional #5-R6 & #6-H1 are included in bar bill for testing.



\* Note: Alternate A or B, by contractor. Alternate A = 1 3/4" min. Latex Modified Concrete, Alternate B = 2 1/4" min. Low Slump Concrete. (See Special Provisions)



DETAILS OF TRAFFIC AND CONSTRUCTION STAGE

ESTIMATED QUANTITIES		
ITEM		TOTAL
Concrete Wearing Surface*	Sq. Yd.	1989
Repairing Concrete Deck (Half-Soling)	Sq. Ft.	716
Safety Barrier Curb	Lin. Ft.	365
Special Work	Lump Sum	1

Note: Falsework over existing lanes shall be constructed with a minimum vertical clearance of 13'-6" from crown of existing lanes and a minimum lateral clearance of 28'-0" from the false work centered on existing lanes.

DESIGNED Oct. 1984  
 DETAILED Oct. 1984  
 CHECKED Nov. 1984

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

Sheet No. 1 of 3

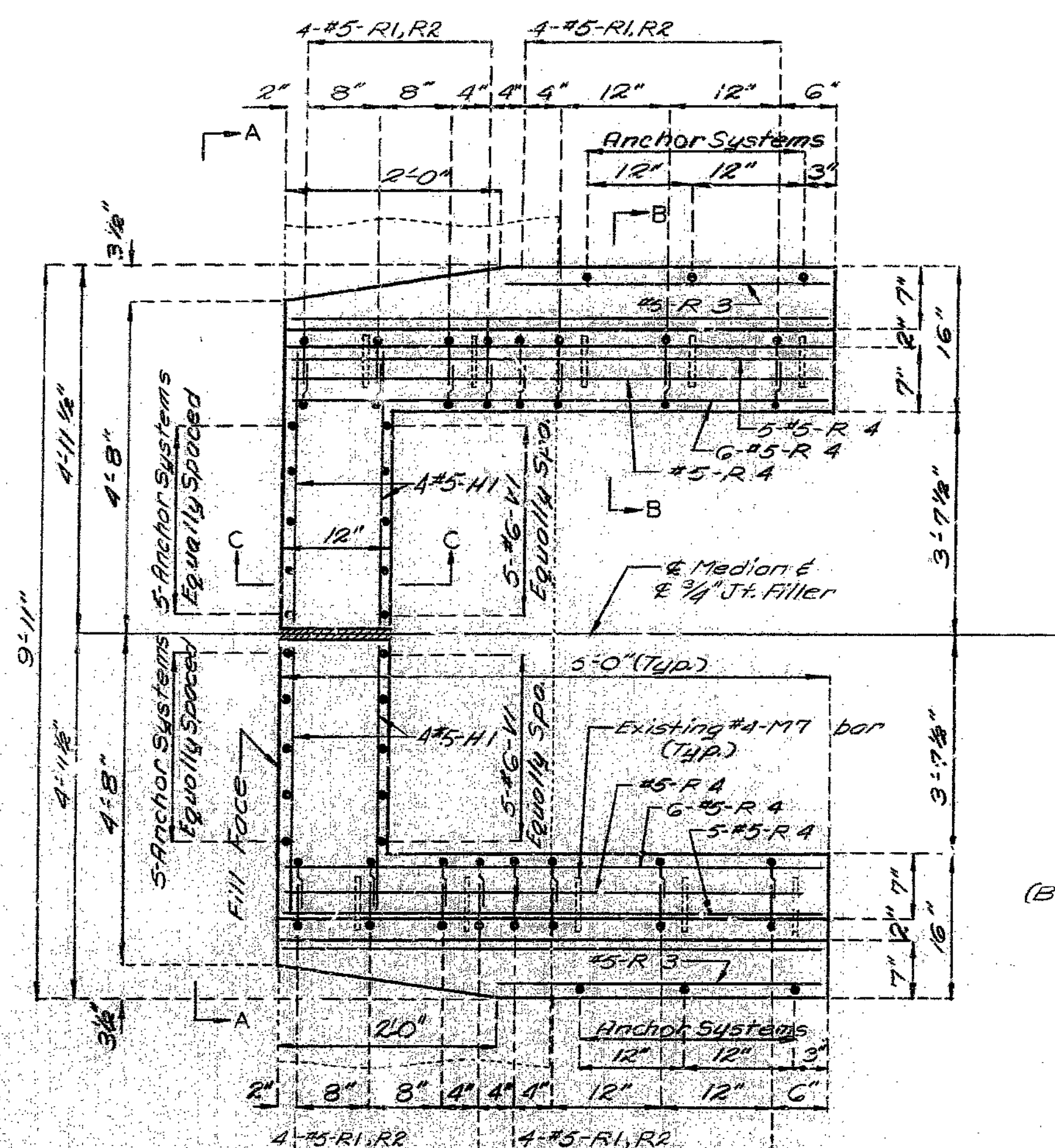
REPAIRS TO BRIDGE OVER TIFFANY SPRINGS PARKWAY

STATE ROAD INTERSTATE I-29  
 ABOUT 7 MILES NORTH OF PARKVILLE  
 PROJECT NO. IR-29-1(60) STA. 574+68.75 ±  
 JOB NO. 4-I029-137C RTE. I-29  
 PLATTE COUNTY

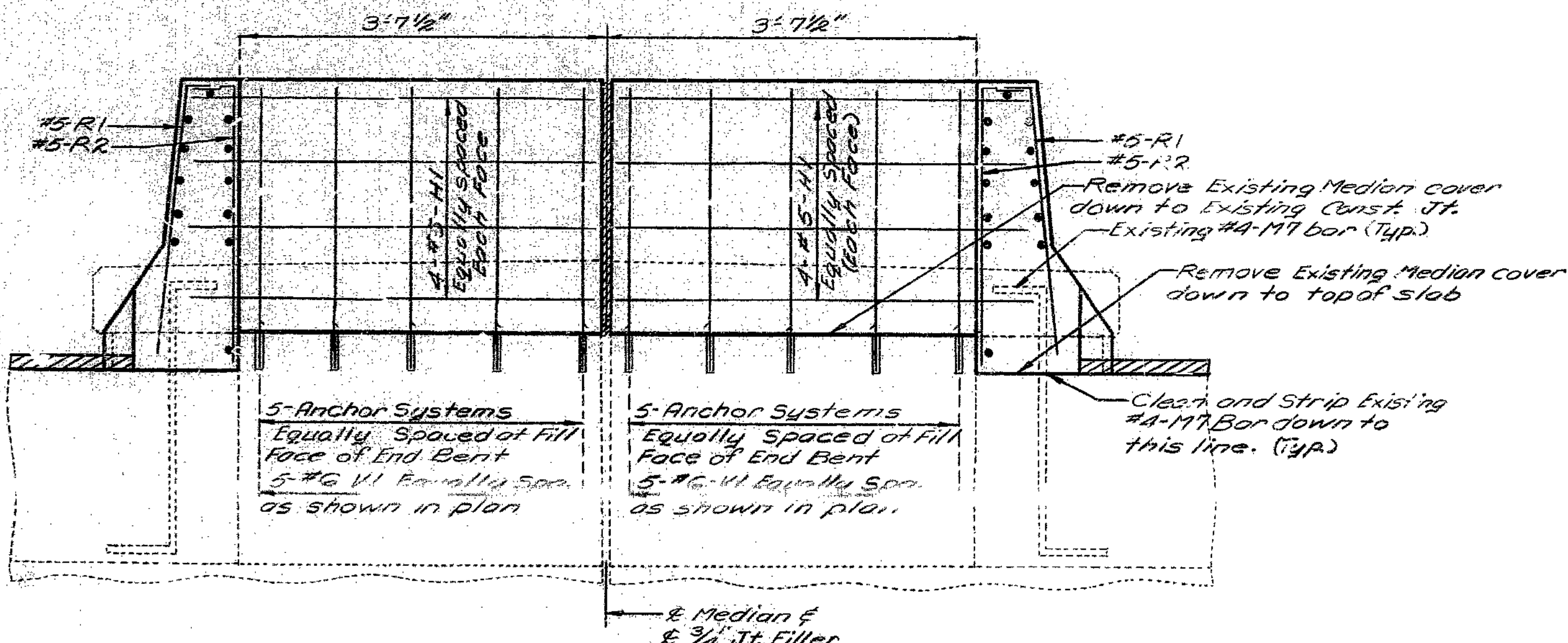
DATE December 17, 1984

STD.
STD.
A-2283R

STATE	PROJ. NO.	SHEET NO.
MJ.		24

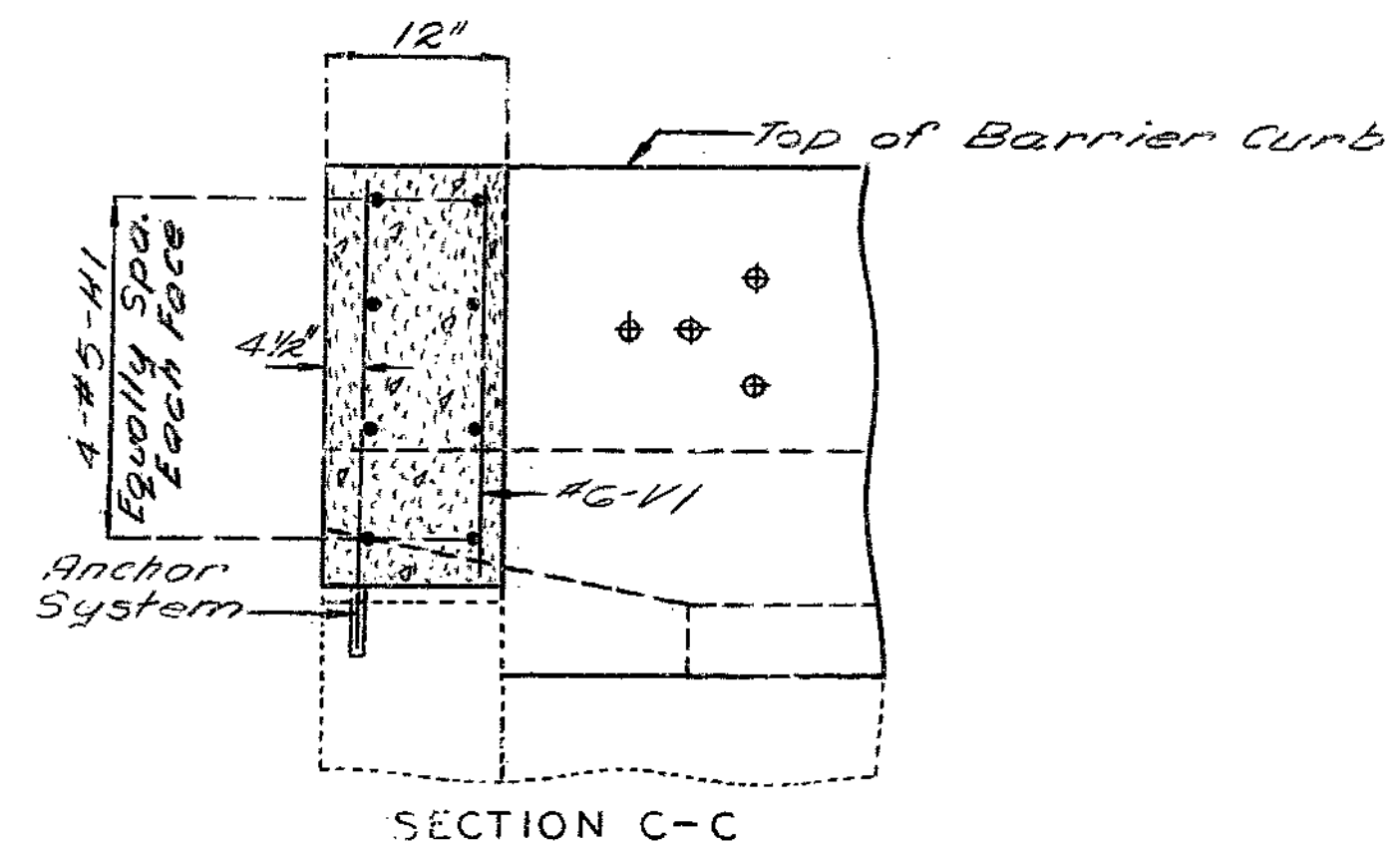


PLAN  
Bent No. 1 shown, Bent No. 5 Similar

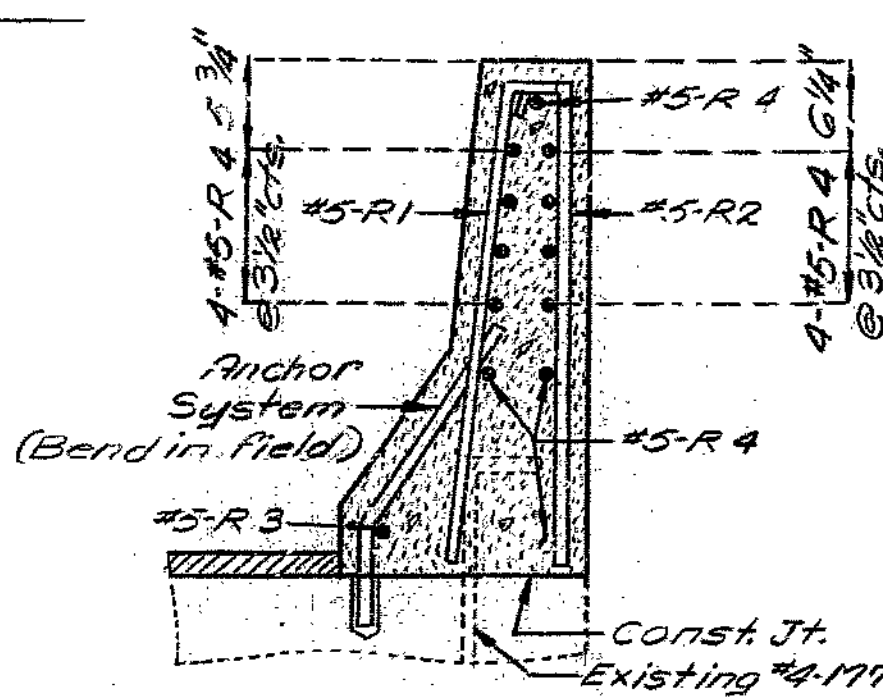


ELEVATION A-A  
DETAILS OF MEDIAN CLOSURE WALL

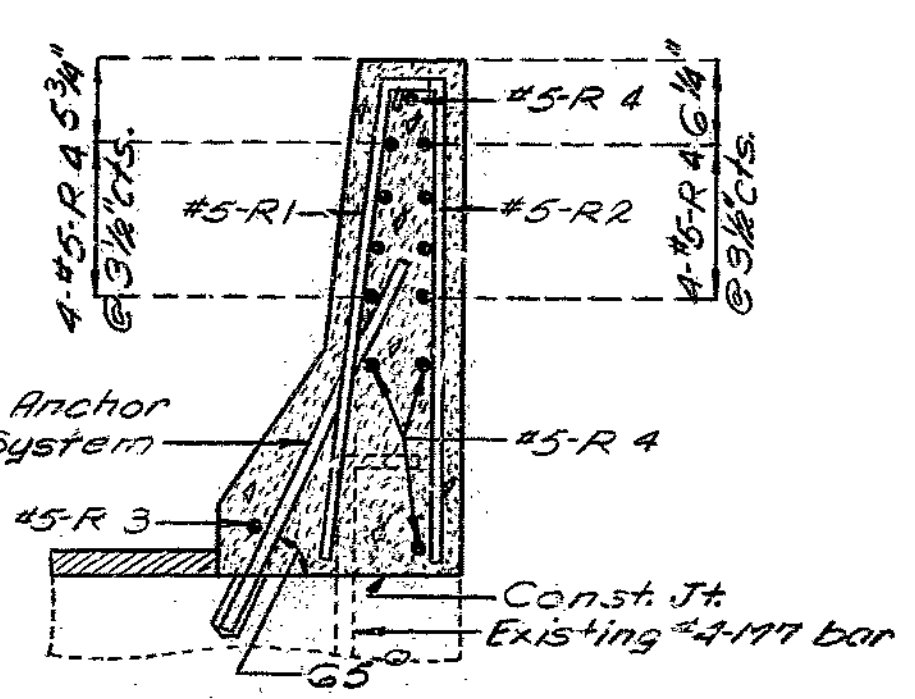
Note: Cost of concrete, reinforcement and anchor systems required for Median Closure Wall, complete in place, shall be included in unit price bid per linear foot of Safety Barrier Curb.



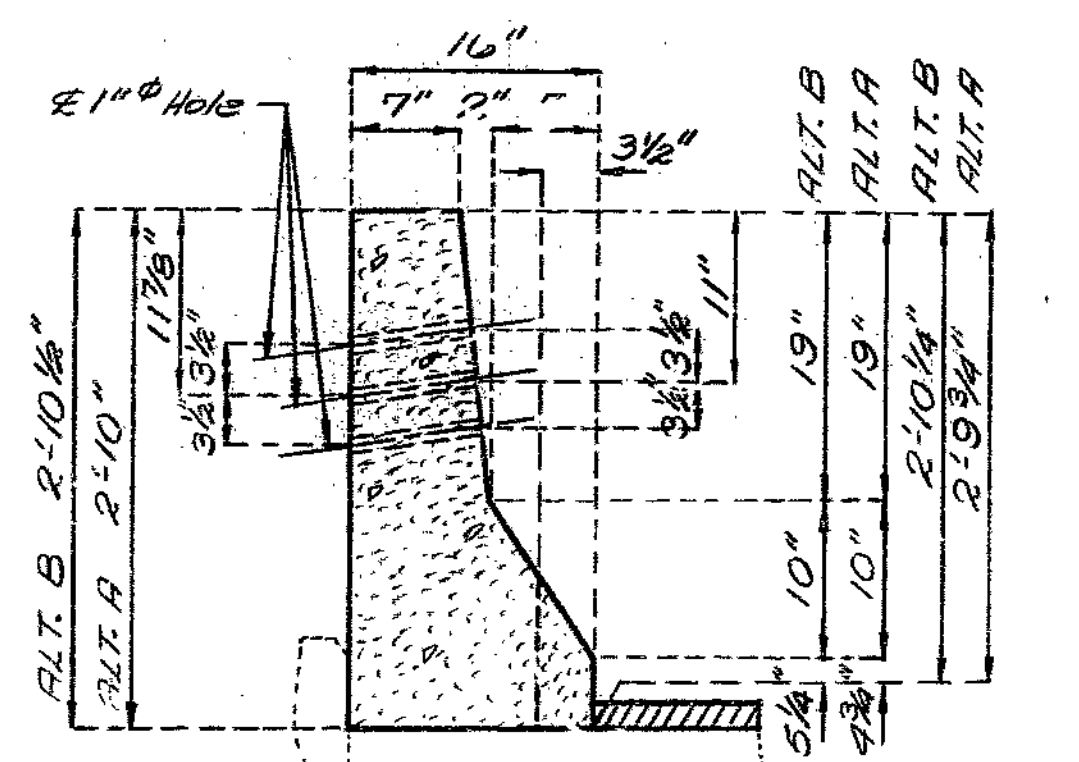
SECTION C-C



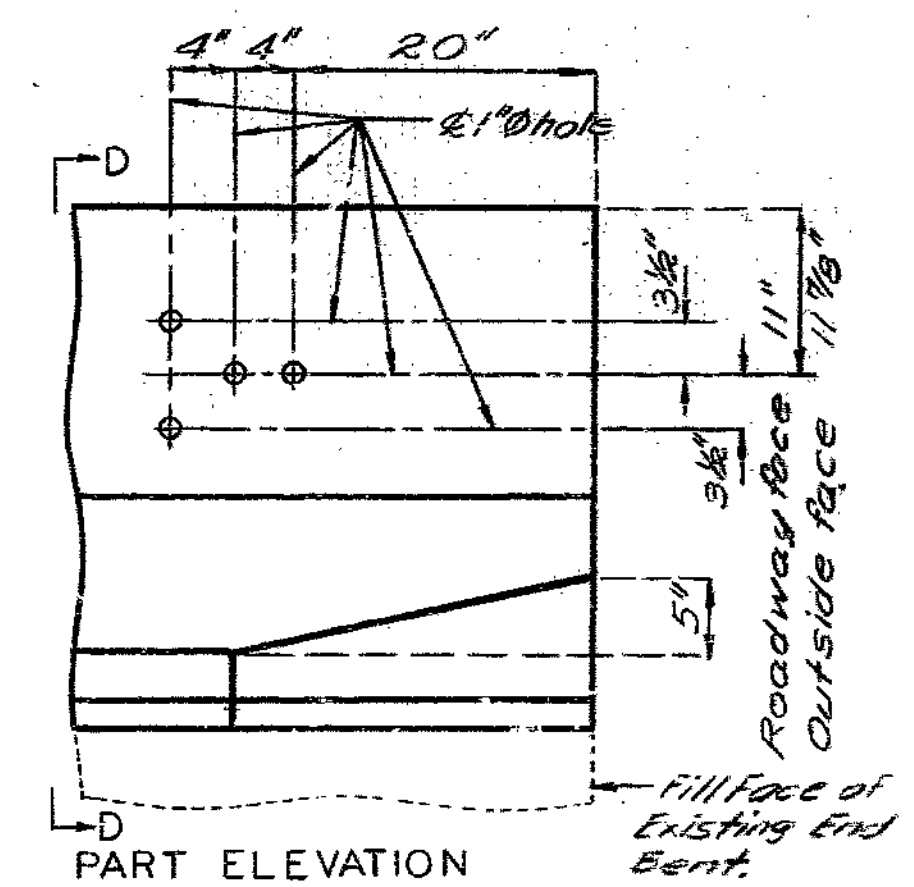
SECTION B-B



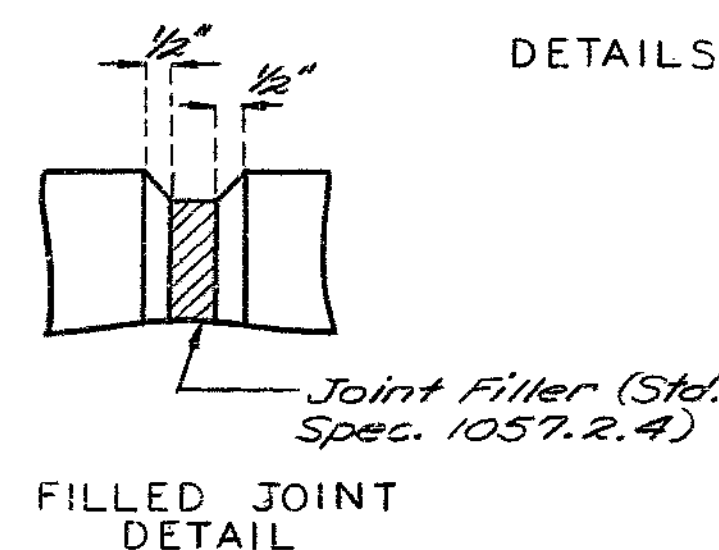
SECTION B-B  
(Optional anchoring system)



SECTION D-D  
Alternate (A) 1 3/4" Wearing Surface  
Alternate (B) 2 1/4" Wearing Surface



PART ELEVATION



FILLED JOINT DETAIL

DETAILS OF GUARD RAIL ATTACHMENT

Note: The contractor shall use one of the following anchor systems for the Barrier Curb and Median Closure Wall.

1. Molly Parabond Capsule Anchors
2. Hilti HVA Adhesive Anchors
3. U.S.E. Diamond Capsule Anchors
4. Keligroutin Resin Bonding Anchor.

These anchor systems shall be installed according to the manufacturers specifications, except that an epoxy coated 5/8" dia. Gr. 60 reinforcing bar 2'-6" long shall be substituted for the epoxy coated or galvanized threaded rod stud and if the Keligroutin Resin Bonding Anchor System is used the minimum embedment in old concrete shall be 6 1/2".

Cost of furnishing and installing the anchor system complete in place shall be included in the price bid per Lin. Ft. of Safety Barrier Curb.

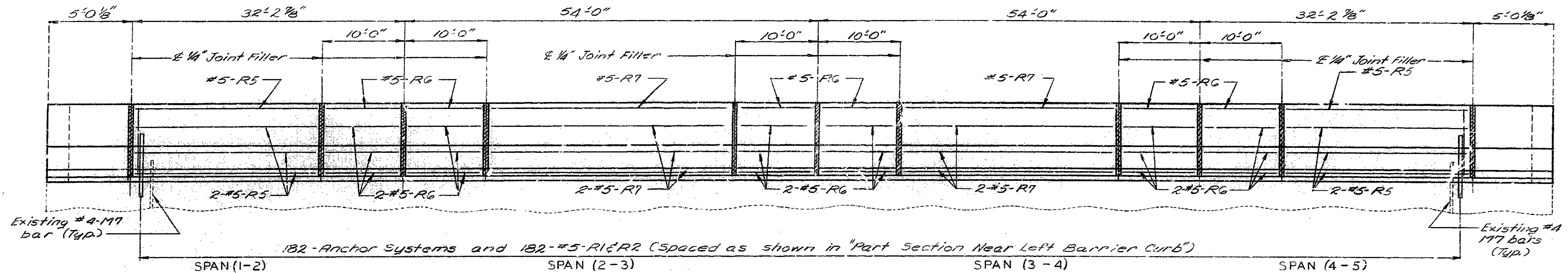
Top of barrier curb to be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of barrier curb and median closure wall shall have 1/2" radius or 3/8" bevel unless otherwise noted.

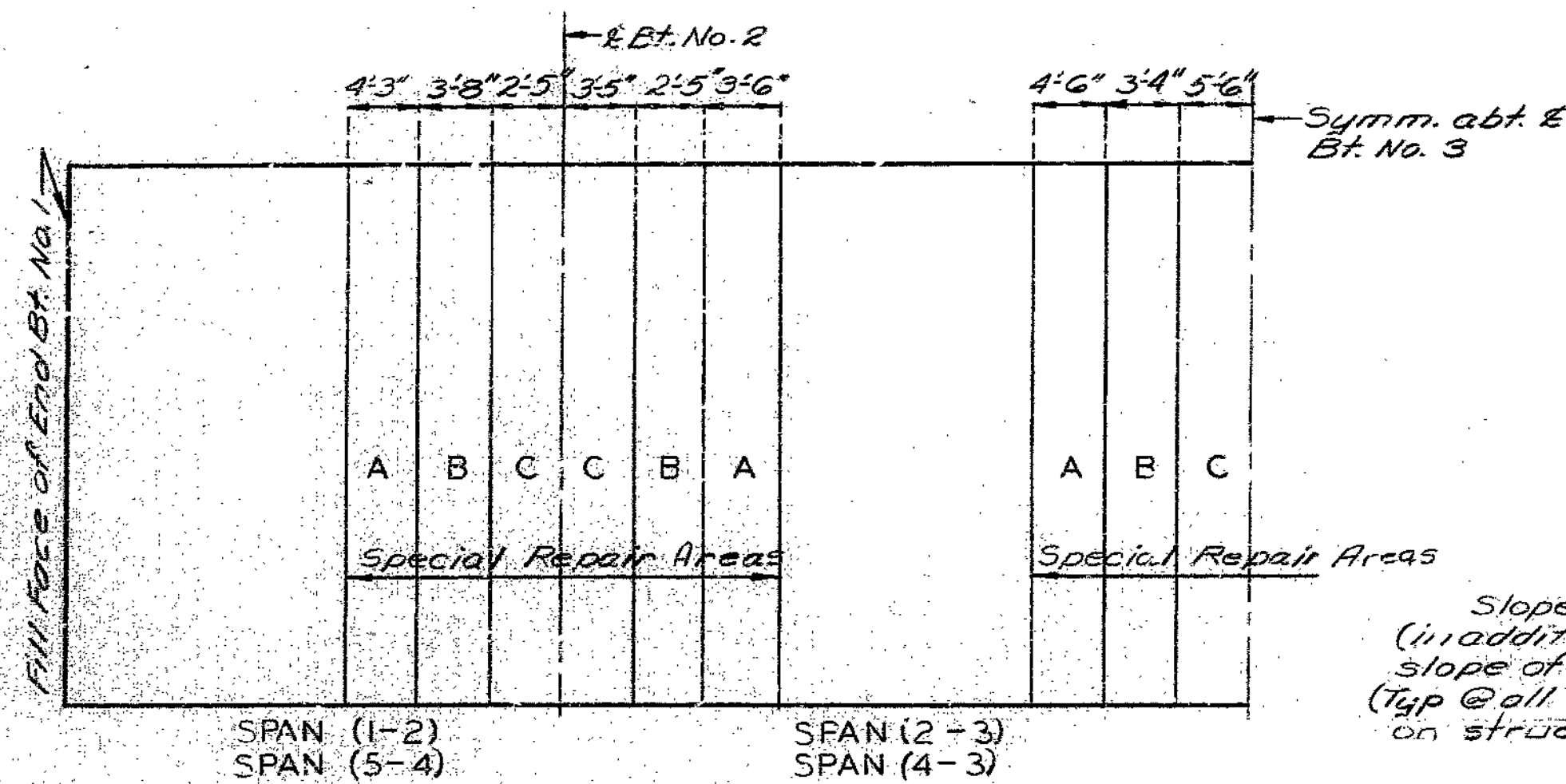
When the barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement, complete in place.

Measurement of safety barrier curb is to the nearest linear foot for each structure measured along the outside top face of the curb from Fill Face to Fill Face.

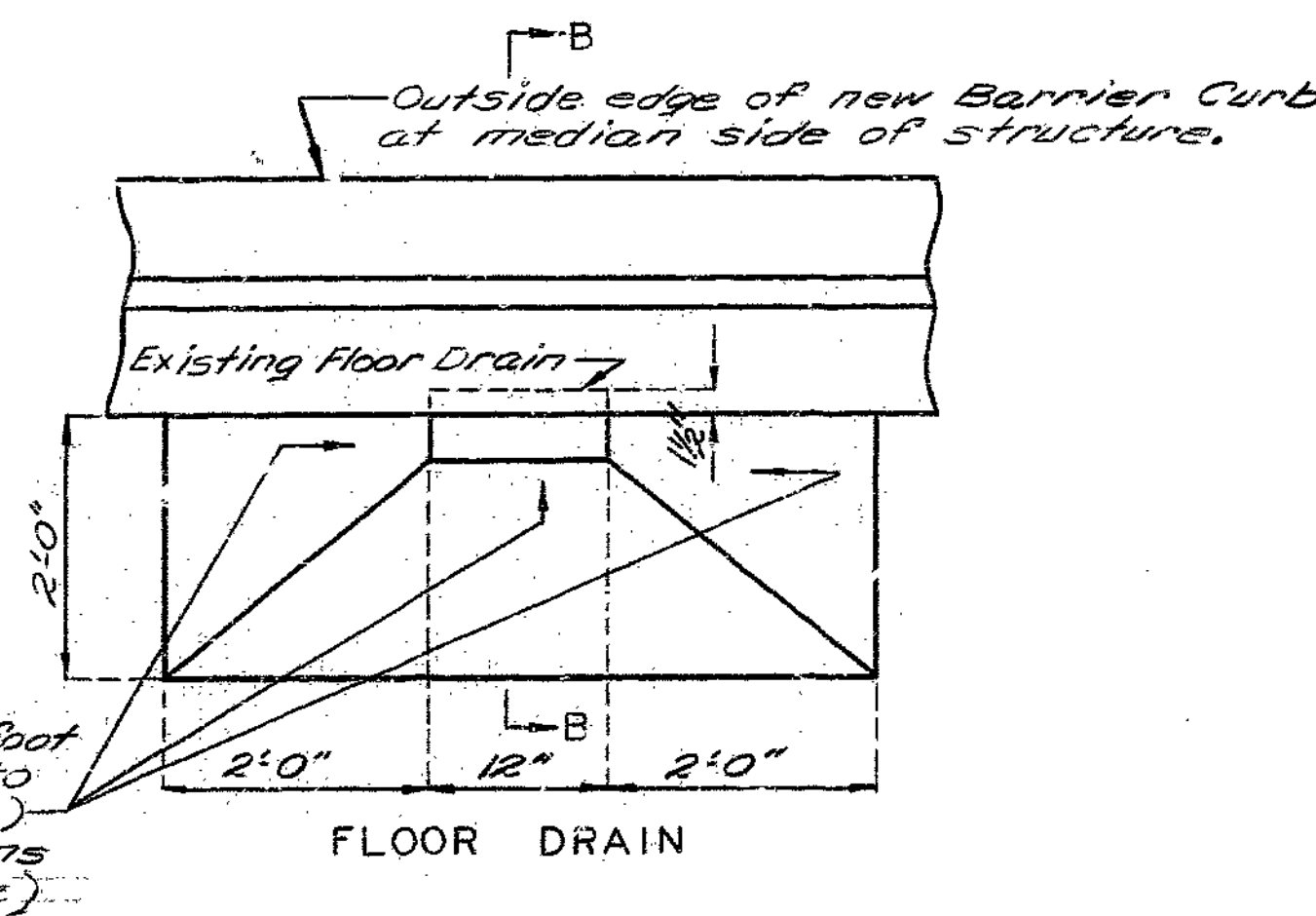
STATE	PROJ. NO.	SHEET NO.
MO.		25



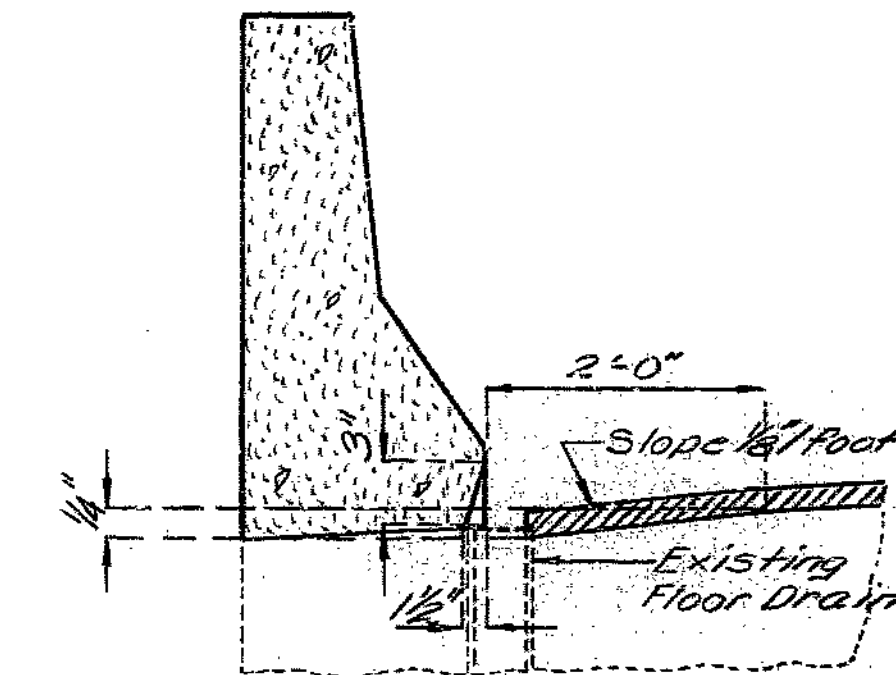
SECTION NEAR LEFT BARRIER CURB - S.B.L.  
(RIGHT BARRIER CURB OF N.B.L. SIMILAR)



PLAN OF NORTHBOUND LANE SHOWING SPECIAL REPAIR AREA, SOUTHBOUND LANE SIMILAR

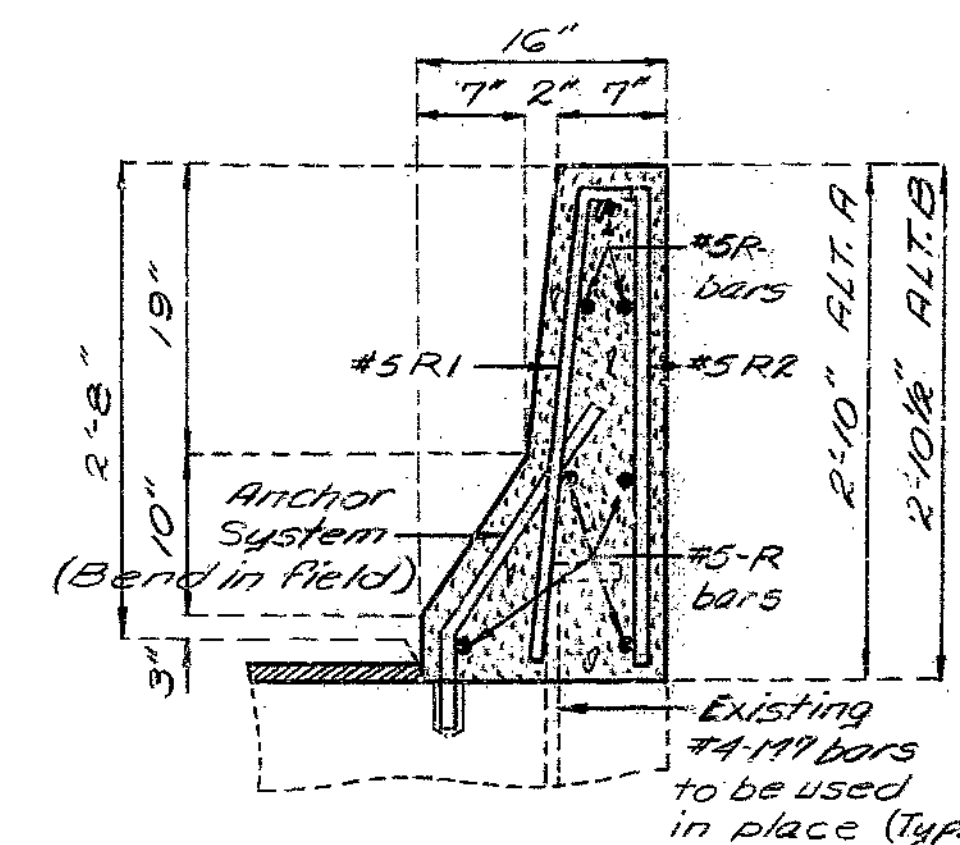


FLOOR DRAIN

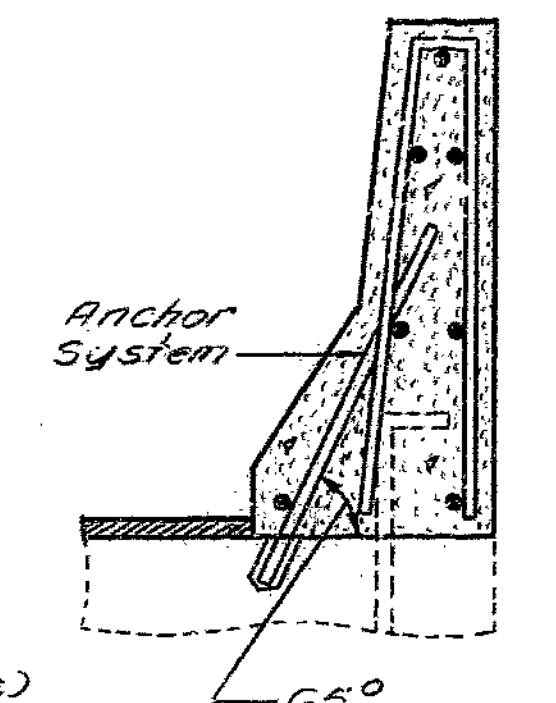


SECTION B-B

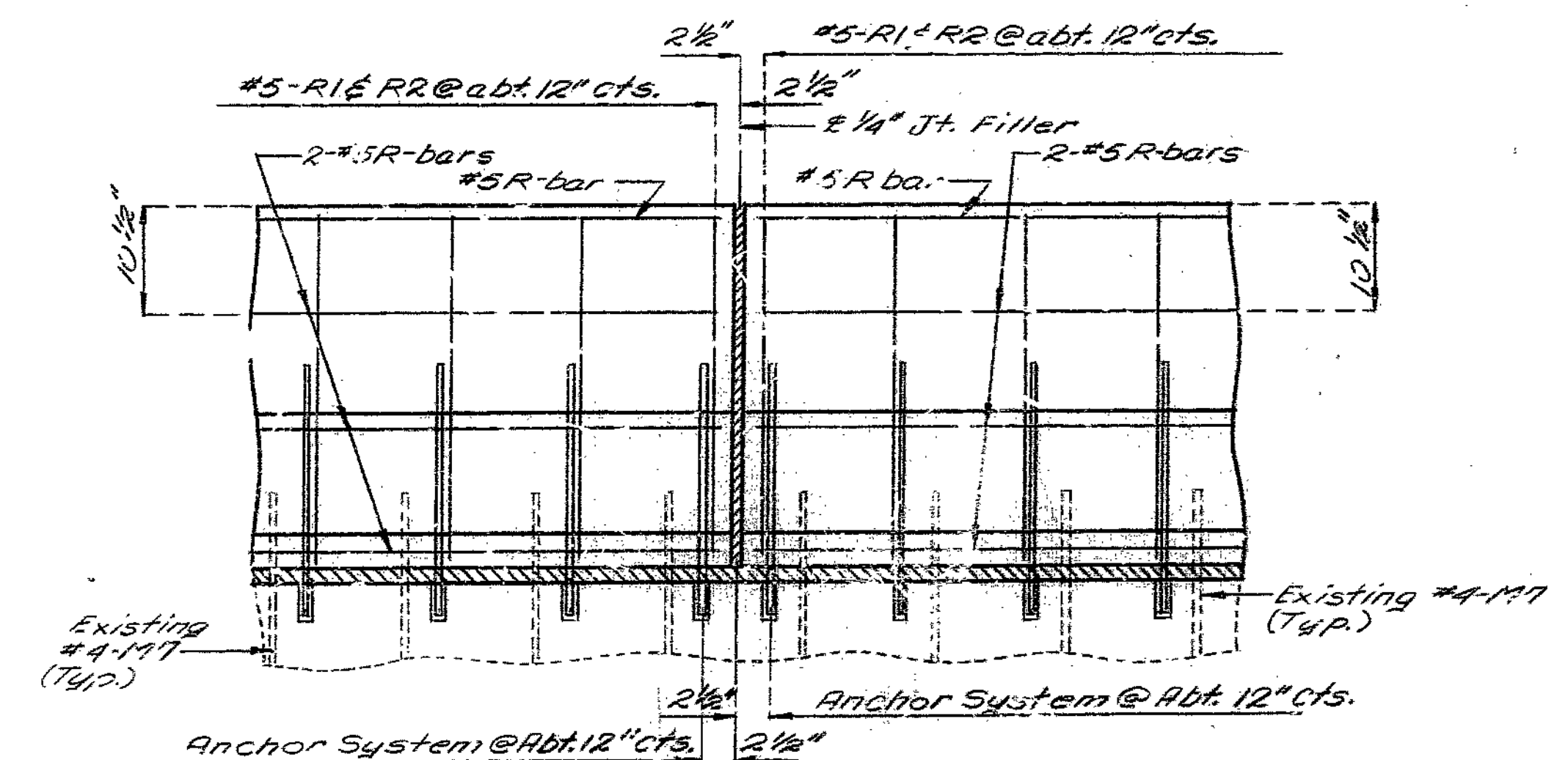
Note: Care shall be exercised during deck repair to maintain structural integrity of bridge.  
Sequence for repairs; Area "A", Area "B", then Area "C". Repair area at one bent with the same letter designation may be repaired at the same time.  
Any repair in the remainder of the bridge that is within 5'-0" of Area "A" shall be completed before removing old concrete in Area "A".



SECTION THRU CURB SHOWING ANCHOR SYSTEM



SECTION THRU CURB SHOWING OPTIONAL ANCHOR SYSTEM

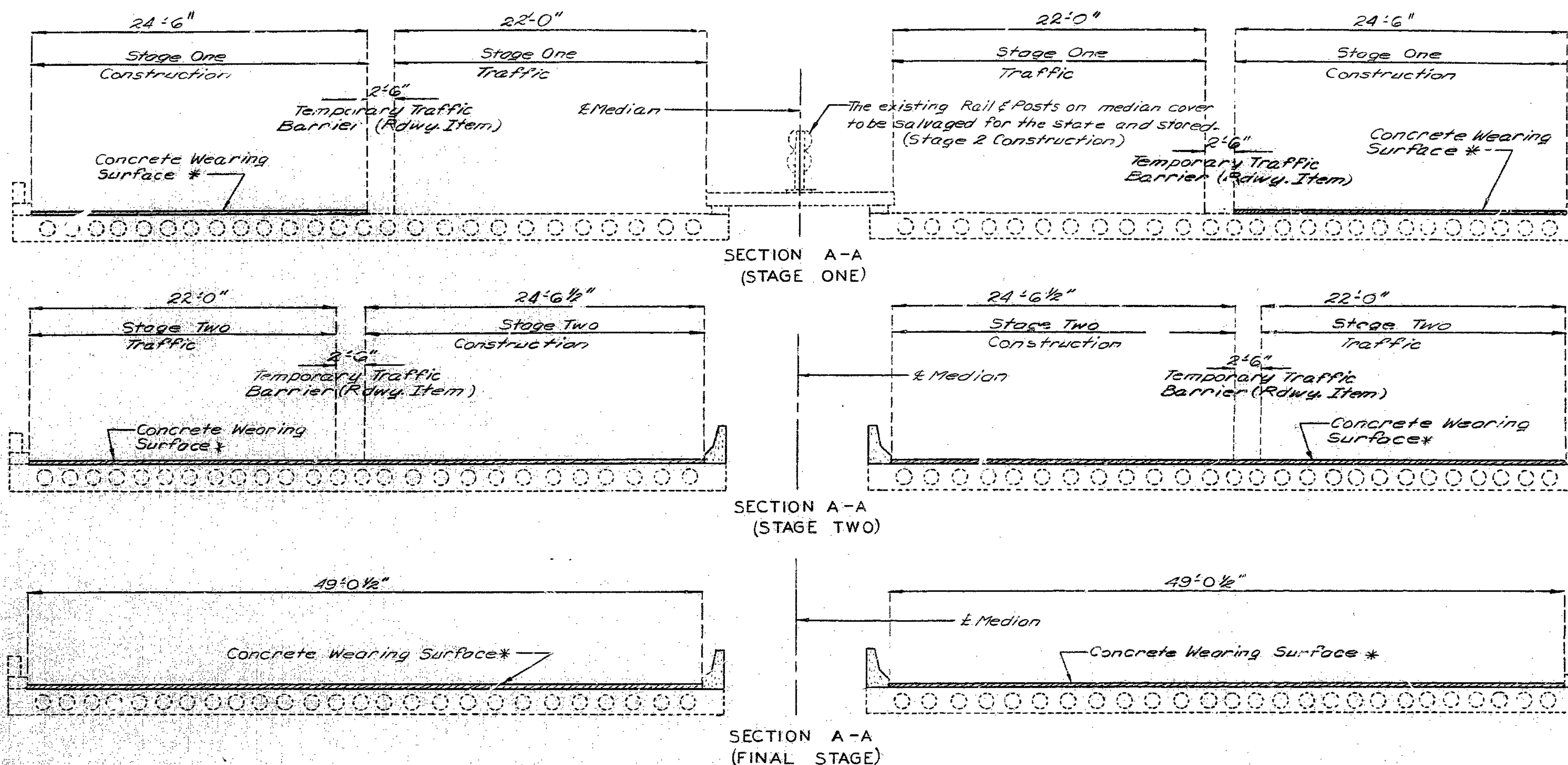


PART SECTION NEAR LEFT BARRIER CURB

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

FINAL PLANS

STATE	PROJ. NO.	SHEET NO.
MO.		23
SEC. 36	TWP. 52N	RGE. 34W



GENERAL NOTES:

Design Specifications: AASHTO - 1977 and Interims Thru, 1983.  
 Design Unit Stresses:  
 Class B1 concrete (Safety Barrier Curb & Median Closure Wall)  $f'_c = 4,000$  P.S.I.  
 Reinforcing steel (Grade 60)  $f_y = 60,000$  P.S.I.  
 Joint Filler:  
 All Joint Filler shall meet the requirements of Std. Spec. 1057.2.4 except as noted.  
 Reinforcing Steel:  
 Minimum clearance to reinforcing steel shall be  $1\frac{1}{2}$ " unless otherwise shown.  
 Outline of oldwork is indicated 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 the old bars shall extend into new concrete of least 40 diameters for smooth bars and 30 diameters for deformed bars.  
 Traffic over structure to be maintained during construction.

BAR BILL (EPOXY COATED)					
QUANTITY	SIZE	MARK	SHAPE	LENGTH	WEIGHT
32	5	H1	20	3'-11"	131
396	5	R1	155	2'-10 1/2"	1187
396	5	R2	195	2'-9"	1144
4	5	R3	20	2'-10"	12
48	5	R4	20	4'-9"	238
28	5	R5	20	22'-0"	643
86	5	R6	20	9'-9"	875
28	5	R7	20	33'-9"	986
22	6	V1	20	2'-11"	69

Dimensions are out-to-out

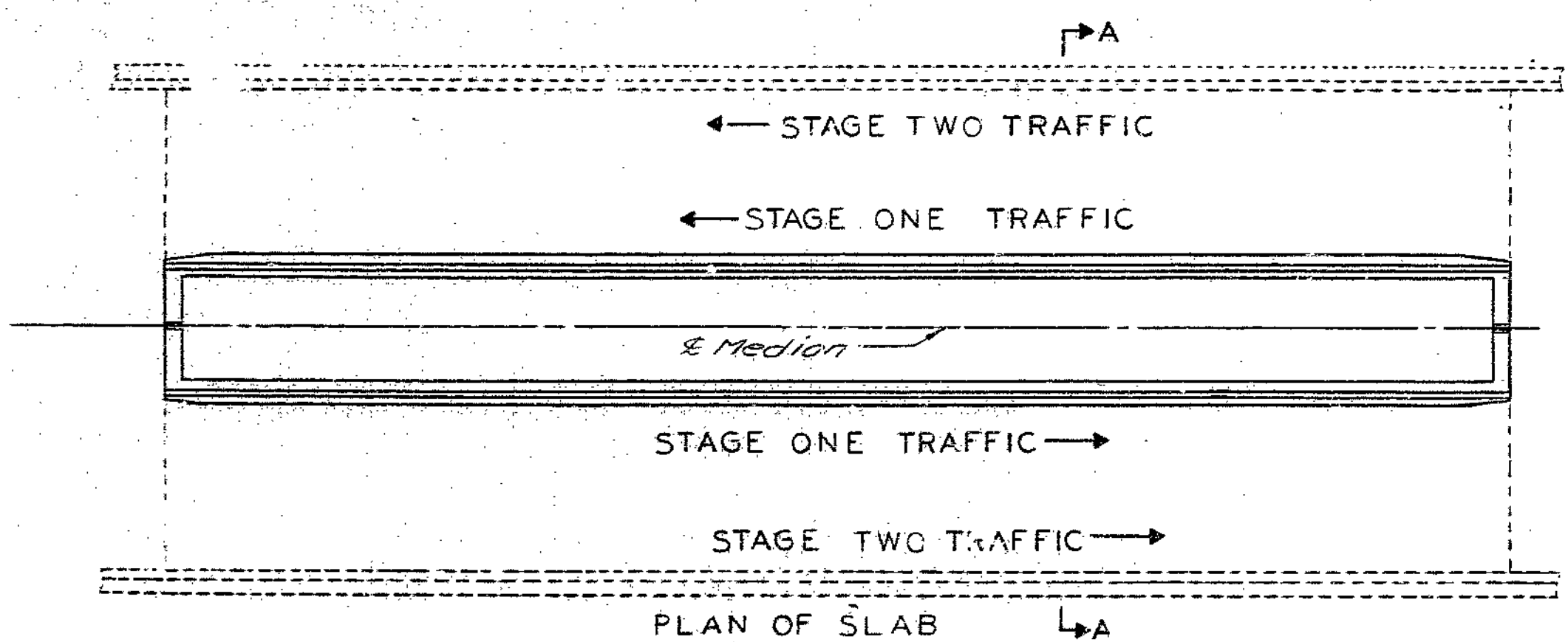
SHAPE 20

SHAPE 195

SHAPE 155

S-Stirrup

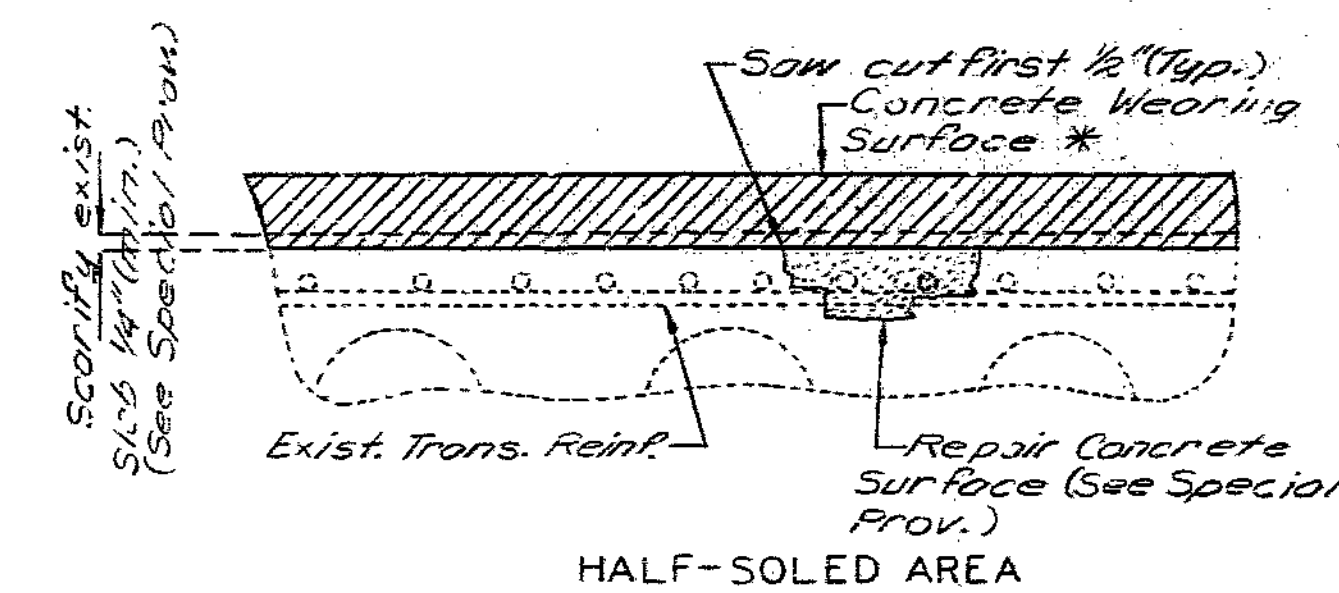
Note: Two additional #5-R6 & #6-V1 are included in bar bill for testing.



DETAILS OF TRAFFIC AND CONSTRUCTION STAGE

FINAL QUANTITIES		
ITEM		TOTAL
Concrete Wearing Surface* (Alternate B)	Sq. Yd.	1985 1/2
Repairing Concrete Deck (Half-Soiling)	Sq. Ft.	44 1/2
Safety Barrier Curb	Lin. Ft.	365 1/2
Special Work	Lump Sum	1 1/2

Note: Falsework over existing lanes shall be constructed with a minimum vertical clearance of 13'-6" from crown of existing lanes and a minimum lateral clearance of 28'-0" from the falsework centered on existing lanes.



\* Note: Alternate A or B, by contractor. Alternate A = 1 3/4" min. total thickness, Alternate B = 2 1/4" min. Low Slump Concrete. (See Special Provisions)

REPAIRS TO BRIDGE OVER TIFFANY SPRINGS PARKWAY

STATE ROAD INTERSTATE I-29  
 ABOUT 7 MILES NORTH OF PARKVILLE  
 PROJECT NO. IR-29-1(00) STA. 574+68.75±  
 JOB NO. 4-I029-137C RTE. I-29  
 PLATTE COUNTY

STD.
STD.
A-2283R

DATE December 17, 1984

Sheet No. 1A of 3

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

DESIGNED Oct. 1984  
 DETAILED Oct. 1984  
 CHECKED Nov. 1984