

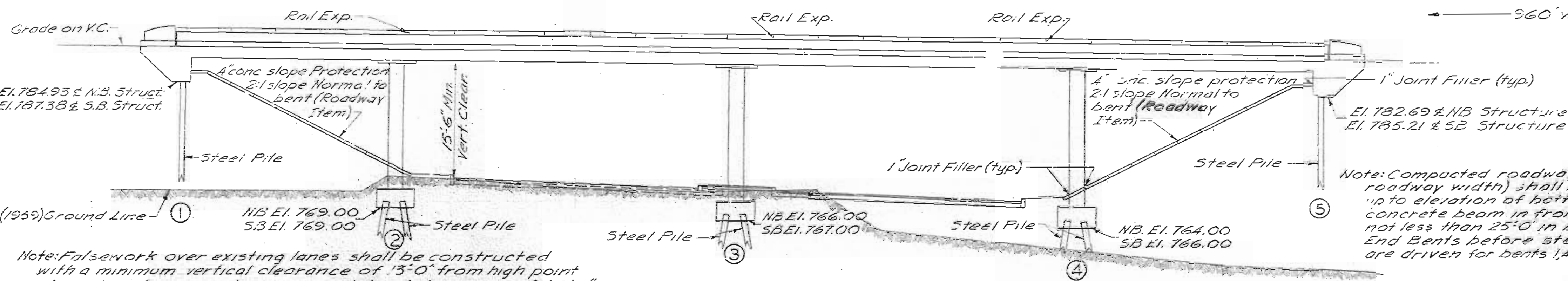
MISSOURI STATE HIGHWAY DEPARTMENT

NO.	DATE	BY	REVISION
5			

Traffic on 23rd Street to be maintained during construction.

Twin 34'-53" x 33'-38" Continuous Voids Slab Spans

P.I. Sta. 267+25  
Elev. 786.17



GENERAL ELEVATION

PILE DATA	BENT NO.				
	1	2	3	4	5
Pile Type and Size	10BPA2	10BPA2	10BPA2	10BPA2	10BPA2
Number (Each Structure)	6	12	12	12	6
Approximate Lgth. (ft.)	45	30	30	10	55
Approximate Lgth. (ft.)	55	55	55	55	70
Plan Bearing, Tons	56	56	56	56	56
Min. Req'd Bearing Tons	55	53	53	53	55
Hammer	Heavy Power	Heavy Power	Heavy Power	Heavy Power	Heavy Power

Note: Compacted roadway fill (full roadway width) shall be placed up to elevation of bottom of concrete beam in front of and not less than 25'-0" in back of End Bents before steel piles are driven for bents 1, 4, and 5.

All pile shall be driven to practical refusal on or into solid rock or other point bearing material of not less than the Plan Bearing shown, unless excessive splicing is required to obtain Plan Bearing, in which case the engineer will authorize a lesser bearing, but in no case less than the Minimum Required Bearing.  
Steel Pile authorized in lengths greater than 65' may be furnished in two pieces for field splicing.

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

ESTIMATED QUANTITIES			
Item	Substr.	Superstr.	Total
Class I Excavation for Structures	Cu. Yd. 243		243
Steel Piles in Place (10')	Lin. Ft. 3822		3822
Steel Pile cut-offs (10')	Lin. Ft. 288		288
Class B Concrete	Cu. Yd. 720		720
Class B Concrete	Cu. Yd.	1219.3	1219.3
Reinforcing Steel	Lbs. 1,780	314,250	316,030
Bridge Rail (5.94 lb. Tube Type)	Lin. Ft.	720	720

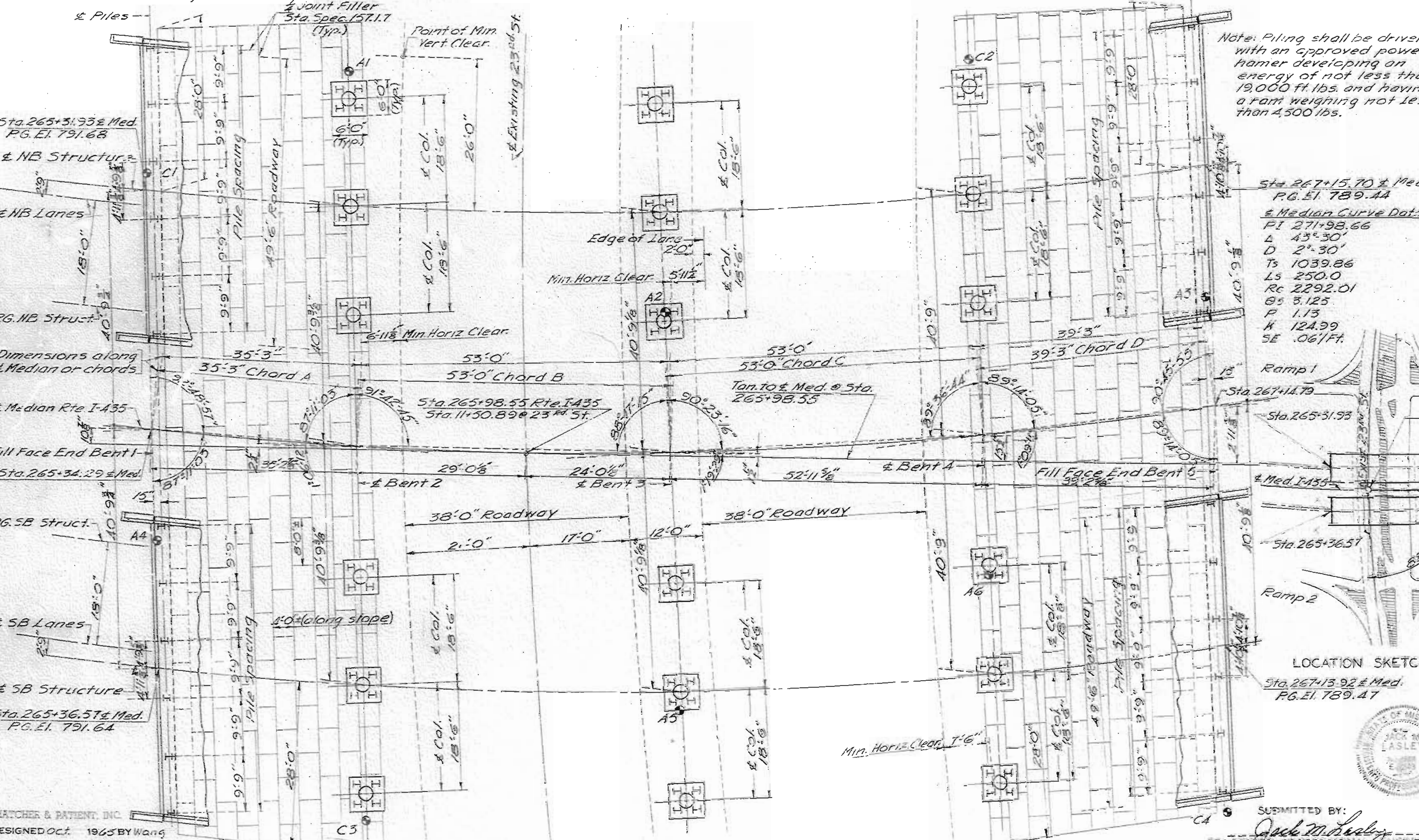
Note: Piling shall be driven with an approved power hammer developing an energy of not less than 19,000 ft. lbs. and having a ram weighing not less than 4,500 lbs.

Excavation below finished ground line for Bents No. 2 and No. 4 is included in estimated quantities. Concrete in end posts, parapets and curbs is included with superstructure concrete.  
All concrete and reinforcement above footings in Intermediate Bents is included in superstructure quantities.  
No payment for excavation will be allowed at End Bents No. 1, and 5.

GENERAL NOTES

Design Specification A.A.S.H.O. 1961  
Loading H3-20-44 (15,750 lb. Future Wearing Surface)  
Modified 34,000 lb. Tandem Axle  
Earth 120' Equivalent Fluid Pressure 30'  
Class B Concrete (substructure)  $f_c = 1,200$  psi.  
Class B Concrete (superstructure)  $f_c = 1,600$  psi.  
Reinforcing Steel  $f_s = 20,000$  psi.  
Steel Pile (A.S.T.M. A36-62T)  $f_b = 9,000$  psi.  
Superstructure deck to be surface sealed.  
For Boring Data see Sheet No. 2 of 6.  
\* Indicates Location of Boring.

NOTE: Bents cannot be accurately located from the reference point on the tangent by conventional survey methods based on 100' ft. chords. All bents are parallel.



PLAN

Note: Length of structures, fill face to fill face of end bents, 180'-50" for each. 49'-6" roadway is 180'-50" for each.

LOCATION SKETCH  
Sta. 267+13.92 & Med.  
P.G. El. 789.47

BRIDGE OVER ROUTE K (78)  
STATE ROAD INTERSTATE ROUTE 435  
ABOUT 1.5 MILES WEST OF INDEPENDENCE  
PROJECT NO. I-435-1(42) (RTE. I-435) STA. 265-34.29  
JACKSON COUNTY



SUBMITTED BY: Jack M. Lasley  
REGISTERED PROFESSIONAL ENGINEER  
MISSOURI NO. 5-3243  
Sheet No. 1 of 6.

APPROVED BY: [Signature]  
DATE: 12/10/62

THATCHER & PATENT, INC.  
DESIGNED Oct. 1965 BY Wang  
DETAILED Oct. 1965 BY B. Zsuzsanna  
CHECKED Oct. 1965 BY Lasley

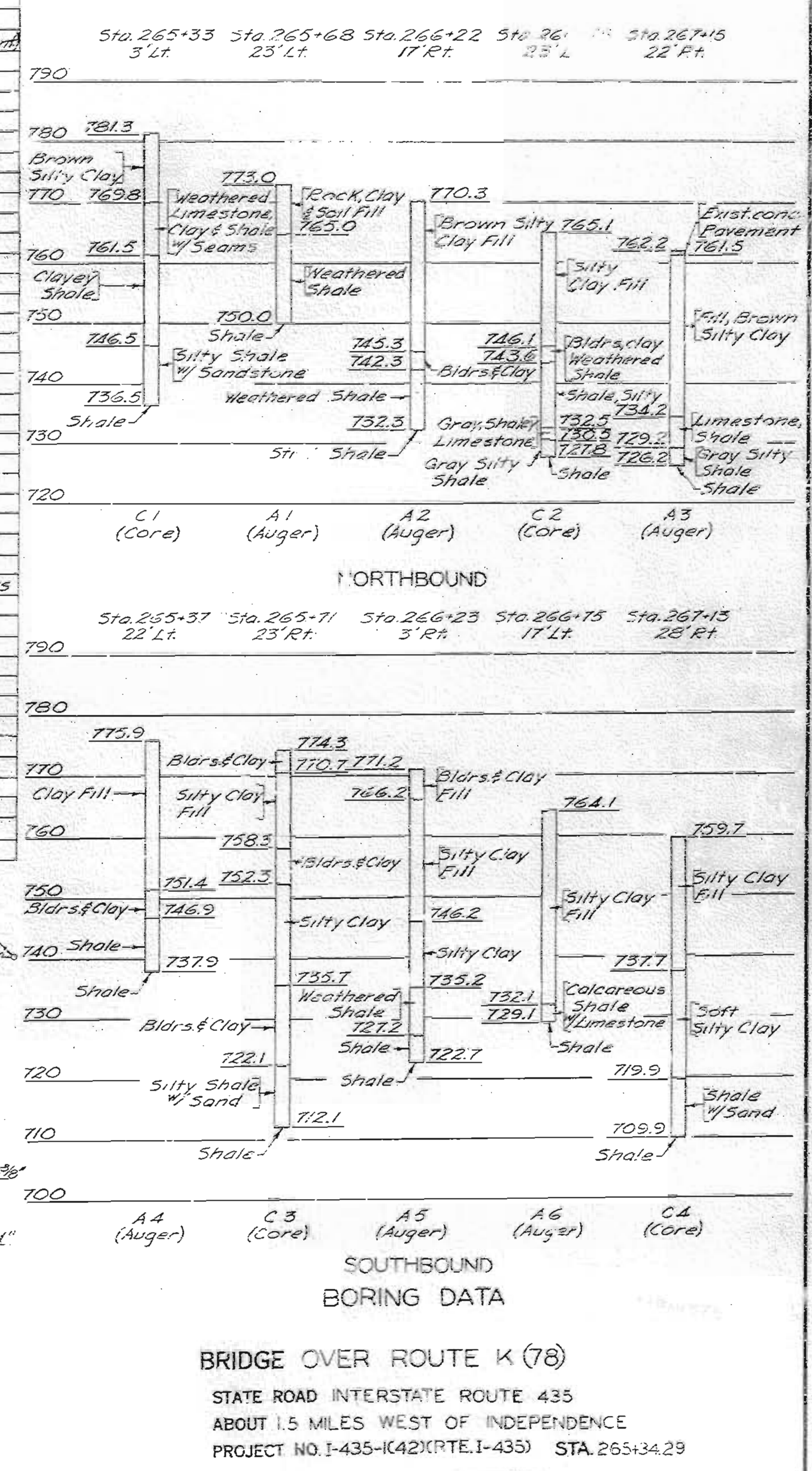
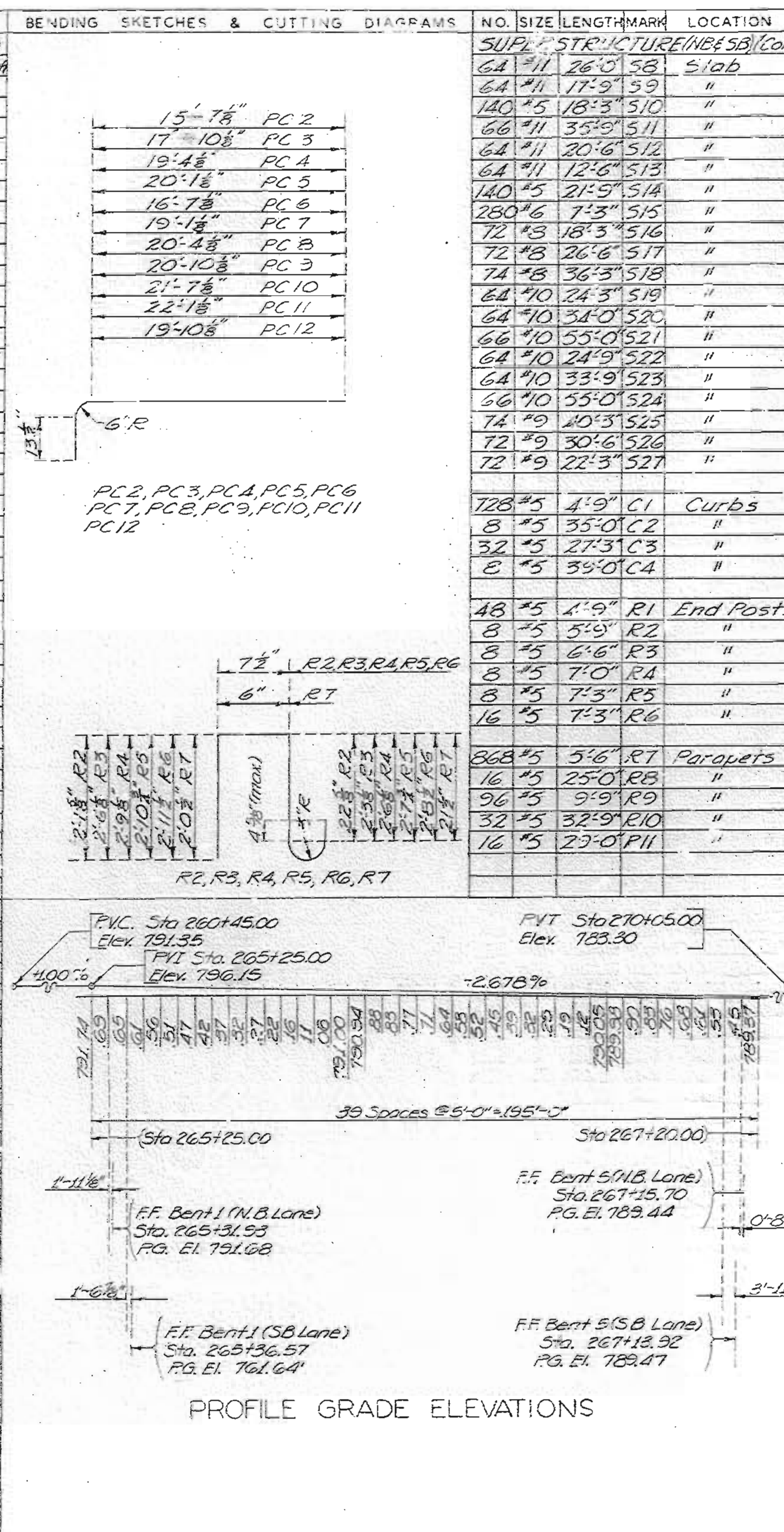
STD. 54 00  
A-1698

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MO		1965	66	

COMPLETE BILL OF REINFORCING STEEL

NO.	SIZE	LENGTH	MARK	LOCATION	BENDING SKETCHES & CUTTING DIAGRAMS	NO.	SIZE	LENGTH	MARK	LOCATION	BENDING SKETCHES & CUTTING DIAGRAMS						
<b>END BENT No. 1 (NB&amp;SB)</b>																	
16	#6	28'-0"	AB1	Beam		<b>END BENT No. 5 (NB&amp;SB) (Cont.)</b>											
8	#6	25'-3"	AB2	"		132	#4	2'-3"	529	Pavement Haunch							
8	#6	32'-3"	AB3	"		4	#4	25'-0"	528	"							
16	#6	26'-9"	AB4	"		8	#4	6'-0"	V1	Wings							
19	#5	8'-9"	U1	"		8	#4	7'-9"	V2	"							
132	#4	2'-3"	529	Pavement Haunch	8	#6	10'-3"	T1	"								
4	#4	25'-0"	528	"	8	#6	7'-0"	H1	"								
8	#4	6'-0"	V1	Wings	8	#6	10'-3"	H2	"								
8	#4	7'-9"	V2	"	8	#6	5'-3"	C5	"								
8	#6	10'-3"	T1	"	2A	#5	3'-0"	C6	"								
8	#6	7'-0"	H1	"	<b>INT. BENT No. 2 (SB)</b>												
8	#6	10'-3"	H2	"	24	#6	6'-6"	F1	Footings								
8	#6	5'-3"	C5	"	24	#5	2'-6"	D1	"								
2A	#5	3'-0"	C6	"	57	#3	8'-0"	PC1	Columns								
<b>INT. BENT No. 2 (NB)</b>						8	#9	19'-9"	PC3	"							
24	#6	6'-6"	F1	Footings	8	#9	22'-3"	PC8	"								
24	#5	2'-6"	D1	"	8	#9	21'-0"	PC7	"								
57	#3	8'-0"	PC1	Columns	6	#11	54'-3"	PB1	Beam								
8	#9	17'-6"	PC2	"	10	#10	12'-6"	PB2	"								
8	#9	19'-9"	PC3	"	20	#9	15'-0"	PB3	"								
8	#9	18'-6"	PC6	"	13	#9	51'-3"	PB5	"								
6	#11	54'-3"	PB1	Beam	64	#5	8'-3"	U2	"								
10	#10	12'-6"	PB2	"	7A	#6	8'-3"	U3	"								
20	#9	15'-0"	PB3	"	<b>INT. BENT No. 3 (SB)</b>												
13	#9	51'-3"	PB5	"	24	#6	6'-6"	F1	Footings								
64	#5	8'-3"	U2	"	24	#5	2'-6"	D1	"								
7A	#6	8'-3"	U3	"	62	#3	8'-0"	PC1	Columns								
<b>INT. BENT No. 3 (NB)</b>						8	#9	21'-3"	PCA	"							
24	#6	6'-6"	F1	Footings	8	#9	22'-3"	PCB	"								
24	#5	2'-6"	D1	"	8	#9	23'-6"	PC10	"								
57	#3	8'-0"	PC1	Columns	6	#11	54'-3"	PB1	Beam								
8	#9	19'-9"	PC3	"	10	#10	12'-6"	PB2	"								
8	#9	22'-0"	PC5	"	20	#8	15'-0"	PB4	"								
8	#9	21'-0"	PC7	"	13	#9	51'-3"	PB5	"								
6	#11	54'-3"	PB1	Beam	118	#5	9'-0"	UA	"								
10	#10	12'-6"	PB2	"	<b>INT. BENT No. 4 (SB)</b>												
20	#8	15'-0"	PB4	"	24	#6	6'-6"	F1	Footings								
12	#9	51'-3"	PB5	"	24	#5	2'-6"	D1	"								
118	#5	9'-0"	UA	"	63	#3	8'-0"	PC1	Columns								
<b>INT. BENT No. 4 (NB)</b>						8	#9	22'-9"	PC9	"							
24	#6	6'-6"	F1	Footings	8	#9	24'-0"	PC11	"								
24	#5	2'-6"	D1	"	8	#9	21'-9"	PC12	"								
62	#3	8'-0"	PC1	Columns	6	#11	54'-3"	PB1	Beam								
8	#9	21'-3"	PCA	"	10	#10	12'-6"	PB2	"								
8	#9	22'-3"	PCB	"	20	#9	15'-0"	PB3	"								
8	#9	23'-6"	PC10	"	13	#9	51'-3"	PB5	"								
6	#11	54'-3"	PB1	Beam	64	#5	8'-3"	U2	"								
10	#10	12'-6"	PB2	"	7A	#6	8'-3"	U3	"								
20	#8	15'-0"	PB4	"	<b>SUPERSTRUCTURE (NB&amp;SB)</b>												
12	#9	51'-3"	PB5	"	1688	#5	26'-9"	51	Slab								
118	#5	9'-0"	UA	"	140	#5	19'-6"	52	"								
<b>END BENT No. 5 (NB&amp;SB)</b>						66	#11	32'-3"	53	"							
16	#6	28'-0"	AB1	Beam	64	#11	20'-6"	54	"								
8	#6	25'-3"	AB2	"	64	#11	11'-9"	55	"								
8	#6	32'-3"	AB3	"	140	#5	20'-6"	56	"								
16	#6	26'-9"	AB4	"	66	#11	40'-0"	57	"								
19	#5	8'-9"	U1	"													



PROFILE GRADE ELEVATIONS

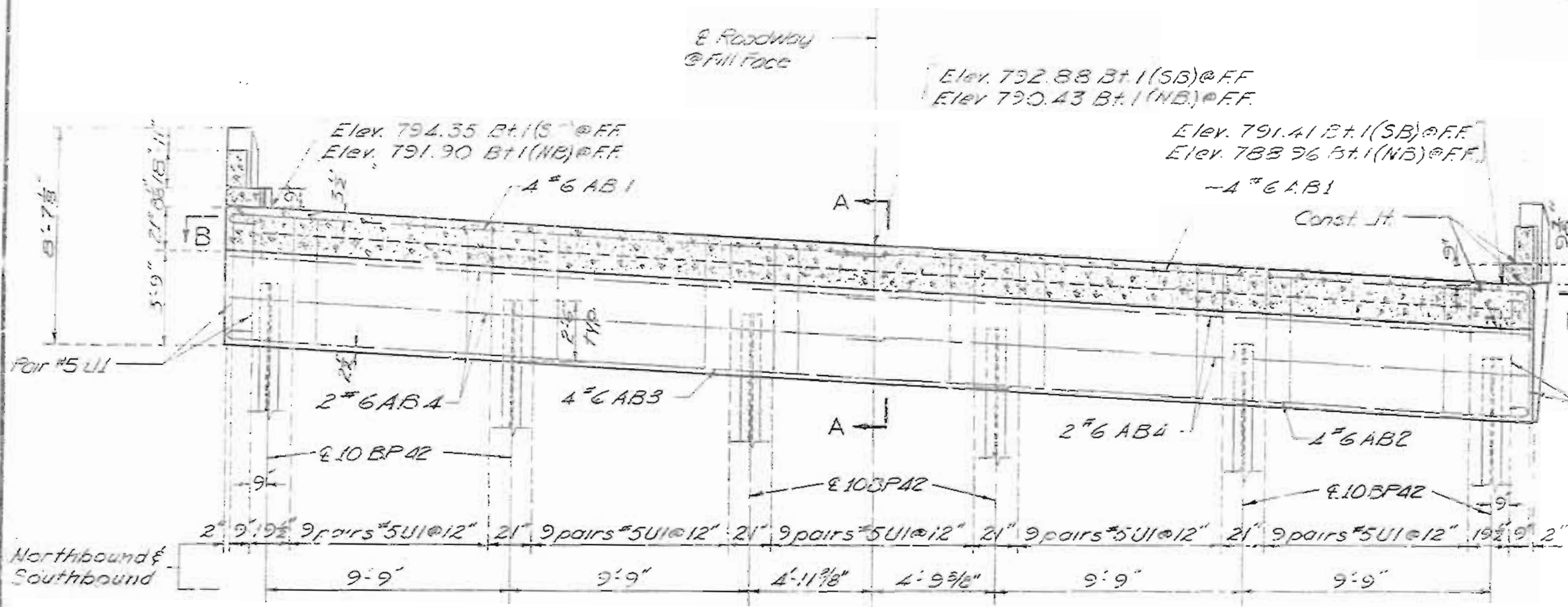
BRIDGE OVER ROUTE K (78)  
 STATE ROAD INTERSTATE ROUTE 435  
 ABOUT 1.5 MILES WEST OF INDEPENDENCE  
 PROJECT NO. I-435-(K42)(RTE. I-435) STA. 265+34.29  
 JACKSON COUNTY

THATCHER & PATIENT, INC.  
 Drawn/Rev. 1965 by Bresnahan  
 Checked Nov. 1965 by Wang

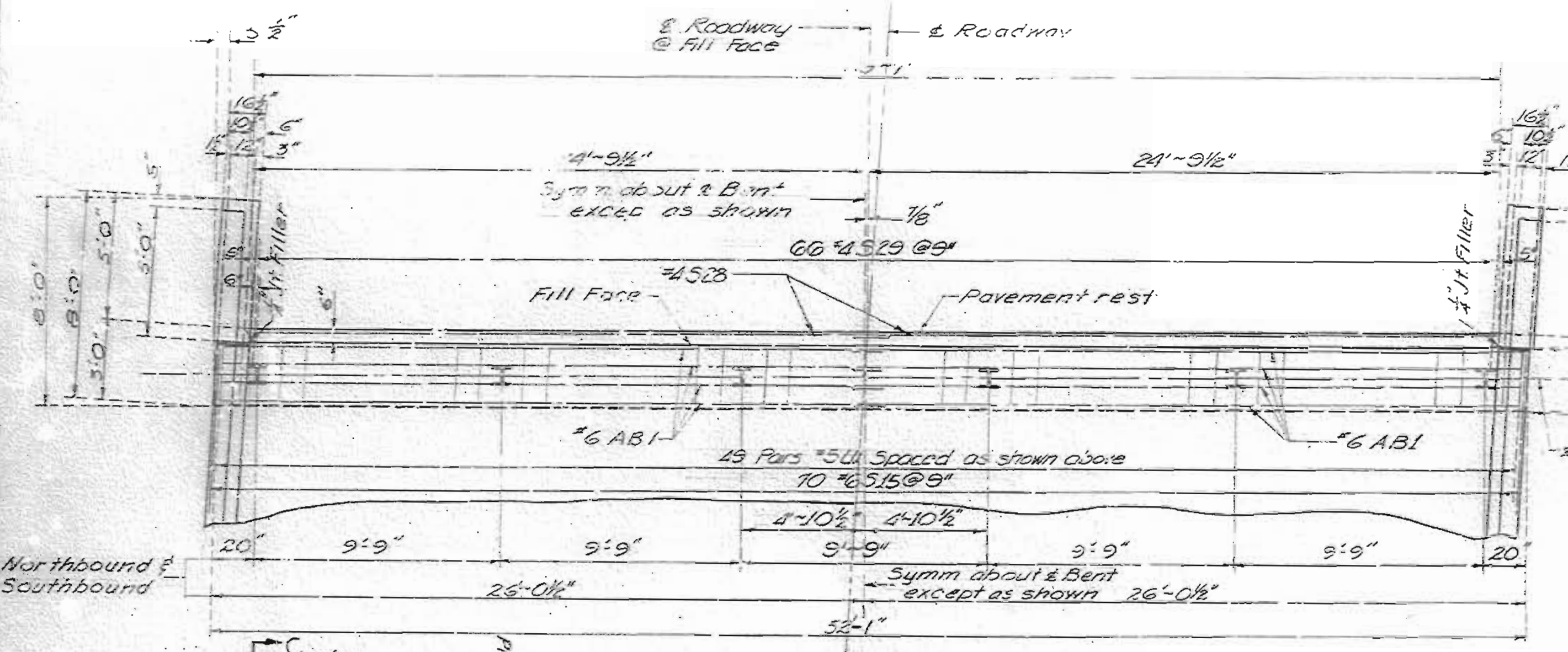
No. This drawing is not to scale. Follow dimensions.

MISSOURI STATE HIGHWAY DEPARTMENT

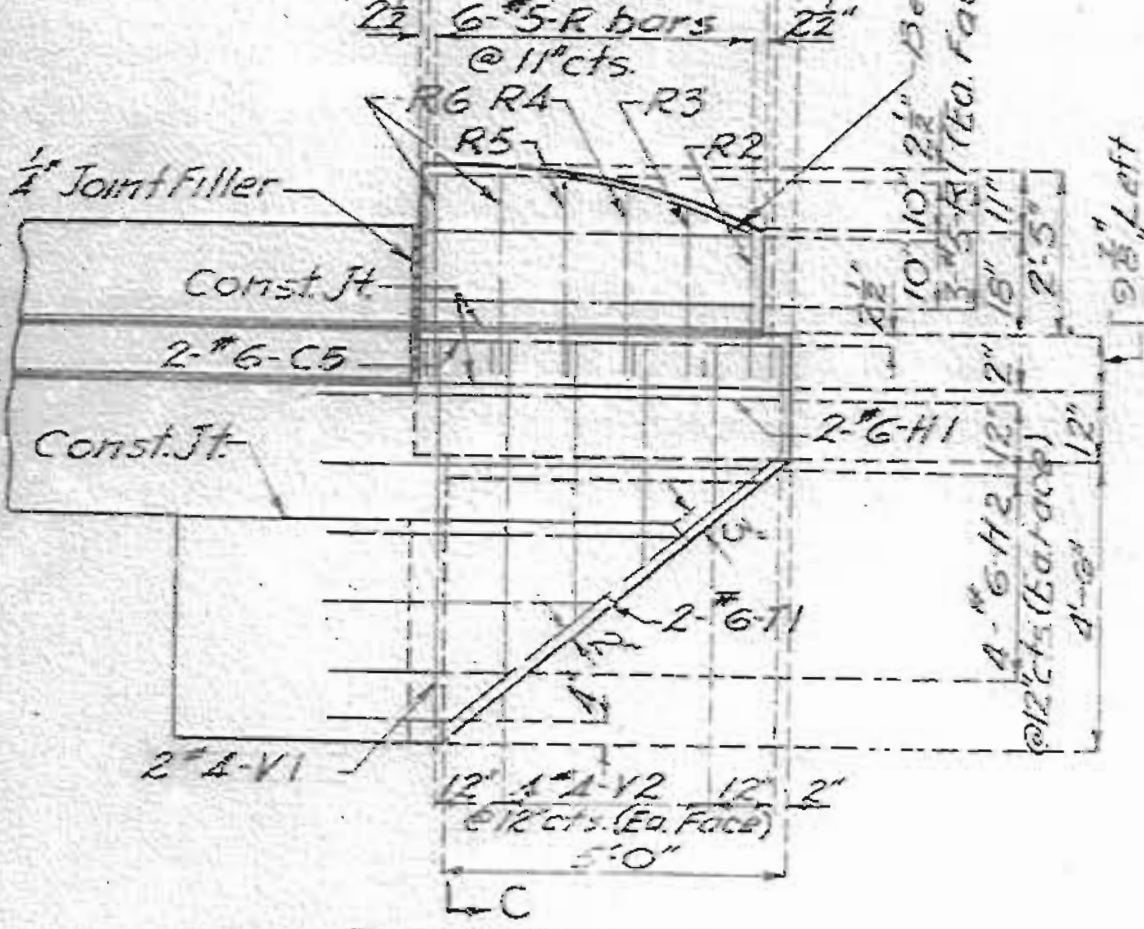
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MO.		1965	65	



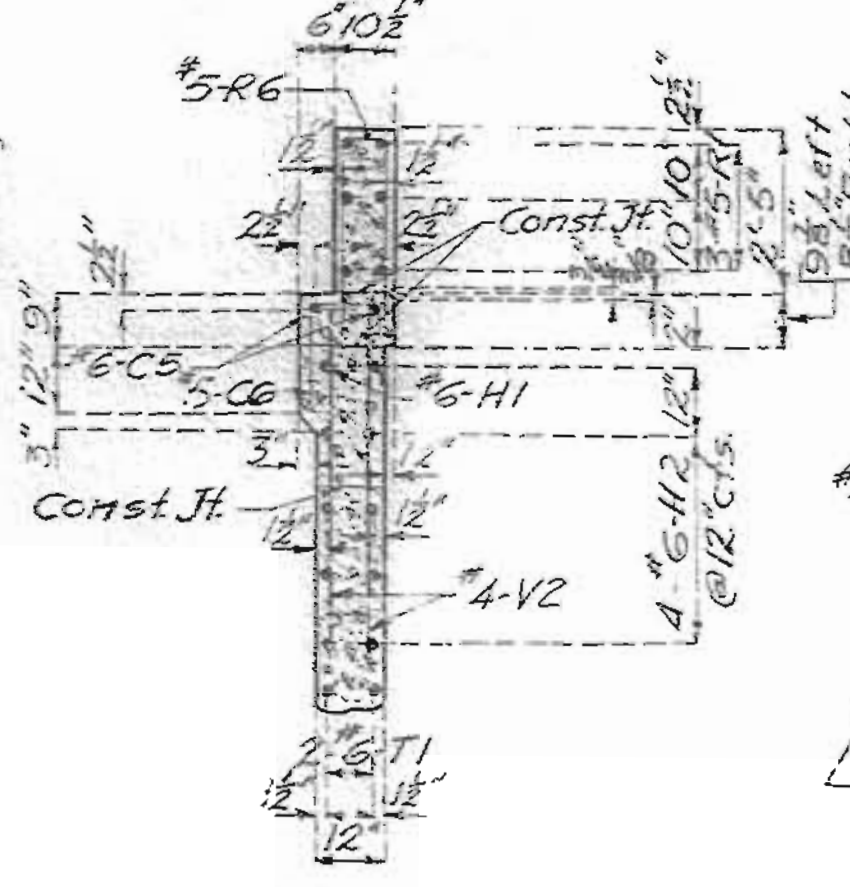
ELEVATION



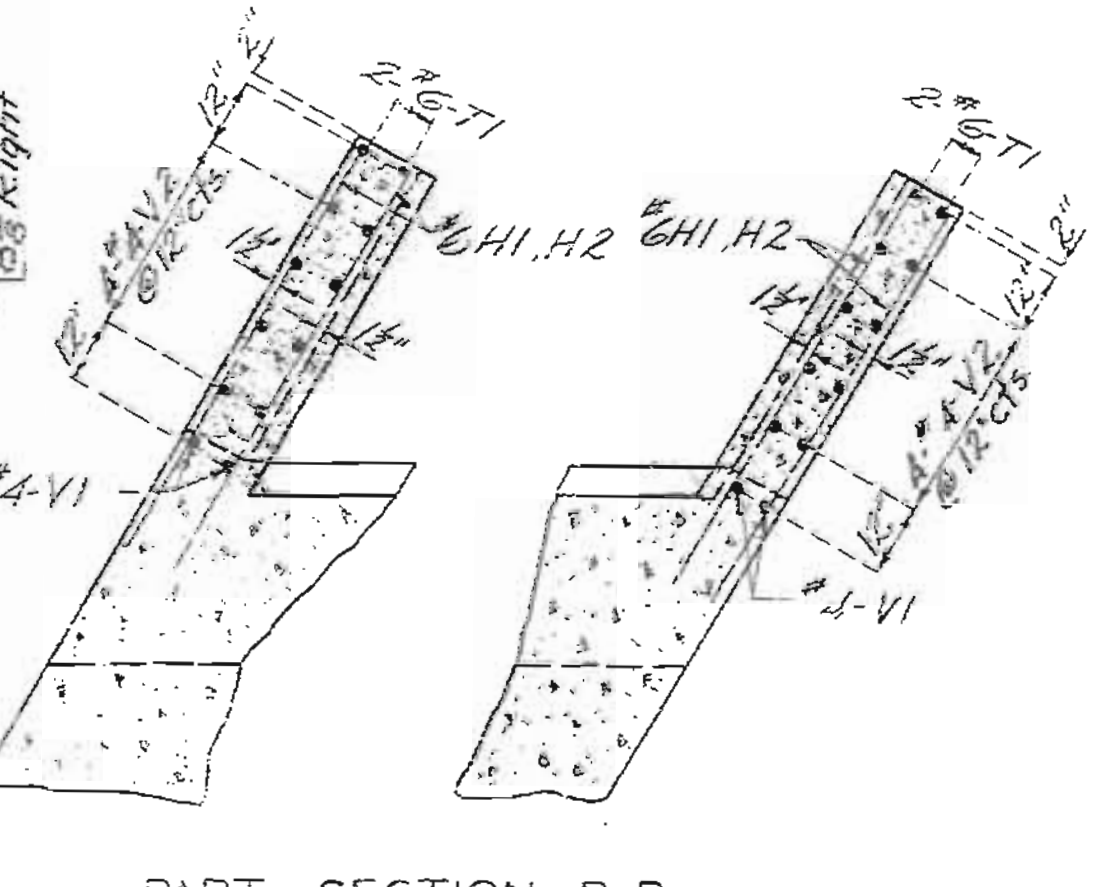
PLAN DETAILS OF END BENT NO. 1 (NORTHBOUND AND SOUTHBOUND STRUCTURES)



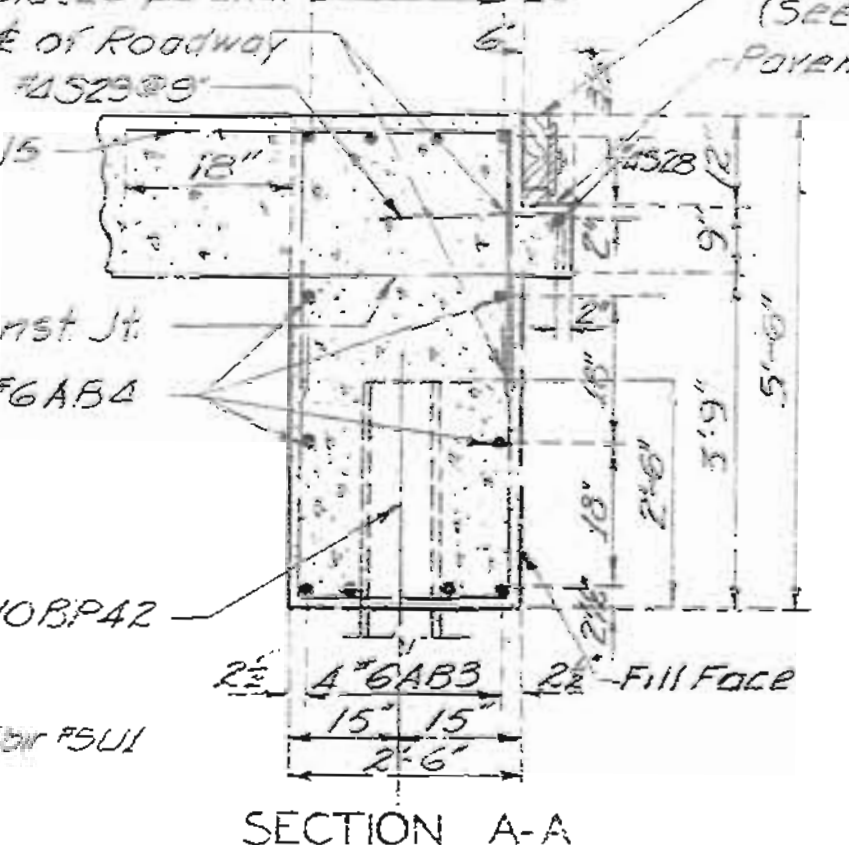
ELEVATION OF WING



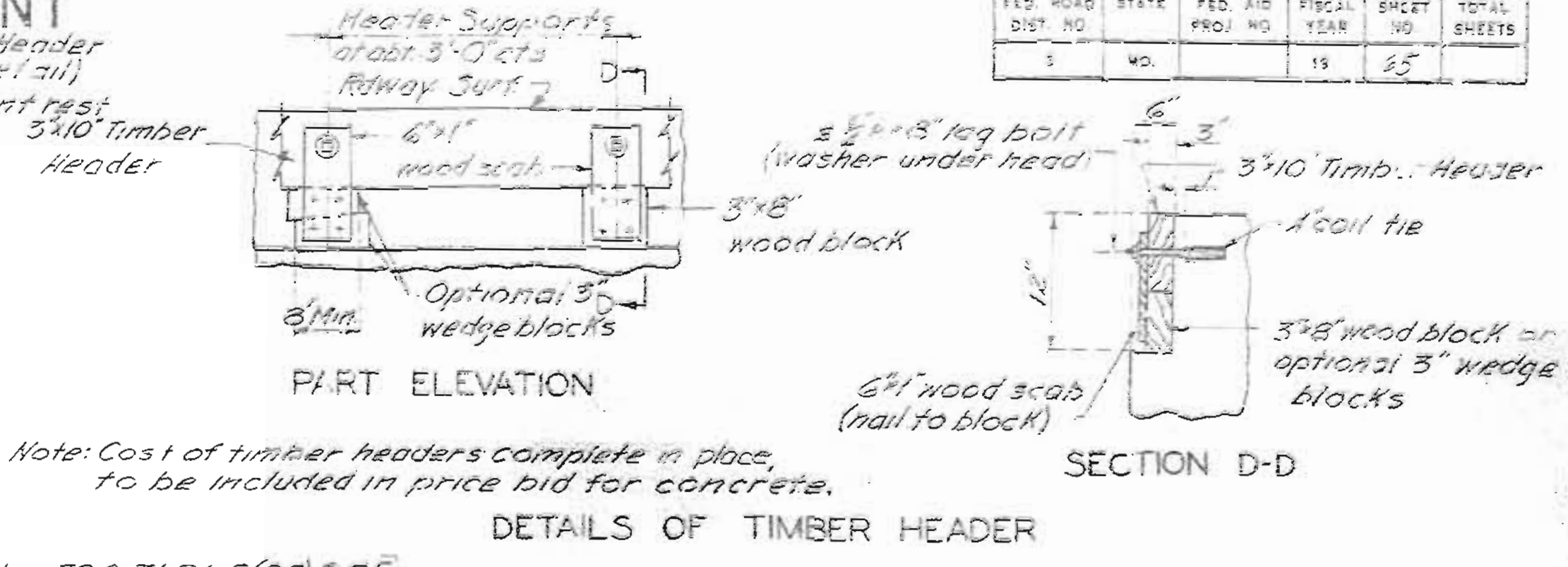
SECTION G-C



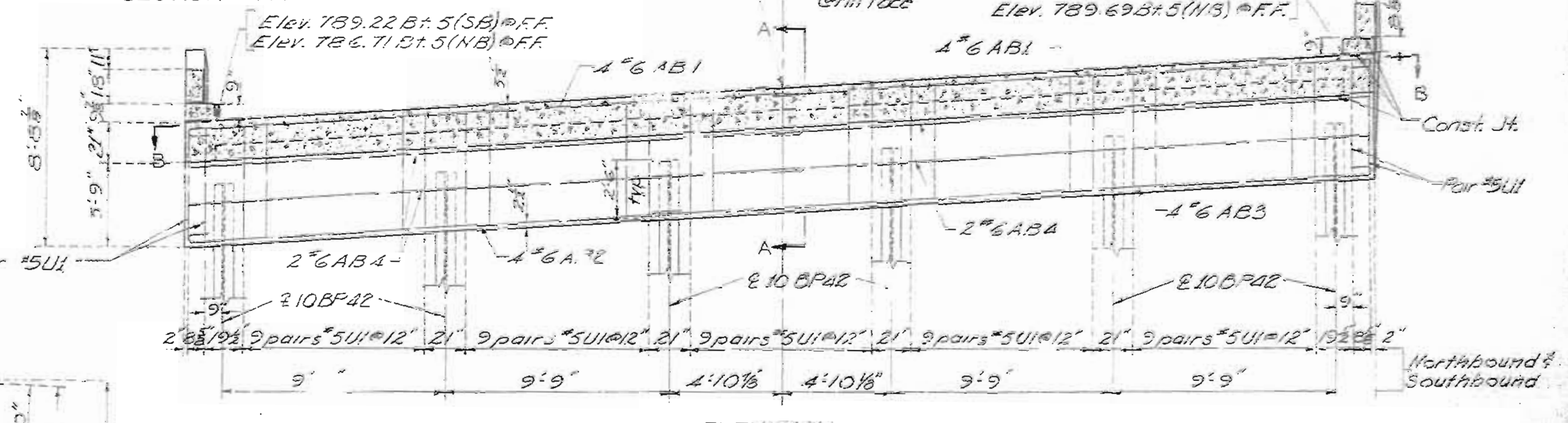
PART SECTION B-B



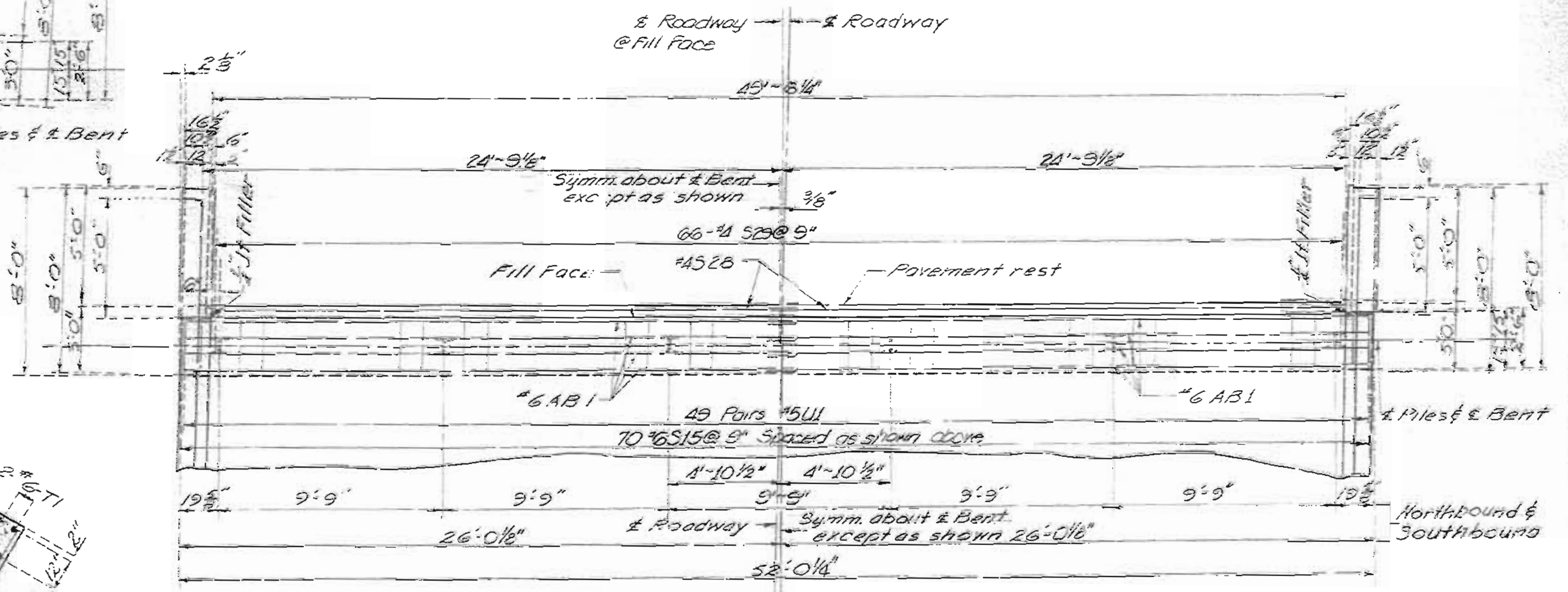
SECTION A-A



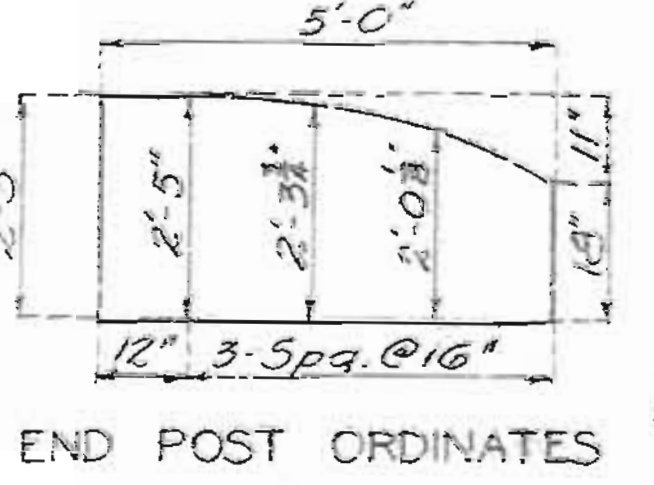
DETAILS OF TIMBER HEADER



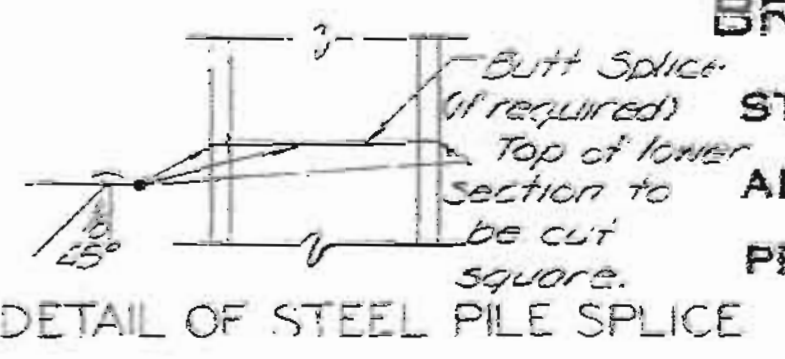
ELEVATION



PLAN DETAILS OF END BENT NO. 5 (NORTHBOUND AND SOUTHBOUND STRUCTURES)



END POST ORDINATES



DETAIL OF STEEL PILE SPLICE

BRIDGE OVER ROUTE K (78)  
 STATE ROAD INTERSTATE ROUTE 435  
 ABOUT 1.5 MILES WEST OF INDEPENDENCE  
 PROJECT NO I-435-K42 (ITE 1435) STA. 285+34.29  
 JACKSON COUNTY

DETAILED Oct. 1965 BY Bresnahan  
 CHECKED Oct. 1965 BY W. Long THATCHER & PATENT, INC.

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

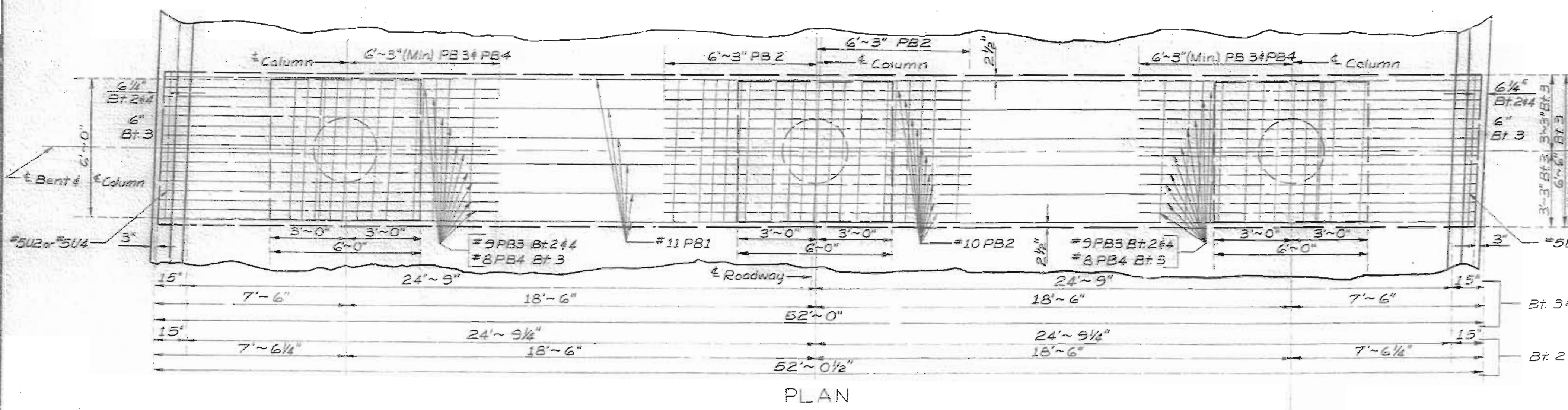
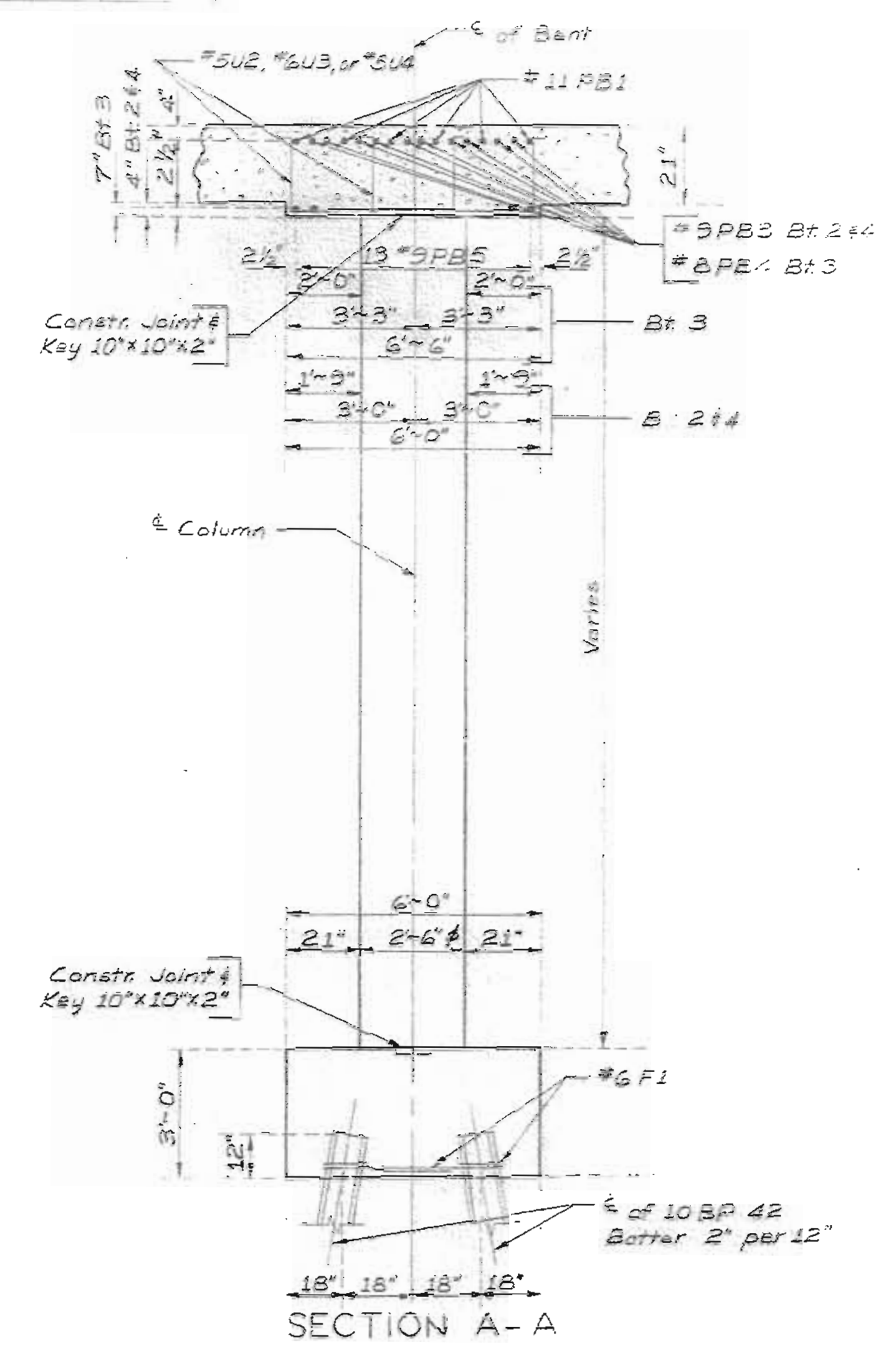
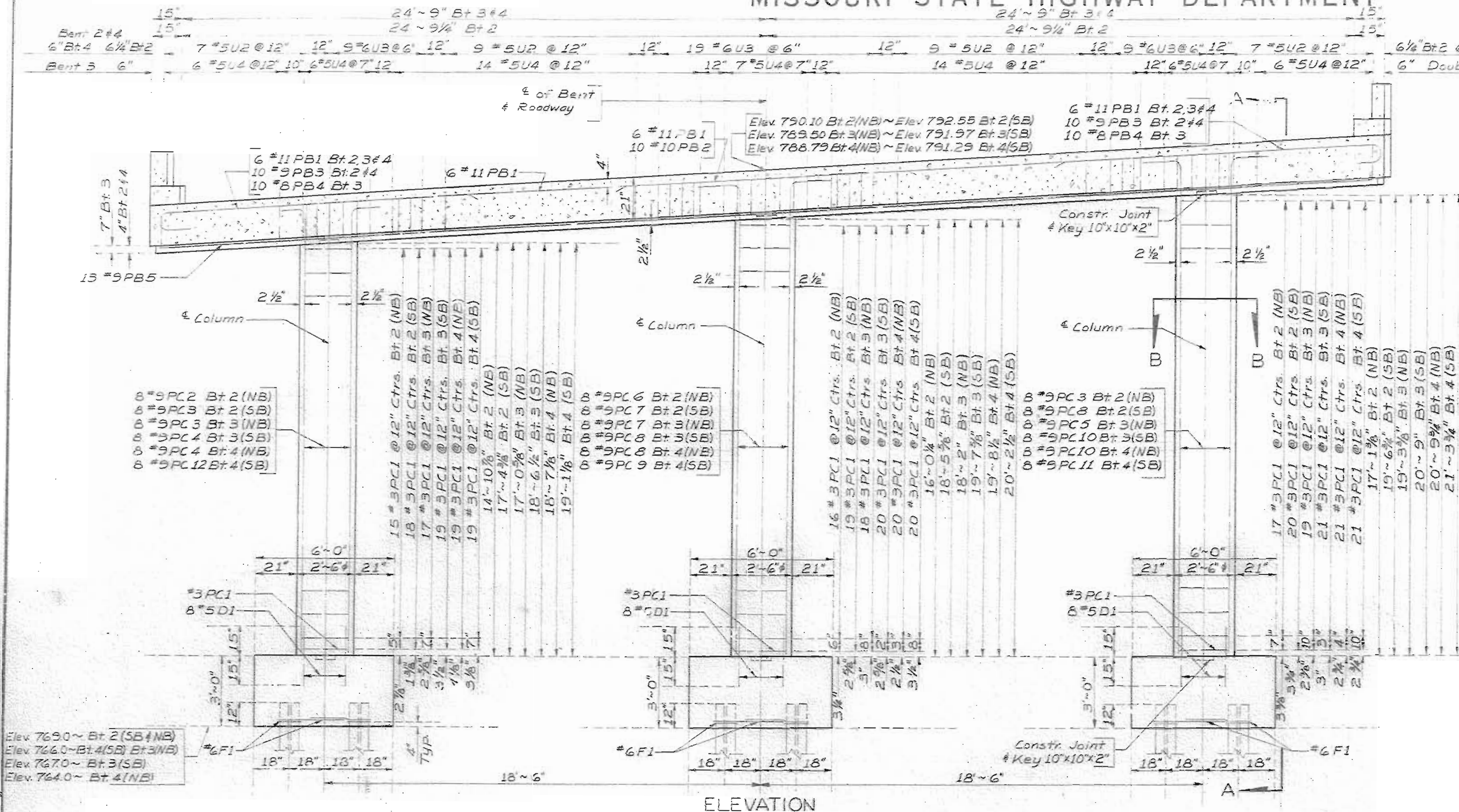
Sheet No. 3 of 6

A-1698

NO CONSTRUCTION OF ANGLES

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	66	



DETAILS OF INT. BENTS 2,3,AND4 (NORTHBOUND AND SOUTHBOUND)

TYPICAL FOOTING PLAN  
 BRIDGE OVER RTE. K(78)  
 STATE ROAD- INTERSTATE ROUTE 435  
 ABOUT 1.5 MILES WEST OF INDEPENDENCE  
 PROJECT NO. I-435-1(42)(RTE. I-435) STA. 205+34.29  
 JACKSON COUNTY

THATCHER & PATENT, INC  
 DETAILED Oct. 1965 BY Findlay  
 CHECKED Oct. 1965 BY WONG

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

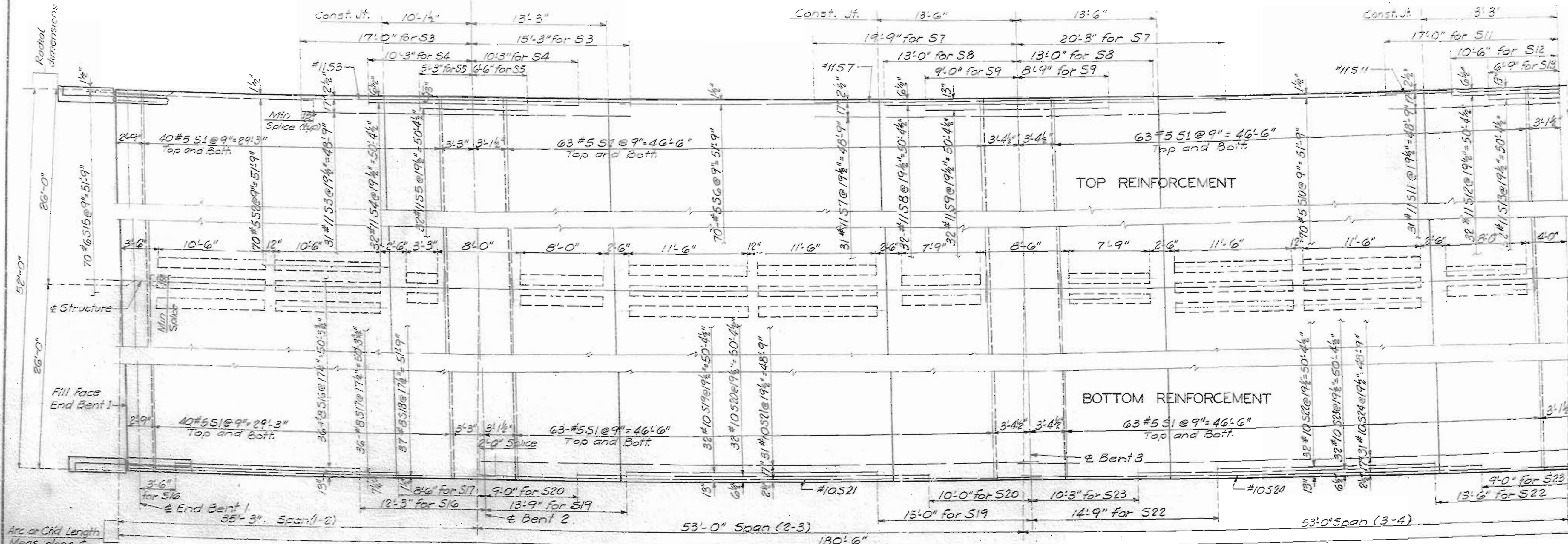
Sheet No. 4 of 6

NO CONSTRUCTION CHANGES

A-169

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	67	



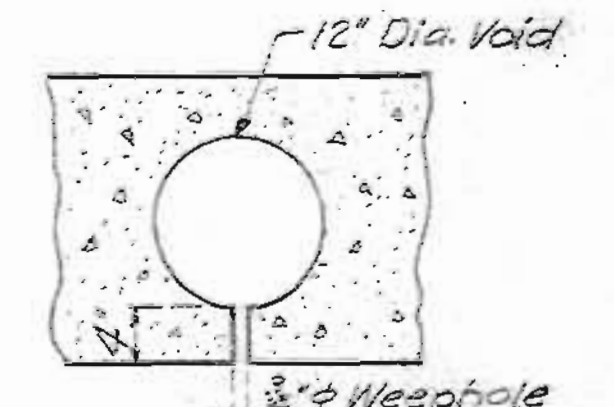
PLAN NORTHBOUND AND SOUTHBOUND STRUCTURES

Note Spacing of longitudinal bars is measured radially

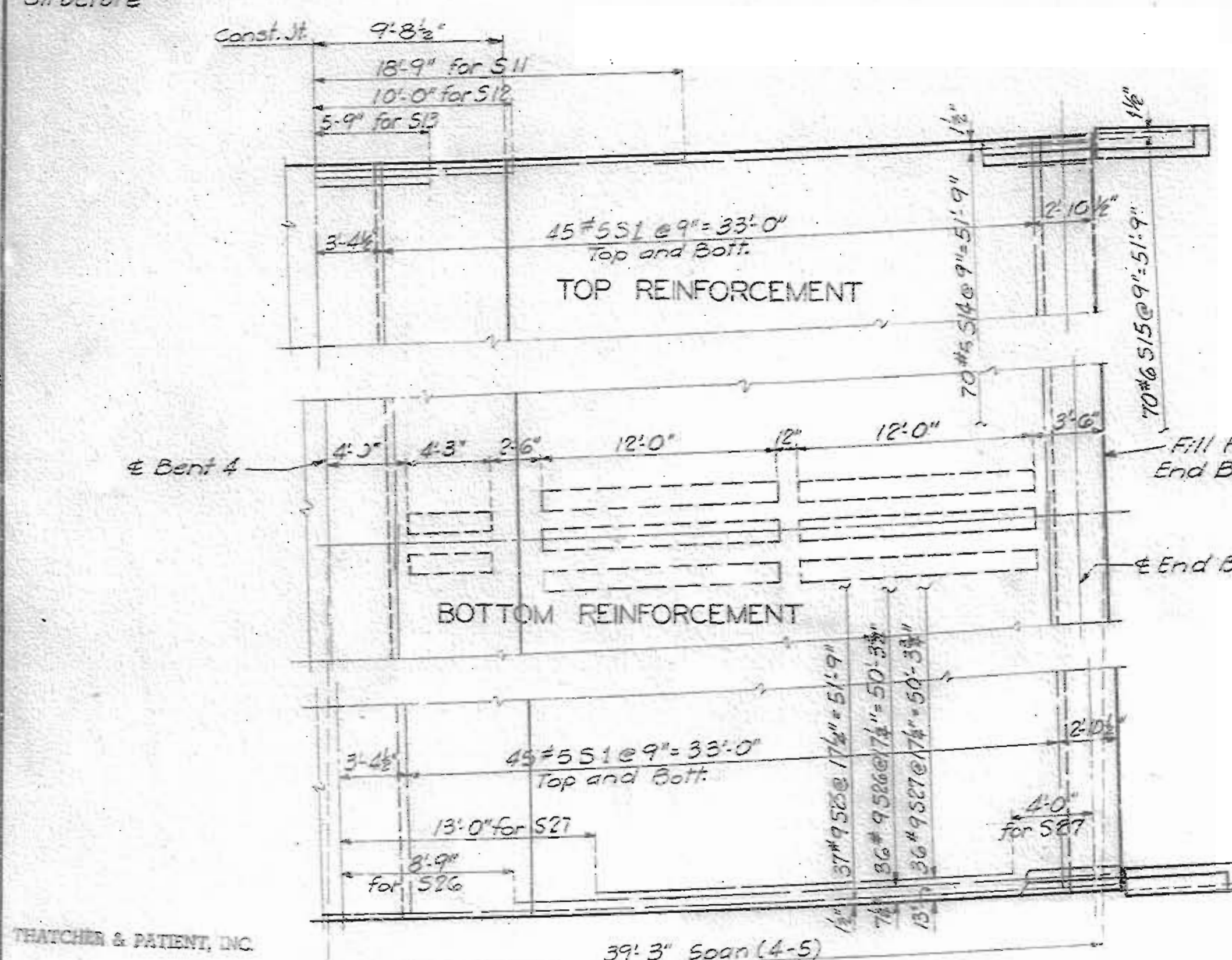
Finish each side of joint with 1/2" radius edging tool and fill flush with joint seal



DETAIL OF SLAB CONST. JOINT KEY



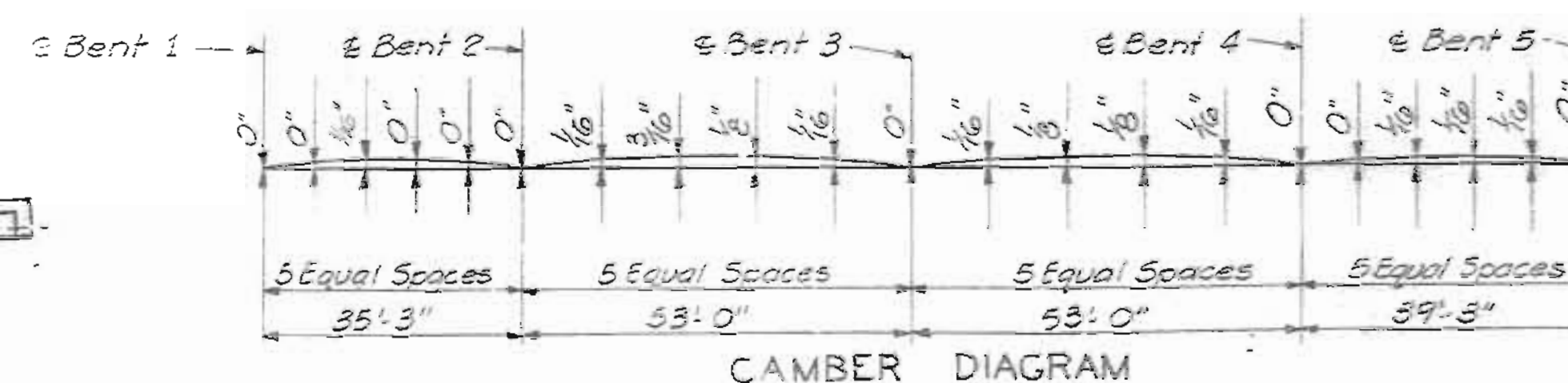
Note: One 3/4" weephole shall be provided near each end of each void. Weepholes shall be placed in straight lines parallel to bents.



Note: For details of curbs and handrail not shown see sheet 6 of 6.

Note: The contractor shall use an approved oscillating screed type, self-propelled mechanical finishing machine and shall pour and satisfactorily finish the roadway slab at a rate of not less than 55 cubic yards per hour. He shall observe the transverse construction joints shown on plans unless he can demonstrate to the satisfaction of the engineer that he is equipped to pour and satisfactorily finish the roadway slab at a rate which will permit a continuous pouring thru some or all of these joints. Finishing machine load will not be permitted on concrete less than 48 hrs old.

Note: Fiber tubes for producing voids shall have an outside diameter of 12" and a wall thickness of .225" and shall be anchored to joists carrying the floor form at not more than 4'-0" ctrs. See Special Provisions for metal tube alternate for voids.



BRIDGE OVER ROUTE K(78)

STATE ROAD INTERSTATE ROUTE 435

ABOUT 15 MILES WEST OF INDEPENDENCE

PROJECT NO. I-435-K(42)(RTE)-435 STA. 265+34.29

JACKSON COUNTY

THRASHER & PATENT, INC.

DETAILED Oct. 1966 BY Williams  
CHECKED Nov. 1965 BY Lasky

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

Sheet No. 5 of 6.

NO CONSTRUCTION CHANGES

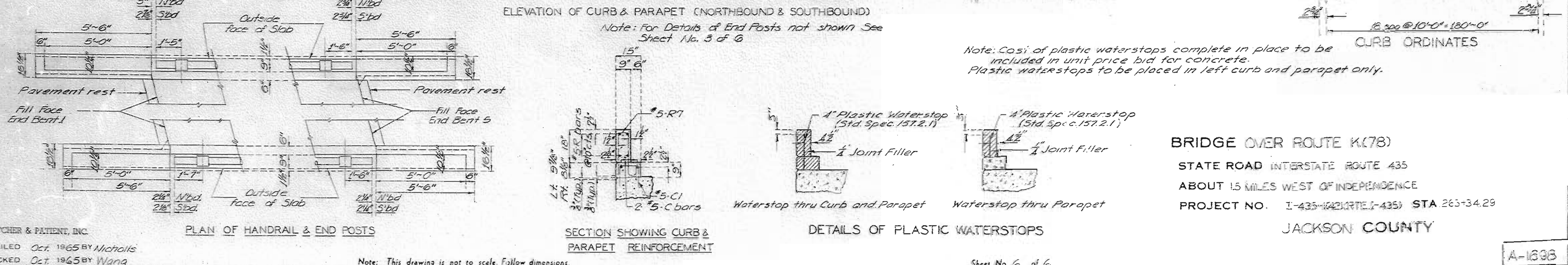
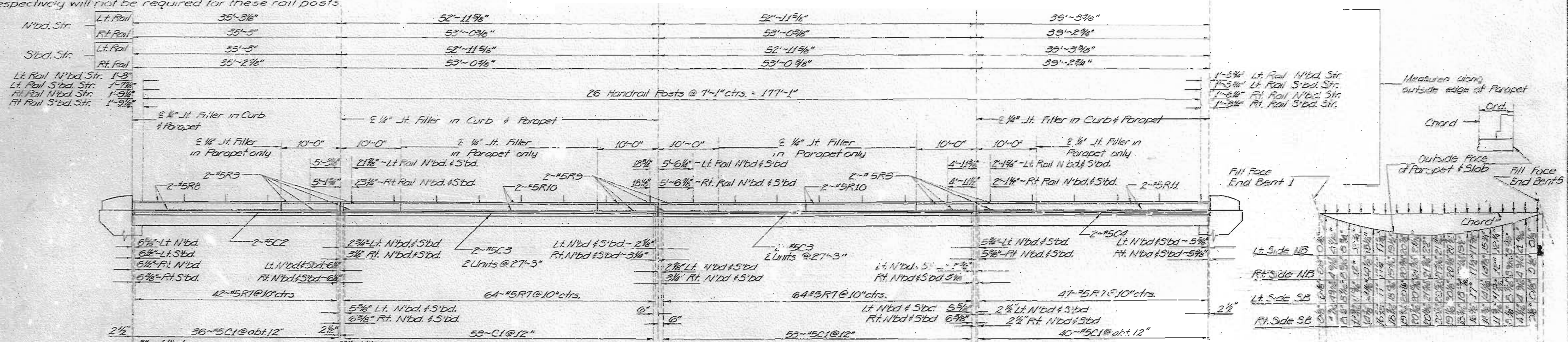
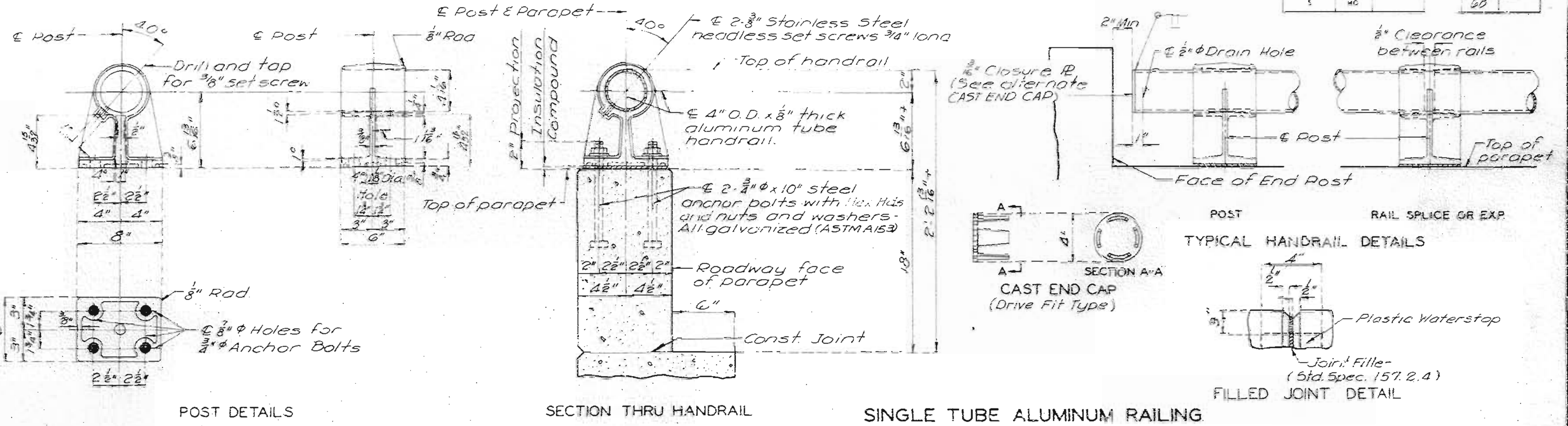
A1698

GENERAL 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 bearing 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 two or three panel lengths unless otherwise approved.  
 Omit set screw on side near filled joint in parapet 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, parapets and curbs shall have 2" radius.  
 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. 562.4 and 563.5 respectively will not be required for these rail posts.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO			68	



BRIDGE OVER ROUTE K(78)  
 STATE ROAD INTERSTATE ROUTE 435  
 ABOUT 1.5 MILES WEST OF INDEPENDENCE  
 PROJECT NO. I-435-142 (ROUTE I-435) STA 263+34.29  
 JACKSON COUNTY

No. 152 L.A. Revised  
 Nov 1963 May 1965

THATCHER & PATENT, INC.  
 DETAILED Oct. 1965 by Nicholls  
 CHECKED Oct. 1965 by Wang

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

Sheet No. 6 of 6.

A-1698

MISSOURI STATE HIGHWAY DEPARTMENT

Traffic on 23rd Street was maintained during construction. Twin 34' 55" x 38' Continuous Voided Slab Spans

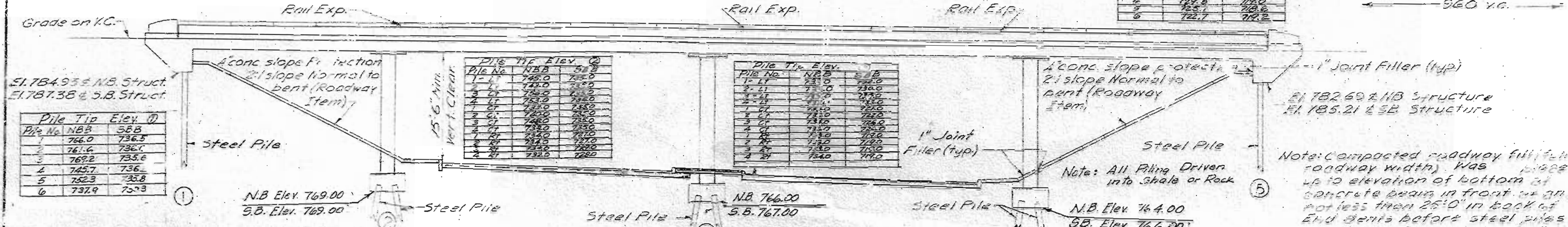
PILE NO.	TYPE	DIAM.	ELEV. @ TOP	ELEV. @ BOT.
1	NBB	18"	746.0	710.0
2	NBB	18"	746.0	710.0
3	NBB	18"	746.0	710.0
4	NBB	18"	746.0	710.0
5	NBB	18"	746.0	710.0
6	NBB	18"	746.0	710.0

RI. Sta. 265+25 Elev. 793.15 960' x 6'

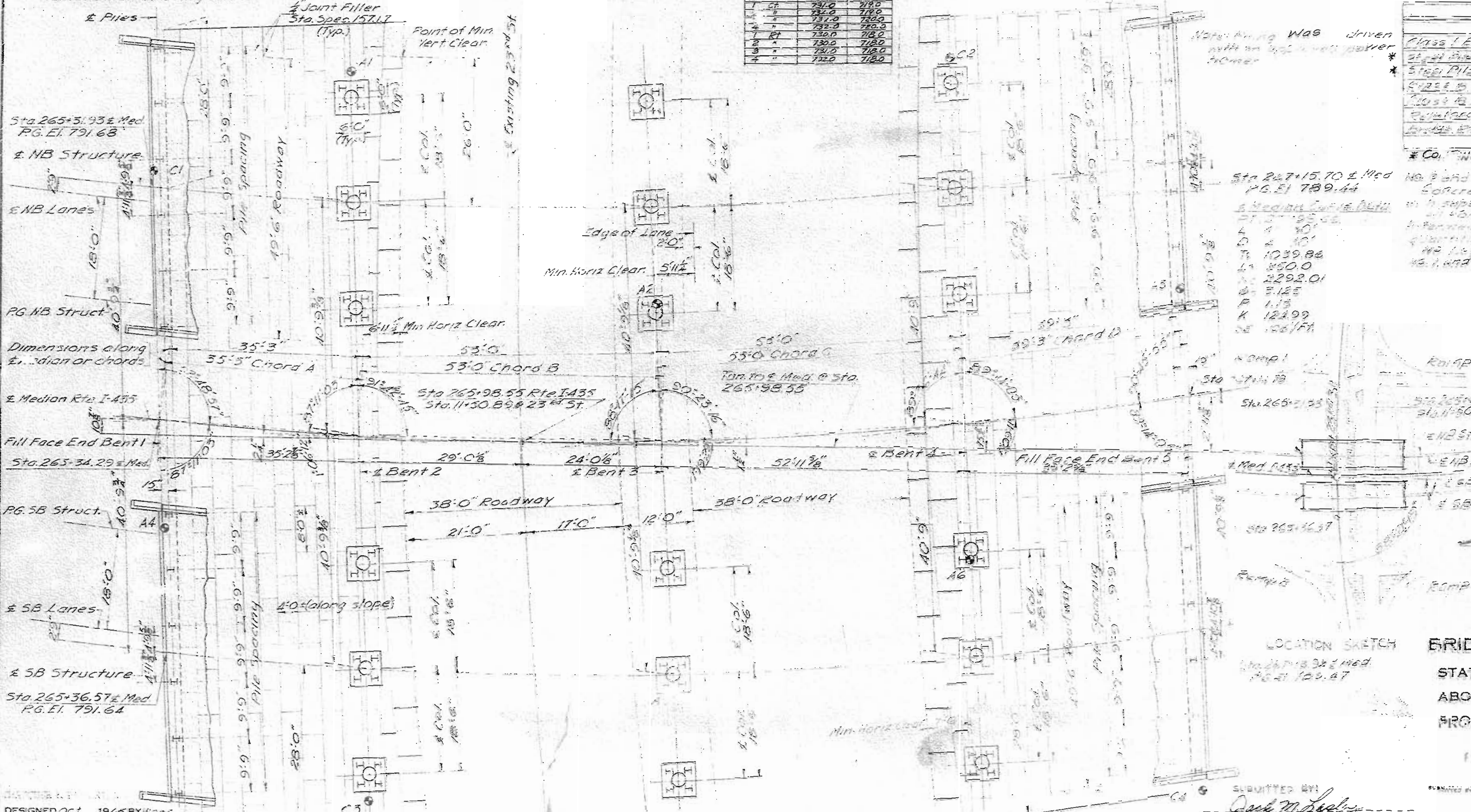
FILE NO.	STATE	FED. AID	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MO.		1965	18	43

FINAL PLANS

FILE DATA		1	2	3	4	5
Beam No.						
Pile No. and Size	10B18"	10B18"	10B18"	10B18"	10B18"	10B18"
Struct.	6	12	12	12	6	
Notes						
Power	Power	Power	Power	Power	Power	



Note: Falsework over existing lanes was constructed with a minimum vertical clearance of 13' 0" from high point of existing lanes and a minimum lateral clearance of 28' 0" centered on existing lanes.



QUANTITIES		
Item	Subcontract	Total
Class 1 Exc. (incl. Best Structural)	2770	2770
Class 2 Exc. (incl. Best)	4303	4303
Steel Pile cut size (18")	224	224
Class 3 Concrete	720	720
Class 4 Concrete	1219.3	1219.3
Reinforcing Steel	316.030	316.030
Concrete (incl. Single Tube Piles)	120	120

Excavation bulk finished ground line for bents No. 2 and No. 4 is included in quantities. Concrete in end bents, 28' concrete and lanes is included in superstructure concrete. All concrete and reinforcement above footings in intermediate bents is included in superstructure concrete. No payment for excavation was shown at end bents 1, 2, and 3.

GENERAL NOTES

Design Specification A.A.S.H.O. 1961 Loading HS20-44 (15' spacing) Future wearing surface Modified 24,000 Tandem Axle Earth 120' - Equivalent Fluid Pressure 30' Class 3 Concrete (superstructure) fc = 1,200 psi. Class 4 Concrete (superstructure) fc = 1,600 psi. Reinforcing Steel fs = 20,000 psi. Steel Pile (A.S.T.M. A36-62T) fb = 9,000 psi. Superstructure deck has surface sealed. For paving data see Sheet No. 2 of 6. S indicates location of boring.

NOTE: Bents cannot be accurately located from the reference point on the tangent by conventional survey methods based on 100' ft chords. All bents are parallel.

BENCHMARK  
PK. Nail Pt. Curb Lt. Lane Bridge #A-1698  
Lt. Sta. 265+20 Elev. 792.76

BRIDGE OVER ROUTE K (78)  
STATE ROAD INTERSTATE ROUTE 435  
ABOUT 16 MILES WEST OF INDEPENDENCE  
PROJECT NO. I-435-1(4)(ROUTE 435) STA. 265+34.24

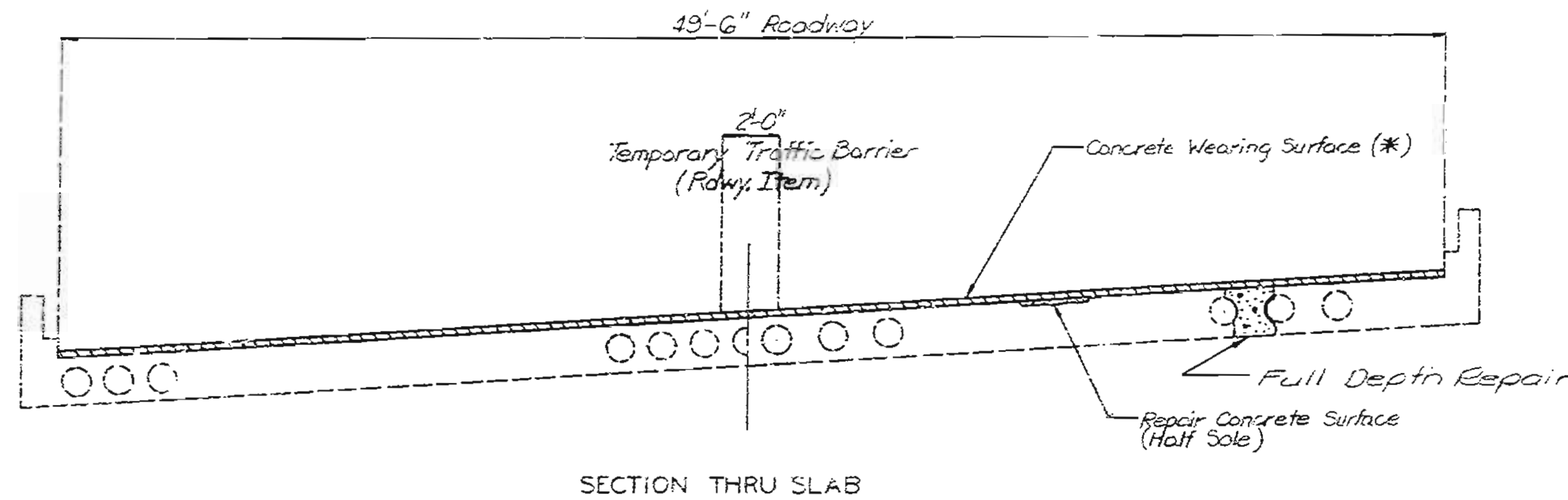
JACKSON COUNTY  
SUBMITTED BY: *Jack M. Loeber*  
REGISTERED PROFESSIONAL ENGINEER  
MISSOURI NO. E-2243  
SHEET NO. 1A OF 1

DESIGNED Oct 1965 BY Wang  
DETAILED Oct 1965 BY Bresnahan  
CHECKED Oct 1965 BY Loeber

STD. 64-68  
A1698

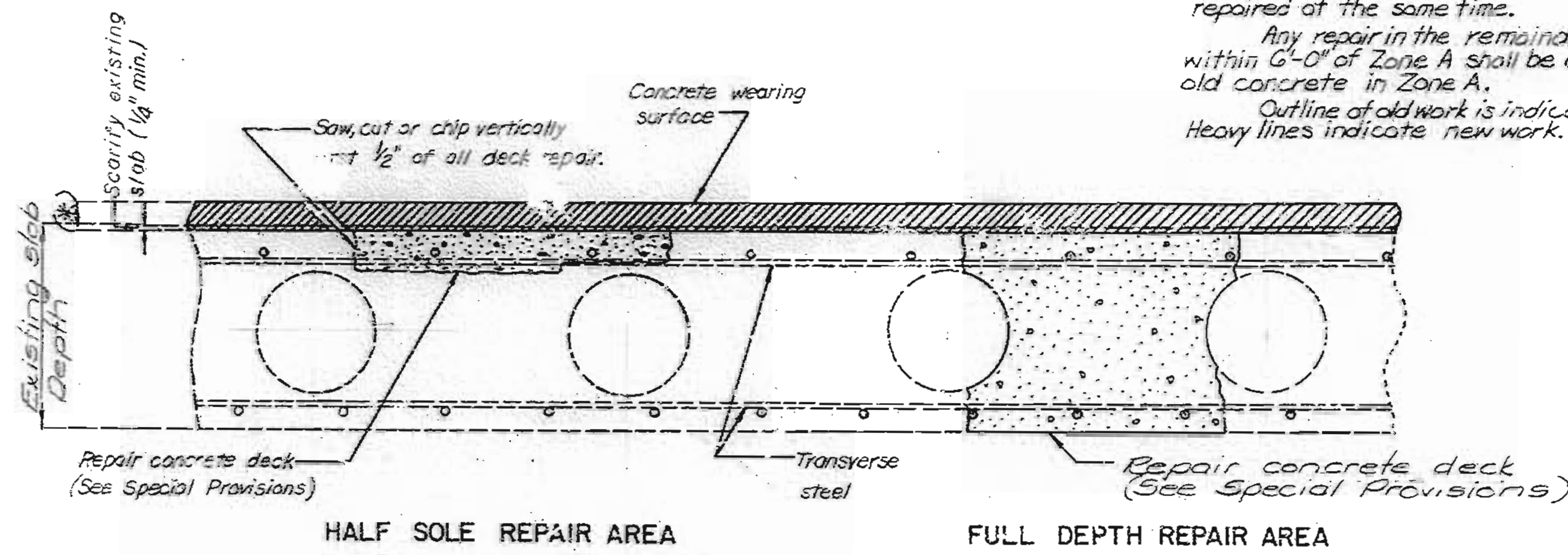
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ NO	SHEET NO
MO	IR-435-1(152)	15
SEC 7	TWP 49N	RAS 32W



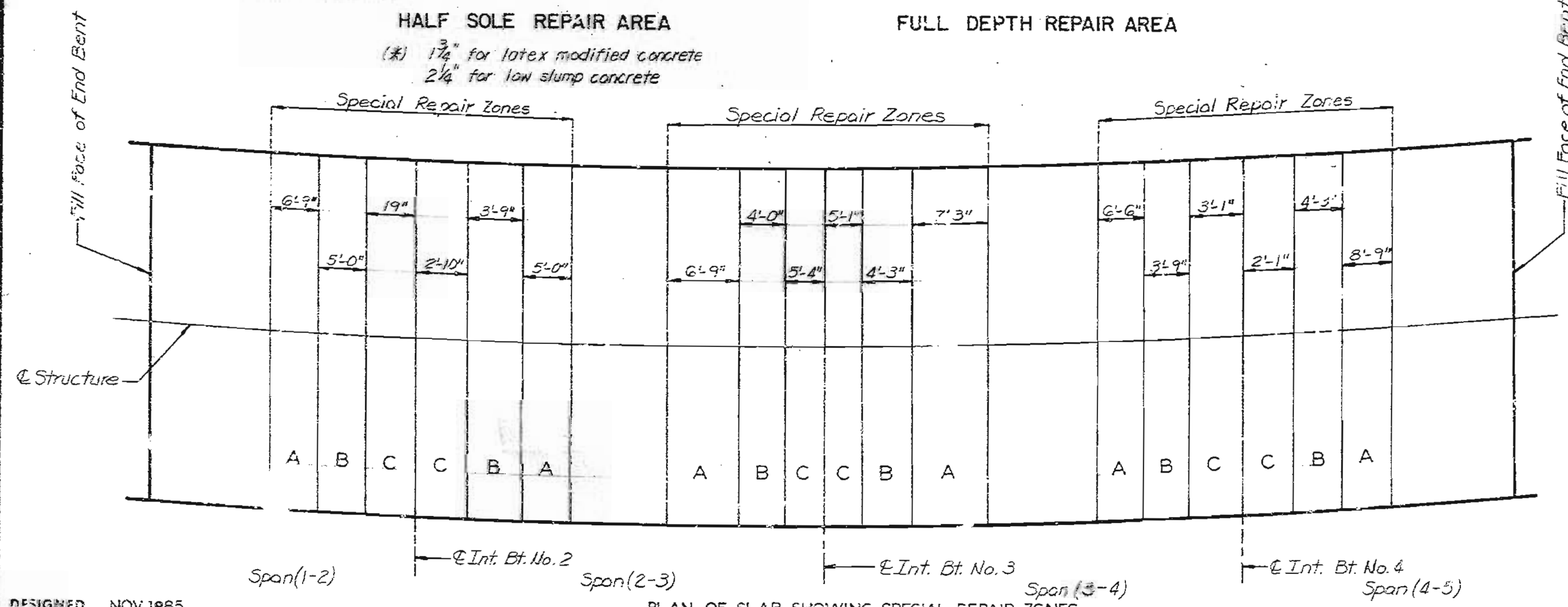
General Notes:

Sequence for Repair; Zone A, Zone B, then Zone C.  
 Zones with the same letter designation may be repaired at the same time.  
 Any repair in the remainder of the bridge that is within 6'-0" of Zone A shall be completed before removing old concrete in Zone A.  
 Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.



HALF SOLE REPAIR AREA  
 (\*) 1 3/4" for latex modified concrete  
 2 1/4" for low slump concrete

ESTIMATED QUANTITIES (N.B. & S.B. LANE)		
ITEM		TOTAL
Repairing Concrete Deck (Half - Soling)	Sq. Ft.	3574
Concrete Wearing Surface *( ) (See Spec. Provisions)	Sq. Yds.	1986
Cathodic Protection System	Lump Sum	1
Full Depth Repair	Sq. Ft.	358



PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES  
 NORTHBOUND AND SOUTHBOUND STRUCTURES

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

REPAIRS TO  
 BRIDGE OVER ROUTE 78

STATE ROAD: INTERSTATE ROUTE 435  
 ABOUT 2 MILES NORTH OF ROUTE I-70  
 PROJECT NO. IR-435-1(152) STA. 265+36.57 S.B.  
 265+31.93 N.B.  
 JOB NO. 4-I-435-632 RTE. I-435  
 JACKSON COUNTY

STD.
STD.
A-1698R

DESIGNED NOV 1985  
 DETAILED NOV 1985  
 CHECKED DEC 1985

SEE FINAL PLANS  
 Sheet No. 1 of 7

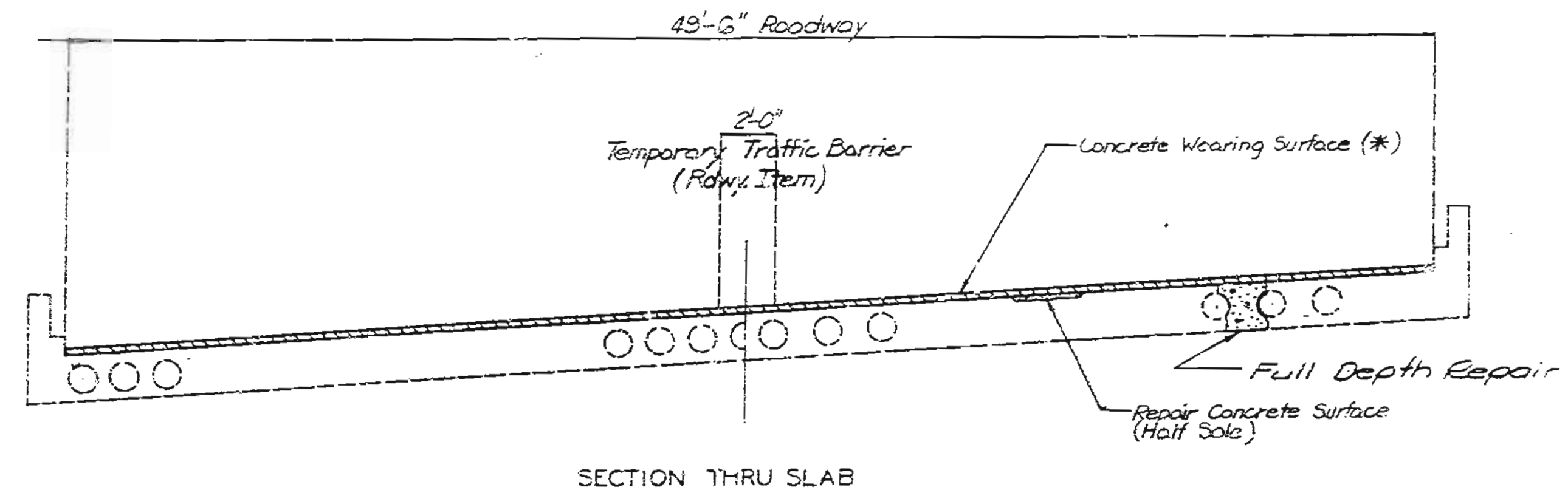
DATE 2/24/86

225

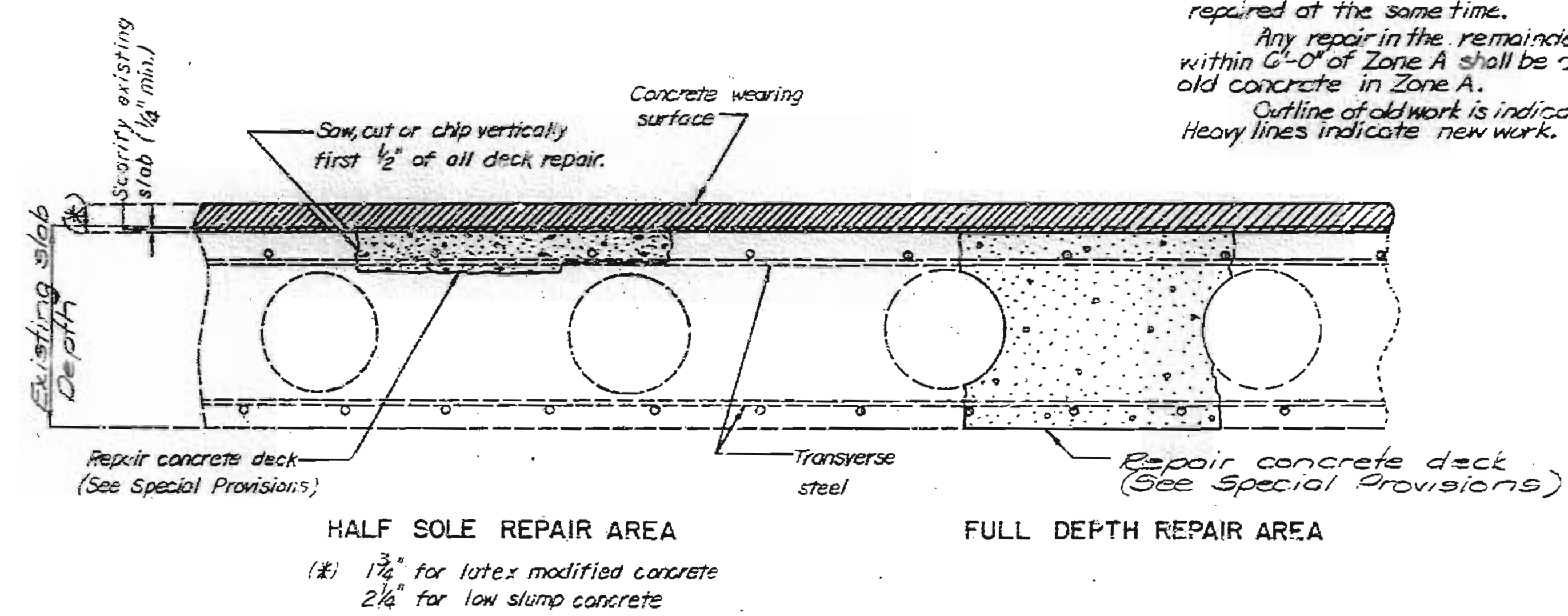


MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ NO	SHEET NO
MO	IR-435-1(182)	15
SEC 7	TWP 49N RGE 32W	

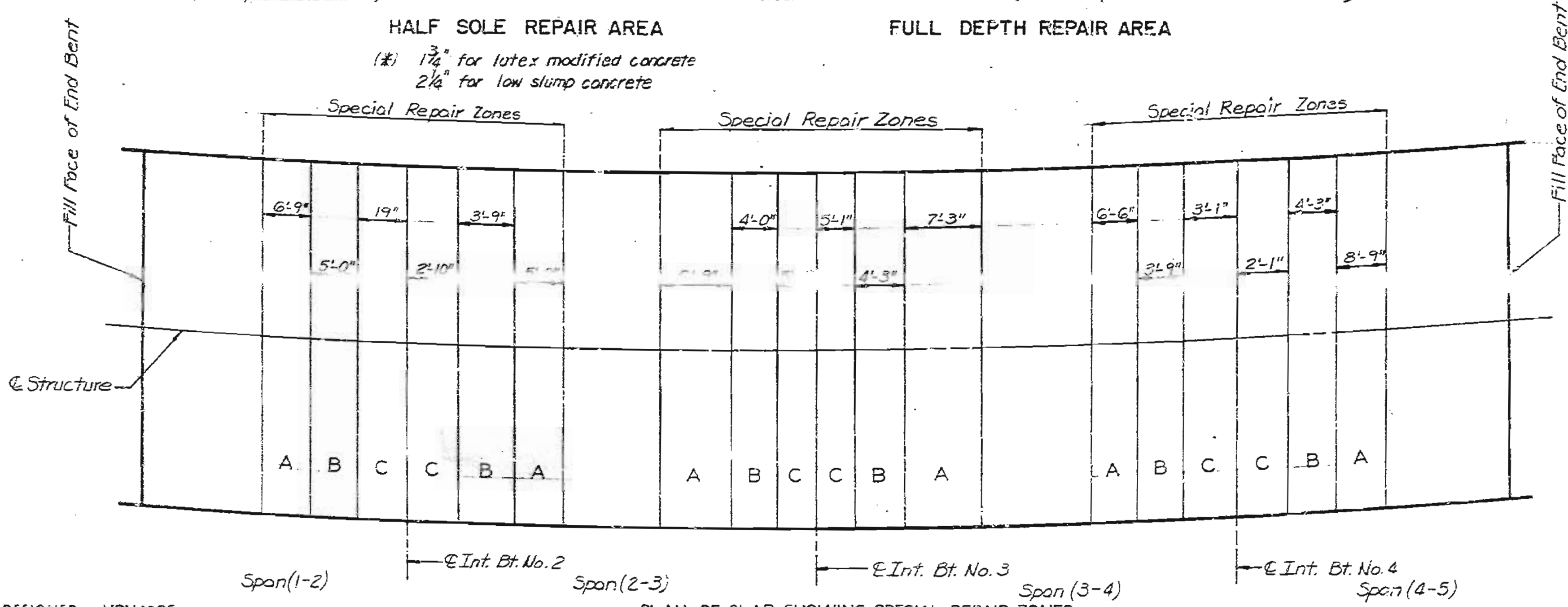


**General Notes:**  
 Sequence for Repair; Zone A, Zone B, then Zone C.  
 Zones with the same letter designation may be repaired at the same time.  
 Any repair in the remainder of the bridge that is within 6'-0" of Zone A shall be completed before removing old concrete in Zone A.  
 Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.



ESTIMATED QUANTITIES (N.B. & S.B. LANE)		
ITEM		TOTAL
Repairing Concrete Deck (Half - Soling)	Sq. Ft.	1851
Concrete Wearing Surface *(LOW-SLUMP)(See Spec. Provisions)	Sq. Yds.	1986
Cathodic Protection System	Lump Sum	1
Full Depth Repair	Sq. Ft.	0

226



PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES NORTHBOUND AND SOUTHBOUND STRUCTURES

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

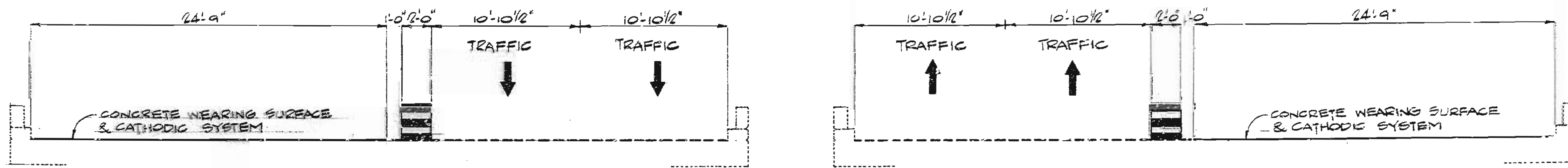
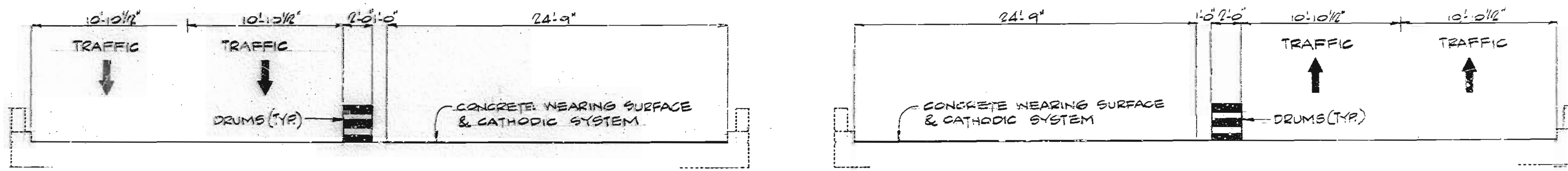
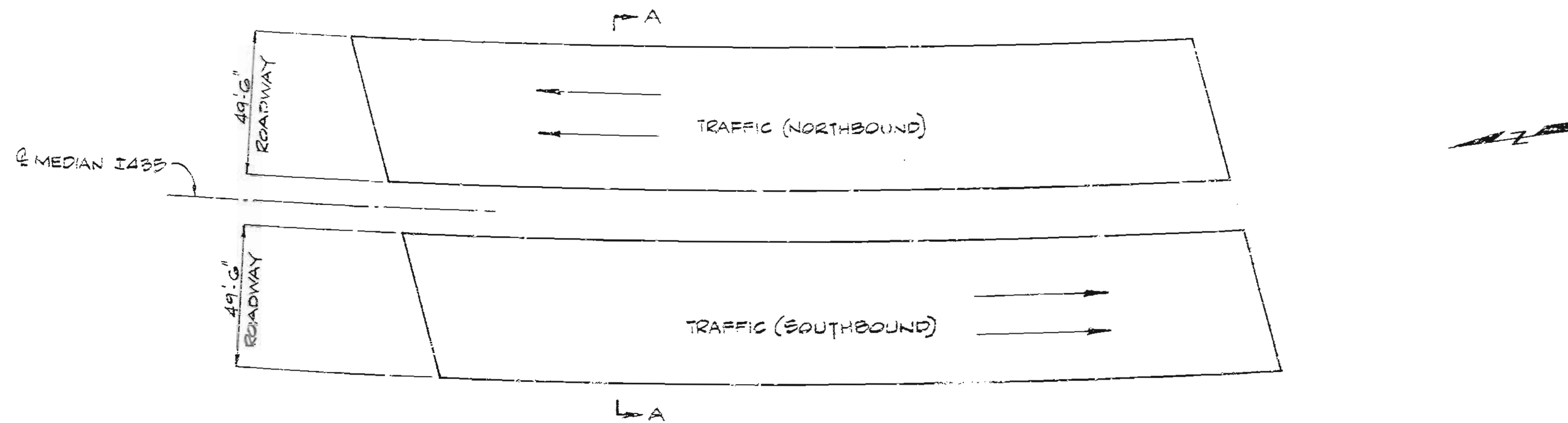
DESIGNED NOV 1985  
 DETAILED NOV 1985  
 CHECKED DEC 1985

REPAIRS TO BRIDGE OVER ROUTE 78

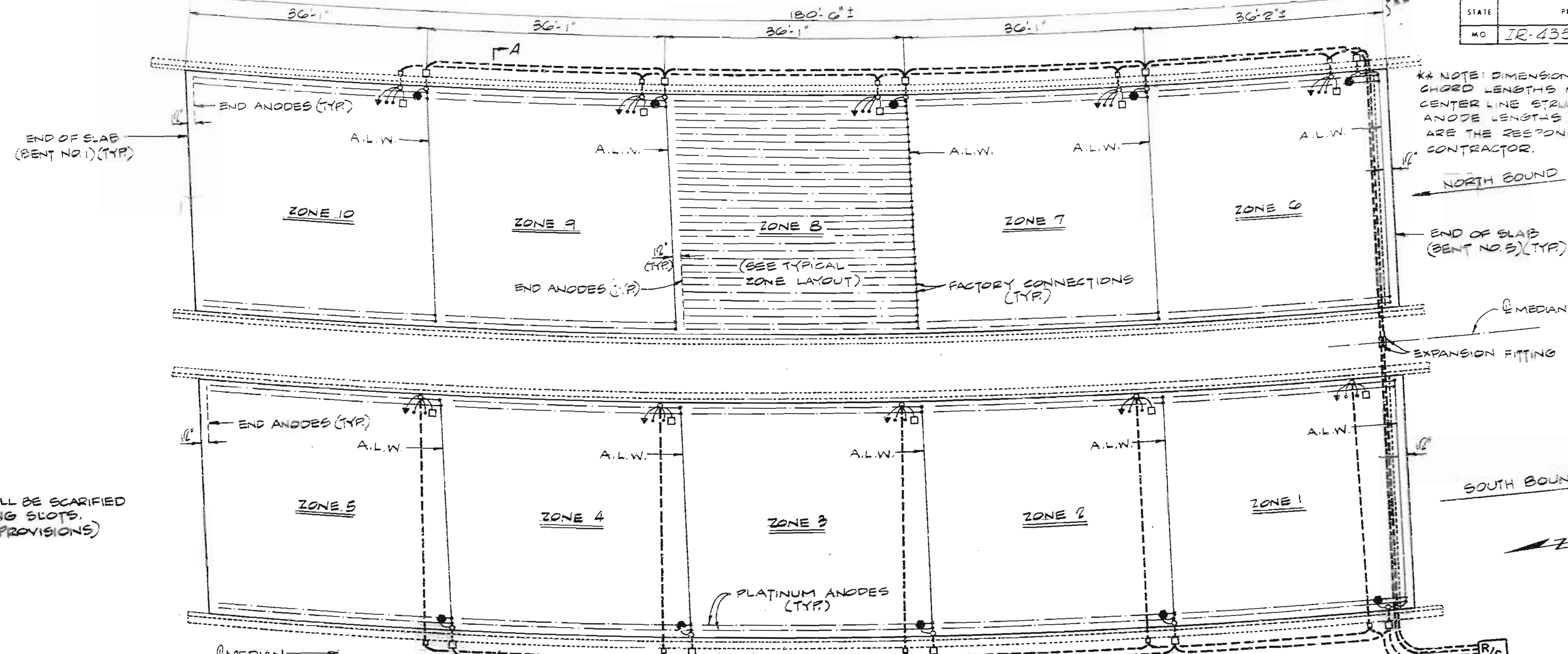
STATE ROAD: INTERSTATE ROUTE 435  
 ABOUT 2 MILES NORTH OF ROUTE I-70  
 PROJECT NO. IR-435-1(182) STA. 265+36.57 S.B.  
 JOB NO. 4-I-435-632 STA. 265+31.93 N.B.  
 JACKSON COUNTY

STD.
STD.
A-1698P

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		85	12	



STATE	PROJ NO	SHEET NO
MO	IR-435-1 (182)	17

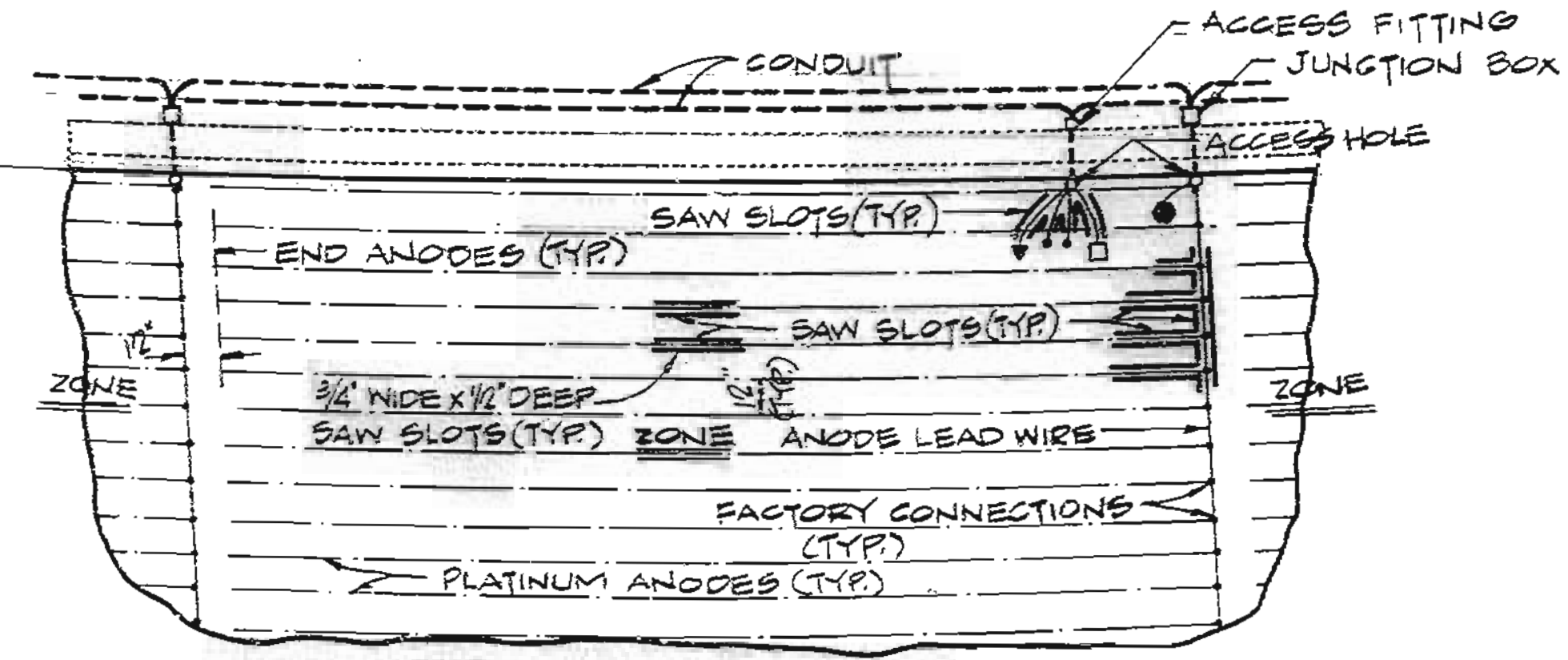
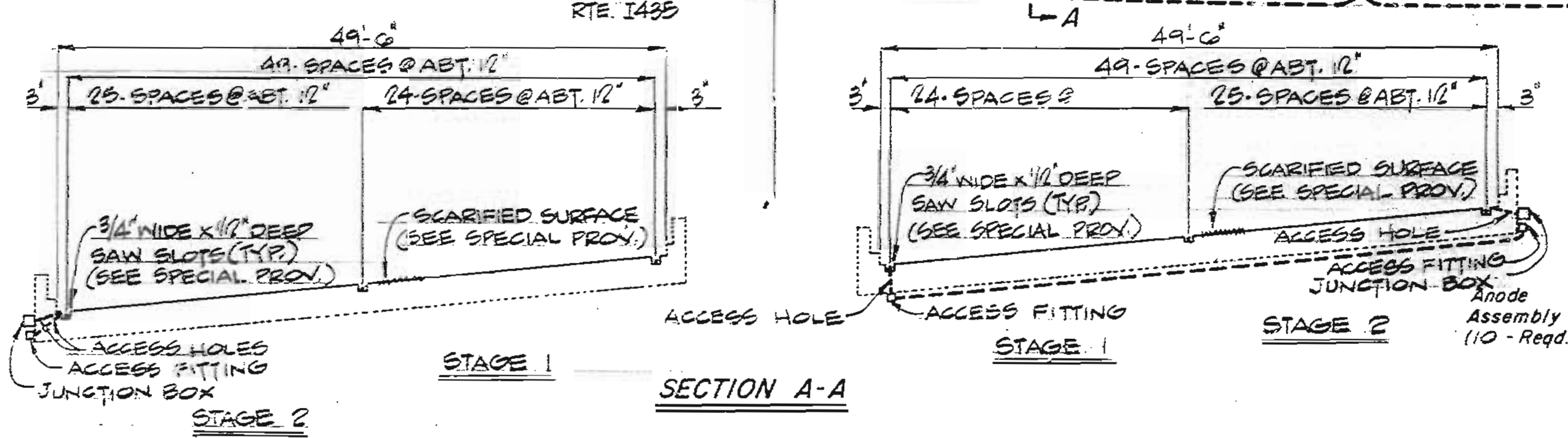


NOTE: DIMENSIONS ARE ARC OR CHORD LENGTHS MEASURED ALONG CENTER LINE STRUCTURES. ACTUAL ANODE LENGTHS FOR EACH ZONE ARE THE RESPONSIBILITY OF THE CONTRACTOR.

NOTE: SLAB SHALL BE SCARIFIED PRIOR TO SAWING SLOTS. (SEE SPECIAL PROVISIONS)

NOTE: FACTORY SUPPLIED FIELD SPICES WILL BE PERMITTED BETWEEN STAGES ON THE NO. 10 STRANDED COPPER WIRE AS DIRECTED BY THE ENGINEER.

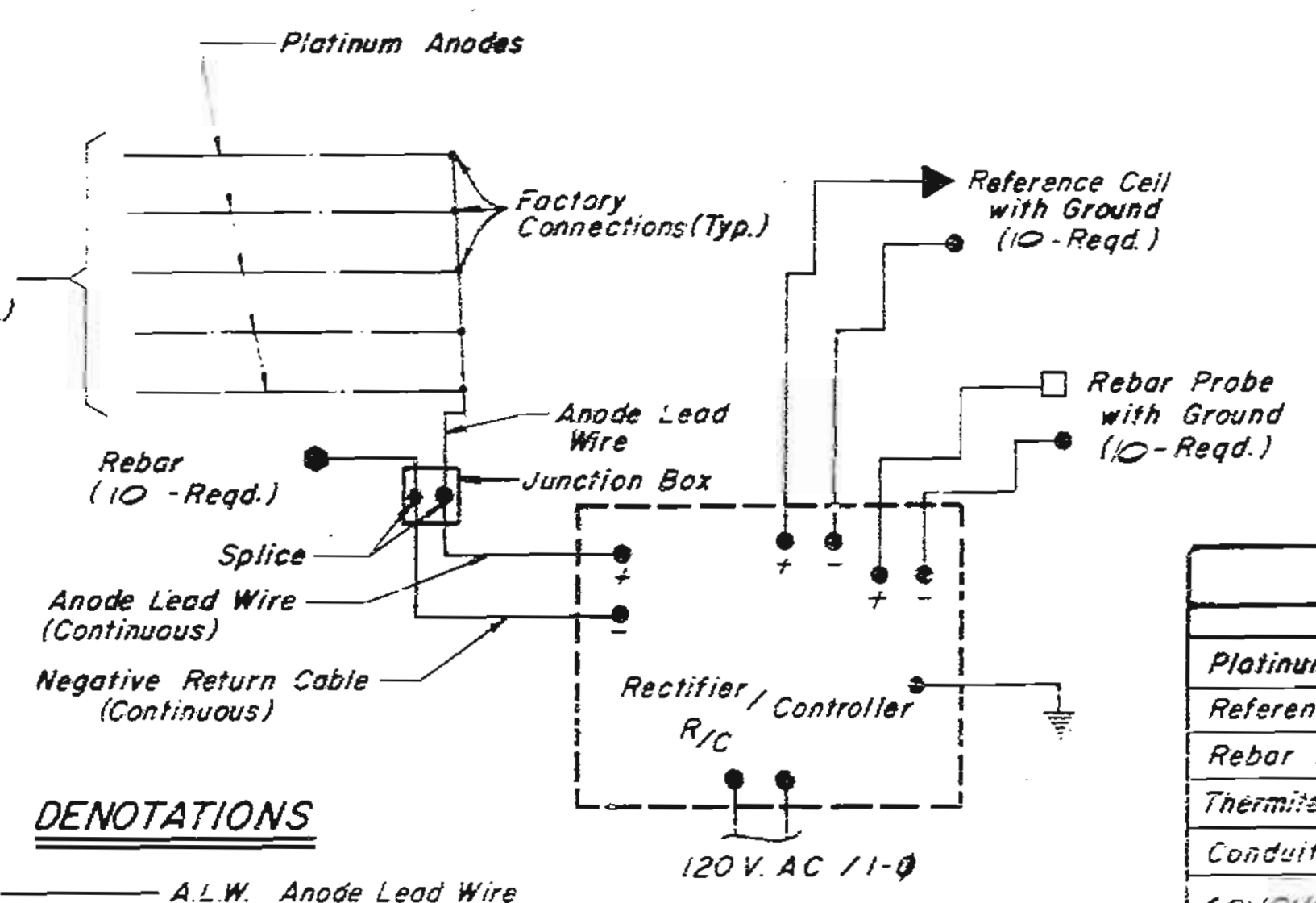
228



TYPICAL ZONE LAYOUT EXCEPT AS NOTED

Note: Anodes shall be placed as shown with a minimum tolerance of plus or minus three inches.  
Note: This drawing is not to scale. Follow dimensions.

PLAN



DENOTATIONS

- A.L.W. Anode Lead Wire
- Platinum Anode
- System Negatives Connection
- ▲ Reference Cell
- Rebar Probe (Corrosometer)
- Grounds
- - - Conduit

NOTE: The anode leads and system negative return leads shall be routed in the same conduit. The reference cell, reference cell ground leads, rebar probe and probe ground leads shall be routed in the same conduit. Reference cells are to be placed between anodes. Reference cell ground shall be welded to top rebar within one foot of reference cell. All zones are similar with varying widths (see Section A-A). Anode assembly number must match zone number.

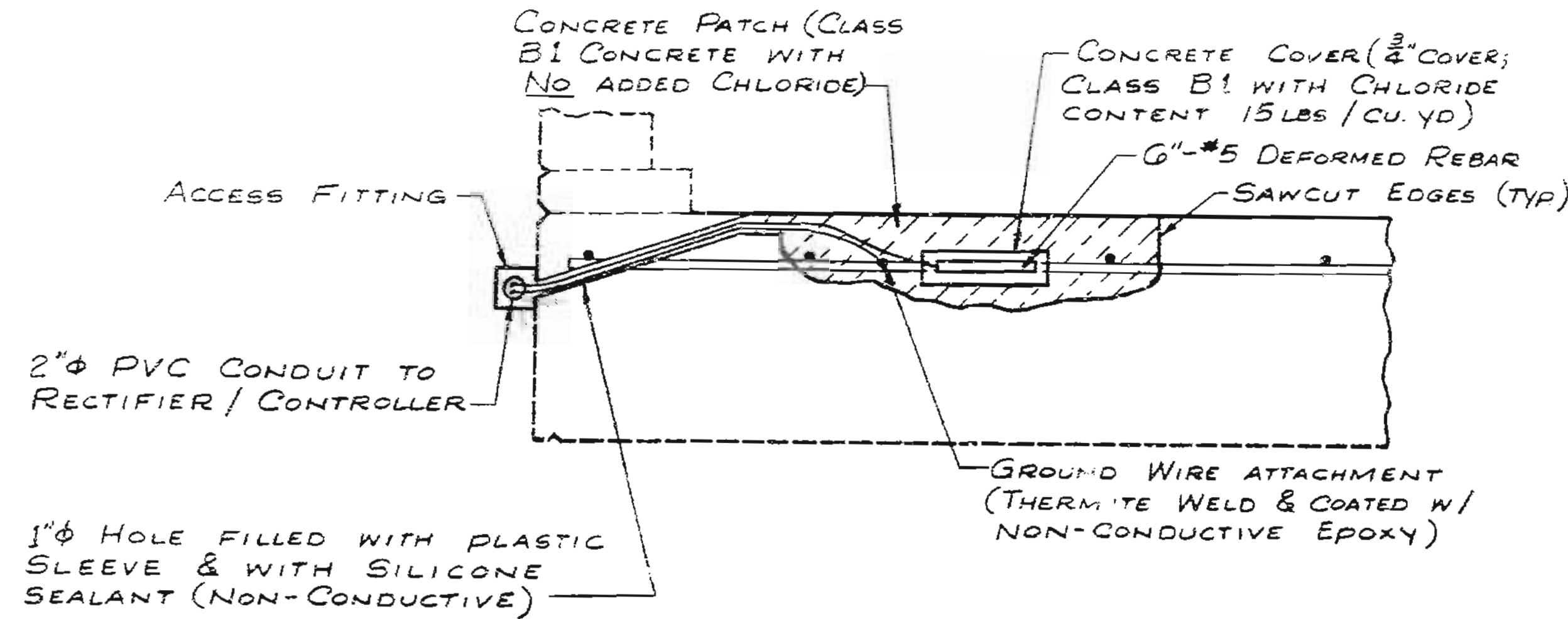
ESTIMATED QUANTITIES *		
ITEM	UNIT	QUANTITY
Platinum Anodes	Lin. Ft.	17,430
Reference Cells	Each	10
Rebar Probes	Each	10
Thermite Welds	Each	30
Conduit 2" P.V.C.	Lin. Ft.	1,050
CONDUIT 1 1/2" P.V.C.	Lin. Ft.	260

\* For information only.  
Note: Platinum anodes and conduit lengths are approximate. Actual lengths are the responsibility of the contractor.

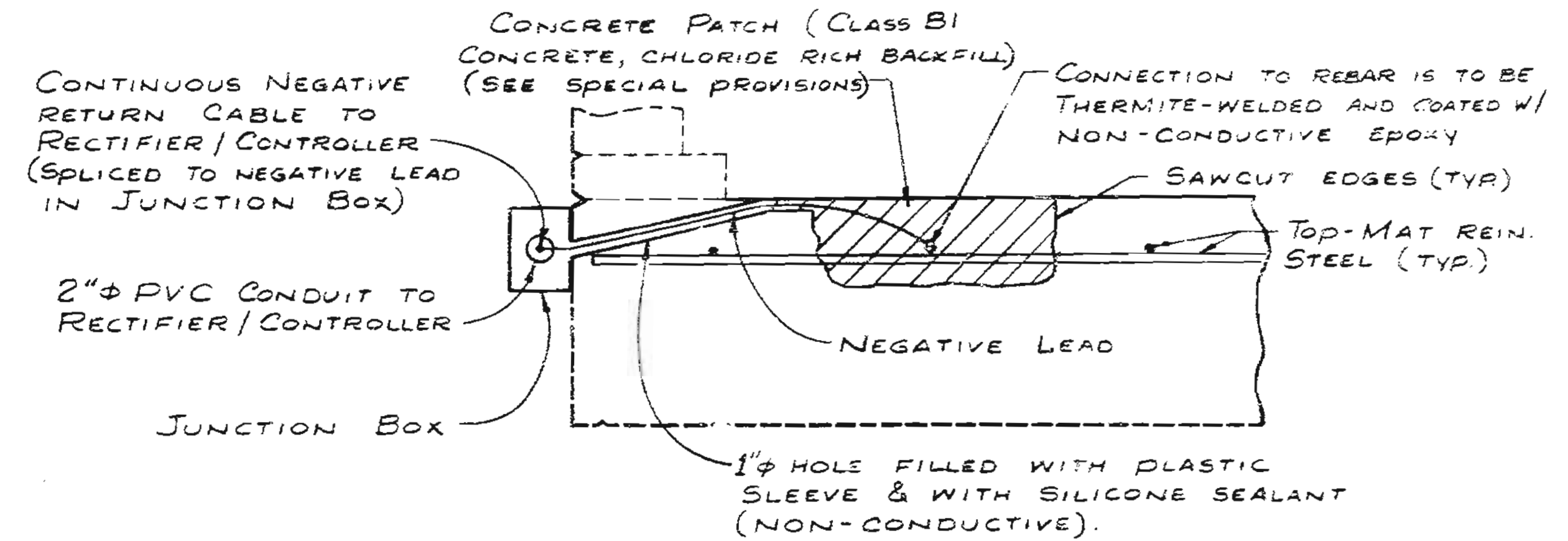
CATHODIC PROTECTION SYSTEM

DETAILED NOV. 1985  
CHECKED NOV. 1985

STATE	PROJ NO	SHEET NO
MO	IR-435-1(182)	10

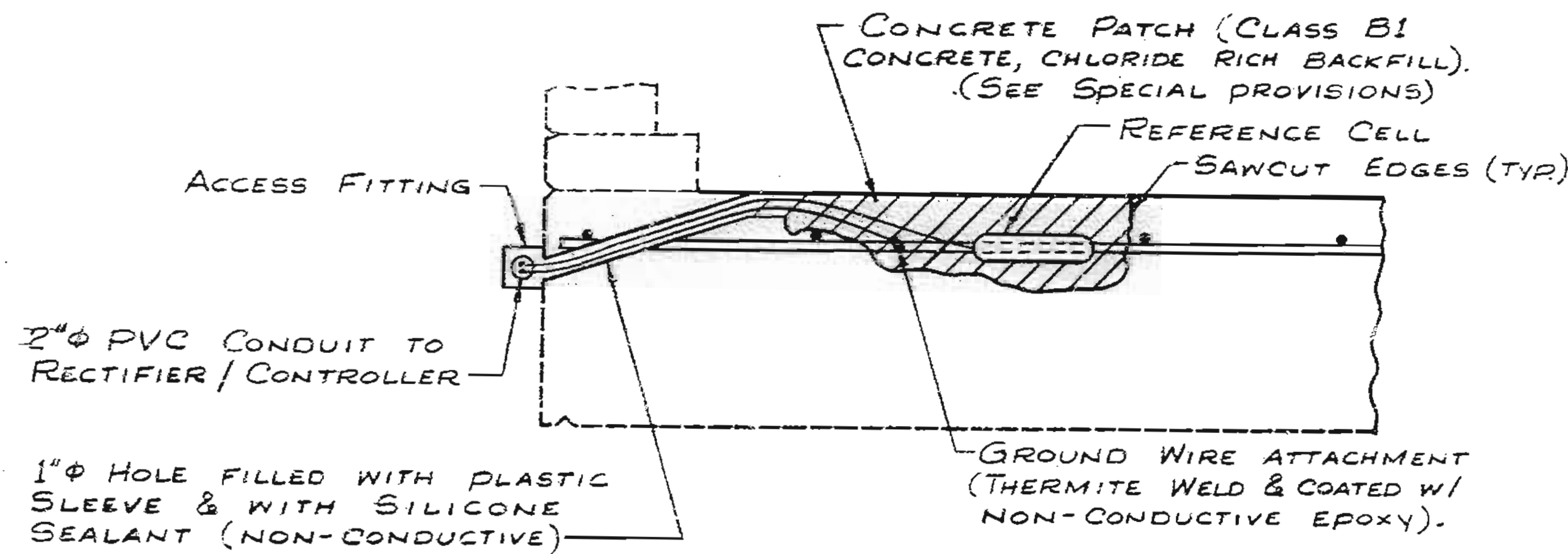


REBAR PROBE DETAILS

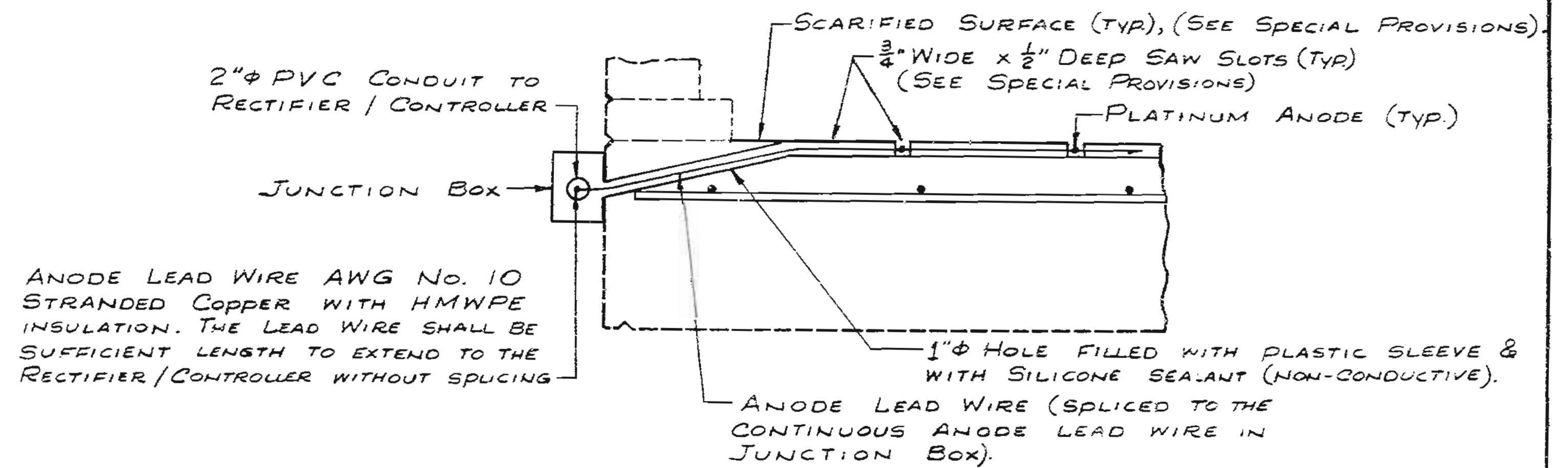


SYSTEM NEGATIVES CONNECTION DETAIL

NOTE: THE REFERENCE CELL SHALL BE PLACED IN THE EXCAVATED AREA WITHIN 1" BUT NOT IN DIRECT CONTACT OF TOP-MAT REINFORCING STEEL.

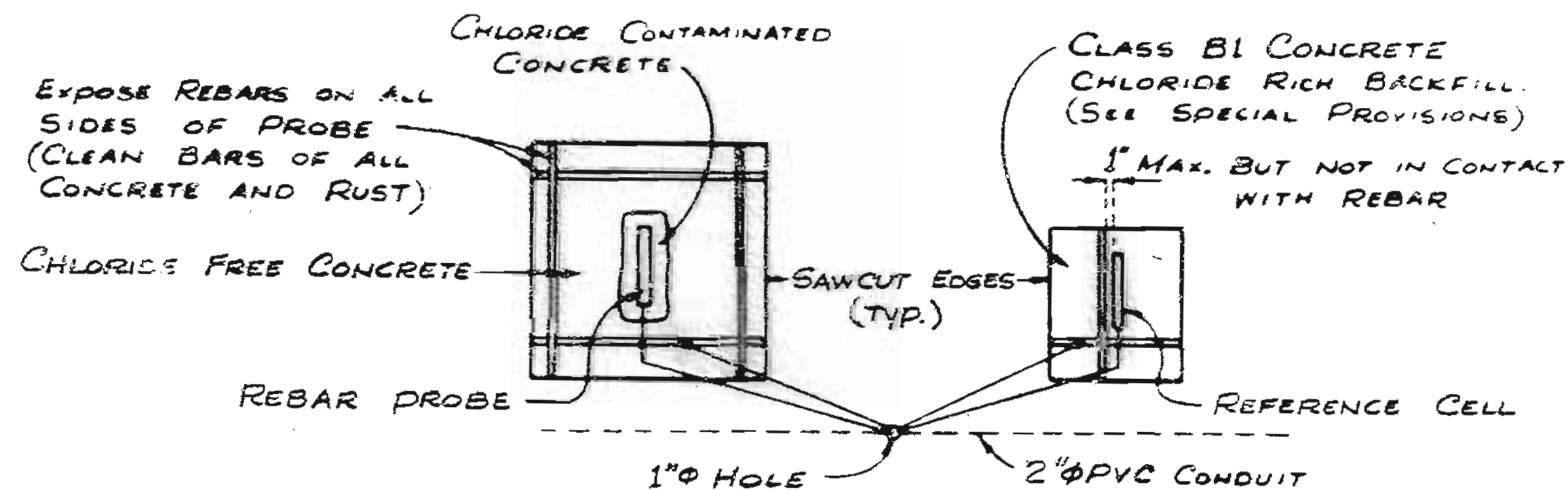


REFERENCE CELL DETAILS



PLATINUM ANODE TO ANODE LEAD WIRE DETAIL

ANODE LEAD WIRE AWG No. 10 STRANDED COPPER WITH HMWPE INSULATION. THE LEAD WIRE SHALL BE SUFFICIENT LENGTH TO EXTEND TO THE RECTIFIER/CONTROLLER WITHOUT SPlicing



PLAN OF REBAR PROBE AND REFERENCE CELL

Note: All concrete removal shall be initiated by saw cutting the first 1/2"

Notes: Conduit shall be schedule 40 heavy wall PVC (Polyvinyl Chloride Plastic) Each section of conduit shall bear the Underwriters Laboratories, Inc. (UL) label. Conduit shall be secured to concrete with clamps at abt. 5'-0" cts. (Galv./AASHTO M111). Weepholes shall be provided at appropriate locations to drain any moisture in the conduit lines. The location and direction of conduit may be shifted to meet field conditions as approved by the engineer.

The junction boxes shall be PVC molded, surface mounted, size 6"x6"x4". They shall be equal to "Carlson" Electrical Construction Products or "Triangle" Conduit & Cable Co Inc. The conduit terminations and cover shall be of water tight construction.

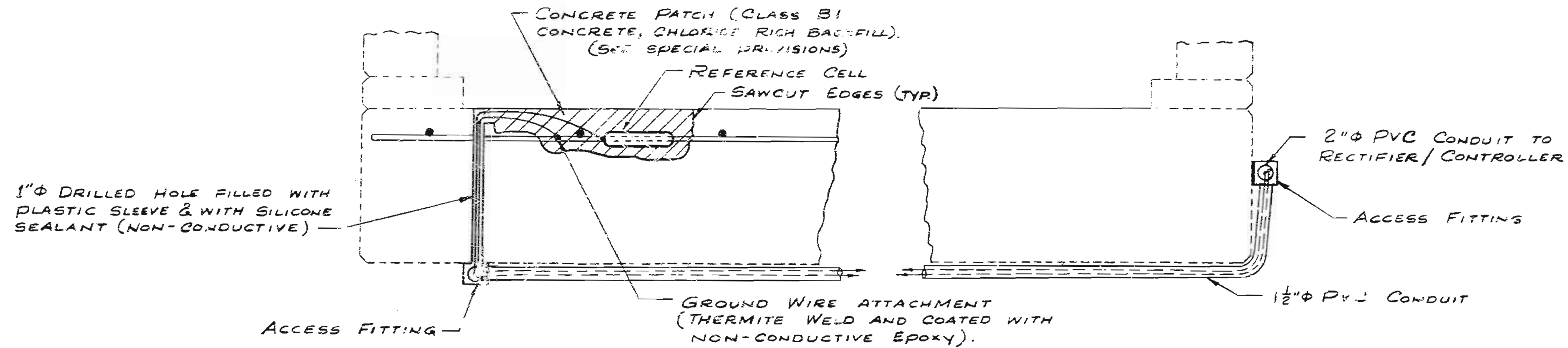
Expansion couplings shall be installed on conduit lines between all junction boxes and access fittings as directed by the engineer.

DETAILS FOR NORTHBOUND BRIDGE

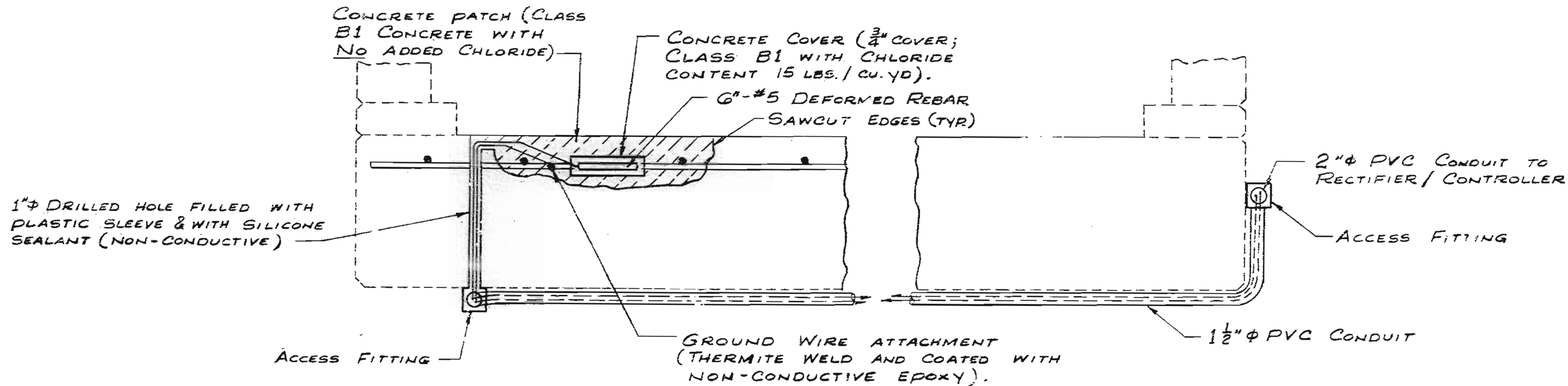
229

STATE	PROJ. NO.	SHEET NO.
MO	IR-235-1(182)	13

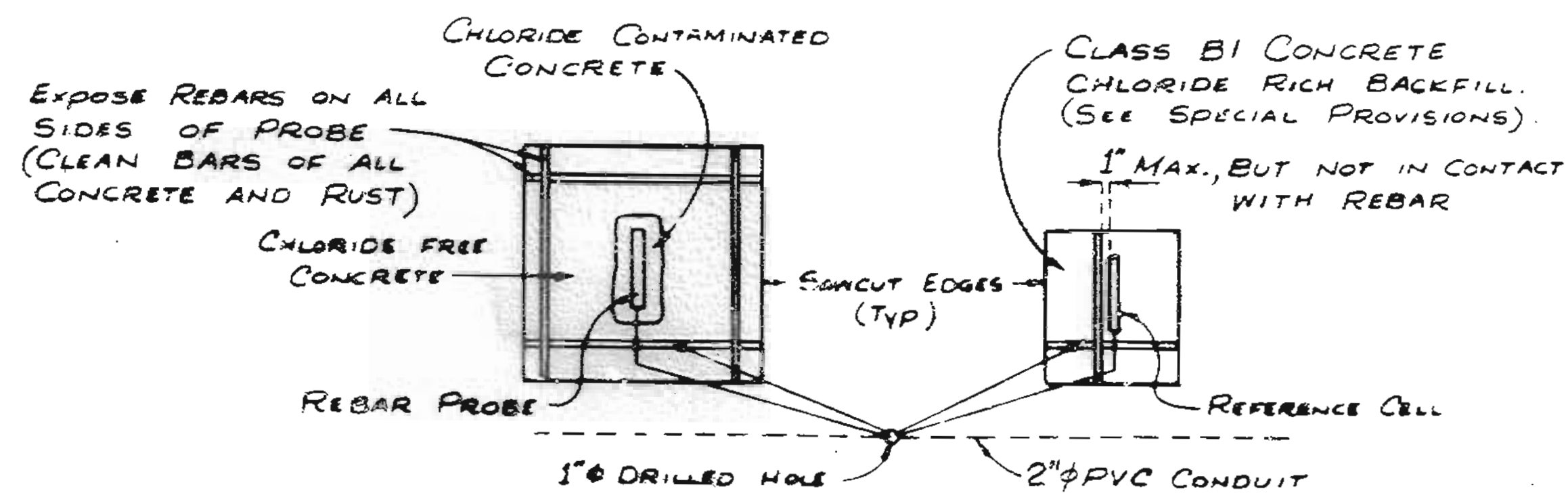
NOTE: THE REFERENCE CELL SHALL BE PLACED IN THE EXCAVATED AREA WITHIN 1" BUT NOT IN DIRECT CONTACT OF TOP-MAT REINFORCING STEEL.



REFERENCE CELL DETAILS



REBAR PROBE DETAILS



PLAN OF REBAR PROBE AND REFERENCE CELL

Notes: Conduit shall be schedule 40 Heavy Wall PVC (Polyvinyl Chloride Plastic) Each section of conduit shall bear the Underwriters Laboratories, Inc. (UL) label. Conduit shall be secured to concrete with clamps at abt. 5'-0" cts., (Galv./AASHTO Mill). Weepholes shall be provided at appropriate locations to drain any moisture in the conduit lines. The location and direction of conduit may be shifted to meet field conditions as approved by the engineer.

The junction boxes shall be PVC molded, surface mounted, size 6" x 6" x 4". They shall be equal to "Carlon" Electrical Construction Products or "Triangle" Conduit & Cable Co. Inc. The conduit terminations and cover shall be of water tight construction.

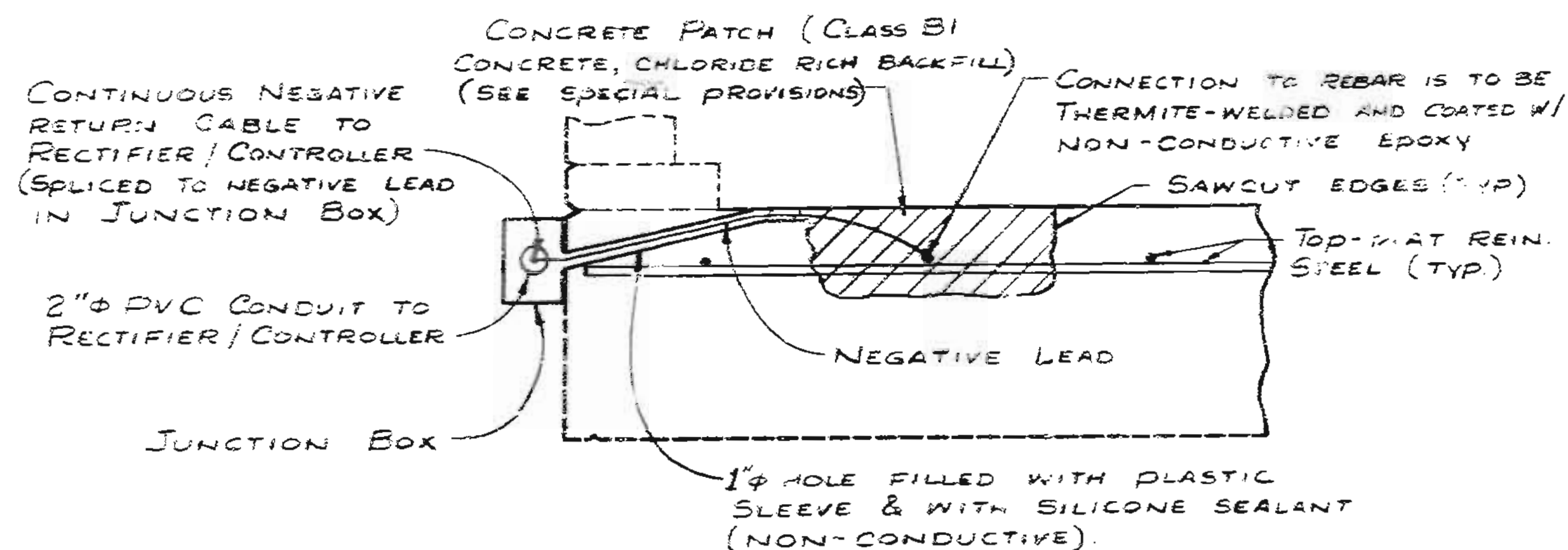
Expansion couplings shall be installed on conduit lines between all junction boxes and access fittings as directed by the engineer.

NOTE: ALL CONCRETE REMOVAL SHALL BE INITIATED BY SAW CUTTING THE FIRST 1/2"

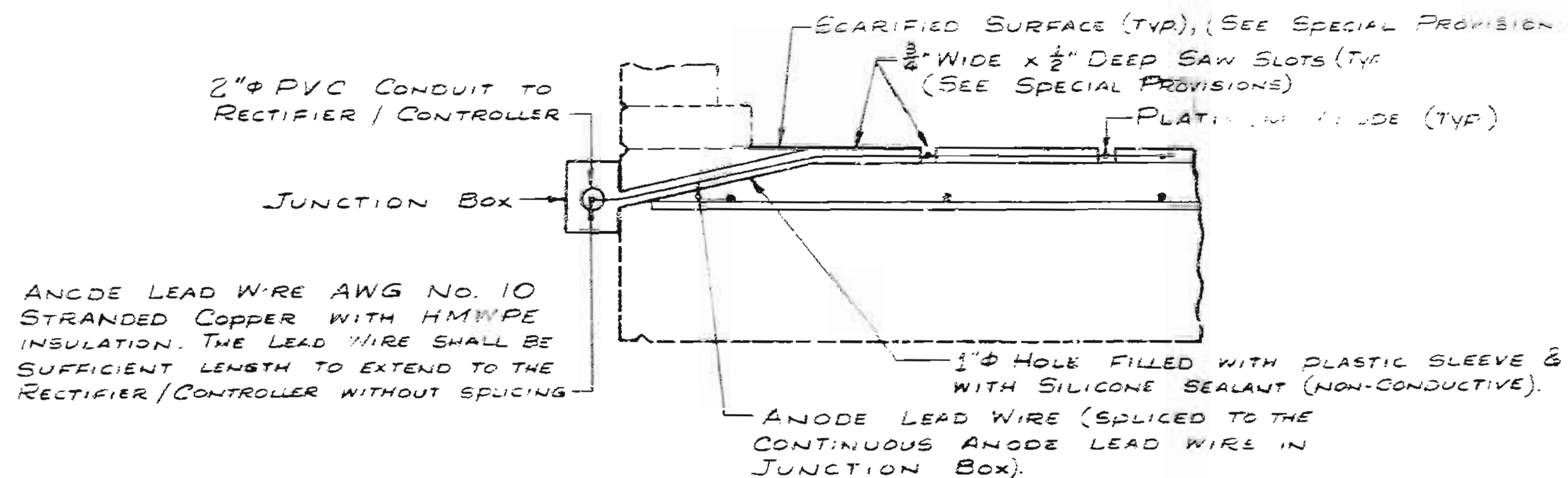
DETAILS FOR SOUTHBOUND BRIDGE

230

STATE	PROJ NO	SHEET NO
MO	IR-135-1(182)	20



SYSTEM NEGATIVES CONNECTION DETAIL



PLATINUM ANODE TO ANODE LEAD WIRE DETAIL

Notes: Conduit shall be schedule 40 Heavy Wall PVC (Polyvinyl Chloride Plastic) Each section of conduit shall bear the Underwriters Laboratories, Inc. (UL) label. Conduit shall be secured to concrete with clamps at abt 5'-0" o.c. (60% / AASHTO Mill). Weepholes shall be provided at appropriate locations to drain any moisture in the conduit lines. The location and direction of conduit may be shifted to meet field conditions as approved by the engineer.

The junction boxes shall be PVC molded, surface mounted, size 6"x6"x4". They shall be equal to "Carlon" Electrical Construction Products or "Triangle" Conduit & Cable Co. Inc. The conduit terminations and cover shall be of water tight construction.

Expansion couplings shall be installed on conduit lines between all junction boxes and access fittings as directed by the engineer.

Note: All concrete removal shall be initiated by saw cutting the first 1/2"

DETAILS FOR SOUTHBOUND BRIDGE

231  
 DETAILED NOV. 1985  
 CHECKED NOV. 1985

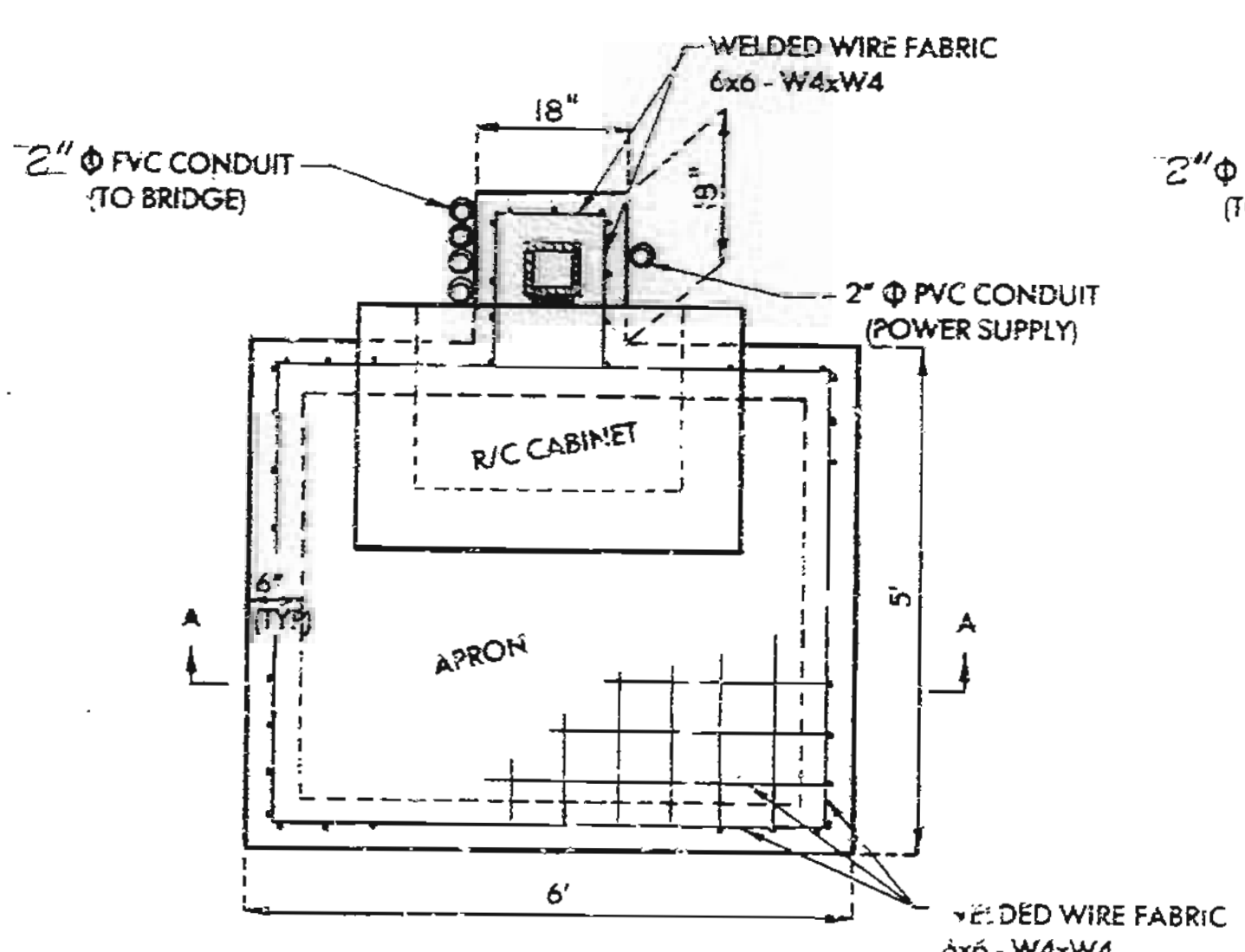
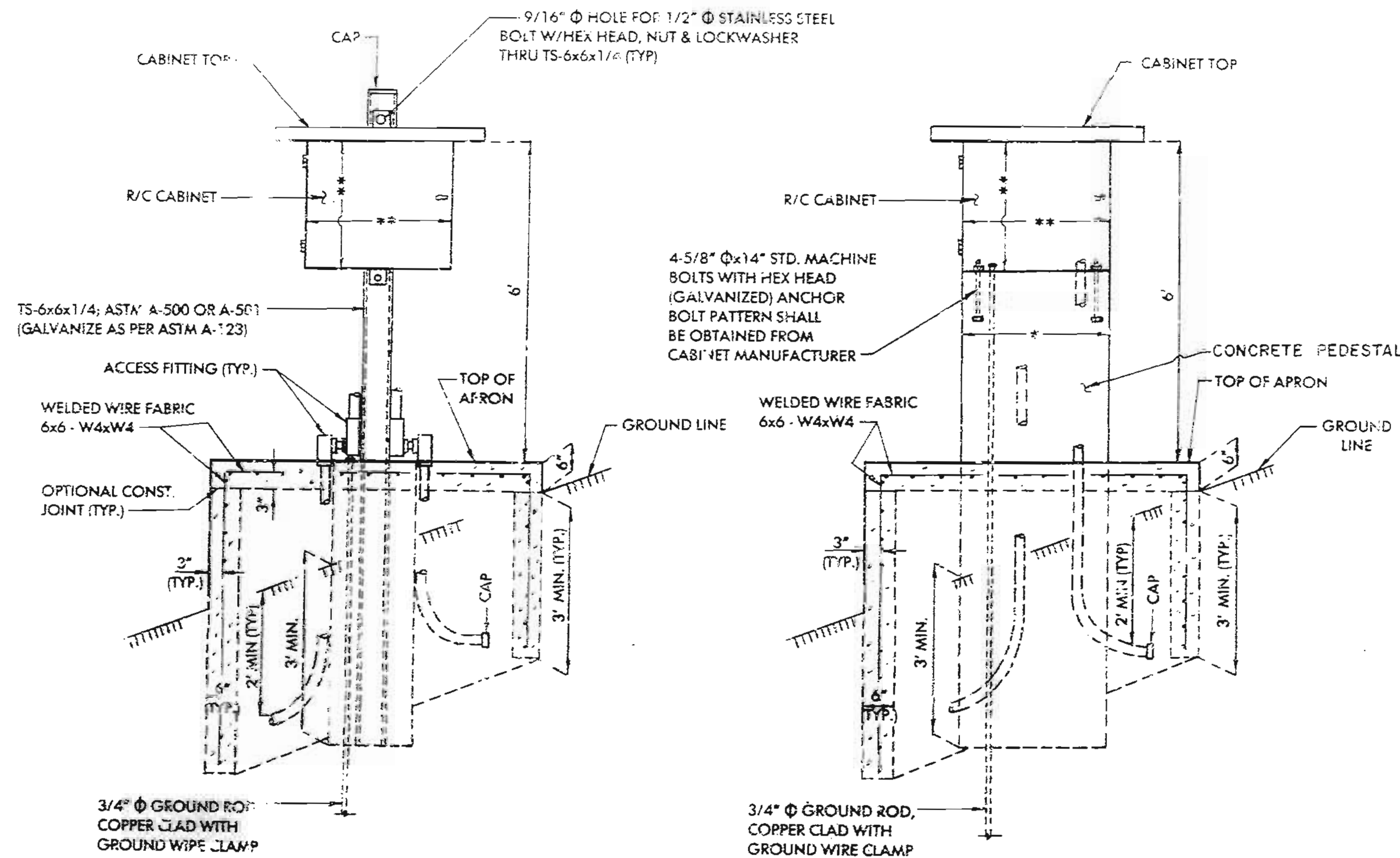
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 7

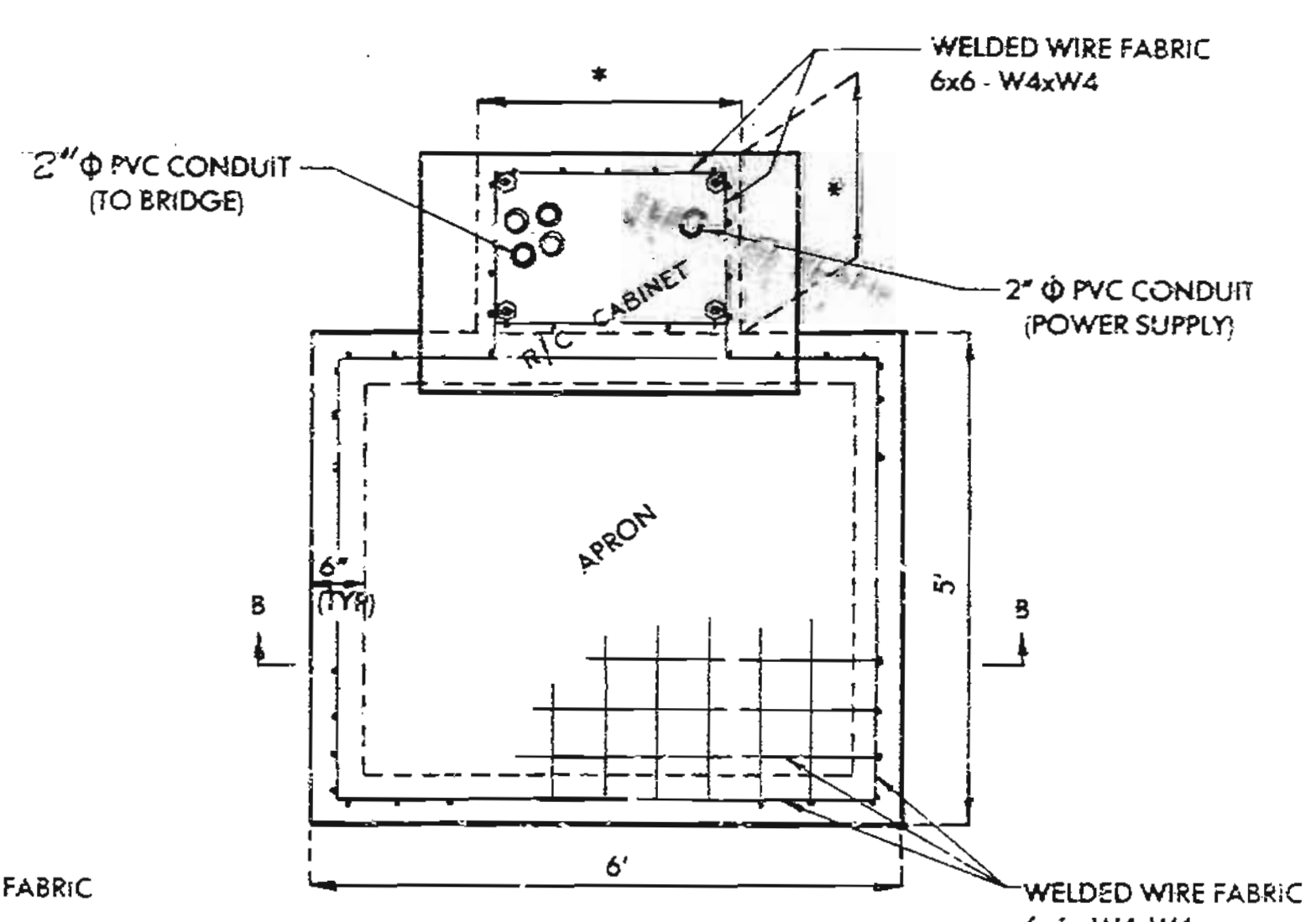
JACKSON COUNTY

A-698R

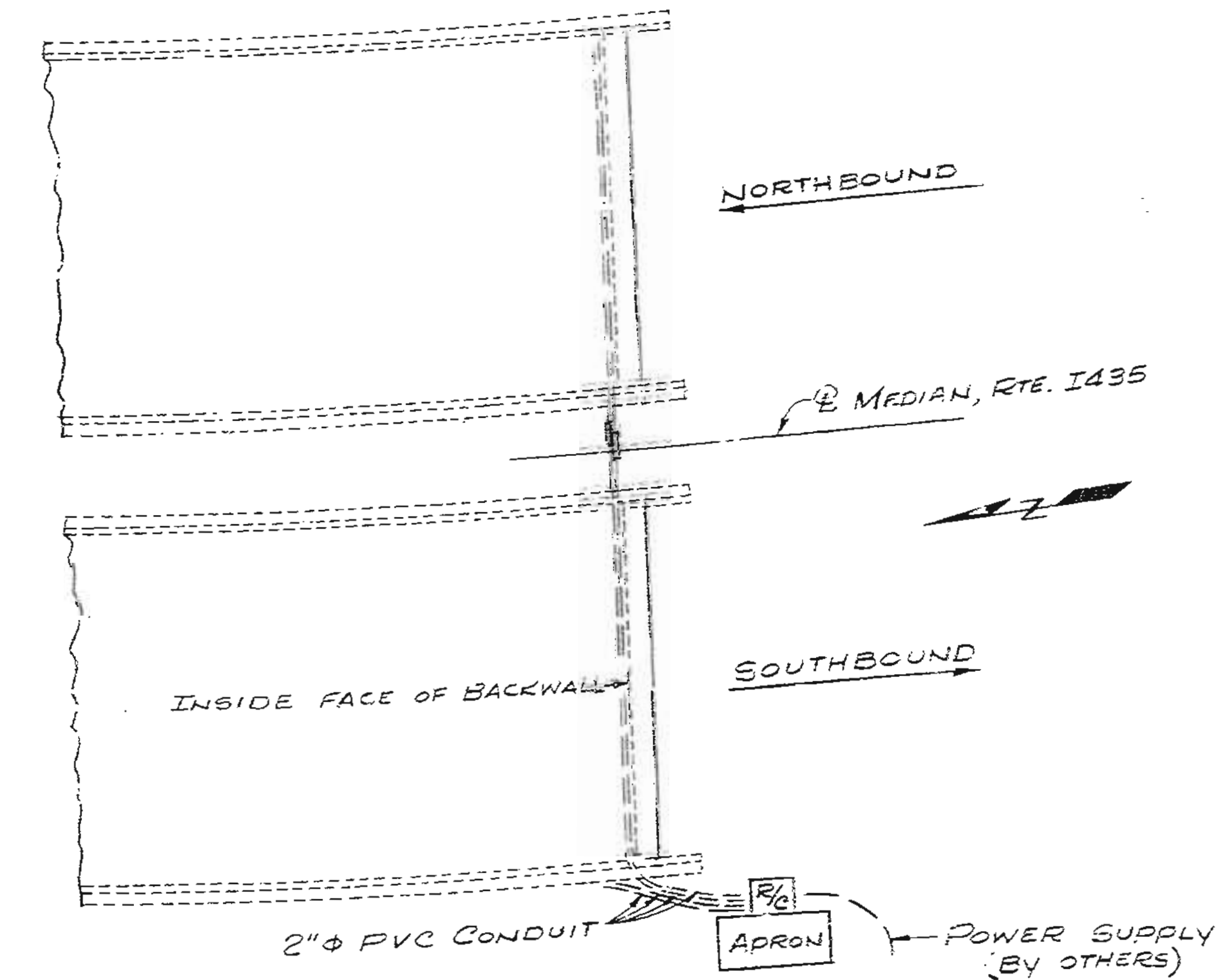
STATE	PROJ. NO.	SHEET NO.
MO	IR-435-1(182)	21



PLAN OPTION "A"



PLAN OPTION "B"

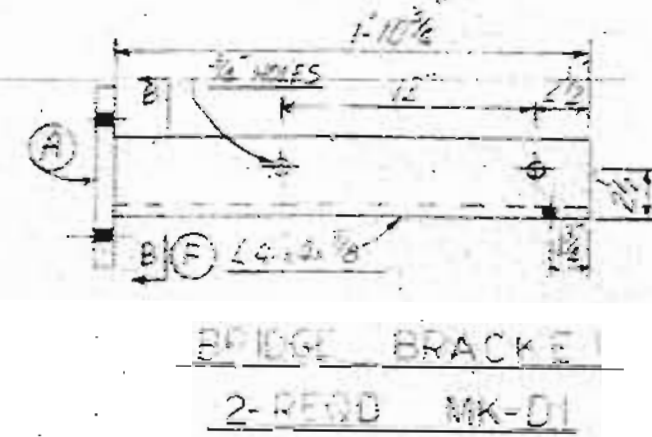
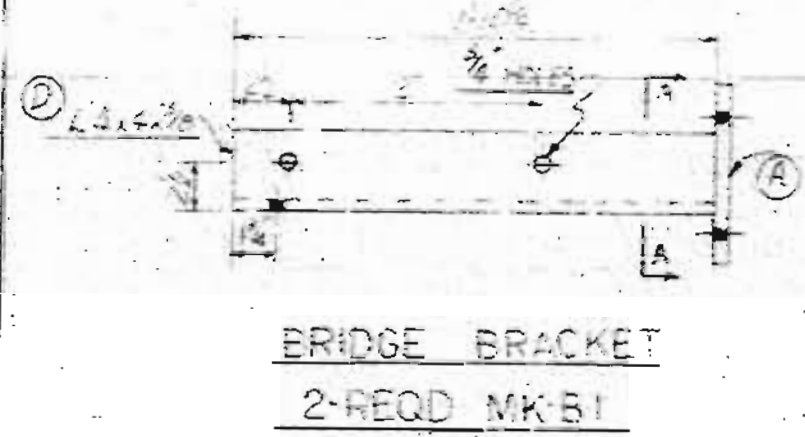
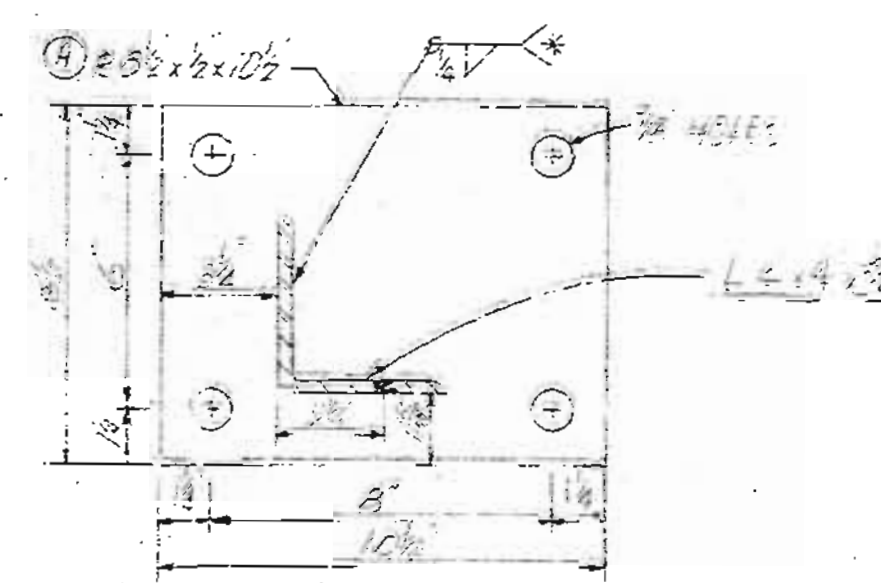
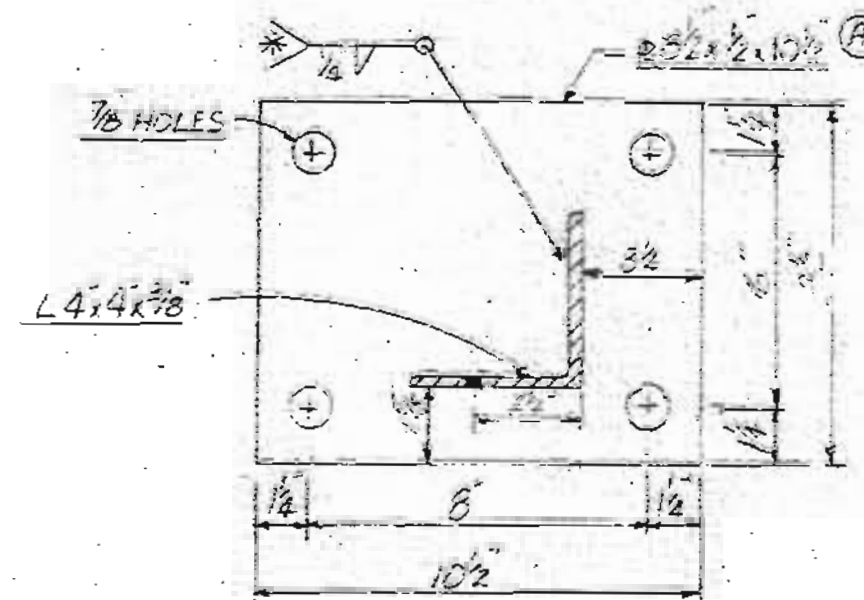
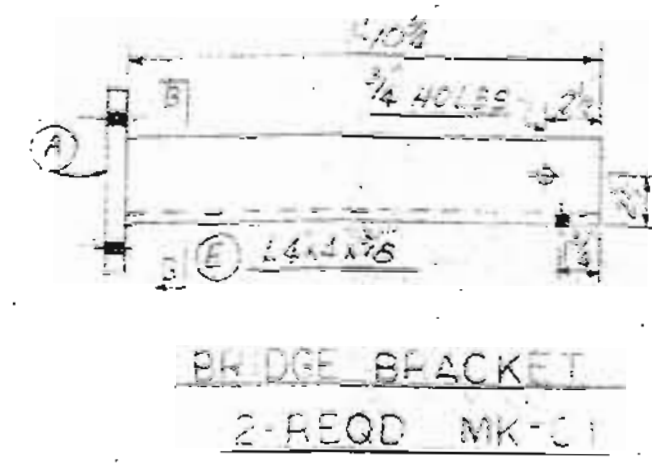
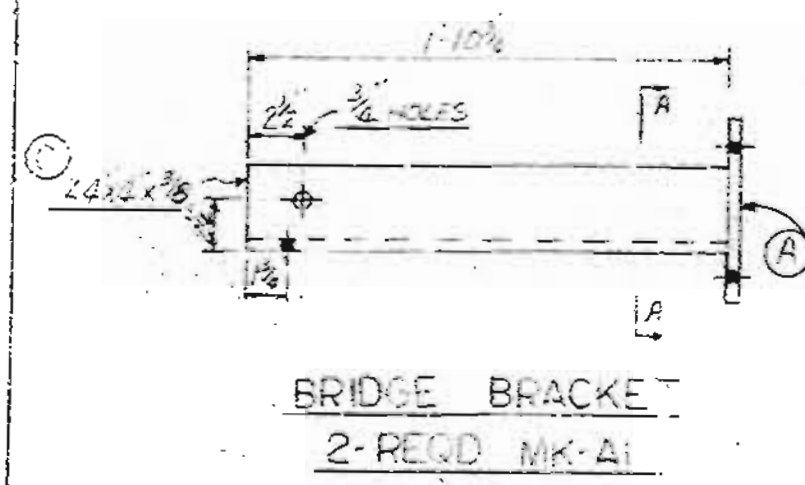


PLAN LOCATION OF RECTIFIER CONTROLLER

\*\*DIMENSIONS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.  
\*DIMENSIONS ACCORDING TO MANUFACTURED CABINET.

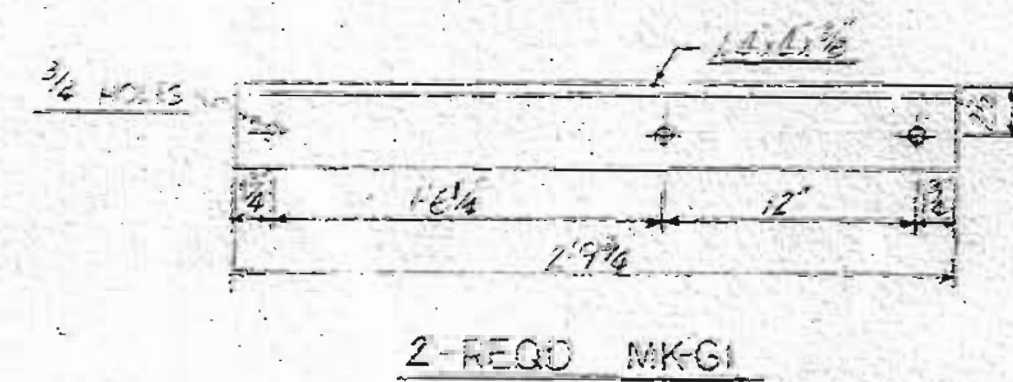
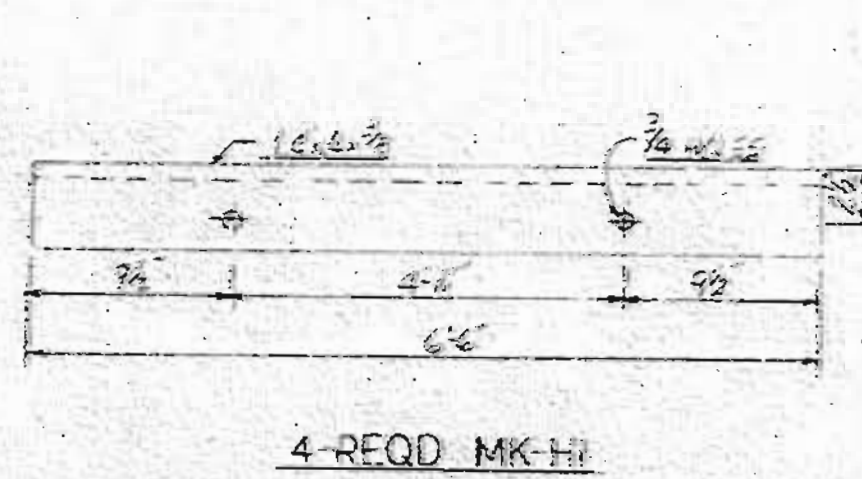
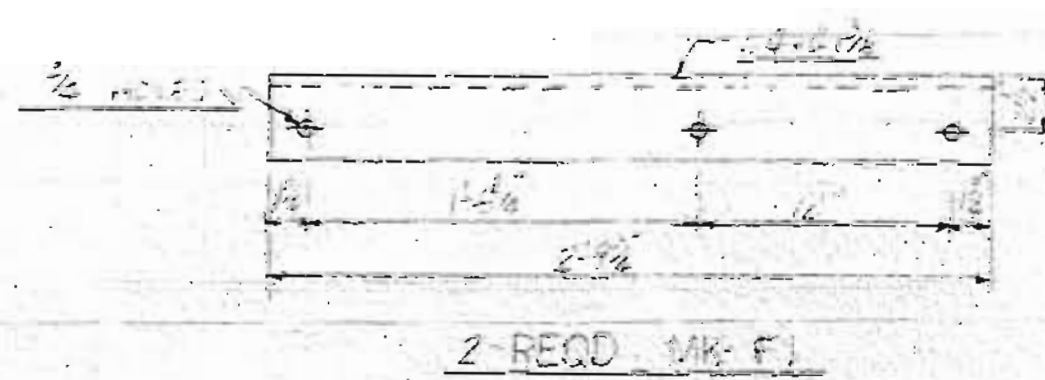
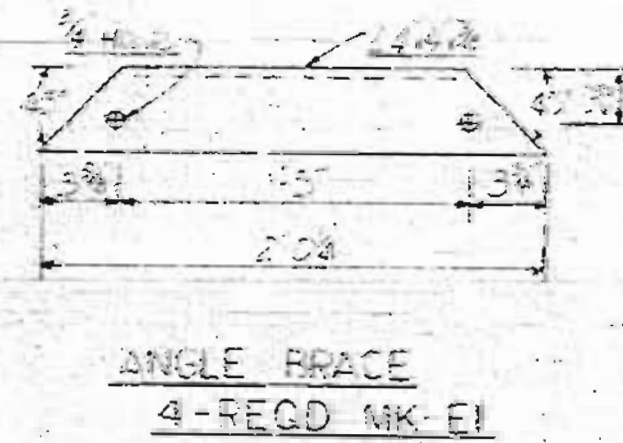
Note: The 3/4" ground rods shall be sufficient length to extend a minimum of 10'-0" below bottom of concrete pedestal.  
Ground wire shall be No. 6 AWG minimum.  
Knockouts or drilled holes shall be provided in cabinets for all conduit. Locations of such are the responsibility of the contractor and cabinet manufacturer.

232



SECTION AA

SECTION BB



- 1. ALL STRUCTURAL STEEL SHALL BE A572
- 2. GALV. AFTER FABRICATION PER ACTM. A582
- 3. BOLTS, NUTS & WASHERS SHALL BE A307 GALV. PER ACTM. A582

APPROVED  
GENERAL DESIGN FEATURES ON:  
JUN 14 1989  
MISSISSIPPI HIGHWAY & TRANSPORTATION DEPT.  
DIVISION OF BRIDGES

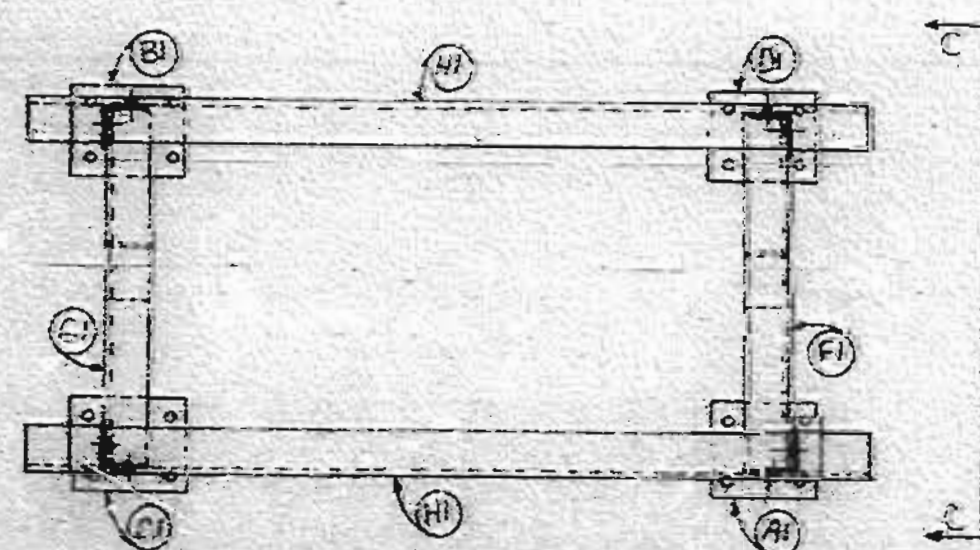
FOR BRIDGE FILES

PRINTS ISSUED					
FOR	NO.	DATE	FOR	NO.	DATE
REP	3	5-14-89	FIELD	7	5-15-89
REP	1	5-18-89			
STRE	5	6-2-89			
LIST	2	6-10-89			

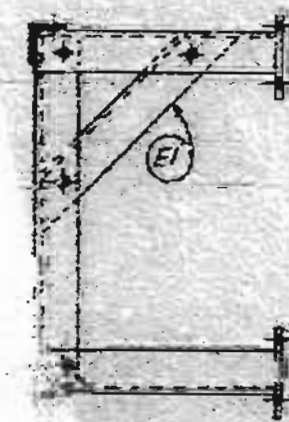
**HURTT FABRICATING CORP.**  
P.O. BOX 128  
MARCELINE, MO. 64658  
PHONE 816 376-3501

MATERIAL	STEEL			
FINISH	52MM			
CUSTOMER	KRAVZ CONST. CO.			
PROJECT	I-10-435-1-161 JOBS NO. 01-020-349 JACKSON, CO., MO.			
SUBJECT	BRIDGE SIGN SUPPORT BRACKET FOR SIGN NO. 1 & 2, & 650A			
PRINTED FOR	DRAWN BY	CHECKED BY	JOB NO.	SHEET
MP	PI	DL	174315	1

2



BRIDGE MOUNT SIGN SUPPORT  
NO. 1 & 2  
2 REQD



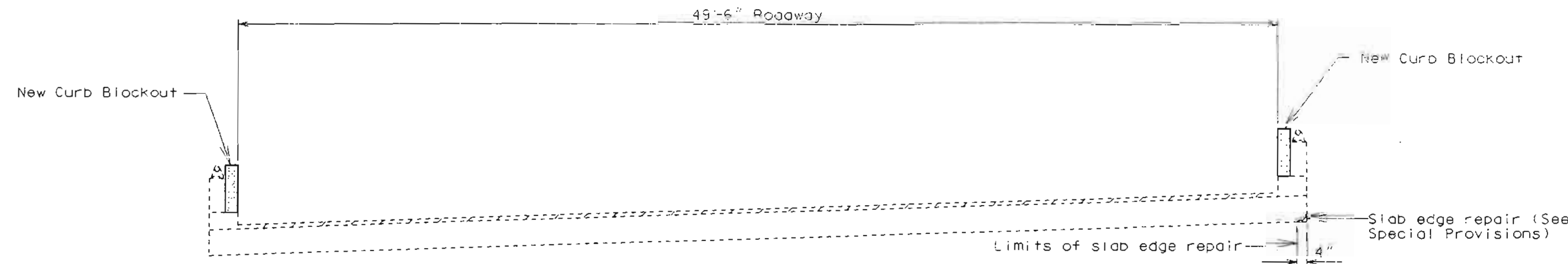
VIEW CC

\*WELD PROC NOS. FCAW-6

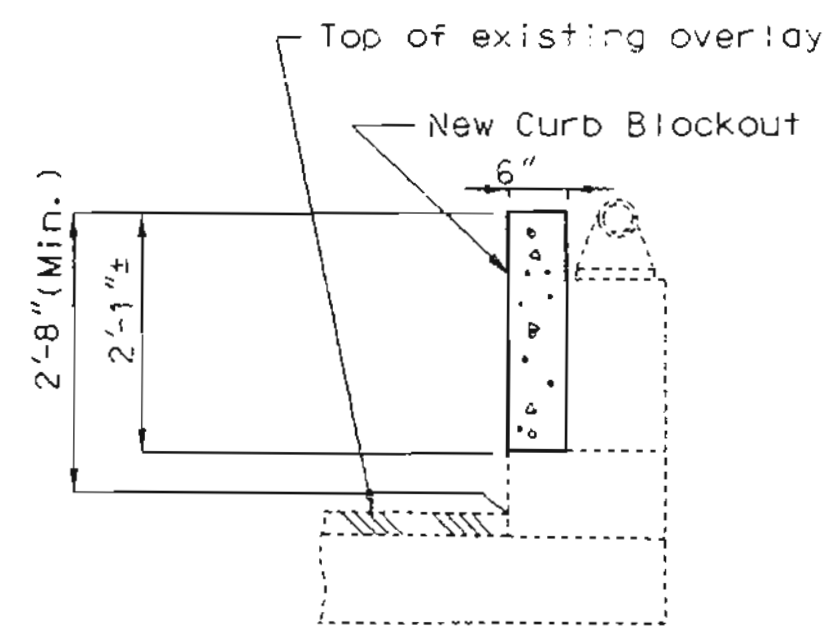


MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.		B19
SEC./SUR. 31 TWP. 50N RGE. 32W		

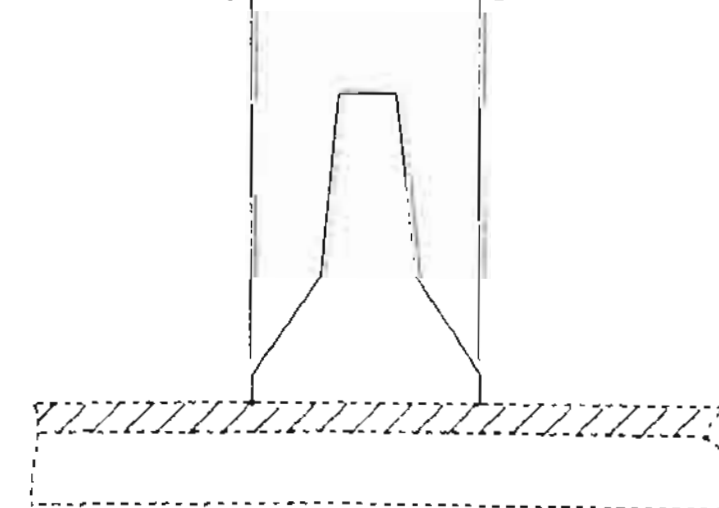


SECTION THRU EXISTING SLAB (NORTHBOUND ROADWAY)



TYPICAL SECTION THRU CURB BLOCKOUT

2'-0" Temporary Traffic Control Device (Roadway item)



DETAIL OF TEMPORARY TRAFFIC BARRIER

ESTIMATED QUANTITIES		
ITEM		TOTAL
Curb Blockout	lin. Ft.	383
Slab Edge Repair (Bridges)	lin. Ft.	40



DATE 9-5-09

GENERAL NOTES:

**DESIGN SPECIFICATIONS:**  
A.A.S.H.T.O.-1996 and Interim 1998

**DESIGN UNIT STRESSES:**  
Class B1 Concrete (Curb Blockout)  $f'c=4,000$  psi  
Reinforcing Steel (Grade 60)  $f_y=60,000$  psi

**JOINT FILLER:**  
All joint filler shall meet the requirements of Std. Spec. 1057.2.4 of the Missouri Standard Specifications except as noted.

**REINFORCING STEEL:**  
Minimum clearance to reinforcing steel shall be 1 1/2".

**OLD WORK:**  
Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

**VERIFY DIMENSIONS:**  
Contractor shall verify dimensions in field before ordering new material.

**NOTES:**  
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 use one of the resin anchor systems listed in the job special provisions for the curb blockout. These anchor systems shall be installed according to the manufacturer's specifications, except as modified by the job special provisions and that an epoxy coated #5 grade 60 reinforcing bar as shown shall be substituted for the 5/8" threaded rod.

Cost of furnishing and installing the anchor systems complete in place shall be included in the price bid per linear foot of curb blockout.

The 5/8" diameter resin anchor systems shall have a minimum ultimate pullout strength of 15,500 in concrete with  $f'c=4,000$  psi. See special provisions.

**NOTES FOR CURB BLOCKOUT:**

Concrete in curb blockout shall be Class B1. Measurement of curb blockout is to the nearest linear foot measured at the gutter line from end of wing to end of wing.

All exposed edges of curb blockout shall have 1/2" radius or 3/8" bevel unless otherwise shown.

Payment for concrete and reinforcing steel in curb blockout complete in place shall be included in the contract unit price for the curb blockout per linear foot.

Cost of any concrete end post and curb removal shall be considered completely covered in the contract unit price for the curb blockout per linear foot.

Minimum lap for R-bar reinforcement to be 3'-1".

All reinforcement shall be epoxy coated.

**EXISTING LOW SLUMP CONCRETE OVERLAY:**

Any damage to the existing low slump concrete overlay shall be repaired or replaced as directed by the engineer. No direct payment will be made for any replacement or repairs to the low slump concrete overlay.

**TRAFFIC HANDLING:**

See roadway plans for traffic control during construction.

REPAIRS TO: BRIDGE OVER ROUTE 78

STATE ROAD: INTERSTATE ROUTE 435 NBL

ABOUT: 2 MILES NORTH OF ROUTE 1-70

PROJECT NO.

STA. 265+34.29 ± @ MEDIAN (MATCH EXIST.)

JOB NO. J411333

RT. 1-435

JACKSON

COUNTY

DATE 9/7/00

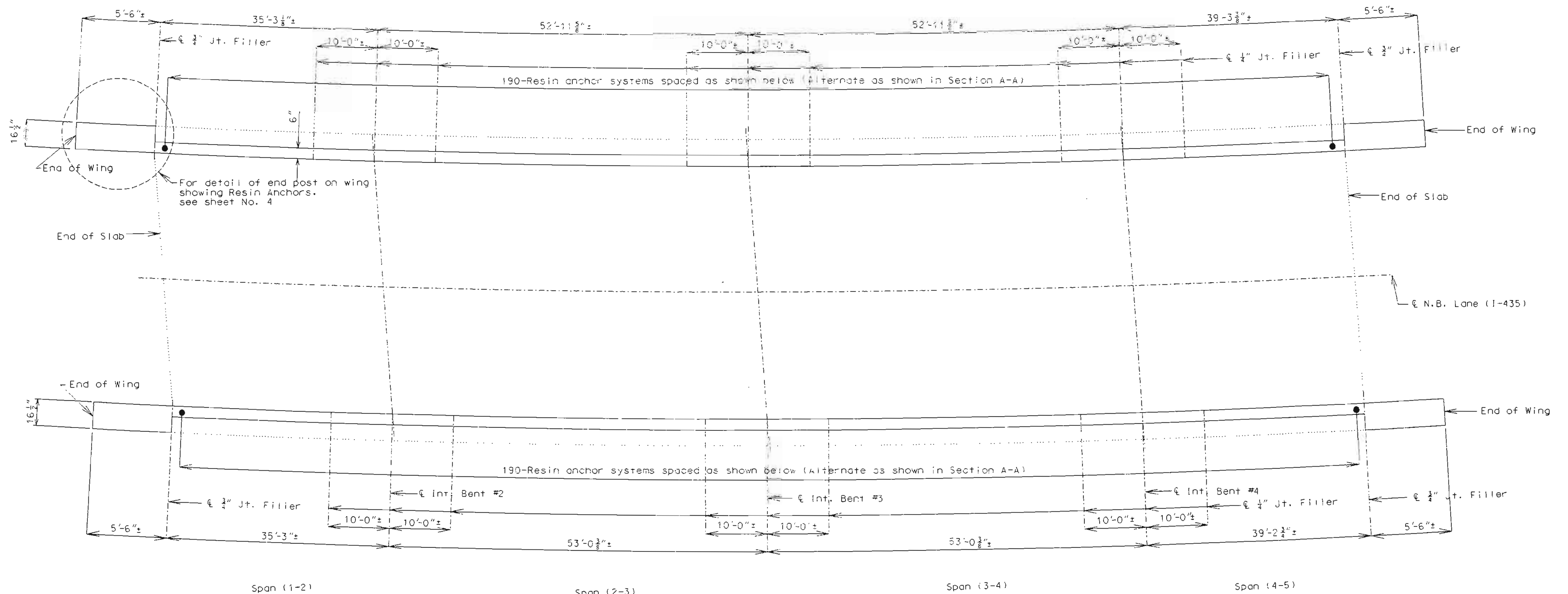
A16982

DESIGNED APR. 1999  
DETAILED APR. 1999  
CHECKED NOV. 1999

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

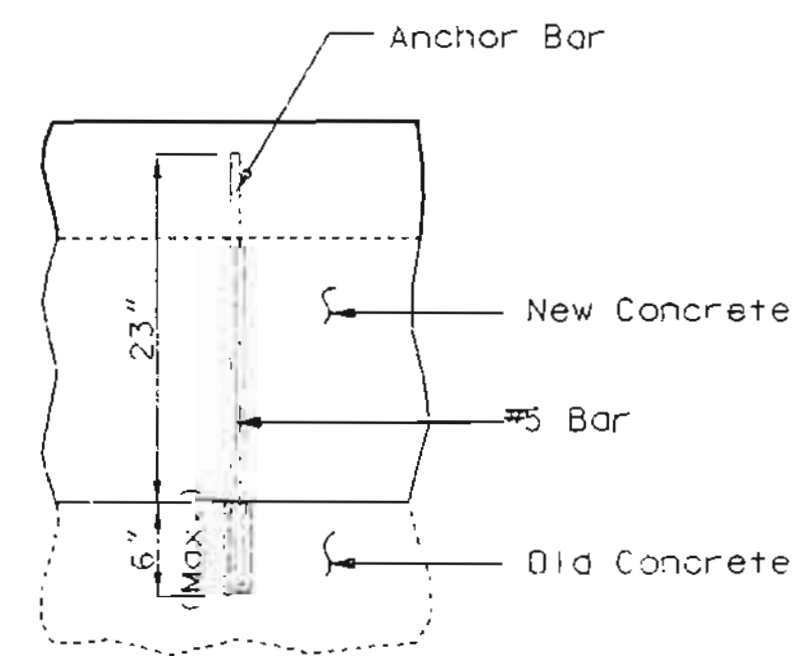
SHEET NO. OF 5.

STATE	PROJ. NO.	SHEET NO.
MO.		820

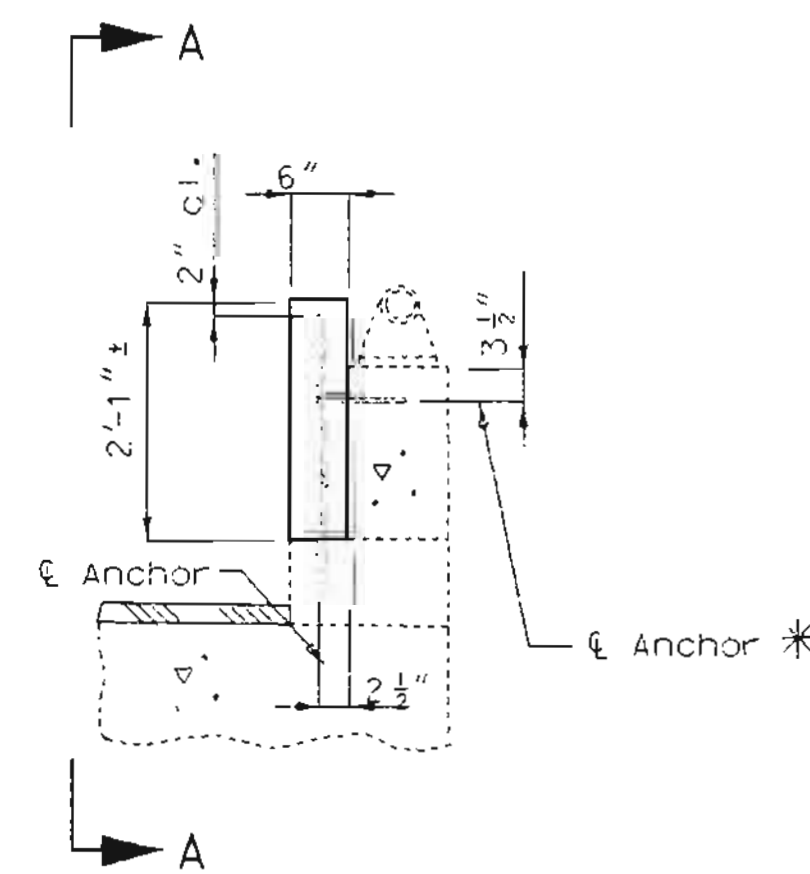
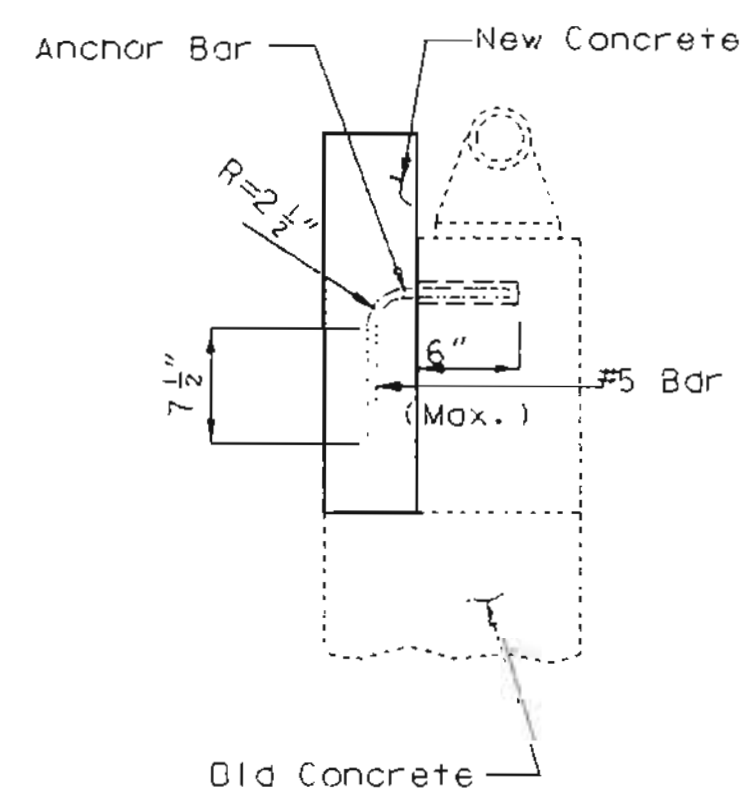


Note: Longitudinal dimensions shown are dimensions taken along along outside edge of parapet. Match existing curb joints.

PLAN OF CURB BLOCKOUT SHOWING RESIN ANCHOR SPACING

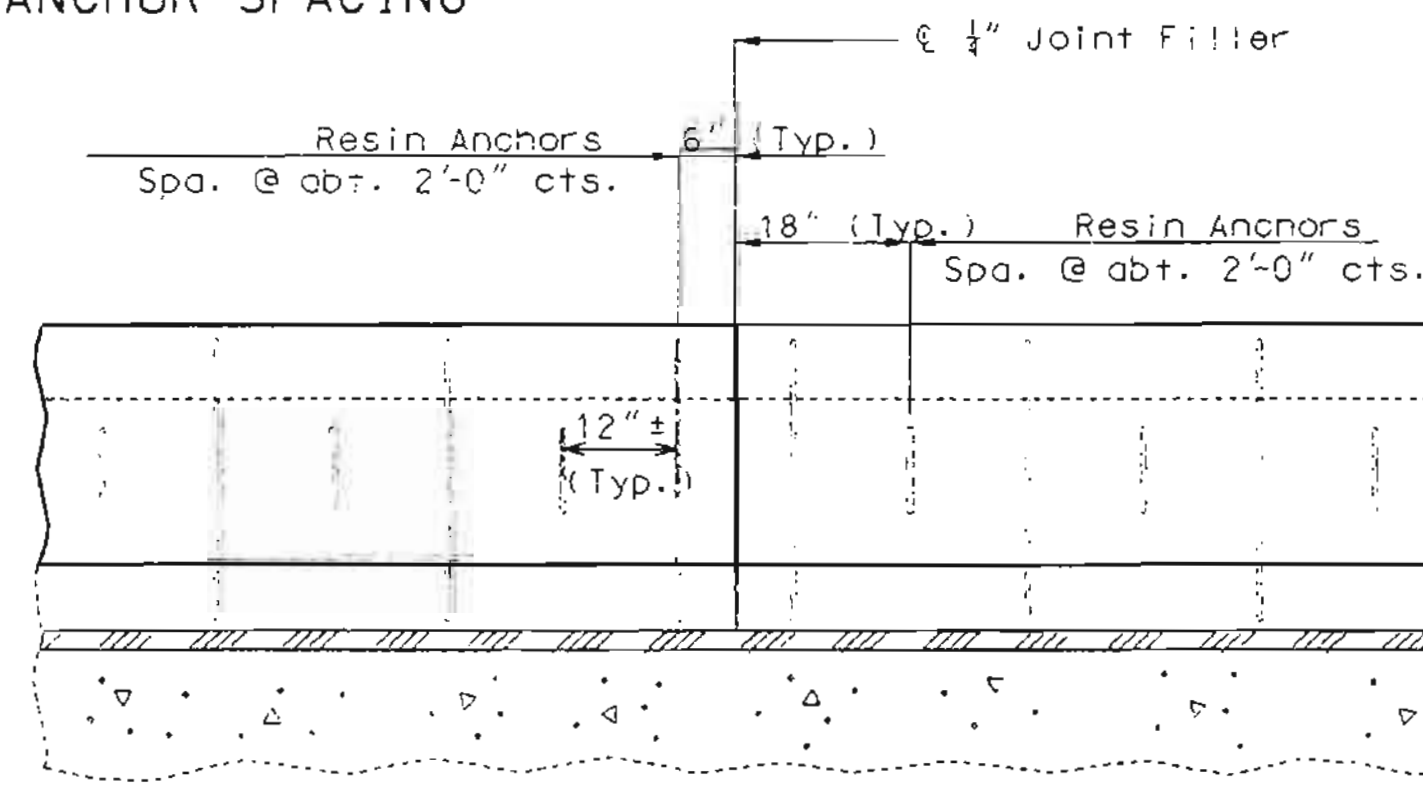


RESIN ANCHOR SYSTEMS DETAILS



TYPICAL SECTION THRU CURB

\*Shift resin anchors to clear existing steel anchor bolts for tube rail.



PART SECTION A-A



DATE 9-5-00

DETAILED APR. 1999  
CHECKED NOV. 1999

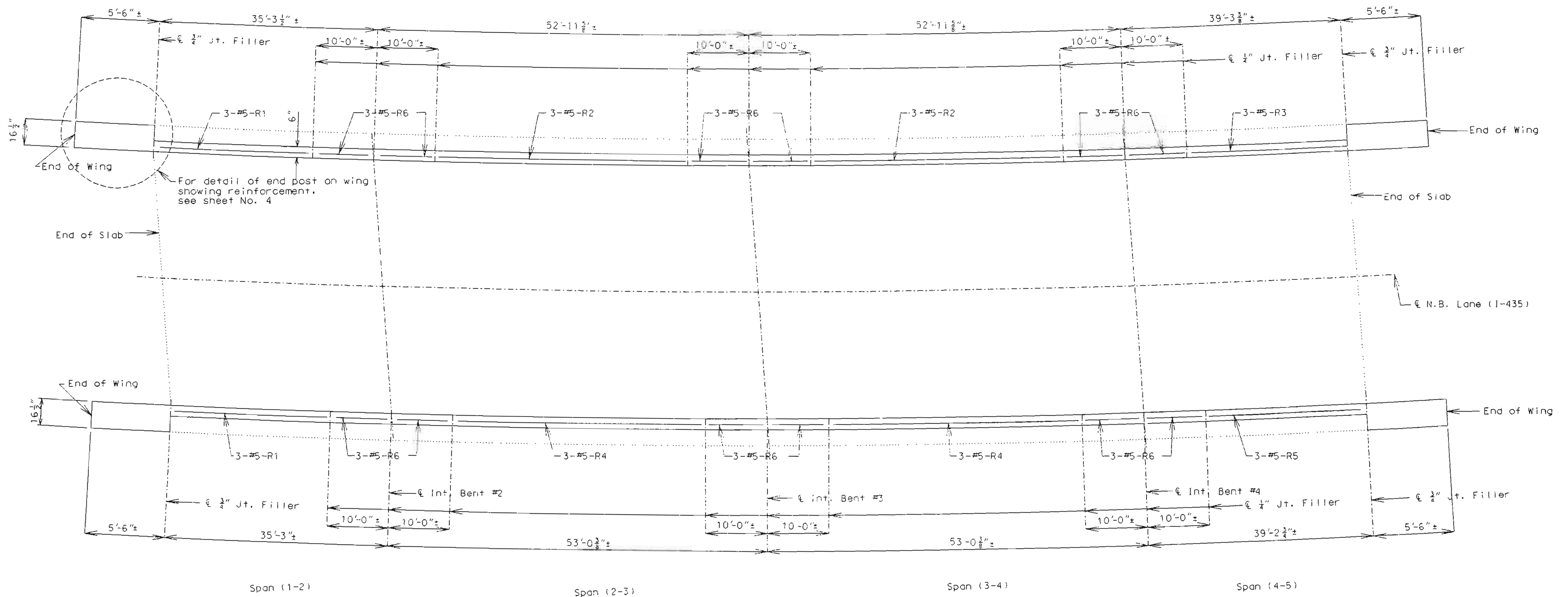
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 2 OF 5.

JACKSON COUNTY

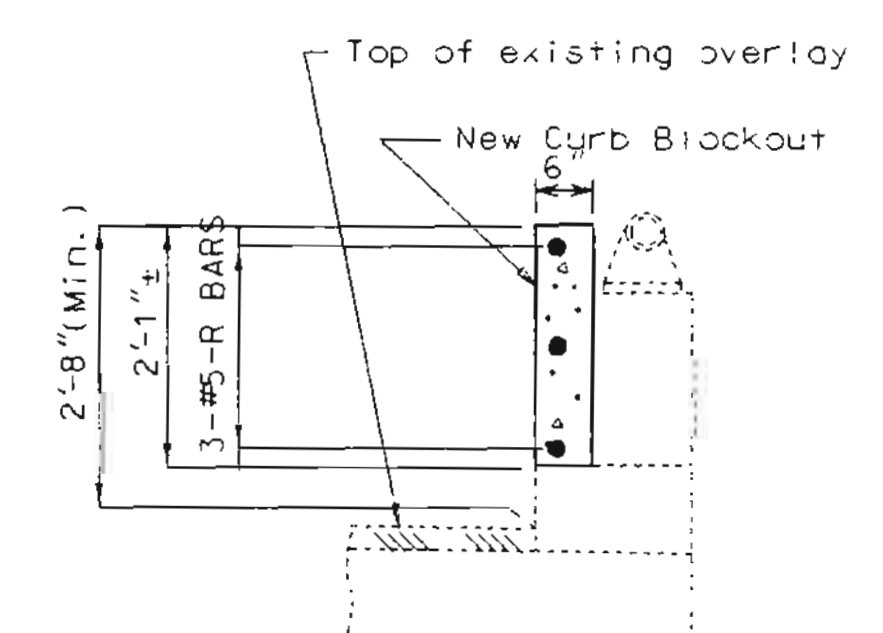
A16982

STATE	PROJ. NO.	SHEET NO.
MO.		821

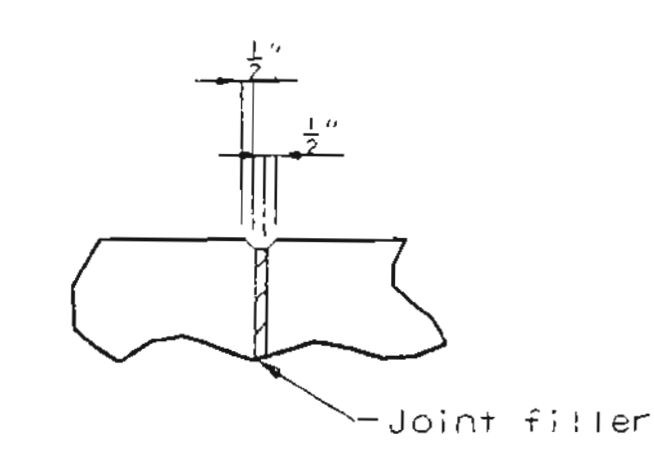


Note: Longitudinal dimensions shown are dimensions taken along along outside edge of parapet.  
Match existing curb joints.

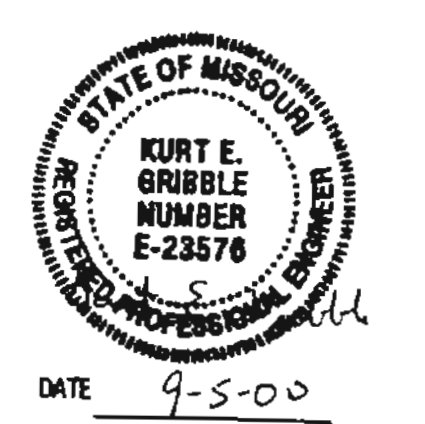
PLAN OF CURB BLOCKOUT SHOWING REINFORCEMENT



TYPICAL SECTION THRU CURB BLOCKOUT



FILLED JOINT DETAIL



DATE 9-5-00

DETAILED APR. 1999  
CHECKED NOV. 1999

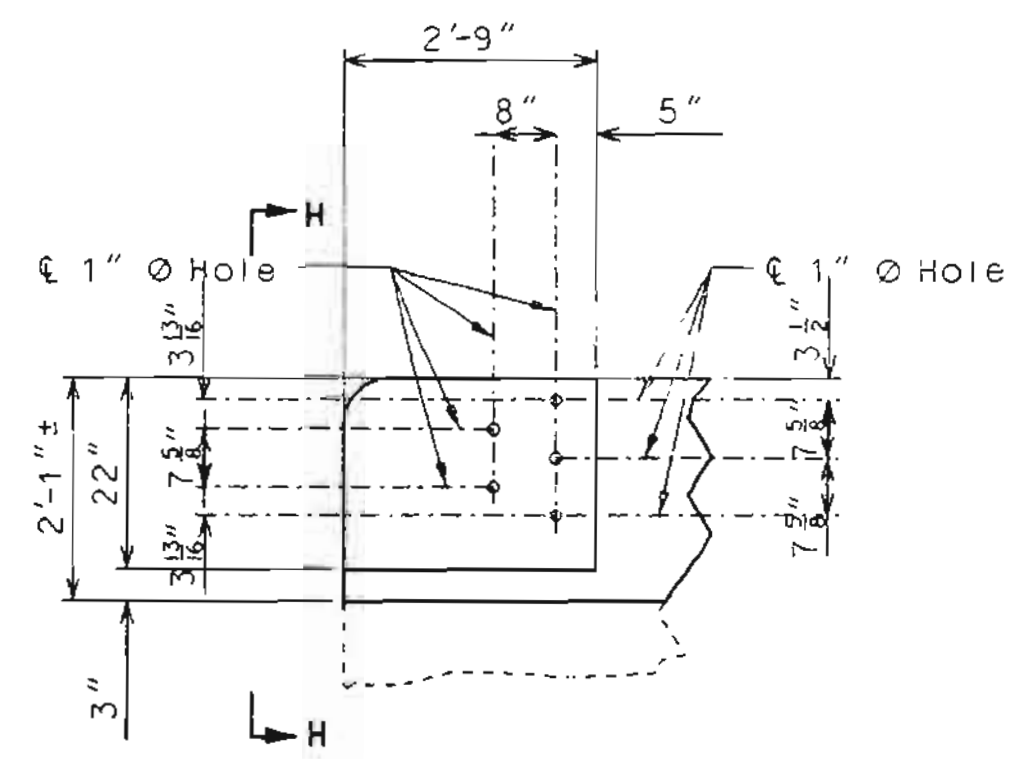
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 3 OF 5.

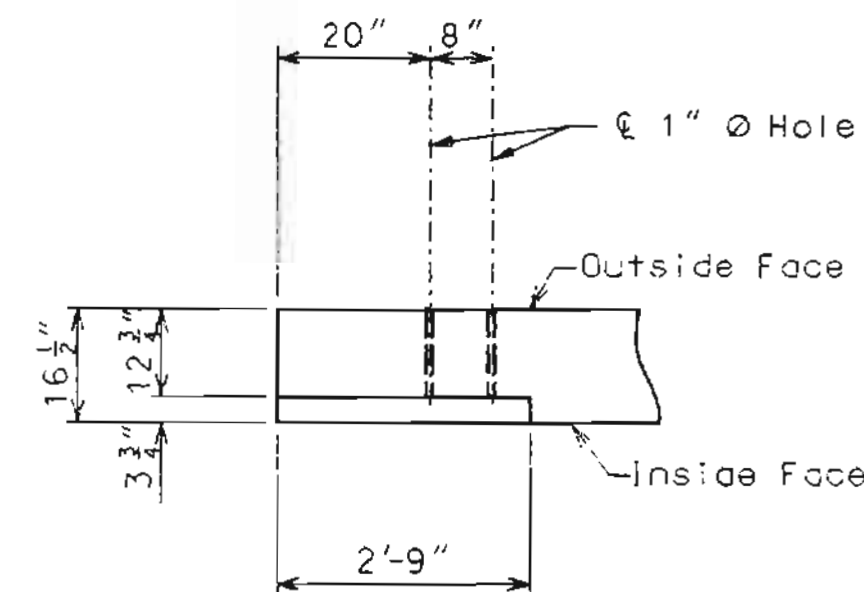
JACKSON COUNTY

A16982

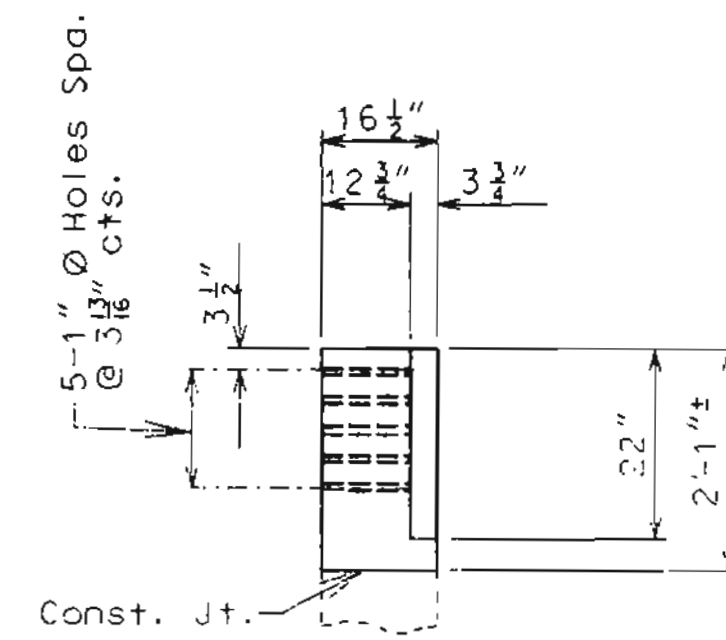
STATE	PROJ. NO.	SHEET NO.
MO.		B22



PART ELEVATION

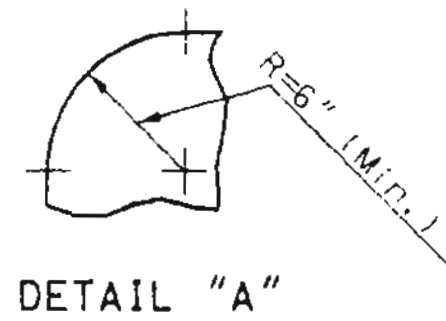


PART PLAN

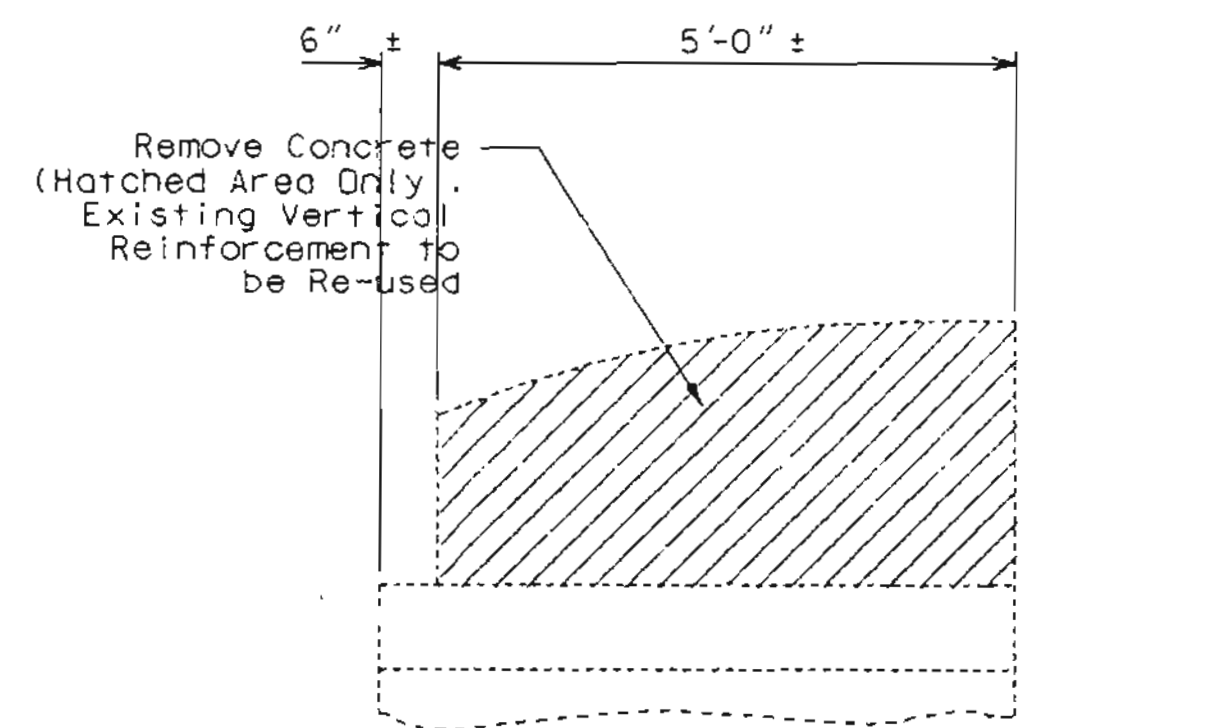


PART ELEVATION H-H

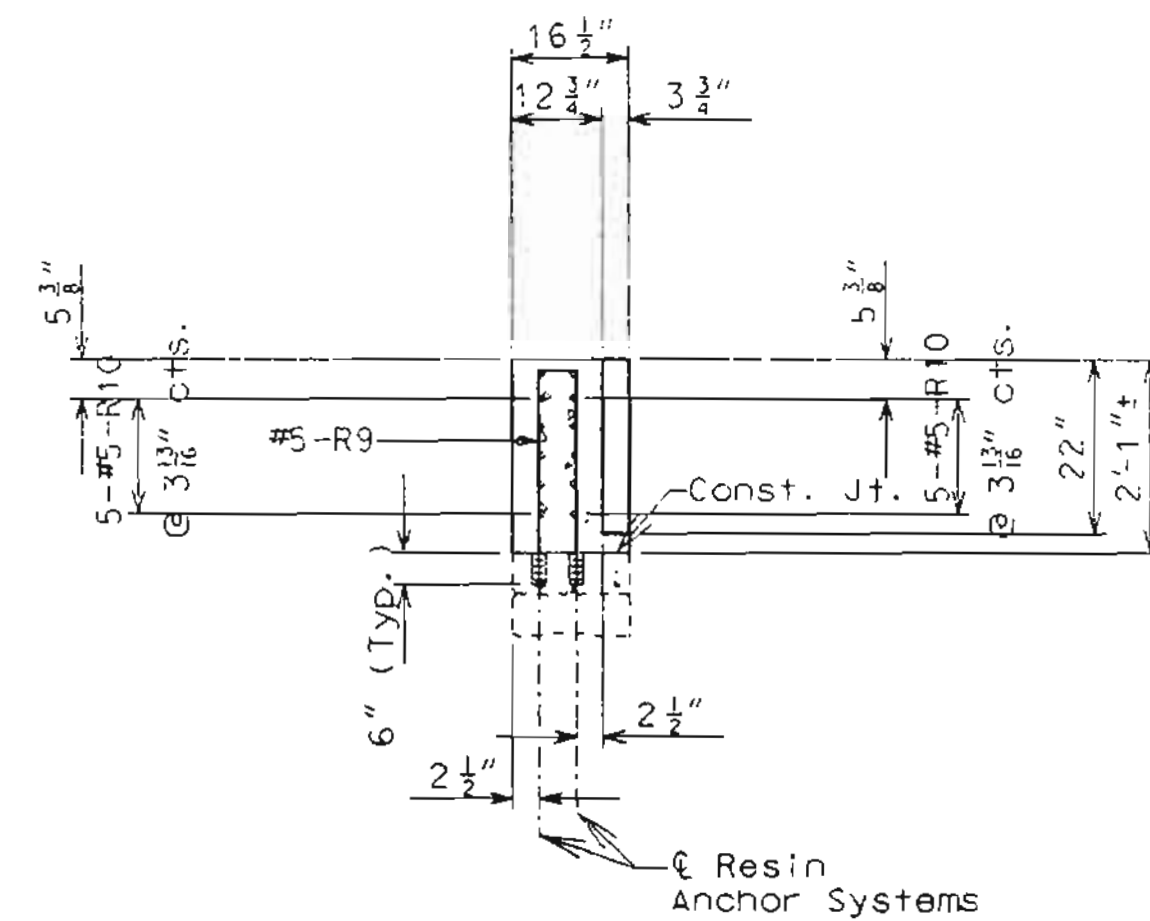
DETAILS OF GUARD RAIL ATTACHMENT



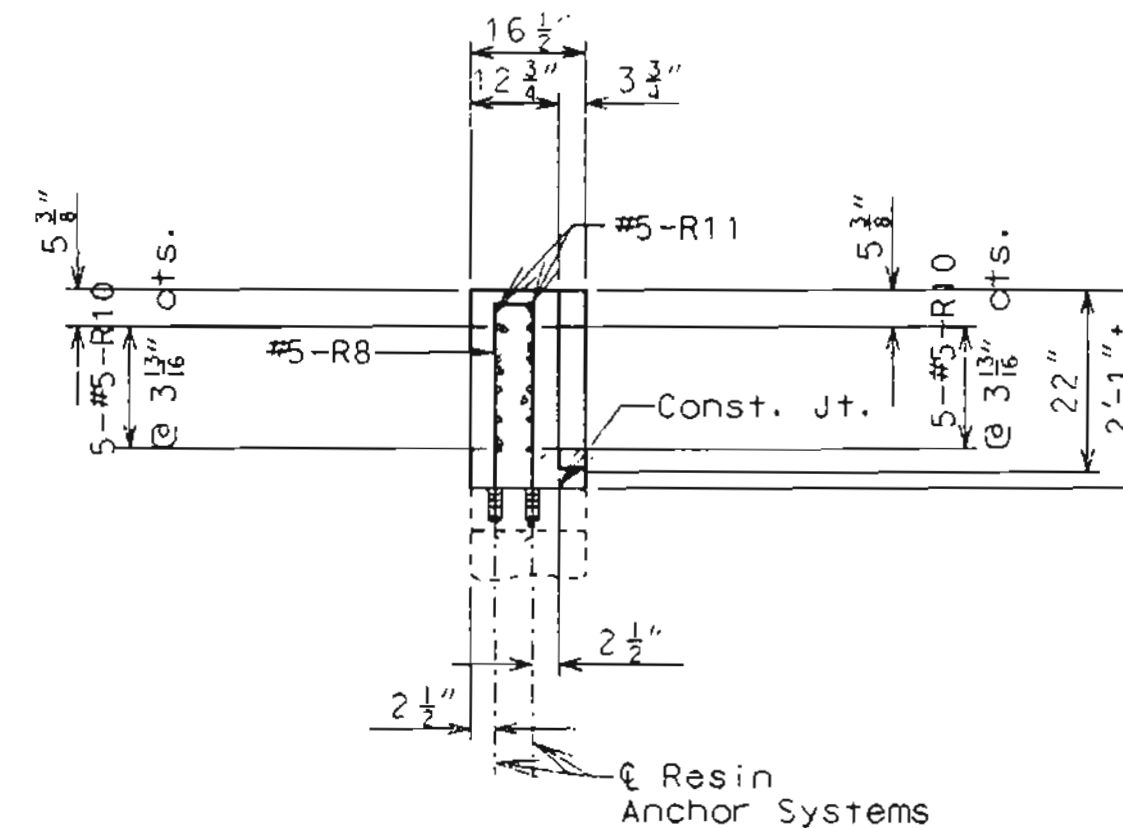
DETAIL "A"



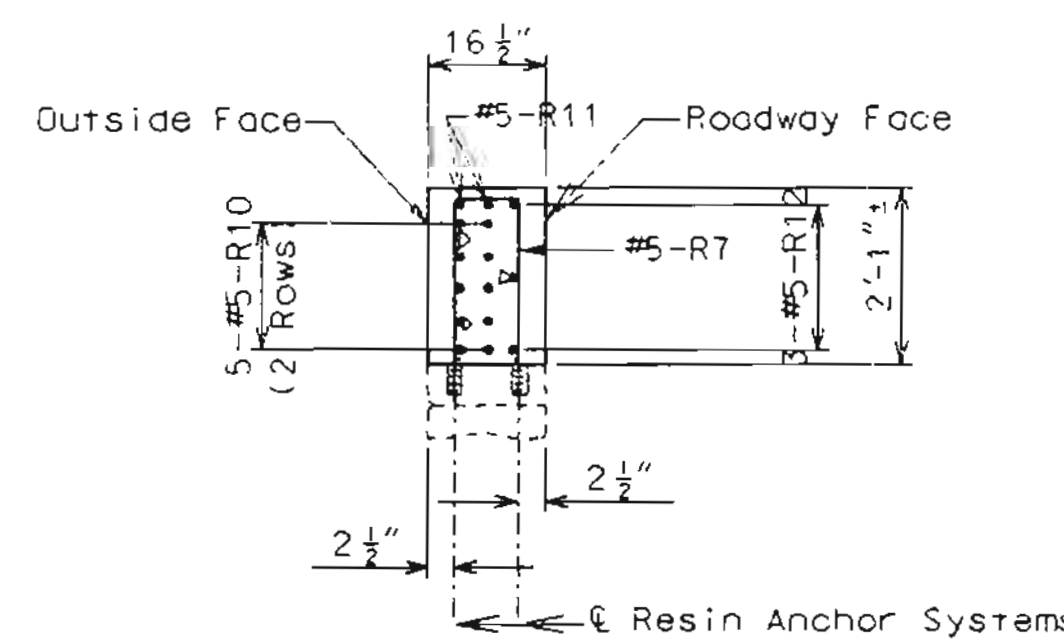
ELEVATION OF EXISTING END POST SHOWING CONCRETE REMOVAL



SECTION E-E

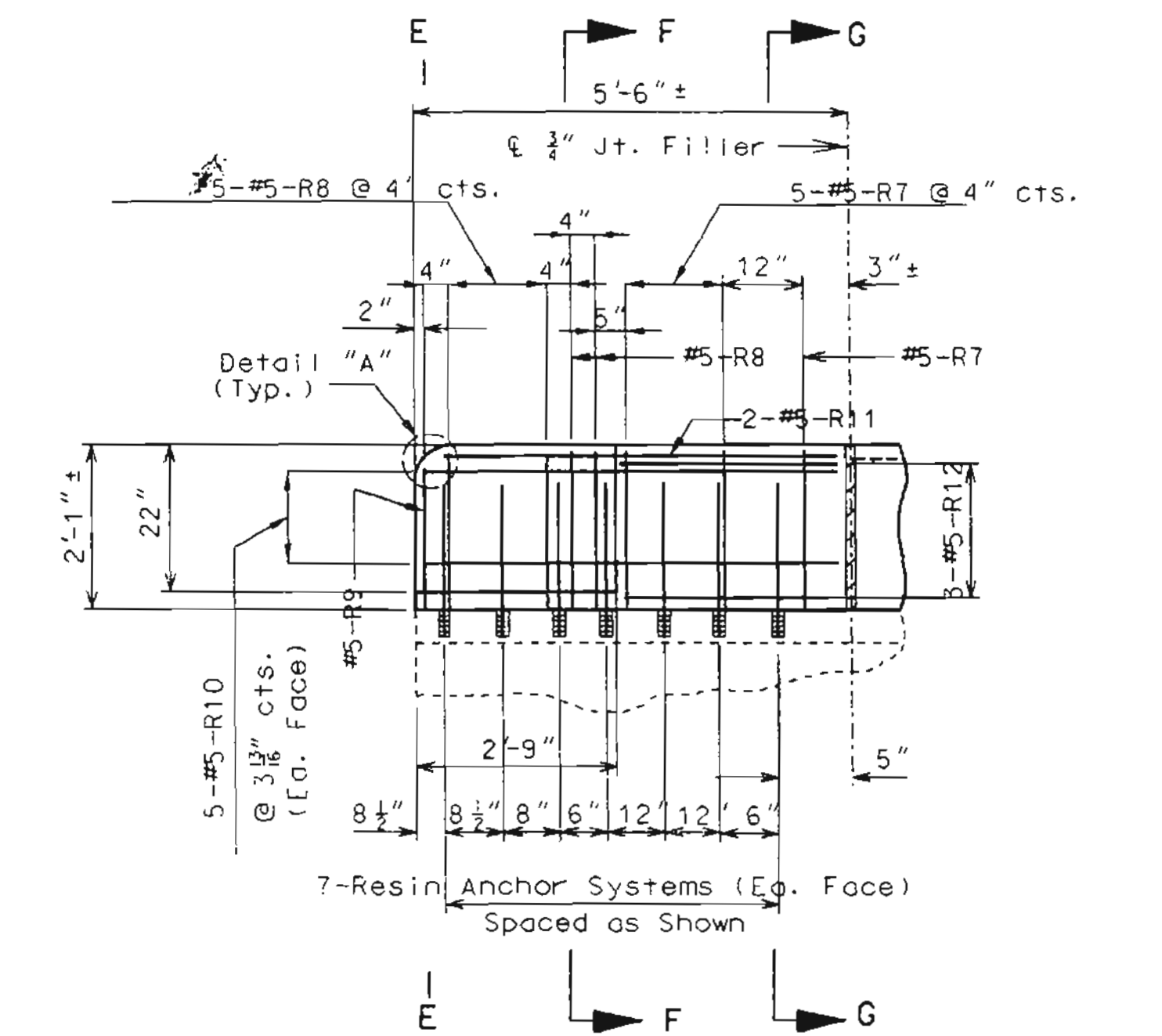


SECTION F-F

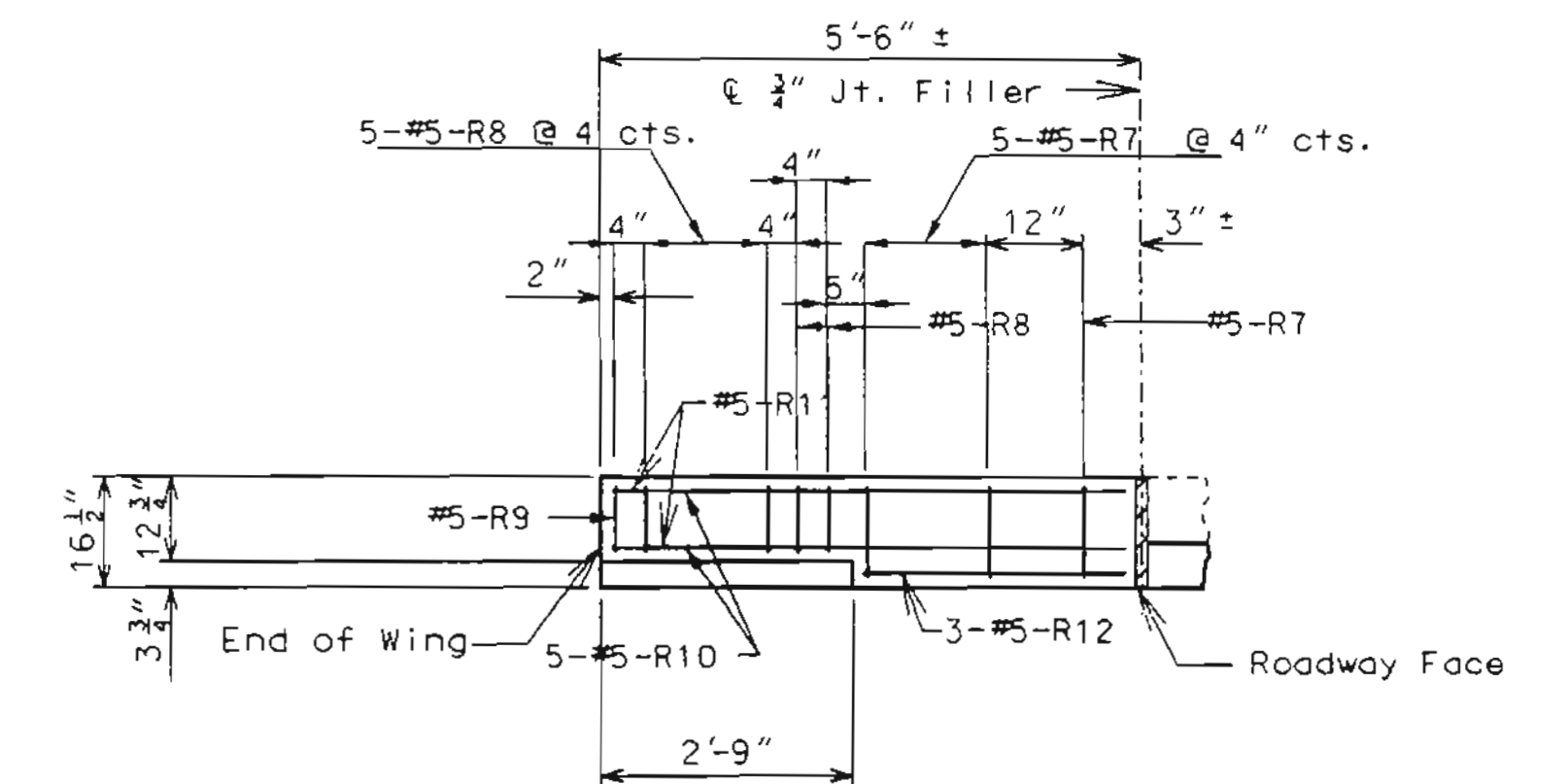


SECTION G-G

DETAILS OF BLOCKOUT ON WINGS (NORTHEAST WING SHOWN OTHER WINGS SIMILAR)



ELEVATION OF NEW END POST ON WING



PLAN OF NEW END POST ON WING

Note: Resin anchors not shown in plan view for clarity.

DETAILED APR. 1999  
CHECKED NOV. 1999

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

SHEET NO. 4 OF 5.

JACKSON COUNTY



DATE 9-5-00

A16982

barbill... Oct. 1999

BILL OF REINFORCING STEEL

Table with columns: NO. REQ'D., MARK NO., LOCATION, DIMENSIONS (B, C, D, E, F, H, K), NOMINAL LENGTH, ACTUAL LENGTH, WEIGHT. Includes rows for various bar sizes and locations like BLOCKOUT.

BILL OF REINFORCING STEEL

Table with columns: NO. REQ'D., MARK NO., LOCATION, DIMENSIONS (B, C, D, E, F, H, K), NOMINAL LENGTH, ACTUAL LENGTH, WEIGHT. This table is mostly empty.

Table with columns: State (MO), Proj. No., Sheet No. (23).

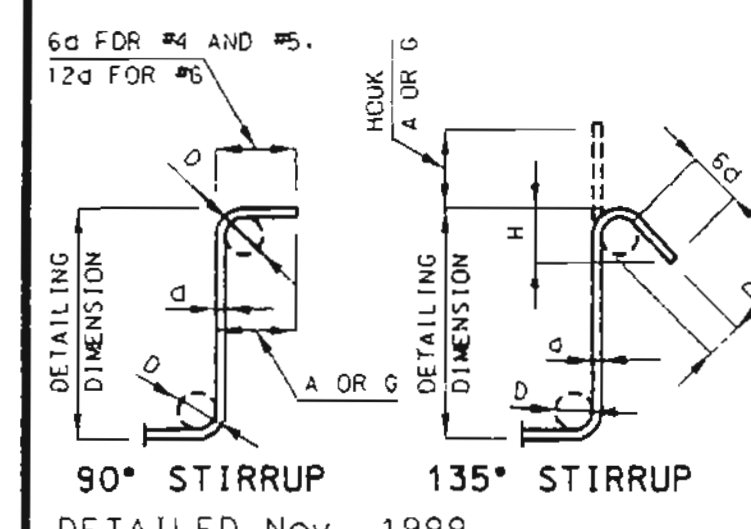
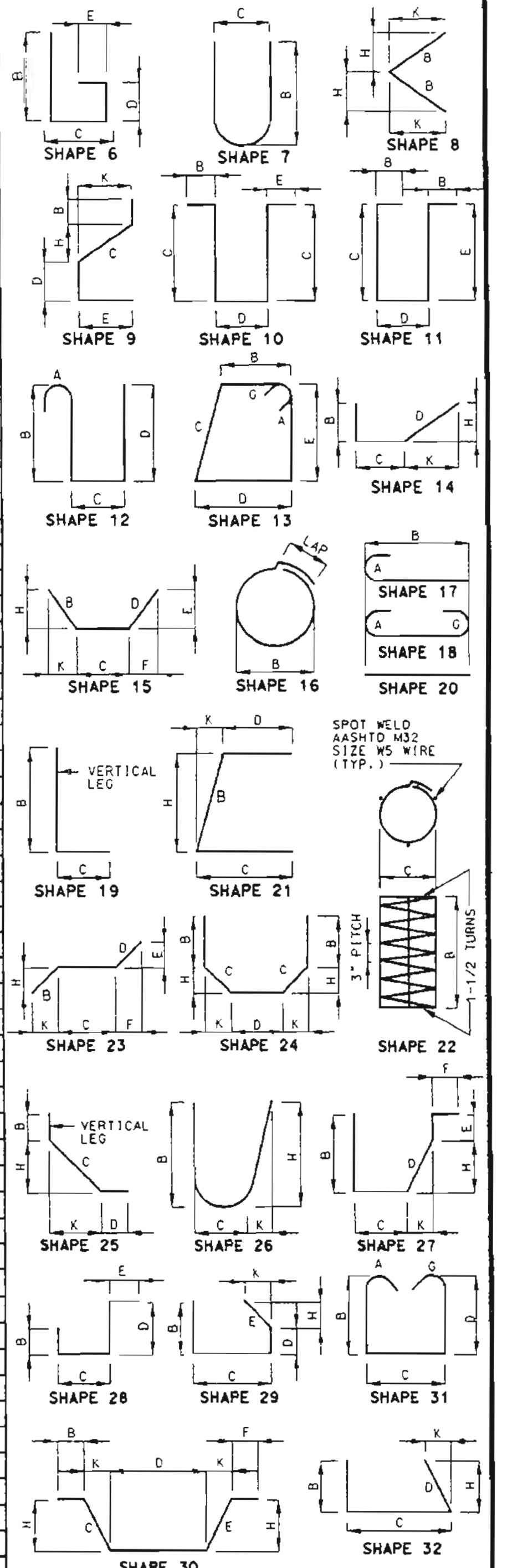


Table titled 'STIRRUP HOOK DIMENSIONS' with columns for BAR SIZE, D (IN.), 90° HOOK, and 135° HOOK.

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

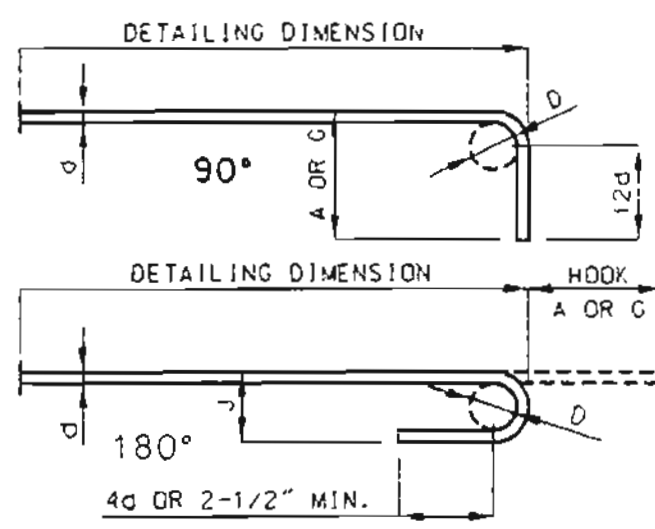
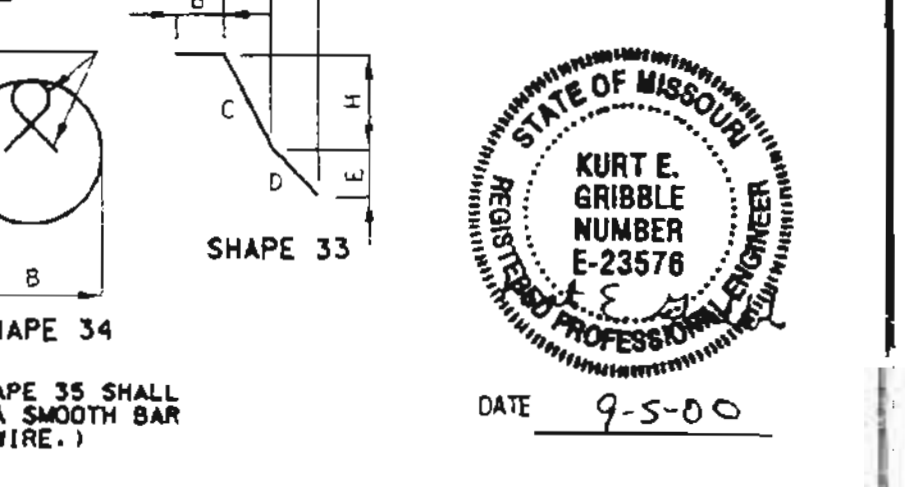
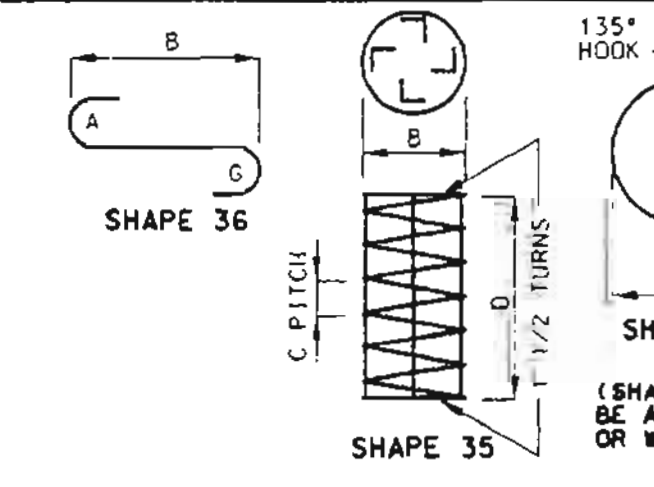


Table titled 'END HOOK DIMENSIONS' with columns for BAR SIZE, D (IN.), and hook types (180° HOOKS, 90° HOOKS).

TWO ADDITIONAL #5-R6 ARE INCLUDED IN THE BAR BILL FOR TESTING.

NOTE: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS. HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET. E = EPOXY COATED REINFORCEMENT. S = STIRRUP. X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES. V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE. NO. EA. = NUMBER OF BARS OF EACH LENGTH. NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATOR'S 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<sub>y</sub> 60,000 PSI.



DATE 9-5-00

DETAILED Nov. 1999 CHECKED Nov. 1999

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

SHEET NO. 5 OF 5.

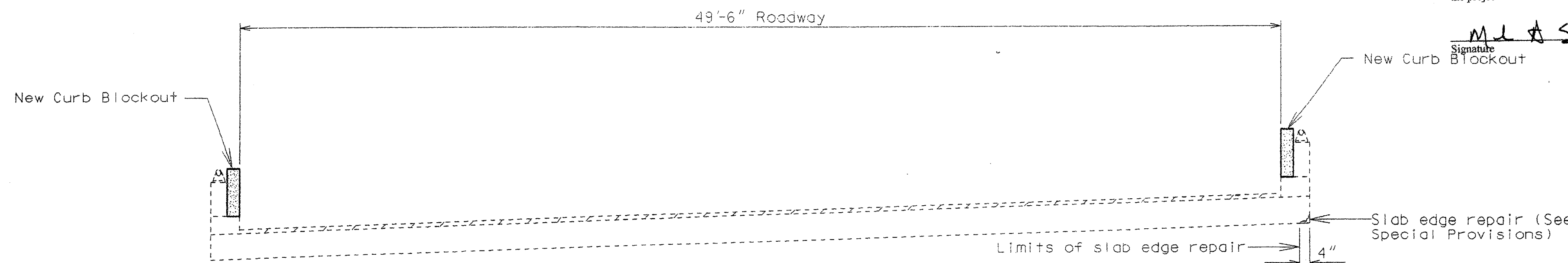
JACKSON COUNTY

A16982

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

**Final Plans**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

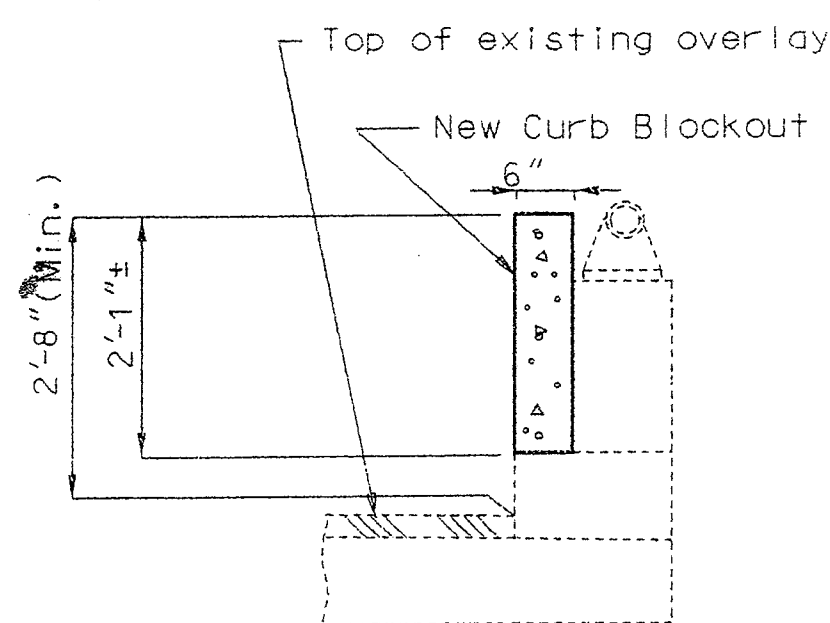
STATE	PROJ. NO.	SHEET NO.
MO.		8/9
SEC./SUR. 31 TWP. 50N RGE. 32W		



Signature: *M. J. A. S. L.*  
Date: 1-10-02

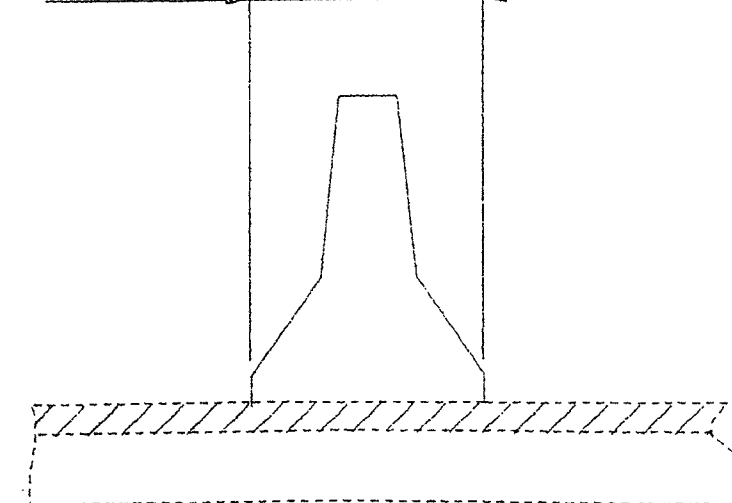


SECTION THRU EXISTING SLAB (NORTHBOUND ROADWAY)



TYPICAL SECTION THRU CURB BLOCKOUT

2'-0" Temporary Traffic Control Device (Roadway Item)



DETAIL OF TEMPORARY TRAFFIC BARRIER

GENERAL NOTES:

**DESIGN SPECIFICATIONS:**  
A.A.S.H.T.O.-1996 and Interim 1998  
**DESIGN UNIT STRESSES:**  
Class B1 Concrete (Curb Blockout) f'c=4,000 psi  
Reinforcing Steel (Grade 60) fy=60,000 psi

**JOINT FILLER:**  
All joint filler shall meet the requirements of Std. Spec. 1057.2.4 of the Missouri Standard Specifications except as noted.

**REINFORCING STEEL:**  
Minimum clearance to reinforcing steel shall be 1 1/2".

**OLD WORK:**  
Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

**VERIFY DIMENSIONS:**  
Contractor shall verify dimensions in field before ordering new material.

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

The contractor used one of the resin anchor systems listed in the job special provisions for the curb blockout. These anchor systems were installed according to the manufacturer's specifications, except as modified by the job special provisions and that an epoxy coated #5 grade 60 reinforcing bar as shown was substituted for the 5/8" threaded rod.

Cost of furnishing and installing the anchor systems complete in place was included in the price bid per linear foot of curb blockout.

The 5/8" diameter resin anchor systems have a minimum ultimate pullout strength of 15,500 in concrete with f'c= 4,000 psi. See special provisions.

**NOTES FOR CURB BLOCKOUT:**  
Concrete in curb blockout, was Class B1. Measurement of curb blockout is to the nearest linear foot measured at the gutter line from end of wing to end of wing.

All exposed edges of curb blockout have 1/2" radius or 3/8" bevel unless otherwise shown. Payment for concrete and reinforcing steel in curb blockout complete in place was included in the contract unit price for the curb blockout per linear foot.

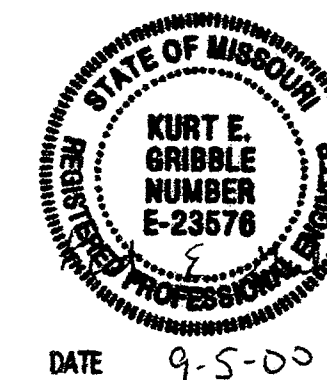
Cost of any concrete end post and curb removal considered completely covered in the contract unit price for the curb blockout per linear foot.

Minimum lap for R-bar reinforcement to be 3'-1". All reinforcement was epoxy coated.

**EXISTING LOW SLUMP CONCRETE OVERLAY:**  
Any damage to the existing low slump concrete overlay was repaired or replaced as directed by the engineer. No direct payment was made for any replacement or repairs to the low slump concrete overlay.

**TRAFFIC HANDLING:**  
See roadway plans for traffic control during construction.

FINAL QUANTITIES		
ITEM		TOTAL
Curb Blockout	Lin. Ft.	383 ✓
Slab Edge Repair (Bridges)	Lin. Ft.	52 ✓
CURB REPAIR CONT. 5002	Lin. Ft.	58 ✓
SUPERSTRUCTURE REPAIR CONT. 5004	Sq. Ft.	18 ✓



REPAIRS TO: BRIDGE OVER ROUTE 78

STATE ROAD: INTERSTATE ROUTE 435 NBL  
ABOUT: 2 MILES NORTH OF ROUTE I-70  
PROJECT NO. FAI-435-1(269) STA. 265+34.29 ± @ MEDIAN  
ID. 001215-401 (MATCH EXIST.)  
JOB NO. J411333 RTE. I-435  
JACKSON COUNTY

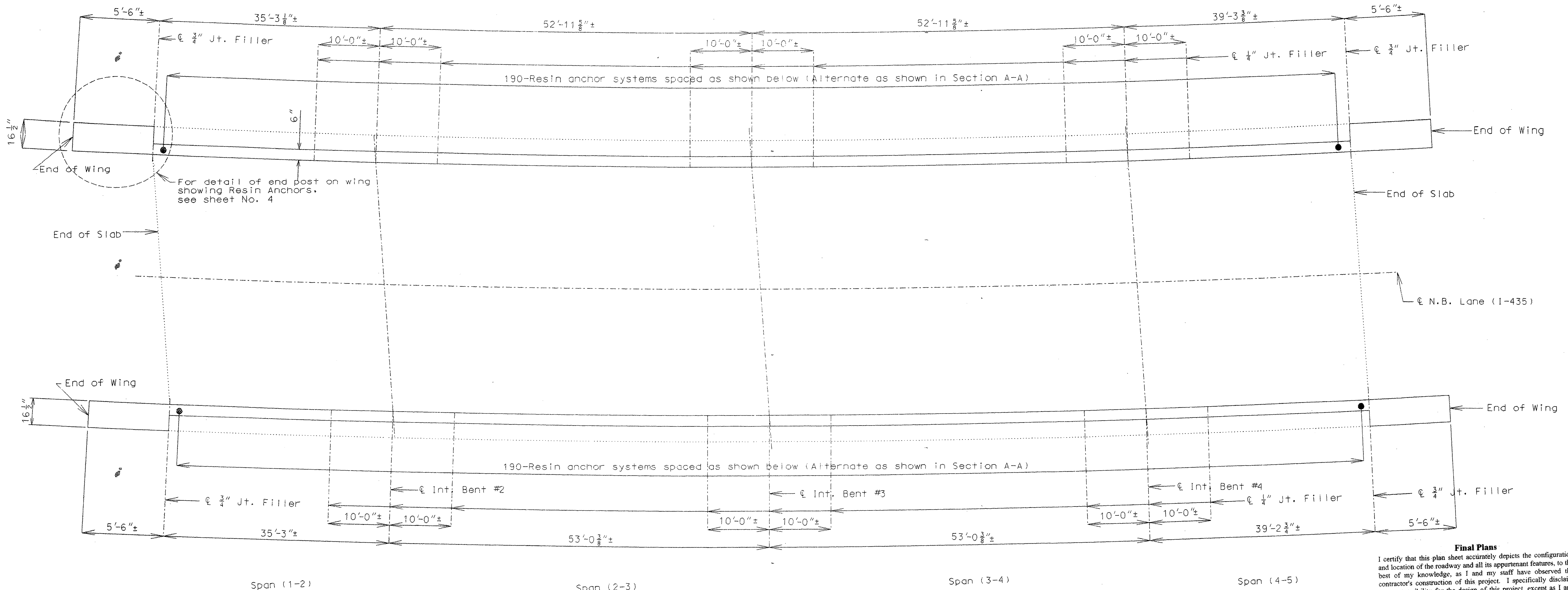
DESIGNED APR. 1999  
DETAILED APR. 1999  
CHECKED NOV. 1999

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

SHEET NO. 1 OF 5.

DATE 9/7/00 A16982

STATE	PROJ. NO.	SHEET NO.
MO.	FAI-435-1-(269)	820
ID. 001215-401		
Job No. J411333		

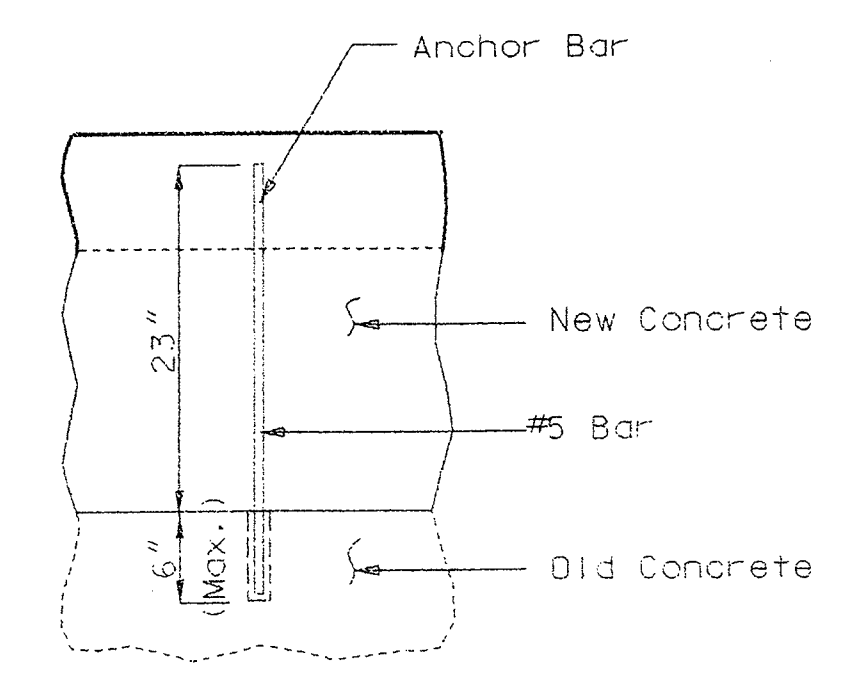


Note: Longitudinal dimensions shown are dimensions taken along along outside edge of parapet. Match existing curb joints.

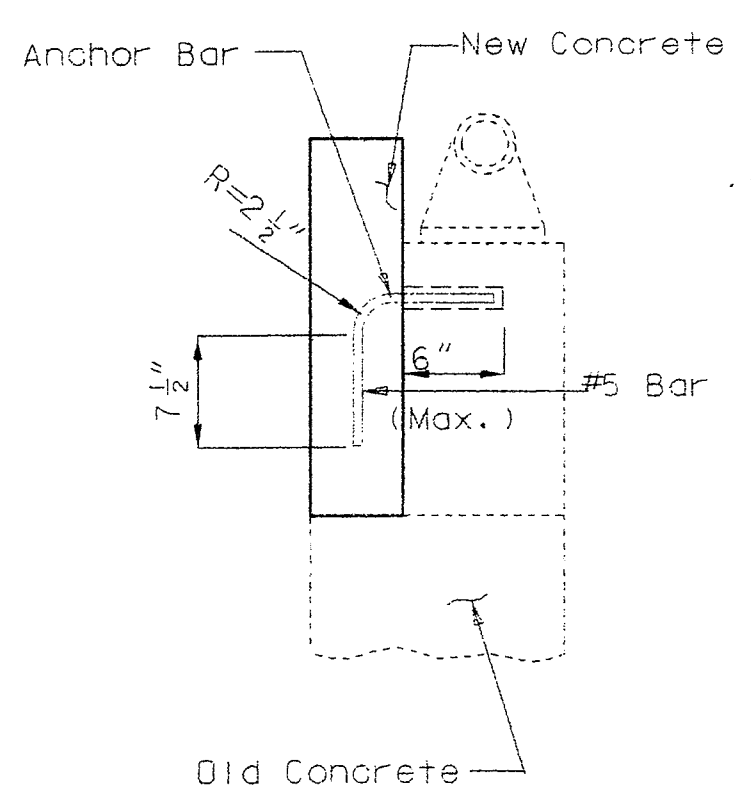
PLAN OF CURB BLOCKOUT SHOWING RESIN ANCHOR SPACING

**Final Plans**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: *M. J. A. S. L.* Date: 1-10-02

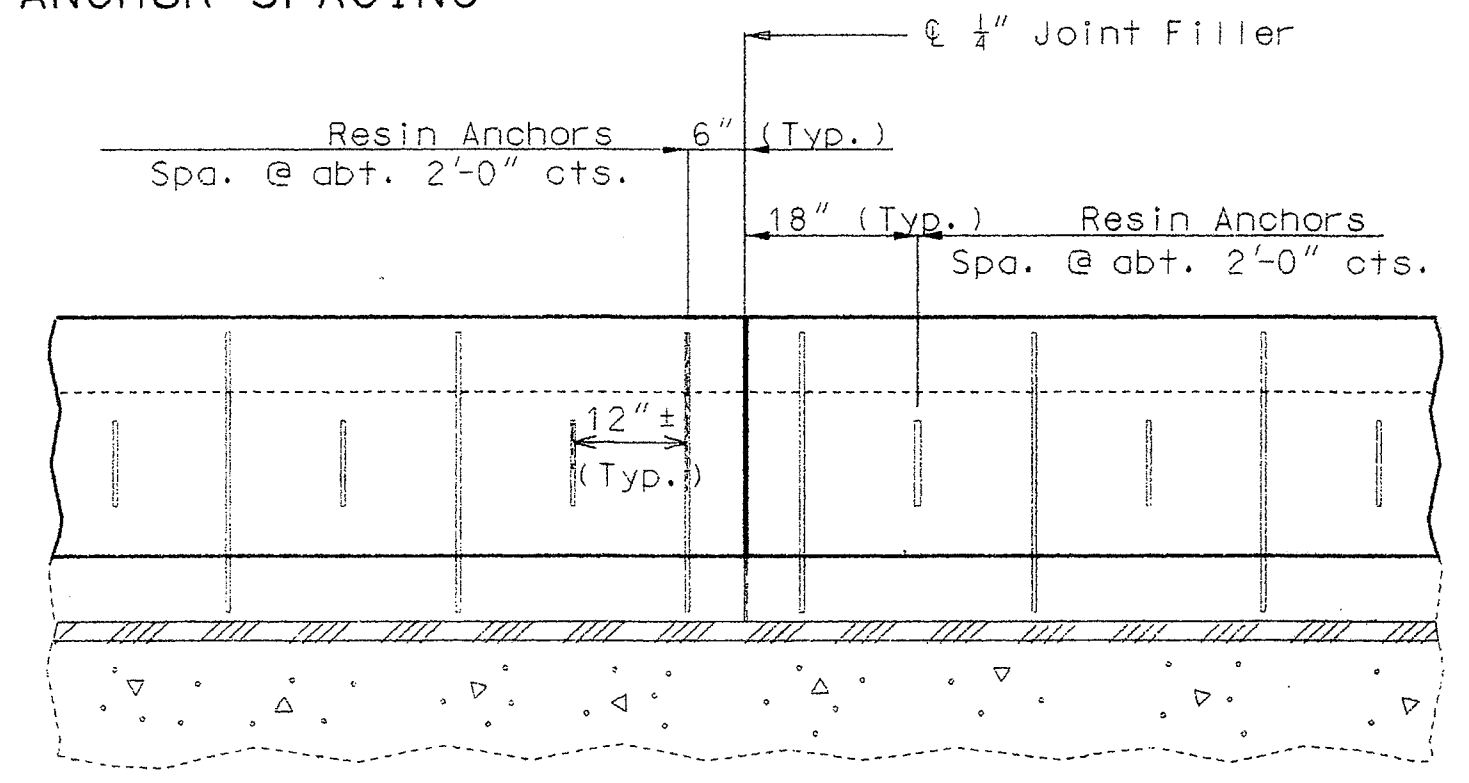


RESIN ANCHOR SYSTEMS DETAILS



TYPICAL SECTION THRU CURB

\*Shift resin anchors to clear existing steel anchor bolts for tube rail.



PART SECTION A-A

DETAILED APR. 1999  
CHECKED NOV. 1999

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

SHEET NO. 2 OF 5.

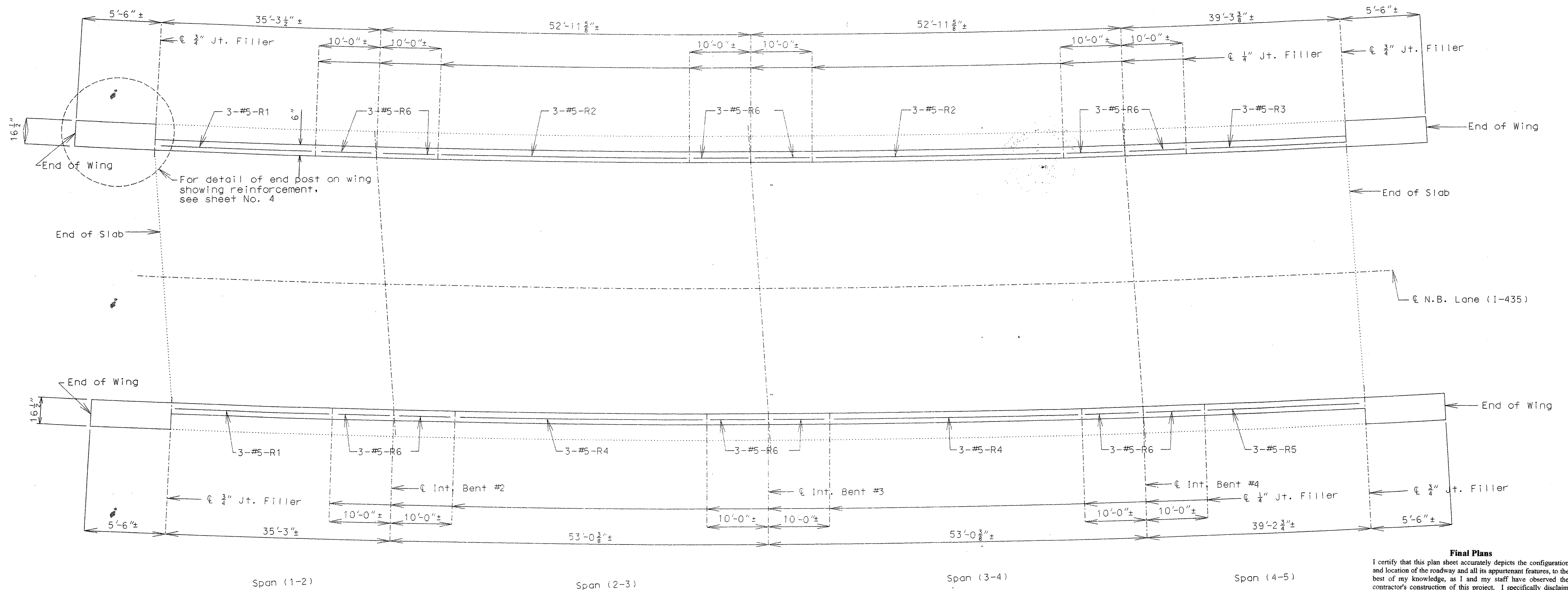
JACKSON COUNTY

A16982



DATE 9-5-00

STATE	PROJ. NO.	SHEET NO.
MO.	FAI-435-1 (269)	E21
	ID. 001215-401	
JOB NO. J4I1333		

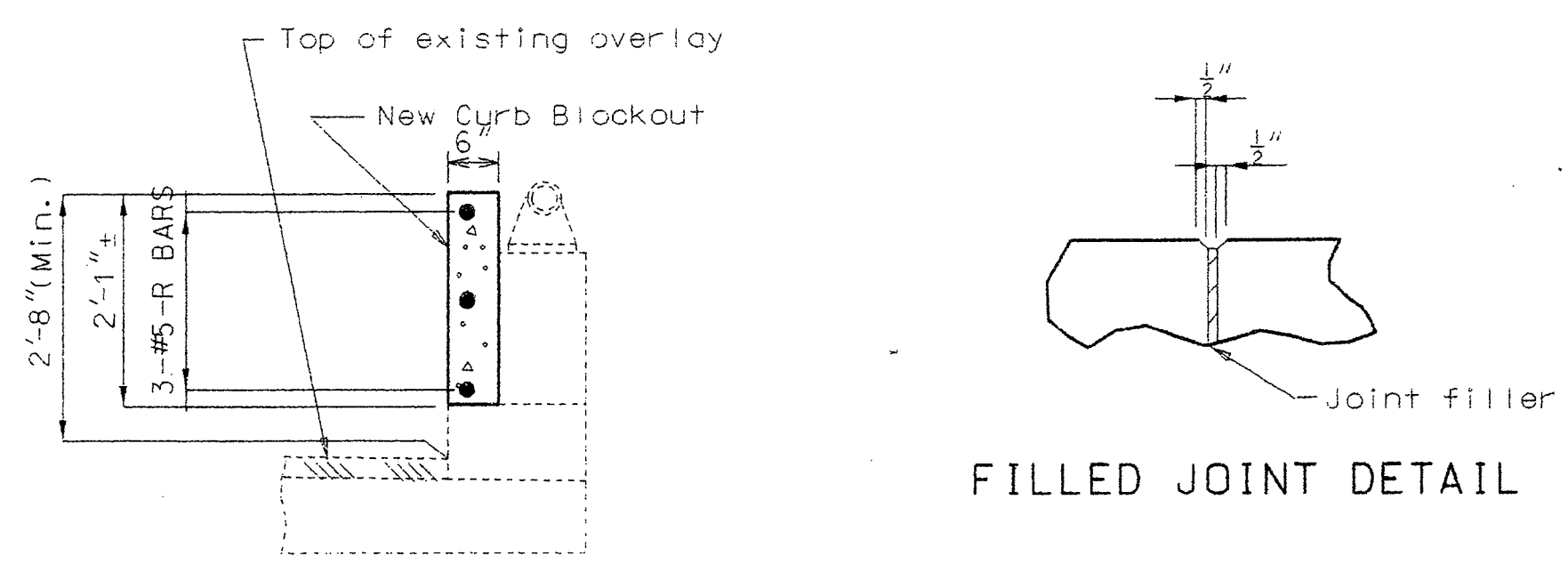


Note: Longitudinal dimensions shown are dimensions taken along along outside edge of parapet.  
Match existing curb joints.

PLAN OF CURB BLOCKOUT SHOWING REINFORCEMENT

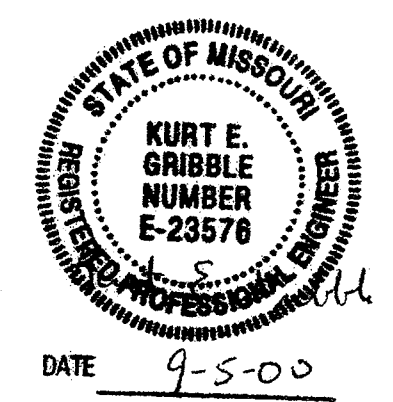
**Final Plans**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: *M. A. Sullivan* Date: 1-10-02



TYPICAL SECTION THRU CURB BLOCKOUT

FILLED JOINT DETAIL



DETAILED APR. 1999  
CHECKED NOV. 1999

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

SHEET NO. 3 OF 5.

JACKSON COUNTY

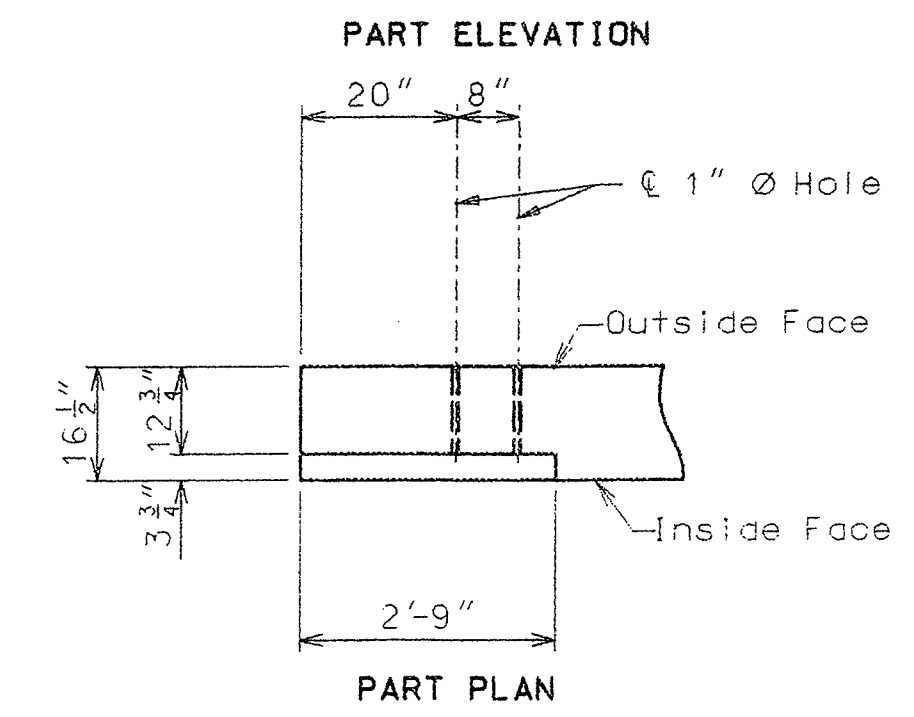
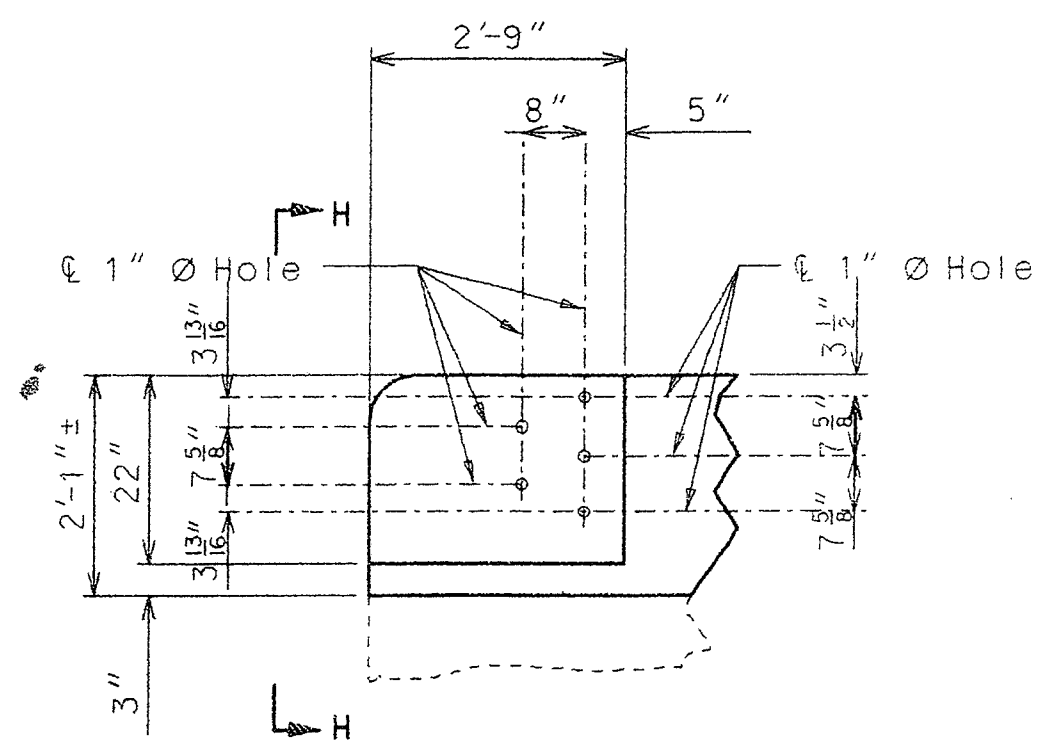
A16982



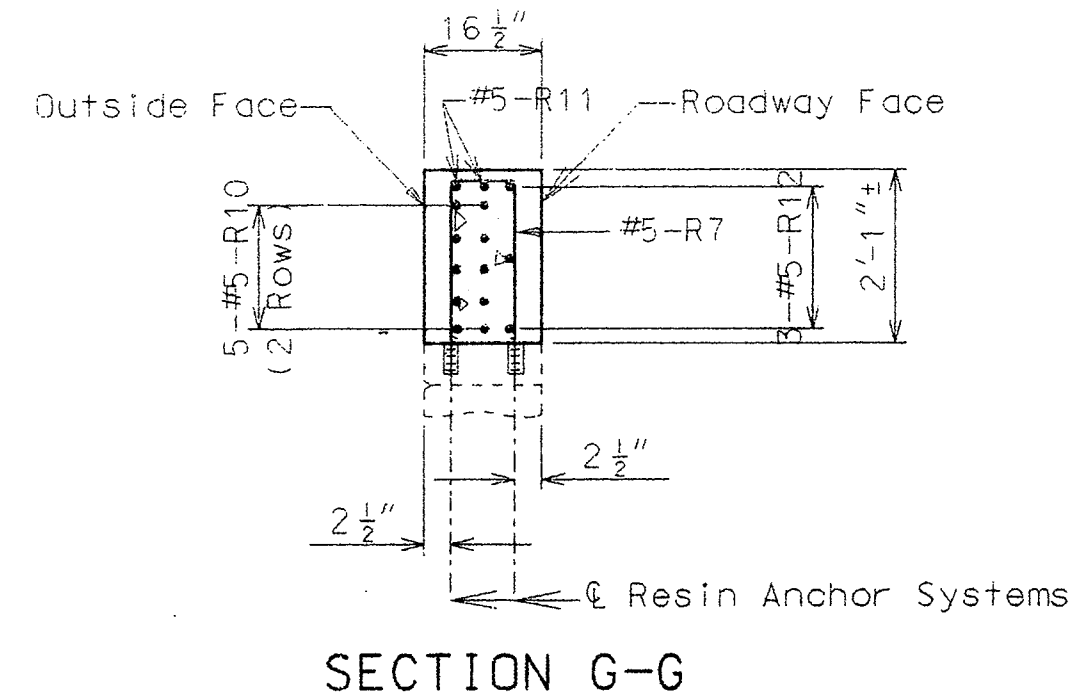
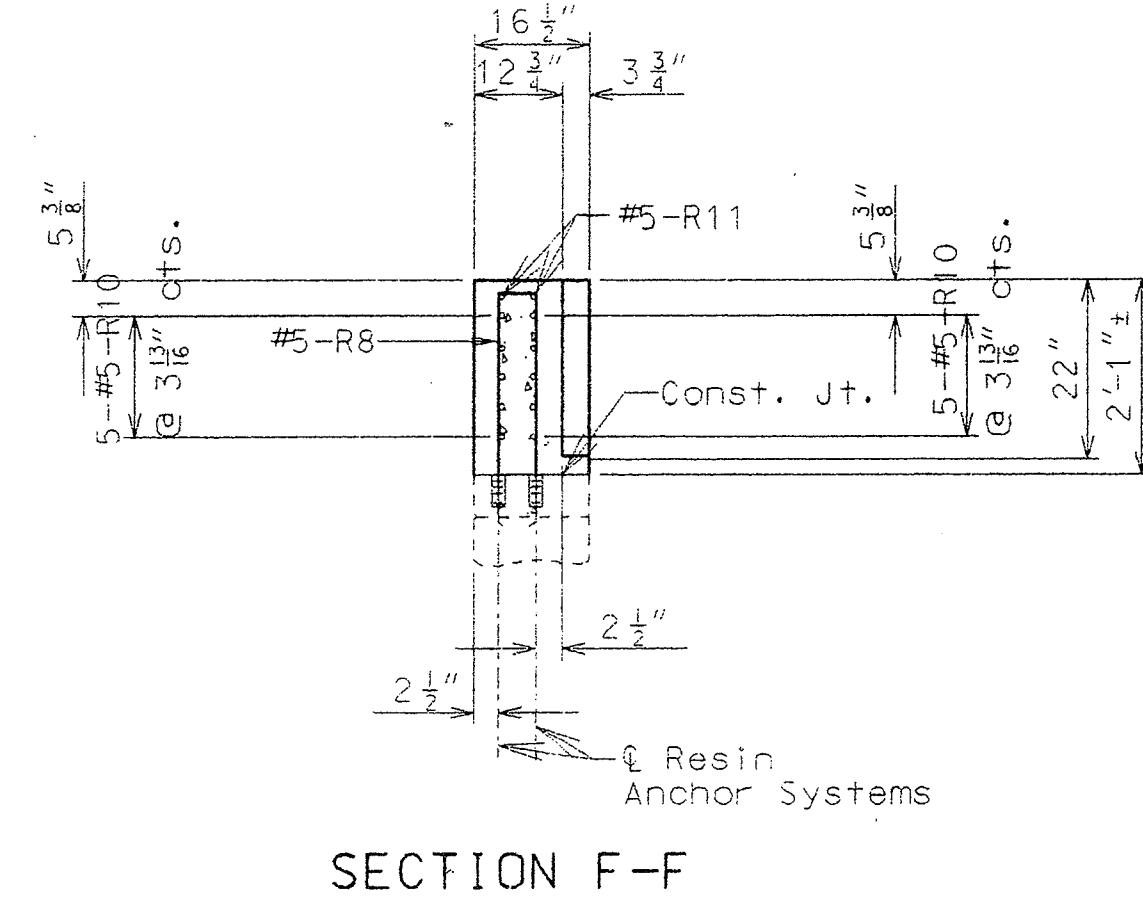
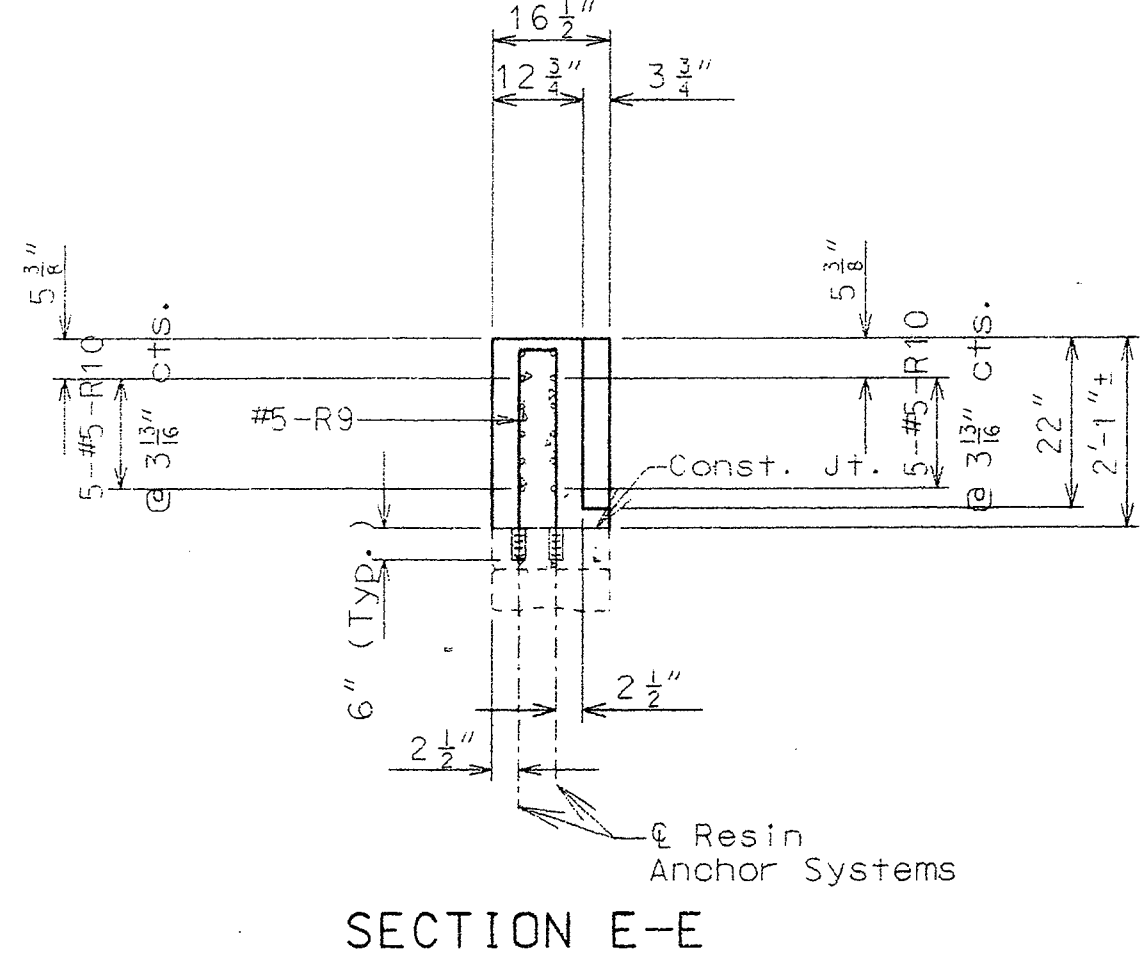
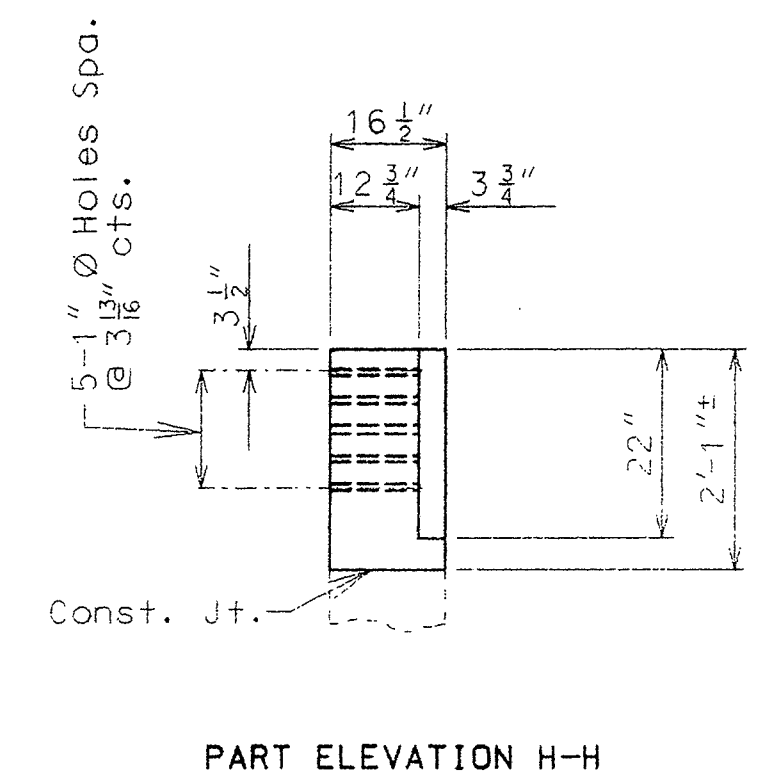
STATE	PROJ. NO.	SHEET NO.
MO.	FAI-435-1(269)	B22
I.D. 001215-401		
JOB NO. J411333		

**Final Plans**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

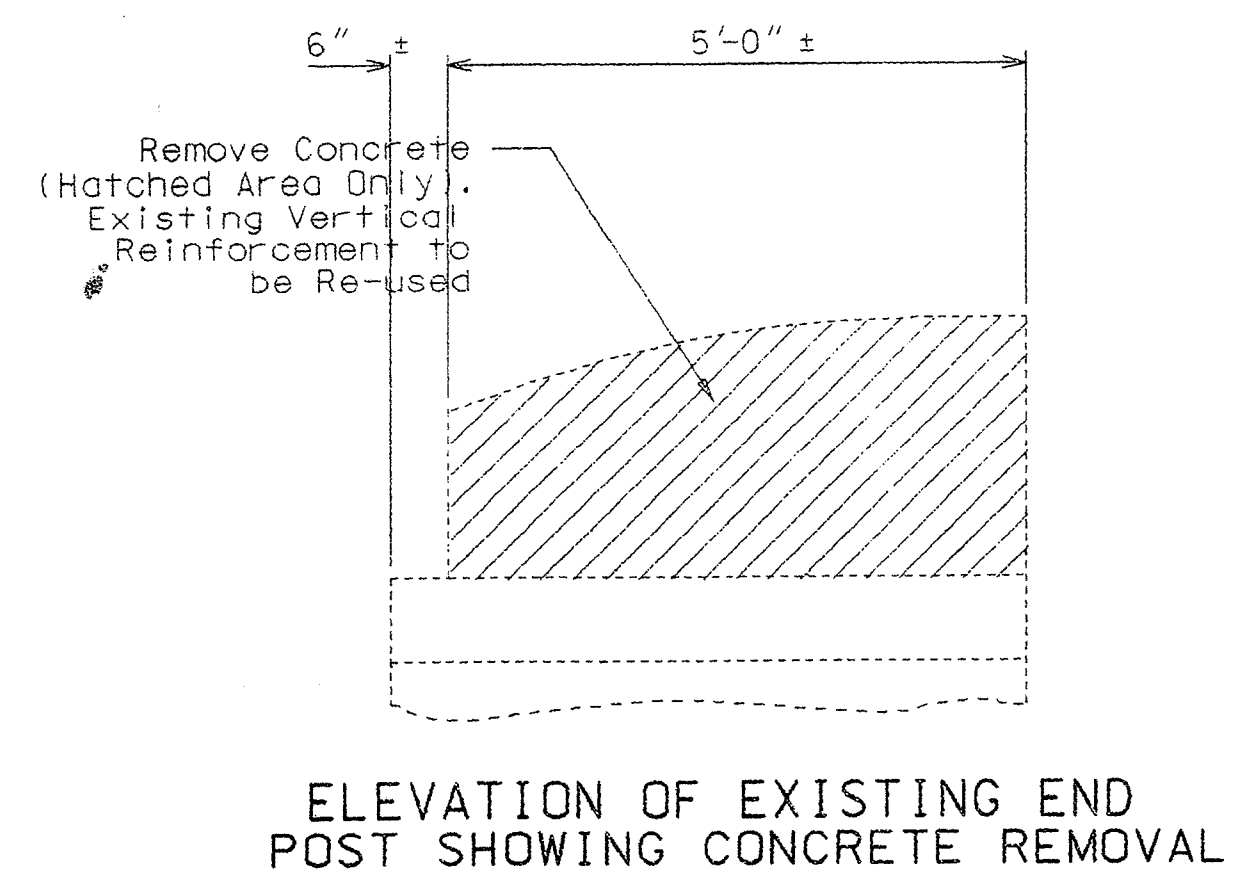
Signature: *M. J. A. Sill*  
 Date: 1-10-02



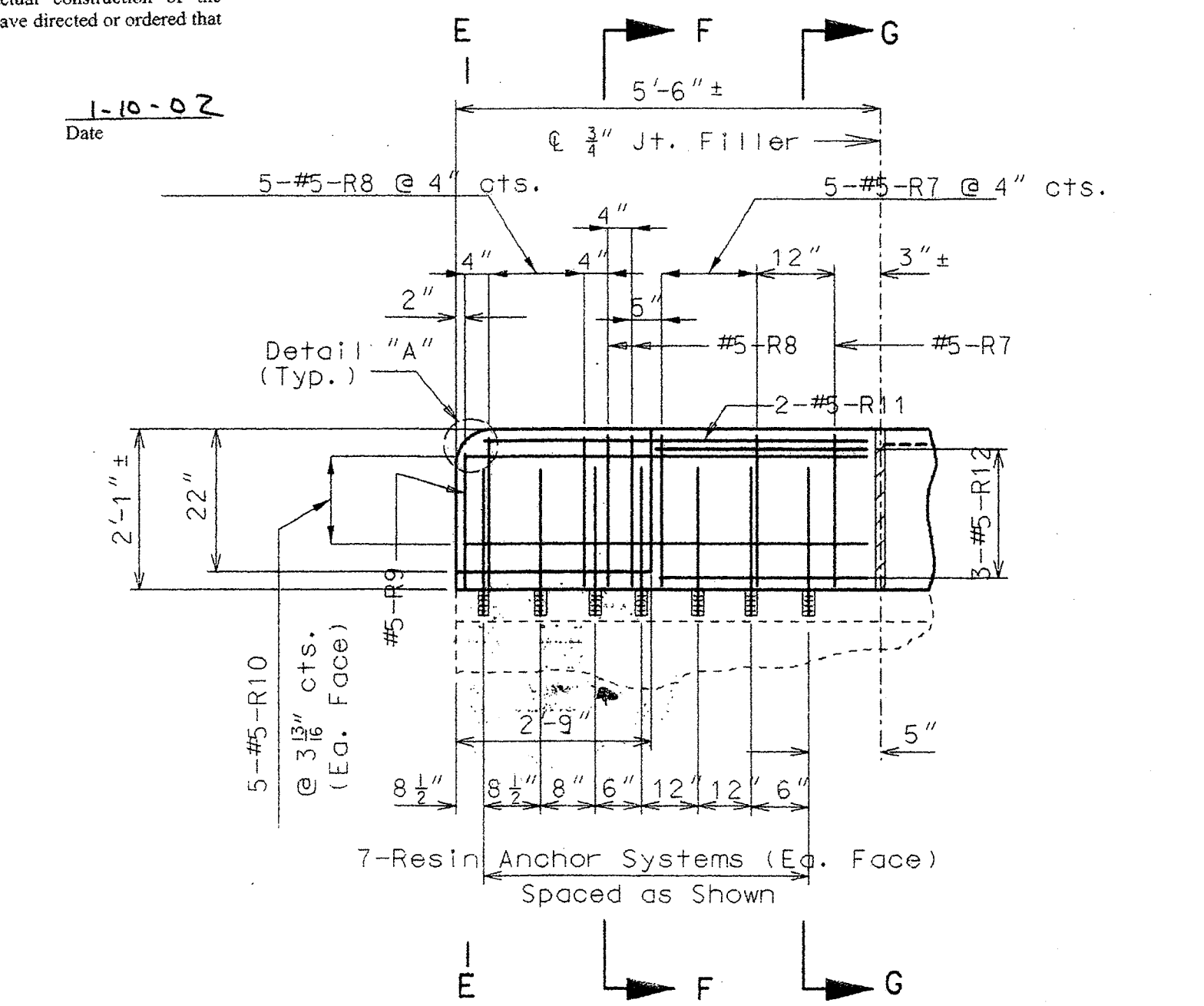
DETAILS OF GUARD RAIL ATTACHMENT



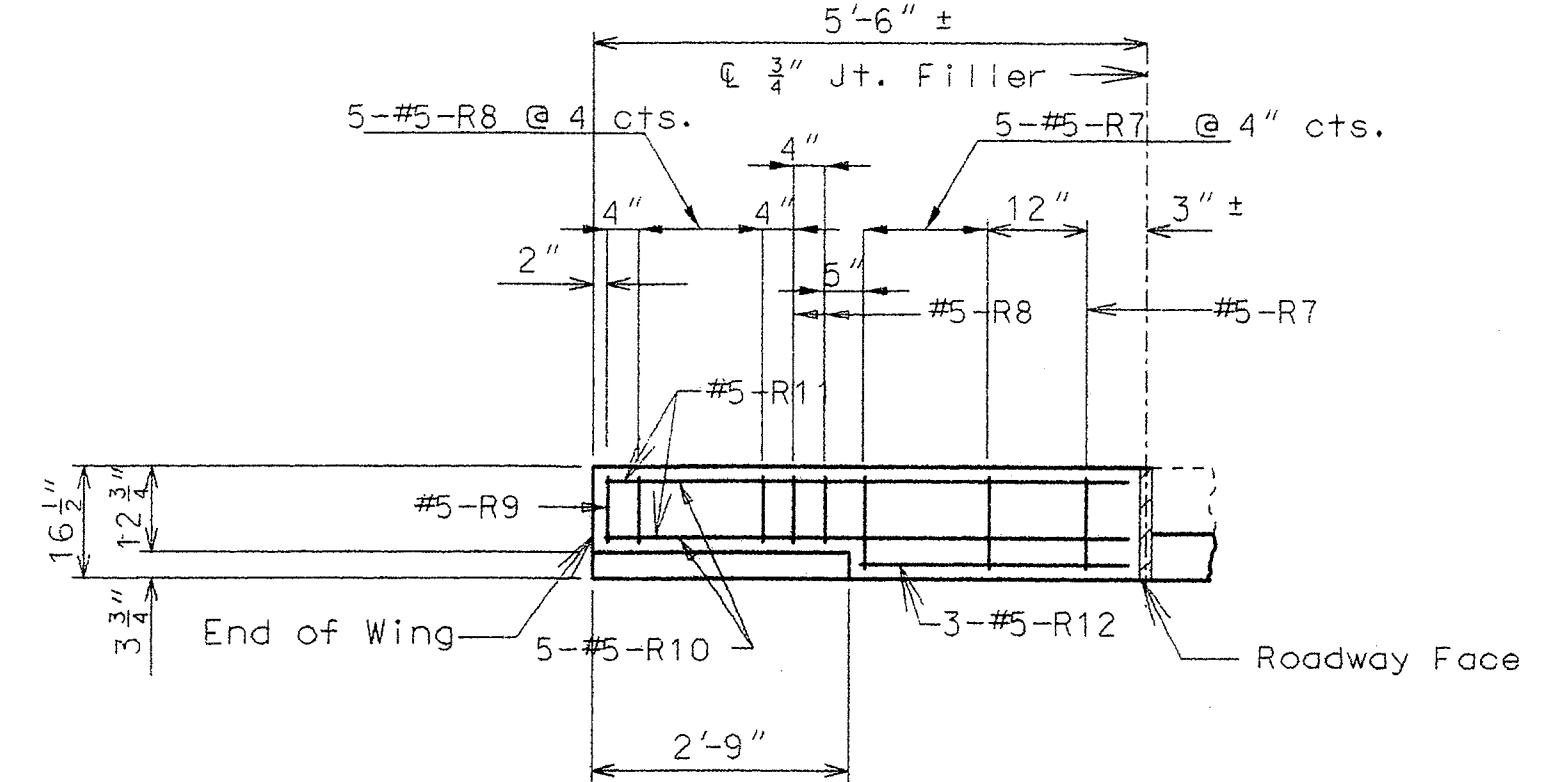
DETAILS OF BLOCKOUT ON WINGS (NORTHEAST WING SHOWN OTHER WINGS SIMILAR)



ELEVATION OF EXISTING END POST SHOWING CONCRETE REMOVAL



ELEVATION OF NEW END POST ON WING



PLAN OF NEW END POST ON WING

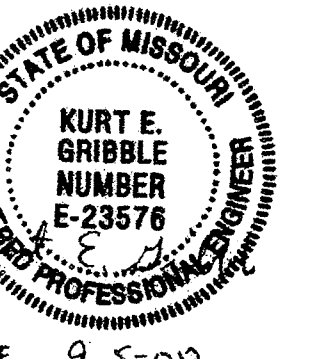
Note: Resin anchors not shown in plan view for clarity.

DETAILED APR. 1999  
 CHECKED NOV. 1999

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

SHEET NO. 4 OF 5.

JACKSON COUNTY



DATE 9-5-00

A16982

BILL OF REINFORCING STEEL

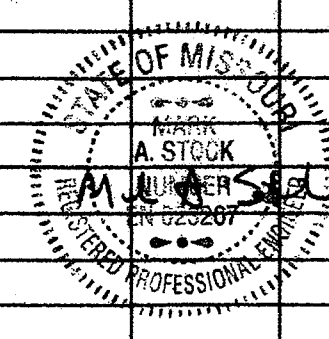
BILL OF REINFORCING STEEL

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.			
6	5 R1	BLOCKOUT	E	20					24	11.000						24	11	156
6	5 R2	BLOCKOUT	E	20					32	8.000						32	8	204
3	5 R3	BLOCKOUT	E	20					29	0.000						29	0	91
6	5 R4	BLOCKOUT	E	20					32	9.000						32	9	205
3	5 R5	BLOCKOUT	E	20					28	11.000						28	11	90
38	5 R6	BLOCKOUT	E	20					9	8.000						9	8	383
24	5 R7	BLOCKOUT	E	10	S						22.000	13.250				4	9	115
28	5 R8	BLOCKOUT	E	10	S						22.000	9.625				4	6	124
4	5 R9	BLOCKOUT	E	10	S						17.500	9.625				3	9	15
40	5 R10	BLOCKOUT	E	20					5	3.000						5	3	219
8	5 R11	BLOCKOUT	E	20					4	10.000						4	10	40
12	5 R12	BLOCKOUT	E	20					2	5.000						2	5	30

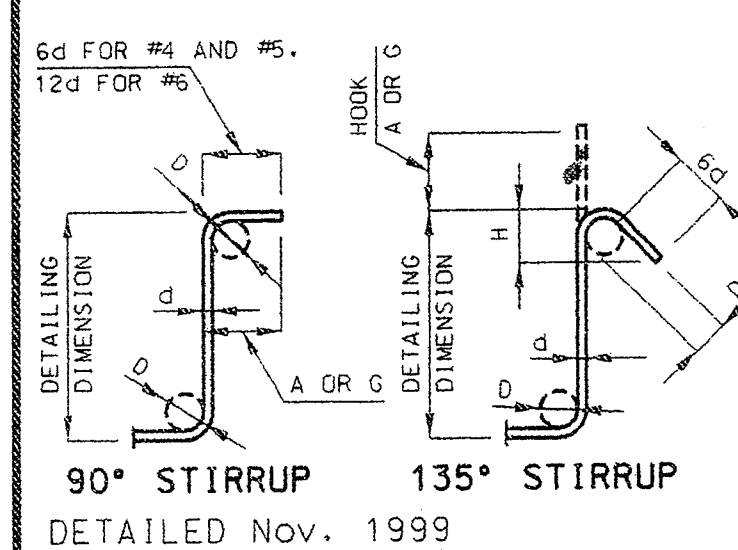
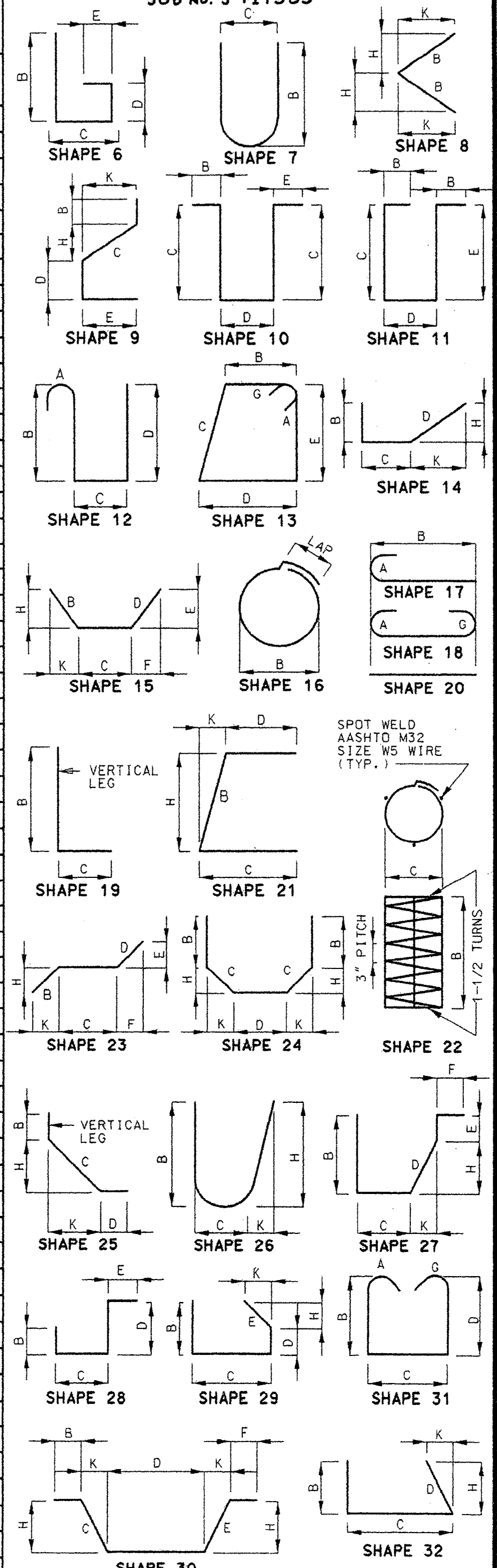
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K			
									FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.			

I certify that this plan sheet accurately depicts the configuration and location of the reinforcement and all its appurtenances to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

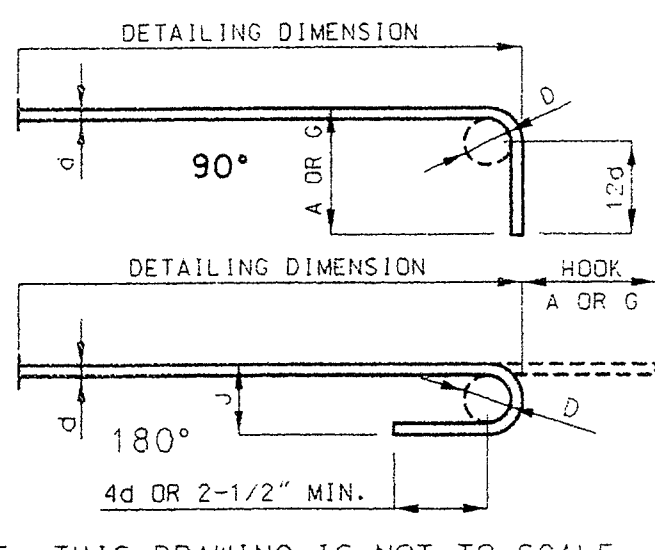
M. J. ASH  
Signature Date 10-02



State	Proj. No.	Sheet No.
MO	FAI-135-1(269)	B23
	ID. 001215-401	
	JOB No. J411333	



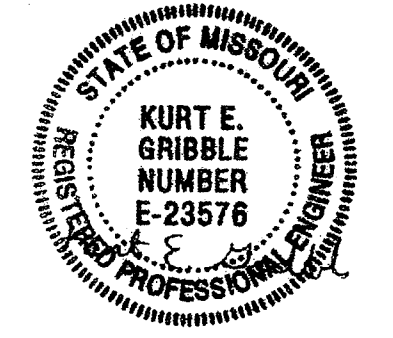
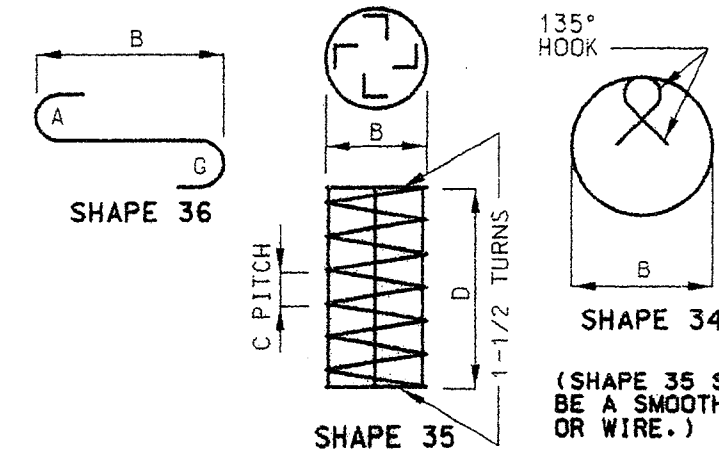
STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	APPROX. H
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"



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

TWO ADDITIONAL #5-R6 ARE INCLUDED IN THE BAR BILL FOR TESTING.

NOTE:  
 ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.  
 HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.  
 E = EPOXY COATED REINFORCEMENT.  
 S = STIRRUP.  
 X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.  
 V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.  
 NO. EA. = NUMBER OF BARS OF EACH LENGTH.  
 NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATOR'S 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<sub>y</sub> 60,000 PSI.



DATE 9-5-00

DETAILED Nov. 1999  
 CHECKED Nov. 1999

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

SHEET NO. 5 OF 5.

JACKSON COUNTY

BENDING DIAGRAMS

A16982

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.		824
SEC./SUR. 31 TWP. 50N RGE. 32W		

GENERAL NOTES:

**DESIGN SPECIFICATIONS:**  
A.A.S.H.T.O.-1996 and Interim 1998

**DESIGN UNIT STRESSES:**  
Class B1 Concrete (Curb Blockout)  $f'c=4,000$  psi  
Reinforcing Steel (Grade 60)  $fy=60,000$  psi

**JOINT FILLER:**  
All joint filler shall meet the requirements of Std. Spec. 1057.2.4 of the Missouri Standard Specifications except as noted.

**REINFORCING STEEL:**  
Minimum clearance to reinforcing steel shall be  $1\frac{1}{2}$ ".

**OLD WORK:**  
Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

**VERIFY DIMENSIONS:**  
Contractor shall verify dimensions in field before ordering new material.

**NOTES:**  
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 use one of the resin anchor systems listed in the job special provisions for the curb blockout. These anchor systems shall be installed according to the manufacturer's specifications, except as modified by the job special provisions and that an epoxy coated #5 grade 60 reinforcing bar as shown shall be substituted for the  $\frac{3}{8}$ " threaded rod.

Cost of furnishing and installing the anchor systems complete in place shall be included in the price bid per linear foot of curb blockout.

The  $\frac{3}{8}$ " diameter resin anchor systems shall have a minimum ultimate pullout strength of 15,500 in concrete with  $f'c=4,000$  psi. See special provisions.

**NOTES FOR CURB BLOCKOUT:**  
Concrete in curb blockout shall be Class B1. Measurement of curb blockout is to the nearest linear foot measured at the gutter line from end of wing to end of wing.

All exposed edges of curb blockout shall have  $\frac{1}{2}$ " radius or  $\frac{3}{8}$ " bevel unless otherwise shown.

Payment for concrete and reinforcing steel in curb blockout complete in place shall be included in the contract unit price for the curb blockout per linear foot.

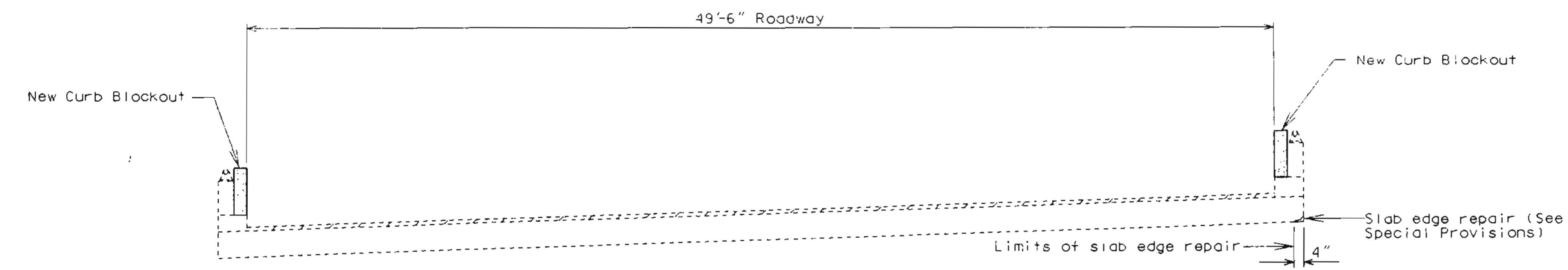
Cost of any concrete end post and curb removal shall be considered completely covered in the contract unit price for the curb blockout per linear foot.

Minimum lap for R-bar reinforcement to be 3'-1"

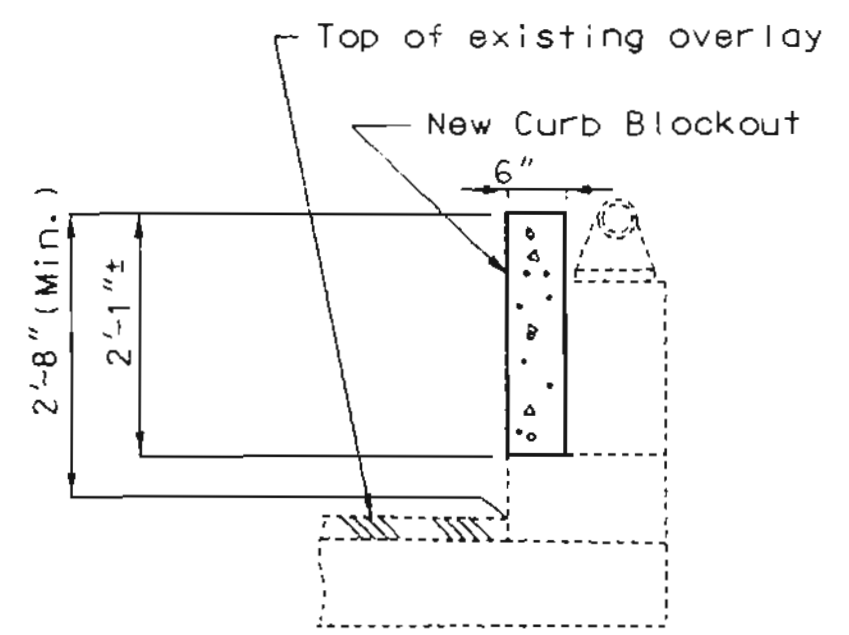
All reinforcement shall be epoxy coated.

**EXISTING LOW SLUMP CONCRETE OVERLAY:**  
Any damage to the existing low slump concrete overlay shall be repaired or replaced as directed by the engineer. No direct payment will be made for any replacement or repairs to the low slump concrete overlay.

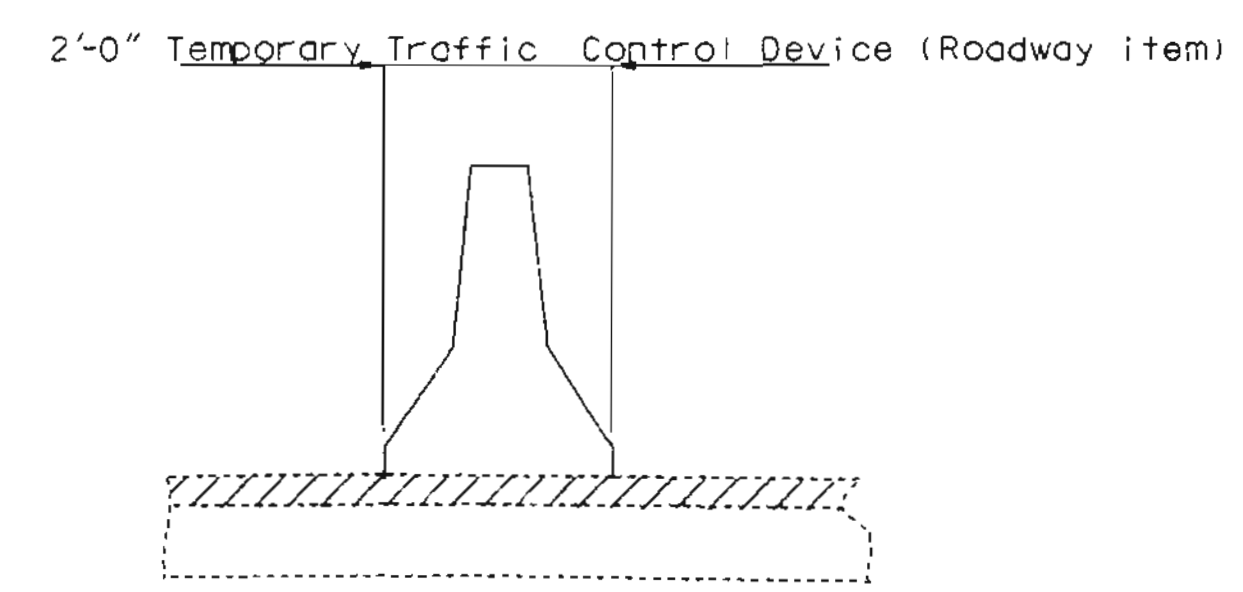
**TRAFFIC HANDLING:**  
See roadway plans for traffic control during construction.



SECTION THRU EXISTING SLAB (SOUTHBOUND ROADWAY)



TYPICAL SECTION THRU CURB BLOCKOUT



DETAIL OF TEMPORARY TRAFFIC BARRIER

ESTIMATED QUANTITIES		
ITEM		TOTAL
Curb Blockout	Lin. Ft.	383
Slab Edge Repair (Bridges)	Lin. Ft.	70



REPAIRS TO: BRIDGE OVER ROUTE 78

STATE ROAD: INTERSTATE ROUTE 435 S.B.L.  
ABOUT 2.0 MILES NORTH OF ROUTE I-70  
PROJECT NO. STA. 265+34.29 ± @ MEDIAN (Match Exist.)  
JOB NO. J411333 RTE. I-435  
JACKSON COUNTY

DESIGNED APR. 1999  
DETAILED NOV. 1999  
CHECKED NOV. 1999

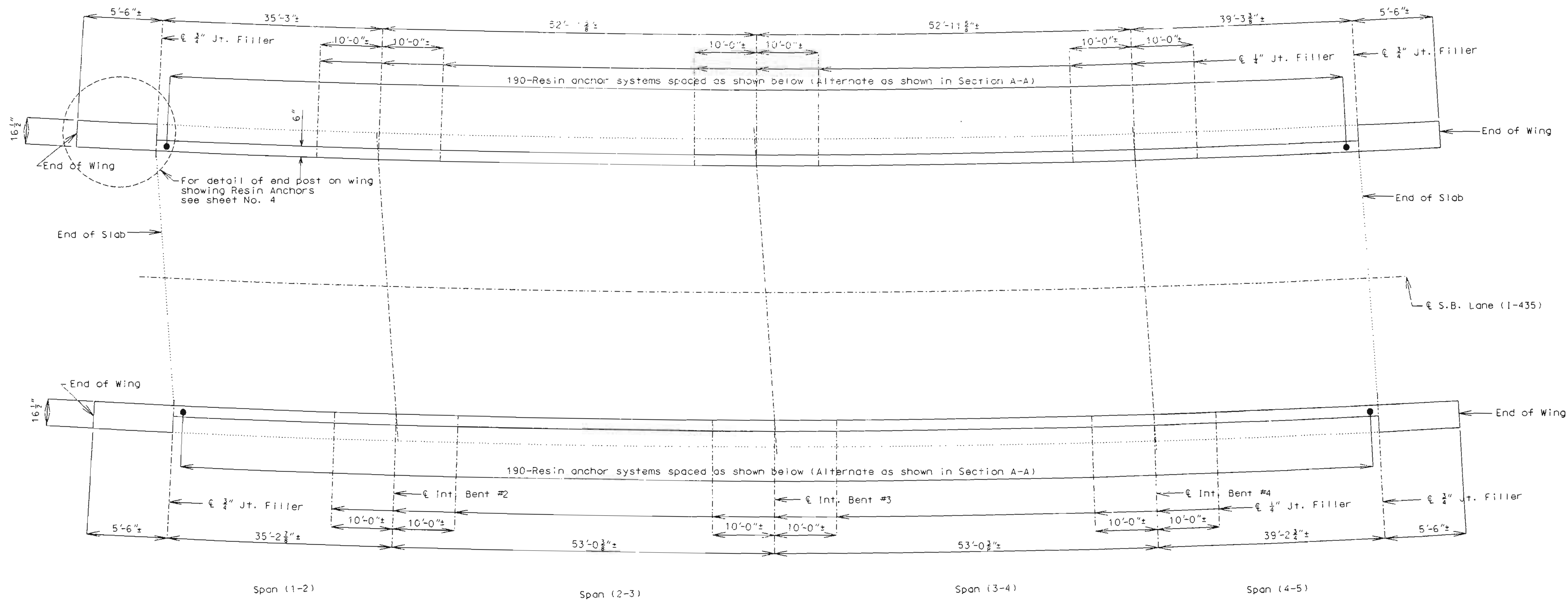
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 1 OF 5.

DATE 9/7/00

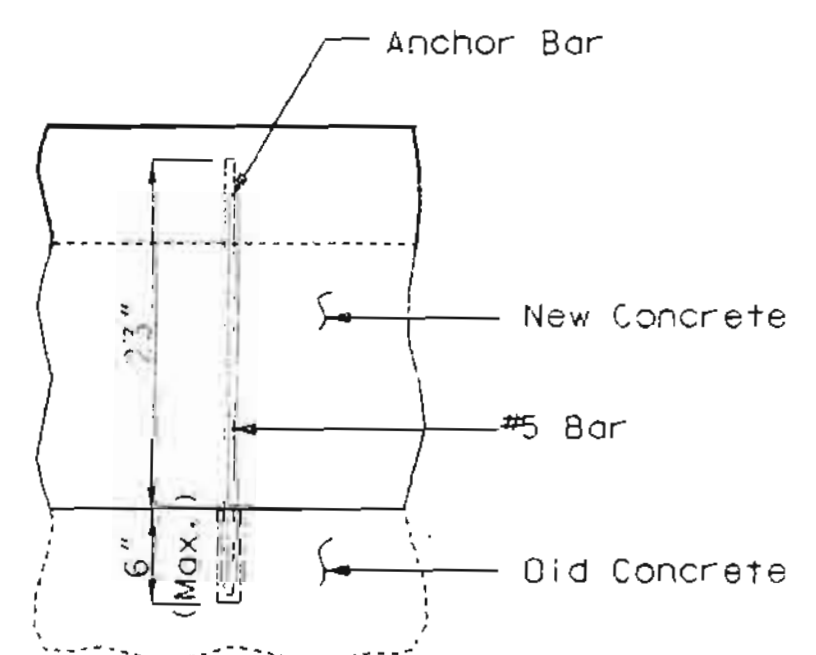
A16983

STATE	PROJ. NO.	SHEET NO.
MO.		825

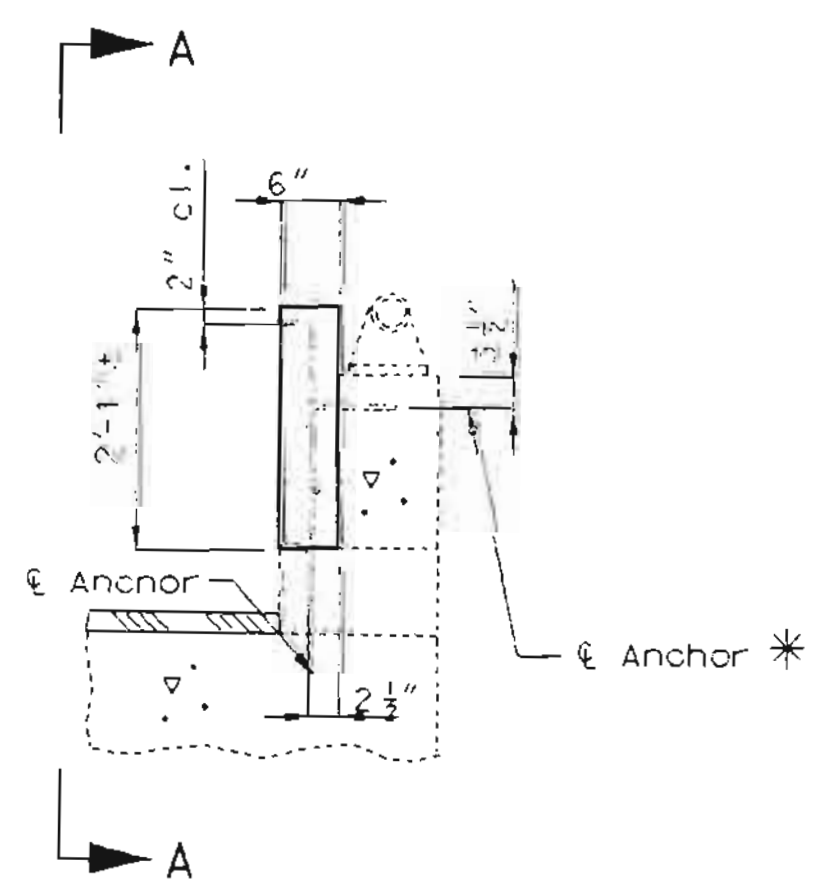
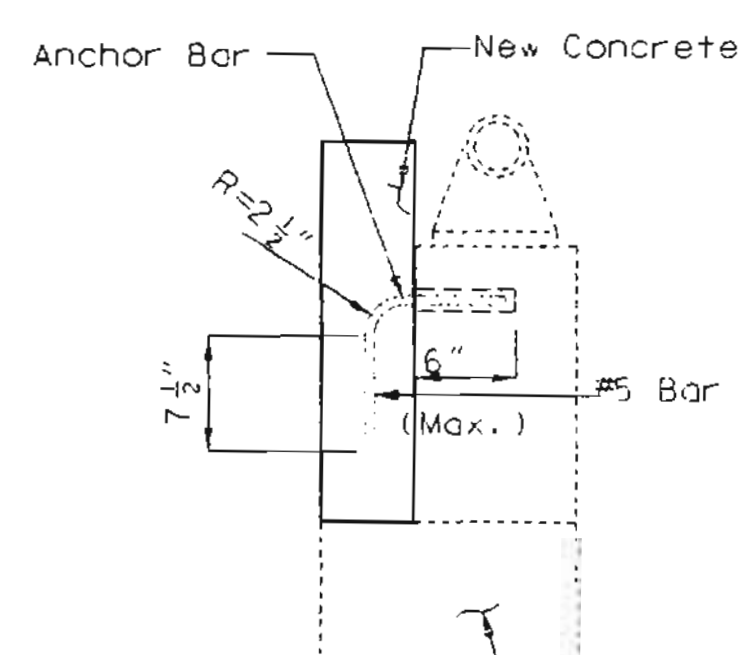


Note: Longitudinal dimensions shown are dimensions taken along along outside edge of parapet. Match existing curb joints.

PLAN OF CURB BLOCKOUT SHOWING RESIN ANCHOR SPACING

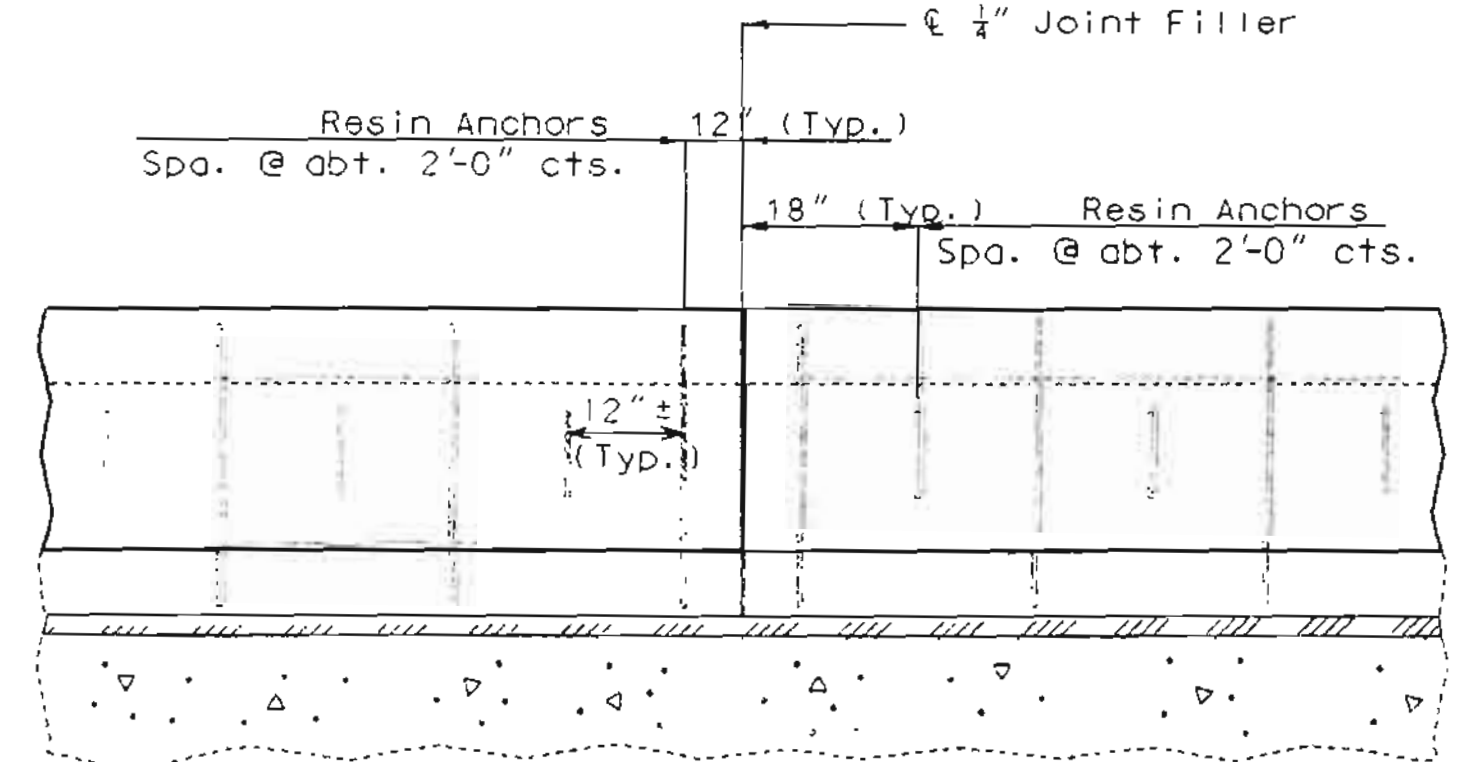


RESIN ANCHOR SYSTEMS DETAILS



TYPICAL SECTION THRU CURB

\*Shift resin anchors to clear existing steel anchor bolts for tube rail.



PART SECTION A-A



DATE 9-5-00

DETAILED APR. 1999  
CHECKED NOV. 1999

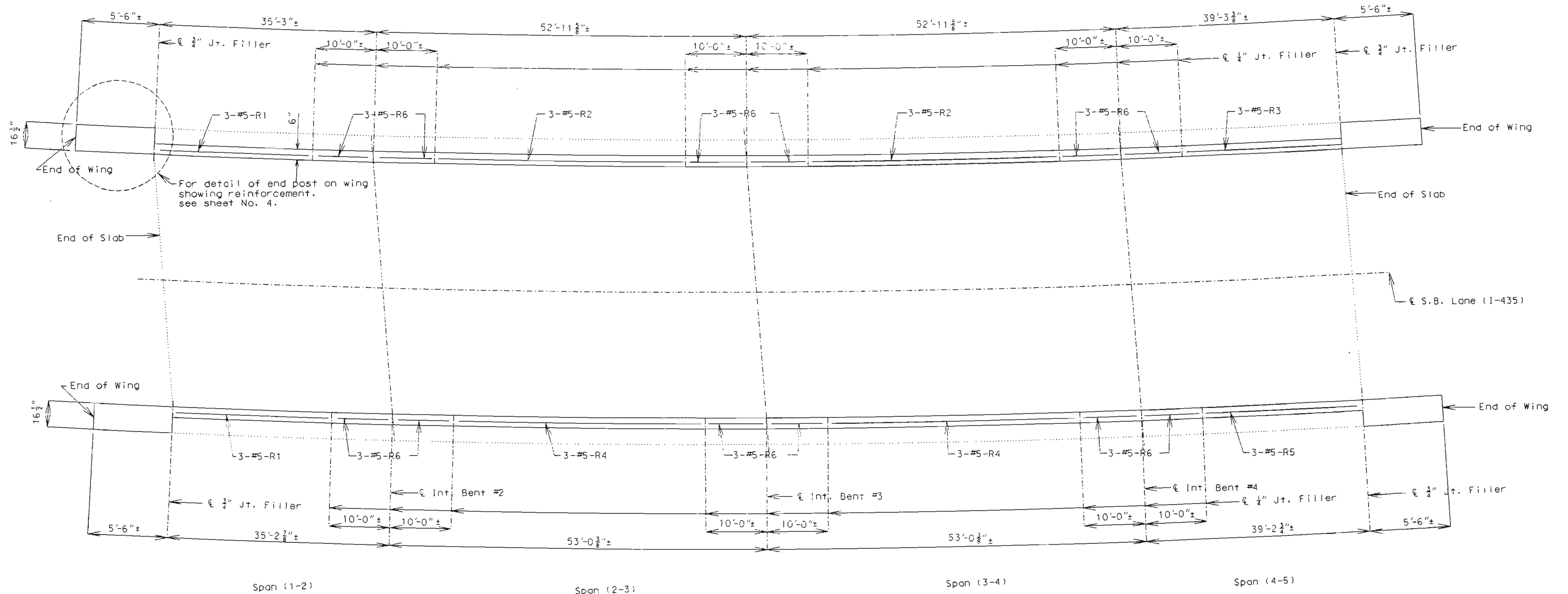
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 2 OF 5.

JACKSON COUNTY

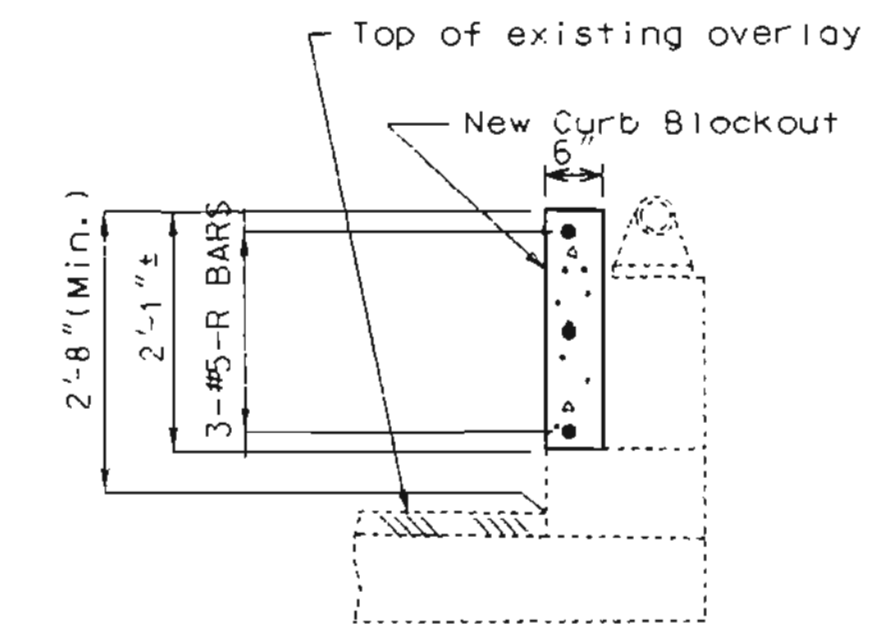
A16983

STATE	PROJ. NO.	SHEET NO.
MO.		826

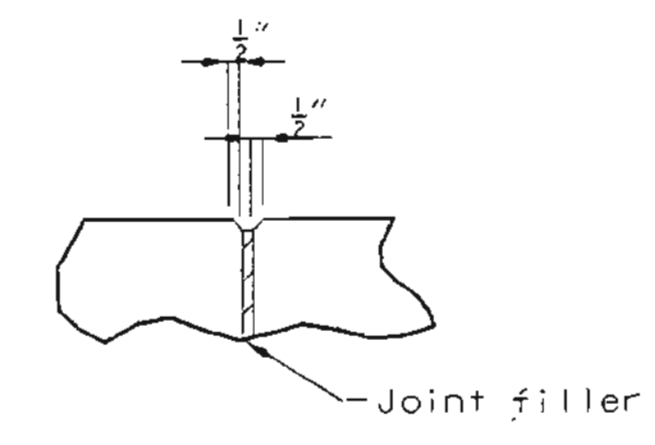


Note: Longitudinal dimensions shown are dimensions taken along along outside edge of parapet.  
Match existing curb joints.

PLAN OF CURB BLOCKOUT SHOWING REINFORCEMENT



TYPICAL SECTION THRU CURB BLOCKOUT



FILLED JOINT DETAIL

DETAILED APR. 1999  
CHECKED NOV. 1999

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

SHEET NO. 3 OF 5.

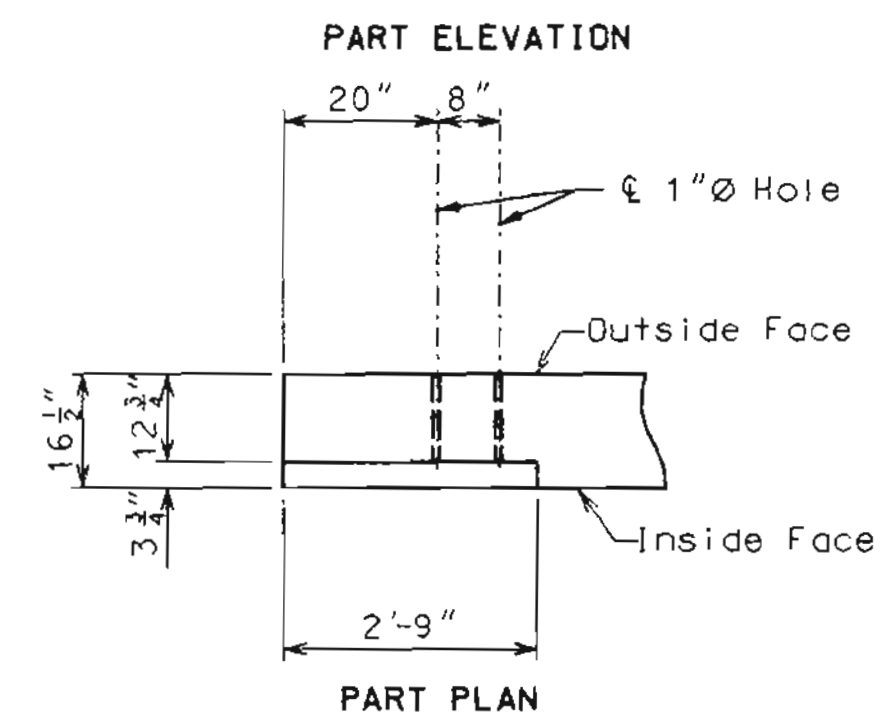
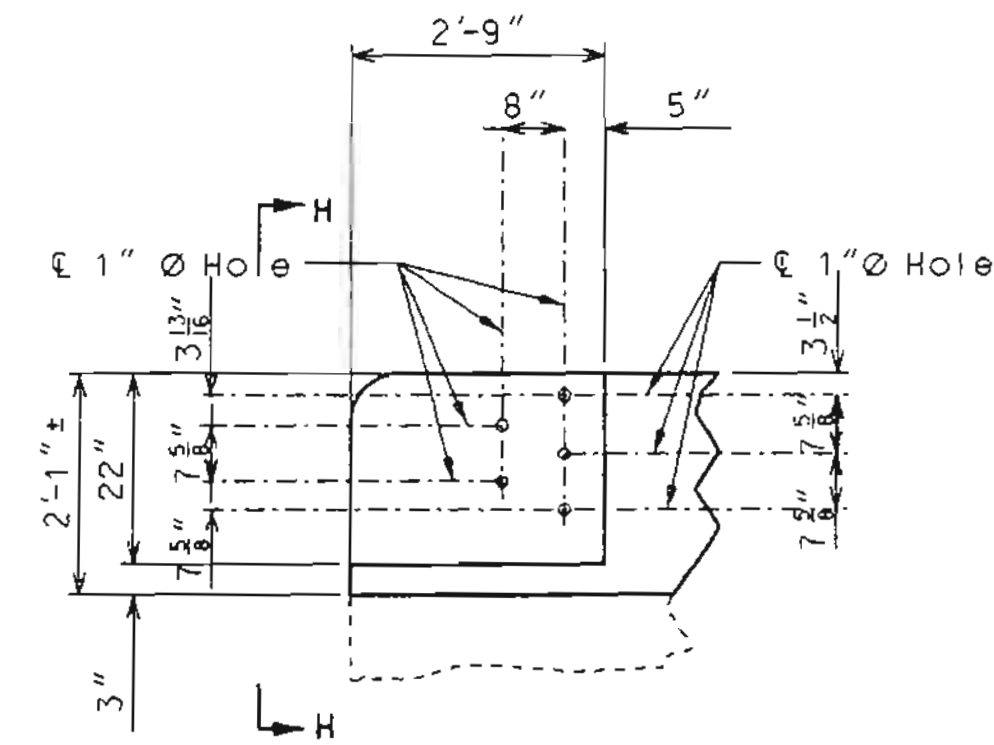
JACKSON COUNTY



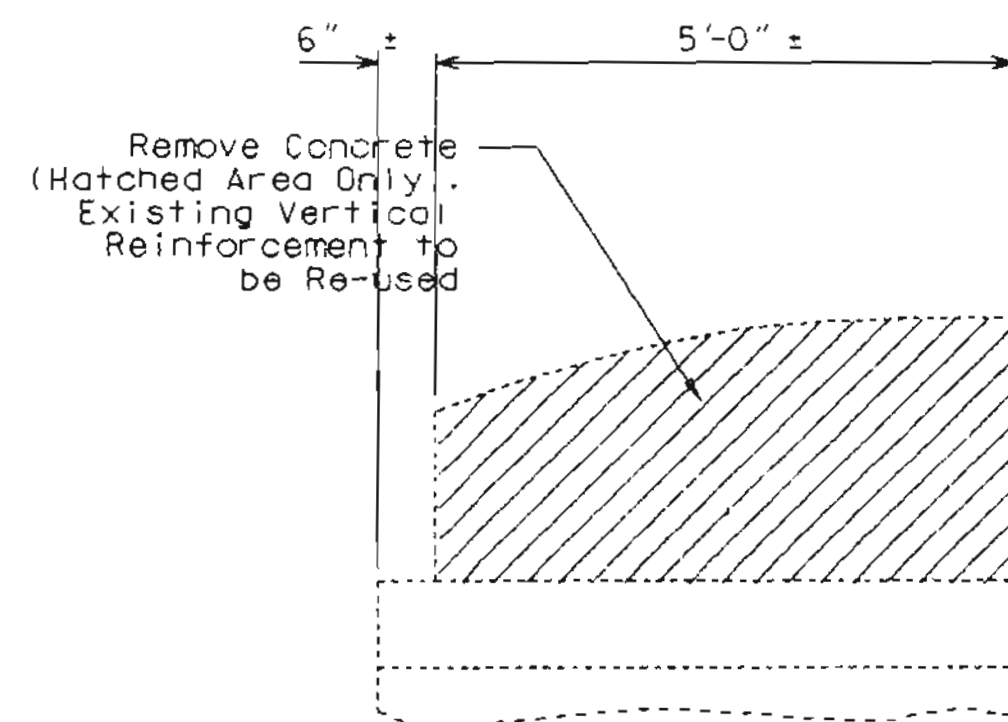
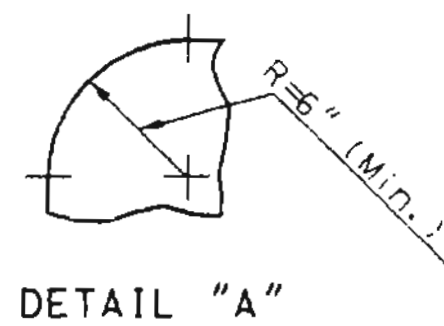
DATE 9-5-00

A16983

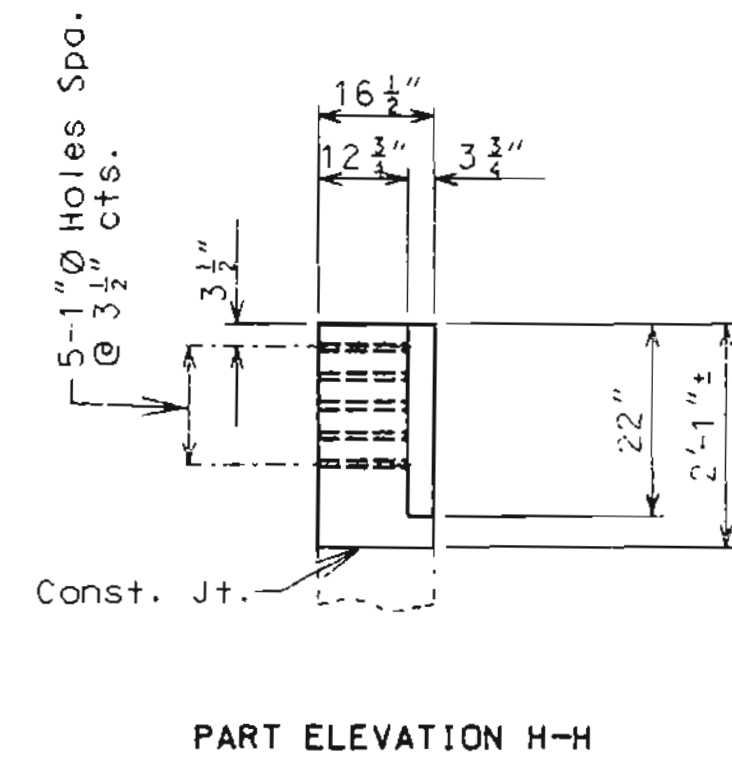
STATE	PROJ. NO.	SHEET NO.
MO.		827



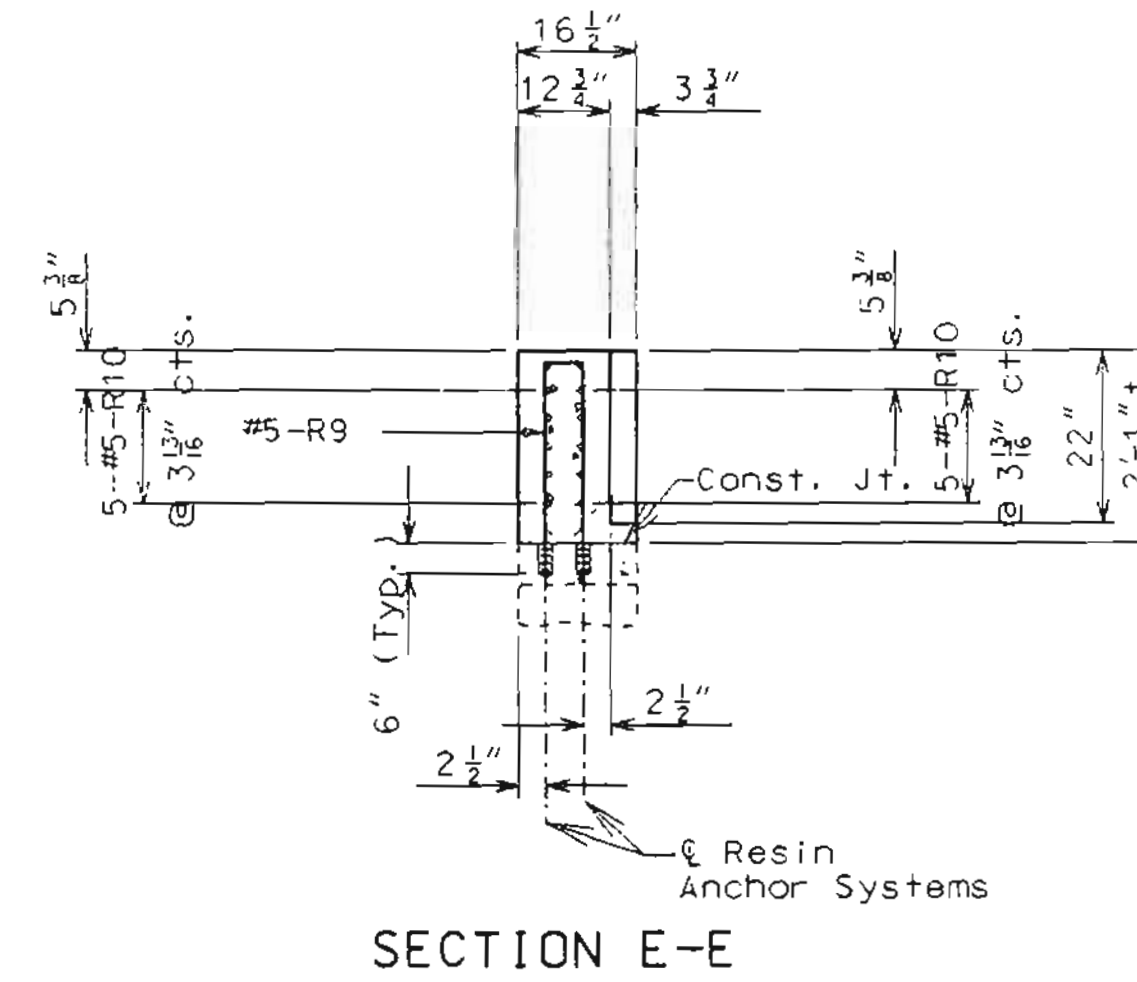
DETAILS OF GUARD RAIL ATTACHMENT



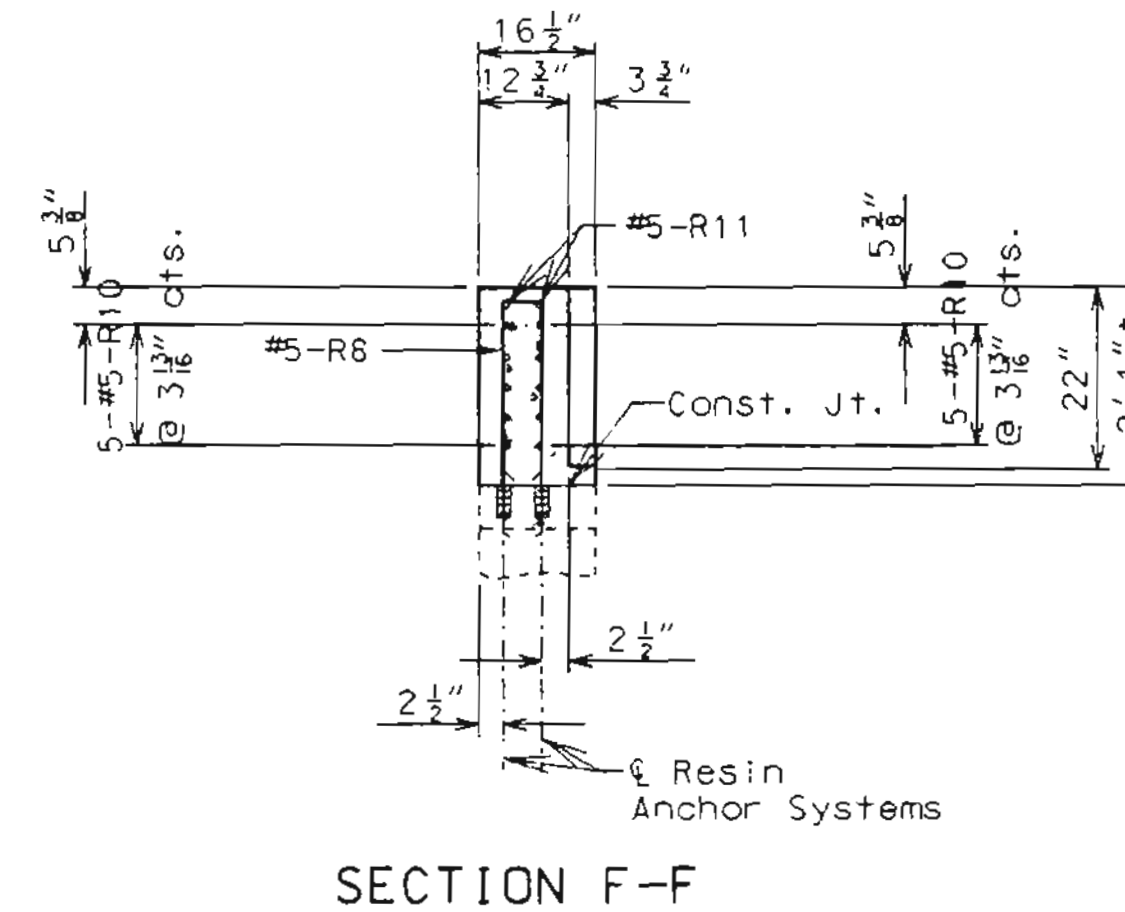
ELEVATION OF EXISTING END POST SHOWING CONCRETE REMOVAL



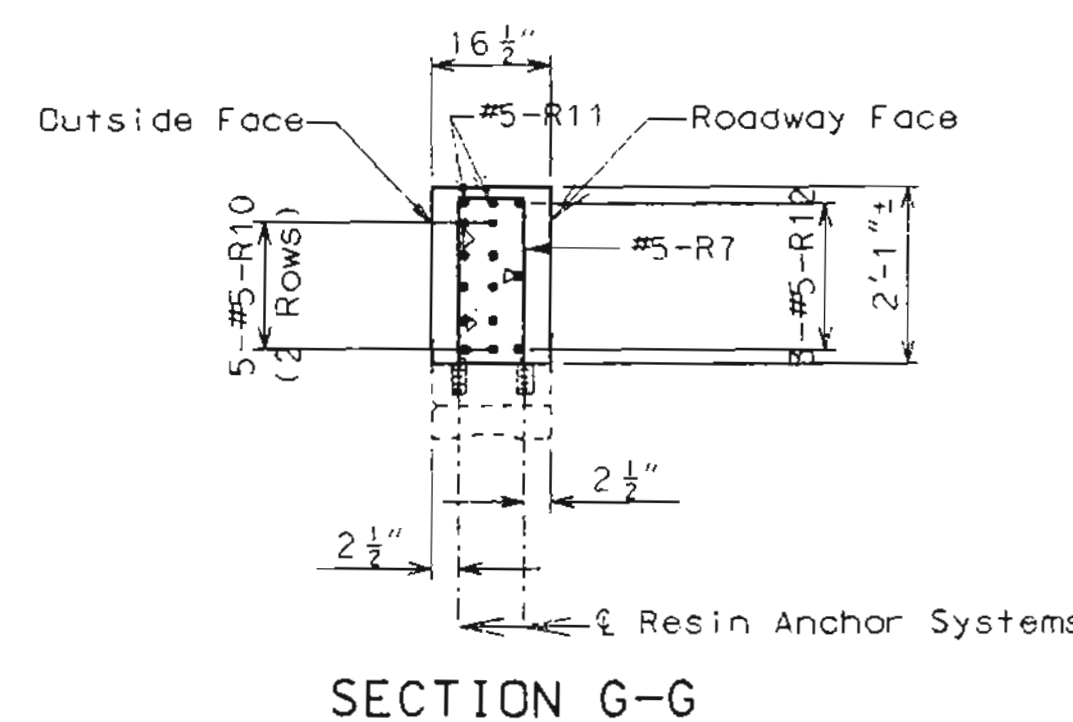
PART ELEVATION H-H



SECTION E-E

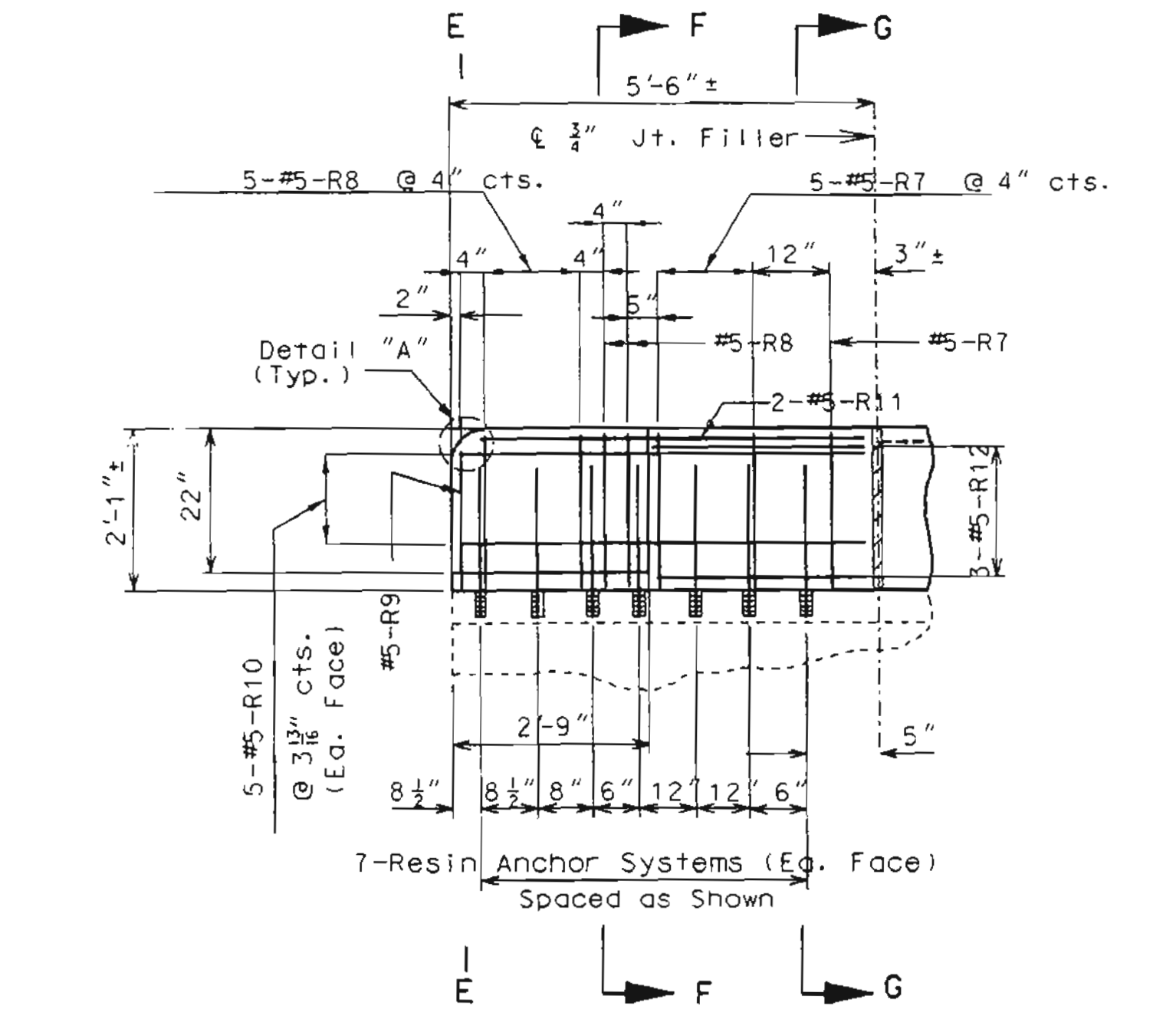


SECTION F-F

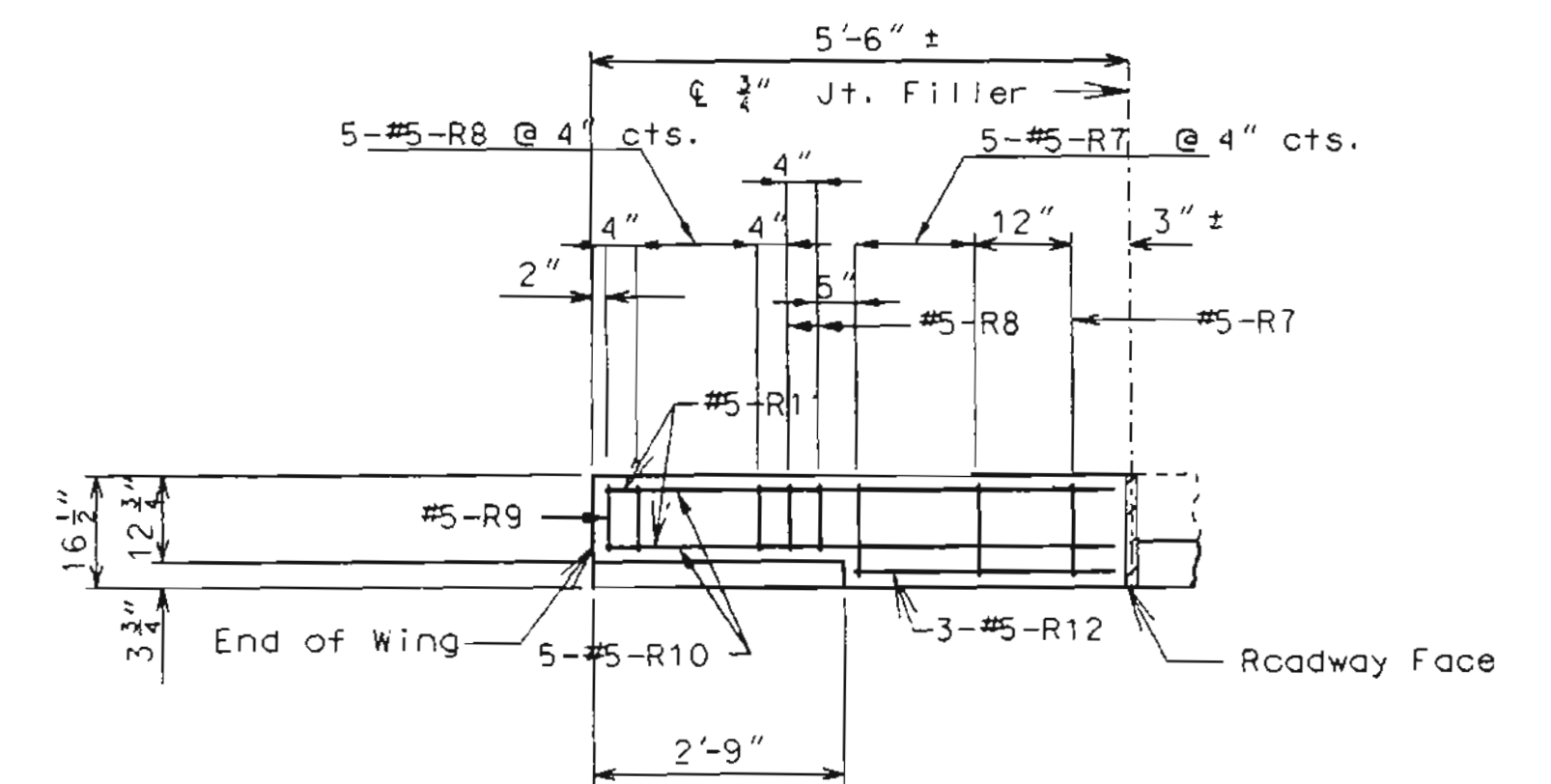


SECTION G-G

DETAILS OF BLOCKOUT ON WINGS (NORTHEAST WING SHOWN OTHER WINGS SIMILAR)



ELEVATION OF NEW END POST ON WING



PLAN OF NEW END POST ON WING

Note: Resin anchors not shown in plan for clarity.

DETAILED APR. 1999  
CHECKED APR. 1999

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

SHEET NO. 4 OF 5.

JACKSON COUNTY



DATE 9-5-00

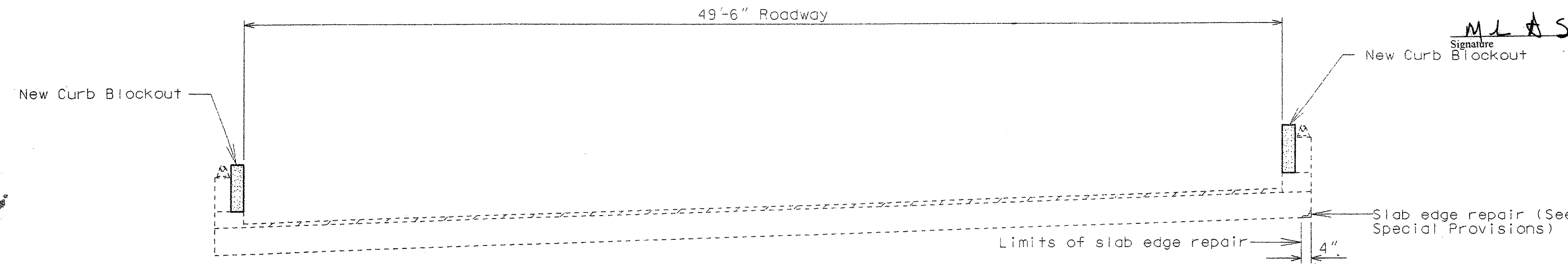
A16983



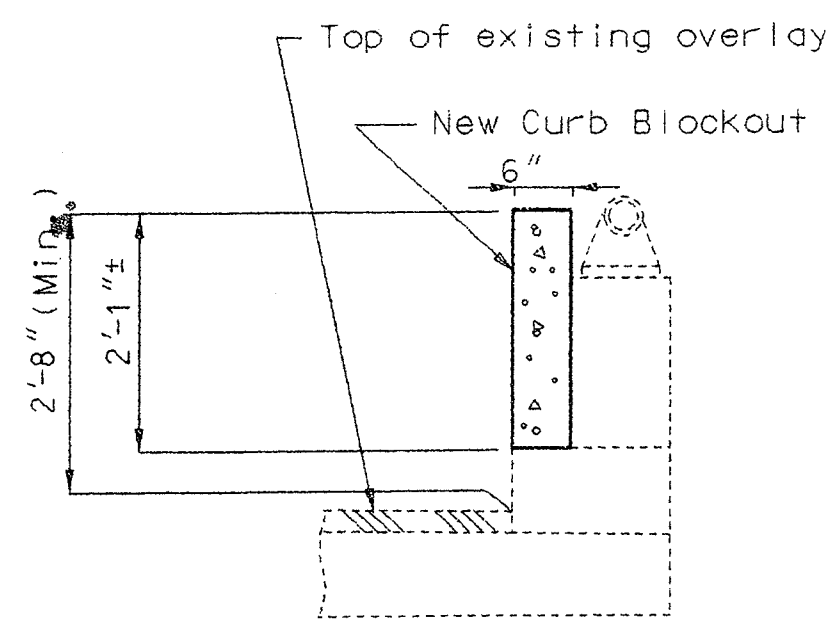
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

**Final Plans**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

STATE	PROJ. NO.	SHEET NO.
MO.		824
SEC./SUR. 31 TWP. 50N RGE. 32W		

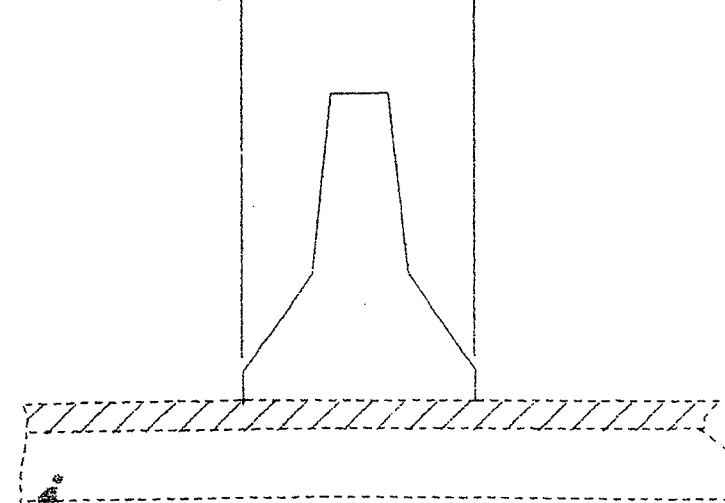


SECTION THRU EXISTING SLAB (SOUTHBOUND ROADWAY)



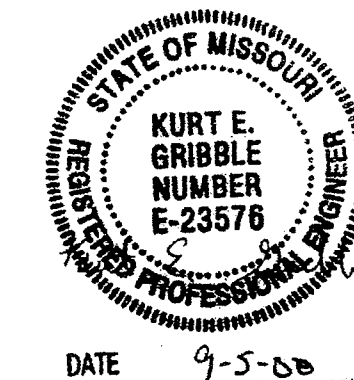
TYPICAL SECTION THRU CURB BLOCKOUT

2'-0" Temporary Traffic Control Device (Roadway item)



DETAIL OF TEMPORARY TRAFFIC BARRIER

FINAL QUANTITIES		
ITEM		TOTAL
Curb Blockout	Lin. Ft.	383 ✓
Slab Edge Repair (Bridges)	Lin. Ft.	116 ✓
SUPERSTRUCTURE REPAIR Cont. 5005	Sq. Ft.	39 ✓



GENERAL NOTES:

**DESIGN SPECIFICATIONS:**  
A.A.S.H.T.O.-1996 and Interim 1998

**DESIGN UNIT STRESSES:**  
Class B1 Concrete (Curb Blockout)  $f'c=4,000$  psi  
Reinforcing Steel (Grade 60)  $f_y=60,000$  psi

**JOINT FILLER:**  
All joint filler shall meet the requirements of Std. Spec. 1057.2.4 of the Missouri Standard Specifications except as noted.

**REINFORCING STEEL:**  
Minimum clearance to reinforcing steel shall be  $1\frac{1}{2}$ ".

**OLD WORK:**  
Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

**VERIFY DIMENSIONS:**  
Contractor shall verify dimensions in field before ordering new material.

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

The contractor used one of the resin anchor systems listed in the job special provisions for the curb blockout. These anchor systems were installed according to the manufacturer's specifications, except as modified by the job special provisions and that an epoxy coated #5 grade 60 reinforcing bar as shown was substituted for the  $\frac{5}{8}$ " threaded rod.

Cost of furnishing and installing the anchor systems complete in place was included in the price bid per linear foot of curb blockout.

The  $\frac{5}{8}$ " diameter resin anchor systems shall have a minimum ultimate pullout strength of 15,500 in concrete with  $f'c=4,000$  psi. See special provisions.

**NOTES FOR CURB BLOCKOUT:**  
Concrete in curb blockout was Class B1. Measurement of curb blockout is to the nearest linear foot measured at the gutter line from end of wing to end of wing.  
All exposed edges of curb blockout have  $\frac{1}{2}$ " radius or  $\frac{1}{4}$ " bevel unless otherwise shown.  
Payment for concrete and reinforcing steel in curb blockout complete in place was included in the contract unit price for the curb blockout per linear foot.  
Cost of any concrete end post and curb removal considered completely covered in the contract unit price for the curb blockout per linear foot.  
Minimum lap for R-bar reinforcement to be 3'-1"  
All reinforcement was epoxy coated.

**EXISTING LOW SLUMP CONCRETE OVERLAY:**  
Any damage to the existing low slump concrete overlay was repaired or replaced as directed by the engineer. No direct payment was made for any replacement or repairs to the low slump concrete overlay.

**TRAFFIC HANDLING:**  
See roadway plans for traffic control during construction.

REPAIRS TO: BRIDGE OVER ROUTE 78

STATE ROAD: INTERSTATE ROUTE 435 S.B.L.  
ABOUT 2.0 MILES NORTH OF ROUTE I-70  
PROJECT NO. FAI-435-1(269) STA. 265+34.29± @ MEDIAN  
ID. 001215-401 (Match Exst.)  
JOB NO. J411333 RTE. I-435  
JACKSON COUNTY

DESIGNED APR. 1999  
DETAILED NOV. 1999  
CHECKED NOV. 1999

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

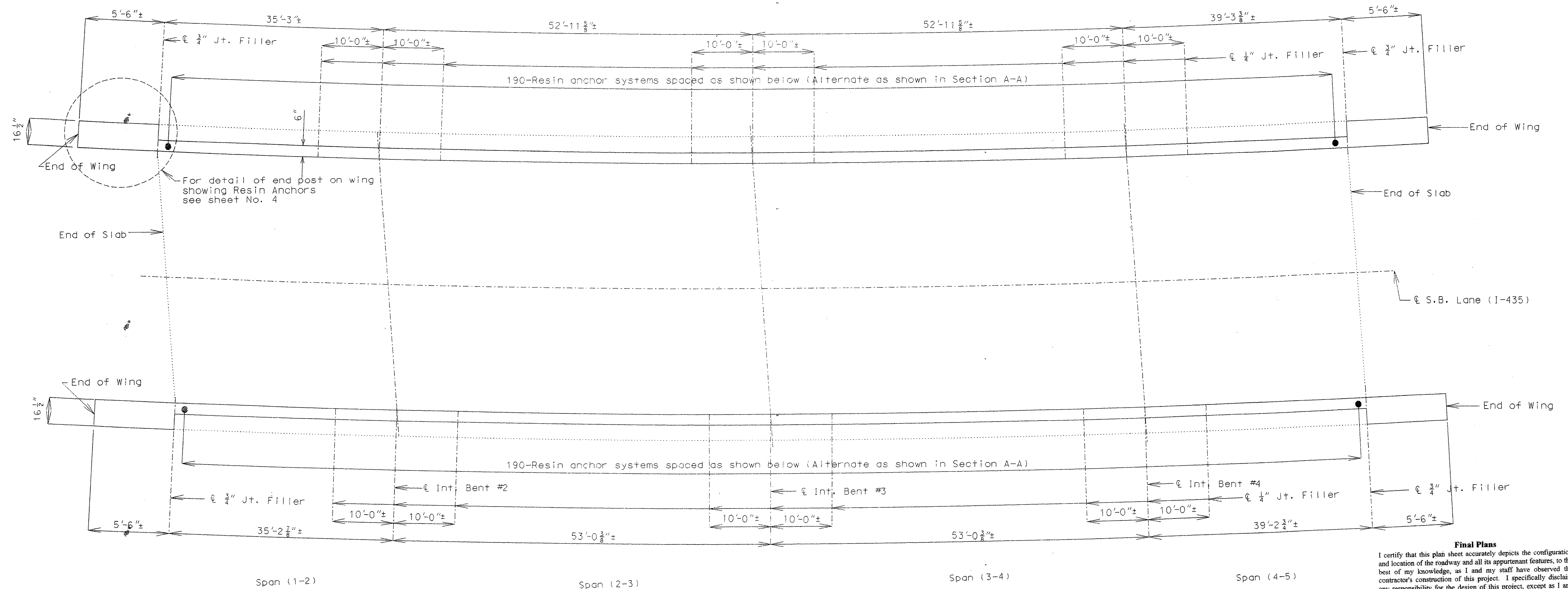
SHEET NO. 1 OF 5.

DATE 9/7/00

A16983



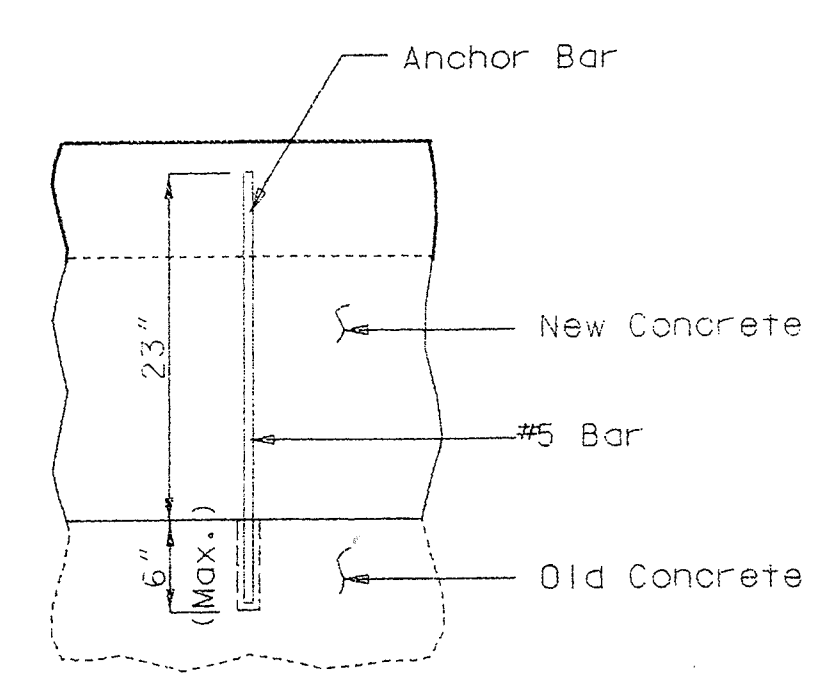
STATE	PROJ. NO.	SHEET NO.
MO.	FAI-435-1 (269)	B25
ID. 001215-401		
JOB NO. J4I1333		



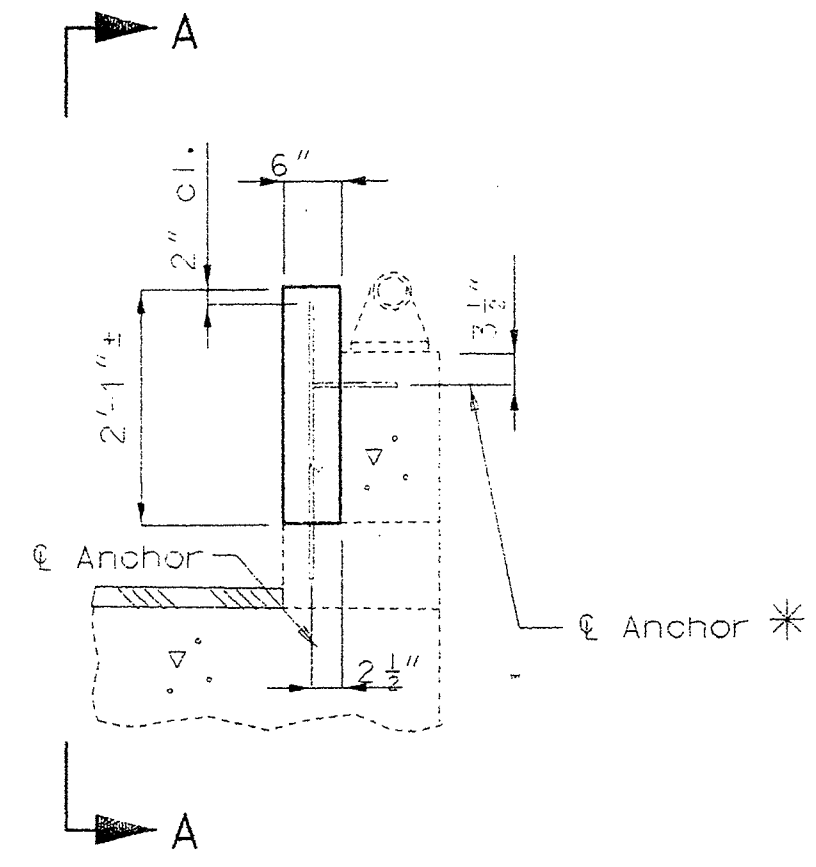
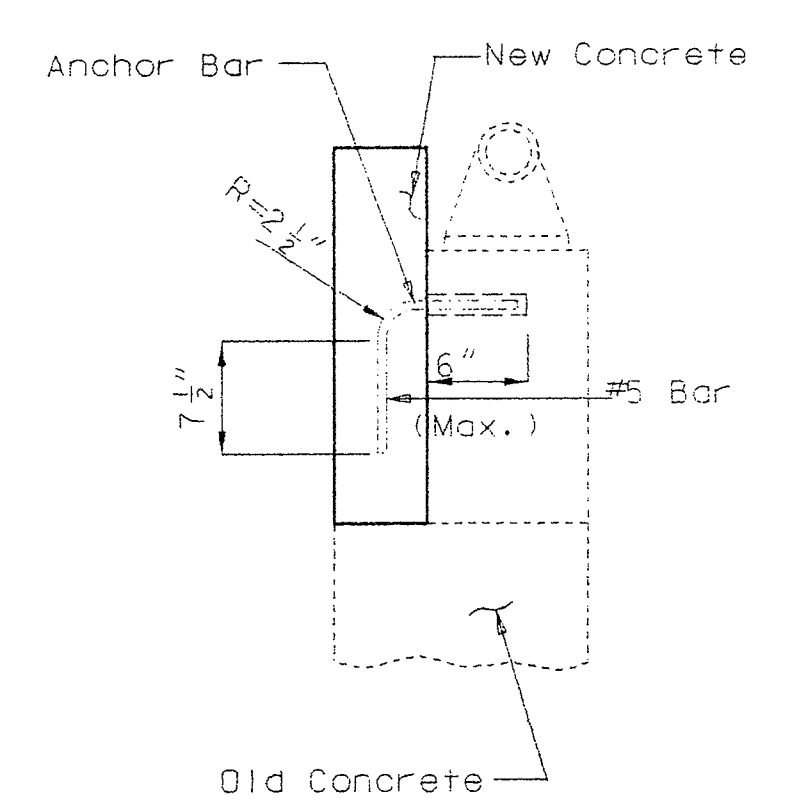
PLAN OF CURB BLOCKOUT SHOWING RESIN ANCHOR SPACING

**Final Plans**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

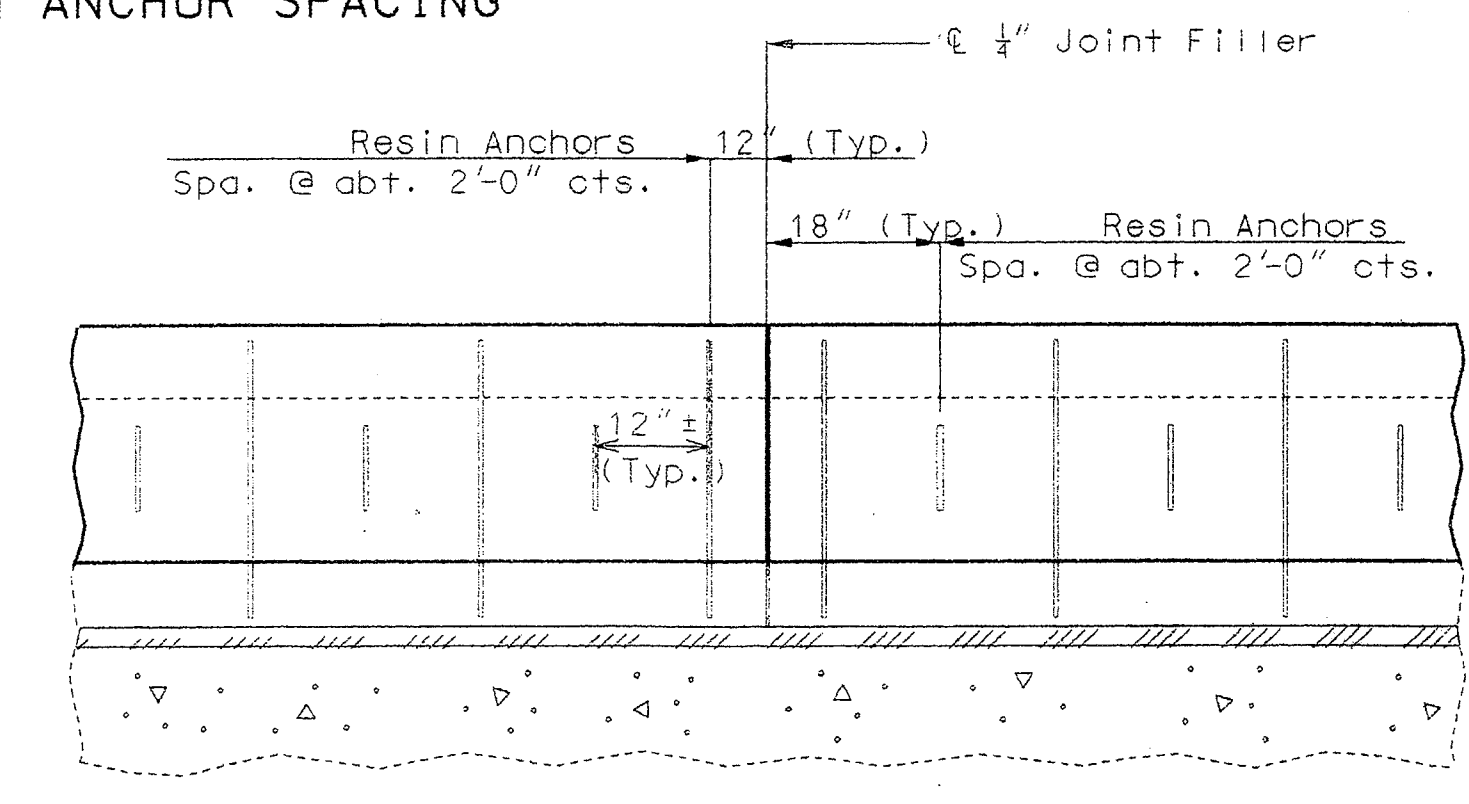
Signature: *M. J. A. S. A.* Date: 1-10-02



RESIN ANCHOR SYSTEMS DETAILS



TYPICAL SECTION THRU CURB



PART SECTION A-A

\*Shift resin anchors to clear existing steel anchor bolts for tube rail.

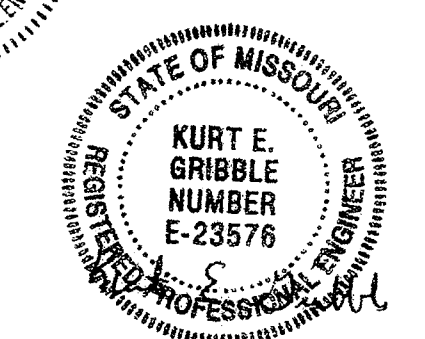
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 2 OF 5.

DETAILED APR. 1999  
 CHECKED NOV. 1999

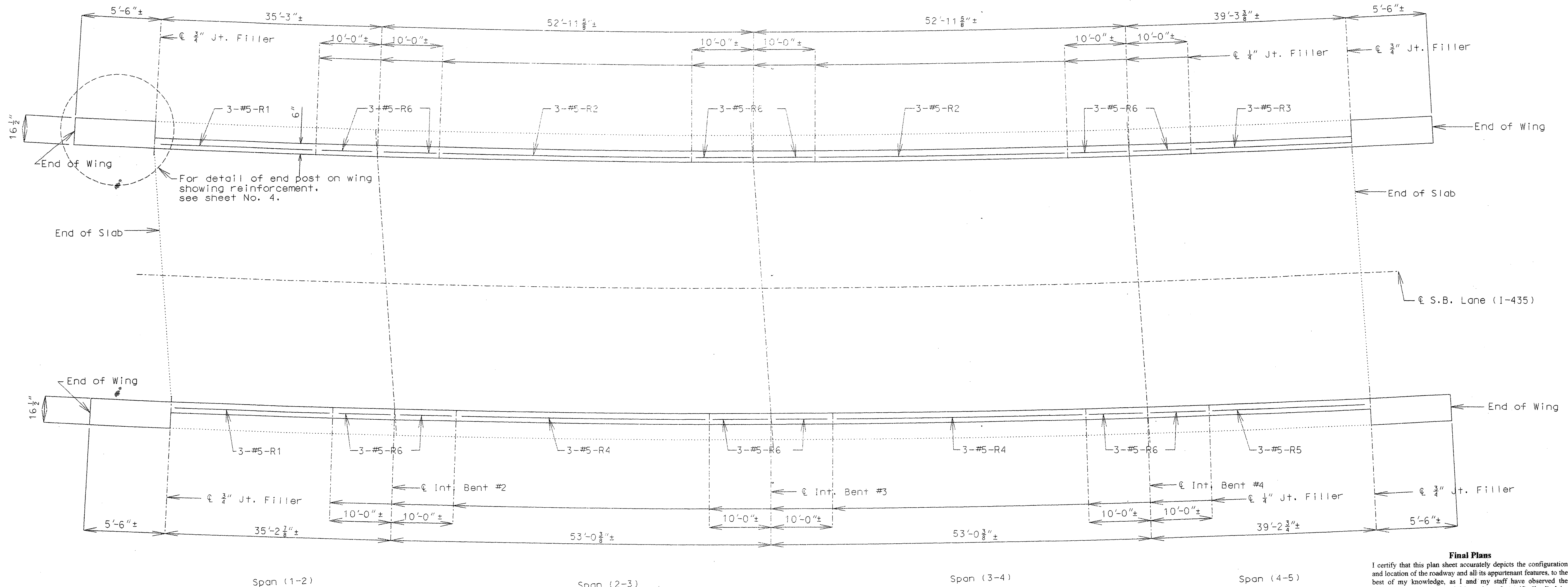
JACKSON COUNTY

A16983



DATE 9-5-00

STATE	PROJ. NO.	SHEET NO.
MO.	FAI-435-1 (249)	826
ID. 001215-401		
JOB NO. J4I1333		

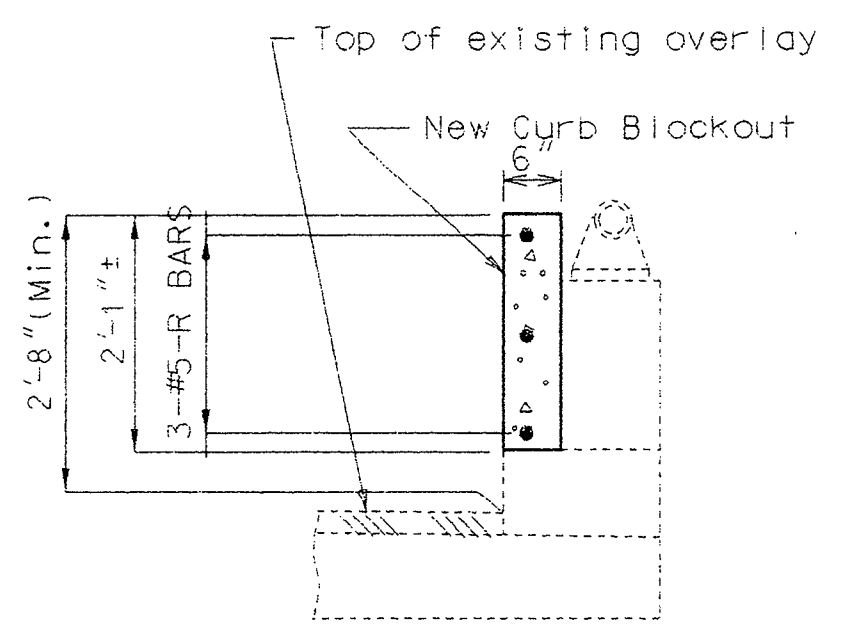


Note: Longitudinal dimensions shown are dimensions taken along along outside edge of parapet.  
Match existing curb joints.

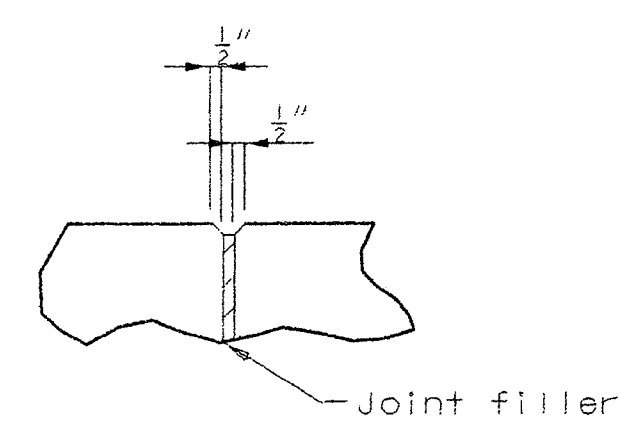
PLAN OF CURB BLOCKOUT SHOWING REINFORCEMENT

**Final Plans**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

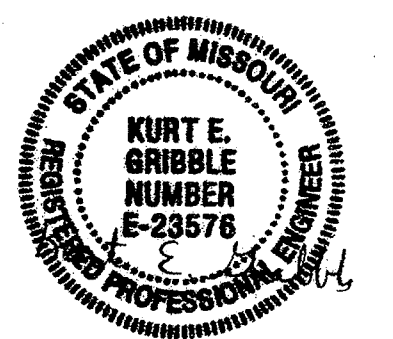
*M. A. Sill*      1-10-02  
Signature      Date



TYPICAL SECTION THRU CURB BLOCKOUT



FILLED JOINT DETAIL



DATE 9-5-00

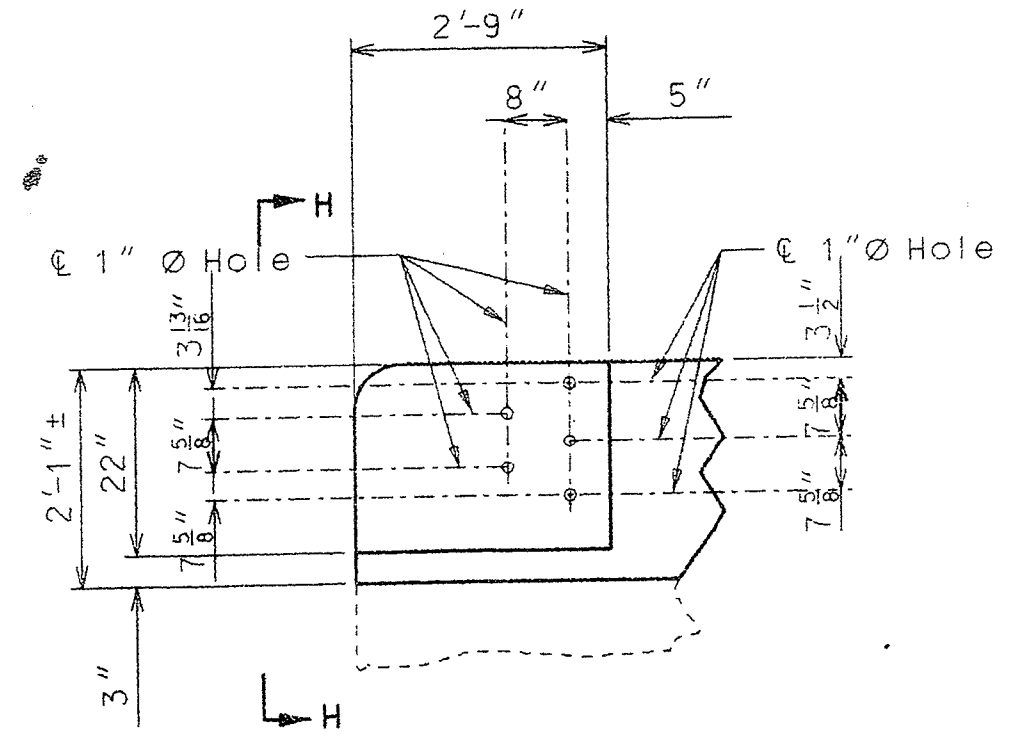
DETAILED APR. 1999  
CHECKED NOV. 1999

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

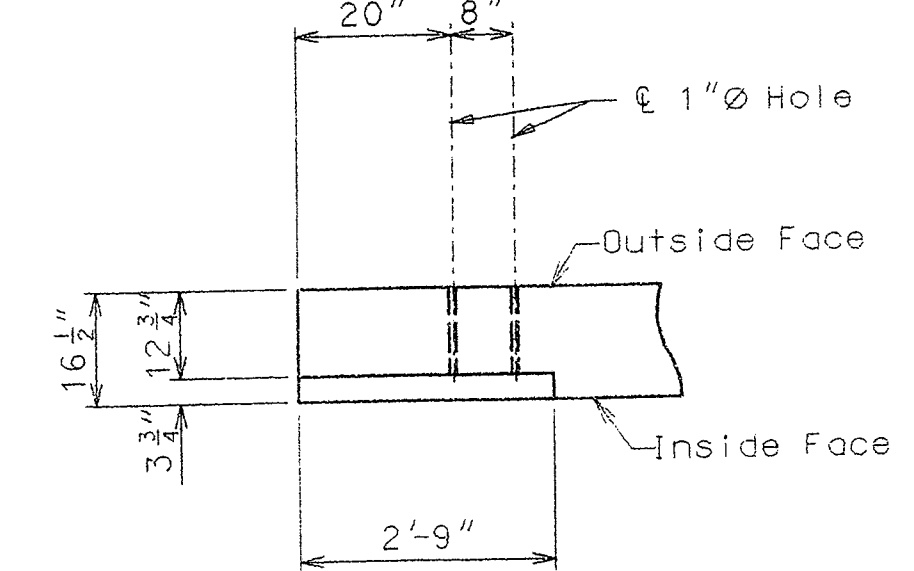
SHEET NO. 3 OF 5.

JACKSON COUNTY A16983

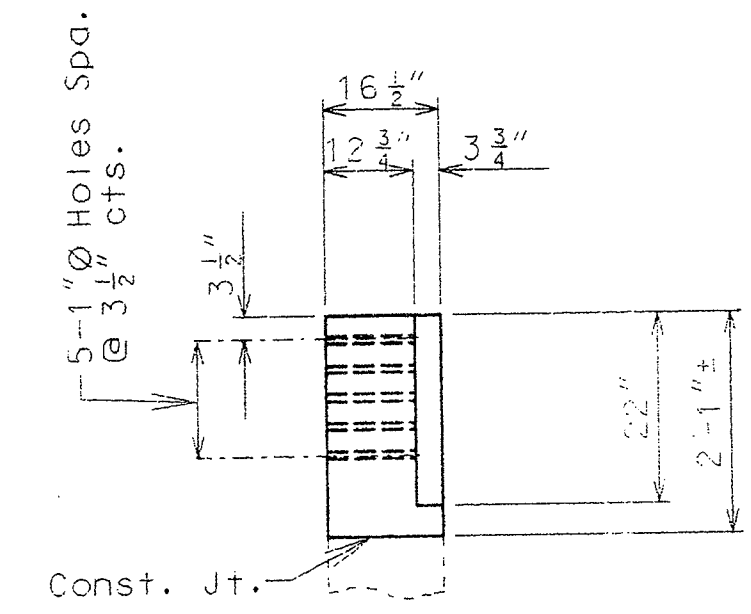
STATE	FAI-435-1(24)	SHEET NO.	827
MO.	ID. 001215-401		
JOB NO. J411333			



PART ELEVATION

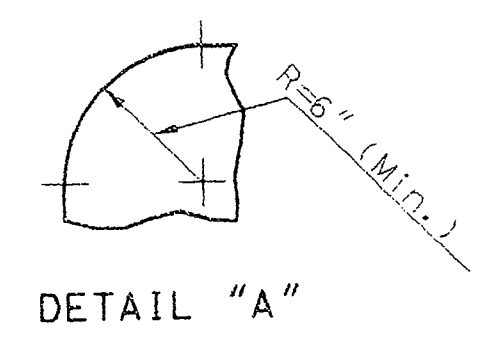


PART PLAN

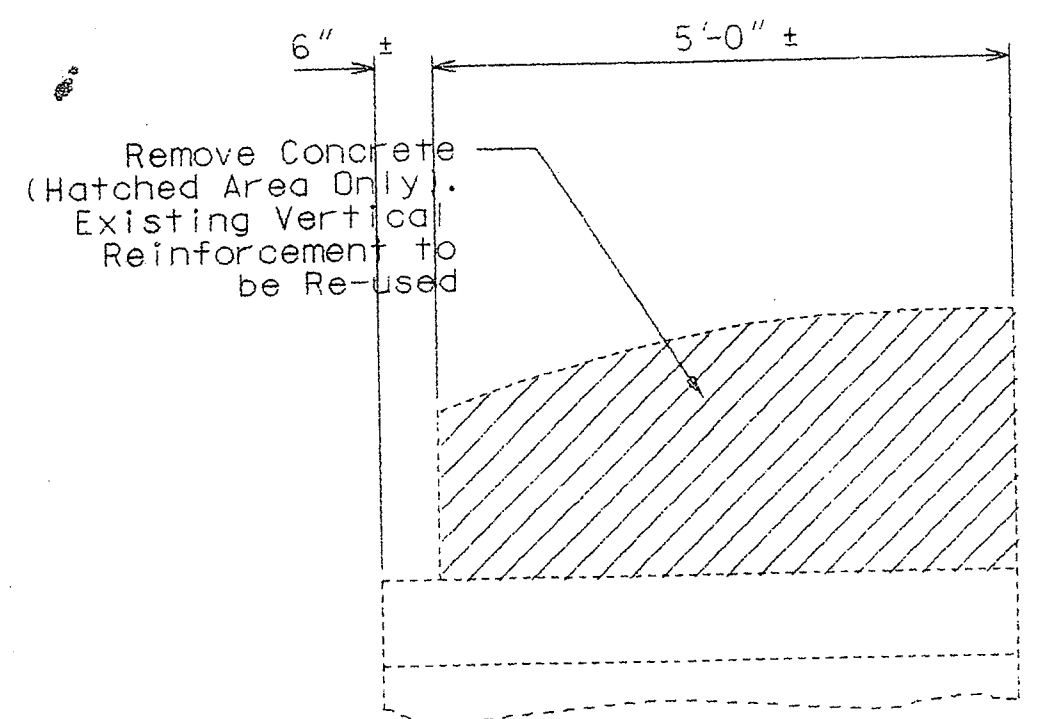


PART ELEVATION H-H

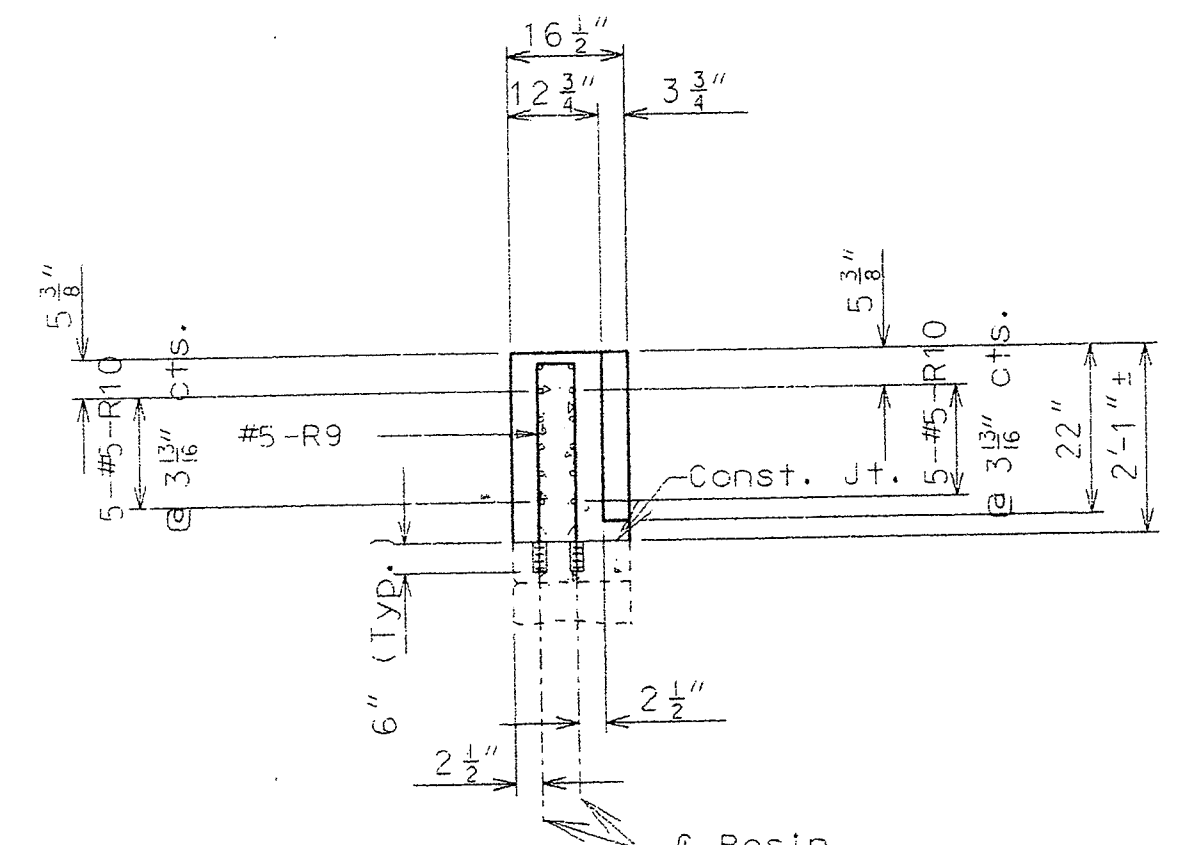
DETAILS OF GUARD RAIL ATTACHMENT



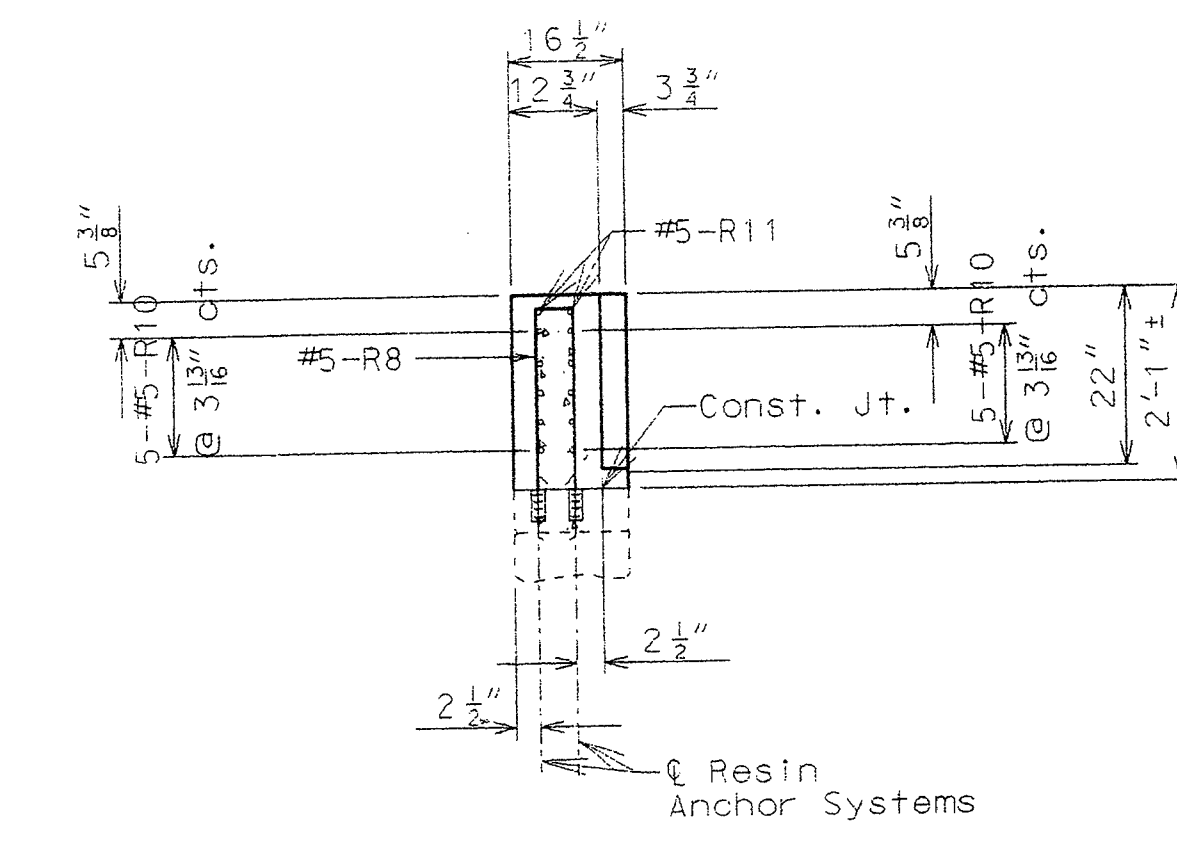
DETAIL "A"



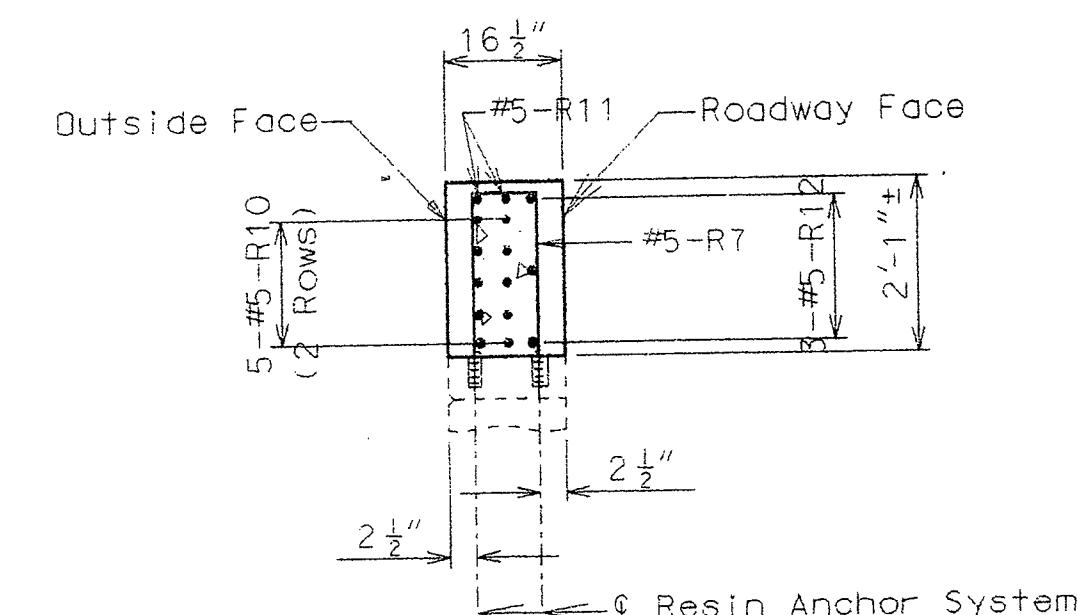
ELEVATION OF EXISTING END POST SHOWING CONCRETE REMOVAL



SECTION E-E

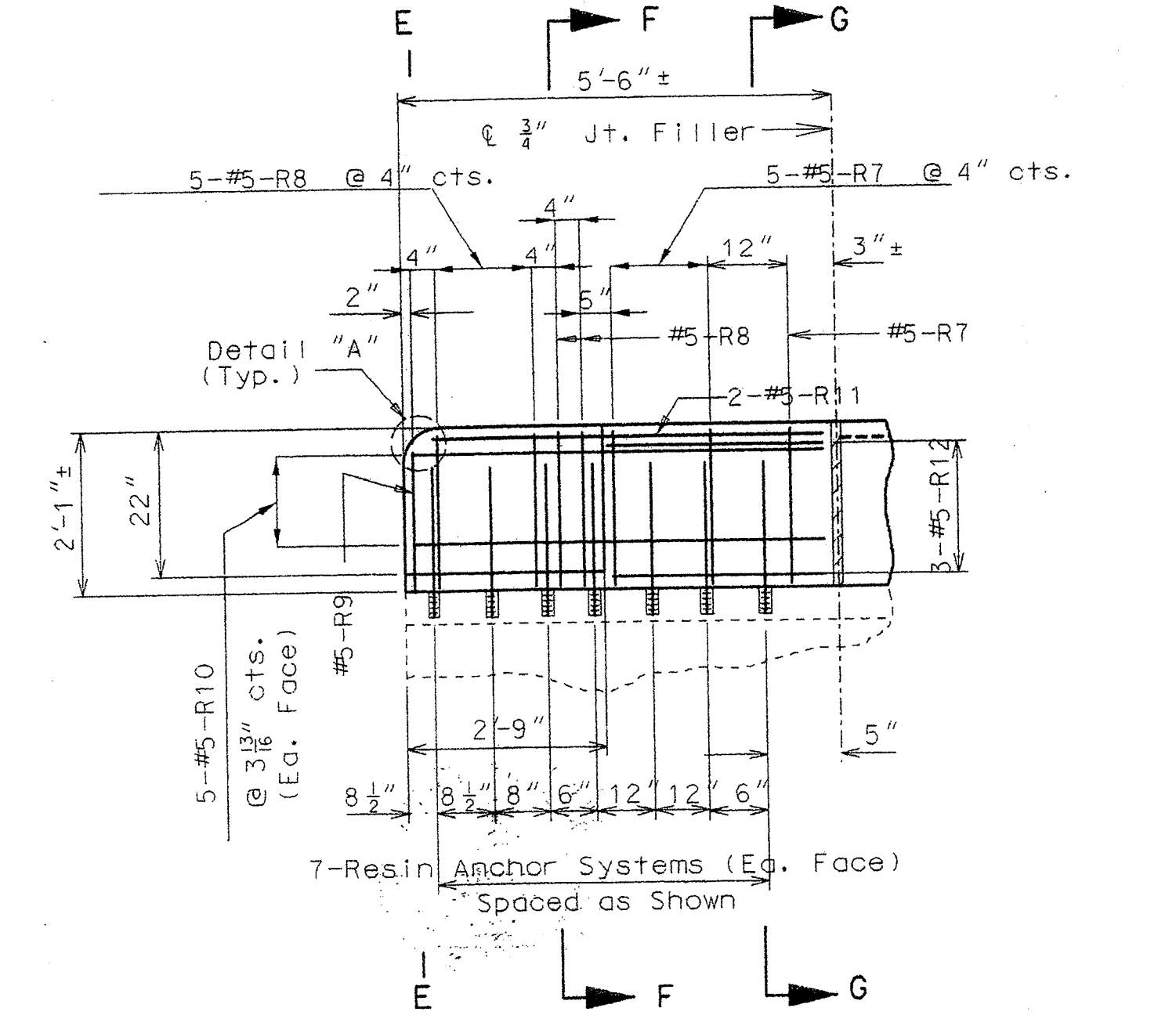


SECTION F-F

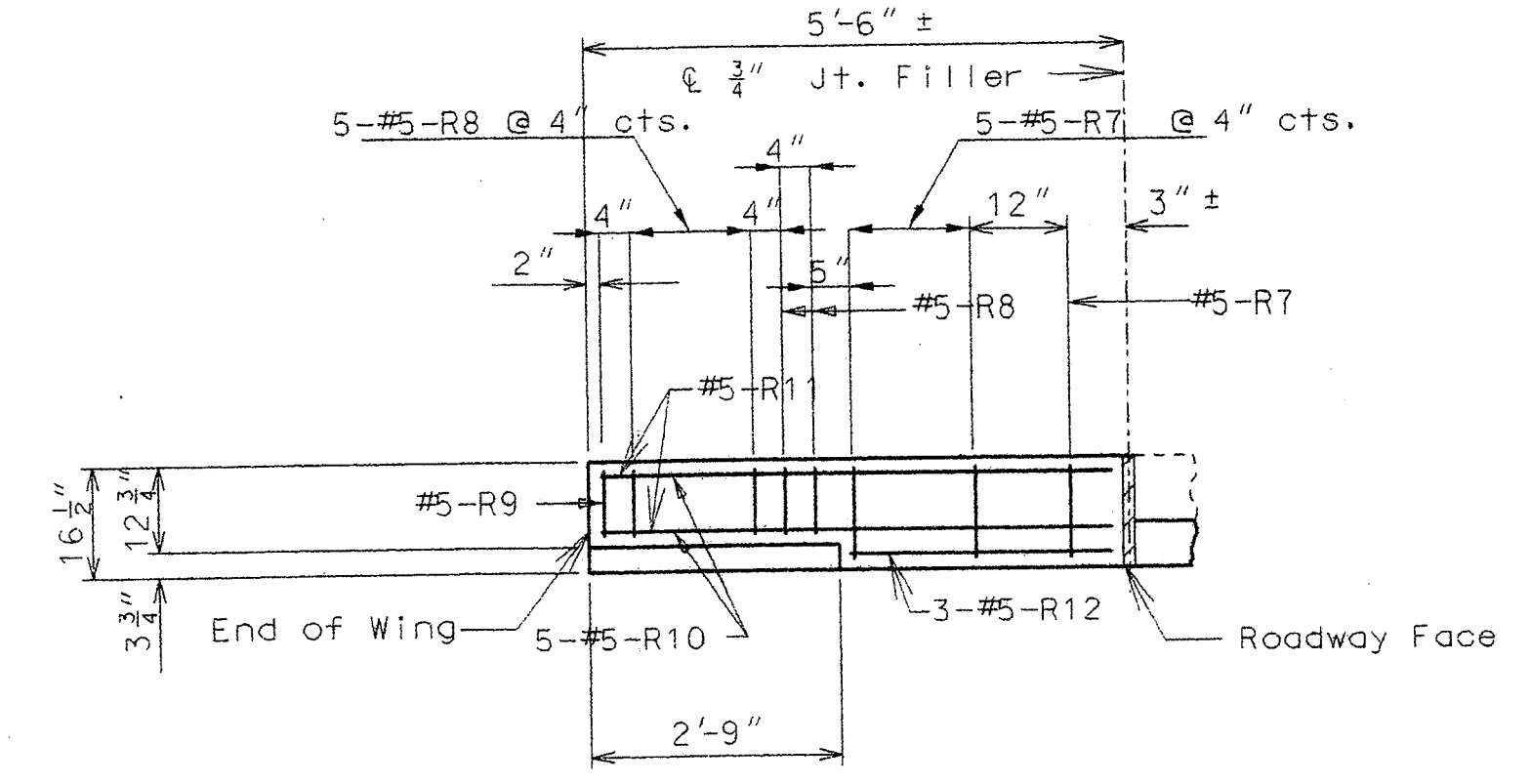


SECTION G-G

DETAILS OF BLOCKOUT ON WINGS (NORTHEAST WING SHOWN OTHER WINGS SIMILAR)



ELEVATION OF NEW END POST ON WING



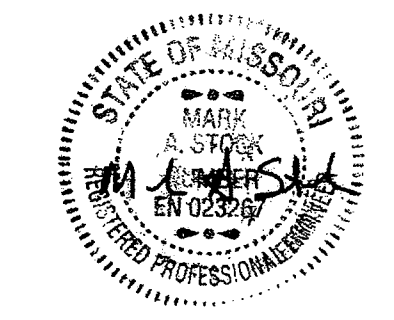
PLAN OF NEW END POST ON WING

Note: Resin anchors not shown in plan for clarity.

**Final Plans**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

*M. A. S. L.*  
 Signature

1-10-02  
 Date



DATE 9-5-00

DETAILED APR. 1999  
CHECKED APR. 1999

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

SHEET NO. 4 OF 5.

JACKSON COUNTY

A16983

BILL OF REINFORCING STEEL

BILL OF REINFORCING STEEL

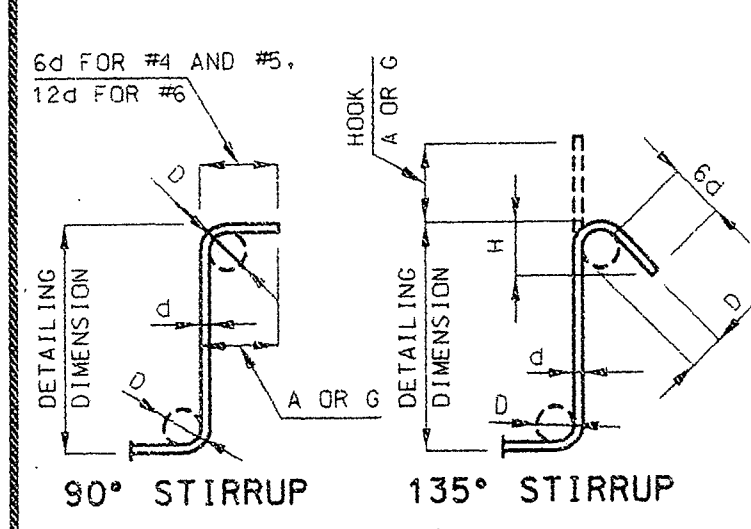
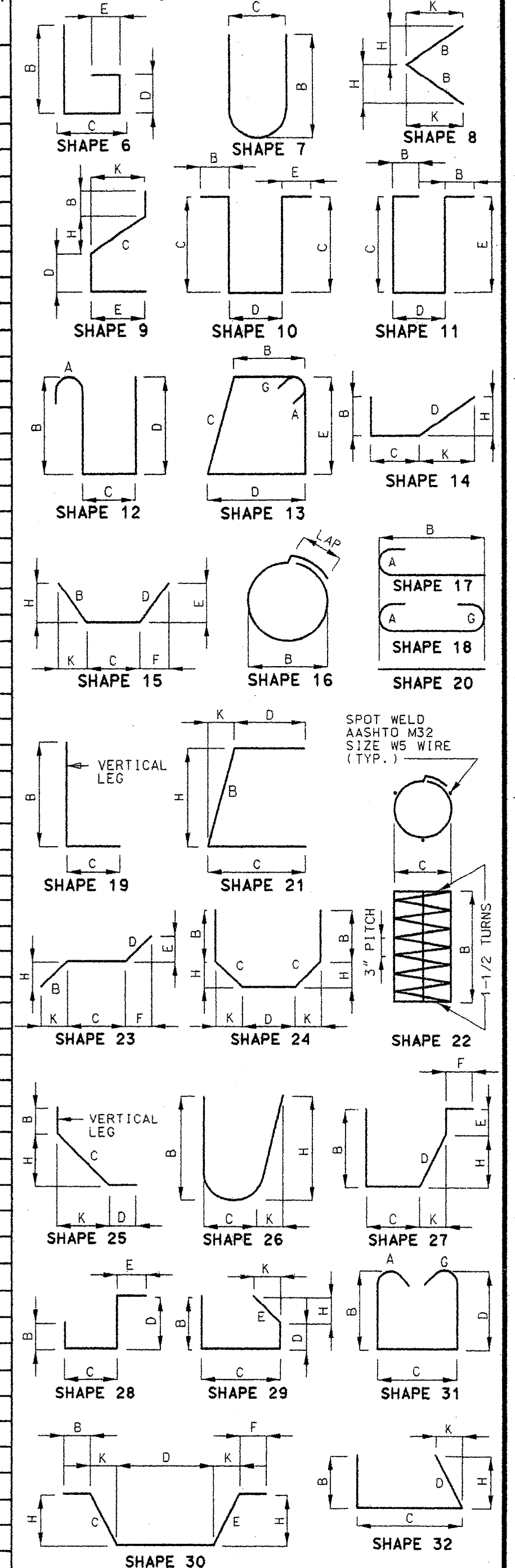
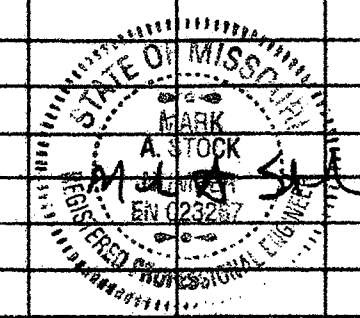
State MO  
 Proj. No. FAI-435-1(269)  
 I.D. 001215-401  
 Job No. J411333  
 Sheet No. 828

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.	LBS.	
6	5 R1	BLOCKOUT		E 20					24	11.000								24	11	24	11	156
6	5 R2	BLOCKOUT		E 20					32	8.000								32	8	32	8	204
3	5 R3	BLOCKOUT		E 20					29	0.000								29	0	29	0	91
6	5 R4	BLOCKOUT		E 20					32	9.000								32	9	32	9	205
3	5 R5	BLOCKOUT		E 20					28	11.000								28	11	28	11	90
38	5 R6	BLOCKOUT		E 20					9	8.000								9	8	9	8	383
24	5 R7	BLOCKOUT		E 10 S							22.000	13.250						4	9	4	7	115
28	5 R8	BLOCKOUT		E 10 S							22.000	9.625						4	6	4	3	124
4	5 R9	BLOCKOUT		E 10 S							17.500	9.625						3	9	3	6	15
40	5 R10	BLOCKOUT		E 20					5	3.000								5	3	5	3	219
8	5 R11	BLOCKOUT		E 20					4	10.000								4	10	4	10	40
12	5 R12	BLOCKOUT		E 20					2	5.000								2	5	2	5	30

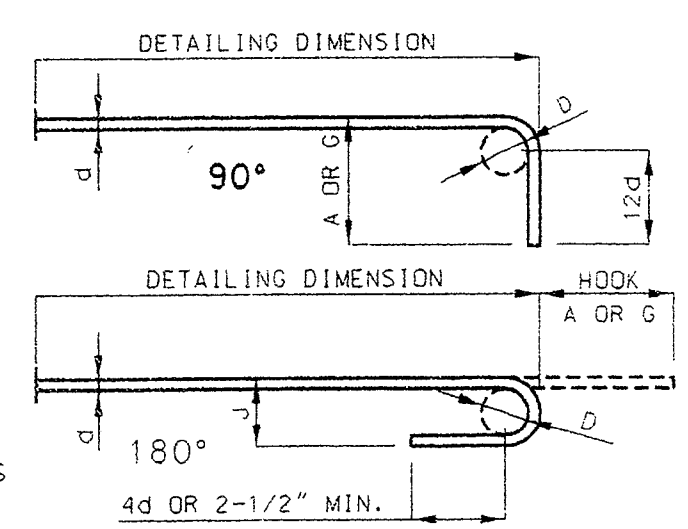
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT				
									B	C	D	E	F	H	K							
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	LBS.	

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as shown and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: *M.A.S.A.* Date: 1-16-02



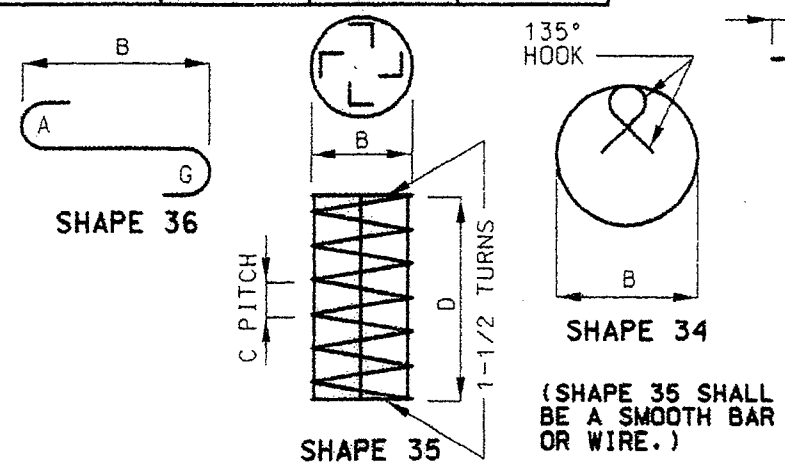
BAR SIZE	D (IN.)	90° HOOK		135° HOOK	
		H	A OR G	H	A OR G
#4	2"	4-1/2"	4-1/2"	3"	
#5	2-1/2"	6"	5-1/2"	3-3/4"	
#6	4-1/2"	12"	8"	4-1/2"	



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

TWO ADDITIONAL #5-R6 ARE INCLUDED IN THE BAR BILL FOR TESTING.

NOTE:  
 ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.  
 HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.  
 E = EPOXY COATED REINFORCEMENT.  
 S = STIRRUP.  
 X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.  
 V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.  
 NO. EA. = NUMBER OF BARS OF EACH LENGTH.  
 NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATOR'S 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<sub>y</sub> 60,000 PSI.



BENDING DIAGRAMS  
 DATE 9-5-00  
 KURT E. GRIBBLE  
 E-23576  
 PROFESSIONAL ENGINEER  
 STATE OF MISSOURI