

STATE	PROJ. NO.	SHEET NO.
MO.		20
SEC./SUR. 33 TWP. 45N RGE. 5E		

Plan view of bridge structure showing roadway, drainage, and various elevations. The diagram includes labels for '15" Type B Barrier Curb (Rdwy. Item)', 'Roadway and Drainage Excavation Line', 'Des Peres Road', '4" Concrete Slope Protection (2.5:1 Slope) Normal to Bent (Roadway Item)', 'Bottom of Footing Elev. 616.35 (Right Side)', 'Bottom of Footing Elev. 616.50 (Not above) (Right Side)', 'Gr. Elev. 643.98 Structure', and 'Ground Line (Survey Date 1989)'. A note indicates '⊙ - Indicates location of structure'. The plan view is labeled with circled numbers 1 and 2.

The locations of all subsurface boring for this structure are shown on the bridge plan sheet for this structure. Boring data for the numbered locations is shown on sheet No. 3. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, is available from the district materials engineer upon written request as outlined in the project special provisions. No greater significance or weight should be given to the boring data depicted on the plan sheets than to subsurface data available from the district or elsewhere.

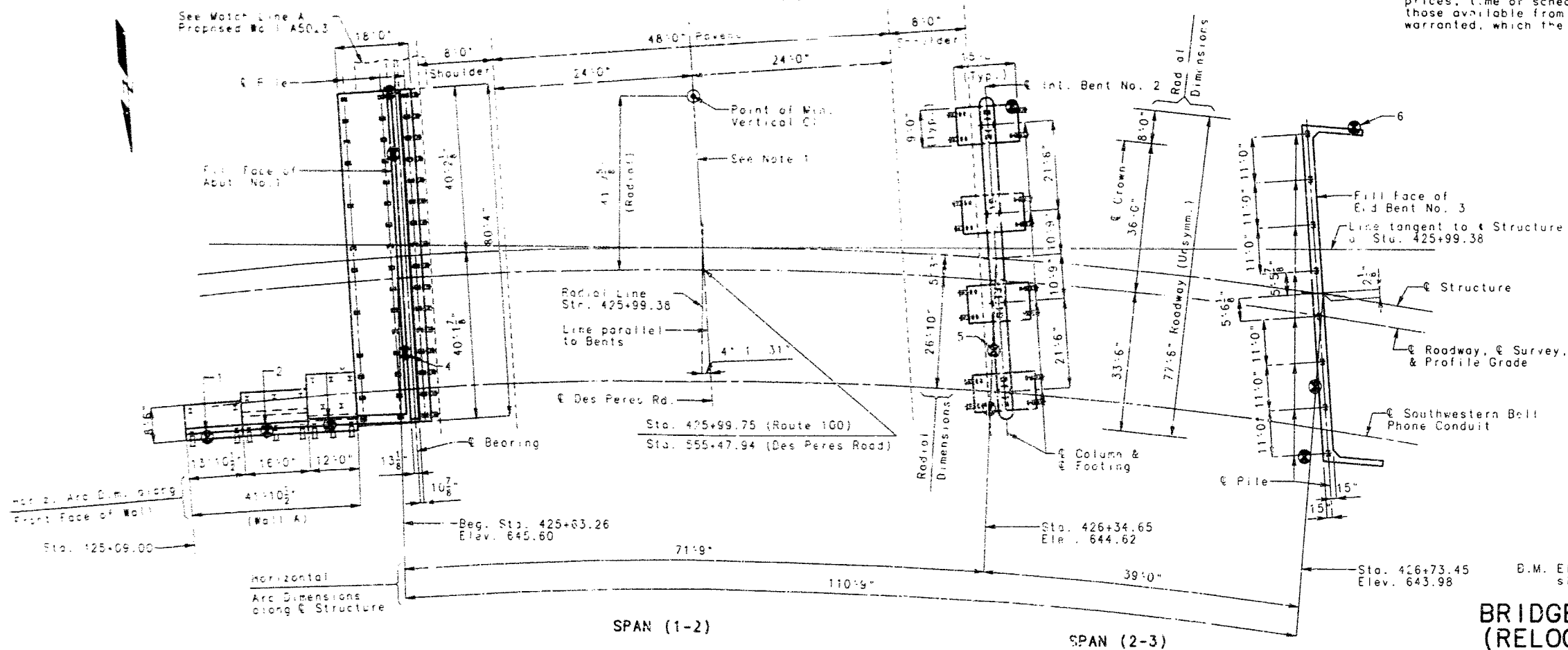
The commission does not represent or warrant - at any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those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

CURVE DATA

P.I. = 424+62.48
 Δ = 42°14'52"
 D = 5°30'
 T = 402.47'
 L = 768.14'
 R = 1041.74'
S.E. = 0.04'/Ft.

Note: Roadway 1 and 2 to be completed to the final roadway width and grade to the elevation of the bottom of the concrete bridge within the limits of the structure and for not less than 10% slope of the bridge face of the end piers before piles are driven for bay bents forming within the embankment section.

Note 1: All Bents are parallel to a line skewed $4^{\circ}02'44''$ R.A. to a Radial line at Sta. 425+00.75 along E. Roadway. Skew shown & measured where this line intersects Structure.



Note: The contractor shall protect concrete surfaces above the final roadway template, that will be temporarily buried, by backfilling with sand to the satisfaction of the engineer. (No direct payment)

Note: For General Notes, Estimated Quantities, Estimated Quantities for Slab on Concrete I-Girder, and Pile Data, see Sheet No. 2.

B.M. Elev. 649.12 □ On Northwest corner of concrete sign base of Chalet Des Peres.

BRIDGE OVER RELOC. W.O.R. OF 1-270
(RELOC. DES PERES RD.)

STATE ROAD FROM RTE. 100 NORTH

AT RTE. 100 INTERCHANGE

PROJECT NO.

JOB NO. J6:0651

ST. LOUIS

STA. 425+63.26

RTE. 1-270

COUNTY

STD. 504.00
STD. 605.10
STD. 609.00
STD. 611.60
STD. 706.35
A-5016

DESIGNED AUG. 1994
 DETAILED JUNE 1995
 CHECKED JUNE 1995

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

SHEET NO. 1 OF 48

DATE 7/10/95

Design Spec. 1-401-000 A.A.S. 1.5-1981 and Interim thru 1980
Load Factor Design
Source Performance Category 0

[illegible]

See page Unit Schedules:
 Class 0 Concrete (Structural) 1'-00.000 ps.
 Class 1 Concrete (Barrier Curb) 1'-00.000 ps.
 Class 02 Concrete (Superstructure except Prestressed Girders and
 Barrier Curb) 1'-00.000 ps.
 Reinforcing Steel
 Schedules 001 to 004 ps.
 For Prestressed Girder Schedules, see Sheets No. 22, 23
 For Precast Prestressed Panel Schedules, see Sheet No. 24

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

Joint Filler: All joint filler shall meet the requirements of Std. Spec. 1057.2.0, except as noted.

Cost of Plastic Interstep complete in place on Abutment No. 1, and
- " " shall be included in other items.

The neoprene pad shall be bonded to the bearing seat with an epoxy adhesive as approved by the bearing manufacturer for bonding neoprene to concrete.

Note: Minimum energy requirement of hammer is based on pile length and design bearing value of piles.
All piles shall be driven to practical refusal.
Prubers for Piles at Abutment No. 1, Int. Bent No.2, and End Bent No. 3, to elevation 604.40, 606.50, and 626.00, respectively.
For Soil A Pile Data, see Sheet No. 14.



Note: All concrete above the construction joint in and bent No. 3 is included in the estimated superstructure quantities for abutment concrete 1-girder, see Special Provisions. All reinforcement in and bent No. 3 is included with superstructure quantities.

The estimated unit price for the following materials and installing superstructure bearing pads, complete in-place, will be paid for the first unit price for Laminated Composite Bearing Pads, complete (P/S Structure) and Laminated Composite Bearing Pads (replaced), per each.

- Safety barrier curb shall be cast-in-place option or slip-form option.
- Cost of channel shear connectors C4 x 5.4 (A-38) in place to be included in contract unit price for structural steel piles (12" and 14").

Concrete above upper construction joint in backwall of Abutment No. 1 is included with Class B (Substructure) Quantities.

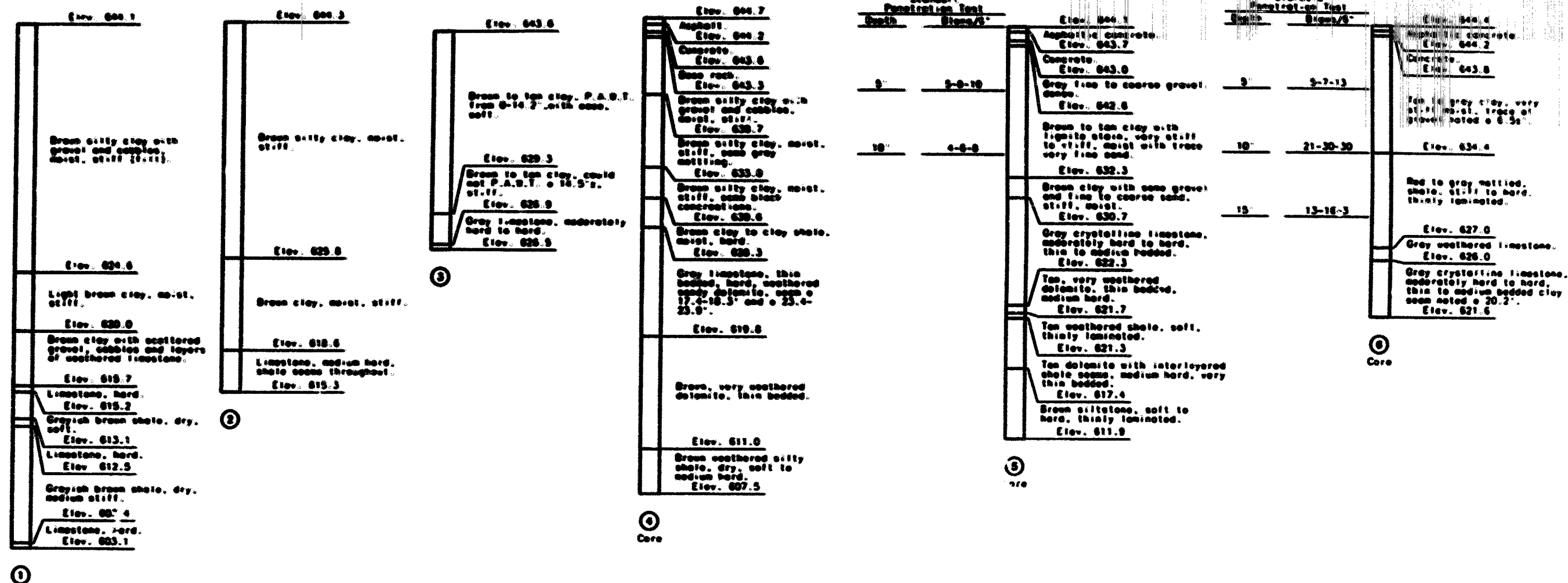
Class B Excavation includes excavation for Wall A and excavation of bent No. 3.

ESTIMATED QUANTITIES FOR SLAB ON CONCRETE 1-10 INCH		
ITEM	UNIT	QTY.
Reinforcing Steel (Plain)	TON	0.18
Reinforcing Steel (Heavy Galval)	TON	53.42
Concrete	CU YD	284.0

Note: The table of Estimated Quantities For Slab On Concrete 1-10 inch represents the quantities used by the State in preparing the cost estimate for concrete slabs. Workmanship may be added in these estimated quantities but these variations cannot be for an adjustment in the contract unit price per square yard slab on concrete 1-garde.

See Special Provisions for methods of forming slabs. Prestressed panel quantities are based on skewed and parallel spans on maximum top flange thickness and maximum joint filler thickness.

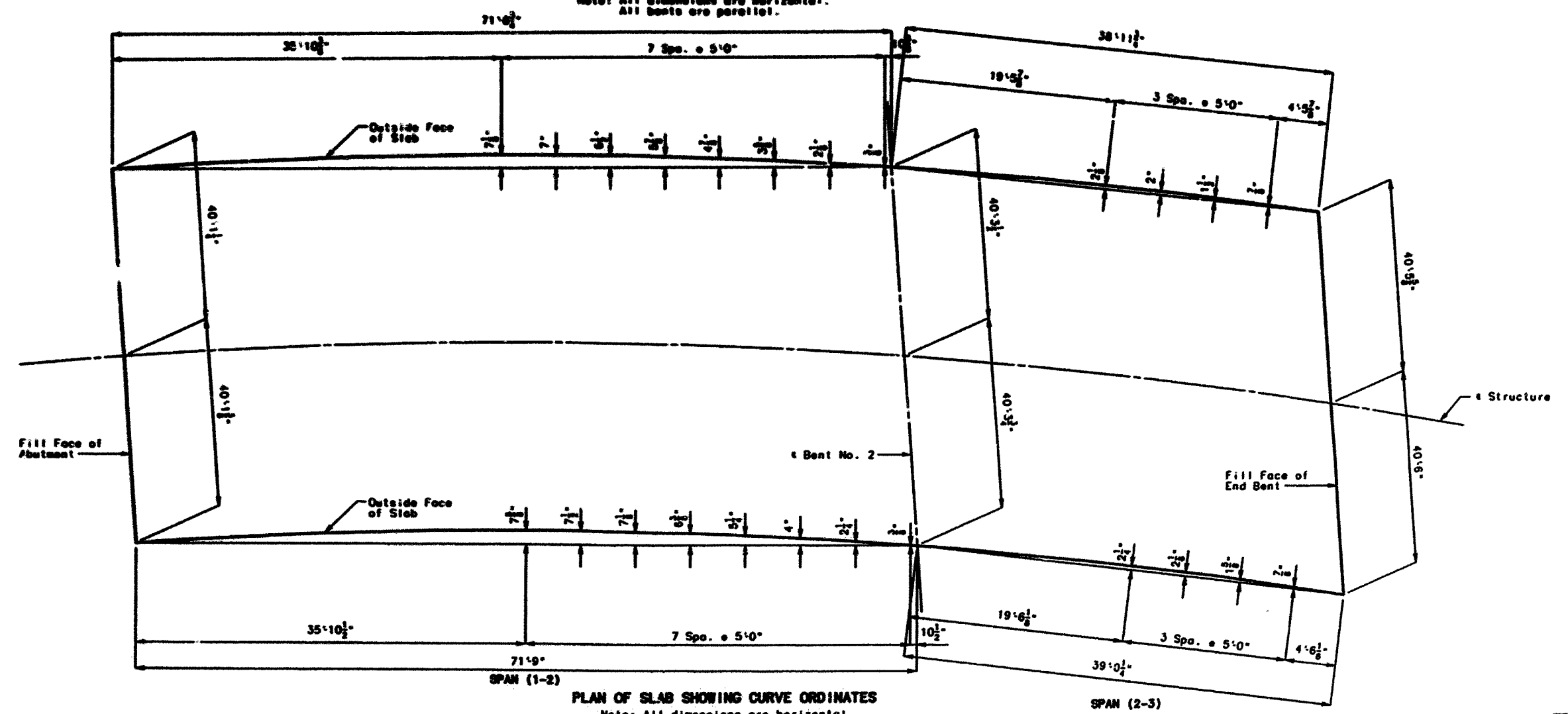
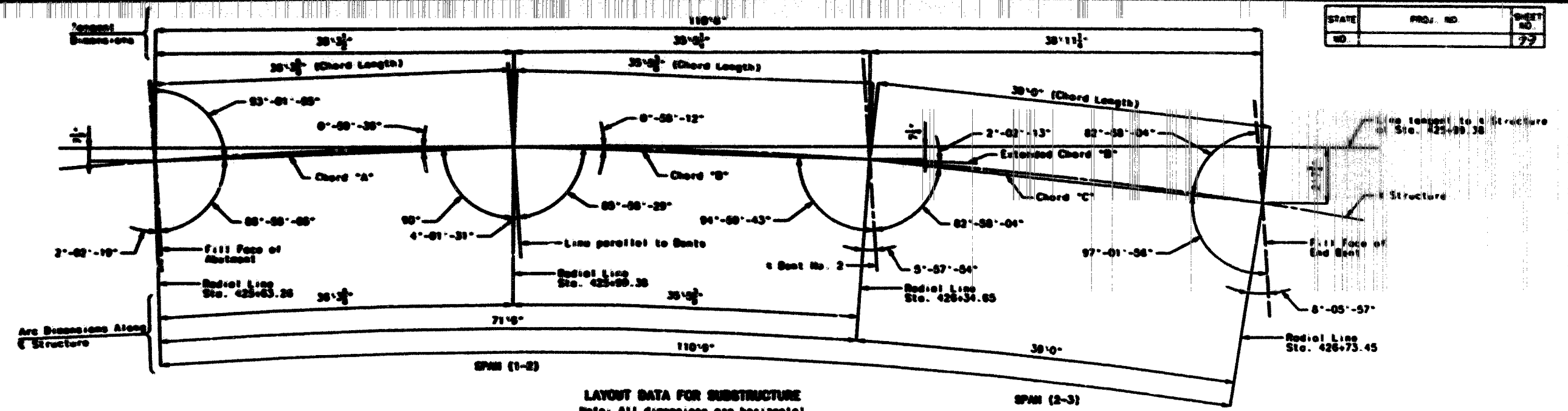
The prestressed panel quantities are not included in a table of Estimated Quantities For Slab On Concrete 1-10 inch.



BORING DATA

Note: For location of borings, see Sheet No. 1.

STATE	PROJ. NO.	SHEET NO.
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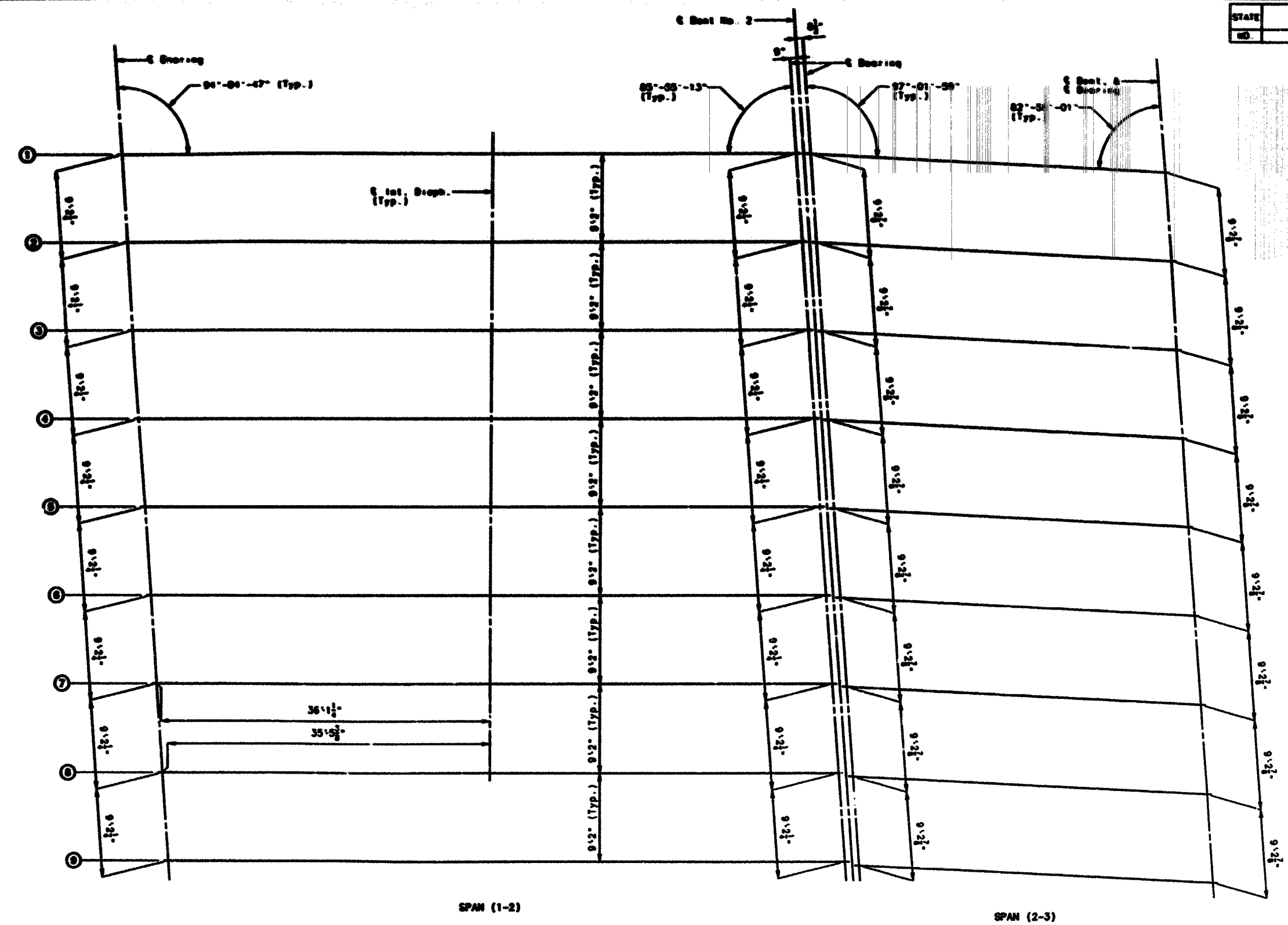
PLAN OF SLAB SHOWING CURVE ORDINATES
Note: All dimensions are horizontal.

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

SHEET NO. 4 OF 48

DETAILED JAN. 1994
CHECKED JUNE 1995

STATE	PROJ. NO.	SHEET NO.
MO.		100



PLAN SHOWING PRESTRESSED GIRDER LAYOUT AND LOCATION OF INT. DIAPHRAGMS
 Note: All dimensions shown are horizontal.
 For details of intermediate diaphragms,
 see Sheet No. 24.

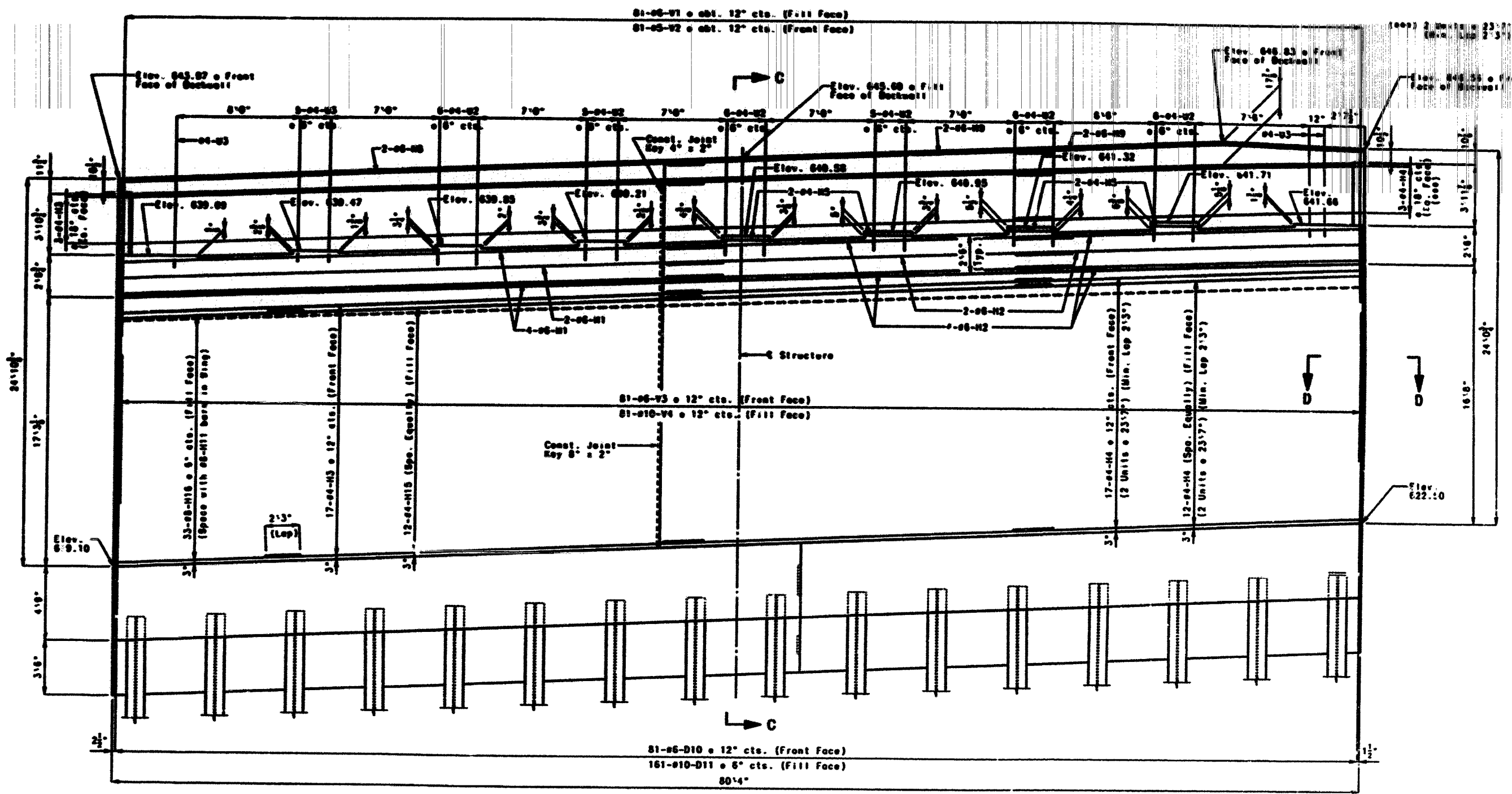
118
 DETAILED JAN. 1994
 CHECKED JUNE 1995

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

SHEET NO. 5 OF 48

ST. LOUIS COUNTY A-5016

STATE	PROJ. NO.	SHEET NO.
MO.		101



ELEVATION
DETAILS OF ABUTMENT NO. 1

Note: Work this sheet with sheets No. 7 thru 12.
For phone conduit location and
reinforcement, see sheets No. 19 and 27,
respectively.

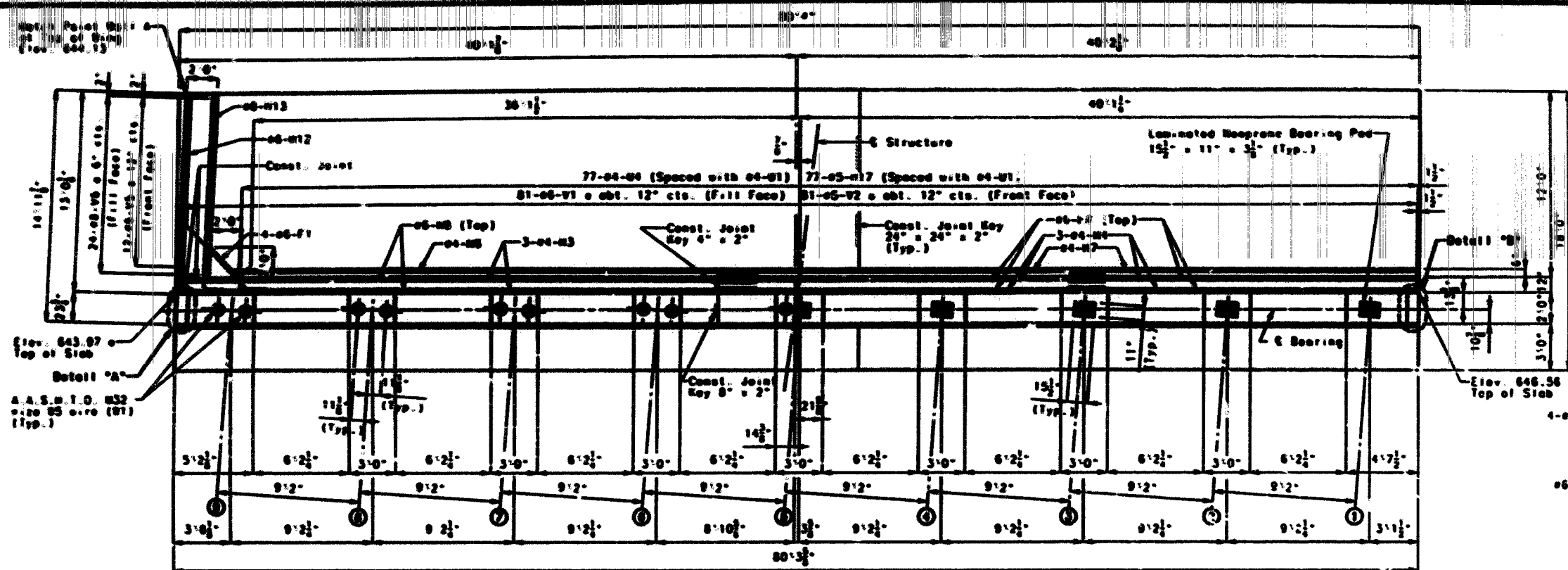
DETAILED JUNE 1995
CHECKED JUNE 1995

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

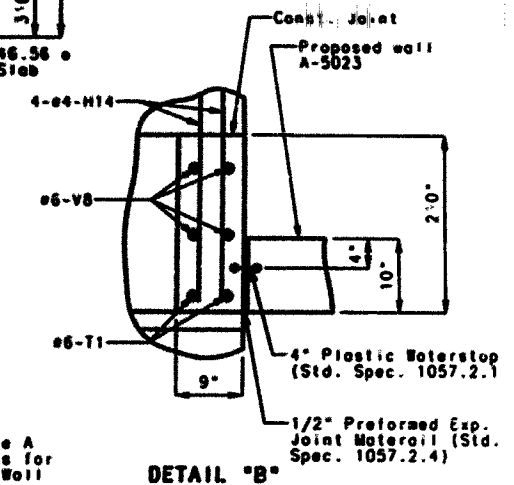
SHEET NO. 6 OF 48

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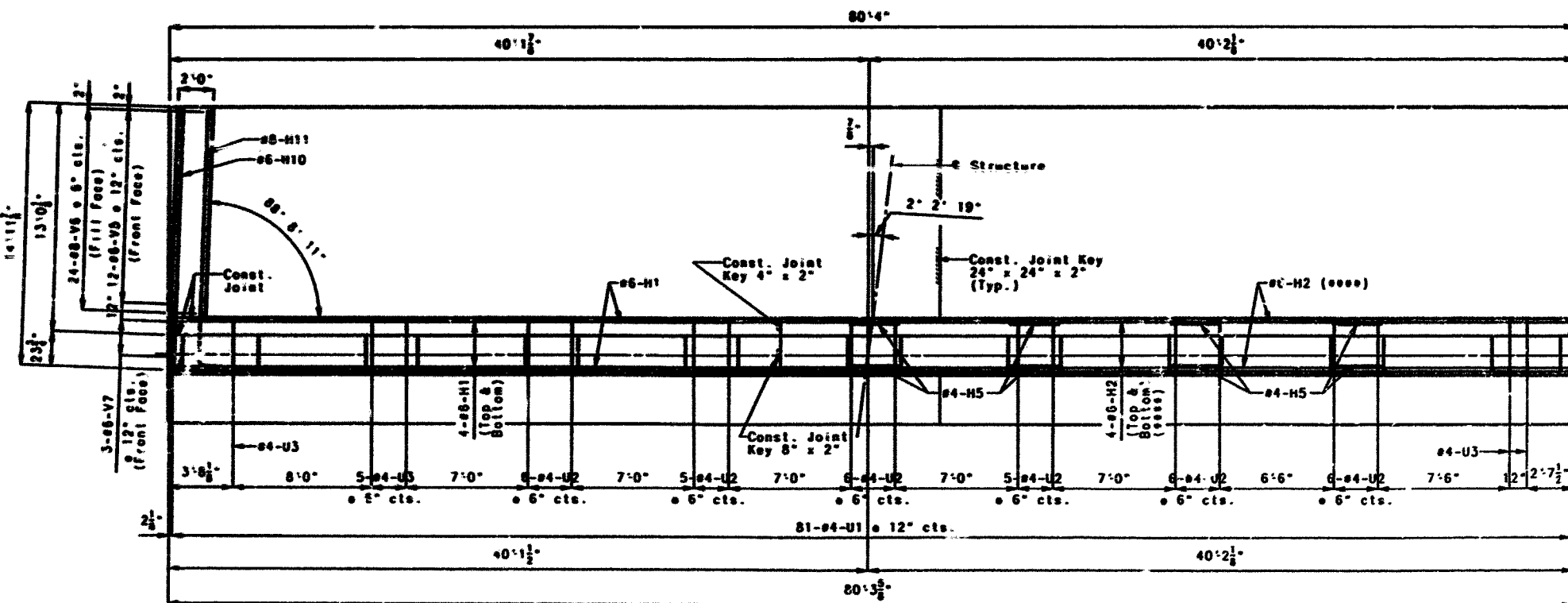
STATE	PROJ. NO.	SHEET NO.
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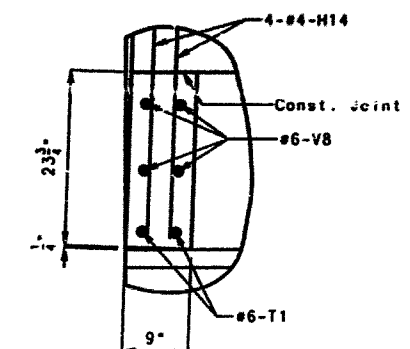
PLAN OF BEAM SHOWING GIRDER LOCATION AND BACKWALL REINFORCEMENT



DETAIL 'B'



PLAN OF BEAM SHOWING REINFORCEMENT



DETAIL 'A'

Note: Work this sheet with sheets No. 6, and 8 thru 12.
Concrete above upper construction joint in backwall at Abutment No. 1 is included with class B (Substructure) Quantities.
Top of Backwall and Expansion Device for Abutment No. 1 shall conform to the crown of roadway slab. Backwall above upper construction joint shall not be poured until the superstructure slab has been poured in the adjacent span.
All reinforcing bars in the tops of substructure beams or caps shall be spaced to clear anchor bolt wells for bearings by at least 1/2\".
For Girder Layout and Substructure Layout, see Sheet No. 5, and 4 respectively.
For Bearing Details and Anchor Bolt details, see Sheet No. 21.
For details of Preformed Compression Joint Seal, see Sheet No. 25.

(****) 2 Units x 24'-4\"
(Min. Lap 3'-7\")

DETAILS OF ABUTMENT NO. 1

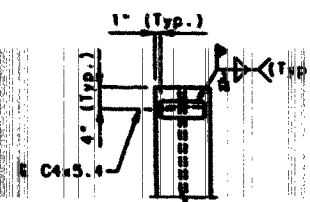
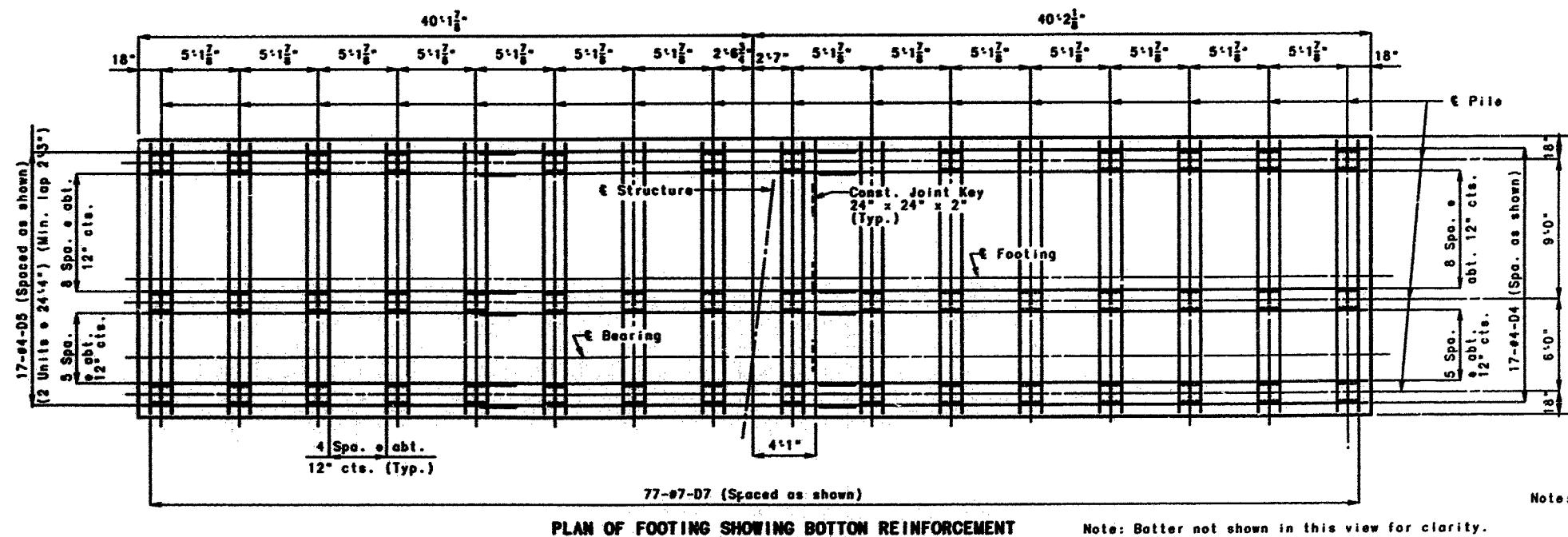
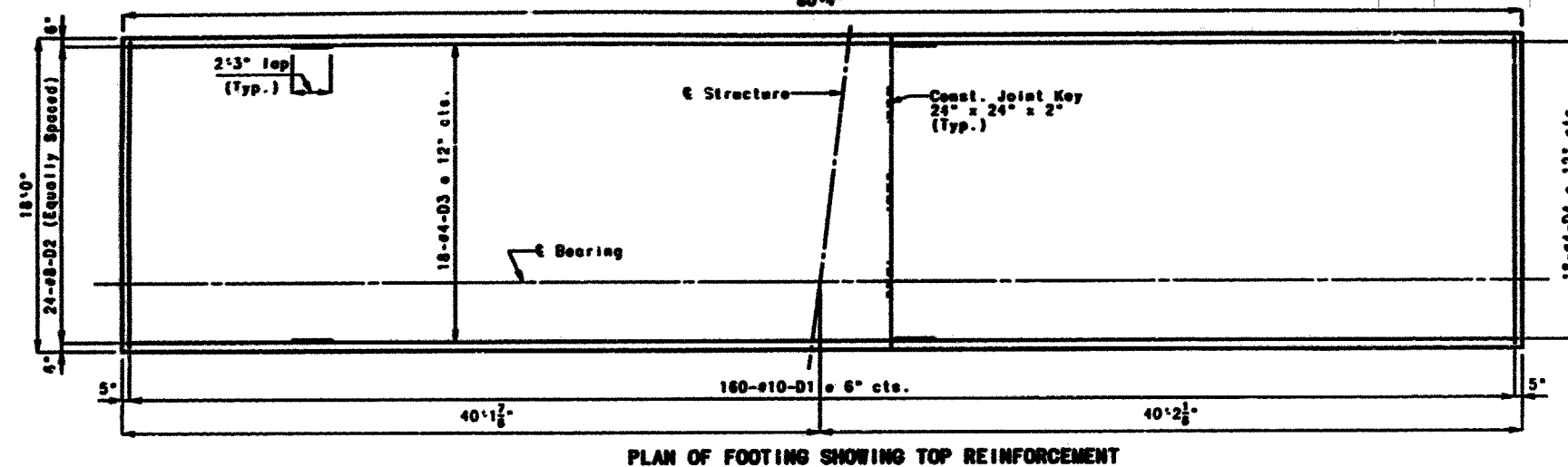
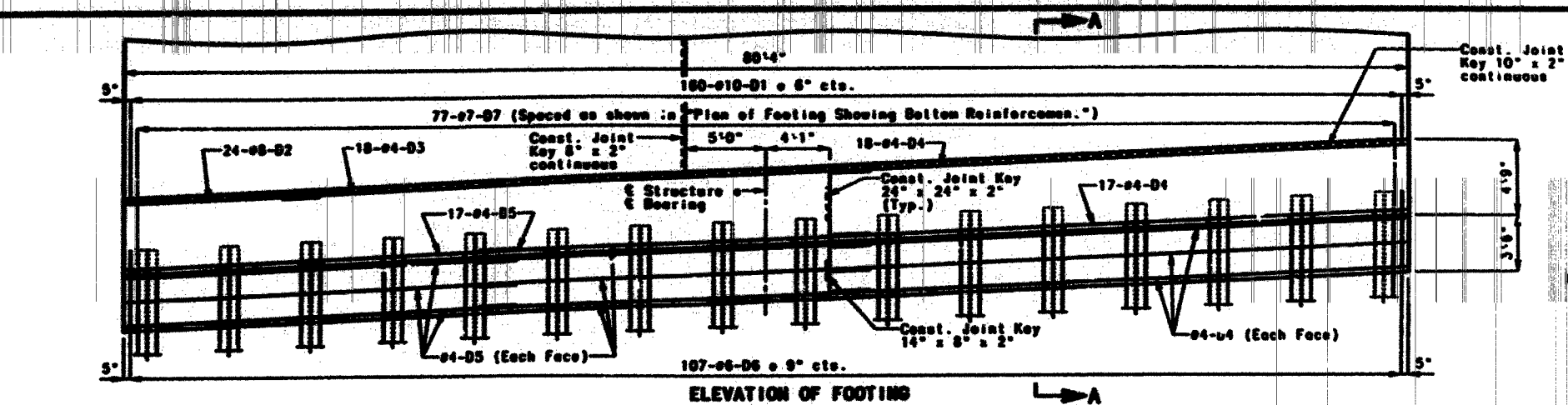
DETAILED JUNE 1995
CHECKED JUNE 1995

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

SHEET NO. 7 OF 48

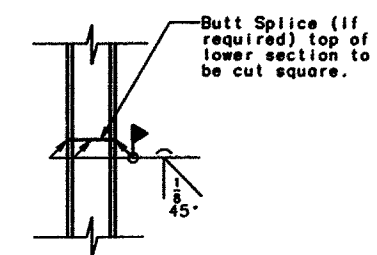
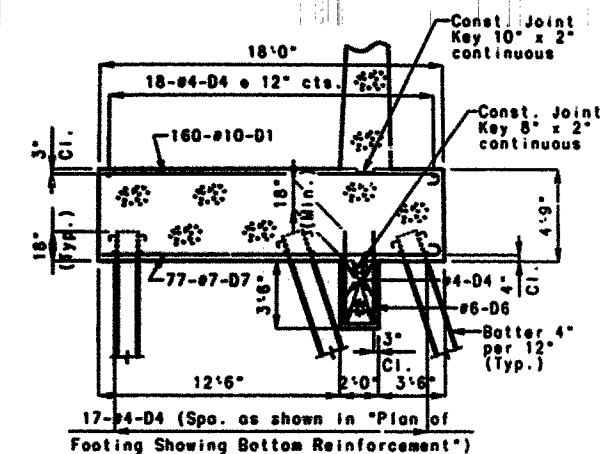
ST. LOUIS COUNTY

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DETAIL OF C4x5.4

Note: C4x5.4 not shown in the Elevation or Plan views for clarity.



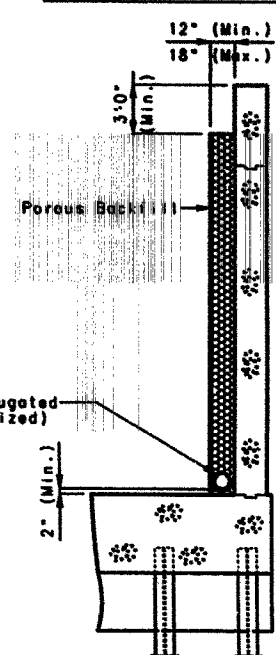
Note: Work this sheet with sheets No. 6, 7, and 9 thru 12.



Diagram illustrating the cross-section of a wing wall. The wall is shown with a sloped backfill and a vertical face. Dimensions are indicated:

- Top width: 12" (Min.) to 18" (Max.)
- Vertical height: 3' 0" (Min.)
- Backfill material: Porous Backfill
- Foundation width: 2" (Min.)

**SECTION THROUGH ABUTMENT SHOWING
BACKFILL AND UNDERDRAIN**



**SECTION THROUGH WING SHOWING
BACKFILL AND UNDERDRAIN**



Note: Work this sheet with sheets No. 6 thru 9, 11, and 12.

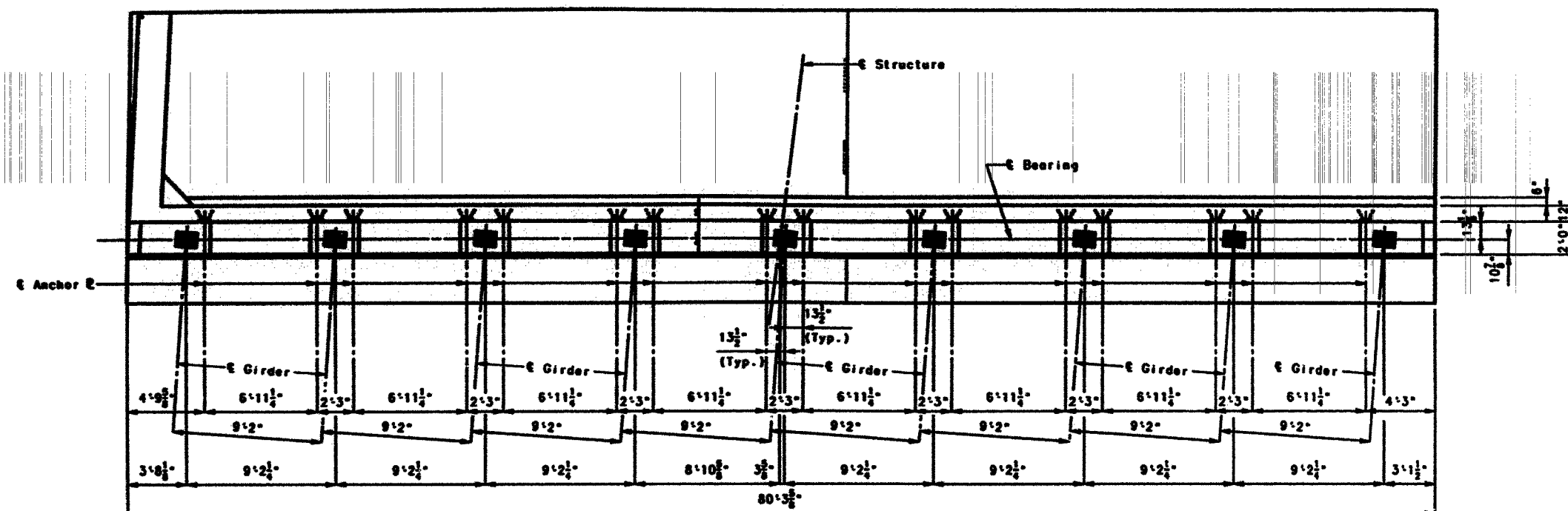
DETAILS OF ABUTMENT NO. 1



SUBSTRUCTURE QUANTITY TABLE FOR ABUT. NO. 1		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YD.	335
EXCAVATION FOR ABUTMENT NO. 1	CU. YD.	1,555
STRUCTURAL STEEL PILE (12")	LIN. FT.	200
STRUCTURAL STEEL PILE (14")	LIN. FT.	484
PRE-BORE FOR PILING	LIN. FT.	593
CLASS B CONCRETE (SUBSTR.)	CU. YD.	537.7
REINFORCING STEEL (BRIDGES)	POUND	8,290
REINFORCING STEEL (EPOXY COATED)	POUND	54,950

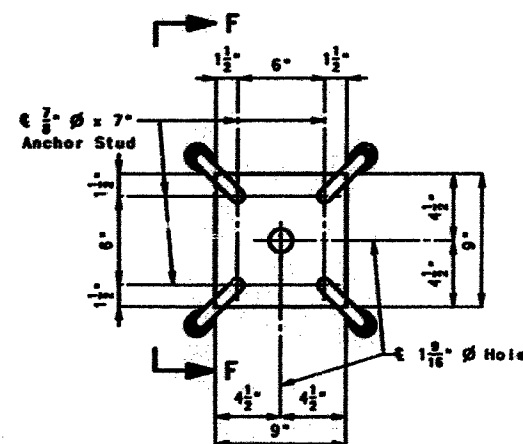
NOTE: These quantities are included in the Estimated Quantities table on Sheet No. 2.

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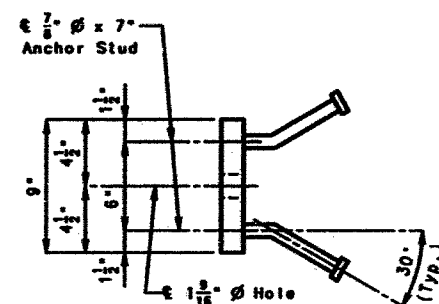


PART PLAN OF BEAM SHOWING LOCATION OF EARTHQUAKE RESTRAINERS AT ABUTMENT NO. 1

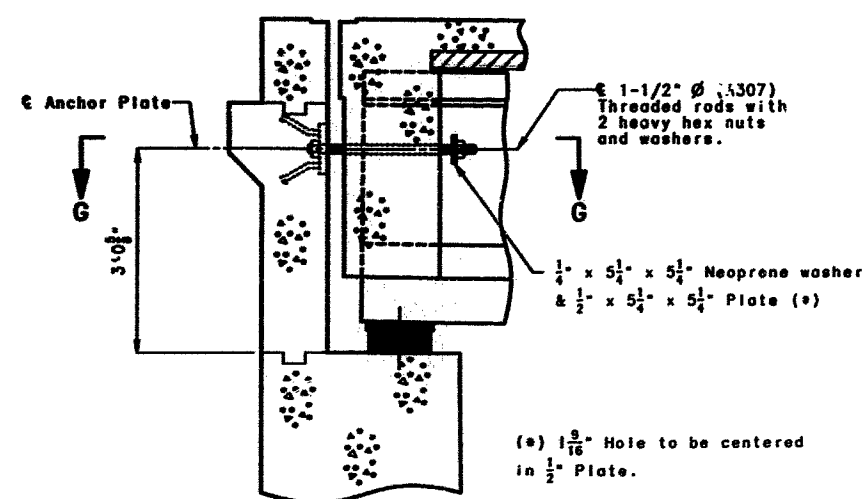
Note: All steel shall be A36 except as noted.
 Cost for furnishing and installing earthquake restrainers shall be included in the contract unit price bid for Earthquake Restrainers Assemblies.
 Earthquake assemblies shall be galvanized after fabrication in accordance with ASTM A123. The threads shall be protected during galvanizing.
 Shop drawings will not be required for earthquake restrainer assemblies.
 The studs shall be in accordance with Section 1037.
 1 Earthquake Restrainer Assembly shown shall consist of 1 neoprene washer, 1 anchor plate with 2 rods, 1 PVC sleeve cast-in-place, 2 heavy hex nuts, 1 (5-1/4\" x 5-1/4\" plate, and 1 (1-1/2\" ϕ threaded rod.



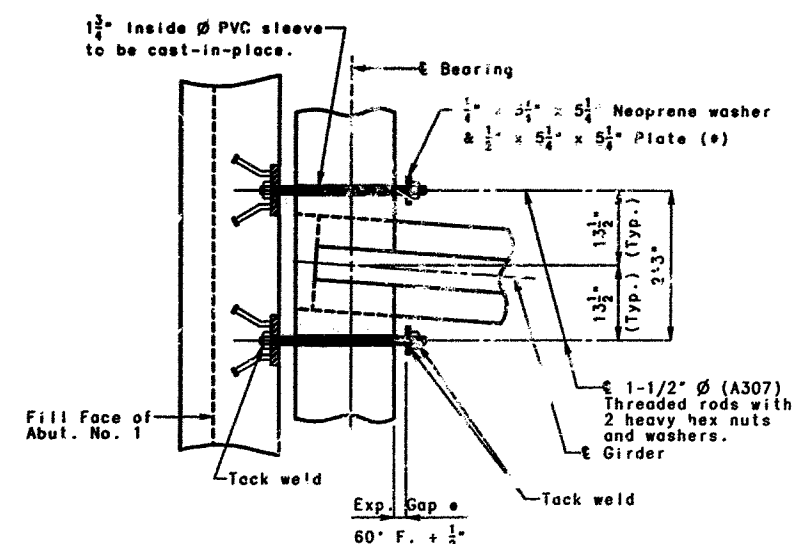
DETAIL OF ANCHOR PLATE



ELEVATION F-F



PART SECTION AT ABUTMENT NO. 1



Note: Omit outside assembly on exterior girders.

SECTION G-G (INTERIOR GIRDERS)

Note: For details of diaphragm for Abutment No. 1, see sheet No. 11.
 Work this sheet with sheets No. 6 thru 11.
 For details of Expansion Gap, see Sheet No. 25.

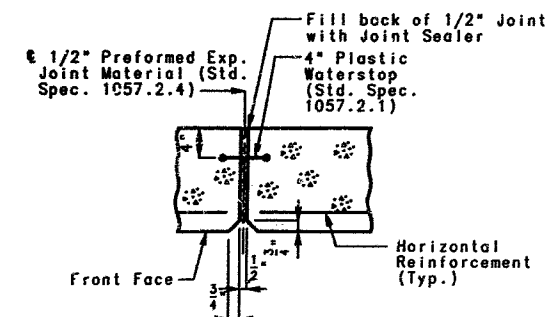
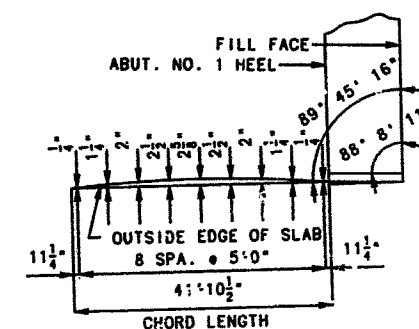
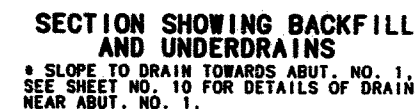
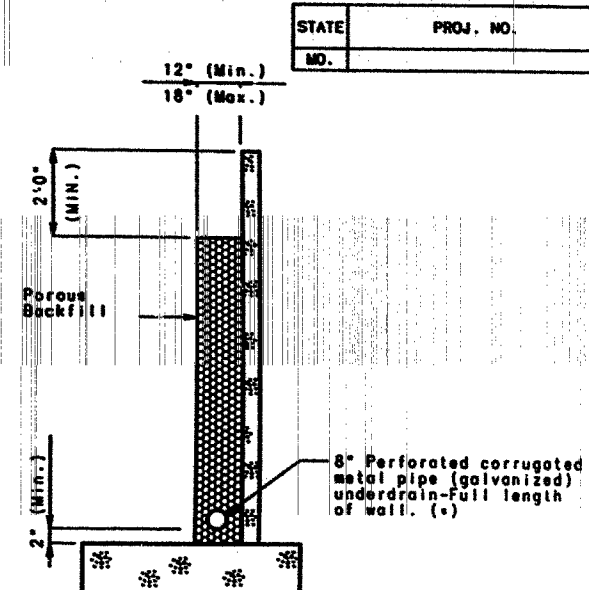
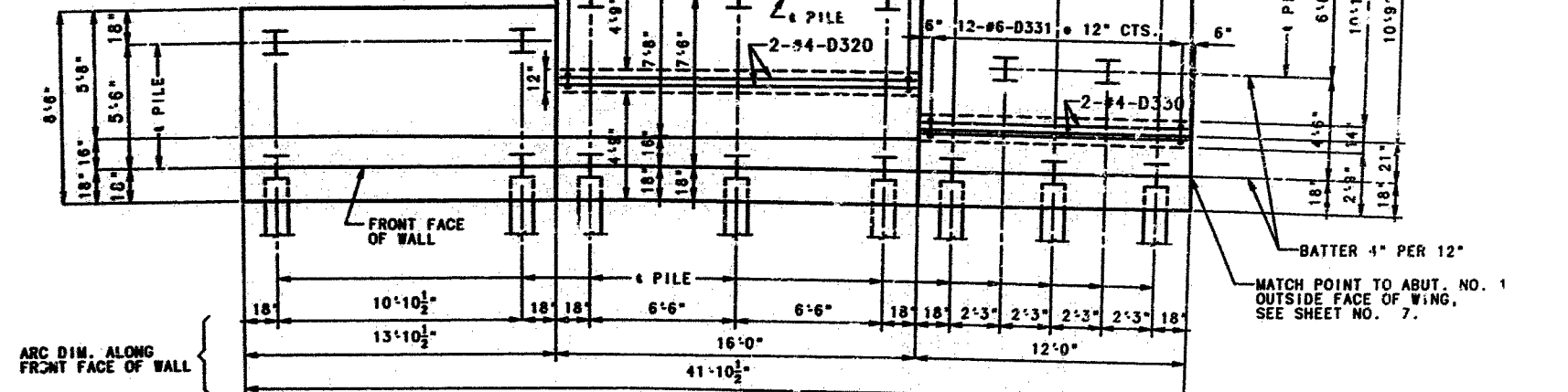
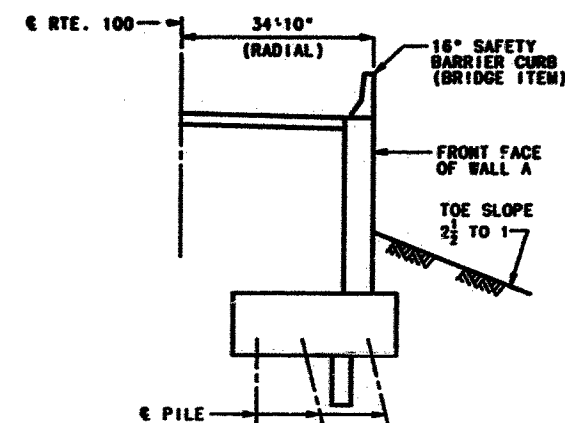
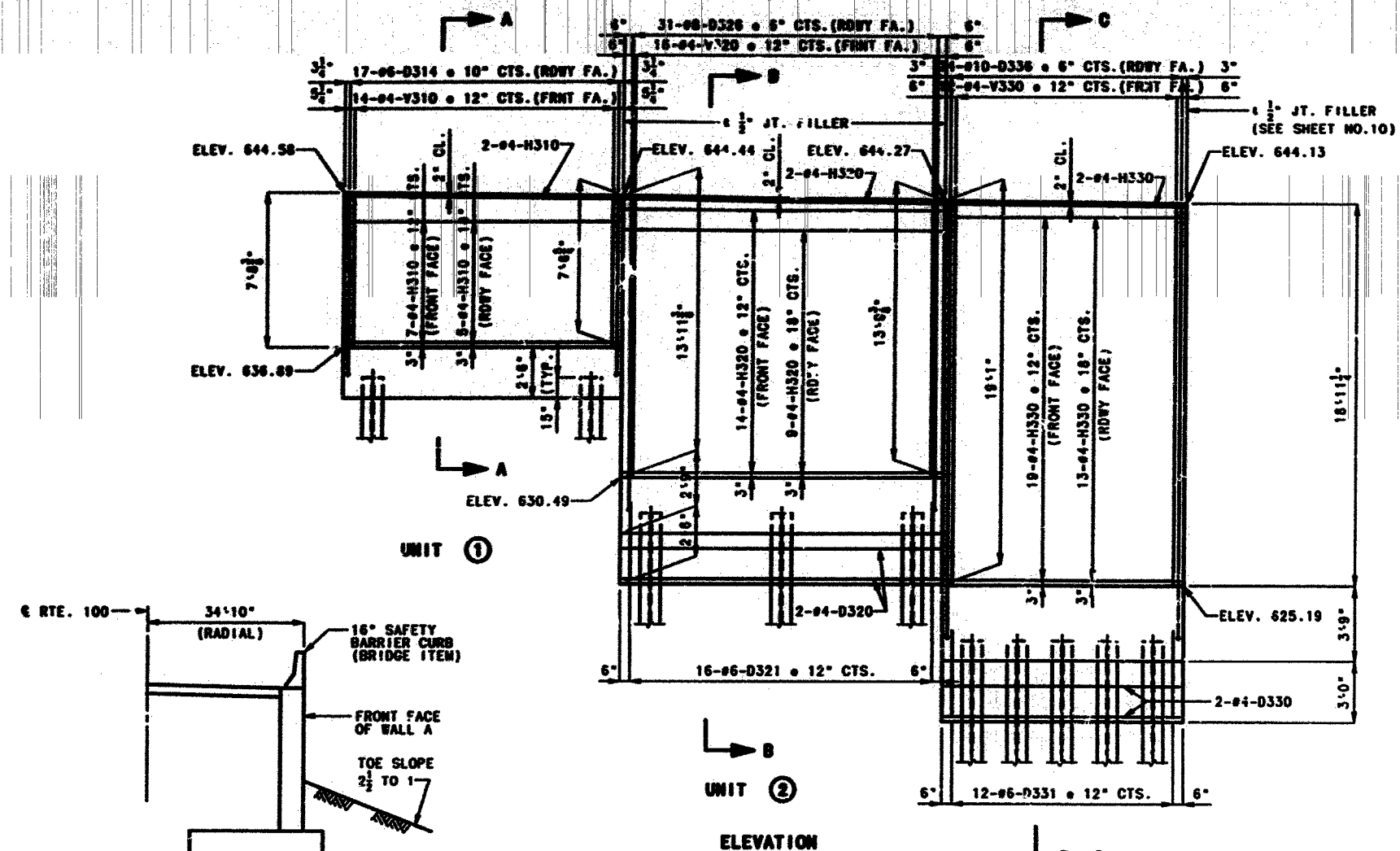
DETAILS OF EARTHQUAKE RESTRAINERS AT ABUTMENT NO. 1

DETAILED JUNE 1995
 CHECKED JUNE 1995

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

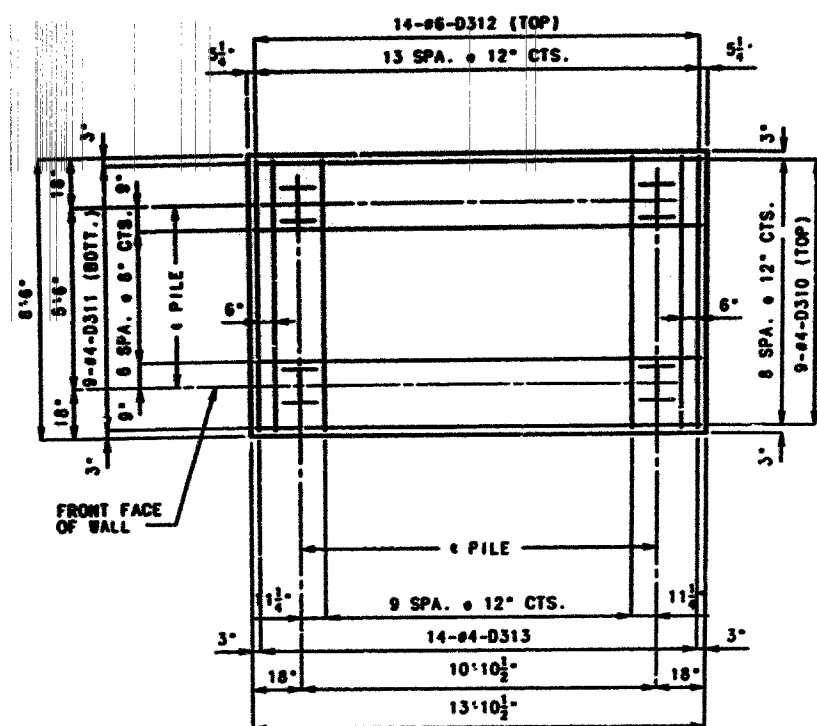
SHEET NO. 12 OF 48

ST. LOUIS COUNTY A-5016

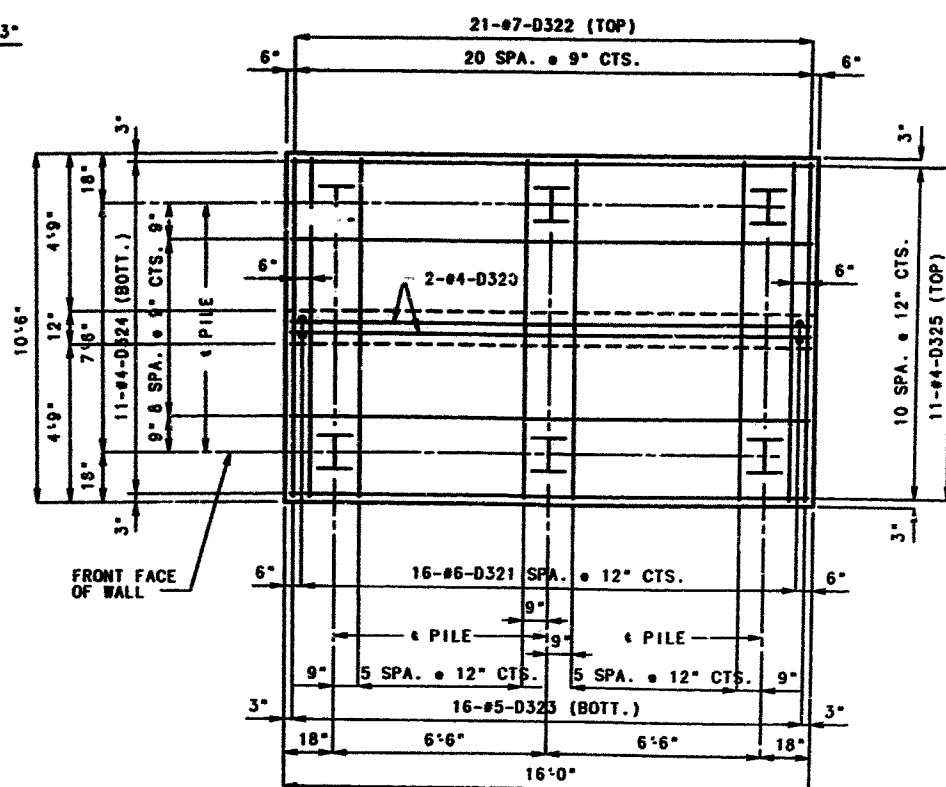


NOTE: LONGITUDINAL DIMENSIONS ARE HORIZONTAL
ARC LENGTHS ALONG FRONT FACE OF WALL.
LONGITUDINAL REINFORCING SHALL BE PLACED
PARALLEL TO FRONT FACE OF WALL.
TRANSVERSE REINFORCING SHALL BE PLACED RADIALY
AND SPACED AT FRONT FACE OF WALL.
FOOTING REINFORCING OMITTED FOR CLARITY.
FOR ADDITIONAL DETAILS, SEE SHEETS NO. 14 & 15.
FOR DETAILS OF SAFTY BARRIER CURB, SEE SHEETS NO. 36 & 38.

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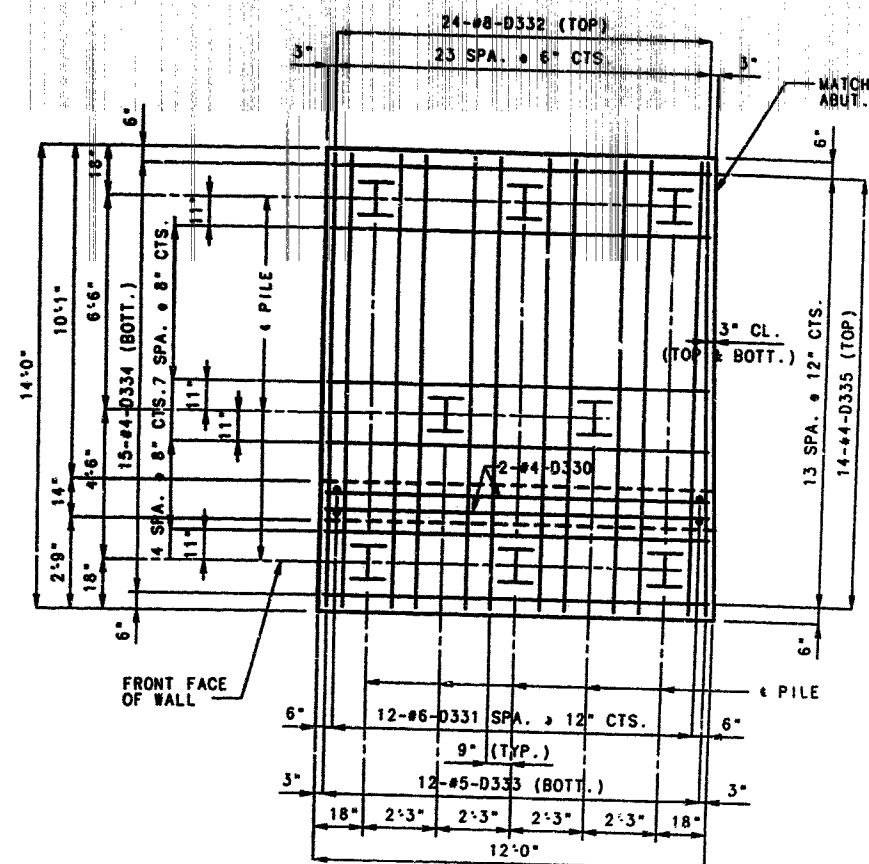


PLAN OF FOOTING
UNIT NO. 1



PLAN OF FOOTING
UNIT NO. 2

DETAILS OF WALL A



PLAN OF FOOTING
UNIT NO. 3

NOTE: LONGITUDINAL DIMENSIONS ARE HORIZONTAL
ARC LENGTHS ALONG FRONT FACE OF WALL.
LONGITUDINAL REINFORCING SHALL BE PLACED
PARALLEL TO FRONT FACE OF WALL.
TRANSVERSE REINFORCING SHALL BE PLACED RADially
AND SPACED AT FRONT FACE OF WALL.
PILE BATTER ON UNITS IS NOT SHOWN FOR
CLARITY. SEE SHEET NO. 14.
FOR ADDITIONAL DETAILS OF WALL A, SEE
SHEETS NO. 13 & 14.

DETAILED MAY 1995
CHECKED JUNE 1995

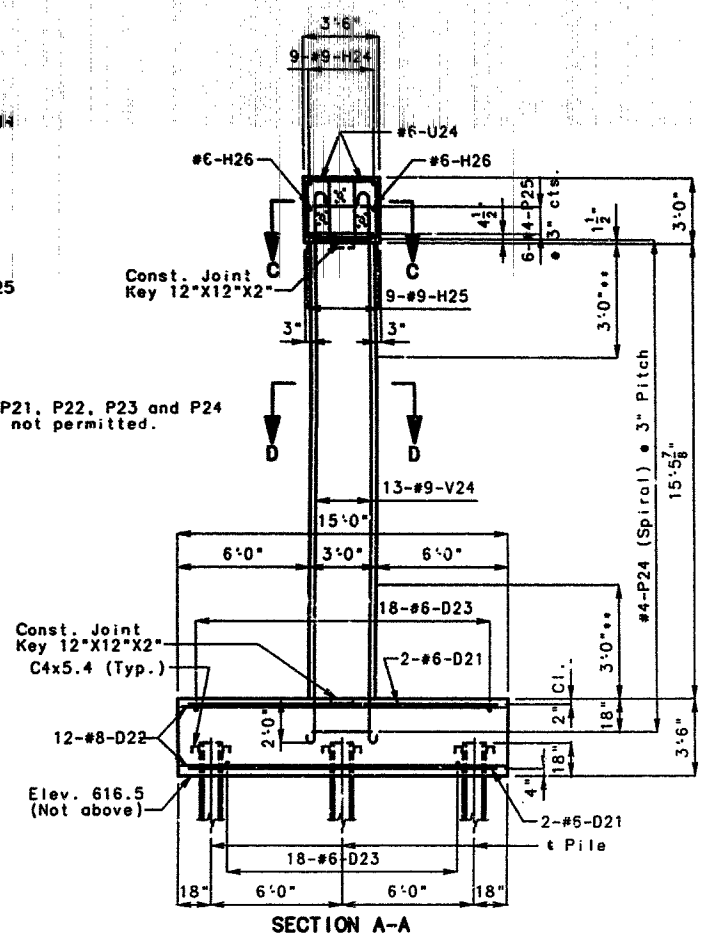
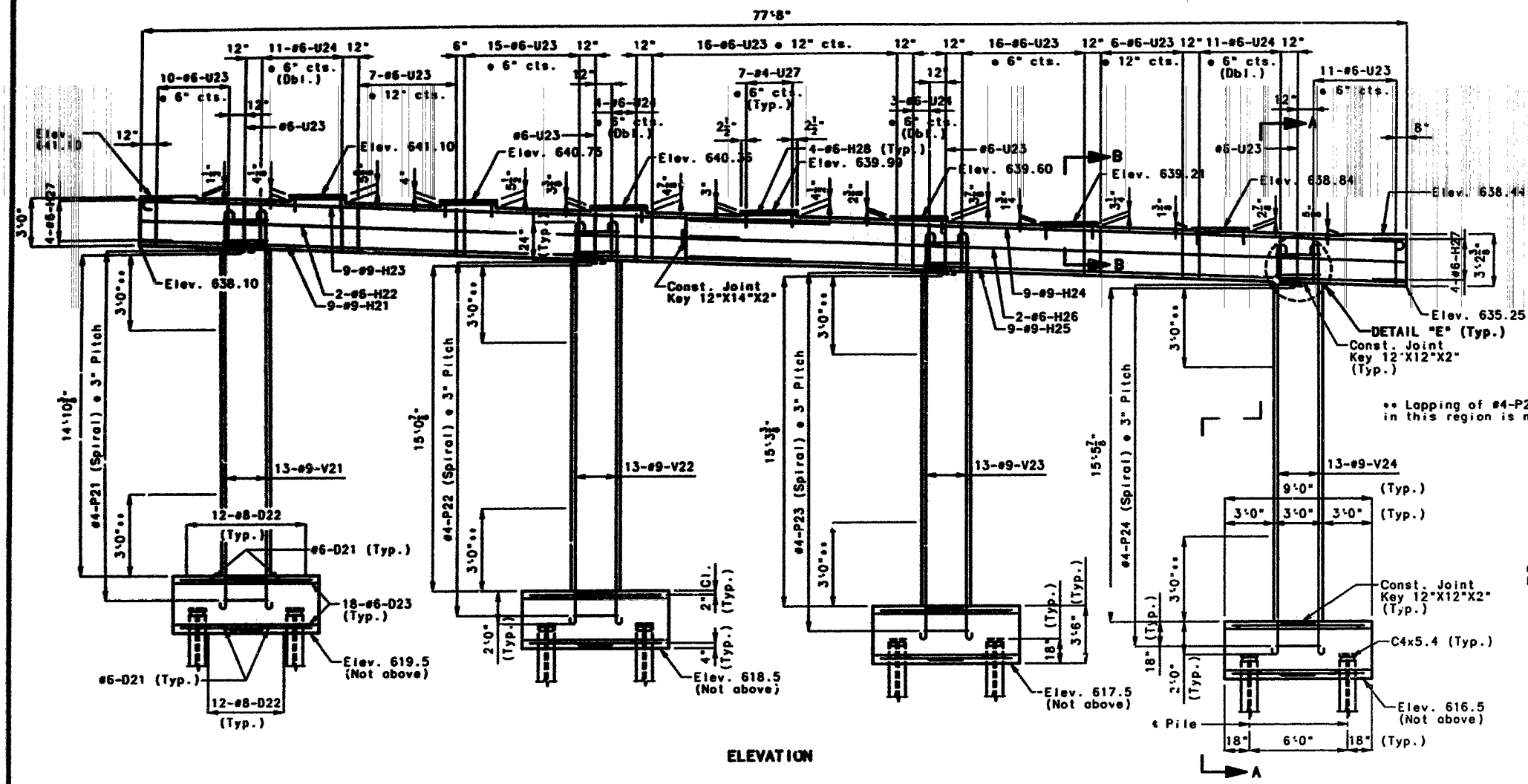
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 15 OF 48

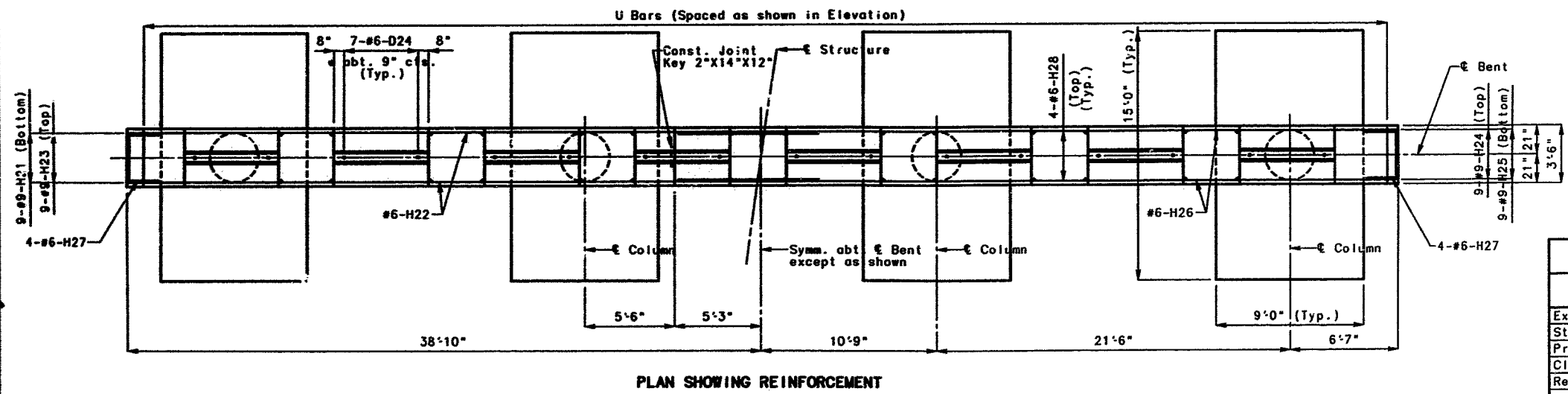
ST. LOUIS

COUNTY

A-5016



Note: For Plan of Beam Showing Bearings, Plan of Footing Showing Reinforcement, Detail of Key Section B-B, Section C-C, Section D-D, Detail "E", Details of 135° Seismic Spiral Tie, Detail of Splices in Spiral Around Vertical Bar, Details of Laminated Neoprene Bearing Pads, Detail of C4x5.4 and Steel Pile Splice, see Sheet No. 17.



SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 2		
ITEM		QUANTITY
Excavation for Int. Bent No. 2	Cu. Yd.	200
Structural Steel Piles (12")	Lin. Ft.	264
Pre-Bore for Piling	Lin. Ft.	276
Class B Concrete (Substructure)	Cu. Yd.	117.3
Reinforcing Steel (Bridges)	Lb.	20,520

Note: These quantities are included in the estimated quantities table on Sheet No. 2.

DETAILS OF INTERMEDIATE BENT NO. 2

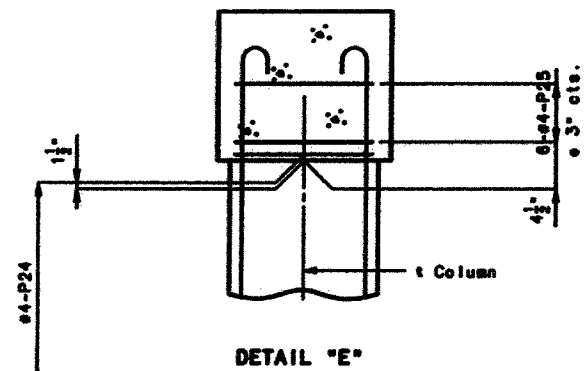
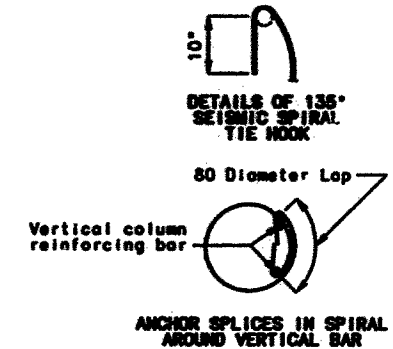
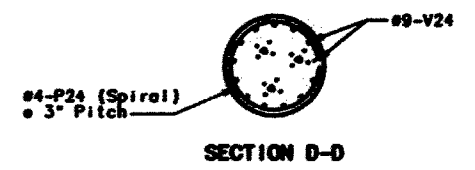
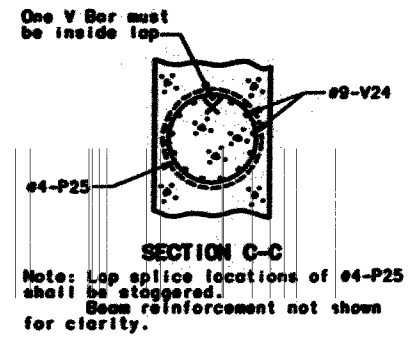
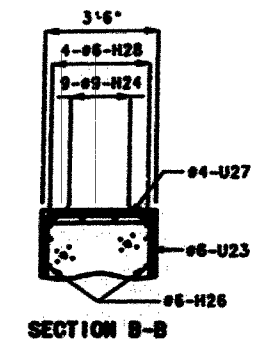
DETAILED FEB. 1994
CHECKED JUNE 1995

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

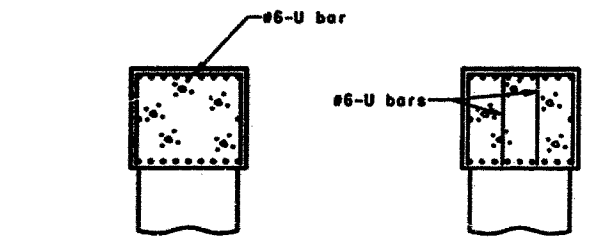
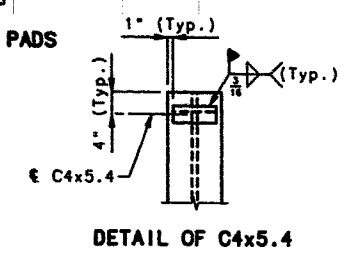
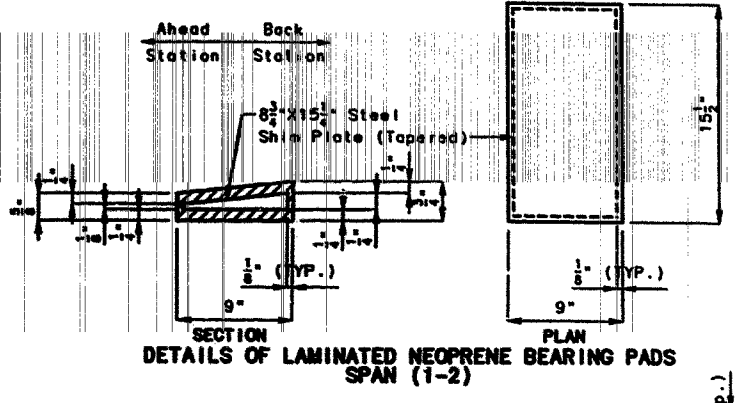
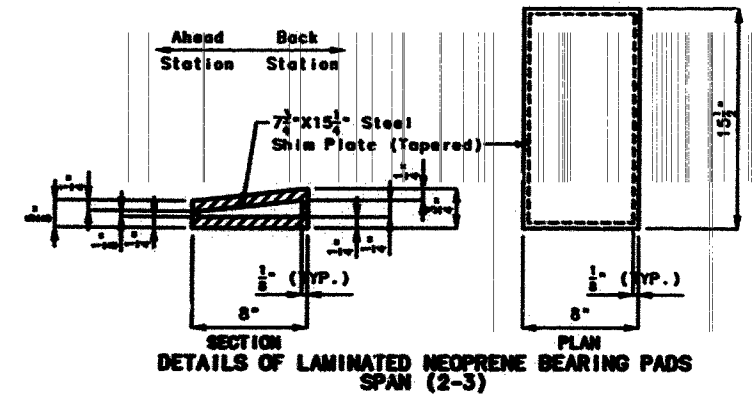
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MO.		112

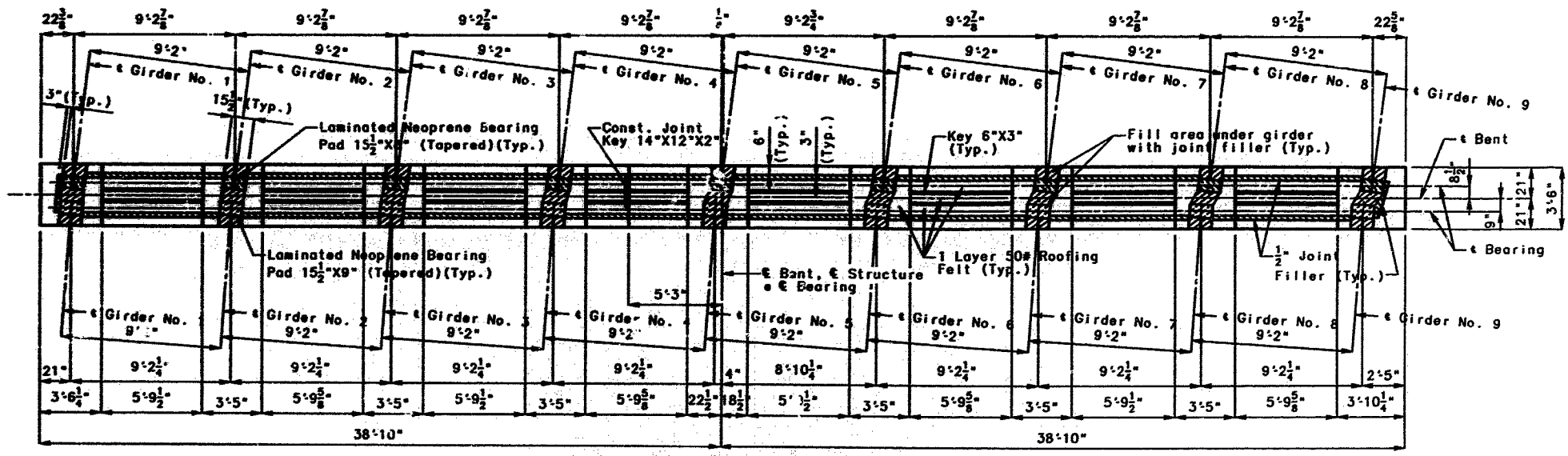
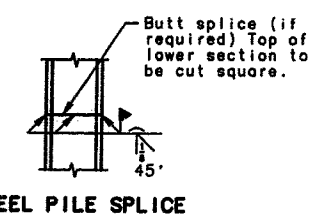
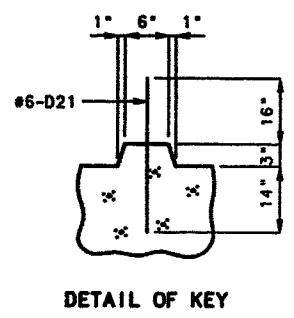


Note: Beam steel not shown for clarity. Anchorage of spiral reinforcement shall be provided by 1-1/2 extra turns of spiral bar at each end of spiral unit.



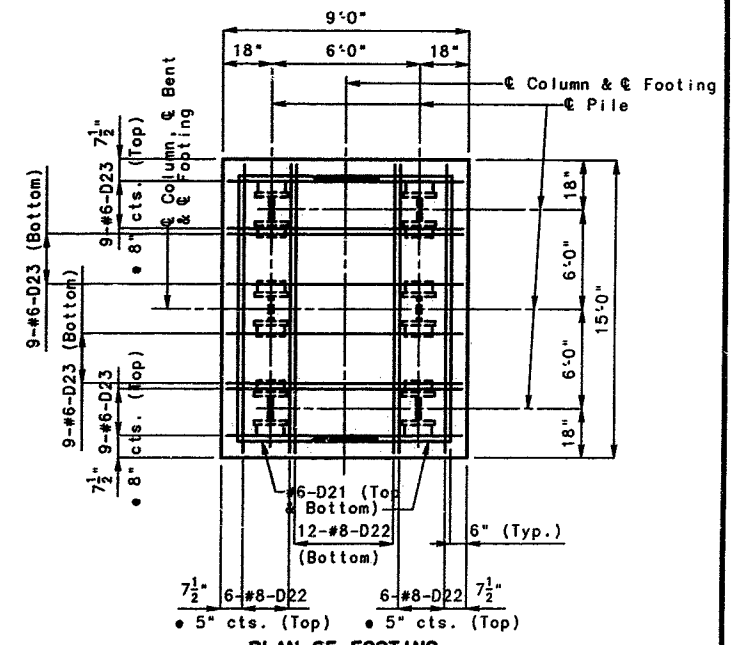
TYPICAL SECTION THRU BEAM SHOWING OPTIONAL STIRRUP REINFORCEMENT WHERE COLUMN REINFORCEMENT INTERFERES

Note: For details of diaphragm, see Sheet No. 24. Use 1/2" Joint Filler on vertical face of all steps 2" or more in height. For Girder Layout, see Sheet No. 5. For Substructure Layout, see Sheet No. 4.



PLAN OF BEAM SHOWING BEARINGS
DETAILS OF INTERMEDIATE BENT NO. 2

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

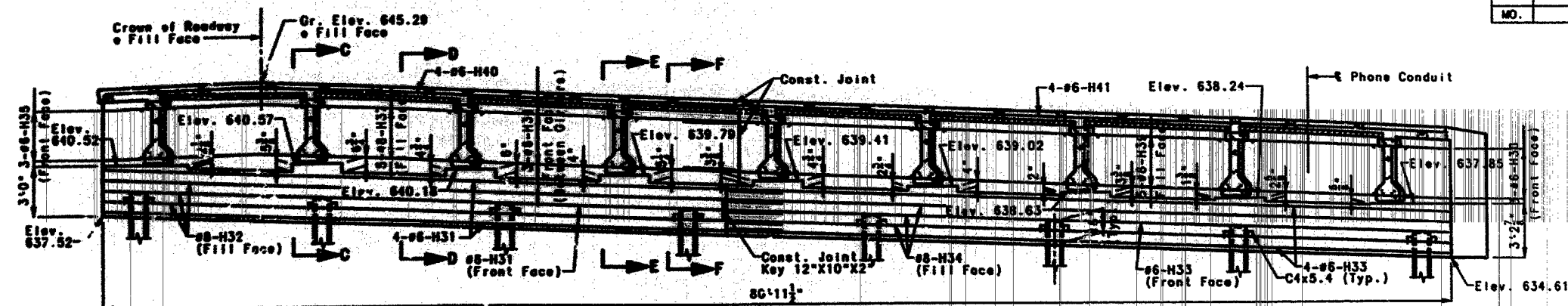


PLAN OF FOOTING
SHOWING REINFORCEMENT
ST. LOUIS COUNTY

A-5016

130
DETAILED NOV. 1994
CHECKED JUNE 1995

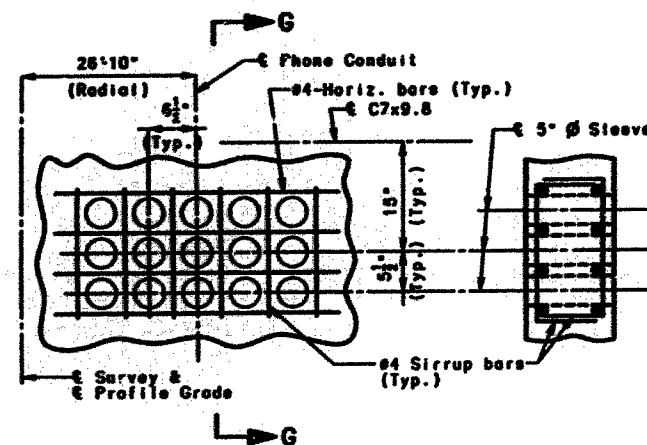
STATE	PROJ. NO.	SHEET NO.
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SECTION NEAR END BENT

Note: All concrete in the end bent above top of beam and below top of slab shall be Class B2.
H50 and #34 in step not shown in Section Near End Bent for clarity.

Note: For reinforcement of Safety Barrier Curb, see Sheet No. 39.
Bend #6-H40 bars to conform to crown of roadway.

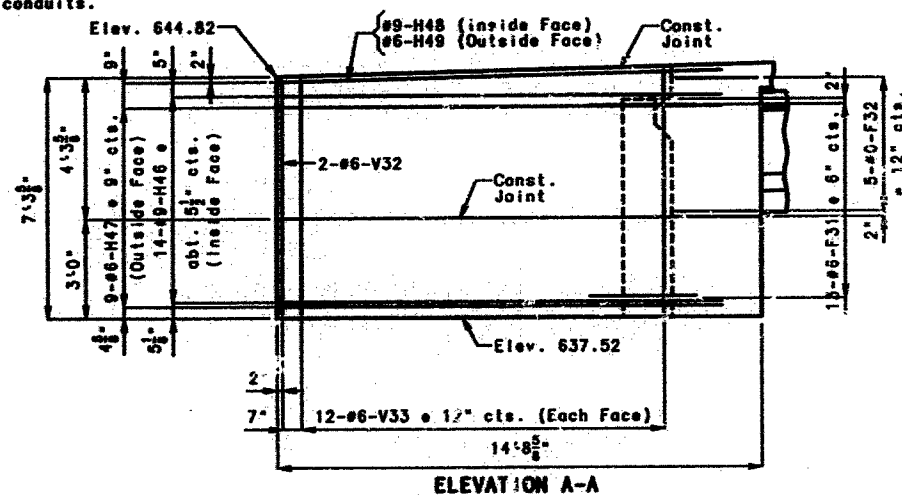


ELEVATION

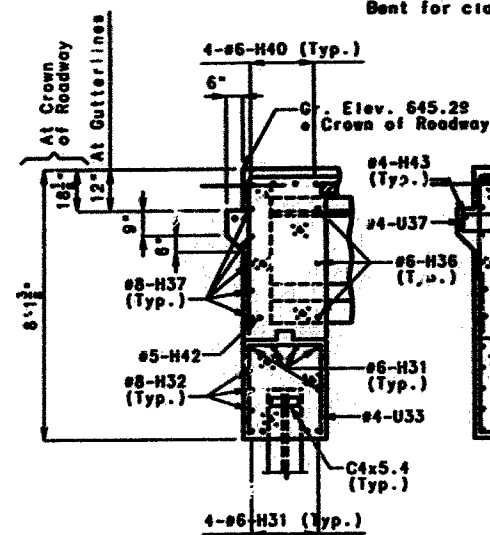
SECTION G-G

DETAILS OF REINFORCING CAGE

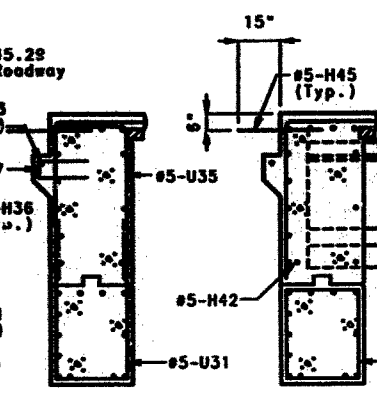
Note: Shift normal stirrup bars in diaphragms and vertical steel in backwall as needed to miss phone conduits.



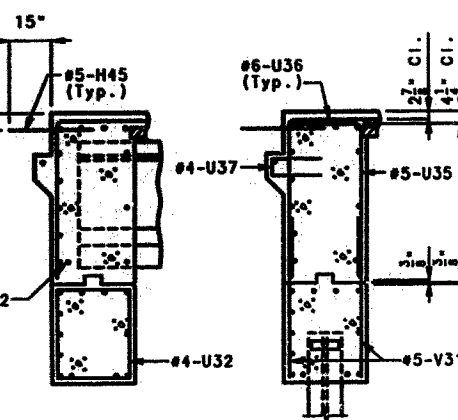
ELEVATION A-A



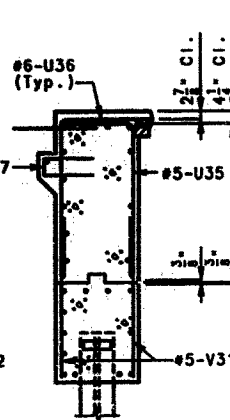
SECTION C-C



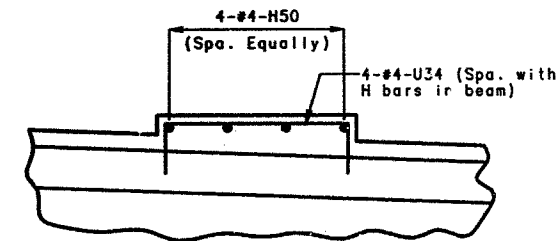
SECTION D-D



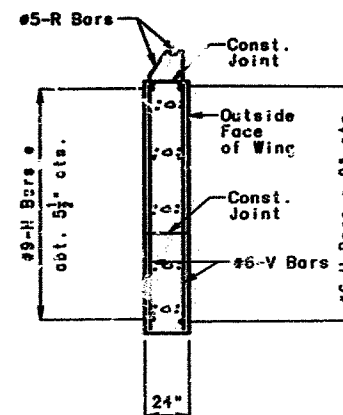
SECTION E-E



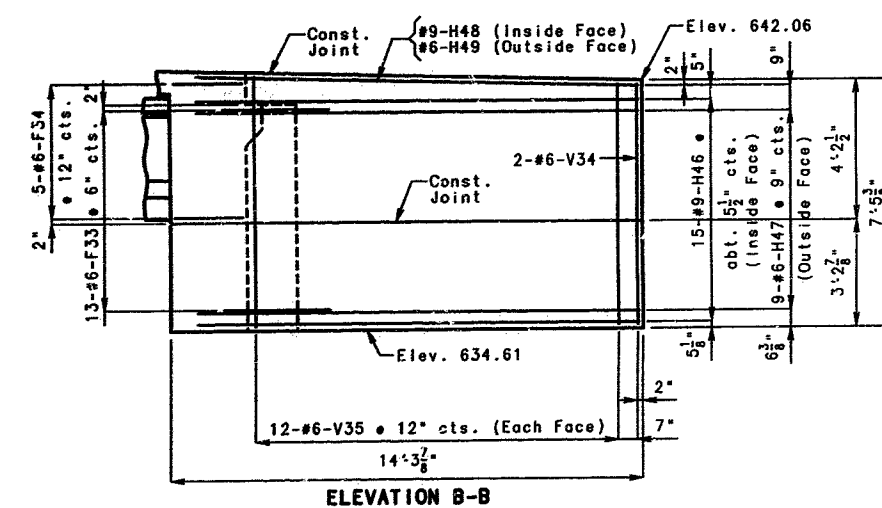
SECTION F-F



TYPICAL PART ELEVATION OF STEP SHOWING REINFORCEMENT FOR STEPS 2 THRU 7

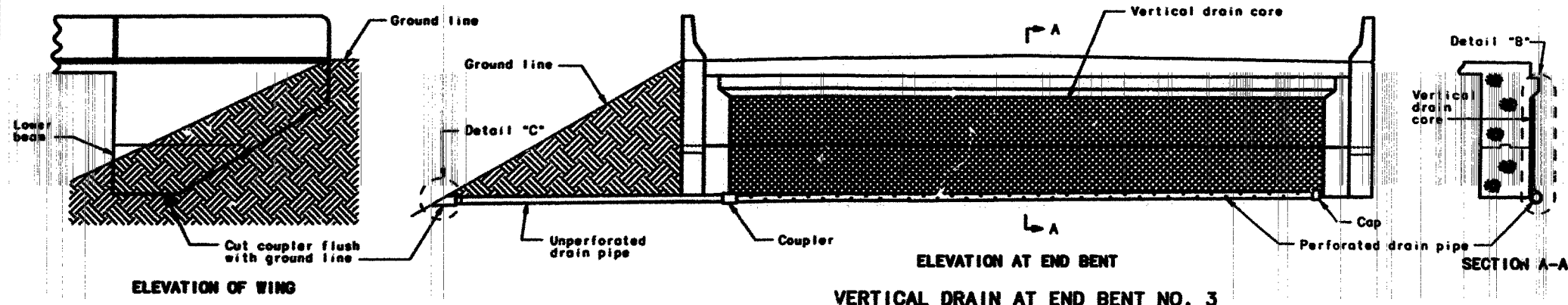


SECTION THRU WING



ELEVATION B-B

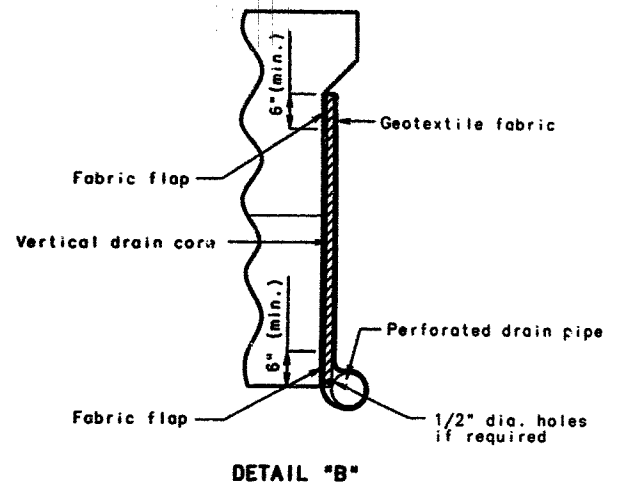
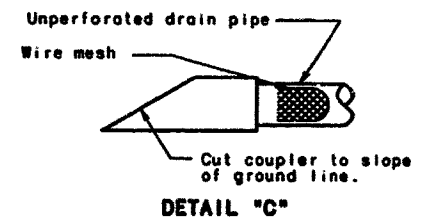
STATE	PROJ. NO.	SHEET NO.
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Drain pipe may be either 6" diameter corrugated metallic-coated steel pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

Place drain pipe at fill face of end bent and slope to lowest grade of ground line, also missing the lower beam of end bent by 1-1/2" (See Elevation At End Bent)

Perforated pipe shall be placed at fill face side at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit of ground line.



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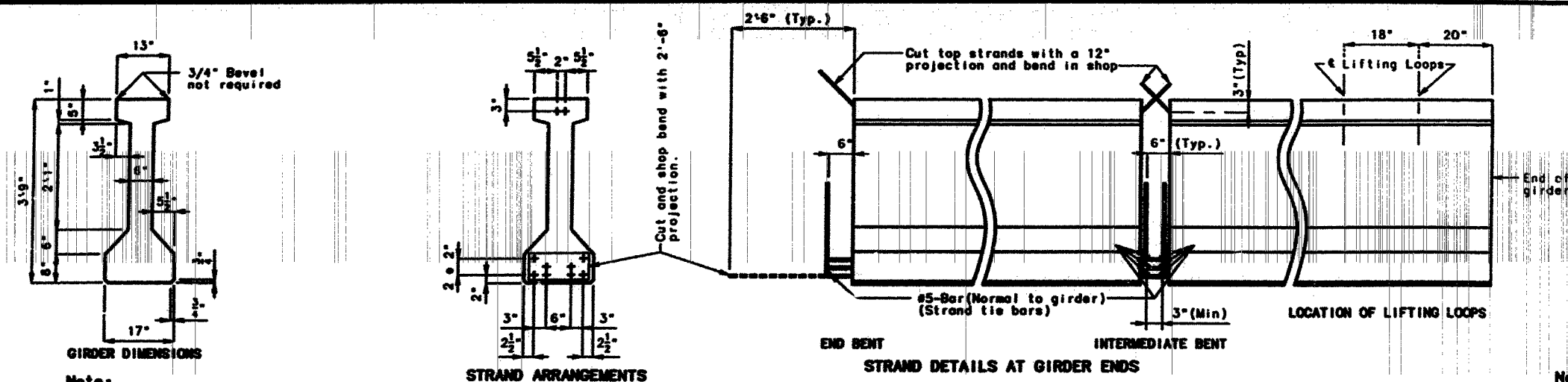
DRA 1 - Vert. Drain (Int.)	Revised:	September 1994
March 1996		

DETAILED JUNE 1995
CHECKED JUNE 1995

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

SHEET NO. 20 OF 48

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BILL OF REINFORCING STEEL - EACH GIRDER					BENDING DIAGRAMS	
NO.	SIZE	MARK	ACTUAL LENGTH	SHAPE		
2	5	A1	37'-7"	20		
78	5	B1	5'-2"	11		
16	6	B2	4'-7"	11		
4	1	C1	13"	10		
94	4	D1	2'-7"	9		

Note:
All dimensions in bending diagram are out to out.
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for detailing reinforced concrete structures stirrup and tie dimensions.
Actual lengths are measured along centerline bar to the nearest inch.

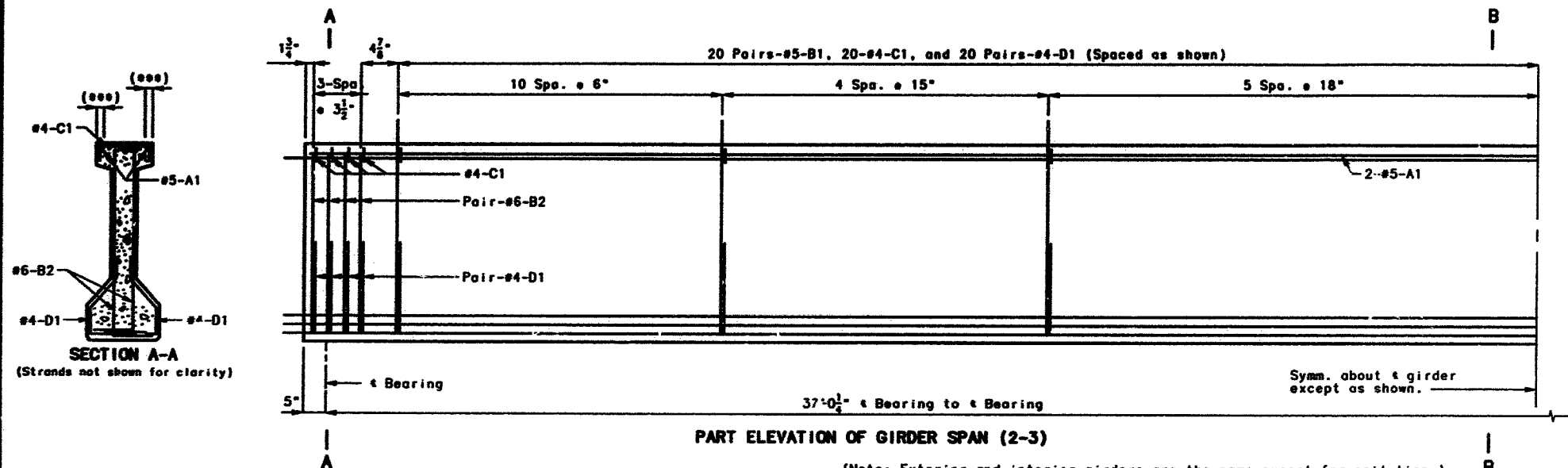
Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

(*) length of coil tie rods
at exterior girders at end
bents = 2'6" - 1



(Note: Exterior and interior girders are the same except for coil ties.)

(Note: For modifications to these details on girders 8, and 9, see Sheet No. 30.)

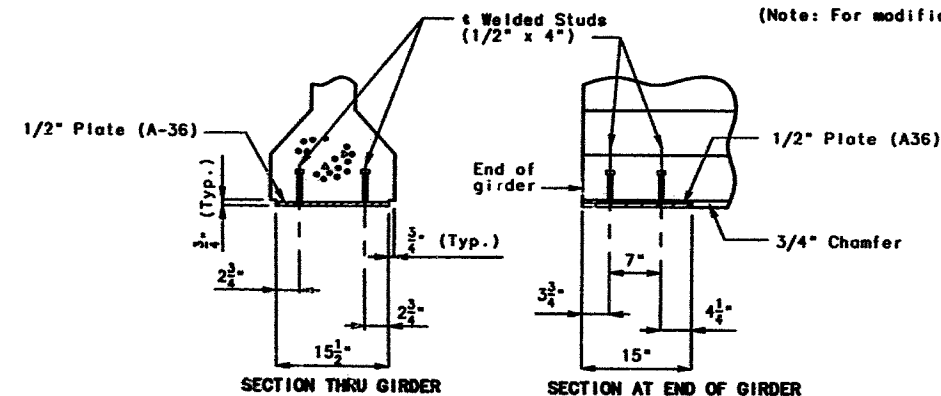
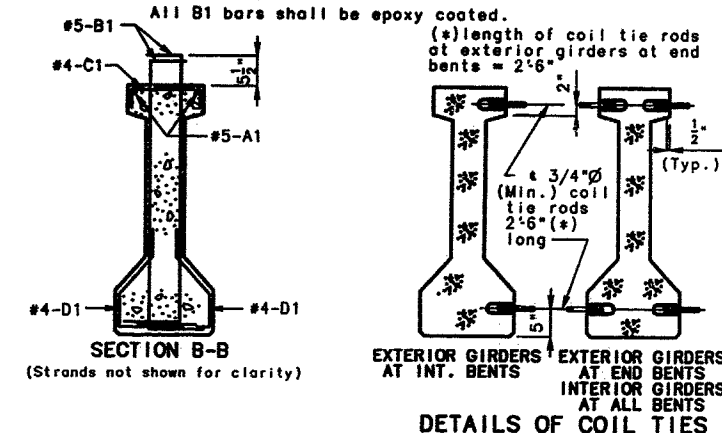


PLATE DETAILS

Note: Galvanize the 1/2" bearing plate (A36) in accordance with A.S.T.M. A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (A36) and welded studs in the prestressed girder shall be included in the price bid for prestressed concrete I-girder per each.

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



Note:

Cost of 3/4" Ø coil tie rods placed in diaphragms is included in contract unit price for prestressed concrete members.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected and then replaced by coil tie rods.

For location of coil inserts at slab drains, see Sheet No. 28.

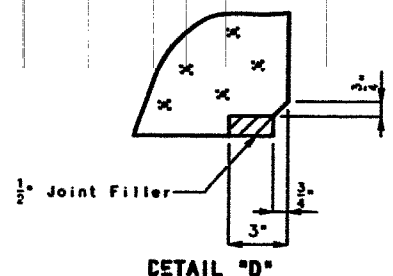
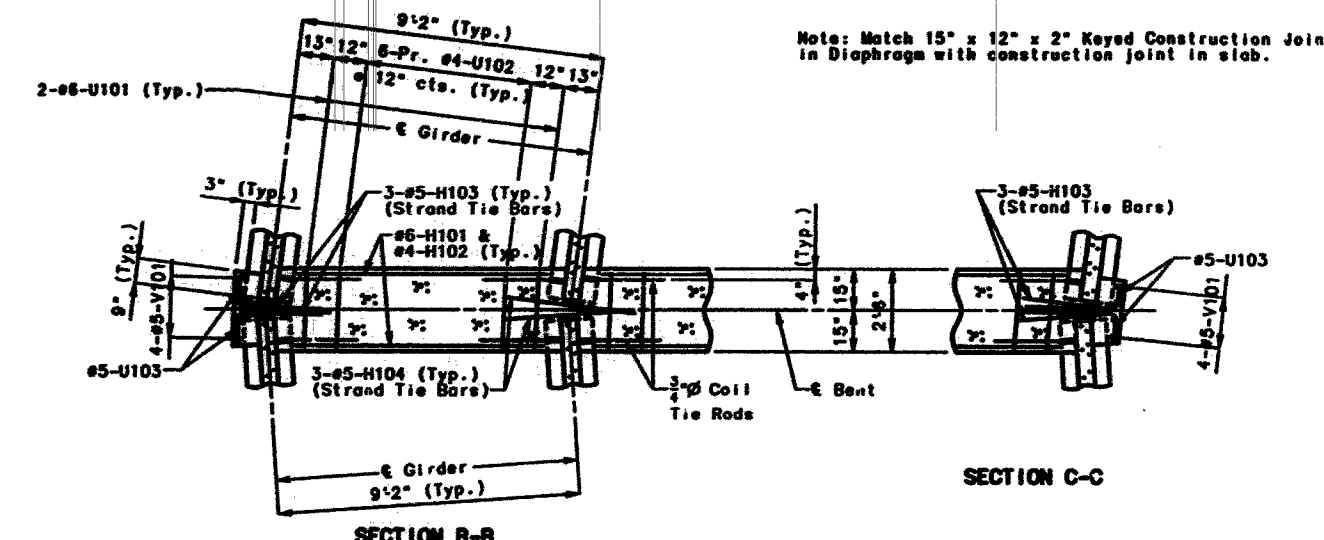
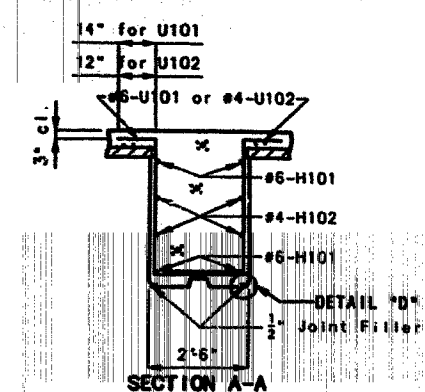
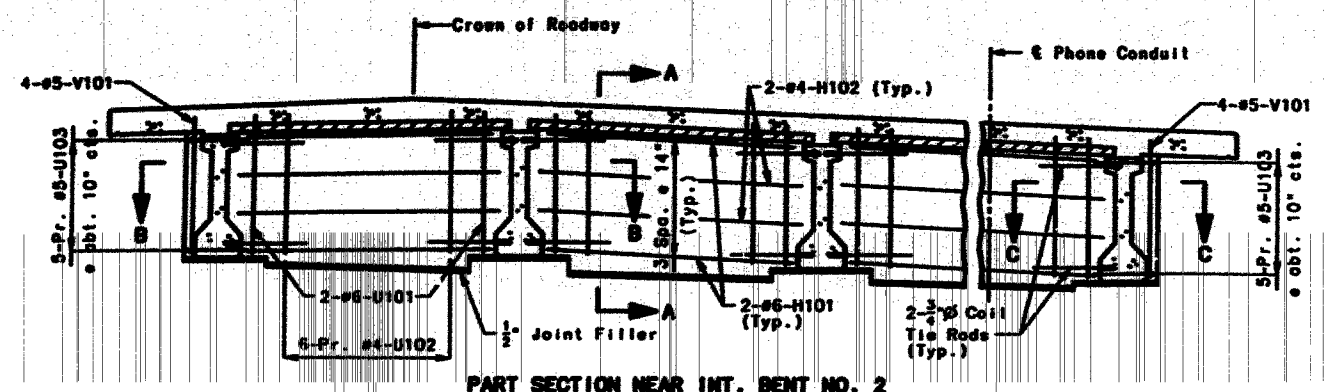
The 1-1/2" ϕ holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

(***) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

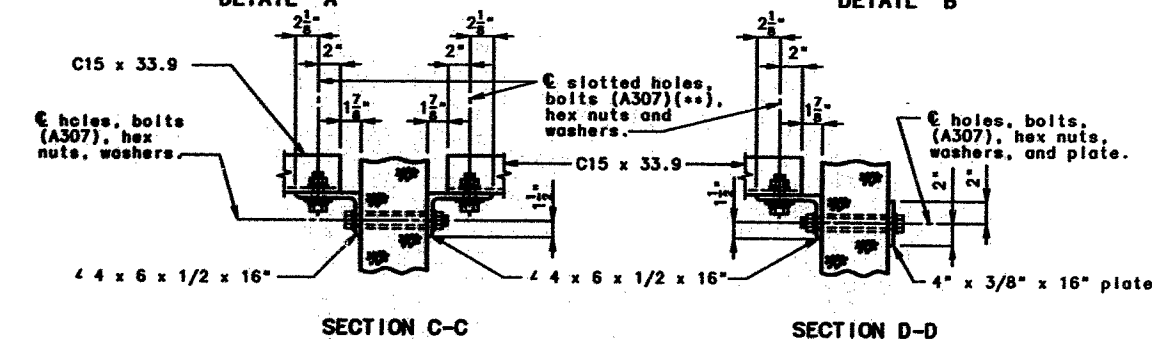
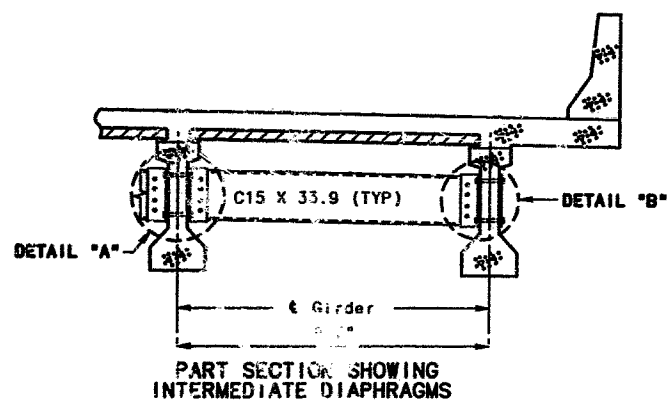
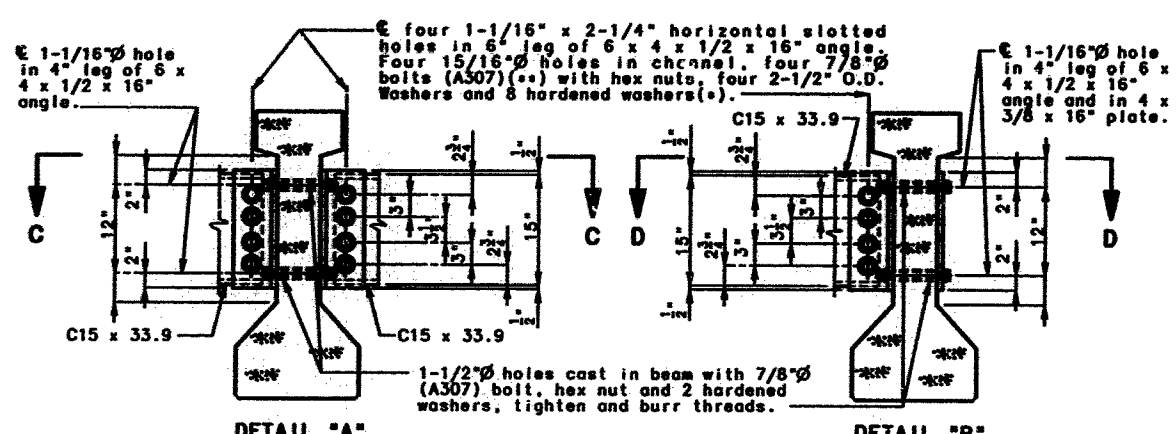
For detail of diaphragms, see Sheets No. 19 & 24.

For Girder Camber Diagram, see Sheet No. 27.

For location of Coil Ties, see Sheets No. 18 & 24.



Note: Diaphragms at intermediate bents are vertical.
For location of #5-H103 & H104 (Strand Tie Bars), see Sheets No. 22 & 23.
For details of reinforcing cage and 5" Ø Sleeves in diaphragm, see Sheet NO. 19.



STEEL DIAPHRAGM NOTES:

(*) IN LIEU OF 2-1/2" O.D. WASHERS, CONTRACTOR MAY SUBSTITUTE A 3/16" (MIN. THICKNESS) PLATE WITH FOUR 15/16" Ø HOLES AND ONE HARDENED WASHER PER BOLT.

(**) THESE BOLTS SHALL BE TIGHTENED TO PROVIDE A TENSION OF ONE-HALF THAT SPECIFIED BY SECTION 712.10.2 OF THE MISSOURI STANDARD SPECIFICATIONS.

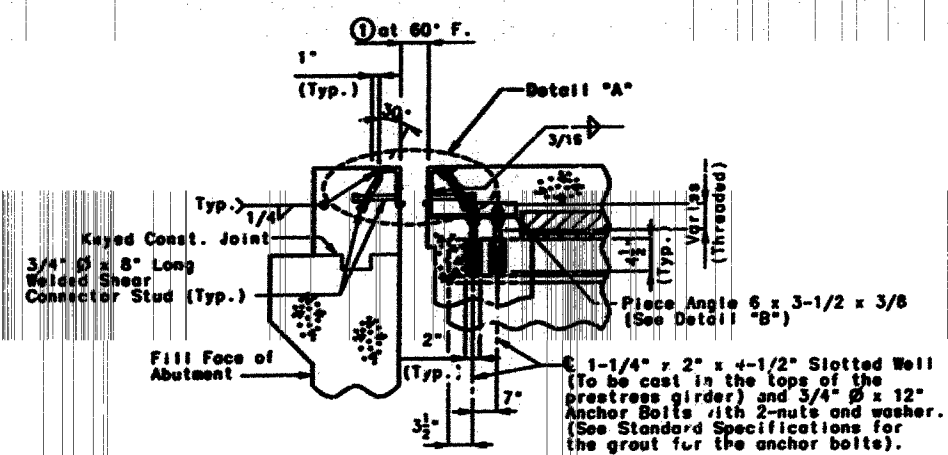
ALL DIAPHRAGM MATERIALS INCLUDING BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

FABRICATED STRUCTURAL STEEL SHALL BE A36 EXCEPT AS NOTED.

PAYMENT FOR FURNISHING AND INSTALLING STEEL INTERMEDIATE DIAPHRAGMS SHALL BE INCLUDED IN CONTRACT UNIT PRICE FOR PRESTRESSED CONCRETE I-GIRDERS.

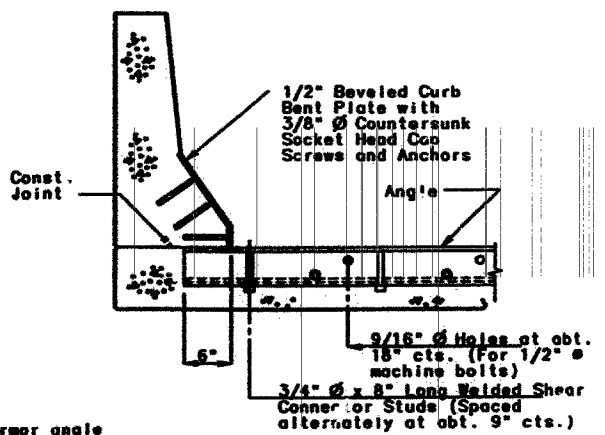
SHOP DRAWINGS WILL NOT BE REQUIRED FOR STEEL INTERMEDIATE DIAPHRAGMS AND ANGLE CONNECTIONS.

DIAPHRAGM 8/23/85, STL, B
STEEL DIA. (M) REVISED
SEPT. 1992

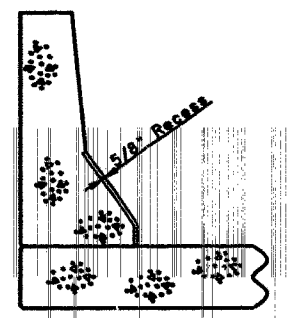


PART SECTION D-D

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



PART SECTION B-B



PART SECTION A-A

GENERAL NOTES:

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

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

Structural steel for the armored joint shall be grade A36.

Plan dimensions are based on installation at 60°F.

Dimension ① shall be increased 1/16" for each 10° fall in temperature and decreased 1/16" for each 10° rise in temperature at installation.

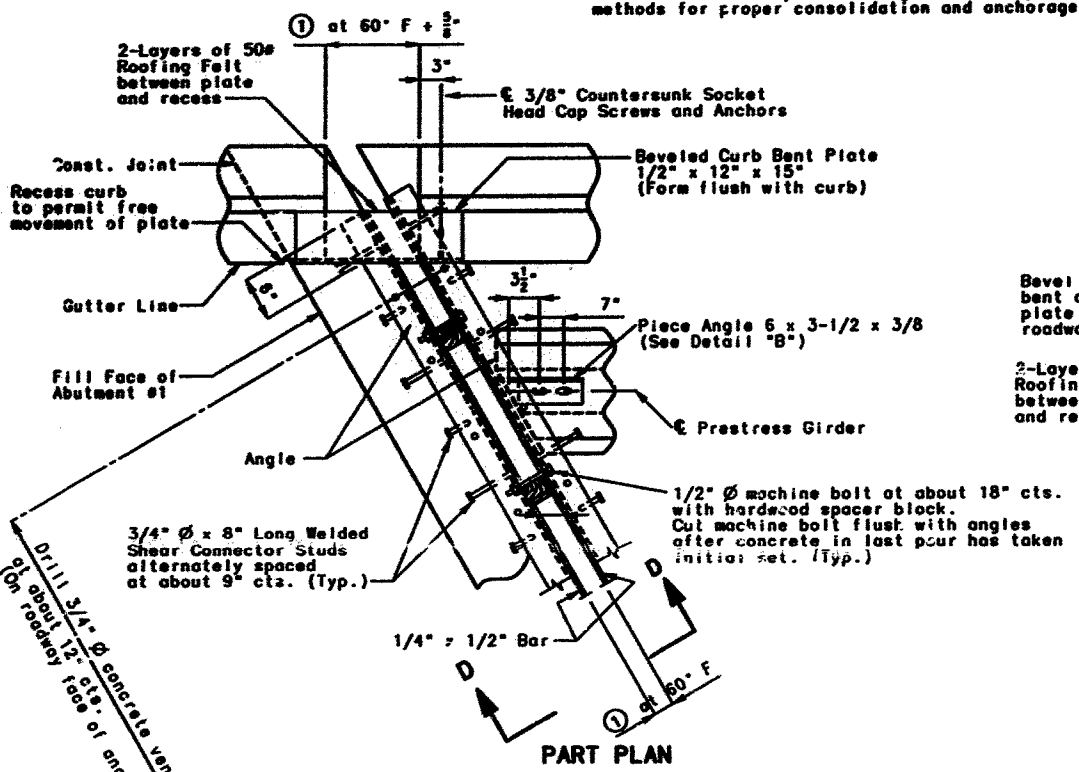
See Special Provisions for the requirements of compression joint seal.

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

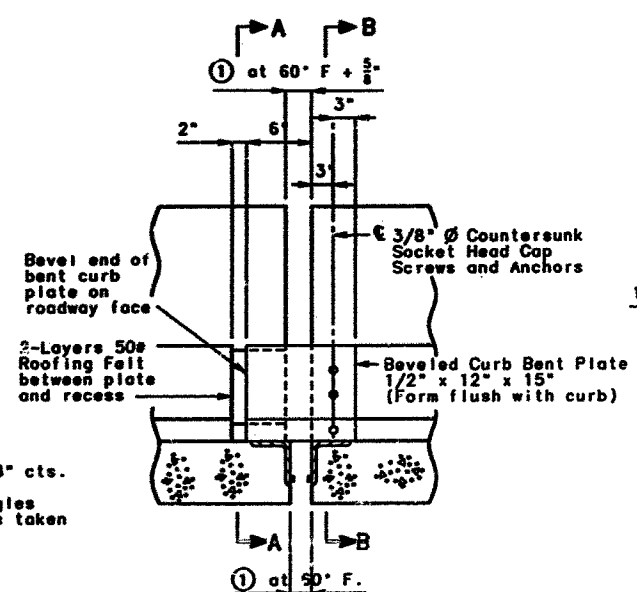
Furnishing, painting and installing the structural steel armored joint and curb plates shall be included in contract unit price for preformed compression expansion joint seal.

Neoprene extrusions shall meet A.S.T.M. D3542-83.

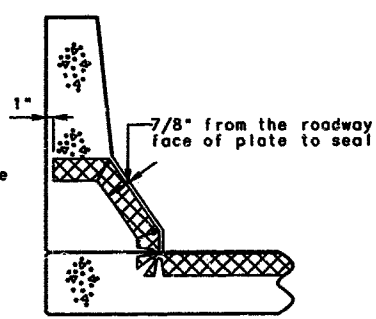
Anchors for compression seal armor shall be approved stud welded anchors (C1010 thru C1020).



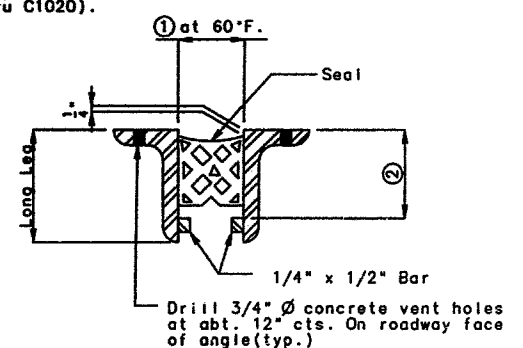
PART PLAN



PART ELEVATION OF BARRIER CURB



PART SECTION THRU JOINT SEAL



PART CROSS SECTION THRU EXPANSION JOINT

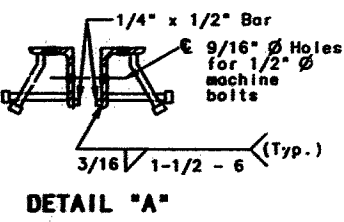
TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS				
Seal (Width)	①	②	Required Movement Range	
2.5"	1-5/8"	Manufacturer's Recommended Height	0.9"	
3.0"	1-7/8"	Manufacturer's Recommended Height	1.0"	
3.5"	2-1/4"	Manufacturer's Recommended Height	1.3"	
4.0"	2-5/8"	Manufacturer's Recommended Height	1.6"	
4.5"	2-3/4"	Manufacturer's Recommended Height	1.9"	
5.0"	2-7/8"	Manufacturer's Recommended Height	2.0"	

Note: Depth of seal shall not be less than width of seal.

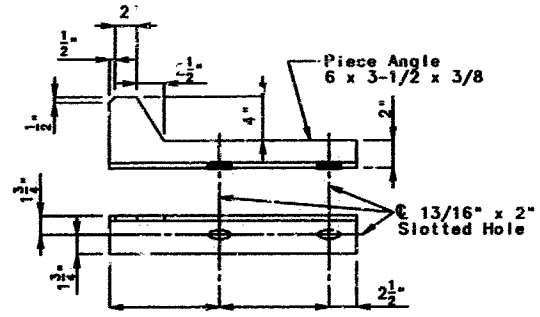
SIZE OF ARMOR JOINT

Vertical leg of angle shall be a minimum of ② + 3/4". Horizontal leg of angle shall be a minimum of 3". Minimum thickness of angle shall be 1/2".

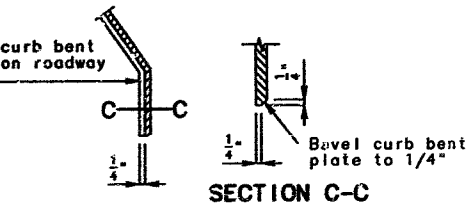
If a seal size larger than that indicated on the plans is used, the movement range, the opening at 60° and all dimensions for the armor angles shall be shown on the shop drawings.



DETAIL "A"



DETAIL "B"



SECTION C-C

PART ELEVATION AT END OF BEVELED CURB BENT PLATE

DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT ABUTMENT NO. 1

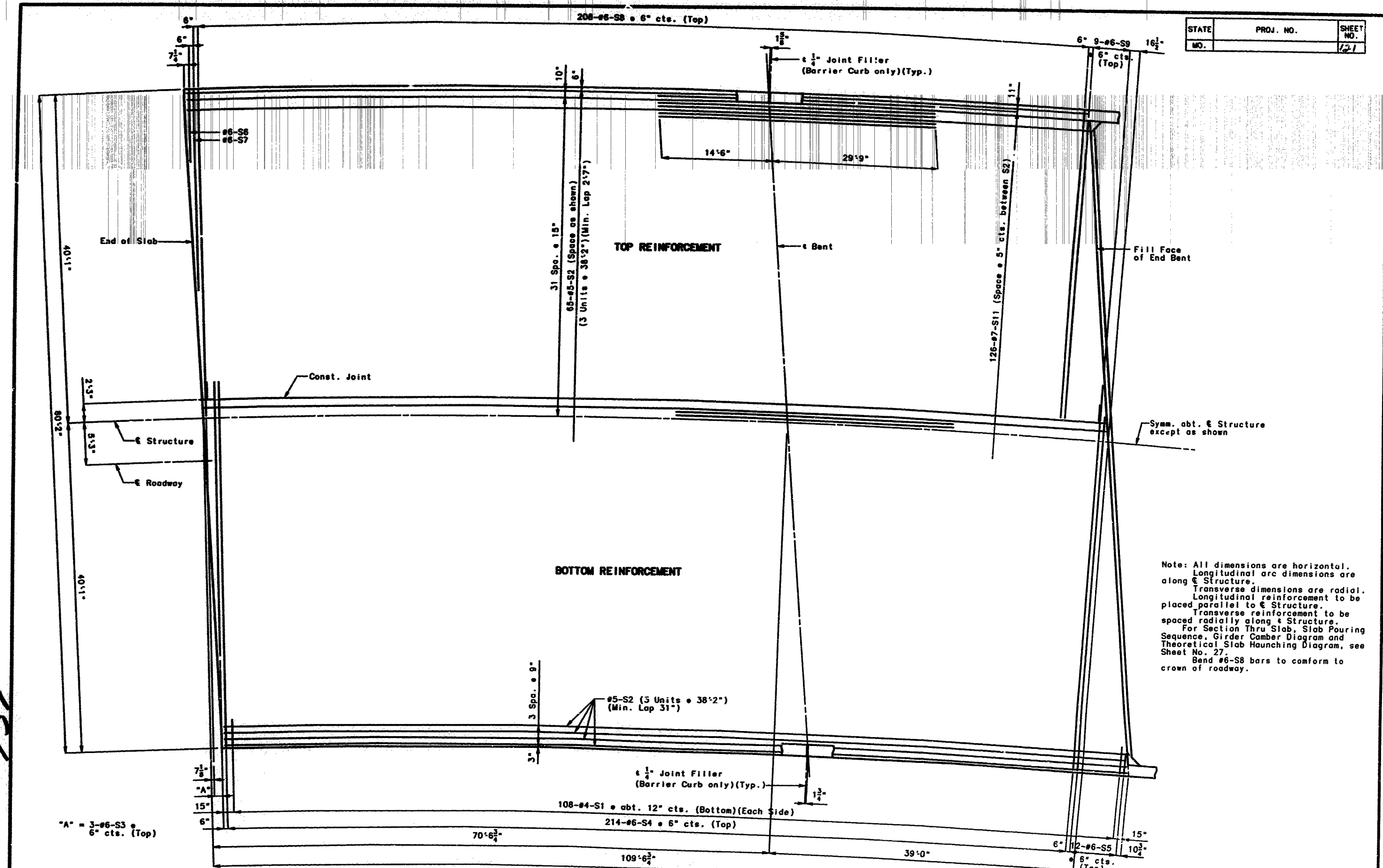
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 25 OF 48

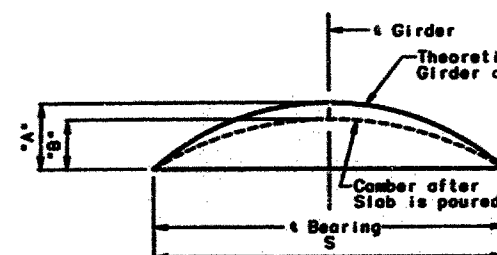
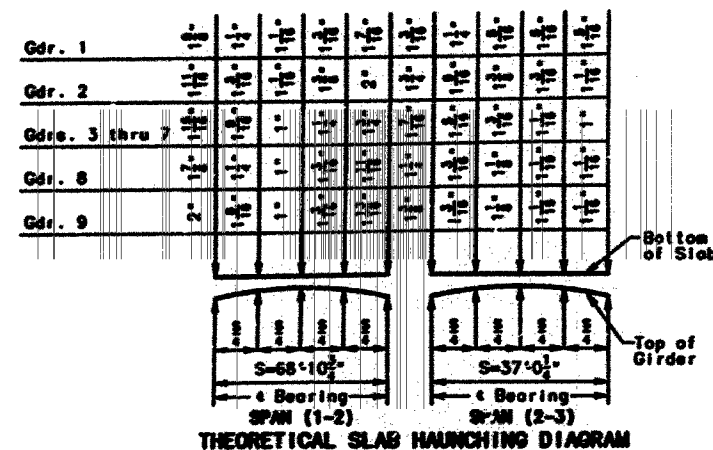
PCJS RA, ED 3.35, P/S, E, B
 PCJS-P/S EB-RA REVISED JUNE 1995
 AUG. 1992

DETAILED NOV. 1994
 CHECKED JUNE 1995

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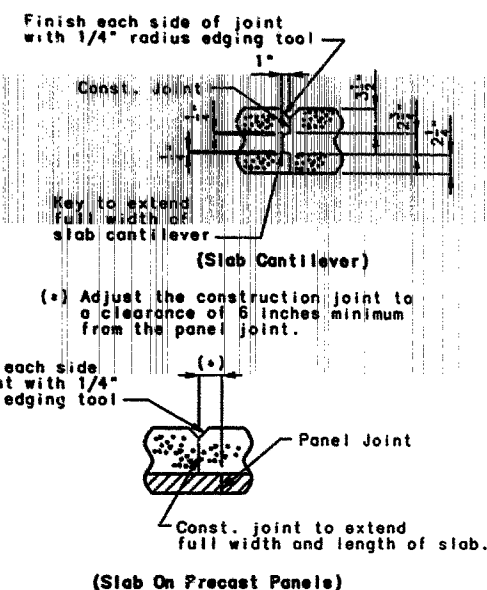
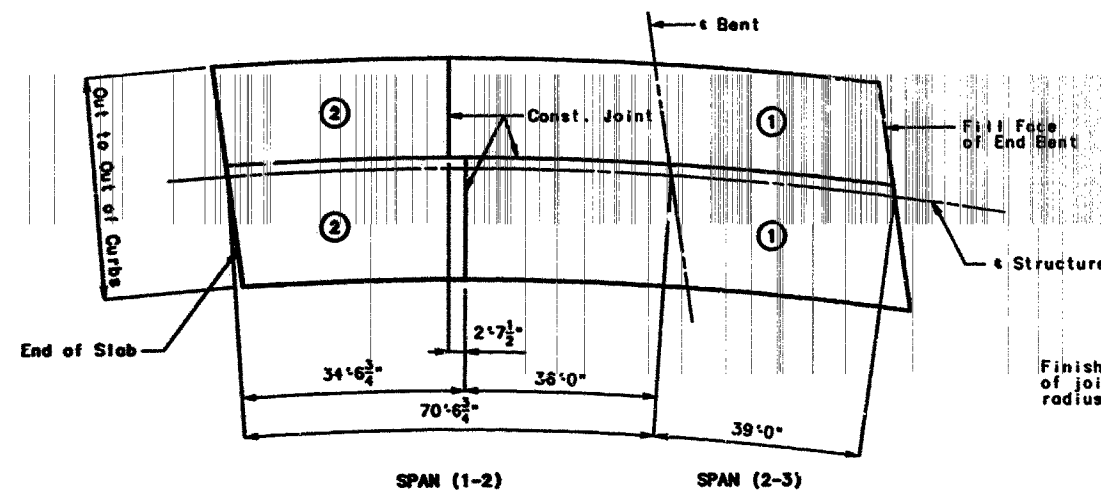
Note: All dimensions are horizontal. Longitudinal arc dimensions are along • Structure. Transverse dimensions are radial. Longitudinal reinforcement to be placed parallel to • Structure. Transverse reinforcement to be spaced radially along • Structure. For Section Thru Slab, Slab Pouring Sequence, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 27. Bend #6-S8 bars to conform to crown of roadway.



SPAN	GIRDER	"A"	"B"
(1-2)	1 & 9	2"	1"
	2 thru 8		
(2-3)	1 & 9	3/16"	1/16"
	2 thru 8		

NOTE: Camber at 0.25 point of Girder is equal to 0.7125 times the Camber at E Girder.

NOTE: If Girder Camber is different from that shown in the Camber Diagram, it shall be necessary to adjust the slab haunches, increase the slab thickness or to raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment. Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete I-Girder.



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

The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

End diaphragms at expansion devices may be poured with a construction joint between the diaphragm and slab, or monolithic with the slab.

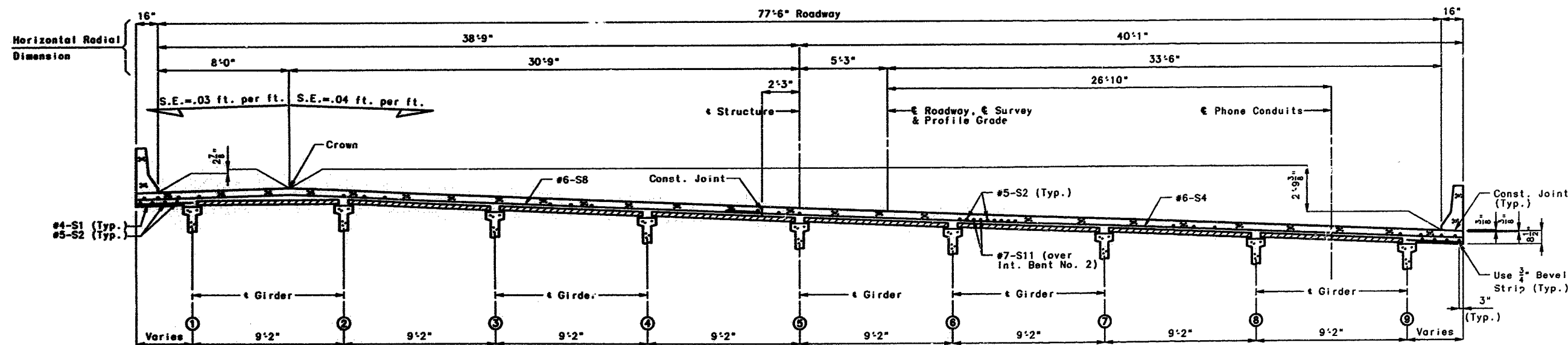
The longitudinal construction joint may be omitted with the approval of the Engineer. When the longitudinal construction joint is omitted, the minimum rate of pour for alternate pouring sequences shall be increased by a factor of 1.3.

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

Longitudinal Arc Dimensions shown are along E Structure. All dimensions are horizontal. For details of Phone Conduit, see Sheet No. 30 thru 33.

Basic Sequence	Sequence of Pours		Min. Rate of Pour Cu. Yds./Hr.	
	Direction		With Retarder	No Retarder
	1	2	25	25
Either Direction				
Alternate Pours to the Basic Sequence are subject to the approval of the engineer in accordance with Section 703.3.12.4 of Missouri Standard Specifications.				
Alternate "A" Pours	1 + 2		25	31
	End to End			

SLAB POURING SEQUENCE



Note: For details and reinforcement of safety barrier curb, see Sheets No. 35, 36, 40 & 41.
For details of slab drains, see Sheet No. 28.
For details of precast prestressed panels, see Sheet No. 29.

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Slab drains may be fabricated of either 1/4" welded sheets of A.S.T.M. A36 steel or from 1/4" structural steel tubing A.S.T.M. A500 or A501. Outside dimensions of drains are 8" x 4".

Locate drains in the slab by dimensions shown in the Part Elevation. Shift reinforcing in field where necessary to clear drains.

The drains, coil inserts, and bracket assembly shall be galvanized in accordance with A.S.T.M. A123.

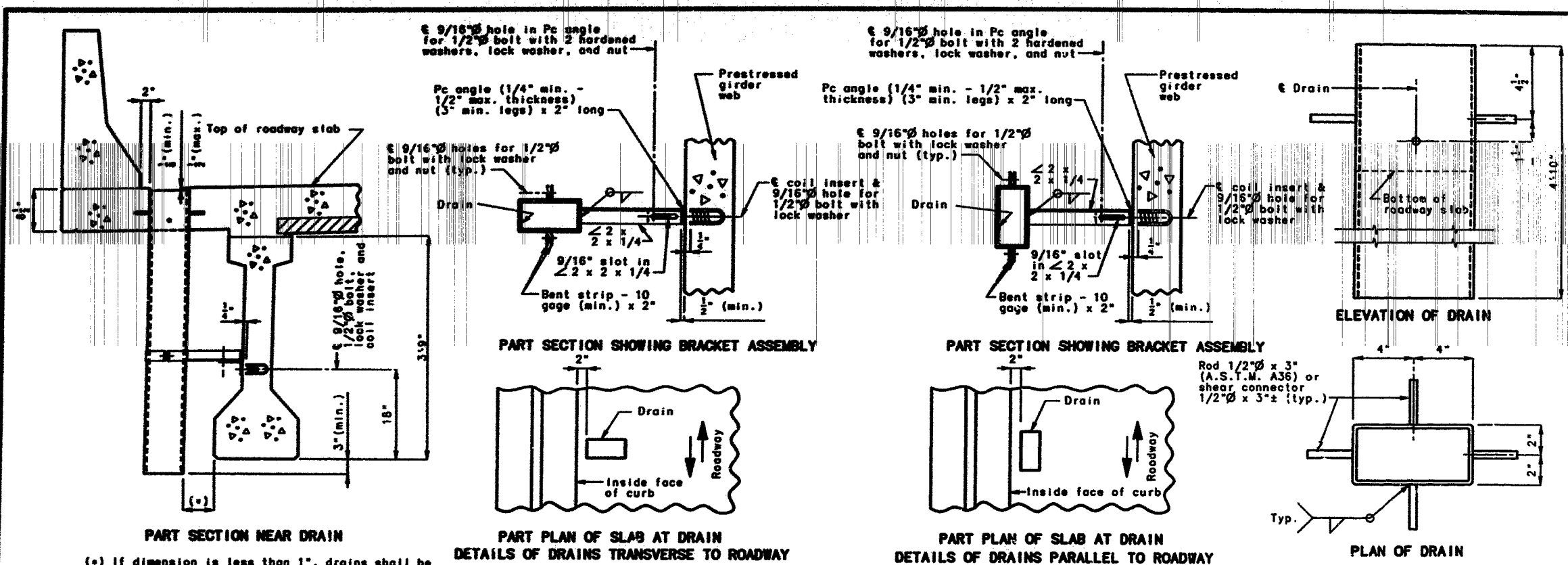
All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with A.S.T.M. A153.

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

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

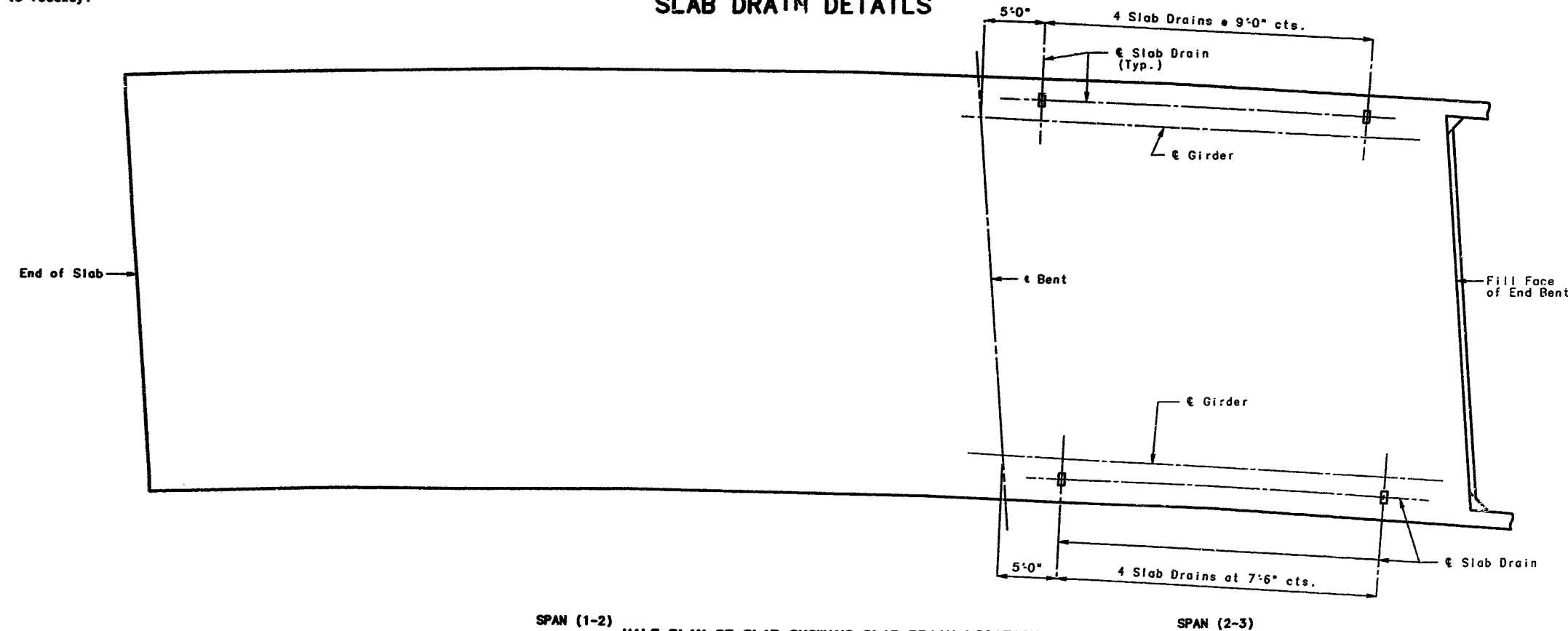
The coil insert required for the bracket assembly attachment shall be located on the prestressed I-girder shop drawings.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed I-girder fabricator.



(*) If dimension is less than 1", drains shall be placed parallel to roadway, otherwise place drains transverse to roadway.

SLAB DRAIN DETAILS



SPAN (1-2) HALF PLAN OF SLAB SHOWING SLAB DRAIN LOCATION
 NOTE: Longitudinal dimensions are horizontal.

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

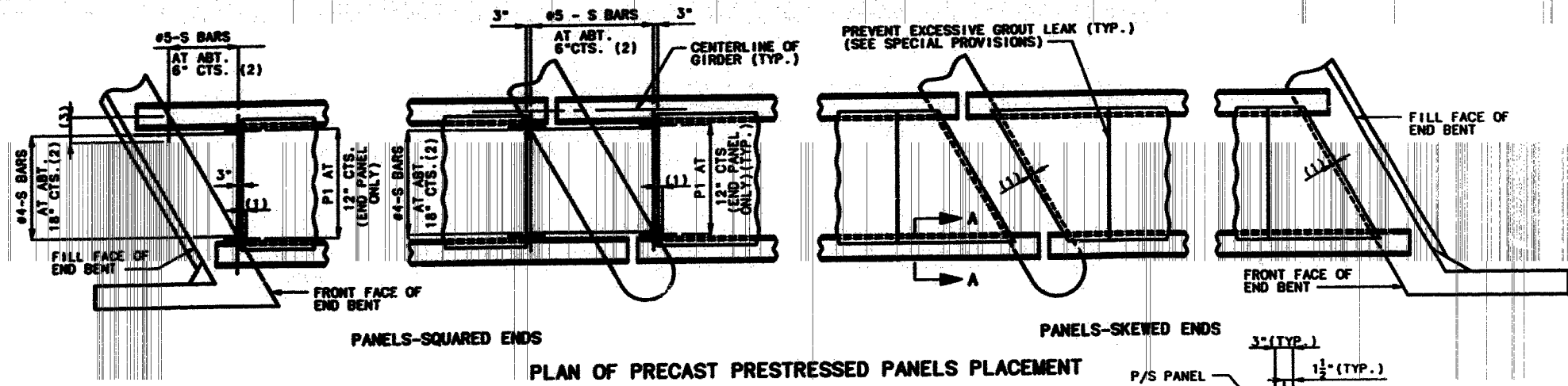
SHEET NO. 28 OF 48

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DRA 3 GS 3.30.P/S, I.A
 P/S I-GIRDER DRAIN
 JULY 1982
 REVISED
 JUNE 1985

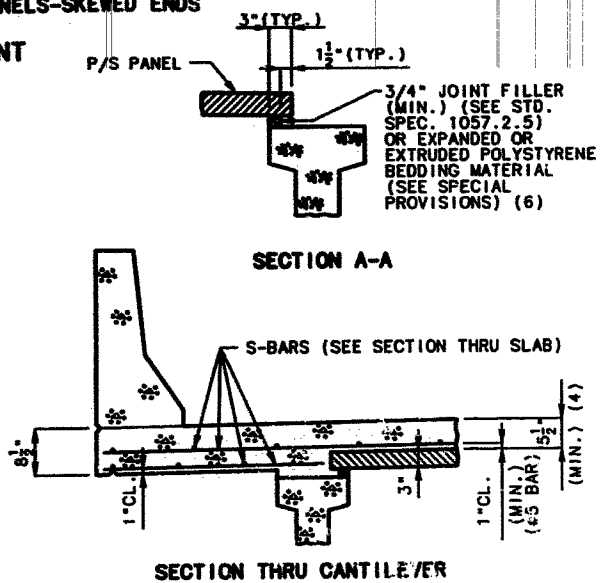
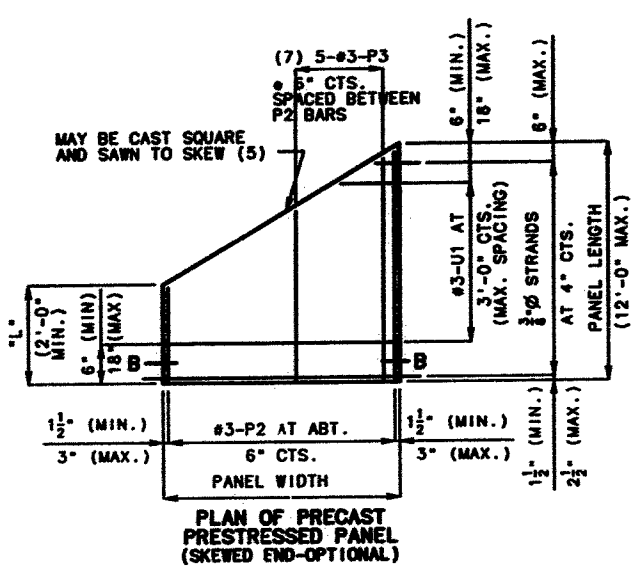
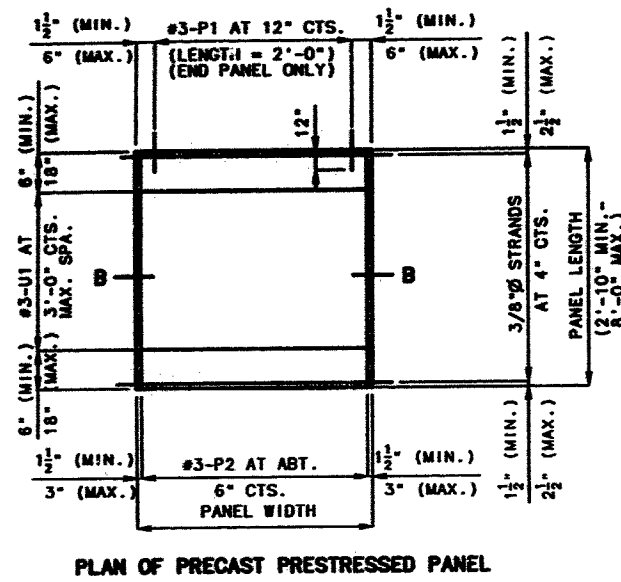
DETAILED FEB. 1994
 CHECKED JUNE 1995

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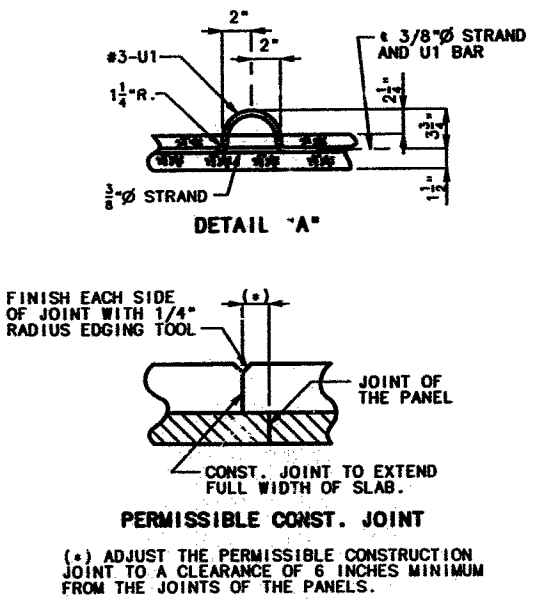
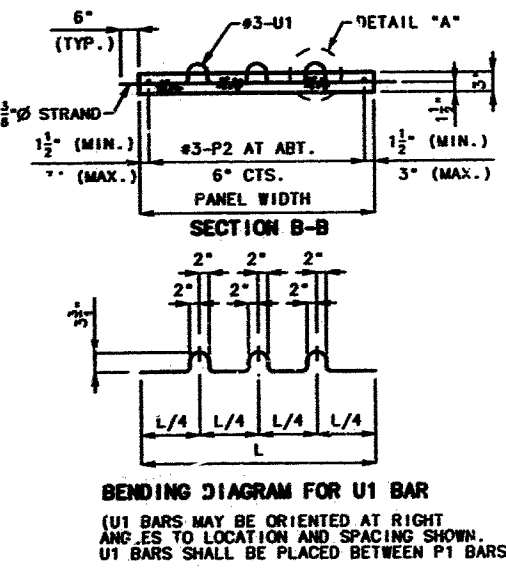
NOTE:
USE SLAB HAUNCHING DIAGRAM ON SHEET NO. 27 FOR DETERMINING THICKNESS OF JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL WITHIN THE LIMITS NOTED BELOW.

GENERAL NOTES:
PRESTRESSED PANELS:
CONCRETE FOR PRESTRESSED PANELS SHALL BE CLASS AT WITH $f'_c = 5,000$ PSI, $f'_t = 3,500$ PSI.
THE TOP SURFACE OF ALL PANELS SHALL RECEIVE A SCORED FINISH WITH A DEPTH OF SCORING OF 1/8 INCH PERPENDICULAR TO THE PRESTRESSING STRANDS IN THE PANELS (SEE SPECIAL PROVISIONS).
PRESTRESSING TENDONS SHALL BE HIGH-TENSILE STRENGTH UNCOATED SEVEN WIRE (7) LOW-RELAXATION STRANDS FOR PRESTRESSED CONCRETE CONFORMING TO ASTM A203, EXCEPT THAT NOMINAL DIAMETER OF STRAND SHALL BE 3/8 INCH AND NOMINAL AREA = 0.085 SQ. IN. AND MINIMUM ULTIMATE STRENGTH = 21,250 LBS. (250 KSI). LARGER STRANDS MAY BE USED WITH THE SAME SPACING AND INITIAL TENSION.
INITIAL PRESTRESSING FORCE = 14.9 KIPS/STRAND.
THE METHOD AND SEQUENCE OF RELEASING THE STRANDS SHALL BE SHOWN ON THE SHOP DRAWINGS.
SUITABLE ANCHORAGE DEVICES FOR LIFTING PANELS MAY BE CAST IN PANELS, PROVIDED THEY ARE SHOWN ON THE SHOP DRAWINGS AND APPROVED BY THE ENGINEER. PANEL LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR AND SHOWN ON THE SHOP DRAWINGS.
WHEN SQUARE END PANELS ARE USED AT SKEWED BENTS, IT IS REQUIRED THAT THE SKEWED PORTION BE CAST FULL DEPTH. NO SEPARATE PAYMENT WILL BE MADE FOR THE ADDITIONAL CONCRETE AND REINFORCING REQUIRED.
MINIMUM JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL THICKNESS SHALL BE 3/4 INCH. THICKER JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL MAY BE USED ON ONE OR BOTH SIDES OF THE GIRDER TO REDUCE CAST-IN-PLACE CONCRETE THICKNESS, WITHIN TOLERANCES. NO MORE THAN 2 INCHES TOTAL THICKNESS OF JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL SHALL BE USED.
THE SAME THICKNESS OF JOINT FILLER MATERIAL SHALL BE USED UNDER ANY ONE EDGE OF ANY PANEL EXCEPT AT LOCATIONS WHERE THE TOP FLANGE MAY BE STEPPED. THE MAXIMUM CHANGE IN THICKNESS BETWEEN ADJACENT PANELS SHALL BE 1/4 INCH. THE POLYSTYRENE BEDDING MATERIAL MAY BE CUT TO MATCH HAUNCH HEIGHT ABOVE TOP OF FLANGE.
AT THE CONTRACTOR'S OPTION, THE VARIATION IN SLAB THICKNESS OVER PRESTRESSED PANELS MAY BE ELIMINATED OR REDUCED BY INCREASING AND VARYING THE GIRDER TOP FLANGE THICKNESS. DIMENSIONS SHALL BE SHOWN ON THE SHOP DRAWINGS.



NOTES:
(1) END PANELS TO BE DIMENSIONED 1-1/2 INCHES FROM THE INSIDE FACE OF DIAPHRAGM.
(2) S-BARS SHOWN ARE BOTTOM STEEL IN SLAB BETWEEN PANELS AND USED WITH SKEWED END PANELS ONLY.
COST OF S-BARS SHALL BE INCLUDED IN PRICE BID FOR SLAB PER SQUARE YARD.
S-BARS ARE NOT LISTED IN BILL OF REINFORCING.
SLAB THICKNESS OVER PRESTRESSED PANELS VARIES DUE TO GIRDER CAMBER.
(3) EXTEND S-BARS 18 INCHES BEYOND THE FRONT FACE OF END BENTS ONLY.
SUPPORT FROM DIAPHRAGM FORMS IS REQUIRED UNDER THE OPTIONAL SKEWED END UNTIL CAST-IN-PLACE CONCRETE HAS REACHED 3,000 PSI COMPRESSIVE STRENGTH.
(4) IN ORDER TO MAINTAIN MINIMUM SLAB THICKNESS, IT MAY BE NECESSARY TO RAISE THE GRADE UNIFORMLY THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS REQUIRED FOR NECESSARY GRADE ADJUSTMENT.
(5) ANY STRAND 2'-0" OR SHORTER SHALL HAVE A #4 REINFORCING BAR ON EACH SIDE OF IT CENTERED BETWEEN STRANDS. STRANDS 2'-0" OR SHORTER MAY THEN BE DEBONDED AT THE FABRICATORS OPTION.
(6) ALL PANEL SUPPORT PADS SHALL BE GLUED TO THE GIRDER. WHEN SUPPORT THICKNESS EXCEEDS 1-1/2". THE PADS SHALL BE GLUED TOP AND BOTTOM. THE GLUE USED SHALL BE THE TYPE RECOMMENDED BY THE PANEL SUPPORT PADS MANUFACTURER.
(7) USE #3-P3 BARS IF PANEL IS SKEWED 45° OR GREATER.

REINFORCING STEEL:
ALL DIMENSIONS ARE OUT TO OUT.
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2 INCH, UNLESS OTHERWISE SHOWN.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE C.R.S.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, STIRRUP AND TIE DIMENSIONS.
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.
THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE 1-GIRDER.
IF U1 BARS INTERFERE WITH PLACEMENT OF SLAB STEEL, U1 LOOPS MAY BE BENT OVER, AS NECESSARY, TO CLEAR SLAB STEEL.
WELDED WIRE FABRIC OR WELDED DEFORMED BAR MATS PROVIDING A MINIMUM AREA OF REINFORCING PERPENDICULAR TO STRANDS OF 0.22 SQ. IN./FT., WITH SPACING PARALLEL TO STRANDS SUFFICIENT TO INSURE PROPER HANDLING, MAY BE USED IN LIEU OF THE #3-P2 BARS SHOWN. WIRE OR BAR DIAMETER SHALL NOT BE LARGER THAN 0.375 INCHES. THE ABOVE ALTERNATIVE REINFORCEMENT CRITERIA MAY BE USED IN LIEU OF THE #3-P3 BARS, WHEN REQUIRED, AND PLACED OVER A WIDTH OF NOT LESS THAN 2FT.
THE REINFORCING STEEL SHALL BE TIED SECURELY TO THE 3/8" Ø STRANDS WITH THE FOLLOWING MAXIMUM SPACING IN EACH DIRECTION:
#3-P2 BARS AT 16 INCHES.
WELDED WIRE FABRIC OR WELDED DEFORMED BAR MATS AT 24 INCHES.
TIE THE #3-U1 BARS TO THE #3-P2 BARS, TO THE WELDED WIRE FABRIC OR THE WELDED DEFORMED BAR MATS AT ABOUT 36 INCH CENTERS.
ALL REINFORCEMENT OTHER THAN PRESTRESSING STRANDS SHALL BE EPOXY COATED.



DETAILS OF PRECAST PRESTRESSED PANELS

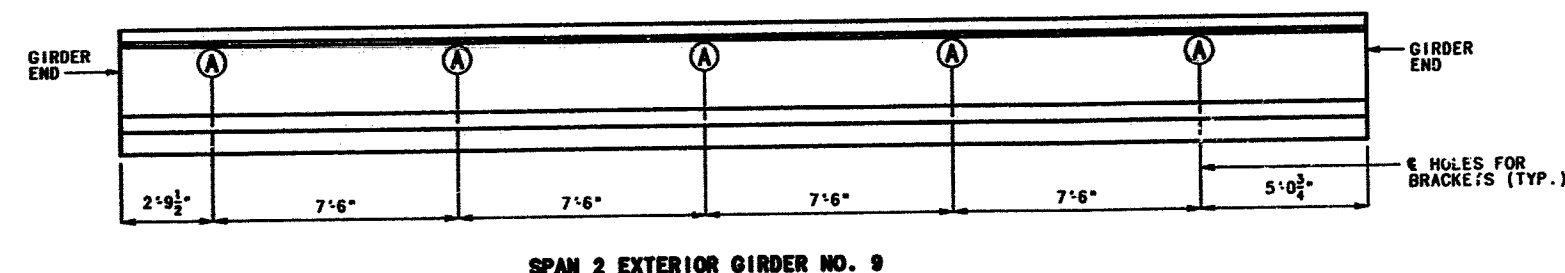
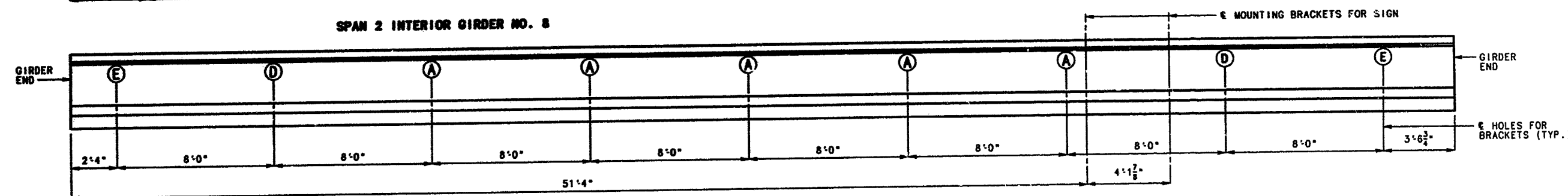
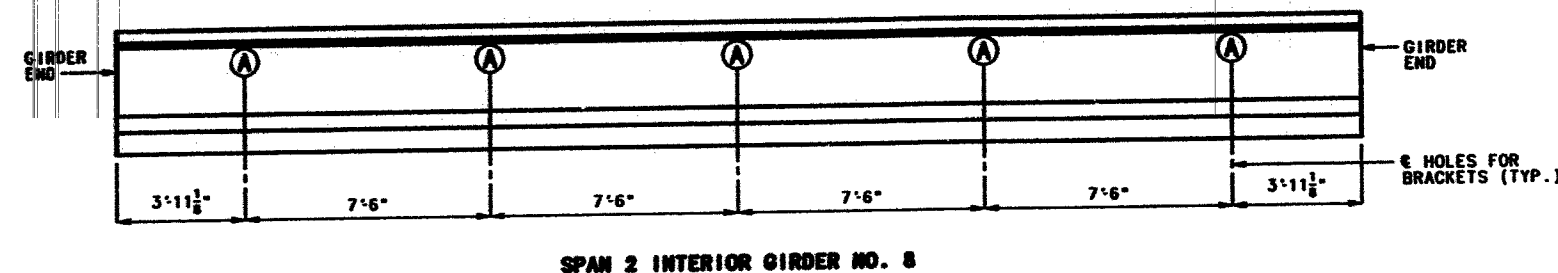
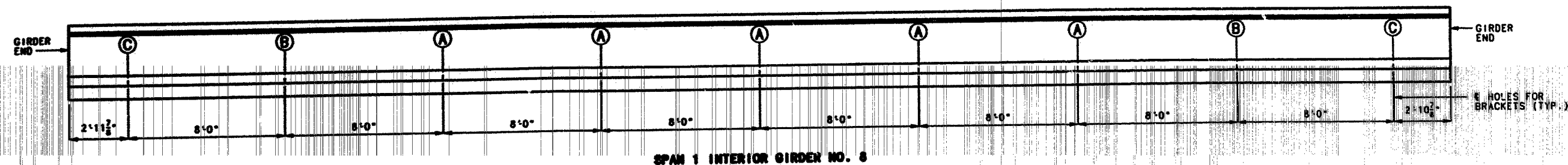
S-PAN 3" OS 3.30/P/S, A
3" PANEL (P/S) REVISED
AUG. 1994 SEPT. 1992

DETAILED JAN. 1994
CHECKED JUNE 1995

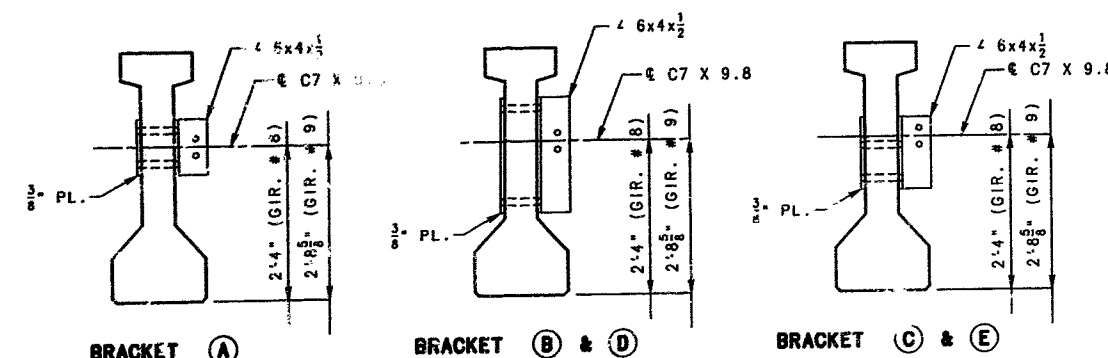
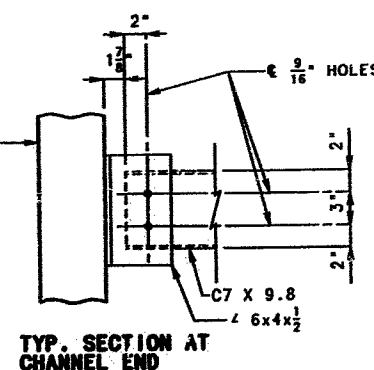
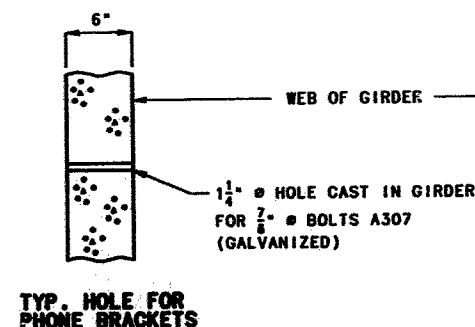
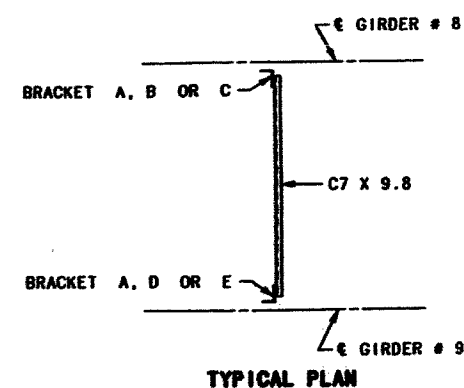
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 29 OF 48

ST. LOUIS COUNTY A-5016



NOTE: USE A 1-1/4" INSIDE DIAMETER PVC PIPE TO CAST HOLES IN GIRDERS FOR BRACKETS. HOLES FOR BRACKETS SHALL BE CAST IN GIRDER, DRILLING IS NOT ALLOWED. USE A 1" INSIDE DIAMETER PVC PIPE TO CAST HOLES IN GIRDERS FOR SIGN MOUNTING BRACKETS. COST OF CASTING THESE HOLES SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR PRESTRESSED I-GIRDERS. FOR DETAILS OF SIGN, SEE SHEET NO. 34. FOR DETAILS OF GIRDERS, SEE SHEET NO. 22 & 23. FOR LOCATION OF DIAPHRAGMS ON GIRDER NO. 8, SEE SHEET NO. 5. ALL CONDUIT SUPPORT MATERIALS INCLUDING, BOLTS, LOCKNUTS AND WASHERS SHALL BE GALVANIZED. 7/8" DIAMETER BOLTS (A307) FOR GIRDER BRACKETS SHALL BE TIGHTENED TO PROVIDE A TENSION OF ONE-HALF THAT SPECIFIED BY SECTION 712.10.2 OF THE MISSOURI STANDARD SPECIFICATIONS. ALL FABRICATED STRUCTURAL STEEL FOR CONDUIT SUPPORT SHALL BE A36 EXCEPT AS NOTED.



NOTE: RIGHT SIDE OF GIRDER NO. 8 SHOWN, FOR BRACKETS A, B & C. LEFT SIDE OF GIRDER NO. 9 SIMILAR, FOR BRACKETS A, D & E. FOR DETAILS OF ANGLES AND PLATES, SEE SHEETS NO. 31 & 32.

CONDUIT SUPPORT - DETAILS OF BRACKET LOCATIONS

DETAILED MAY 1995
CHECKED JUNE 1995

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

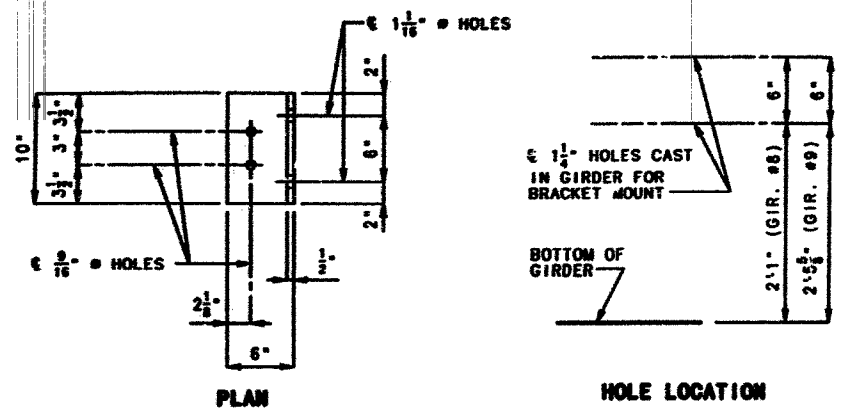
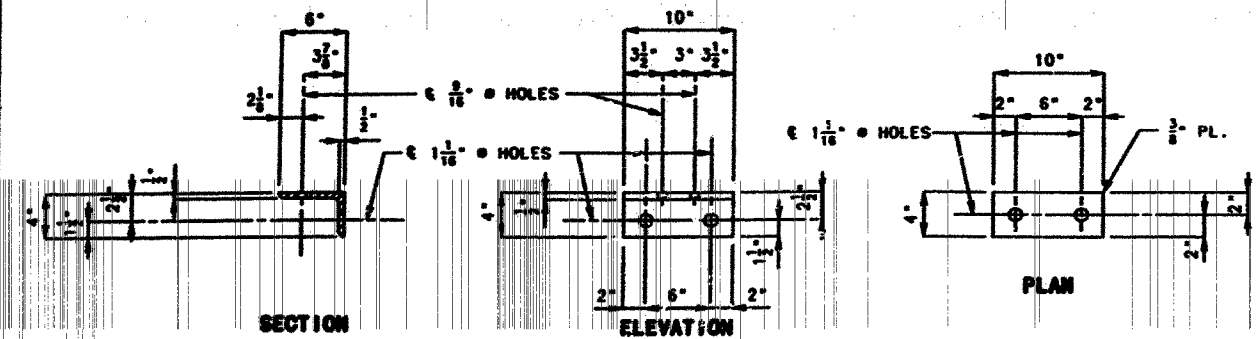
SHEET NO. 30 OF 48

ST. LOUIS

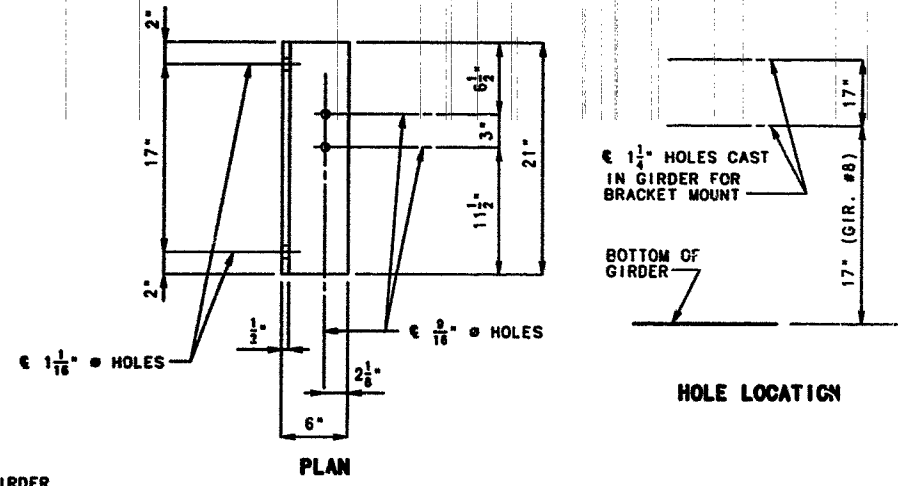
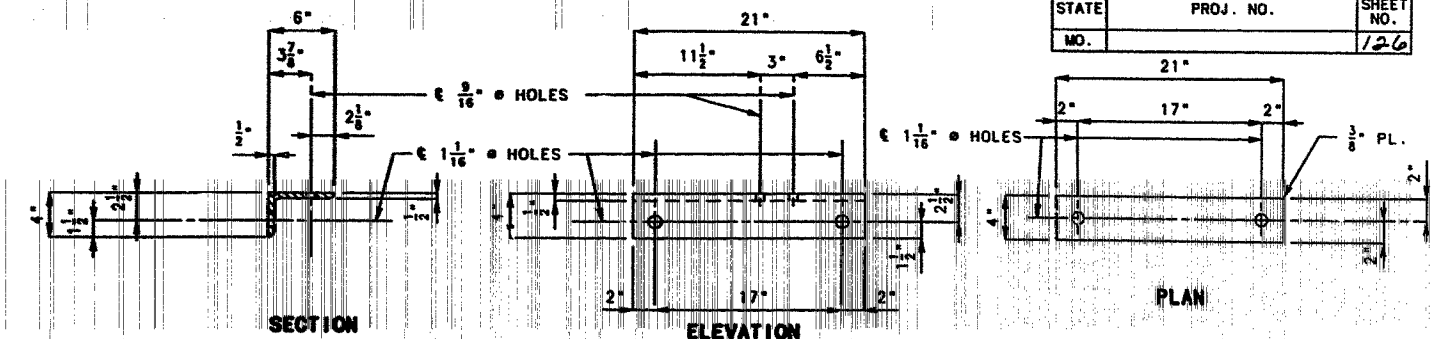
COUNTY

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STATE	PROJ. NO.	SHEET NO.
MO.		126

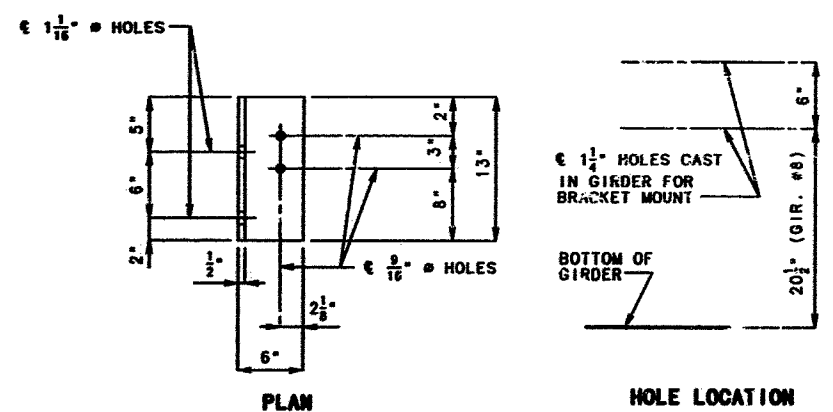
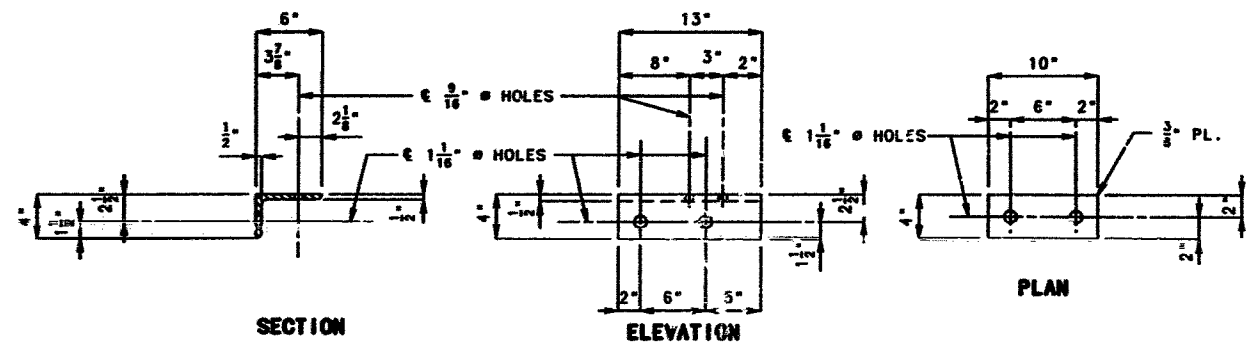


DETAILS OF BRACKET A

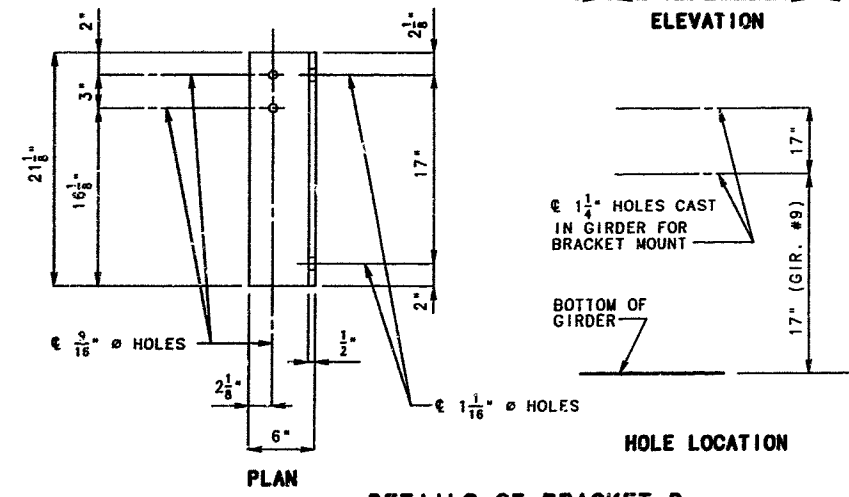
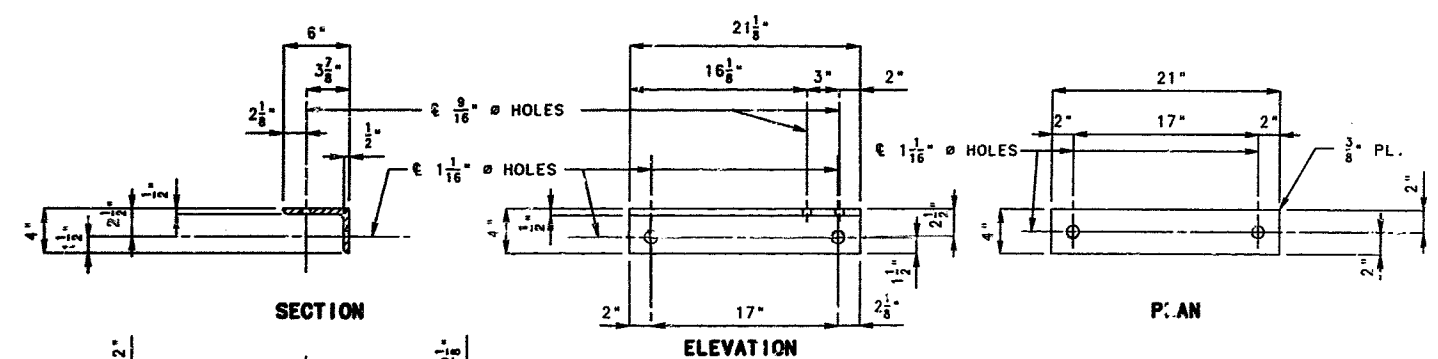


DETAILS OF BRACKET B

NOTE: FOR BRACKET LOCATIONS, ORIENTATION, AND OTHER DETAILS, SEE SHEET NO. 30, 32 & 33.



DETAILS OF BRACKET C



DETAILS OF BRACKET D

NOTE: 4" LEG TO BEAR AGAINST GIRDER.

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

144
 DETAILED MAY 1995
 CHECKED JUNE 1995

SHEET NO. 31 OF 48

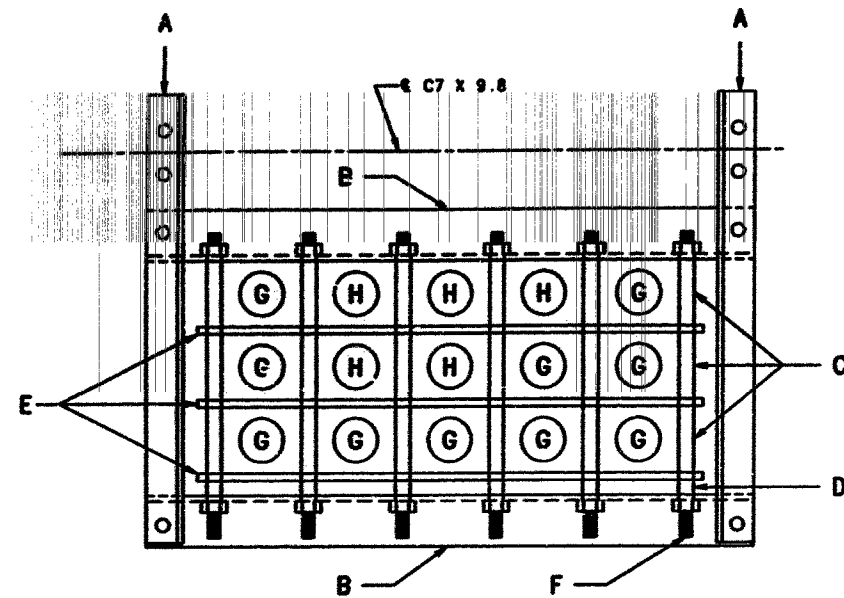
ST. LOUIS

COUNTY

A-5016

NOTE: COST FOR FURNISHING, GALVANIZING AND INSTALLING HANGER ASSEMBLIES, SUPPORT CHANNELS, GIRDER BRACKETS, AND ALUMINUM CONDUITS COMPLETE IN PLACE SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR "CONDUIT SYSTEM ON STRUCTURE (TELEPHONE)".

STATE	ROJ. NO.	SHEET NO.
MO.		128

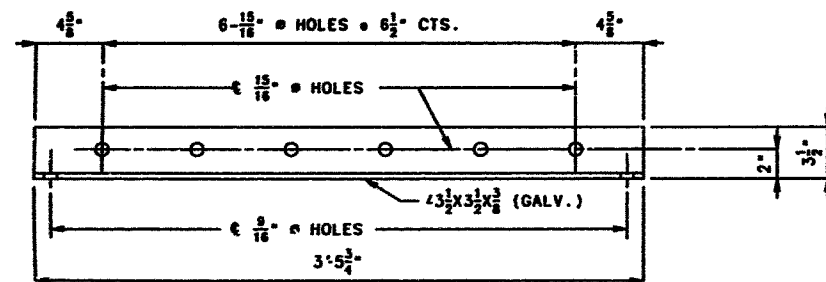


HANGER ASSEMBLY

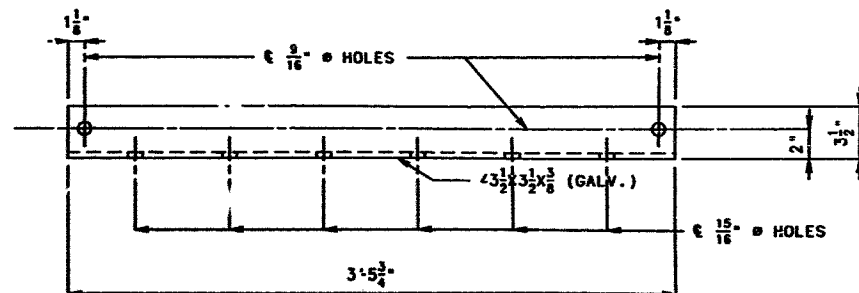
G = (NEW)
H = (EXISTING)

NOTE: USE 2" LONG $\frac{1}{2}$ " ϕ GALVANIZED A307 BOLTS WITH GALVANIZED LOCKNUTS AND WASHERS FOR ABOVE CONNECTIONS.

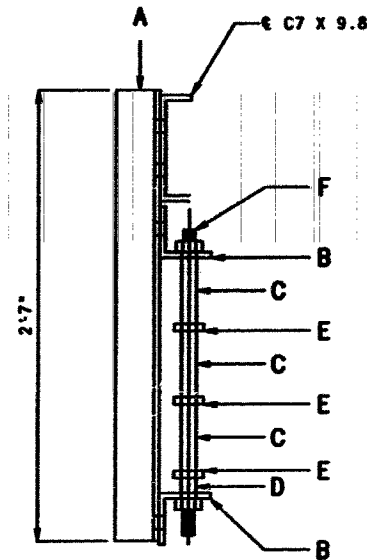
TEMPORARY SHORING SHALL BE PROVIDED BY THE CONTRACTOR TO FULLY SUPPORT THE PHONE CONDUITS UNTIL THE SLAB HAS REACHED FULL STRENGTH.



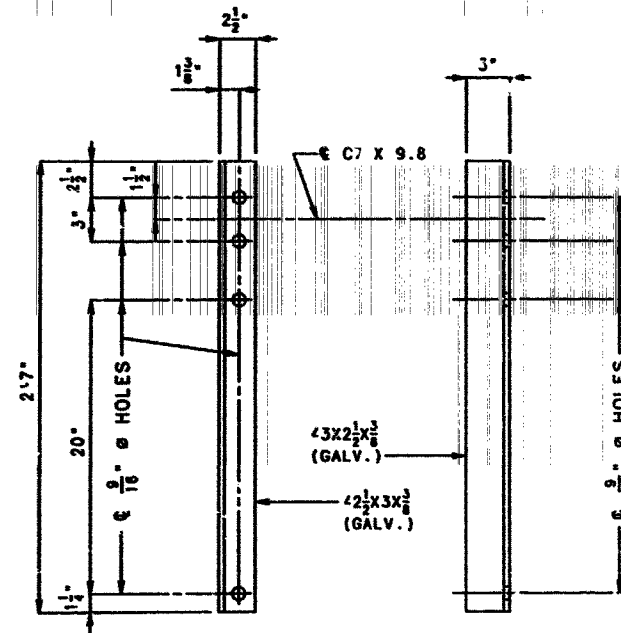
TOP VIEW



SIDE VIEW
MEMBER A
(2 REQUIRED)



TYPICAL SECTION



PLAN VIEW

SIDE VIEW

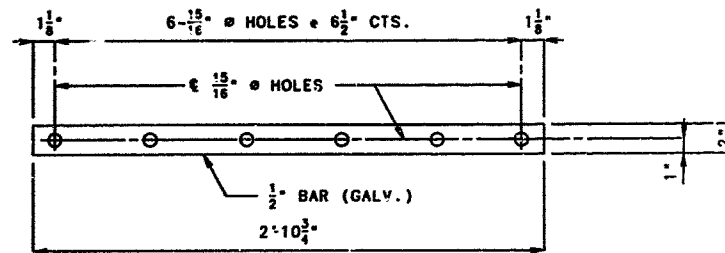
MEMBER A
(2 REQUIRED)

(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR BY ROTATION)

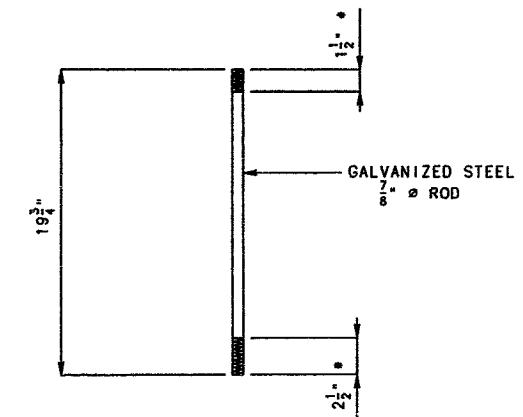
* USE THIS MEMBER A FOR HANGER 2 & 8 SPAN 1, AND HANGER 11 SPAN 2.
** USE THIS MEMBER A FOR HANGER 3 & 9 SPAN 1, AND HANGER 12 SPAN 2.

SIDE VIEW (2 REQUIRED)
MEMBER A
HOLE LOCATION
AT LONG BRACE

SIDE VIEW (2 REQUIRED)

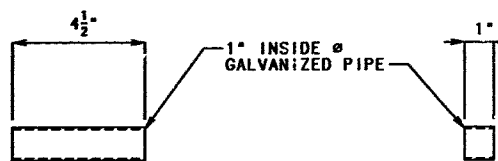


MEMBER E
(3 REQUIRED)



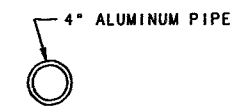
MEMBER F
(6 REQUIRED)

* USE GALVANIZED LOCKNUT AND WASHER

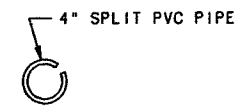


MEMBER C
(18 REQUIRED)

MEMBER D
(6 REQUIRED)



MEMBER G
(10 TOTAL TO BE PROVIDED WITH CONTRACT)



MEMBER H
(5 TOTAL AND WILL BE INSTALLED BY TEL. CO.)

NOTE: TYPE OF ALUMINUM CONDUIT SUPPLIED IS SUBJECT TO APPROVAL BY TELEPHONE COMPANY.

NOTE: THE NUMBER REQUIRED IN PARENTHESES IS NUMBER REQUIRED PER EACH HANGER ASSEMBLY. ALL STRUCTURAL STEEL SHALL BE A36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123. FOR LOCATION OF PHONE CONDUIT IN RELATION TO ϕ ROADWAY, SEE SHEETS NO. 1 & 27. FOR ADDITIONAL DETAILS OF HANGERS, SEE SHEET NO. 30, 31 & 32.

196
DETAILED MAY 1995
CHECKED JUNE 1995

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

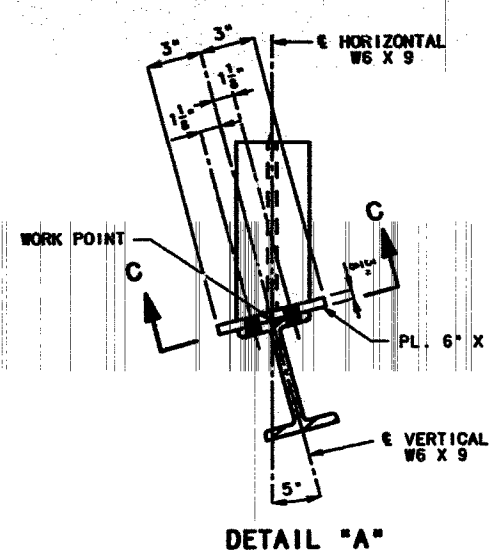
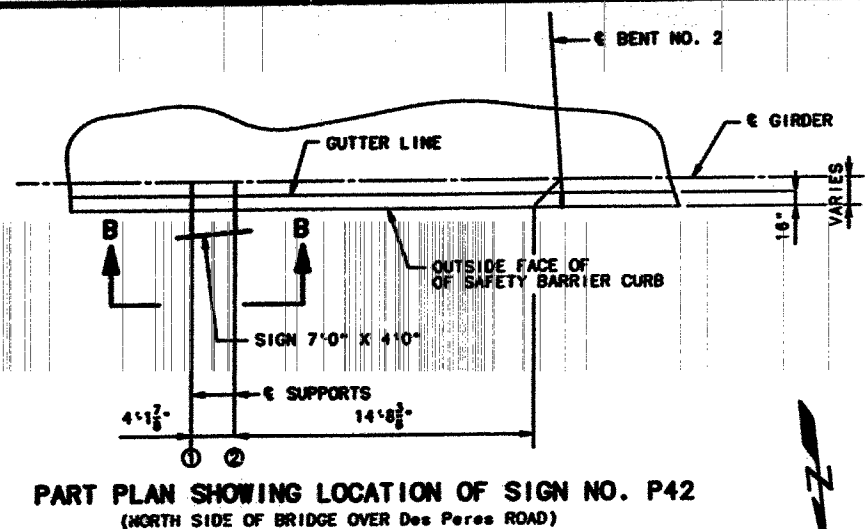
SHEET NO. 33 OF 48

ST. LOUIS

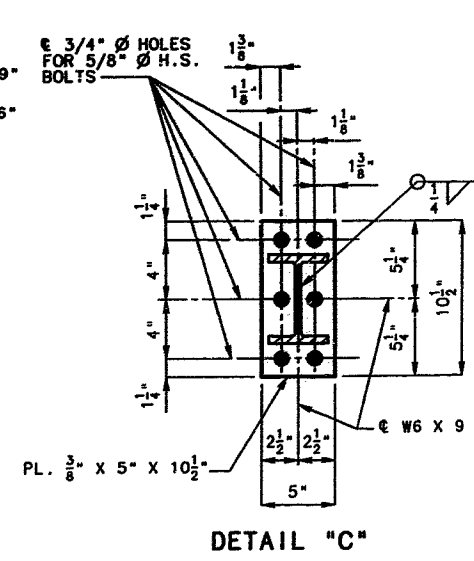
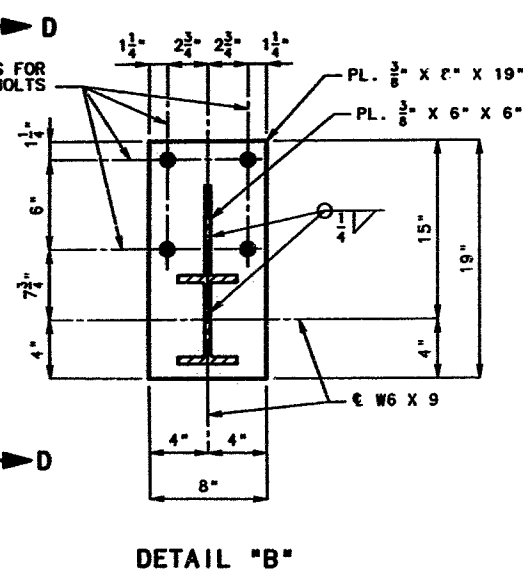
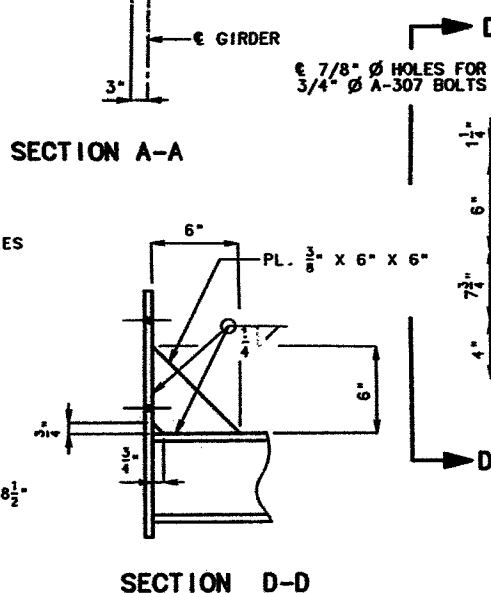
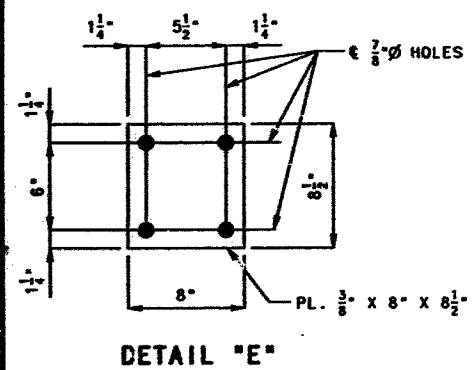
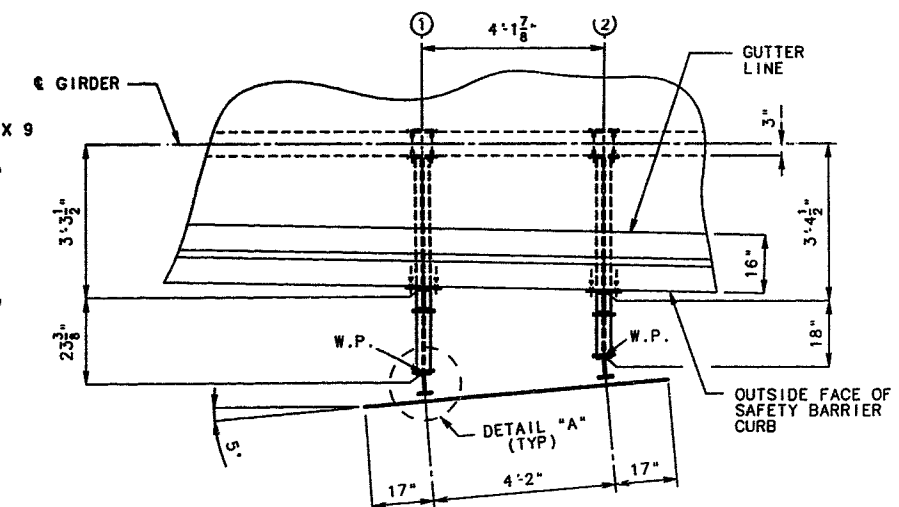
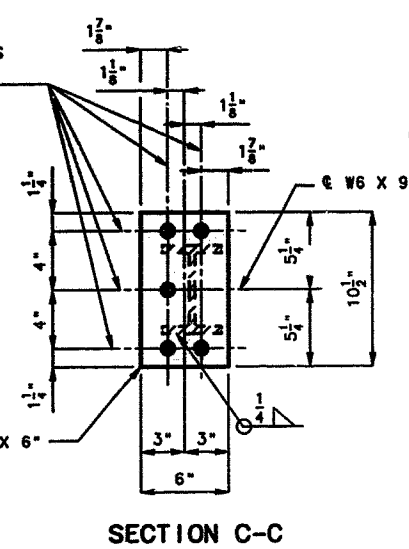
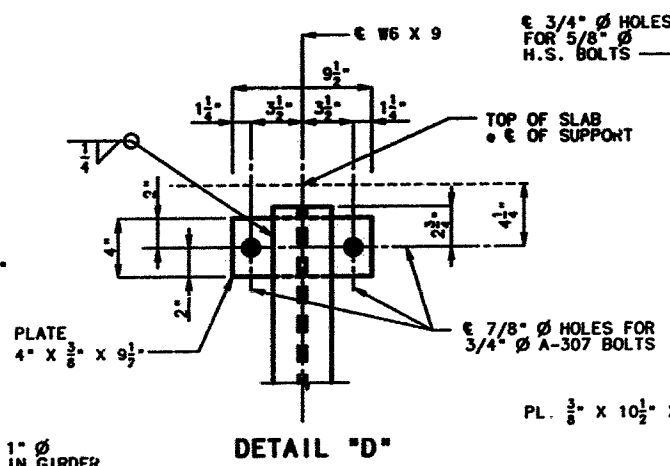
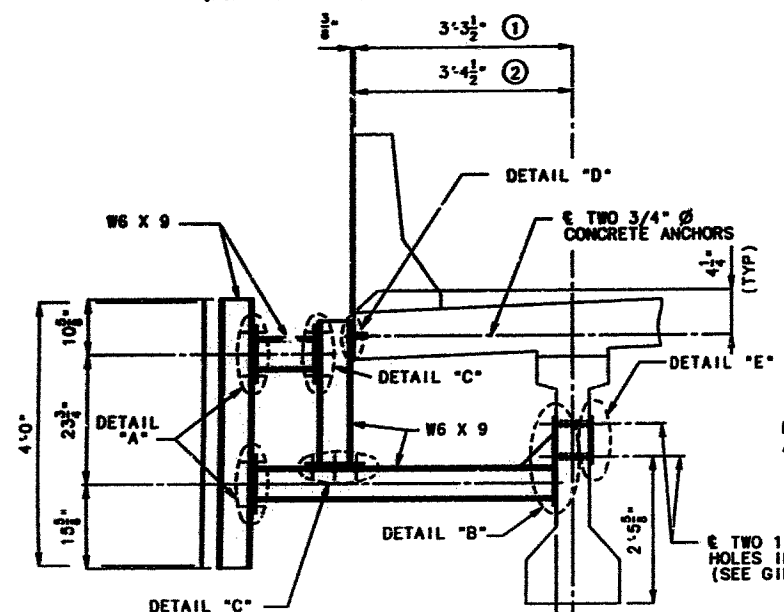
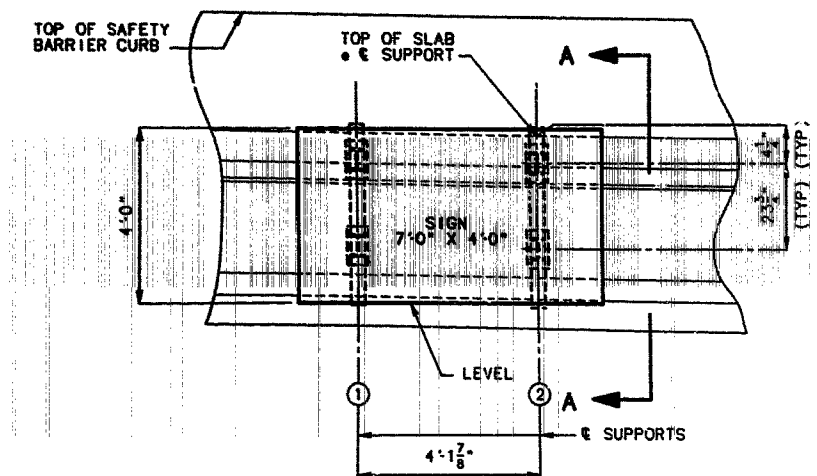
COUNTY

A-5016

STATE	PROJ. NO.	SHEET NO.
MO.		129



BRIDGE SLOPE AT SIGN = .01475 FT. PER FT.



GENERAL NOTES:
 CENTER AND LEVEL SIGN ON BRACKET.
 ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
 ALL STRUCTURAL STEEL SHALL BE A.S.T.M. A36, GALVANIZED.
 CONCRETE ANCHORS SHALL BE THE NON-DRILLING EXPANSION TYPE. THEY SHALL HAVE A CERTIFIED CONCRETE PULLOUT STRENGTH (ULTIMATE LOAD) OF AT LEAST 12,100 POUNDS IN 4000 PSI CONCRETE. THE HOLE SHALL BE PRE-DRILLED WITH A CONVENTIONAL CARBIDE MASONRY BIT.
 THE COST OF FURNISHING AND ERECTING THE SIGN SUPPORTS, INCLUDING THE CONCRETE ANCHORS COMPLETE-IN-PLACE, SHALL BE PAID FOR AS FABRICATED SIGN SUPPORT BRACKETS, LUMP SUM.

SIGN SUPPORT BRACKETS, SIGN NO. P42
 (NORTH SIDE OF BRIDGE OVER DES PERES ROAD)
 JOB NO. J610651

DETAILED SEPT. 1994
 CHECKED JUNE 1995

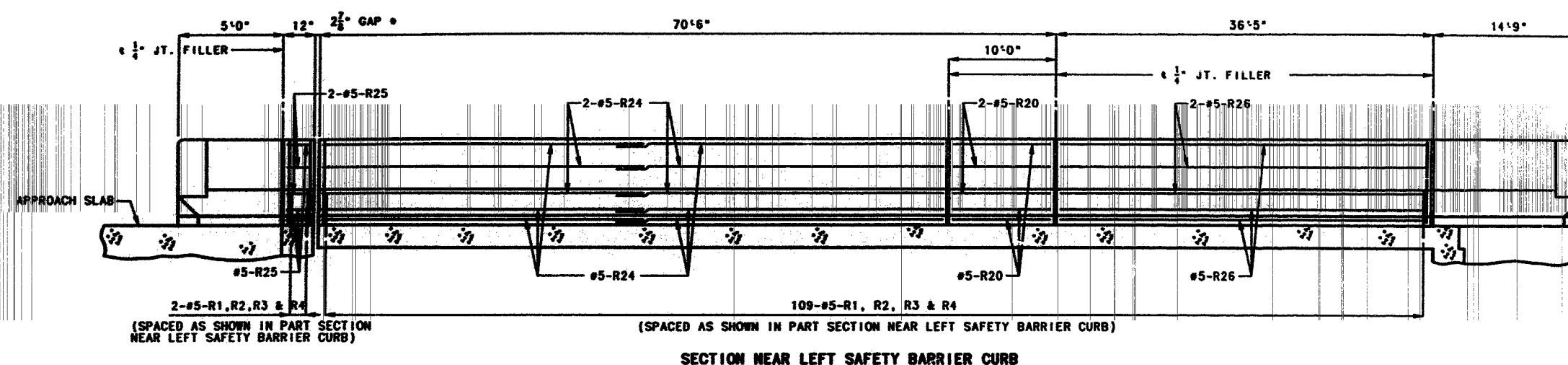
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 34 OF 48

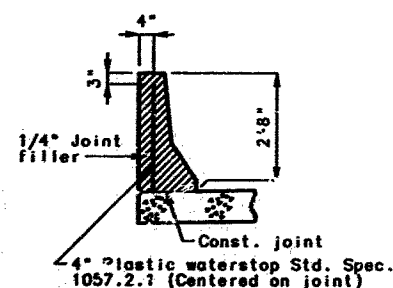
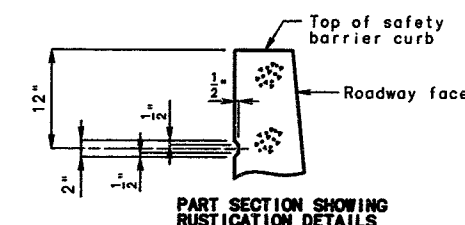
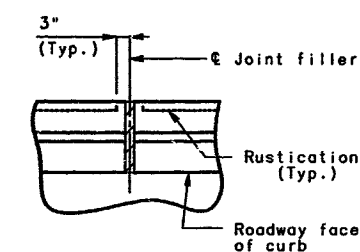
ST. LOUIS COUNTY

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STATE	PROJ. NO.	SHEET NO.
MO.		130

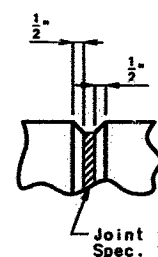


NOTE: LONGITUDINAL DIMENSIONS ARE HORIZONTAL ARC DIMENSIONS ALONG THE TOP OUTSIDE EDGE OF SLAB.
FOR DETAILS OF BARRIER CURB NOT SHOWN, SEE SHEETS NO. 37 & 39.
* FOR DETAILS OF PREFORMED COMPRESSION JOINT SEAL, SEE SHEET NO. 25.

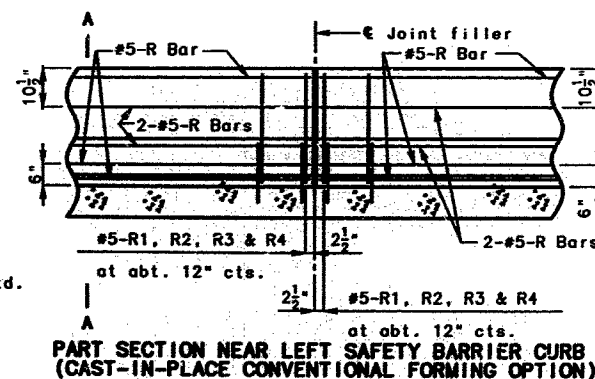


Note: Plastic waterstop shall be placed in all safety barrier curb filled joints. (Except structures with superelevation, use on all lower safety barrier curb joints only).
Cost of plastic waterstop complete in place to be included in contract unit price for safety barrier curb.

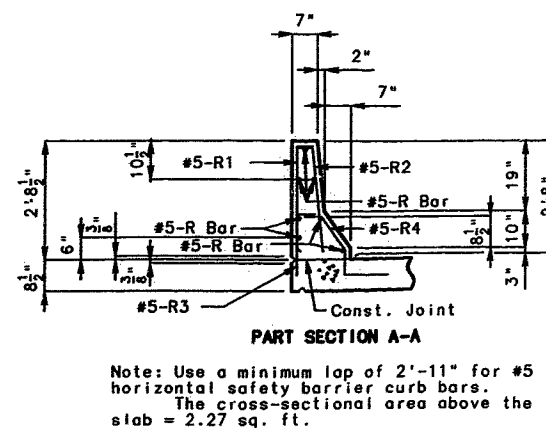
DETAILS OF PLASTIC WATERSTOP



FILLED JOINT DETAIL



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



Note: Use a minimum lap of 2'-11" for #5 horizontal safety barrier curb bars.
The cross-sectional area above the slab = 2.27 sq. ft.

Note:

Top of safety barrier curb shall be built parallel to grade with safety barrier curb joints (except at end bents) normal to grade.
All exposed edges of safety barrier curb shall have either a 1/2" radius or a 3/8" bevel, unless otherwise noted.

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

Concrete in the safety barrier curb shall be Class B1.

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

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

SHEET NO. 35 OF 48

ST. LOUIS

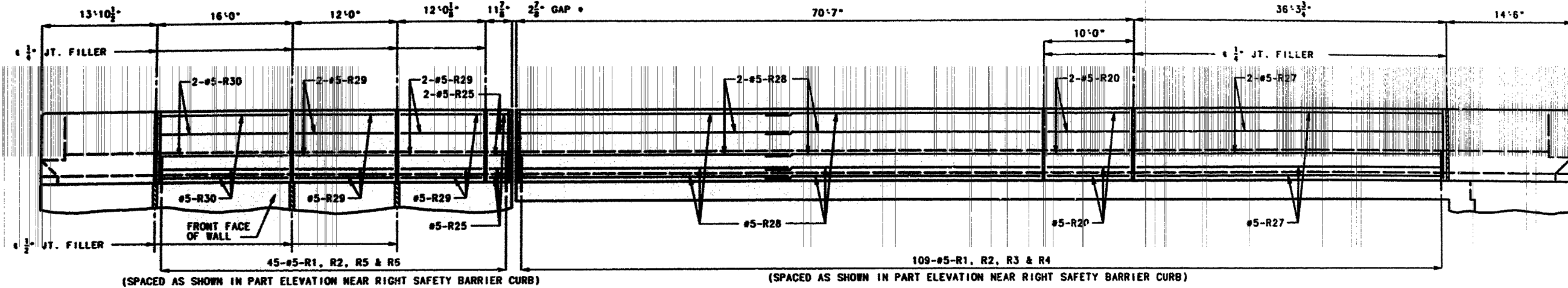
COUNTY

A-5016

1998
BACI 19.95 3.30, 1.0
BARRIER CURB ELEVATION
JAN. 1990
REVIS: MAR. 1995

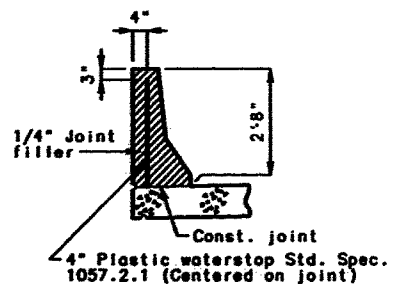
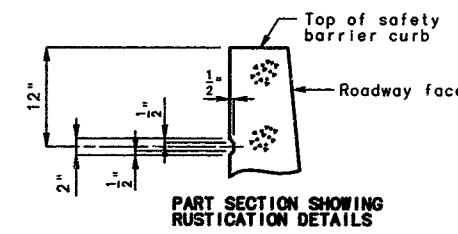
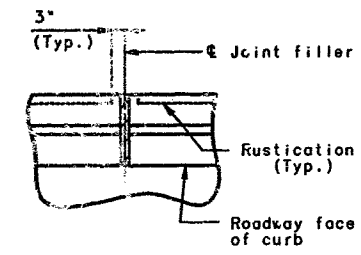
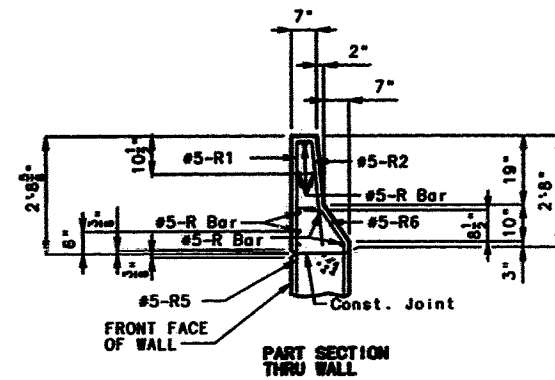
DETAILED JUNE 1995
CHECKED JUNE 1995

STATE	PROJ. NO.	SHEET NO.
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ELEVATION NEAR RIGHT SAFETY BARRIER CURB

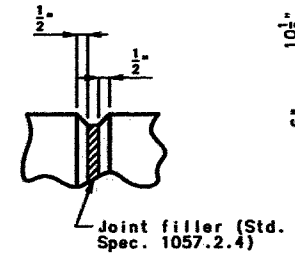
NOTE: LONGITUDINAL DIMENSIONS ARE HORIZONTAL ARC DIMENSIONS ALONG THE TOP OUTSIDE EDGE OF SLAB & FRONT FACE OF WALL.
 FOR DETAILS OF BARRIER CURB NOT SHOWN, SEE SHEET NO. 38 & 39.
 * FOR DETAILS OF PREFORMED COMPRESSION JOINT SEAL, SEE SHEET NO. 25.



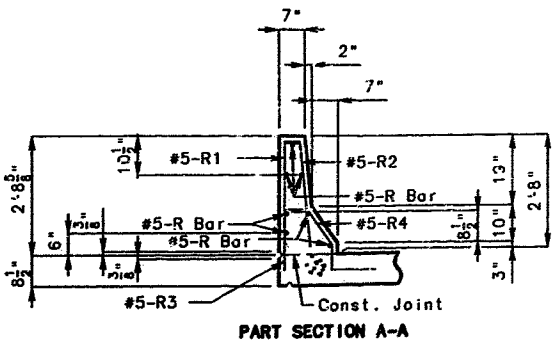
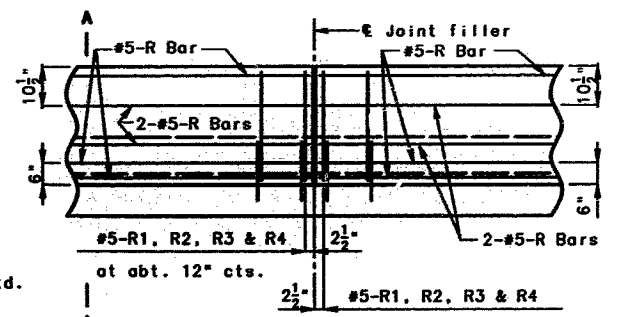
Note: Plastic waterstop shall be placed in all safety barrier curb filled joints. (Except structures with superelevation, use on all lower safety barrier curb joints only). -Const. Joint

Cost of plastic waterstop complete in place to be included in contract unit price for safety barrier curb.

DETAILS OF PLASTIC WATERSTOP



FILLED JOINT DETAIL



Note: Use a minimum lap of 2'-11" for #5 horizontal safety barrier curb bars. The cross-sectional area above the slab = 2.27 sq. ft.

Note:

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

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

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

Concrete in the safety barrier curb shall be Class B1.

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

199

BAC1116,gs 3.30, 1.0	REVISION
JAN. 1990	REVISED
JAN. 1990	REVISED

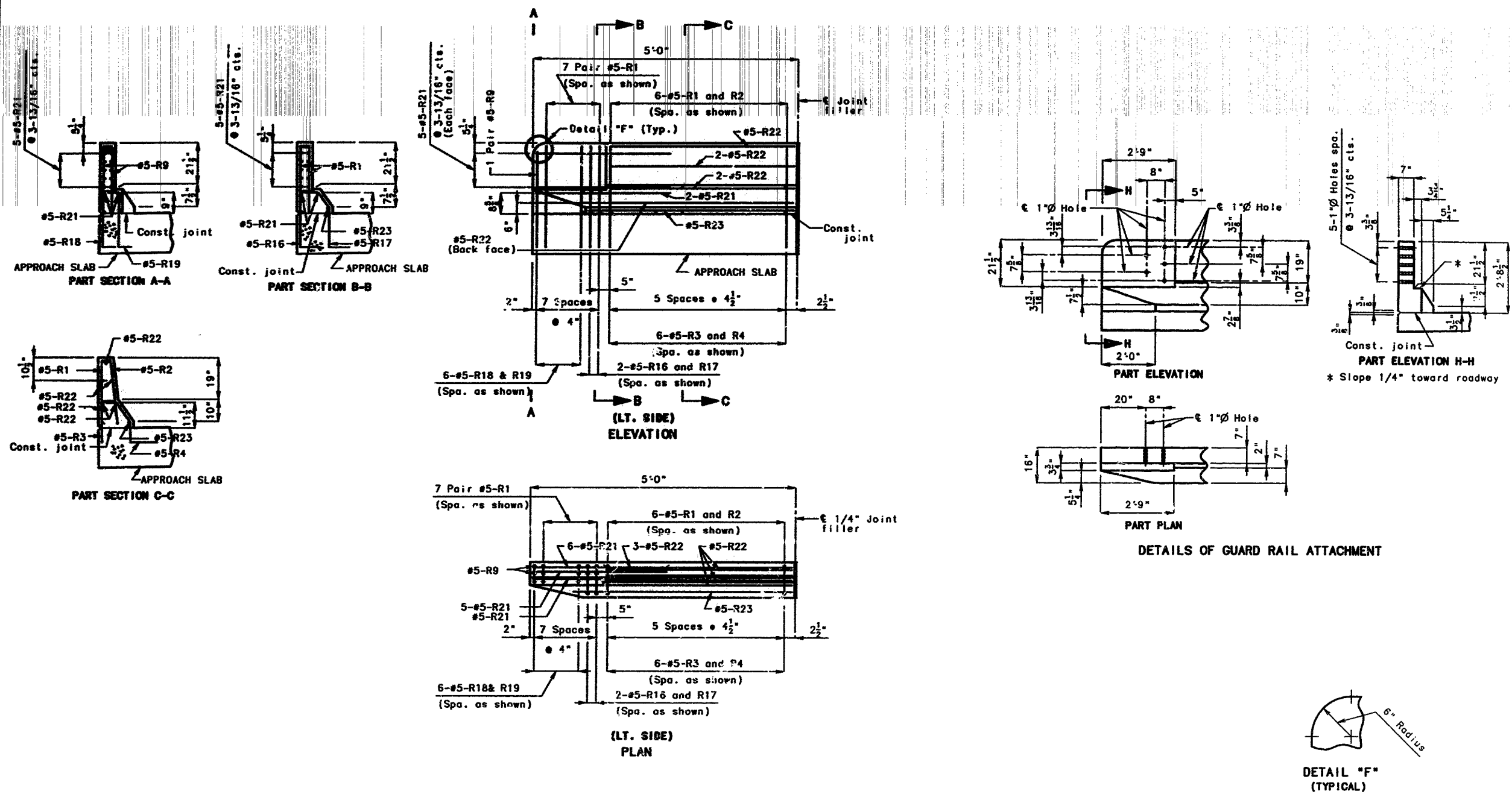
DETAILED JUNE 1995
 CHECKED JUNE 1995

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

SHEET NO. 36 OF 48

ST. LOUIS COUNTY A-5016

STATE	PROJ. NO.	SHEET NO.
MO.		132



DETAILS OF SAFETY BARRIER CURB AT ABUTMENT NO. 1

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

SHEET NO. 37 OF 48

ST. LOUIS

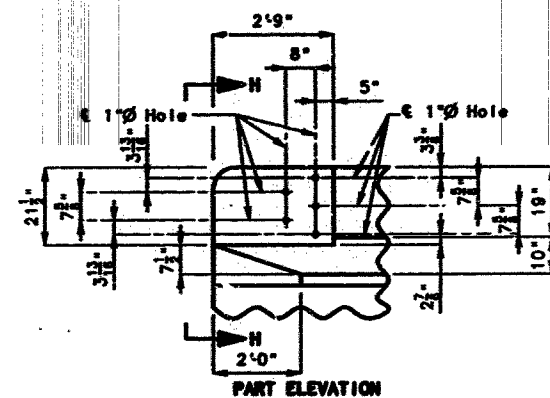
COUNTY

A-5016

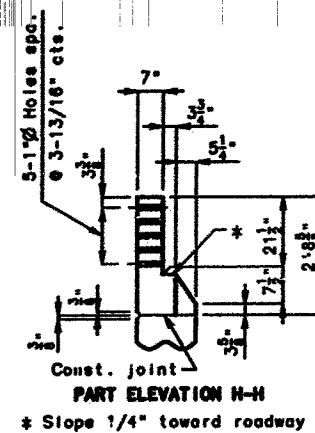
BACap16, ga 3.30, .1.0	REVISED:
INT-END POST (18")	MAR. 1995
AUG. 1978	

DETAILED JUNE 1995
CHECKED JUNE 1995

STATE	PROJ. NO.	SHEET NO.
MO.		123

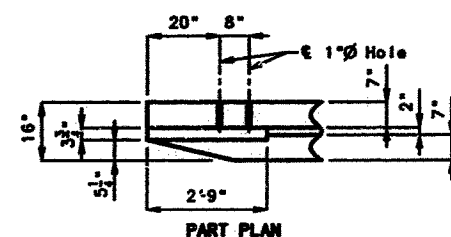


PART ELEVATION



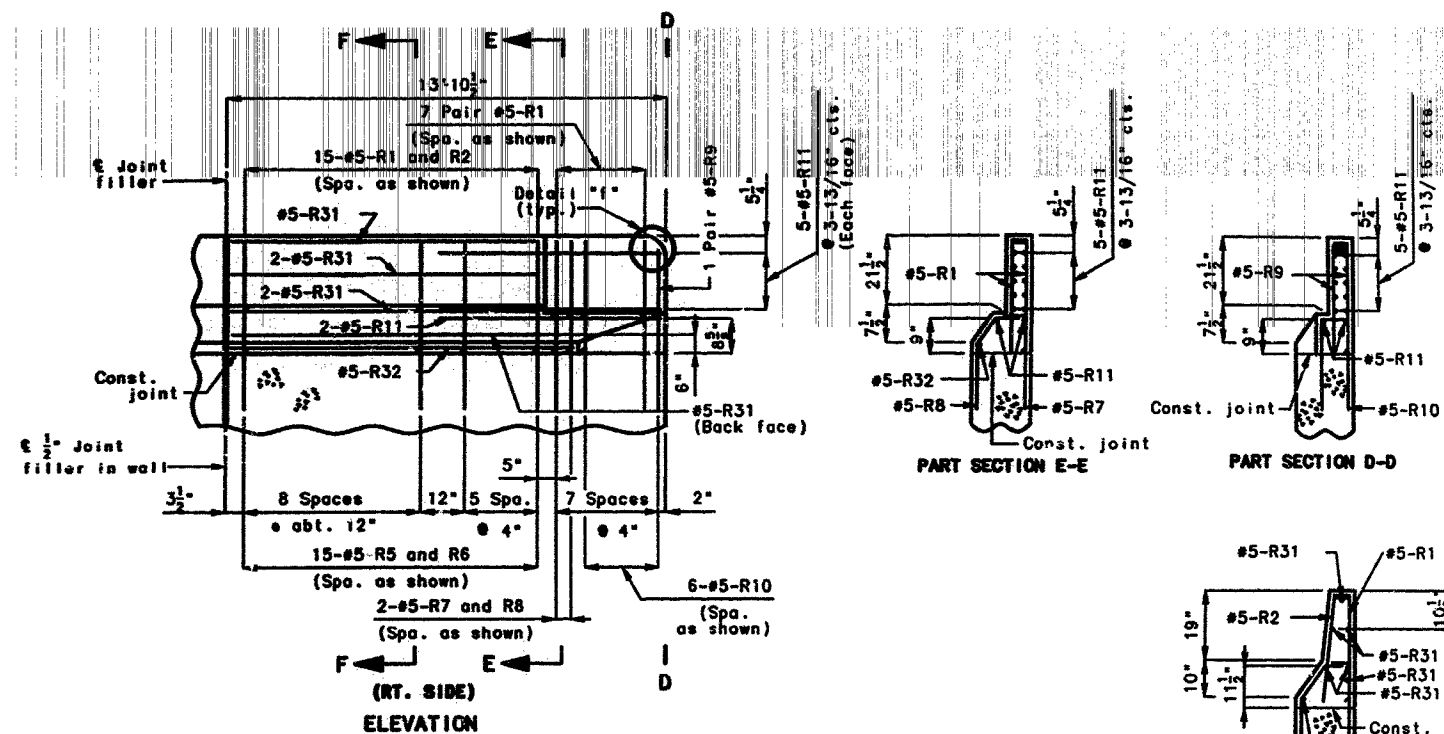
PART ELEVATION H-H

* Slope 1/4" toward roadway



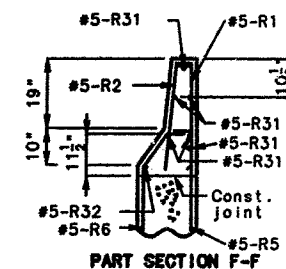
PART PLAN

DETAILS OF GUARD RAIL ATTACHMENT

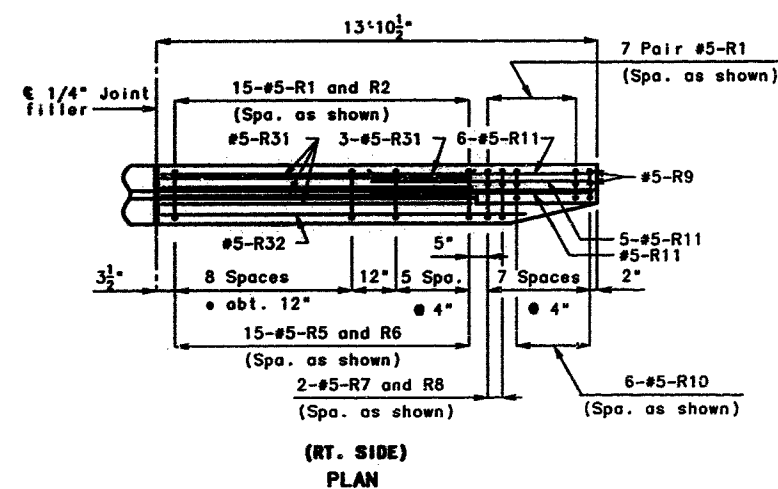


PART SECTION E-E

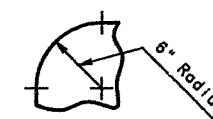
PART SECTION D-D



PART SECTION F-F



(RT. SIDE)
PLAN



DETAIL "F"
(TYPICAL)

DETAILS OF SAFETY BARRIER CURB AT ABUTMENT NO. 1

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

SHEET NO. 38 OF 48

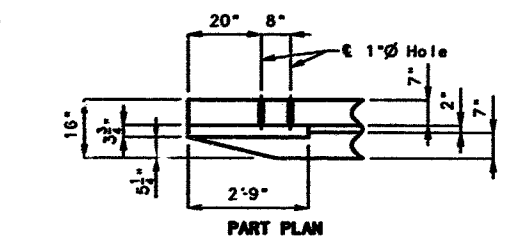
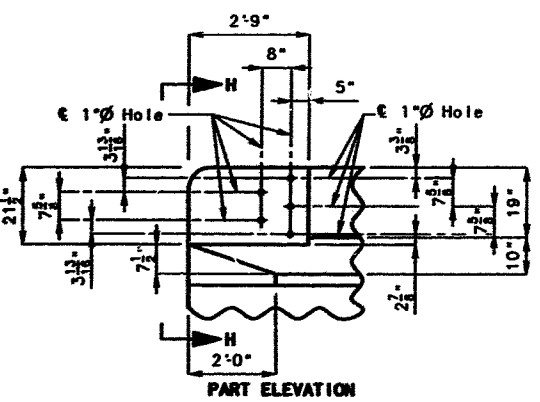
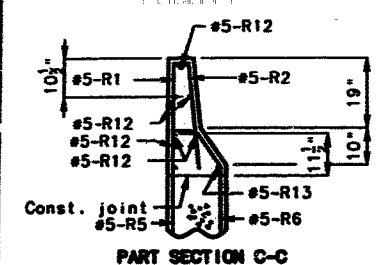
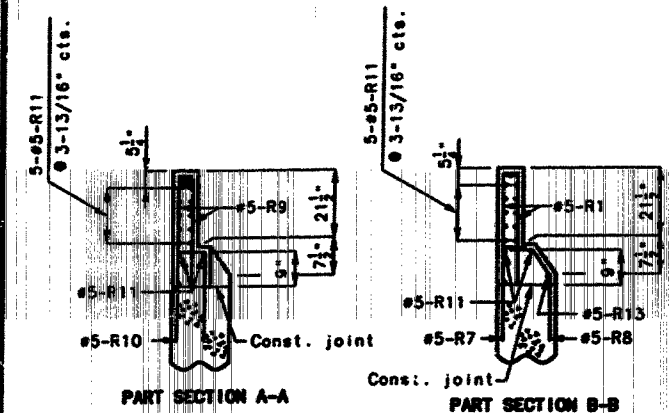
ST. LOUIS

COUNTY

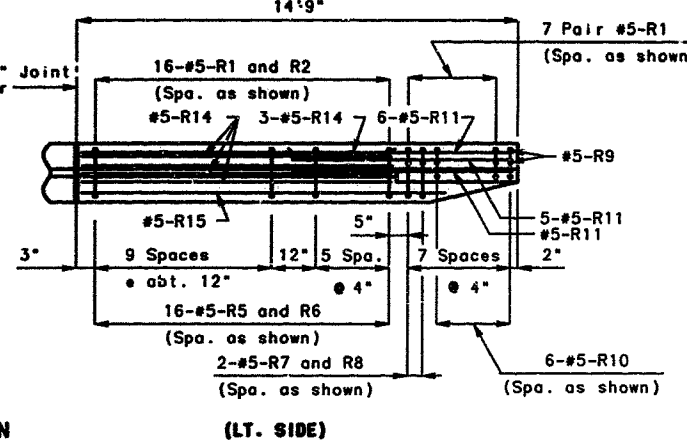
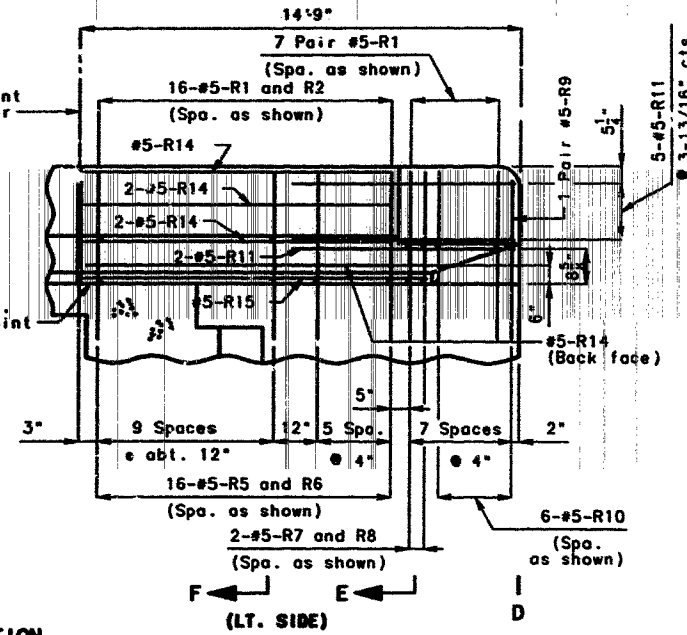
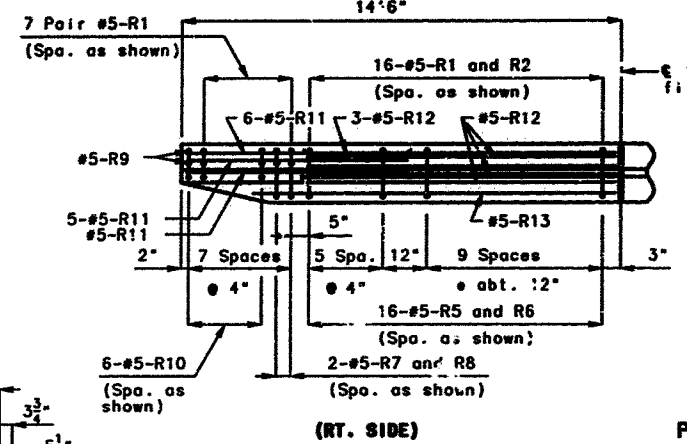
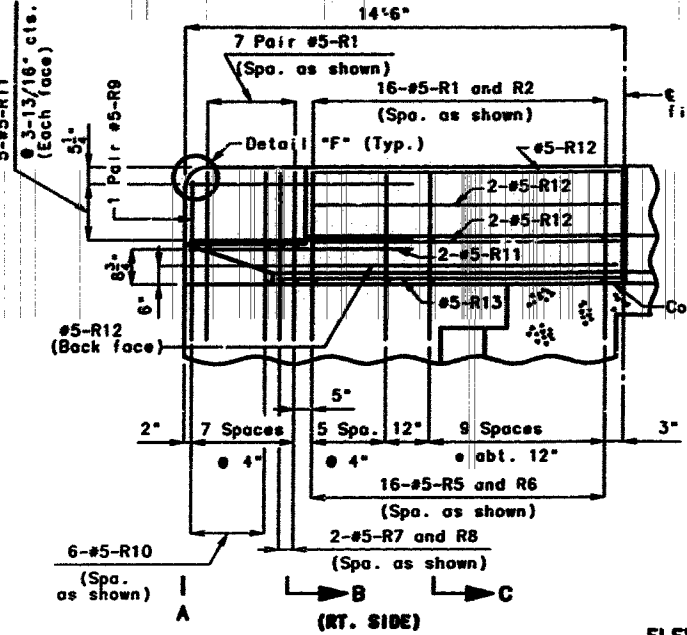
A-5016

BAC4ep16.9s	3.30.	1.0
INT-END POST (16")	REVISED:	
AUG. 1978		MAR. 1985

DETAILED JUNE 1995
CHECKED JUNE 1995

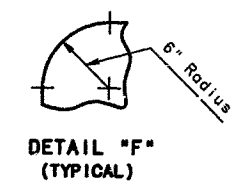
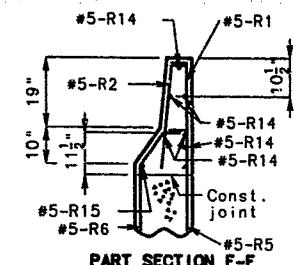
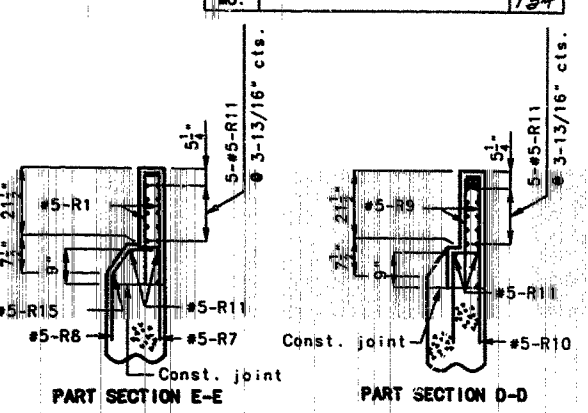


DETAILS OF GUARD RAIL ATTACHMENT



ELEVATION

PLAN



- ① 2'-8 1/2" (LT.)
2'-8 1/2" (RT.)
- ② 3'-1 1/2" (LT.)
3'-1 1/2" (RT.)

* Slope 1/4" toward roadway

DETAILS OF SAFETY BARRIER CURB AT END BENT NO. 3

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

SHEET NO. 39 OF 48

ST. LOUIS

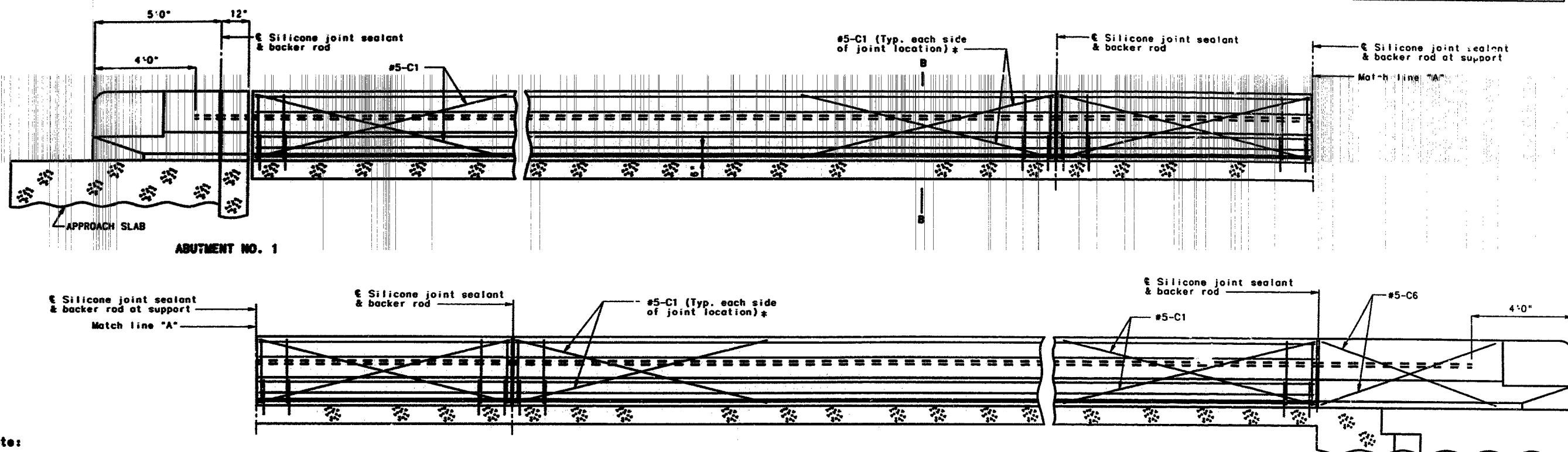
COUNTY

A-5016

BAC4ep16,gs 3.30, .1, a
INT-END POST (18")
AUG. 1978
REVISED:
MAR. 1989

DETAILED
CHECKED
JUNE 1995
JUNE 1995

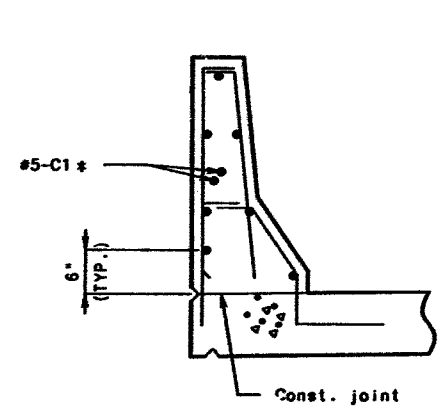
STATE	PROJ. NO.	SHEET NO.
MO.		135



Note:
 Top of safety barrier curb shall be built parallel to grade with safety barrier curb joints (except at end bents) normal to grade.
 When the safety barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement, complete-in-place.
 Concrete in the safety barrier curb shall be Class B1.
 Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of curb to end of curb.

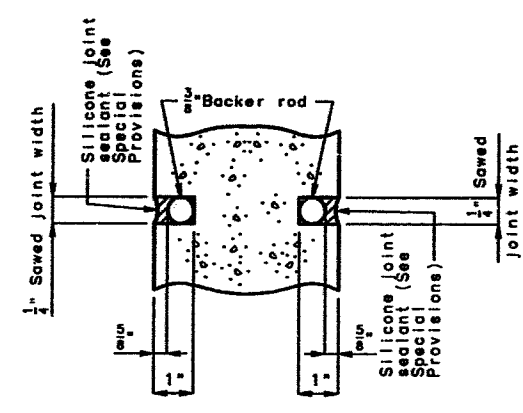
TYPICAL SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS (OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)

Note:
 Joint sealant and backer rods shall be used on all slip-form bridge safety barrier curbs instead of joint filler.
 Plastic waterstop shall not be used with slip-form option.
 C Bars (Slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.



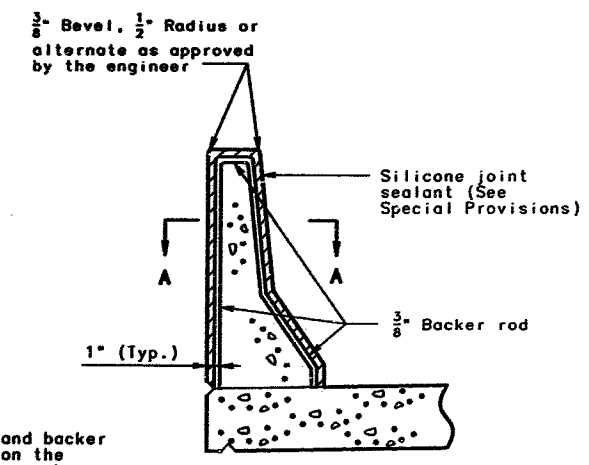
PART SECTION B-B

Note: * Each side of joint location.

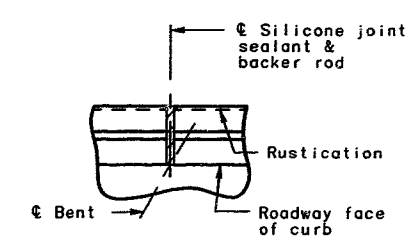


SECTION A-A

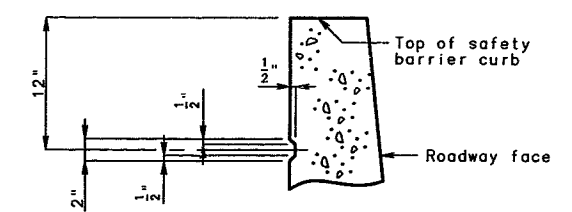
Note: Cost of silicone joint sealant and backer rod complete in place to be included on the contract unit price for safety barrier curb.



SECTION THRU JOINT



PART PLAN SHOWING SAFETY BARRIER CURB JOINT



PART SECTION SHOWING RUSTICATION DETAILS

RUSTICATION DETAIL
 (Use on highway grade separation only)

OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB

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

SHEET NO. 40 OF 48

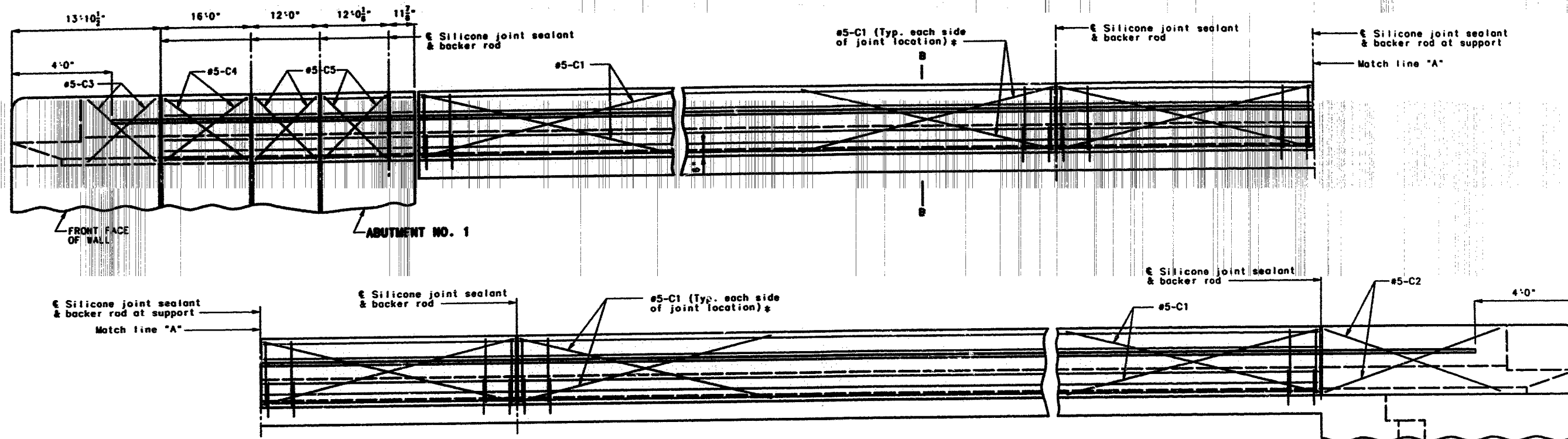
ST. LOUIS

COUNTY

A-5016

BAC8sf16,gs 3.30, .10
 BARRIER CURB ELEVATION
 REVISED: MAR. 1995
 FEB. 1991

DETAILED JUNE 1995
 CHECKED JUNE 1995

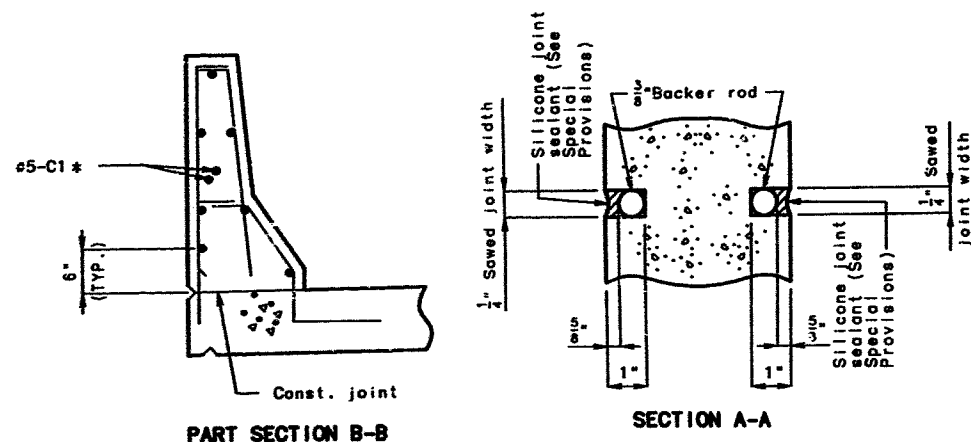


Note:
 Top of safety barrier curb shall be built parallel to grade with safety barrier curb joints (except at end bents) normal to grade.
 When the safety barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement, complete-in-place.
 Concrete in the safety barrier curb shall be Class B1.
 Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of curb to end of curb.

TYPICAL ELEVATION NEAR RIGHT SAFETY BARRIER CURB AT SUPPORT LOCATIONS (OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)

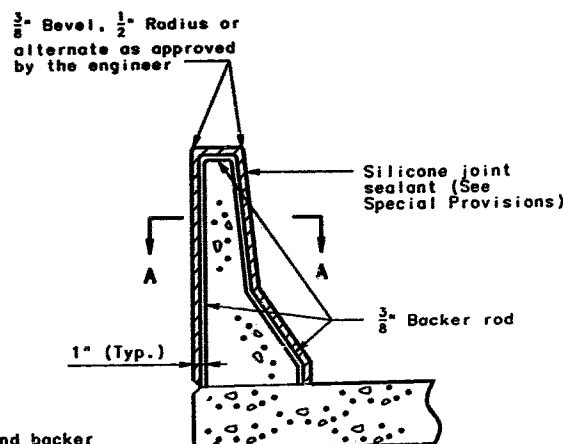
Note:
 Joint sealant and backer rods shall be used on all slip-form bridge safety barrier curbs instead of joint filler.
 Plastic waterstop shall not be used with slip-form option.
 C Bars (Slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.

END BT. NO. 3

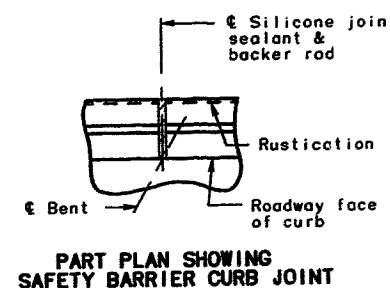


Note: * Each side of joint location.

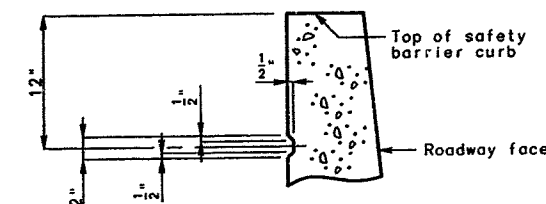
Note: Cost of silicone joint sealant and backer rod complete in place to be included on the contract unit price for safety barrier curb.



SECTION THRU JOINT



PART PLAN SHOWING SAFETY BARRIER CURB JOINT



PART SECTION SHOWING RUSTICATION DETAILS

RUSTICATION DETAIL
 (Use on highway grade separation only)

OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB

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

SHEET NO. 41 OF 48

ST. LOUIS

COUNTY

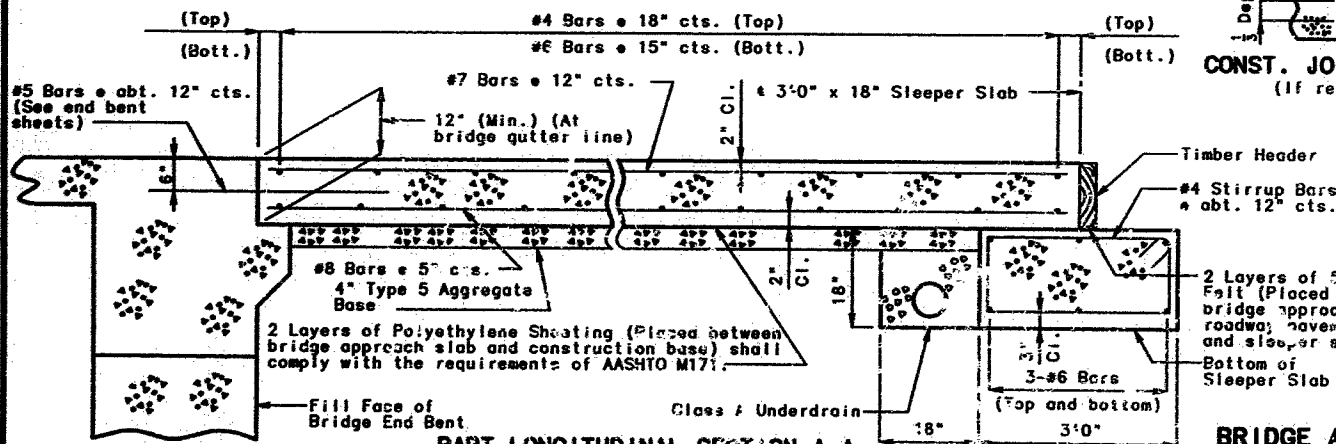
A-5016

BAC8sf16,gs 3.30, . . .
 BARRIER CURB ELEVATION
 REVISED
 MAR. 1995
 FEB. 1991

DETAILED JUNE 1995
 CHECKED JUNE 1995

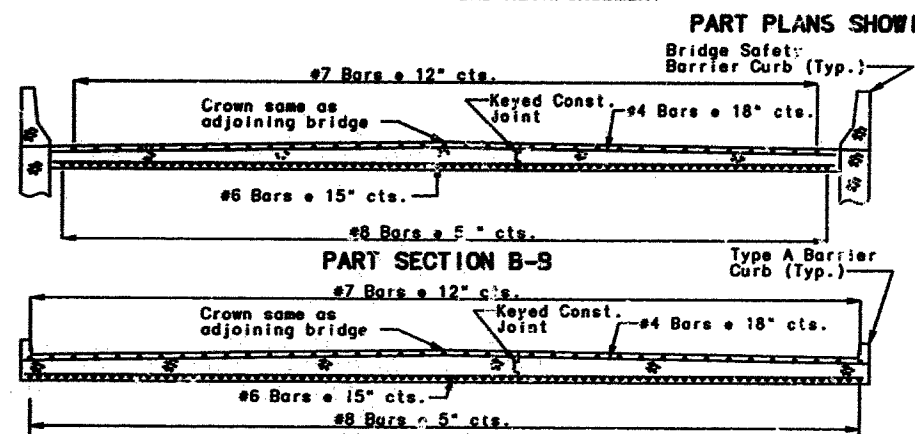
APP SLAB, GS 3.30, RA, I, A
 APPROACH SLAB
 DECEMBER 1992
 REVISED
 MAY 1995

Notes: With the approval of the Engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



PART LONGITUDINAL SECTION A-A

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



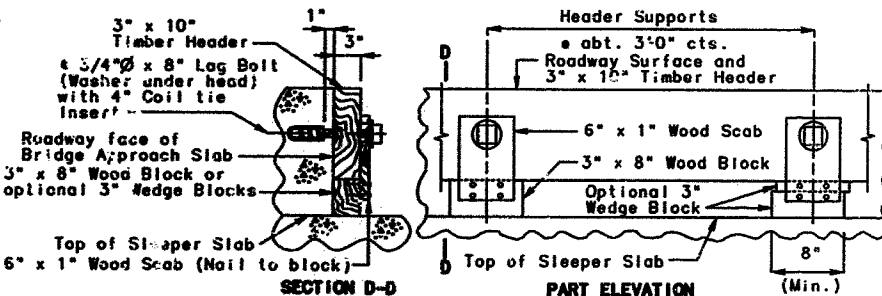
PART SECTION B-B

PART SECTION C-C

PART PLANS SHOWING REINFORCEMENT

TOP OF SLAB REINFORCEMENT

BOTTOM OF SLAB REINFORCEMENT



SECTION D-D

PART ELEVATION

DETAILS OF TIMBER HEADER

CONST. JOINT DETAIL (If required)

Joint Sealing Material

Depth

Const. Joint

Timber Header

#4 Stirrup Bars @ 12" cts.

2 Layers of 50# Roofing Felt (Placed between bridge approach slab, roadway pavement slab and sleeper slab)

Bottom of Sleeper Slab

3'0" (Top and bottom)

18"

3'0"

3'0"

3'0"

3'0"

3'0"

3'0"

3'0"

3'0"

3'0"

3'0"

3'0"

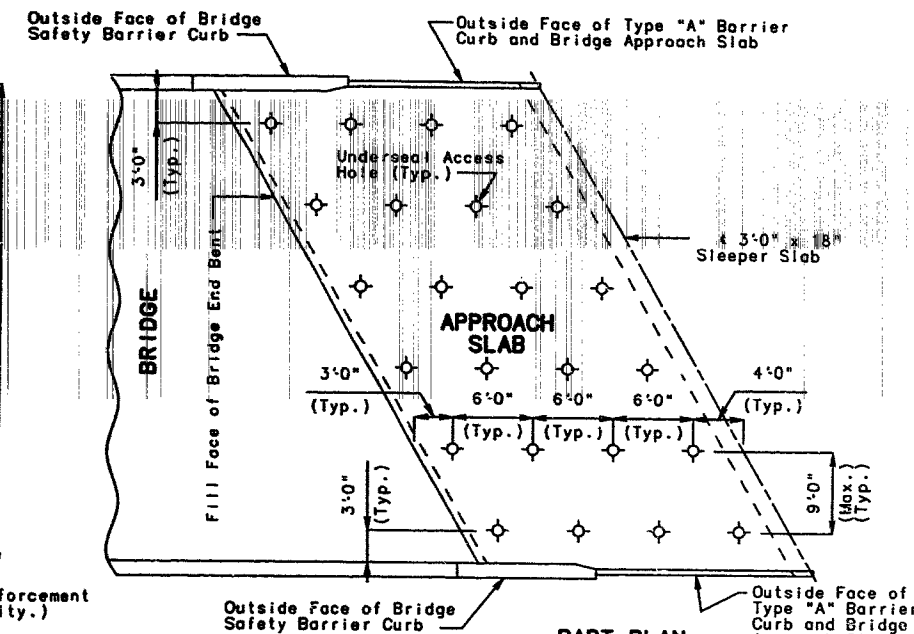
3'0"

3'0"

3'0"

Note: Construct end of approach Slab parallel to Fill Face of End Bent.

STATE	PROJ. NO.	SHEET NO.
MO.		138



PART PLAN

(Showing typical underseal access hole locations)

GENERAL NOTES:

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

All joint filler shall meet the requirements of Section 1057.2.5, except as noted.

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 & #6 bars 27" and 29" respectively.

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

Hooks and bends shall be in accordance with the C.R.S.I. Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

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

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

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

When a lap splice is required for the use of a mechanical bar splice, the minimum lap length shall be 29" for transverse approach slab bar splices.

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

Payment for furnishing all materials and labor necessary to construct the approach slab and timber header, complete in place as shown on this sheet, shall be considered as completely covered under the contract unit price for "Bridge Approach Slab (Bridge)", Per Sq. Yd.

Type 5 aggregate base shall conform to Sections 1.0 through 3.0 of MRSP-93-01B Type 5 Aggregate for base. See Special Provisions.

Typical Underseal Access Hole Detail

GENERAL NOTES (CONT.):

See Missouri Standard Plans Drawing 504.00 for details of concrete approach pavement.

See Missouri Standard Plans Drawing 605.10 for details of Class A Underdrain.

See Missouri Standard Plans Drawing 609.00 for details of Type A Barrier Curb.

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

When Grade 40 reinforcement is substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment, the reinforcement may be bent up to 90 degrees with a 2" minimum radius near the abutment to allow compaction of the backfill material near the abutment. Damage to epoxy coating shall be repaired according to Mo. Std. Spec. 710.3.3.

SHEET NO. 43 OF 48

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO.	LOCATION	SHAPE NO.	STIRRUP NO.	VALLEY (V)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT	
							B	C	D	E	F	H	K				
							FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.				FT. IN.
		SUBSTRUCTURE															
		ABUTMENT #1															
160	10 D1	FOOTING	E 17	X			17	9.000							19 2	19 2	13196
25	8 E2	FOOTING	E 20	X			12	9.000							12 0	12 0	333
19	8 E3	FOOTING	E 20	X			36	9.000							36 9	36 9	442
41	8 E4	FOOTING	E 20	X			35	10.000							35 10	35 10	981
48	4 D5	FOOTING	E 20	X			24	4.000							24 4	24 4	780
107	6 D6	FOOTING	E 10	S X				5 10.000	18.000						13 2	12 10	2062
79	7 D7	FOOTING	E 17	X			17	9.000							18 7	18 7	3061
15	6 D8	FOOTING	E 20	X			4	2.000							4 2	4 2	94
24	8 D9	FOOTING	E 19	X			7	4.000	16.000						8 8	8 6	545
81	6 D10	FOOTING	E 20	X			15	6.000							15 6	15 6	1886
161	10 D11	FOOTING	E 19	X			16	6.000	22.000						18 4	18 0	12470
4	6 F1	WING	E 15	X			14.000	6 0.375	1.000	10.000	9.750	10.000	9.750	8 4	8 4	50	
10	6 H1	BEAM	E 20	X			36	9.000							36 9	36 9	582
20	6 H2	BEAM	E 20	X			24	4.000							24 4	24 4	731
23	4 H3	BEAM & STEM	E 20	X			37	6.000							37 6	37 6	576
70	4 H4	BEAM & STEM	E 20	X			23	7.000							23 7	23 7	1103
16	4 H5	BEAM	E 20	X			2	9.000							2 9	2 9	29
1	4 H6	APPRO. HAUNCH	E 20	X			33	5.000							33 5	33 5	22
2	4 H7	APPRO. HAUNCH	E 20	X			23	7.000							23 7	23 7	32
2	6 H8	BACKWALL	E 20	X			38	6.000							38 6	38 6	116
4	6 H9	BACKWALL	E 20	X			24	1.000							24 1	24 1	145
21	6 H10	WING	E 20	X			14	8.000							14 8	14 8	463
40	8 H11	WING	E 19	X			14	8.000	16.000						16 0	15 10	1691
8	6 H12	WING	E 20	X			12	9.000							12 9	12 9	153
7	8 H13	WING	E 19	X			12	9.000	16.000						14 1	13 11	260
16	4 H14	CURTAIN WALL	E 20	X			4	8.000							2 8	2 8	29
12	4 H15	STEM	E 20	X			27	8.000							27 8	27 8	222
33	8 H16	STEM	E 19	X			12	0.000	16.000						13 4	13 2	1160
77	5 H17	BACKWALL	E 19	X			2	0.000	2 0.000						4 0	3 11	315
4	6 T1	CURTAIN WALL	E 19	X			4 10.500	2 10.500							7 9	7 7	46
81	4 U1	BEAM	E 13	S X			2	8.000	2 2.000	2 8.000	2 2.000				10 5	10 2	550
34	4 U2	BEAM	E 10	S X				12.000	2 8.000						4 8	4 6	102
8	4 U3	BEAM	E 10	S X				6.000	2 8.000						3 8	3 6	19
77	4 U4	APPRO. HAUNCH	E 10	S X				17.500	6.000						3 5	3 3	167
81	6 V1	BACKWALL	E 23	X			3	6.625	7 7.000			2 6.125	2 6.125		11 2	11 1	1348
81	6 V2	BACKWALL	E 20	X			6	4.000							6 4	6 4	535
81	6 V3	STEM	E 20	X			9	2.000							9 2	9 2	1115
83	10 V4	STEM	E 20	X			13	6.000							13 6	13 6	4822
12	6 V5	WING	E 20	X			24	8.000							24 8	24 8	445
24	8 V6	WING	E 20	X			24	8.000							24 8	24 8	1581
3	6 V7	WING	E 20	X			19	9.000							19 9	19 9	89
8	6 V8	CURTAIN WALL	E 20	X			5	1.000							5 1	5 1	61
18	WS W1	A B WELL	E 22	X			2	1.000	9.125						33 2	33 2	100
		INT. BENT #2															
16	6 D21	FOOTING	10	X				5 0.000	14 0.000						24 0	23 8	569
96	8 D22	FOOTING	20	X			14	9.000							14 9	14 9	3781
144	6 D23	FOOTING	20	X			8	9.000							8 9	8 9	1893
56	6 D24	BEAM	20	X			2	9.000							2 9	2 9	231

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO.	SIZE	MARK	LOCATION	DEPTH (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (Y)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT				
											B	C	D	E	F	H	K							
											FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.				FT. IN.	FT. IN.		
9	9 H21	BEAM			20	X					39	10.000						39	10	1219				
2	6 H22	BEAM			20	X					36	7.000						36	7	582				
9	9 H23	BEAM			17	X					42	4.000						42	7	1354				
9	9 H24	BEAM			17	X					43	10.000						45	1	1380				
9	9 H25	BEAM			20	X					43	10.000						43	10	1381				
2	6 H26	BEAM			20	X					43	10.000						43	10	132				
8	6 H27	BEAM			10	X							22.000	5	3.000			6	11	79				
28	6 H28	BEAM			20	X					3	2.000						3	2	133				
ABUTMENT #2																								
1	4 P21	COLUMN			35	X					2	9.000	3.000	16	5.875			587	0	587	0	392		
58	6 U21	BEAM			35	X					2	9.000	3.000	16	8.375			594	1	594	1	397		
1	4 P23	COLUMN			35	X					2	9.000	3.000	16	10.875			601	2	601	2	402		
1	4 P24	COLUMN			35	X					2	9.000	3.000	17	1.375			608	3	608	3	406		
24	4 P25	BEAM			34	S	X				2	9.000						9	6	9	6	152		
ABUTMENT #3																								
85	6 U23	BEAM			13	S	X				3	3.000	2	9.000	3	3.000	2	9.000	13	4	12	10	1638	
58	6 U24	BEAM			13	S	X				2	2.000	2	9.000	2	2.000	2	9.000	11	2	10	8	929	
49	4 U27	BEAM			10	S	X						10.000	3	3.000			4	11	4	9	155		
ABUTMENT #4																								
13	9 V21	COLUMN			36	X					18	11.000						21	5	21	5	947		
13	9 V22	COLUMN			36	X					19	2.000						21	8	21	8	958		
13	9 V23	COLUMN			36	X					19	4.000						21	10	21	10	965		
13	9 V24	COLUMN			36	X					19	7.000						22	1	22	1	976		
ABUTMENT #5																								
SUPERSTR.																								
END BENT #3																								
ABUTMENT #6																								
13	6 F31	WING			15	S					14.000	3	10.125	14.000	10.625	9.125	10.625	9.125	6	2	6	1	119	
5	6 F32	DIAPH.			23	S					2	2.500	4	11.375			2	2.250	3.750	7	2	7	0	53
13	6 F33	WING			15	S					14.000	4	4.625	14.000	9.125	10.625	9.125	10.625	6	9	6	8	130	
5	6 F34	DIAPH.			21	S					5	4.000	2	2.500			5	3.375	9.000	7	7	7	4	55
ABUTMENT #7																								
9	6 H31	BEAM			20						40	7.000						40	7	40	7	549		
3	8 H32	BEAM			20						43	0.000						43	0	43	0	344		
9	6 H33	BEAM			20						43	3.000						43	3	43	3	585		
3	8 H34	BEAM			20						43	3.000						43	3	43	3	346		
3	6 H35	DIAPH.			20						2	5.000						2	5	2	5	11		
24	6 H36	DIAPH.			20						7	6.000						7	6	7	6	270		
5	8 H37	DIAPH.			20						37	11.000						37	11	37	11	506		
3	6 H38	DIAPH.			20						2	7.000						2	7		7	12		
5	8 H39	DIAPH.			20						48	3.000						48	3	48	3	644		
4	6 H40	DIAPH.			E 20						37	11.000						37	11	37	11	228		
4	6 H41	DIAPH.			E 20						46	7.000						46	7	46	7	280		
9	5 H42	STRAND BAR			23						15.000	17.000	15.000	1.875	14.875	1.875	14.875	3	11	3	11	37		
1	4 H43	APPRO. HAUNCH			20						36	7.000						36	7	36	7	24		
1	4 H44	APPRO. HAUNCH			20						42	9.000						42	9	42	9	29		
73	5 H45	DIAPH.			E 20						2	6.000						2	6	2	6	190		
29	9 H46	WING			17						13	4.000						14	7	14	7	1438		
18	6 H47	WING			20						13	4.000						13	4	13	4	360		
4	9 H48	WING			E 17						13	4.000						14	7	14	7	198		
2	6 H49	WING			E 20						13	4.000						13	4	13	4	40		
28	4 H50	BEAM			20						2	3.000						2	3	2	3	42		
ABUTMENT #8																								
51	5 U31	BEAM			10	S						5	1.000	2	3.250			12	5	12	3	652		
31	4 U32	BEAM			13	S					2	3.250	2	9.000	2	3.250	2	9.000	10	10	10	7	219	
10	4 U33	BEAM			10	S						2	9.000	2	3.250			7	9	7	7	51		
28	4 U34	BEAM			10	S							9.000	2	9.000			4	3	4	1	76		

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO.	LOCATION	ELEV. (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIABLE (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.
61	5 U35	DIAPH.	E 10	S											10 7	10 5	663	
195	6 U35	DIAPH.	E 19	S											8 0	7 10	1235	
35	4 U37	APPR. HATCH	E 10	S											5 5	5 3	119	
20	2 V31	BEAM	E 20	S											5 1	5 1	106	
2	6 V32	WING	E 20	S											7 0	7 0	21	
24	6 V35	WING	E 20	S											7 3	7 3		
		INCREMENT =													7 0	7 0	257	
		0.250 INCH																
2	6 V34	WING	E 20	S											7 2	7 2	22	
24	6 V35	WING	E 20	S											7 5	7 5		
		INCREMENT =													7 2	7 2	263	
		0.250 INCH																
		END DIAPH.																
		ABUT. #1																
24	9 H203	DIAPH.	E 20	S											7 10	7 10	639	
8	6 H203	DIAPH.	E 20	S											7 12	7 10	94	
1	6 H203	DIAPH.	E 20	S											43 1	43 1	65	
32	4 H204	DIAPH.	E 20	S											0 12	0 12	21	
1	5 H205	DIAPH.	E 20	S											41 7	41 7	43	
1	6 H206	DIAPH.	E 20	S											35 6	35 6	53	
1	5 H207	DIAPH.	E 20	S											35 6	35 6	37	
56	6 U201	DIAPH.	E 28	S											5 11	5 7		
		INCREMENT =													4 8	4 4	417	
		5.000 INCH																
56	6 U202	DIAPH.	E 11	S											5 11	5 7		
		INCREMENT =													4 8	4 4	417	
		5.000 INCH																
42	4 U203	DIAPH.	E 28	S											4 2	4 0	112	
42	4 U204	DIAPH.	E 11	S											4 2	4 0	112	
8	6 U205	DIAPH.	E 28	S											5 11	5 7		
		INCREMENT =													4 7	4 3	56	
		5.375 INCH																
8	6 U206	DIAPH.	E 11	S											5 11	5 7		
		INCREMENT =													4 7	4 3	59	
		5.375 INCH																
6	4 U207	DIAPH.	E 28	S											4 4	4 2	17	
6	4 U208	DIAPH.	E 11	S											4 4	4 2	17	
4	5 U209	DIAPH.	E 21	S											9.625	0.625	14	
4	5 U210	DIAPH.	E 23	S											8.000	0.625	13	
4	5 V201	DIAPH.	E 20	S											3 6	3 6	15	
		IN. DIAPH 2																
32	6 H101	DIAPH.	E 20	S											7 6	7 6	360	
32	4 H102	DIAPH.	E 20	S											7 6	7 6	160	
12	5 H103	STRAND BAR	E 20	S											2 11	2 11	37	
42	5 H104	STRAND BAR	E 20	S											4 5	4 5	193	
32	6 U101	DIAPH.	E 28	S											7 8	7 4	352	
96	4 U102	DIAPH.	E 28	S											7 6	7 4	470	
20	5 U103	DIAPH.	E 19	S											3 5	3 4	70	
8	5 V101	DIAPH.	E 20	S											4 2	4 2	35	

BILL OF REINFORCING STEEL

NO.	REQ'D.	MARK NO.	LOCATION	ELEV.	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIABLE (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.
			SLAB																	
216	4	S1	SLAB	E 20						3	2.000							437		
219	5	S2	SLAB	E 20						36	2.000							8718		
3	6	S3	SLAB	E 20				V	1	40	1.000									
			INCREMENT =							11	1.000									
			174.000 INCH															15		
214	6	S4	SLAB	E 20						44	9.000							14384		
12	6	S5	SLAB	E 20				V	1	43	6.000									
			INCREMENT =							3	1.000									
			44.125 INCH															420		
1	6	S6	SLAB	E 20						15	5.000							23		
1	6	S7	SLAB	E 20						31	0.000							47		
208	6	S8	SLAB	E 20						37	5.000							11690		
9	6	S9	SLAB	E 20				V	1	36	9.000									
			INCREMENT =							5	0.000							282		
			47.625 INCH																	
126	7	S11	SLAB	E 20						44	3.000							11396		
20	5	C1	SLIP-FORM BC	E 20						10	0.000							209		
2	5	C2	SLIP-FORM BC	E 20						11	9.000							25		
2	5	C3	SLIP-FORM BC	E 20						11	1.000							23		
2	5	C4	SLIP-FORM BC	E 20						16	0.000							33		
4	5	C5	SLIP-FORM BC	E 20						12	0.000							50		
2	5	C6	SLIP-FORM BC	E 20						12	0.000							25		
374	5	R1	BARRIER CURB	E 19	S					2	6.000	3.500						1040		
318	5	R2	BARRIER CURB	E 15	S					2	6.125	3.500						912		
226	5	R3	BARRIER CURB	E 19	S						17.000	6.000			2	6.000	3.000	432		
226	5	R4	BARRIER CURB	E 27	S						6.000	11.125	7.000	12.000	9.125	6.375	3 0	2 10	668	
92	5	R5	BARRIER CURB	E 19	S					2	11.000	6.000					3 5	3 4	320	
92	5	R6	BARRIER CURB	E 27	S						6.000	10.625	2 2.000		8.750	6.125	3 7	3 6	336	
6	5	R7	BARRIER CURB	E 19	S					2	9.000	6.000					3 3	3 2	20	
6	5	R8	BARRIER CURB	E 27	S						6.000	7.750	2 2.000		6.250	4.625	3 4	3 3	20	
6	5	R9	BARRIER CURB	E 19	S					2	3.500	3.500					2 7	2 6	21	
18	5	R10	BARRIER CURB	E 10	S						2 9.000	7.500					6 2	5 11	111	
36	5	R11	BARRIER CURB	E 20	S						5 0.000						5 0	5 0	188	
6	5	R12	BARRIER CURB	E 20	S						11 6.000						11 6	11 6	72	
1	5	R13	BARRIER CURB	E 20	S						12 6.000						12 6	12 6	13	
6	5	R14	BARRIER CURB	E 20	S						11 9.000						11 9	11 9	74	
1	5	R15	BARRIER CURB	E 20	S						12 9.000						12 9	12 9	13	
2	5	R16	BARRIER CURB	E 11	S							6.000	19.000	9.000			2 10	2 8	6	
2	5	R17	BARRIER CURB	E 27	S							6.000	7.750	13.000	9.000	6.250	4.625	3 0	2 10	6
6	5	R18	BARRIER CURB	E 11	S							6.000	19.000	7.000			2 8	2 6	16	
6	5	R19	BARRIER CURB	E 28	S							6.000	19.000	9.000			2 10	2 8	17	
16	5	R20	BARRIER CURB	E 20	S						9 9.000						9 9	9 9	163	
12	5	R21	BARRIER CURB	E 20	S						4 9.000						4 9	4 9	59	
6	5	R22	BARRIER CURB	E 20	S						2 0.000						2 0	2 0	13	
1	5	R23	BARRIER CURB	E 20	S						3 0.000						3 0	3 0	3	
14	5	R24	BARRIER CURB	E 20	S						31 7.000						31 7	31 7	461	
14	5	R25	BARRIER CURB	E 20	S						9.000						0 9	0 9	11	
7	5	R26	BARRIER CURB	E 20	S						36 2.000						36 2	36 2	264	
7	5	R27	BARRIER CURB	E 20	S						36 0.000						36 0	36 0	263	
14	5	R28	BARRIER CURB	E 20	S						31 8.000						31 8	31 8	462	
14	5	R29	BARRIER CURB	E 20	S						11 9.000						11 9	11 9	172	
7	5	R30	BARRIER CURB	E 20	S						15 9.000						15 9	15 9	115	
6	5	R31	BARRIER CURB	E 20	S						10 10.000						10 10	10 10	68	
1	5	R32	BARRIER CURB	E 20	S						11 10.000						11 10	11 10		

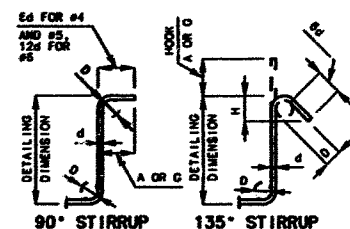
BILL OF REINFORCING STEEL

NO.	REQ'D.	MARK NO.	LOCATION	POST (L)	SHAPE NO.	STAMP (S)	SUBST. (C)	VALUED (Y)	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.			
			WALL																
			UNIT 1																
3	4	D310	FOOTING		20	X				13	7.000				13	7	82		
4	4	D311	FOOTING		20	X				13	7.000				13	7	82		
14	6	D312	FOOTING		20	X				8	2.000				8	2	172		
4	4	D313	FOOTING		20	X				8	2.000				8	2	76		
17	6	D314	WALL & FTG.		19	X V	1			8	11.000	2	6.000		11	5	285		
			INCREMENT =							8	9.000	2	6.000		11	3			
			0.125 INCH																
14	4	H310	WALL		20	X				13	7.500				13	8	128		
14	4	V310	WALL		20	X V	1			7	6.750				7	7			
			INCREMENT =							7	5.000				7	5	70		
			0.125 INCH																
			UNIT 2																
4	4	D320	SHEAR KEY		20	X				15	8.000				15	8	42		
16	6	D321	SHEAR KEY		10	S X					3	10.000	6.000		8	2	188		
21	7	D322	FOOTING		17	X				10	2.000				11	0	472		
16	5	D323	FOOTING		20	X				10	2.000				10	2	170		
11	4	D324	FOOTING		20	X				15	8.000				15	8	115		
11	4	D325	FOOTING		20	X				15	8.000				15	8	115		
31	8	D326	WALL & FTG.		19	X V	1			15	5.000	2	6.000		17	11	179		
			INCREMENT =							15	3.000	2	6.000		17	9	1462		
			0.125 INCH																
25	4	H320	WALL		20	X				15	9.000				15	9	263		
16	4	V320	WALL		20	X V	1			13	9.750				13	10			
			INCREMENT =							13	7.750				13	8	147		
			0.125 INCH																
			UNIT 3																
4	4	D330	SHEAR KEY		20	X				11	8.000				11	8	31		
12	6	D331	SHEAR KEY		10	S X					4	3.000	8.000		9	2	159		
24	8	D332	FOOTING		17	X				13	8.000				14	7	935		
12	5	D333	FOOTING		20	X				15	8.000				13	8	171		
15	4	D334	FOOTING		20	X V	1			11	8.000				11	8	118		
			INCREMENT =							11	6.000				11	6	116		
			0.125 INCH																
14	4	D335	FOOTING		20	X V	1			11	8.000				11	8			
			INCREMENT =							11	6.000				11	6	108		
			0.125 INCH																
24	10	D336	WALL & FTG.		19	X V	1			21	6.500	2	11.000		24	6	2487		
			INCREMENT =							21	4.750	2	11.000		24	4			
			0.125 INCH																
34	4	H330	WALL		20	X				11	9.000				11	9	267		

BILL OF REINFORCING STEEL

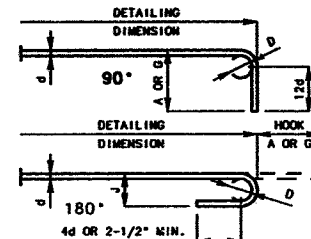
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Two additional #4-D5, #5-R20, #6-H12, #7-D7, #8-D2, #9-H48, and #10-V4 are included in the bar bill for testing.



STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	BYP HOOK		130° HOOK APPROX. H
		HOOK A OR B	HOOK C OR D	
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	5"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"

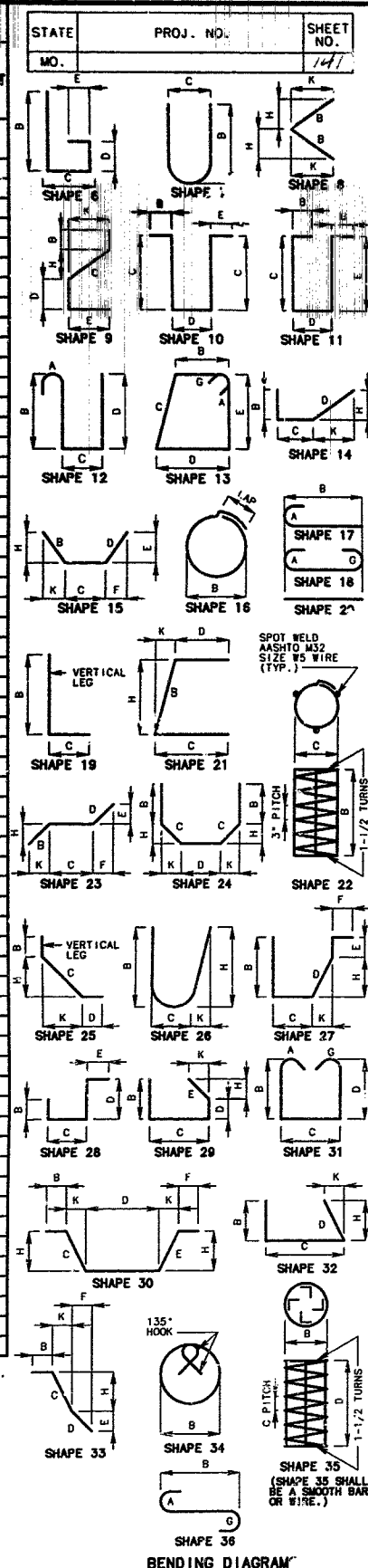
NOTE: UNLESS OTHERWISE NOTED DIAMETER
"D" IS THE SAME FOR ALL BENDS AND HOOKS
ON A BAR.



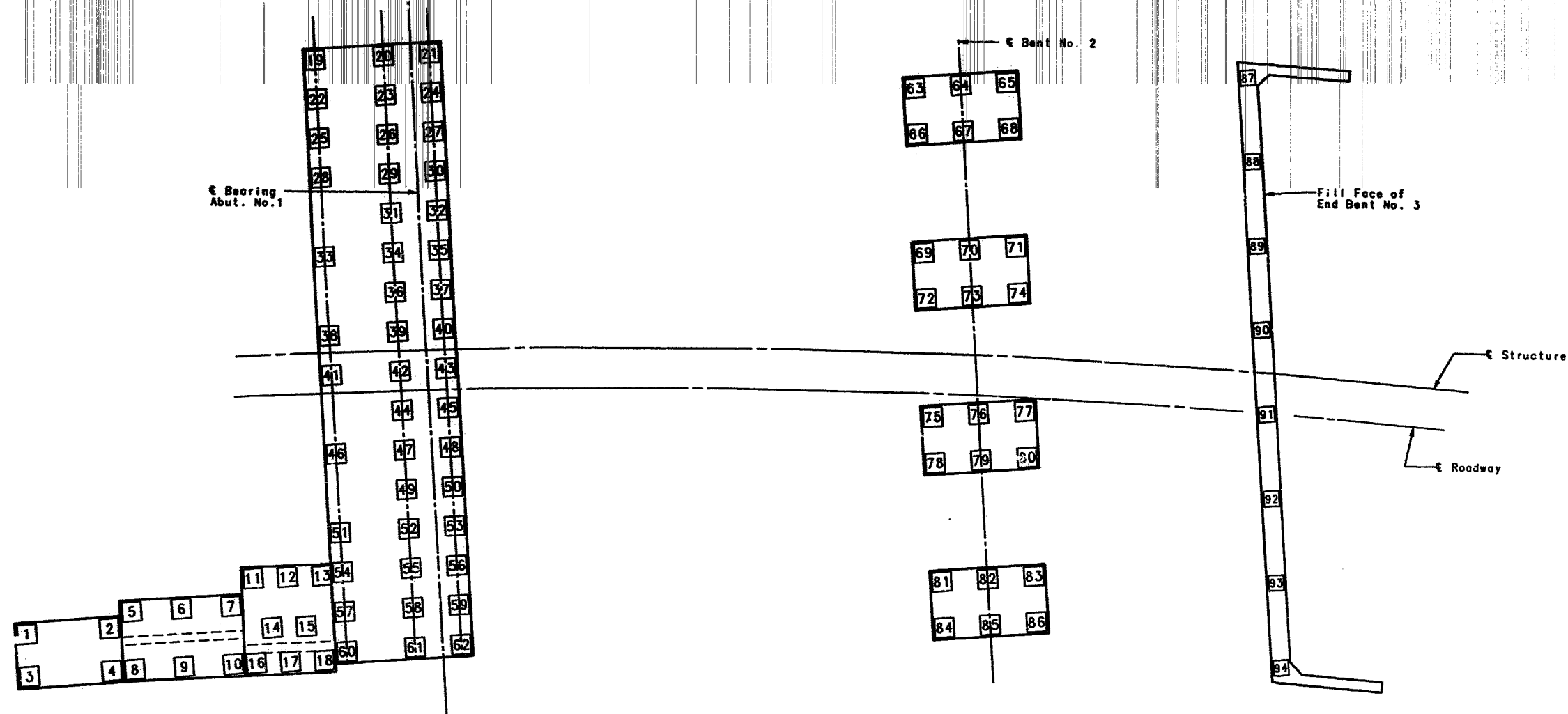
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

END HOOK DIMENSIONS					
BAR SIZE	D (in.)	ALL GRIDS			
		100' MOODS		90' MOODS	
		A OR G	J	A OR G	J
#3	2-1/4"	3"	3"	6"	6"
#4	3"	6"	4"	8"	8"
#5	3-3/4"	7"	5"	10"	10"
#6	4-1/2"	8"	6"	12"	12"
#7	5-1/4"	10"	7"	14"	14"
#8	6"	11"	8"	16"	16"
#9	6-1/2"	16"	11-3/4"	18"	18"
#10	10-3/4"	17"	13-1/4"	22"	22"
#11	12"	18"	14-3/4"	2'-0"	2'-0"
#14	18-1/4"	2'-3"	21'-3/4"	2'-7"	2'-7"

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 12" OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
CURVE ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) = FY 60,000 PSI.



STATE	PROJ. NO.	SHEET NO.
MO.		142



PART PLAN SHOWING
PILE NUMBERING FOR RECORDING
"AS BUILT" PILE DATA

Note: Work this sheet with sheet No. 48.

DETAILED JUNE 1995
CHECKED JUNE 1995

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

SHEET NO. 47 OF 48

ST. LOUIS COUNTY

A-5016

"AS BUILT" PILE DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
			WALL A • ABUT. NO. 1
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
			ABUTMENT NO. 1
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			

"AS BUILT" PILE DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
			ABUTMENT NO. 1 (CONT.)
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			
61			
62			

"AS BUILT" PILE DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
			INTERMEDIATE BENT NO. 2
63			
64			
65			
66			
67			
68			
69			
70			
71			
72			
73			
74			
75			
76			
77			
78			
79			
80			
81			
82			
83			
84			
85			
86			
			END BENT NO. 3
87			
88			
89			
90			
91			
92			
93			
94			

NOTE: INDICATE IN REMARK COLUMN:
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.
C.) TYPE OF PILING USED.

NOTE: THIS SHEET TO BE COMPLETED BY MHTD CONSTRUCTION PERSONNEL.

(70' - 39') PRESTRESSED CONCRETE I-GIRDER SPANS

FINAL PLANS



The locations of all subsurface boring for this structure are shown on the bridge plan sheet for this structure. Boring data for the numbered locations is shown on sheet No. 3. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, is available from the district materials engineer upon written request as outlined in the project special provisions. No greater significance or weight should be given to the boring data depicted on the plan sheets than to subsurface data available from the district or elsewhere.

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

Note: The contractor shall protect concrete surfaces above the final roadway template, that will be temporarily buried, by backfilling with sand to the satisfaction of the engineer. (No direct payment)

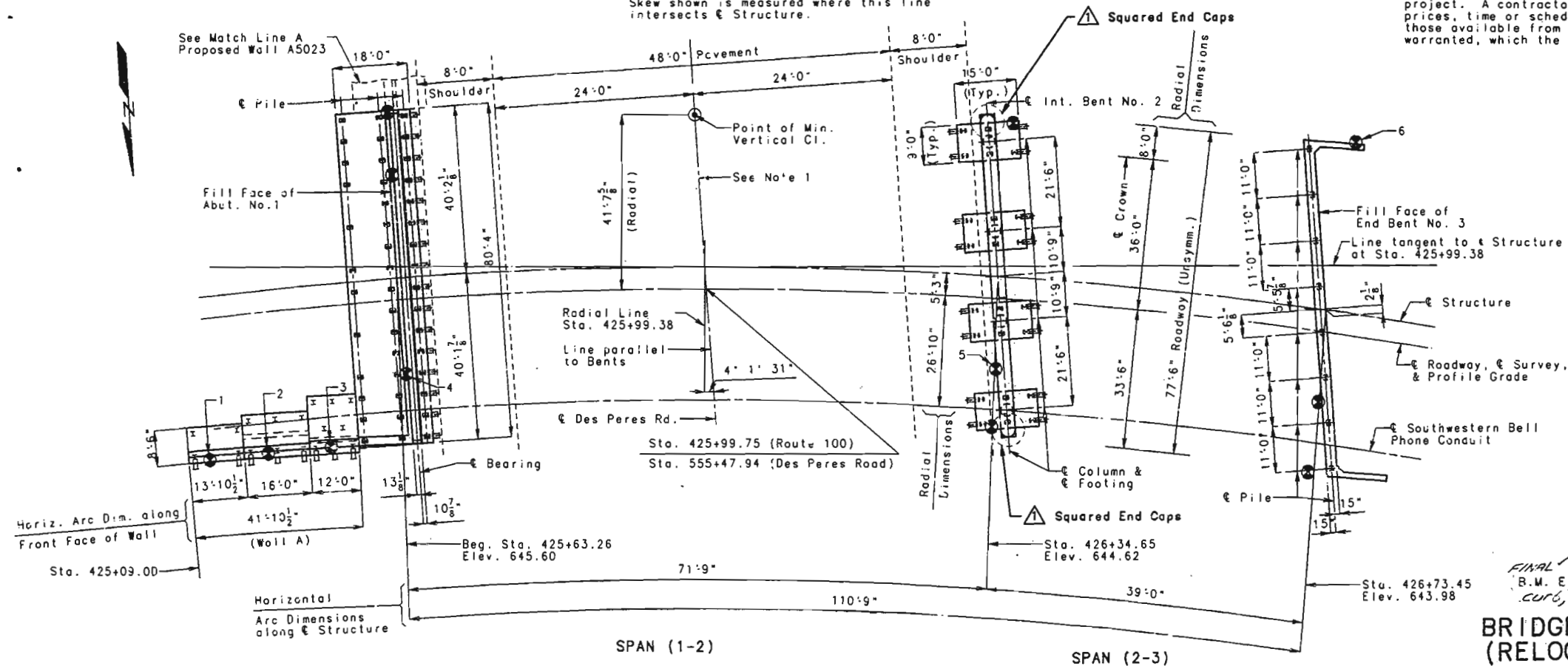
Note: For General Notes, Final Quantities, Final Quantities for Slab on Concrete I-Girder, and Pile Data, see Sheet No. 2.

CURVE DATA

P.I. = 424+62.48
 Δ = 42°14'52"
D = 5°30'
T = 402.47'
L = 768.14'
R = 1041.74'
S.E. = 0.04'/Ft.

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

Note 1: All Bents are parallel to a line skewed 4°02'44" R.A. to a Radial line at Sta. 425+99.75 along E Roadway. Skew shown is measured where this line intersects E Structure.



BRIDGE OVER RELOC. W.O.R. OF 1-270
(RELOC. DES PERES RD.)

STATE ROAD FROM RTE. 100 NORTH

AT RTE. 100 INTERCHANGE

PROJECT NO. 341-1100

PROJECT NO. *IM-1*
JOB NO. J610651

RTE. 1-270

ST. LOUIS

COUNTY

FINAL PLANS

STD. 504.00
STD. 605.10
STD. 609.00
STD. 611.60
STD. 706.35
A-5016

DESIGNED	AUG. 1994
DETAILED	JUNE 1995
CHECKED	JUNE 1995

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

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

SIGNATURE:

DATE

SHEET NO. 1 OF 48

1 Revised 1-29-96

DATE _____

GENERAL NOTES:

Design Specifications: A.A.S.H.T.O.-1992 and Inters thru 1994
Load Factor Design
Seismic Performance Category B

Design Loading:
HS20-44 35#/Sq. Ft. Future Wearing Surface
Modified 24,000# Tandem Axle
Earth 120#/cu. ft.,
Equivalent Fluid Pressure 47#/cu. ft. (Seismic and Non-Seismic Cases)
Superstructure: Simply-supported, non-composite for dead load.
Continuous composite for live load.
Ø = 26"

Design Unit Stresses:
Class B Concrete (Substructure) f'c=3,000 psi.
Class B1 Concrete (Barrier Curbs) f'c=4,000 psi.
Class B2 Concrete (Superstructure except Prestressed Girders and Barrier Curbs) f'c=4,000 psi.
Reinforcing Steel (Grade 60) fy=60,000 psi.
Steel Pile fb=9,000 psi.
For Prestressed Girder Stresses, see Sheets No. 22, & 23.
For Precast Prestressed Panel Stresses, see Sheet No. 29.

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

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

Waterstop:
Cast of Plastic Waterstop complete in place on Abutment No. 1, and Wall A shall be included in other items

Neoprene Bearings:
Bearings shall be 60 durometer neoprene pads.
The neoprene pad shall be bonded to the bearing seat with an epoxy adhesive as approved by the bearing manufacturer for bonding neoprene to concrete.

FINAL QUANTITIES			
ITEM	SUBSTR.	SUPERSTR.	TOTAL
Class 1 Excavation, Wall A 4 End Bent #3	Cu. Yd.	417	417
Excavation for Abutment No. 1 & Int. Bent No. 2	Cu. Yd.	1762	1762
Porous Backfill	Cu. Yd.	177	177
Bridge Approach Slab (Bridge)	Sq. Yd.	434	434
Structural Steel Piles (12")	Lin. Ft.	807	807
Structural Steel Piles (14")	Lin. Ft.	627	627
Pre-Bore for Piling	Lin. Ft.	894	894
Class B Concrete (Substr.)	Cu. Yd.	679.5	679.5
Protective Coating - Concrete Bents (Deleterious Agents)	Lump Sum		
Slab on Concrete I-Girder	Sq. Yd.	976	976
Safety Barrier Curb	Lin. Ft.	304	304
Laminated Neoprene Bearing Pads (Tapered)	Each	27	27
Laminated Neoprene Bearing Pads (P/S Structures)	Each	9	9
Preformed Compression Expansion Joint Seat (3.5)	Lin. Ft.	78	78
Prestressed Concrete I-Girders (70')	Each	9	9
Prestressed Concrete I-Girders (38')	Each	9	9
Reinforcing Steel (Bridges)	Pound	28,810	28,810
Conduit System on Structure (Telephone)	Lump Sum		
Reinforcing Steel (Epoxy Coated)	Pound	54,950	54,950
Fabricated Sign Support Brackets (Steel)	Lump Sum		
Earth Quake Restrainer Assembly	Each	16	16
Slab Drains	Each	8	8
Vertical Drain at End Bents	Each	1	1
Perforated Pipe Underdrain	Lump Sum		
CONTINGENT ITEMS			
Excavation for Conduit System Trench (305.01)	Cu. Yd.	34.0	34.0
Conduit System Revision	Lump Sum	1	1

Note: All concrete above the construction joint in end bent No. 3 is included in the estimated superstructure quantities for slab on concrete I-girder, see Special Provisions.
All reinforcement in end bent No. 3 is included with superstructure quantities.
The cost of furnishing, fabricating and installing neoprene bearing pads, complete-in-place, will be paid for at the contract unit price for Laminated Neoprene Bearing Pads (P/S Structure) and Laminated Neoprene Bearing Pads (tapered), per each.
Safety barrier curb shall be cast-in-place option or slip-form option.
Cost of channel shear connectors C4 x 5.4 (A-36) in place to be included in contract unit price for structural steel piles (12" and 14")
Concrete above upper construction joint in backwall at Abutment No. 1 is included with Class B (Substructure) Quantities.
Class 1 Excavation includes excavation for Wall A and excavation at bent No. 3.

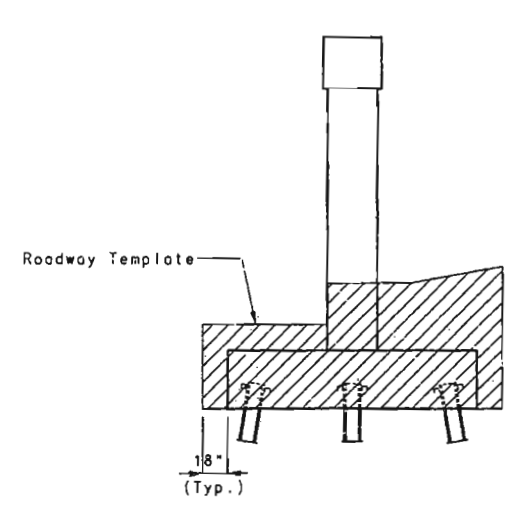
FINAL QUANTITIES FOR SLAB ON CONCRETE I-GIRDER		
ITEM		TOTAL
Reinforcing Steel (Plain)	Pound	8,160
Reinforcing Steel (Epoxy Coated)	Pound	53,430
Concrete	Cu. Yd.	264.0

Note: The table of Estimated Quantities For Slab On Concrete I-Girder represents the quantities used by the state in preparing the cost estimate for concrete slabs. Variations may be encountered in these estimated quantities but these variations cannot be used for an adjustment in the contract unit price per square yard of slab on concrete I-girder.
See Special Provisions for methods of forming slabs.
Prestressed panel quantities are based on skewed end panels.
Based on minimum top flange thickness and minimum joint filler thickness.
The prestressed panel quantities are not included in the table of Estimated Quantities For Slab On Concrete I-Girder.

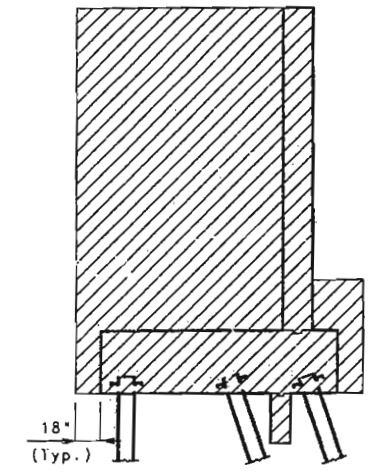
FINAL PILE DATA			
BENT NO.	1	2	3
Kind	HP14X73	HP12X53	
Number	44	24	8
Final Lengths	Ft. 11' to 17'	13' to 16'	17' to 26'
Design Bearing	Tons 97	60	53
Hammer Energy Required	Ft.-Lbs. 25,100	14,000	11,600

Note: Minimum energy requirement of hammer is based on plan length and design bearing value of piles.
All piles shall be driven to practical refusal.
Prebore for Piles at Abutment No. 1, Int. Bent No. 2, and End Bent No. 3, to elevation 604.40, 606.50, and 626.00, respectively.
For Wall A Pile Data, see Sheet No. 14.

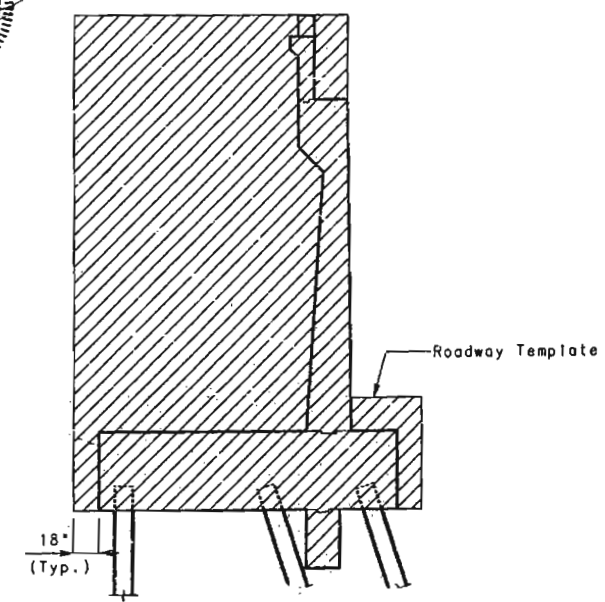
1. Prebore for Piles at Abutment No. 1, and Int. Bent No. 2 to 10' below existing ground surface and End Bent No. 3, to elevation 626.00



LIMITS OF EXCAVATION AT INT. BENT NO. 2



LIMITS OF EXCAVATION AT ABUTMENT NO. 1

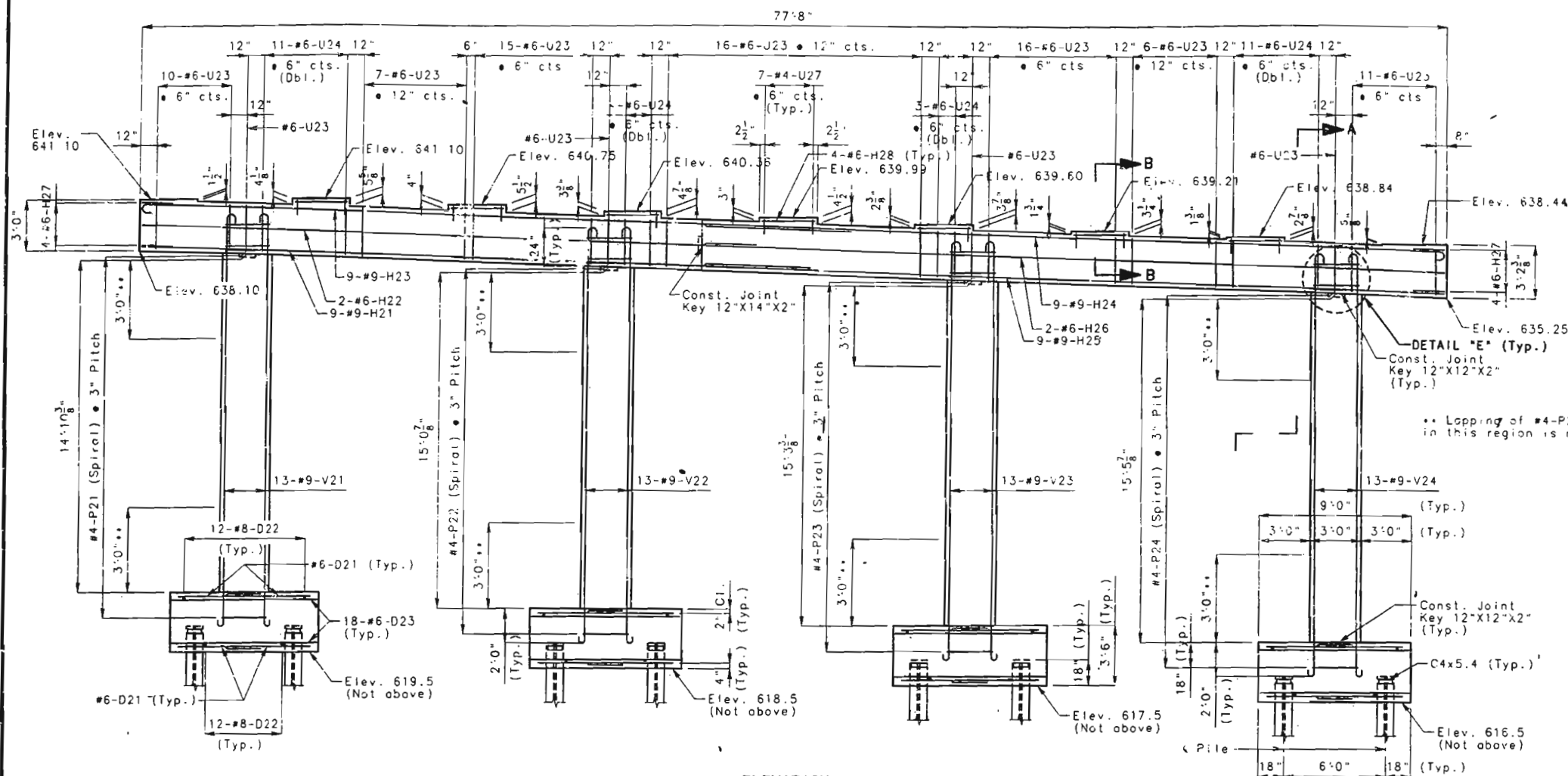


LIMITS OF EXCAVATION AT ABUTMENT NO. 1

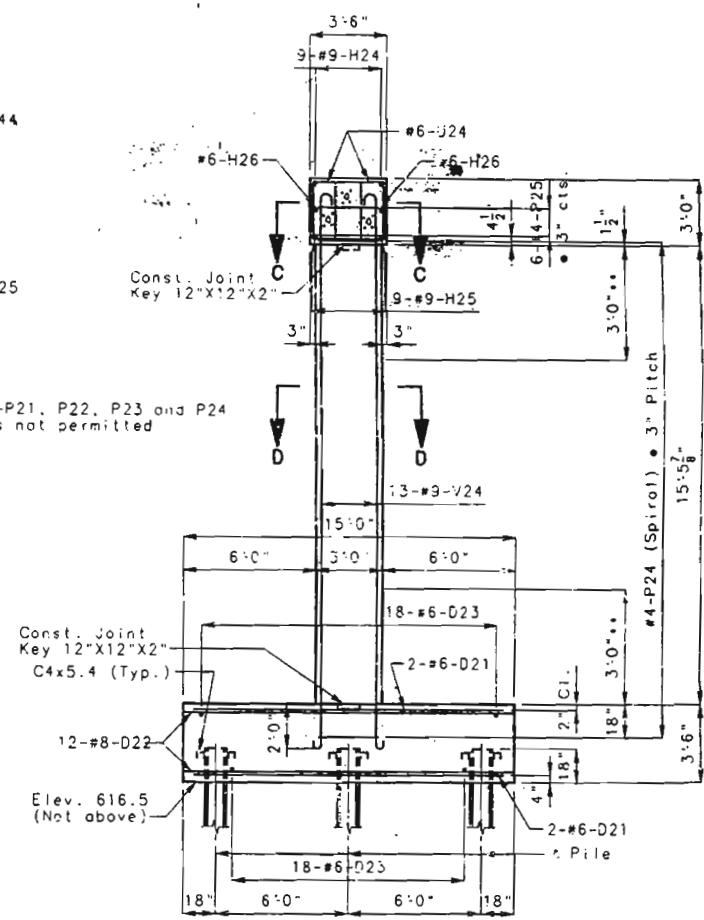


FINAL PLANS
I HEREBY CERTIFY THAT THIS DRAWING ACCURATELY REPRESENTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.
SIGNATURE: [Signature] DATE: 5-24-95
DRAWN BY: [Signature]

FINAL PLANS

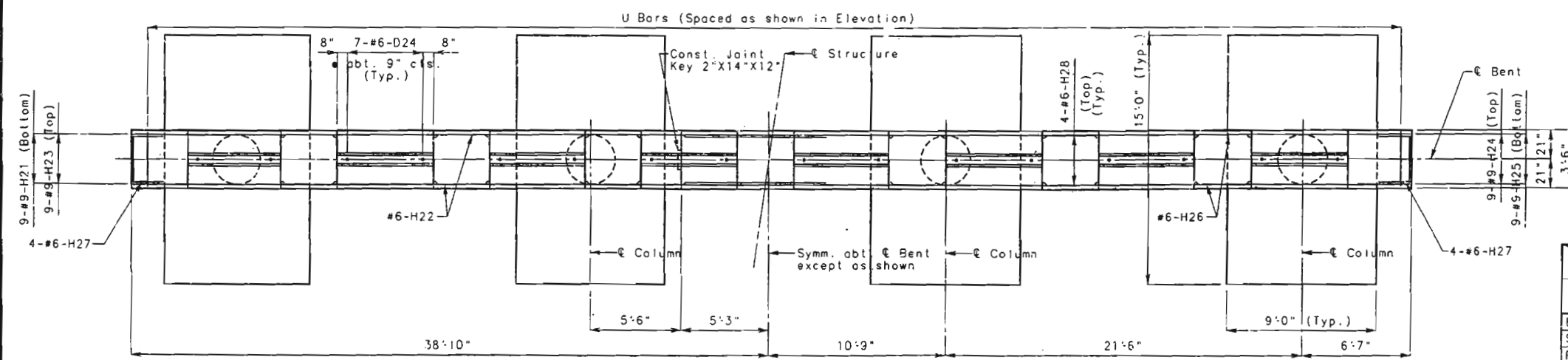


ELEVATION



SECTION A-A

Note: For Plan of Bent Showing Bearings, Plan of Footing Showing Reinforcement, Detail of Key, Section B-B, Section C-C, Section D-D, Detail "E", Details of 135° Seismic Spiral Tie Hook, Anchor Splices in Spiral Around Vertical Bar, Details of Laminated Neoprene Bearing Pads, Detail of C4x5.4 and Steel Pile Splice, see Sheet No. 17.



PLAN SHOWING REINFORCEMENT

DETAILS OF INTERMEDIATE BENT NO. 2

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

DETAILED FEB. 1994
CHECKED MAY 1995

SIGNATURE _____ DATE _____

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



SHEET NO. 16 OF 48

Deleted 1-19-96

Note: See Sheet No. 2 for Final Quantities

ITEM	QUANTITY
Excavation for Int. Bent No. 2	Cu. Yd. 200
Structural Steel Piles (12")	Lin. Ft. 264
Pre-Bore for Piling	Lin. Ft. 276
Class B Concrete (Substructure)	Cu. Yd. 117.3
Reinforcing Steel (Bridges)	Lb. 20,520

Note: These quantities are included in the quantities table on Sheet No. 2.

FINAL PLANS

ST. LOUIS COUNTY

A-5016

5779



FINAL PLANS
I HEREBY CERTIFY THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT AND THAT I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MISSOURI.
SIGNATURE DATE

"AS BUILT" PILE DATA				
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	PAY FOR SPICE	REMARKS
WALL A • ABUT. NO. 1				
1	11'	74.1	-	12" H.P. - PRACTICAL REFUSAL -
2	12	70.0	-	
3	11'	73.1	-	BATTERED 4/12
4	13'	81.2	-	BATTERED 4/12
5	20'	126.0	8'	
6	13'	105.0	-	
7	17'	105.0	-	
8	14'	137.0	-	BATTERED 4/12
9	12'	109.6	-	BATTERED 4/12
10	17'	109.6	-	BATTERED 4/12
11	14'	126.0	-	
12	14'	114.5	-	
13	14'	105.0	-	
14	14'	109.6	-	BATTERED 4/12
15	14'	137.0	-	BATTERED 4/12
16	14'	109.6	-	BATTERED 4/12
17	14'	109.6	-	BATTERED 4/12
18	14'	109.6	-	BATTERED 4/12
ABUTMENT NO. 1				
19	11'	0	-	14" H.P. - REFUSAL ON ROCK -
20	14'	0	-	BATTERED 4/12 - " " -
21	15'	199.3	-	BATTERED 4/12 - PRACTICAL REFUSAL -
22	12'	0	-	REFUSAL ON ROCK -
23	15'	219.2	-	BATTERED 4/12 - PRACTICAL REFUSAL -
24	15'	199.3	-	BATTERED 4/12 - " " -
25	11'	0	-	REFUSAL ON ROCK -
26	16'	199.3	-	BATTERED 4/12 - PRACTICAL REFUSAL -
27	14'	0	-	BATTERED 4/12 - REFUSAL ON ROCK -
28	11'	0	-	" " -
29	16'	199.3	-	BATTERED 4/12 - PRACTICAL REFUSAL -
30	16'	199.3	-	BATTERED 4/12 - " " -
31	14'	199.3	-	BATTERED 4/12 - " " -
32	16'	0	-	BATTERED 4/12 - REFUSAL ON ROCK -

"AS BUILT" PILE DATA				
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	PAY FOR SPICE	REMARKS
ABUTMENT NO. 1 (CONT.)				
33	12'	210.0	-	14" H.P. - PRACTICAL REFUSAL
34	15'	199.3	-	BATTERED 4/12
35	15'	199.3	-	BATTERED 4/12
36	15'	199.3	-	BATTERED 4/12
37	15'	0	-	BATTERED 4/12 - REFUSAL ON ROCK -
38	16'	193.8	-	PRACTICAL REFUSAL
39	17'	199.3	-	BATTERED 4/12
40	13'	219.2	-	BATTERED 4/12
41	14'	210.0	-	
42	16'	199.3	-	BATTERED 4/12
43	15'	199.3	-	BATTERED 4/12
44	16'	219.2	-	BATTERED 4/12
45	15'	199.3	-	BATTERED 4/12
46	14'	210.0	8'	
47	15'	199.3	-	BATTERED 4/12
48	14'	219.2	-	BATTERED 4/12
49	15'	199.3	-	BATTERED 4/12
50	13'	0	-	BATTERED 4/12 - REFUSAL ON ROCK -
51	12'	0	-	" " -
52	15'	199.3	-	BATTERED 4/12 - PRACTICAL REFUSAL -
53	14'	199.3	-	BATTERED 4/12 - " " -
54	13'	0	-	REFUSAL ON ROCK -
55	15'	219.2	-	BATTERED 4/12 - PRACTICAL REFUSAL -
56	13'	0	-	BATTERED 4/12 - REFUSAL ON ROCK -
57	12'	0	-	" " -
58	14'	199.3	-	BATTERED 4/12 - PRACTICAL REFUSAL -
59	13'	219.2	-	BATTERED 4/12 - " " -
60	12'	210.0	-	" " -
61	13'	0	-	BATTERED 4/12 - REFUSAL ON ROCK -
62	12'	219.2	-	BATTERED 4/12 - PRACTICAL REFUSAL -
619' LENGTH IN PLACE				
8' ADDITIONAL FOR 1 SPICE				
627' FINAL TOTAL 14" H.P.				

"AS BUILT" PILE DATA				
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	PAY FOR SPICE	REMARKS
INTERMEDIATE BENT NO. 2				
63	13'	133.9	-	2" H.P. BATTERED 2/12 - PRACTICAL REFUSAL
64	16'	126.0	-	
65	15'	120.5	-	BATTERED 2/12
66	13'	126.8	-	BATTERED 2/12
67	14'	114.5	-	
68	15'	120.5	-	BATTERED 2/12
69	14'	120.5	-	BATTERED 2/12
70	13'	126.0	-	
71	14'	120.5	-	BATTERED 2/12
72	13'	120.5	-	BATTERED 2/12
73	14'	126.0	-	
74	15'	120.5	-	BATTERED 2/12
75	15'	133.9	-	BATTERED 2/12
76	14'	157.5	8'	
77	13'	133.9	-	BATTERED 2/12
78	13'	126.8	-	BATTERED 2/12
79	12'	157.5	8'	
80	14'	133.9	-	BATTERED 2/12
81	14'	160.7	-	BATTERED 2/12
82	14'	126.0	8'	
83	15'	133.9	-	BATTERED 2/12
84	14'	126.8	-	BATTERED 2/12
85	13'	193.8	-	
86	12'	172.2	-	BATTERED 2/12
END BENT NO. 3				
87	17'	120.0	-	12" H.P. -
88	20'	126.0	-	
89	18'	140.0	-	
90	26'	157.5	-	
91	26'	126.0	-	
92	25'	120.0	-	
93	25'	120.0	-	
94	26'	126.0	8'	
767' LENGTH IN PLACE				
40' ADDITIONAL FOR 5 SPLICES				
807' FINAL TOTAL 12" H.P.				

NOTE: INDICATE IN REMARK COLUMN:
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.
C.) TYPE OF PILING USED.

Note: Work this sheet with sheet No. 47.

NOTE: THIS SHEET TO BE COMPLETED BY MHTD CONSTRUCTION PERSONNEL.