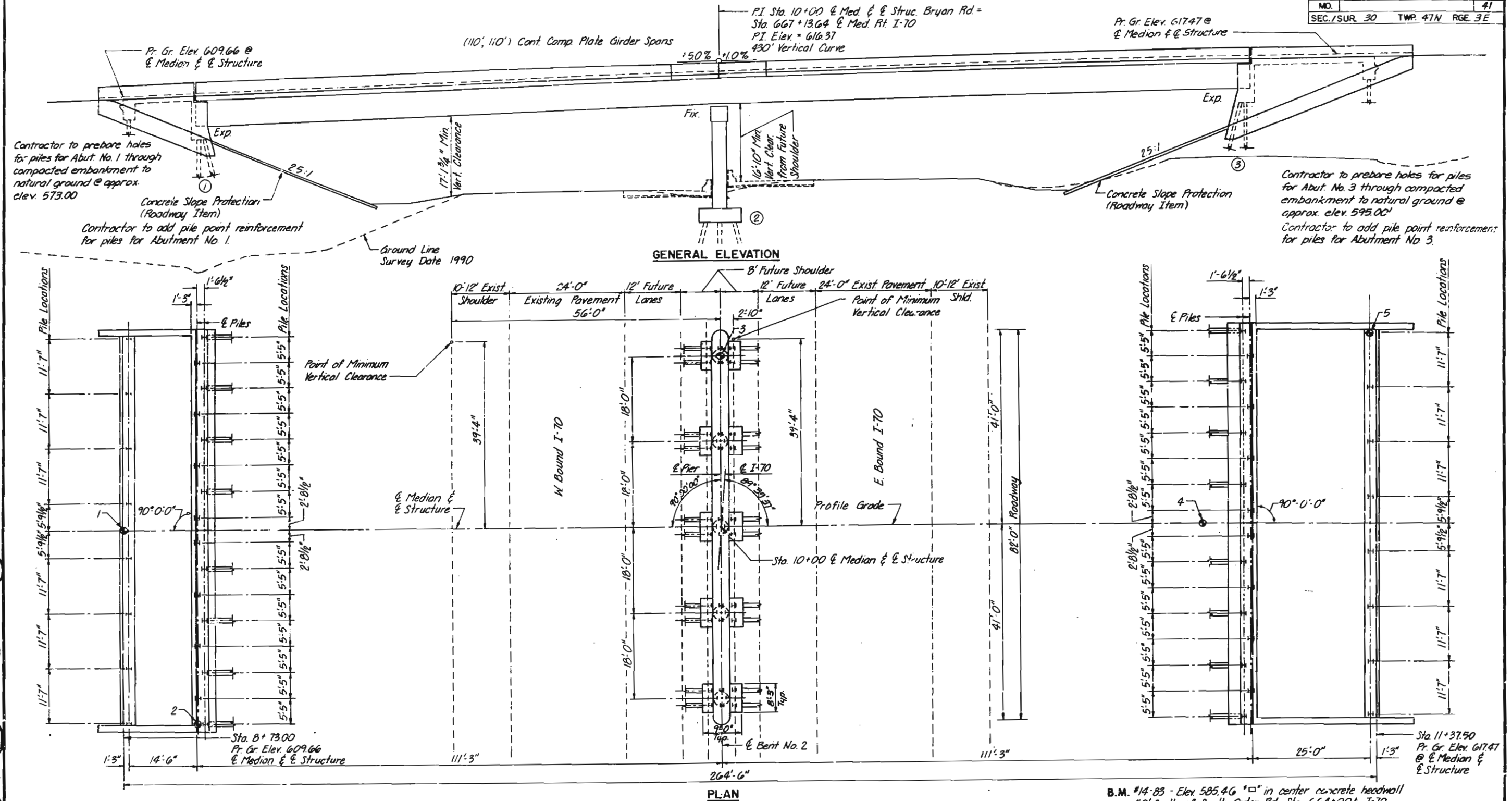


MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.		41
SEC./SUR. 30	TWP. 47N RGE. 3E	



Note:
Compacted roadway fill shall be completed to the final roadway section & up to the elevation of the bottom of the concrete approach beam within the limits of the structure & for not less than 25' in back of the fill face of the end abutments before piles are driven for any bents falling within the embankment section.
For "Boring Data" see Sheet No. 2
⊙ indicates location of Boring.

DESIGNED April 1990
DETAILED May 1990
CHECKED July 1990

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

Sk. No. 1 of 24

B.M. #14-83 - Elev 585.46 "□" in center concrete headwall 50' South of South Outer Rd. Sta. 664+00 ± I-70.

BRIDGE: BRYAN ROAD OVER I-70

STATE ROAD INTERSTATE ROUTE 70
IN O'FALLON

PROJECT NO. STA. 667+13.64

JOB NO. 6-I-941B-70 RTE. I-70

ST. CHARLES COUNTY

DATE 3/15/91

STD. 611.60
STD. 706.35
A-5045

LIST OF DRAWINGS

SHEET NO.	DESCRIPTION
1.	GENERAL PLAN & ELEVATION
2.	LIST OF DRAWINGS, GENERAL NOTES & QUANTITIES
3.	BORING DATA, PROFILE GRADE ELEVATIONS
4.	ABUTMENT NO. 1 DETAILS
5.	ABUTMENT NO. 1 DETAILS
6.	ABUTMENT NO. 1 DETAILS
7.	ABUTMENT NO. 3 DETAILS
8.	ABUTMENT NO. 3 DETAILS
9.	ABUTMENT NO. 3 DETAILS
10.	DETAILS OF INTERMEDIATE BENT NO. 2
11.	PLAN OF STRUCTURAL STEEL
12.	GIRDER ELEVATIONS & DETAILS
13.	WELDING DETAILS, DETAILS OF SHEAR CONNECTORS
14.	CROSS FRAME DETAILS
15.	BEARING PAD DETAILS
16.	SLAB PLAN & SECTION
17.	DETAILS OF PRECAST PRESTRESSED PANELS
18.	SLAB DRAIN DETAILS
19.	DETAILS OF PREFORMED COMPRESSION JOINT SEAL
20.	BARRIER CURB DETAILS
21.	BARRIER CURB DETAILS
22.	MEDIAN DETAILS
23.	BILL OF REINFORCING
24.	BILL OF REINFORCING

ESTIMATED QUANTITIES				
ITEM		SUBSTR.	SUPERSTR.	TOTAL
CLASS 1 EXCAVATION	CU. YD.	150		150
STRUCTURAL STEEL PILE (10 IN.)	LIN. FT.	2936		2936
PRE-BORE FOR PILING	LIN. FT.	976		976
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	357		357
SLAB ON STEEL SEE SPECIAL PROVISIONS	SQ. YD.		2,050	2,050
SAFETY BARRIER CURB	LIN. FT.		556	556
SLAB ON SEMI-DEEP ABUTMENT	SQ. YD.		395	395
MEDIAN BARRIER CURB	LIN. FT.		264	264
LAMINATED NEOPRENE BEARING PADS (STEEL STRUCTURES)	EACH		9	9
TYPE N PIPE BEARINGS	EACH		18	18
PREFORMED COMPRESSION EXPANSION JOINT SEAL (3.5 INCHES)	LIN. FT.		164	164
REINFORCING STEEL (GRADE 60) (BRIDGES)	LB.	46,220		46,220
CONDUIT SYSTEM ON STRUCTURE	LUMP SUM		1	1
REINFORCING STEEL (EPOXY COATED)	LB.	4,960		4,960
FABRICATED STRUCTURAL CARBON STEEL (PLATE GIRDERS)	LB.		388,073	388,073
FABRICATED STRUCTURAL LOW ALLOY STEEL (PLATE GIRDERS) (A-572)	LB.		97,860	97,860
SLAB DRAINS	EACH		12	12
PILE POINT REINFORCEMENT	EACH	48		48
PAINTING (SYSTEM C) GREEN	TON		241.5	241.5

NOTE:
THE TABLE OF ESTIMATED QUANTITIES FOR ALTERNATE SLABS REPRESENTS THE QUANTITIES USED BY THE STATE IN PREPARING THE COST ESTIMATE FOR CONCRETE SLABS. VARIATIONS MAY BE ENCOUNTERED IN THESE ESTIMATED QUANTITIES BUT THESE VARIATIONS CANNOT BE USED FOR AN ADJUSTMENT IN THE CONTRACT UNIT PRICE PER SQUARE YARD OF ALTERNATE SLAB USED.

SEE SPECIAL PROVISIONS FOR ALTERNATE METHODS OF FORMING SLABS.

ESTIMATED QUANTITIES FOR ALTERNATE SLABS			
TYPE OF SLAB	REINFORCEMENT LBS. EPOXY / PLAIN	CONCRETE (CU. YDS.)	
CAST-IN-PLACE CONVENTIONAL FORMS	150,545	0	513.1
PRESTRESSED PANEL FORMS	92,157	0	363.7

INTERMEDIATE BENT PILE DATA	
LOCATION	BT. 2
TYPE	HP10x42
NUMBER	40
APPROXIMATE LENGTH (FT.)	15
DESIGN BEARING (TONS)	52
HAMMER ENERGY REQUIRED (FT. LBS.)	11,655

- NOTES:
1. COST OF CONCRETE & REINFORCING STEEL SHALL BE INCLUDED IN PRICE BID FOR SLAB ON STEEL, MEDIAN BARRIER CURB & SAFETY BARRIER CURB.
2. COST OF CONCRETE & REINFORCING STEEL ABOVE SLAB CONSTRUCTION JOINT SHALL BE INCLUDED IN PRICE BID FOR SLAB ON SEMI-DEEP ABUTMENT.
3. ALL REINFORCING STEEL, EXCEPT VERTICAL BARS IN SIDE WALLS & WING WALLS, EXTENDING THRU THE SLAB CONSTRUCTION JOINTS SHALL BE INCLUDED IN PRICE BID FOR REINFORCING STEEL (EPOXY COATED).

PILE DATA								
ABUTMENT NO.	1				2			
LOCATION	APPROACH BEAM RT.	APPROACH BEAM LT.	BEARING BEAM RT.	BEARING BEAM LT.	APPROACH BEAM RT.	APPROACH BEAM LT.	BEARING BEAM RT.	BEARING BEAM LT.
TYPE	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42
NUMBER	4	4	8	8	4	4	8	8
APPROXIMATE LENGTH (FT.)	44	47	51	45	51	56	45	52
DESIGN BEARING (TONS)	32	32	45	45	44	44	55	55
HAMMER ENERGY REQUIRED (FT. LBS.)	7,200	7,200	10,125	10,125	9,900	9,900	12,375	12,375

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.

STATE	PROJ. NO.	SHEET NO.
MO.		42

GENERAL NOTES

DESIGN SPECIFICATIONS:

A.A.S.H.T.O. 1985 (LOAD FACTOR DESIGN)
A.A.S.H.T.O. 1983 GUIDE SPECIFICATIONS FOR SEISMIC DESIGN
SEISMIC PERFORMANCE CATEGORY A

DESIGN LOADINGS:

HS20-44 & MODIFIED 24,000# TANDEM AXLES
EARTH 120#/CU. FT.
EQUIVALENT FLUID PRESSURE = 45#/CU. FT.
FATIGUE CASE II
35#/SQ. FT. FUTURE WEARING SURFACE

DESIGN UNIT STRESSES:

CLASS B CONCRETE (SUBSTRUCTURE) $f'_c = 3,000$ PSI
CLASS B1 CONCRETE (SAFETY BARRIER CURB & MEDIAN BARRIER) $f'_c = 4,000$ PSI
CLASS B2 CONCRETE (SUPERSTRUCTURE & ABUTMENT SLABS EXCEPT SAFETY BARRIER CURB & MEDIAN BARRIER) $f'_c = 4,000$ PSI
REINFORCING STEEL (GRADE 60) $f_y = 60,000$ PSI
STEEL PILE $f_y = 9,000$ PSI
STRUCTURAL CARBON STEEL (A.S.T.M. A572) GRADE 50 $f_y = 50,000$ PSI
FOR PRECAST PRESTRESSED PANEL STRESSES, SEE SHEET NO. 17

FABRICATED STEEL

FIELD CONNECTIONS FOR HIGH STRENGTH BOLTS 3/4" SHALL HAVE HOLES 13/16", EXCEPT AS NOTED

JOINT FILLER

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

REINFORCING STEEL:

MINIMUM CLEARANCE TO THE REINFORCING STEEL SHALL BE 1-1/2" UNLESS OTHERWISE SHOWN.
ALL REINFORCING BARS IN THE TOPS OF THE SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLTS FOR BEARINGS BY AT LEAST 1/2".

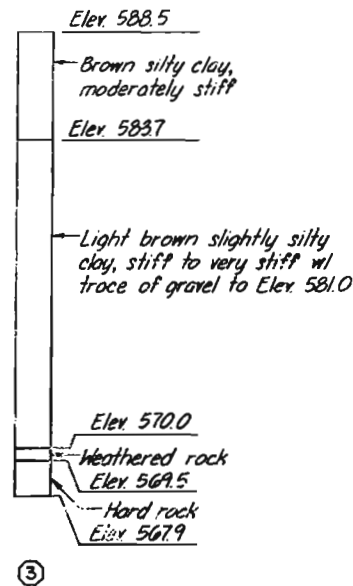
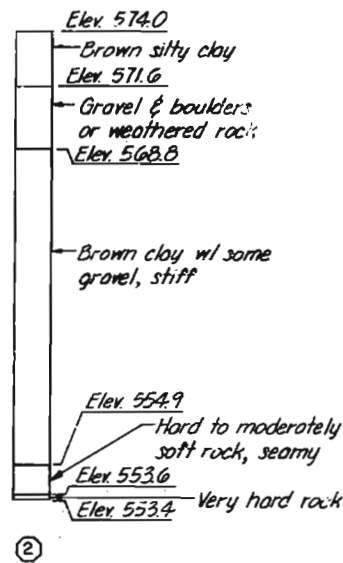
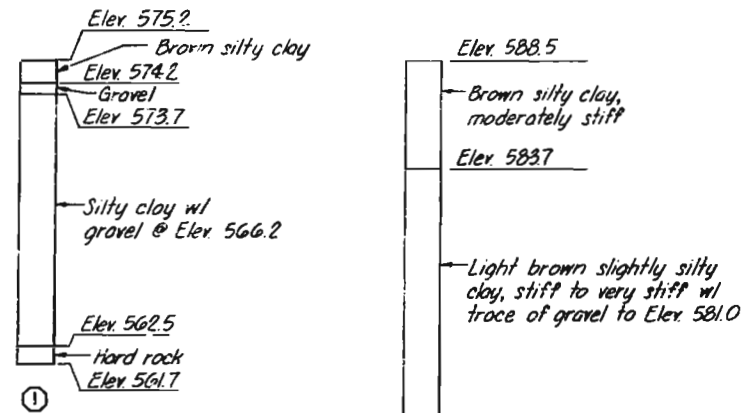
CONSTRUCTION CLEARANCE:

A MINIMUM LATERAL CLEARANCE OF 2'-0" FROM THE EDGE OF EXISTING PAVEMENT AND A MINIMUM VERTICAL CLEARANCE OF 15'-3" FOR EACH LANE SHALL BE MAINTAINED DURING CONSTRUCTION.

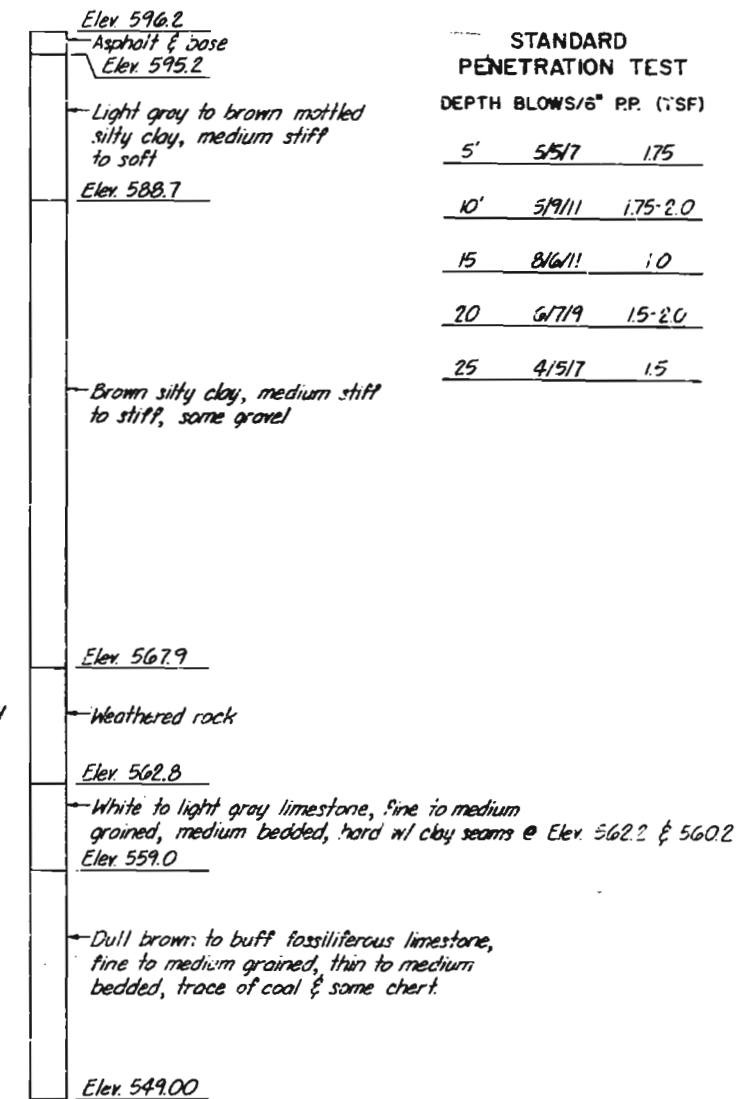
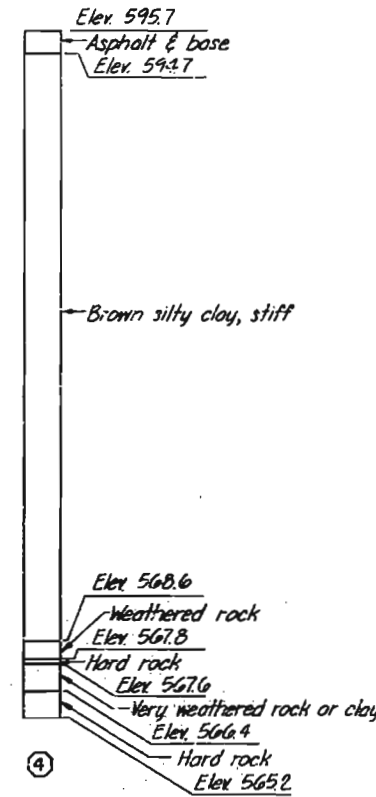
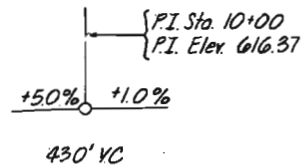
PAINT:

SYSTEM C BY CONTRACTOR IN ACCORDANCE WITH STANDARD SPECIFICATION 712.12. (COLOR OF THE FINAL FIELD COAT FOR SYSTEM C SHALL BE GREEN.)

DESIGNED June 1990
DETAILED June 1990
CHECKED July 1990



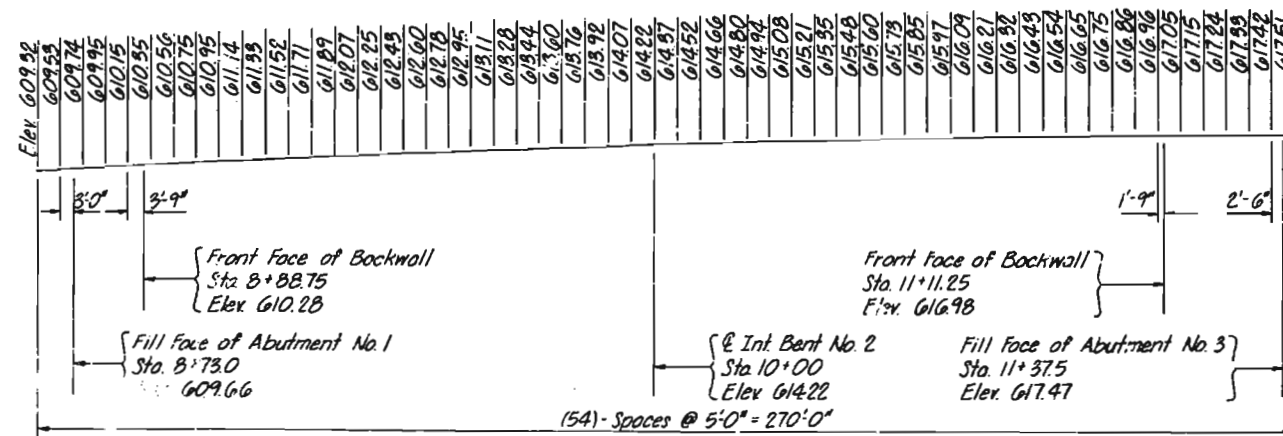
BORING DATA



STANDARD PENETRATION TEST		
DEPTH	BLOWS/6" P.P. (1'SF)	
5'	5/5/7	1.75
10'	5/9/11	1.75-2.0
15'	8/6/11	1.0
20'	6/7/9	1.5-2.0
25'	4/5/7	1.5

⑤
CORE

Note:
 For location of Borings see Sheet No. 1 of 24.
 Boring Data for all locations is available upon request from the District Office.



PROFILE GRADE ELEVATIONS

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

Sheet No. 3 of 24

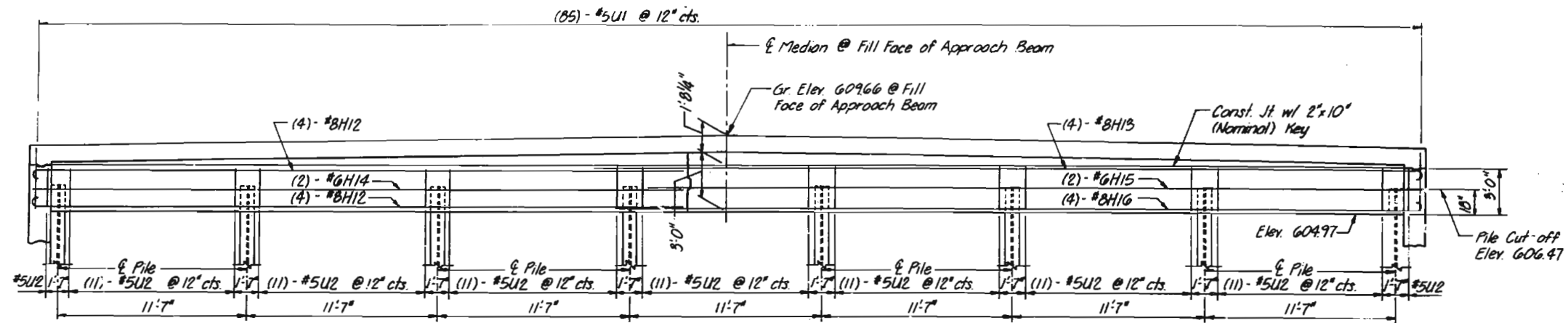
ST. CHARLES COUNTY

A-5045

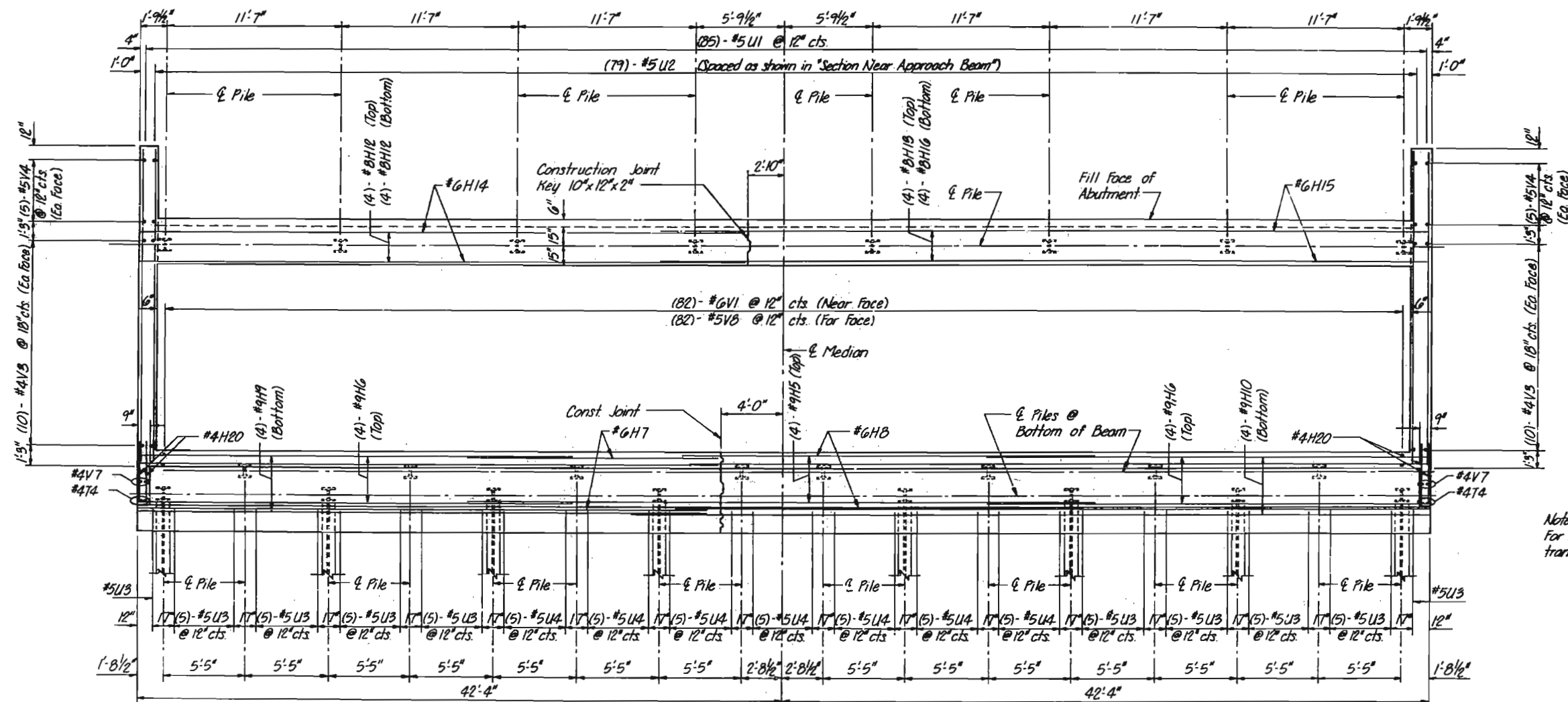
DETAILED April 1990
 CHECKED April 1990

378 508

STATE	PROJ. NO.	SHEET NO.
MO		45



SECTION NEAR APPROACH BEAM



SECTION NEAR UPPER CONST. JOINT

Note:
For reinforcement details in corbel on
transverse approach beam, see Sheet No. 4

388 510

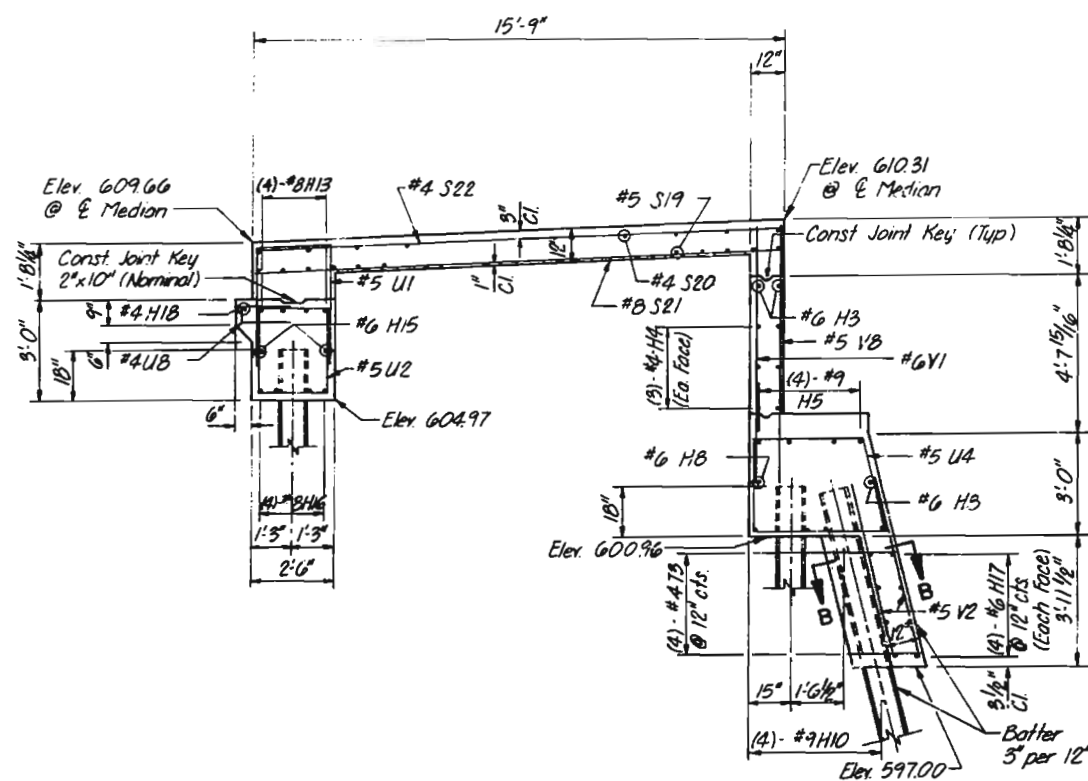
QUALITY REVIEW
DETAILED May 1990
CHECKED June 1990

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

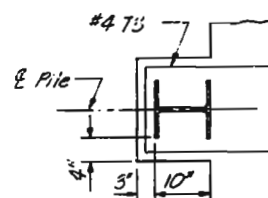
Sheet No. 5 of 24

ST. CHARLES COUNTY

A-5045

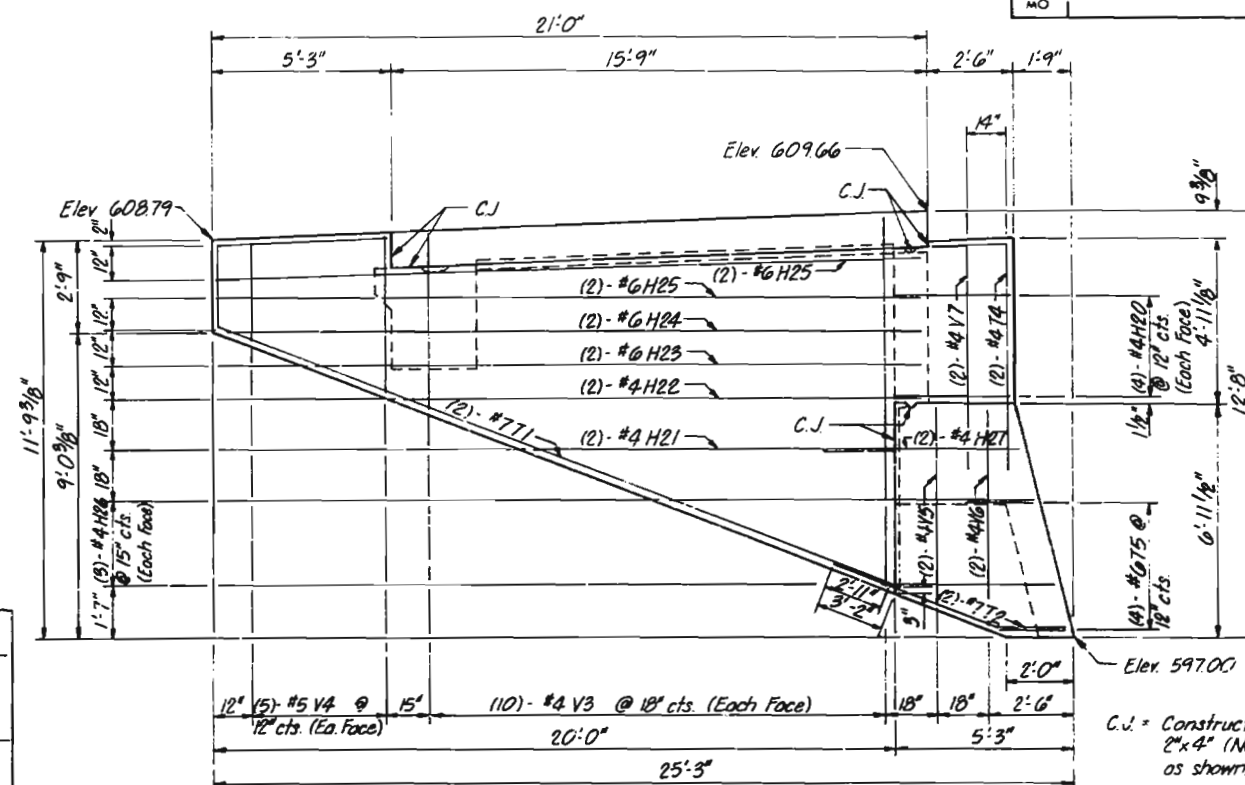


SECTION A-A



SECTION B-B

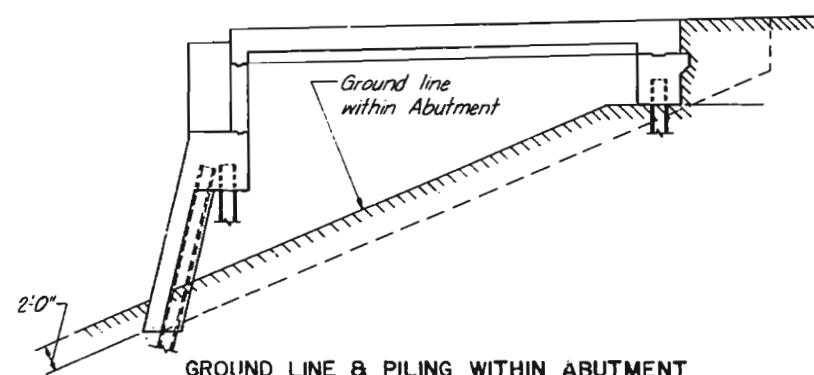
Note: See Sheet 9 for Detail of Steel Pile Splice.



ELEVATION C-C

Note: See Sheet 22 for Conduit & Junction Box Details.

C.J. = Construction Joint Key 2"x4" (Nominal) except as shown.



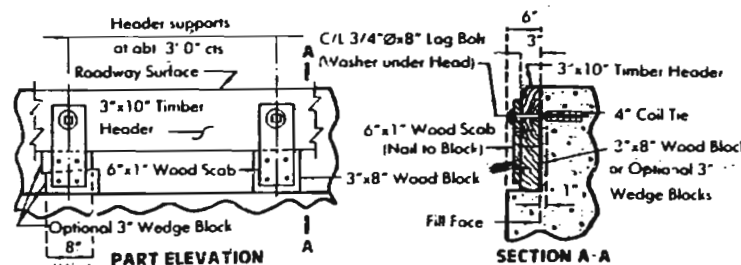
GROUND LINE & PILING WITHIN ABUTMENT

NOTE:

In no case shall the earth within Abutments No. 1 and 3 be above the Ground Line shown. Forms supporting abutment slab may be left in place.

The maximum variation of the head of the pile and the battered face of the pile from the position shown on the plans shall not be more than 2 inches for pile under Abutments No. 1 and 3.

Exposed steel pile within abutments to be coated with a heavy coating of an approved bituminous paint.



PART ELEVATION

NOTE: Cost of timber headers complete in place to be included in contract unit price for concrete.

DETAILS OF TIMBER HEADER AT END BENTS

SECTION A-A

DETAILED May 1990
CHECKED June 1990

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

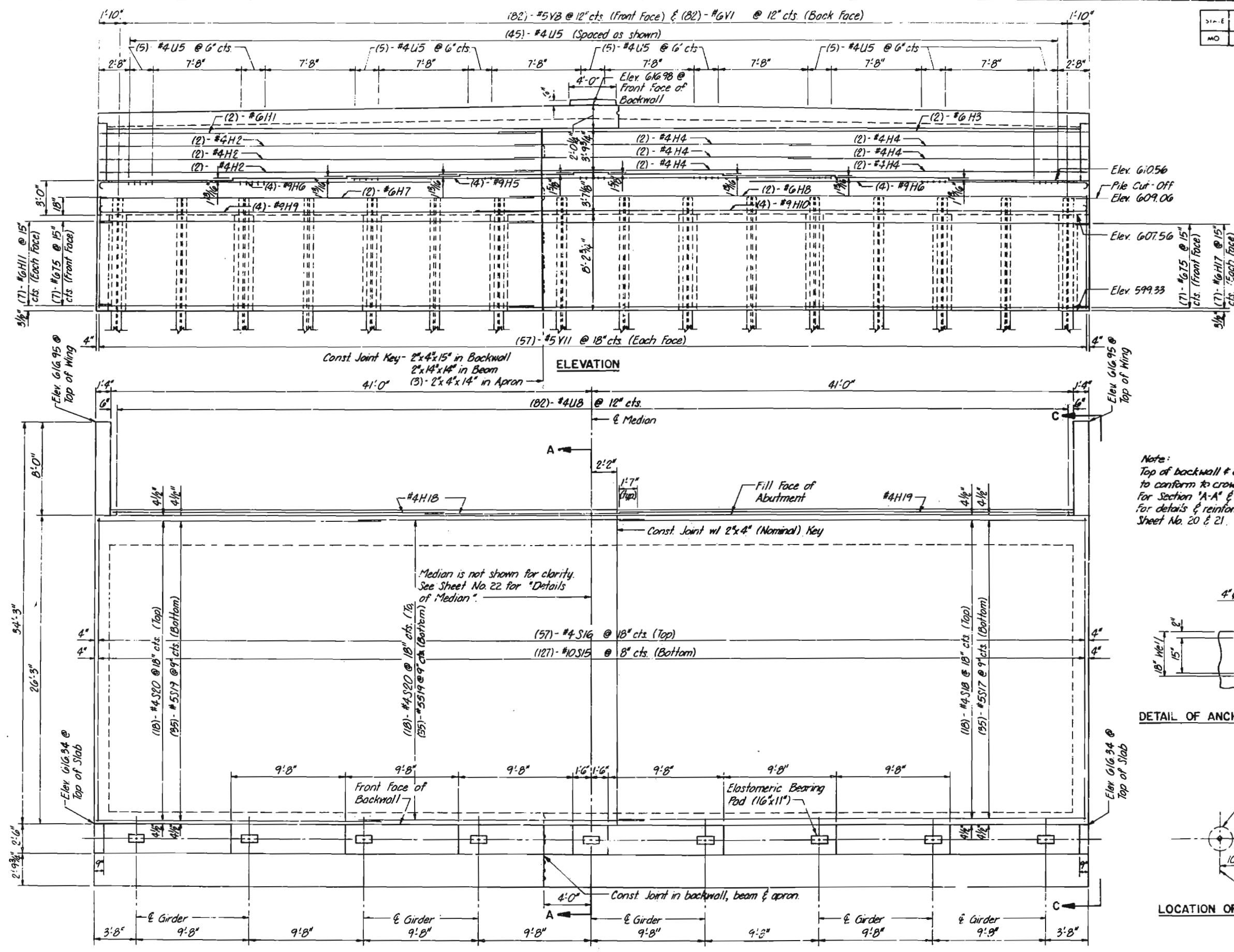
Sheet No. 6 of 24

ST. CHARLES COUNTY

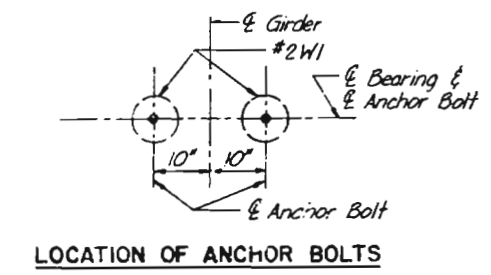
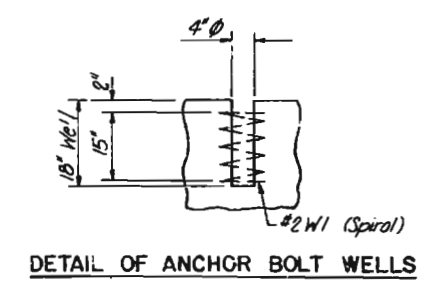
A-5045

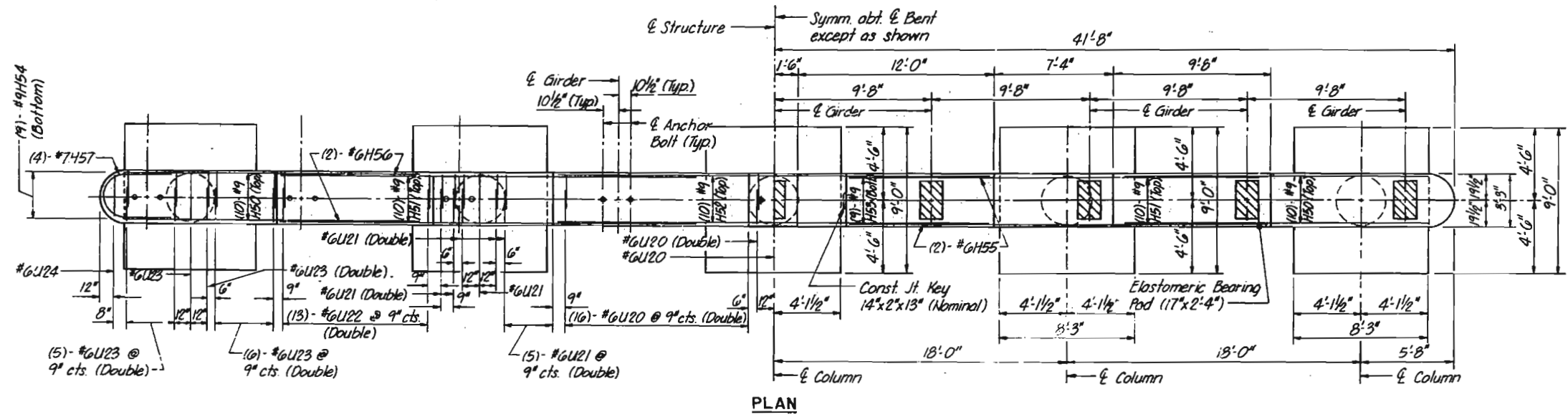
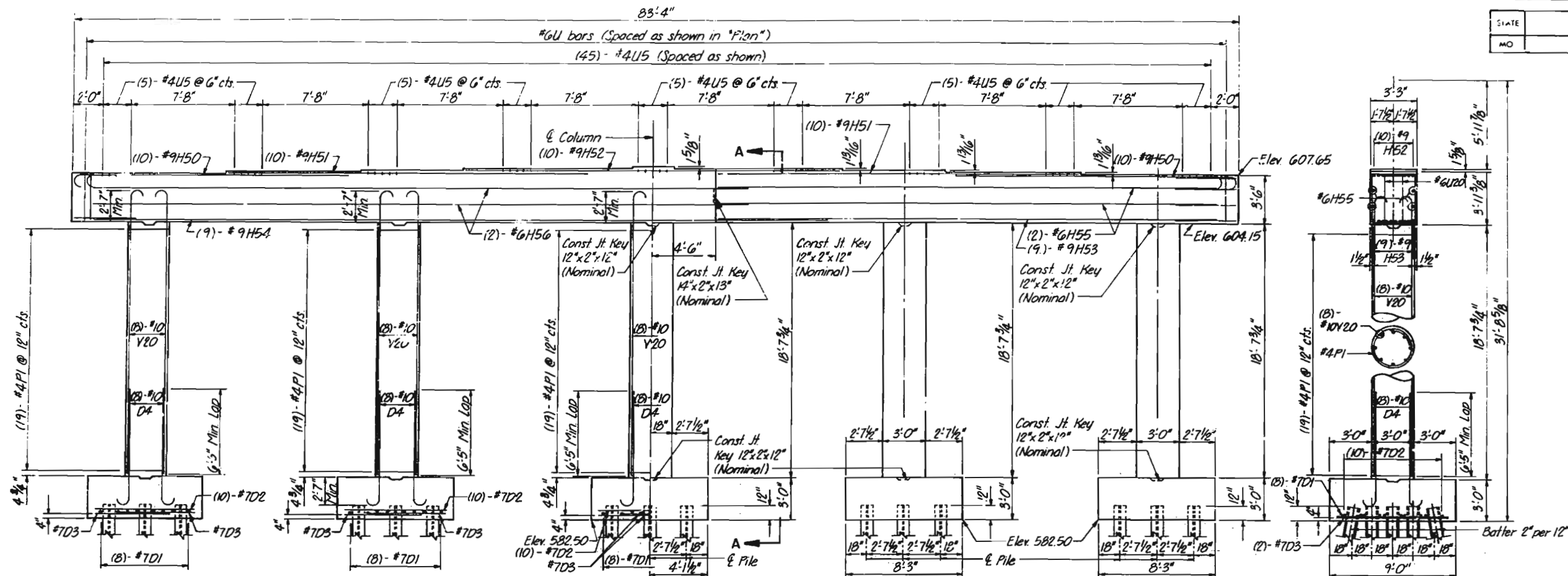
382-512

SHEET NO.	47
PROJECT NO.	
DATE	



Note:
Top of backwall & expansion device for abutments
to conform to crown of roadway slab.
For Section 'A-A' & Elevation 'C-C' see Sheet No. 9
For details & reinforcement of barrier curb see
Sheet No. 20 & 21.

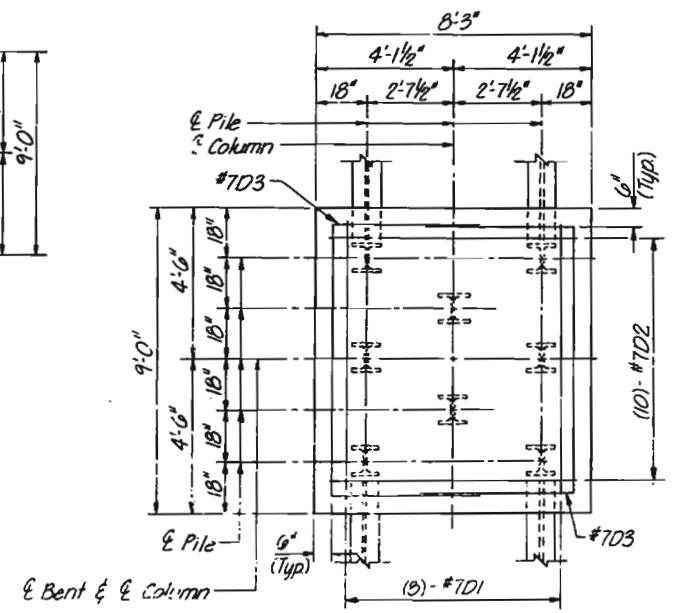
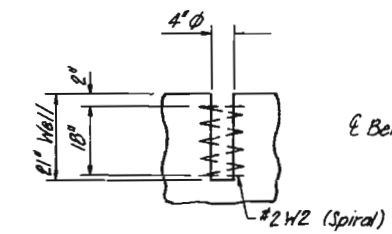
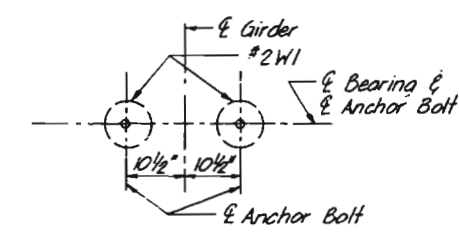




DETAILS OF INT. BENT NO. 2

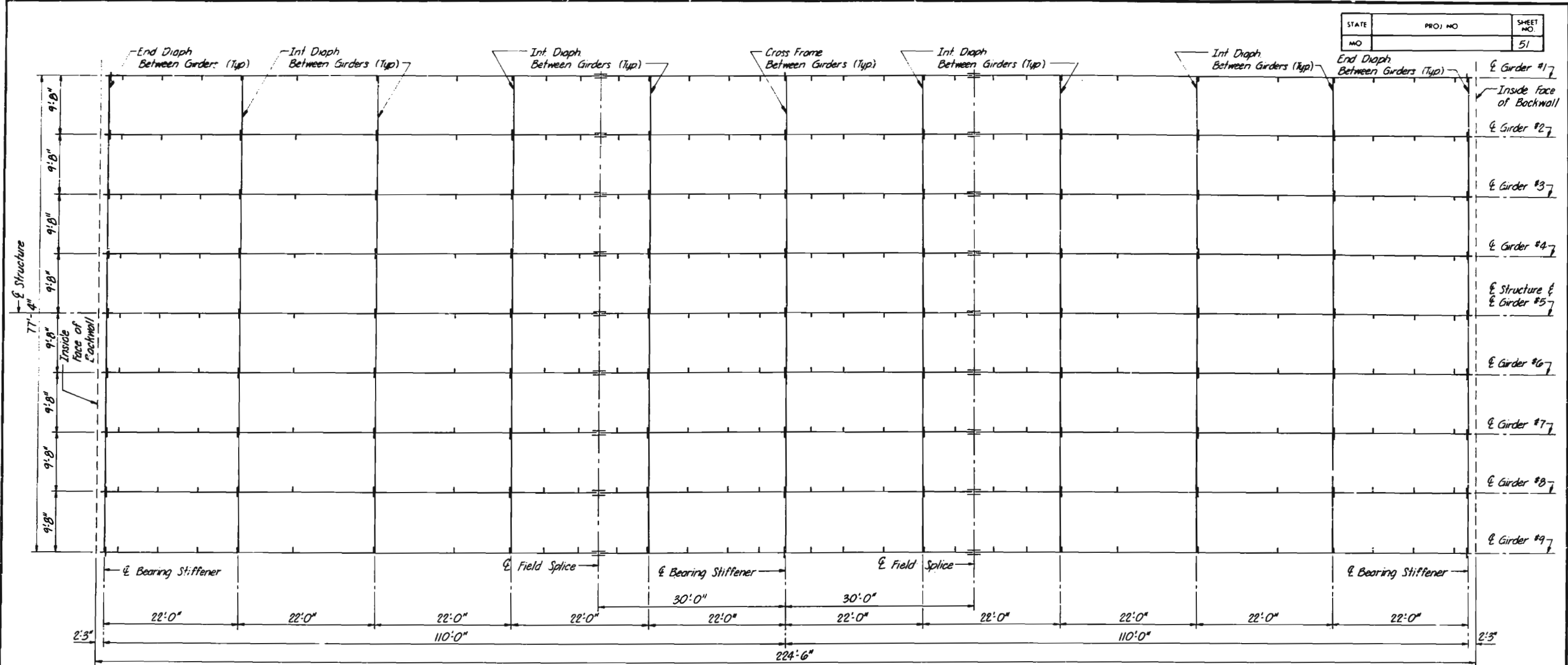
Note:
All reinforcing bars in tops of substructure beams or caps shall be spaced to clear Anchor Bolt Wells for bearings by at least 1/2".

See Sheet 9 for "Detail of Steel Pile Splice."



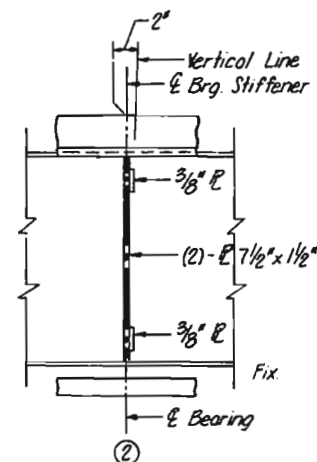
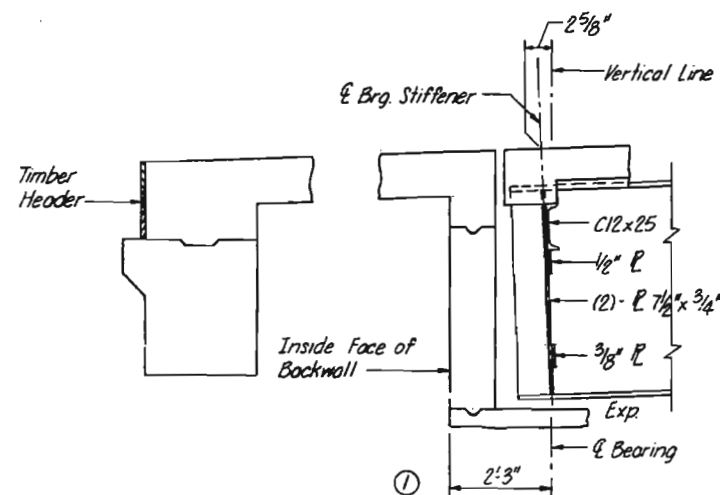
385 5/15

386 5/16

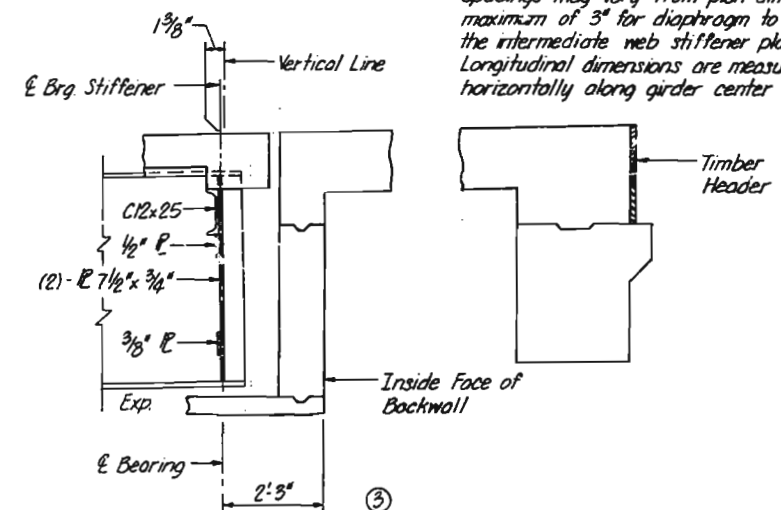


PLAN OF STRUCTURAL STEEL

Note: Transverse web stiffeners shall be located as shown in Plan of Structural Steel.



PART LONGITUDINAL SECTION



Note: Intermediate web stiffener plate & diaphragm spacings may vary from plan dimensions by a maximum of 3" for diaphragm to connect to the intermediate web stiffener plate. Longitudinal dimensions are measured horizontally along girder center lines.

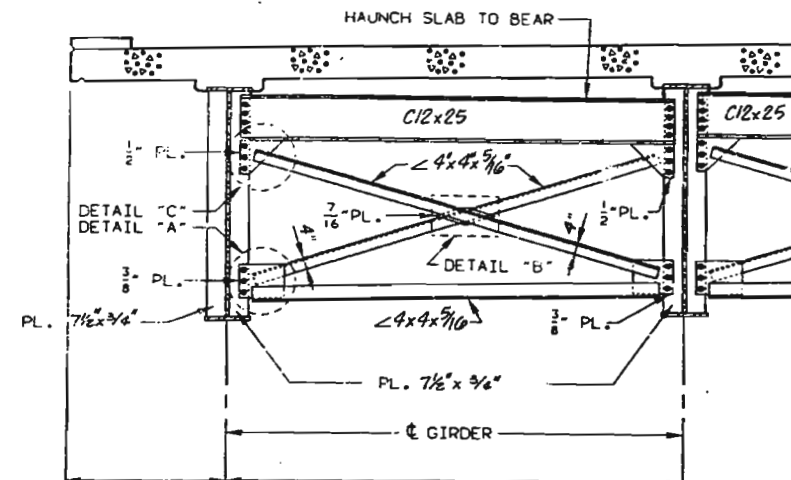
DETAILED April 1990
CHECKED May 1990

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

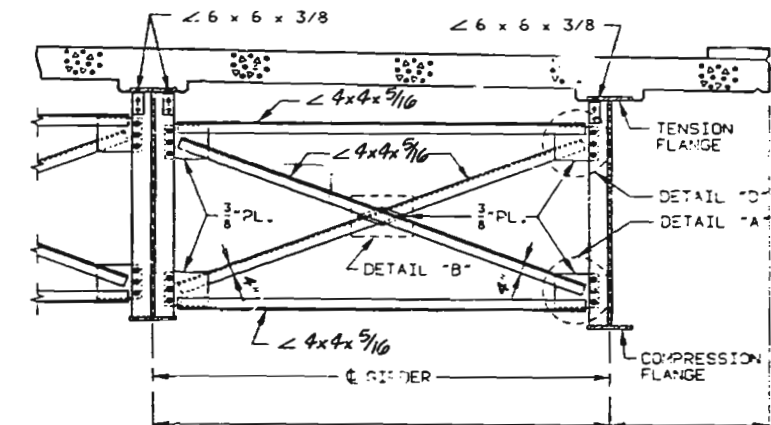
Sheet No. 11 of 24

ST. CHARLES COUNTY

A-5045

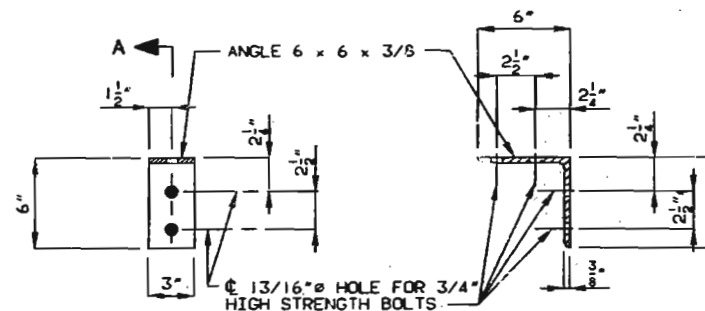


TYPICAL PART SECTION SHOWING
END DIAPHRAGMS



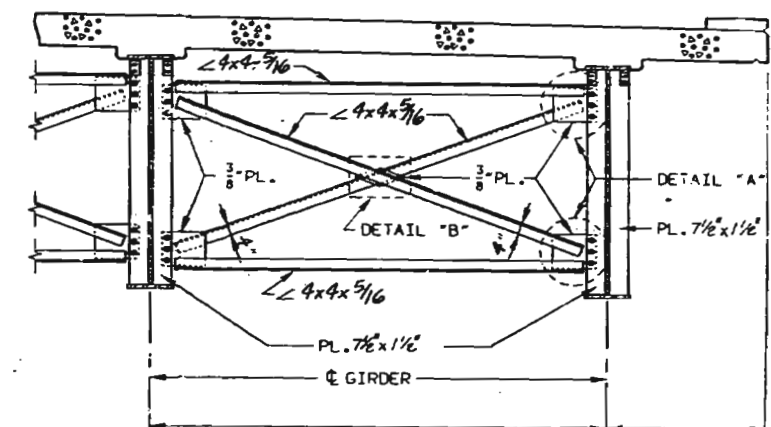
TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
TOP FLANGE IN TENSION

NOTE: THE TWO 3/4" H.S. BOLTS THAT CONNECT THE 6 x 6 x 3/8 ANGLE TO THE TOP FLANGE SHALL BE PLACED SO THE NUT IS ON THE INSIDE OF FLANGE TOWARD THE WEB.

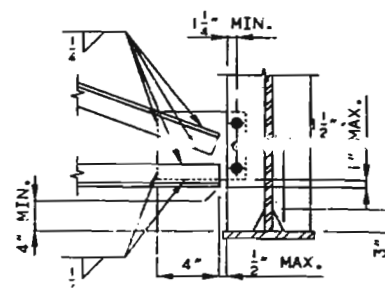


DETAIL OF FLANGE
CONNECTION ANGLE

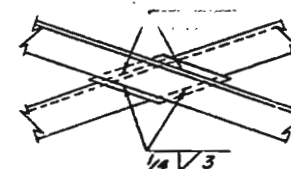
SECTION A-A



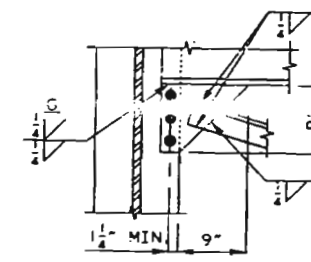
TYPICAL PART SECTION SHOWING
CROSS FRAMES



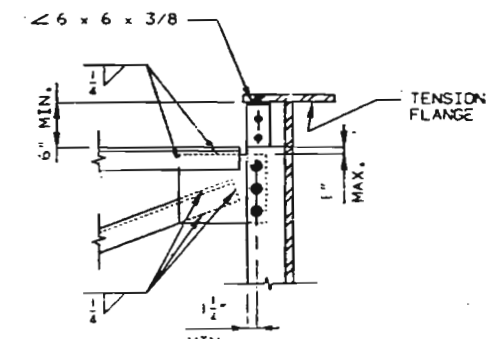
DETAIL "A"



DETAIL "B"

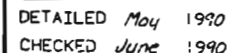


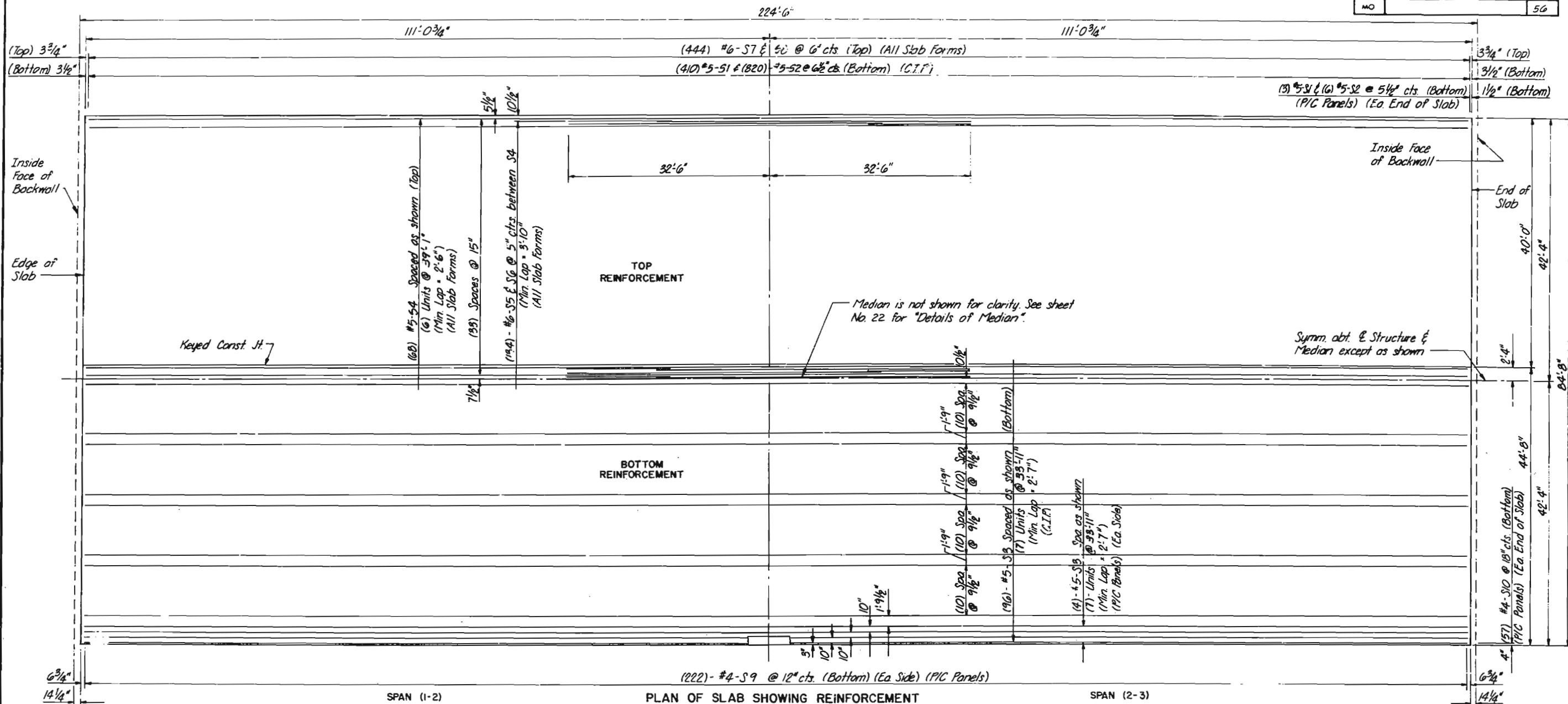
DETAIL "C"



DETAIL "D"

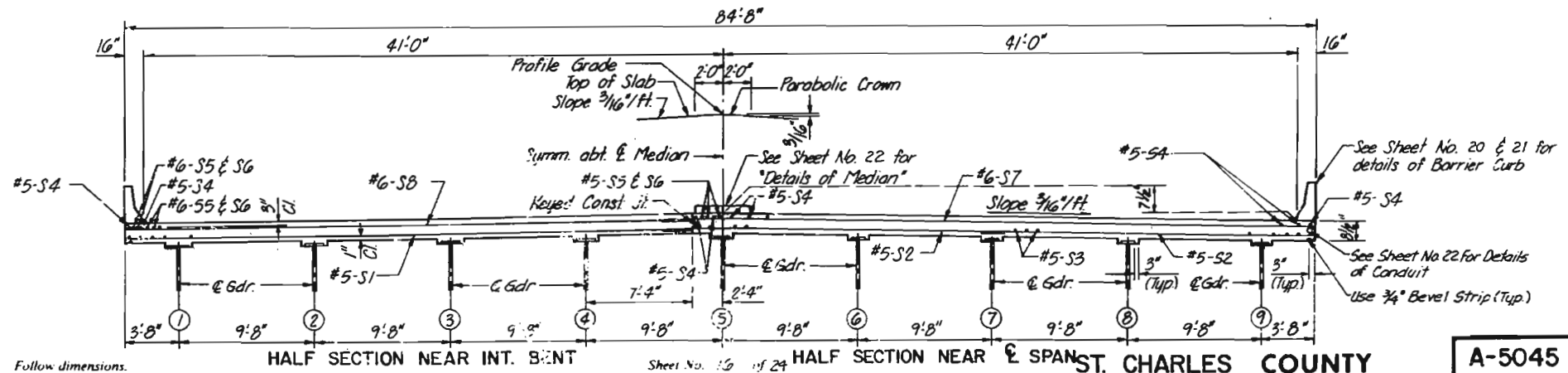
3829 515





Note:
All dimensions are measured horizontal.
Longitudinal reinforcing steel shall be placed so that the ends shall not be more than 1" from vertical leg of angle for Expansion Device.
See Sheet No. 13 for "Slab Pouring Sequence."
See Sheet No. 12 for "Slab Haunching."
For Details of Prestressed Panel Option, See Sheet No. 17

Note:
Shown below is Cast-in-place concrete with conventional forming (C.I.P.)

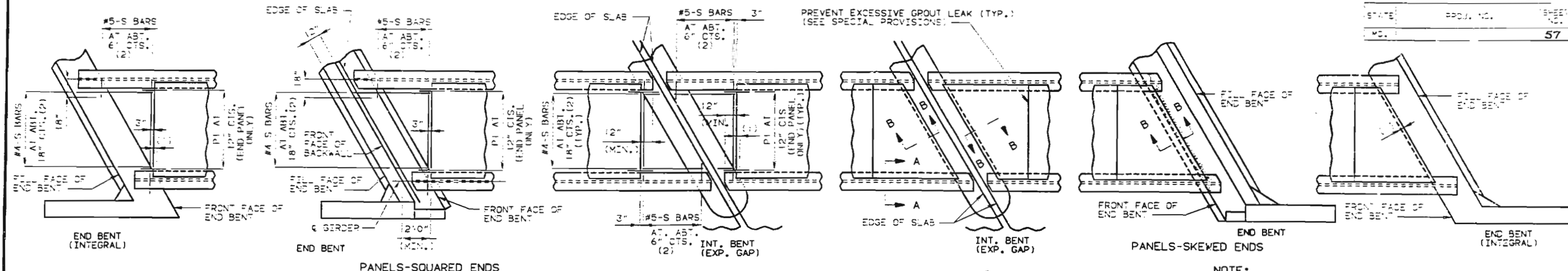


Note: This drawing is not to scale. Follow dimensions.

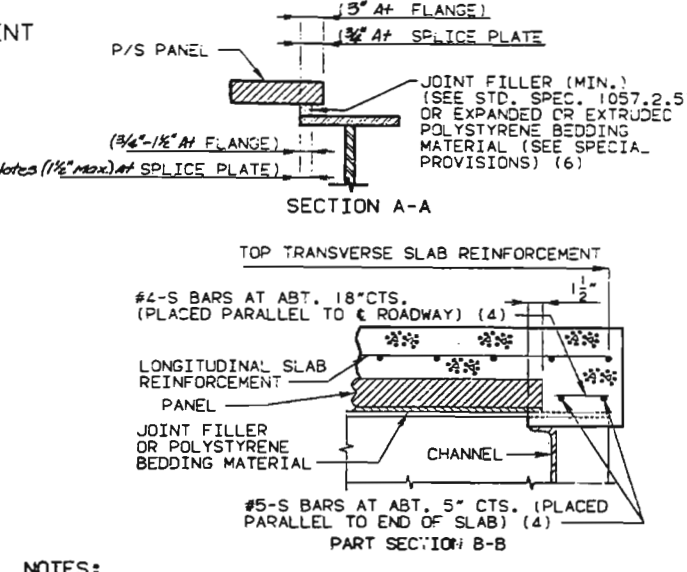
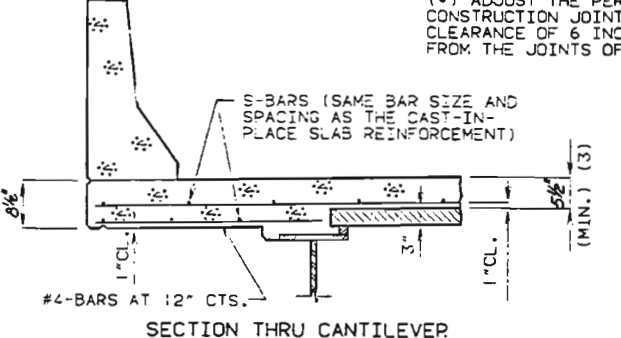
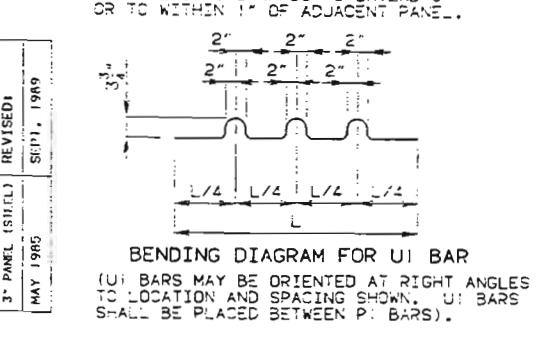
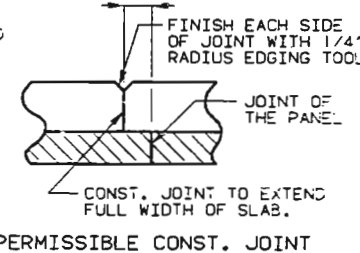
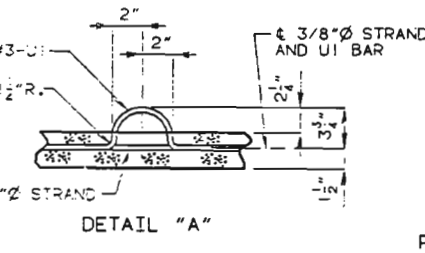
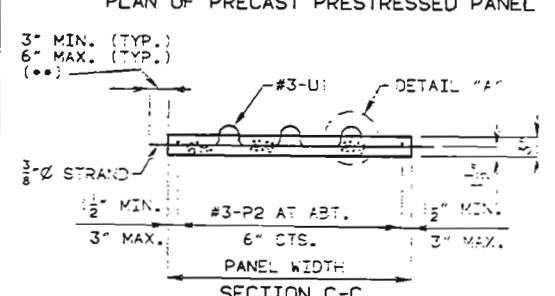
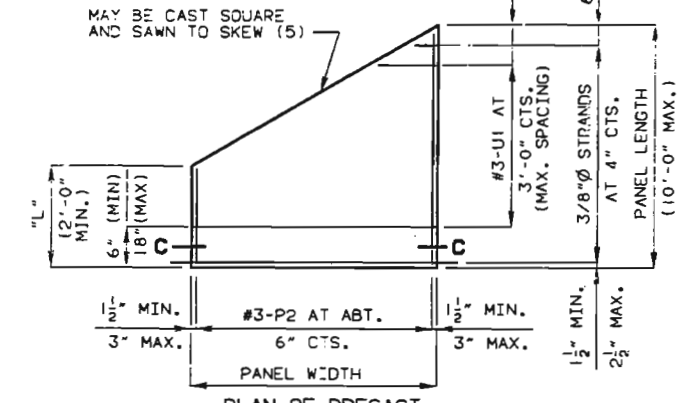
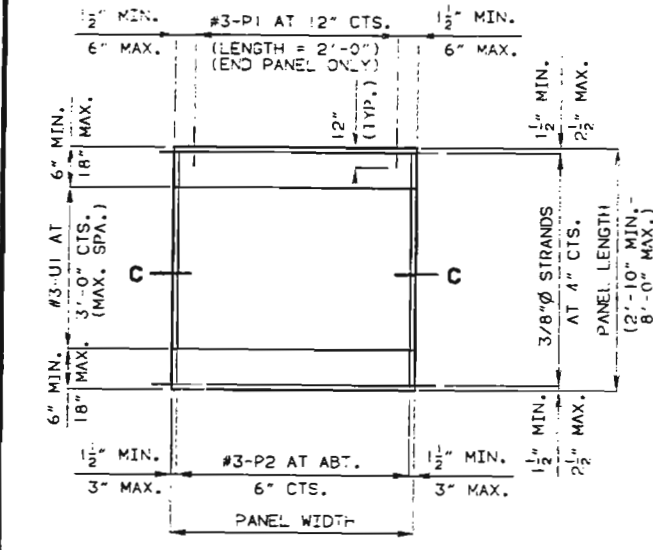
DETAILED April 1990
CHECKED May 1990

Sheet No. 56 of 24

A-5045



PLAN OF PRECAST PRESTRESSED PANELS PLACEMENT



- 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 SQUARED END PANELS ONLY.
 - (3) ADJUSTMENT IN THE SLAB THICKNESS, JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL THICKNESS, OR GRADE, WILL BE NECESSARY IF THE GIRDER CAMBER AFTER ERECTION DIFFERS FROM PLANT CAMBER BY MORE THAN THE % OF DEAD LOAD DEFLECTION DUE TO THE WEIGHT OF STRUCTURAL STEEL. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS FOR THE ADJUSTMENT.
 - (4) S - BARS SHOWN ARE USED WITH SKEWED END PANELS, OR SQUARE END PANELS OF SQUARE STRUCTURES ONLY. THE #5 S - BARS SHALL EXTEND THE WIDTH OF SLAB (24 INCHES LAP IF NECESSARY) OR TO WITHIN 3 INCHES OF EXPANSION DEVICE ASSEMBLIES. FIELD CUT #5 S-BARS AS NEEDED TO PASS EXPANSION DEVICE ASSEMBLIES.
 - (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 DETACHED 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.

- NOTE:**
- USE SLAB HAUNCHING DIAGRAM ON SHEET NO. 12 FOR DETERMINING THICKNESS OF JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL AT JOINTS. THE LIMITS NOTED BELOW.
- GENERAL NOTES:**
- PRESTRESSED PANELS:**
- CONCRETE FOR PRESTRESSED PANELS SHALL BE CLASS A1 WITH F_{CD} = 6,000 PSI, F_{CI} = 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 AASHTO M203, EXCEPT THAT NOMINAL DIAMETER OF STRAND = 3/8 INCH AND NOMINAL AREA = 0.085 SQ. IN. AND MINIMUM ULTIMATE STRENGTH = 23,000 LBS. (270 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 1/2 INCH, EXCEPT OVER SPlice PLATES WHERE MINIMUM THICKNESS SHALL BE 1/4 INCH. WHEN JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL IS LESS THAN 1/2 INCH THICK OVER A SPlice PLATE, MAKE THE WIDTH OF MATERIAL AT THE SPlice THE SAME WIDTH AS PANEL ON SPlice. THICKER 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 SPlices, AND THE MAXIMUM CHANGE IN THICKNESS BETWEEN ADJACENT PANELS SHALL BE 1/4 INCH TO CORRECT FOR VARIATIONS FROM GIRDER CAMBER DIAGRAM. THE POLYSTYRENE BEDDING MATERIAL MAY BE CUT TO MATCH HAUNCH HEIGHT ABOVE TOP OF FLANGE.
- SUPPORT FROM DIAPHRAGM FORMS IS REQUIRED UNDER THE OPTIONAL SKEWED END UNTIL CAST-IN-PLACE CONCRETE HAS REACHED 3,000 PSI COMPRESSIVE STRENGTH.
- 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.D. 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 ALTERNATE SLABS.
- 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 0.022 SQ. INCHES, WITH SPACING PARALLEL TO STRANDS SUFFICIENT TO INSURE PROPER HINDING, MAY BE USED IN LIEU OF THE #3-P2 BARS SHOWN. WIRE OR BAR DIAMETER SHALL NOT BE LARGER THAN 0.375 INCHES.
- THE REINFORCING STEEL SHALL BE TIED SEPARATELY 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 12 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.

DETAILS OF PRECAST PRESTRESSED PANELS

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

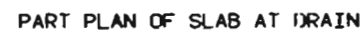
392 522

REVISED: SEPT. 1989
 MAY 1985
 3" PANEL (SHILL)

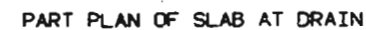
DETAILED April 1990
 May 1990



(*) IF DIMENSION IS LESS THAN 1", DRAINS SHALL BE PLACED PARALLEL TO ROADWAY, OTHERWISE PLACE DRAINS TRANSVERSE TO ROADWAY.



DETAILS OF DRAINS TRANSVERSE TO ROADWAY



DETAILS OF DRAINS PARALLEL TO ROADWAY



STATE	PRGJ. NO.	SHEET NO.
MO.		58

GENERAL NOTES:

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.

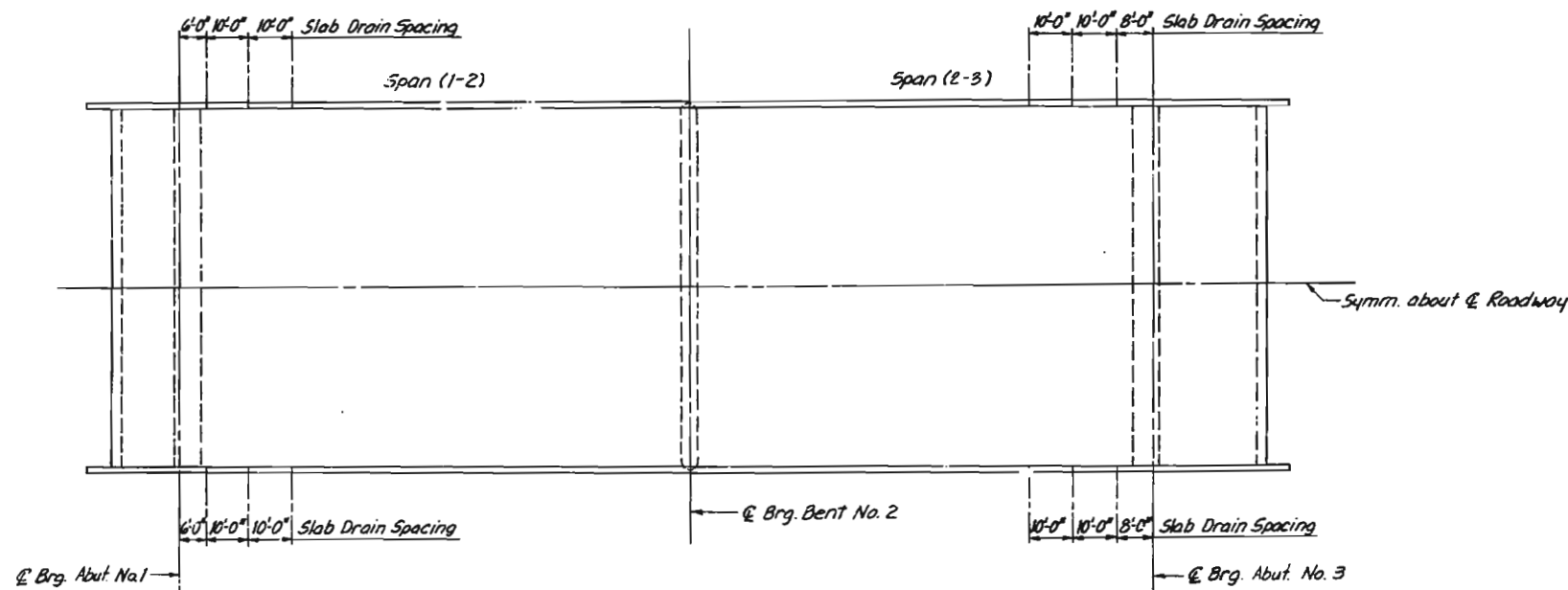
THE DRAINS AND BRACKET ASSEMBLY SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A123.

ALL BOLTS, HARDENED WASHERS, LOCK WASHERS AND NUTS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A153.

THE BOLT HOLE FOR THE BRACKET
ASSEMBLY ATTACHMENT SHALL BE LOCATED
ON THE PLATE GIRDER SHOP DRAWINGS.

SHOP DRAWINGS WILL NOT BE REQUIRED
FOR SLAB DRAINS AND THE BRACKET
ASSEMBLY.

SLAB DRAIN DETAILS



PLAN OF SLAB SHOWING LOCATION OF SLAB DRAINS

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

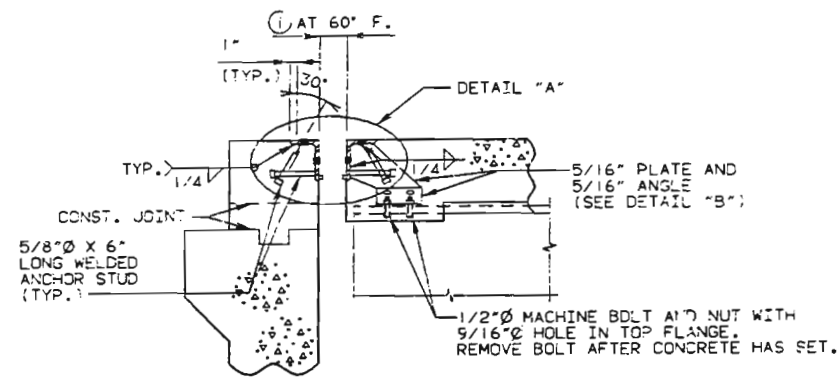
SHEET NO. 18 OF 24

ST. CHARLES COUNTY

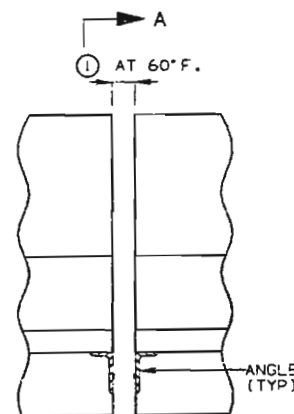
A-5045

STEEL GDR DRAIN	REVISED
FEB. 1975	OCT. 1988

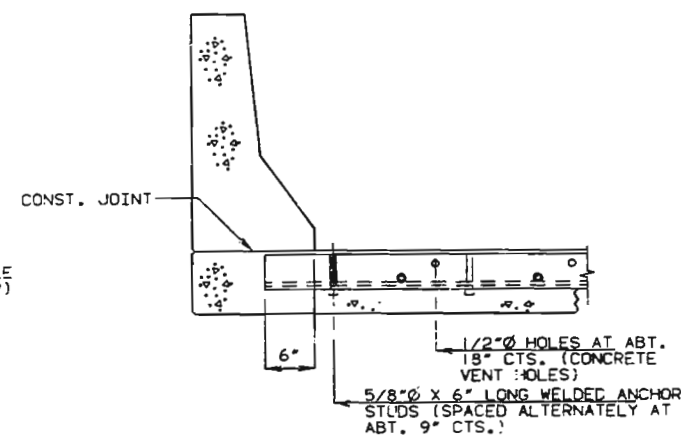
DETAILED *April* 1991
CHECKED *April* 1991



PART SECTION D-D

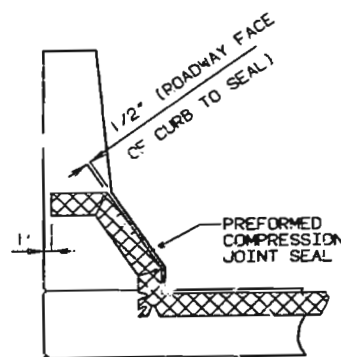


PART ELEVATION OF CURB



PART SECTION A-A

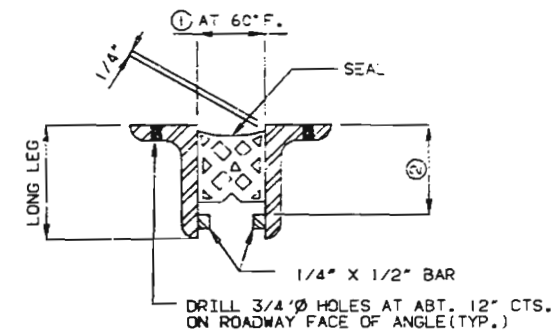
Note: Preformed Compression Joint Seal and $\frac{1}{4}$ " are to be continuous under median at Abutments No. 1 & 3



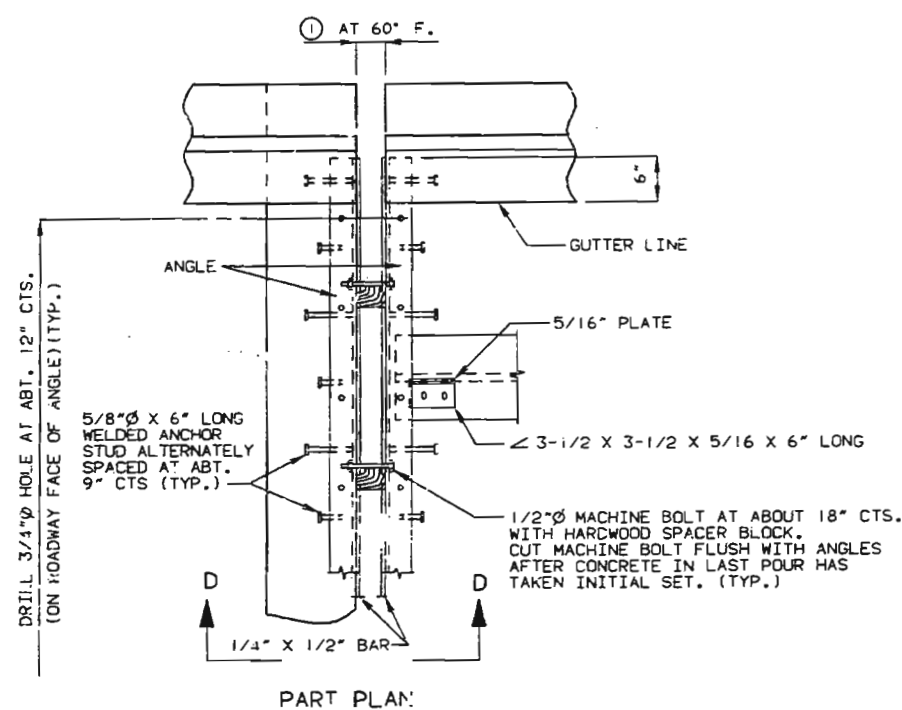
PART SECTION THRU JOINT SEAL

GENERAL NOTES:

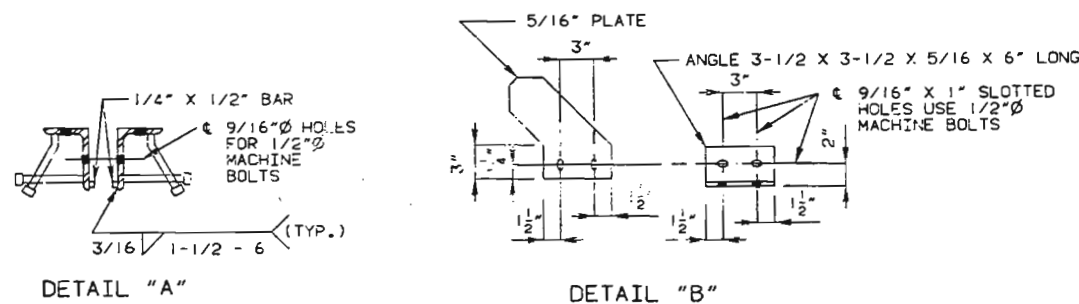
- STRUCTURAL STEEL FOR EXPANSION DEVICE SHALL BE FABRICATED IN ONE SECTION, EXCEPT THAT WHEN THE LENGTH IS OVER 50', SPlicing IS PERMISSIBLE.
- THE EXPANSION DEVICE SHALL BE BENT TO CONFORM TO CROWN AND GRADE OF ROADWAY.
- STRUCTURAL STEEL FOR THE ARMORED JOINT SHALL BE GRADE A36.
- ANCHORS FOR COMPRESSION SEAL ARMOR SHALL BE APPROVED STUD WELDED ANCHORS (C10:0 THRU C1020).
- PLAN DIMENSIONS ARE BASED ON INSTALLATION AT 60°F.
- DIMENSION ① SHALL BE INCREASED 0.006" FOR EACH 10° FALL IN TEMPERATURE AND DECREASED 0.006" FOR EACH 10° RISE IN TEMPERATURE AT INSTALLATION.
- SEE SPECIAL PROVISIONS FOR THE REQUIREMENTS OF COMPRESSION JOINT SEAL.
- FURNISHING, PAINTING AND INSTALLING THE STRUCTURAL STEEL ARMORED JOINT SHALL BE INCLUDED IN CONTRACT UNIT PRICE FOR PREFORMED EXPANSION JOINT SEAL.
- NEOPRENE EXTRUSIONS SHALL MEET A.S.T.M. D3542-83.



PART CROSS SECTION THRU EXPANSION JOINT



PART PLAN



DETAIL "A"

DETAIL "B"

DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT BENT NO. 1 & 3

TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS				
SEAL (WIDTH)	①	②	REQUIRED MOVEMENT RANGE	
2.5"	1-5/8"	SEAL DEPTH = 3/4"	0.9"	
3.0"	1-7/8"	SEAL DEPTH = 3/4"	1.0"	
3.5"	2-1/4"	SEAL DEPTH = 3/4"	1.3"	
4.0"	2-5/8"	SEAL DEPTH = 3/4"	1.6"	
4.5"	2-3/4"	SEAL DEPTH = 3/4"	1.9"	
5.0"	2-7/8"	SEAL DEPTH = 3/4"	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 DEPTH OF SEAL + 1-1/2". HORIZONTAL LEG OF ANGLE SHALL BE A MINIMUM OF 3". MINIMUM THICKNESS OF ANGLE SHALL BE 1/2"...

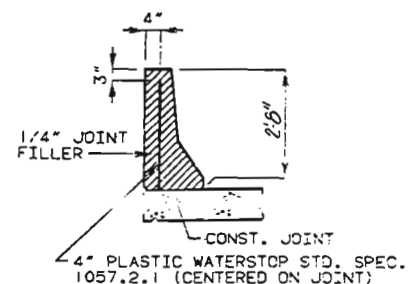
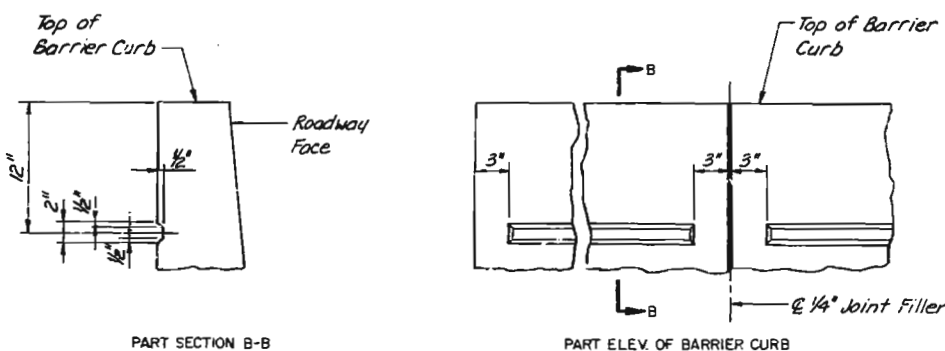
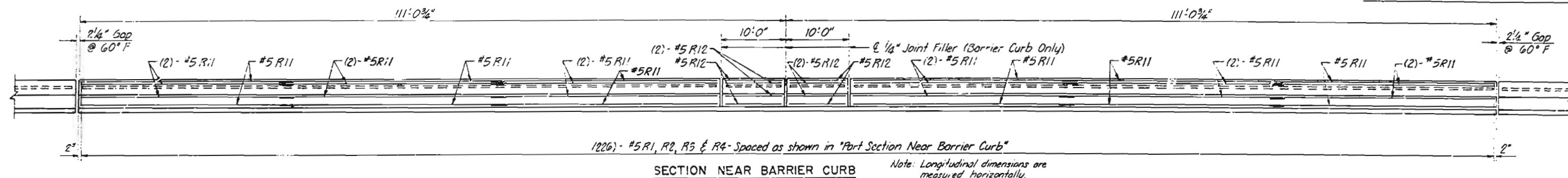
IF A SEAL SIZE LARGER THAN THAT INDICATED ON THE PLANS IS USED, THE MOVEMENT RANGE, THE OPENING AT 60° AND ALL DIMENSIONS FOR THE ARMOR ANGLES SHALL BE SHOWN ON THE SHOP DRAWINGS.

PCJS-STL ED-SO REVISED
 OCT. 1973
 MAY 1987

DETAILED May 1990
 CHECKED June 1990

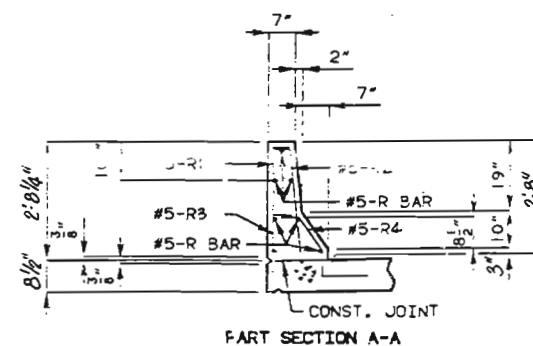
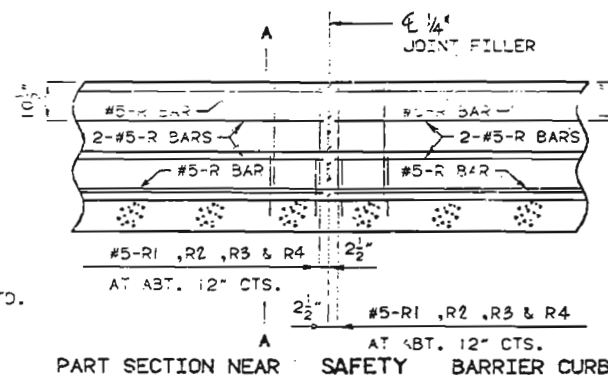
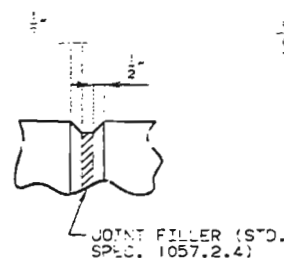
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 19 OF 24



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.



NOTE: USE A MINIMUM LAP OF 2'-9" 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 1/4" JOINT FILLER UNLESS OTHERWISE NOTED.

WHEN THE SAFETY BARRIER CURB IS BUILT BY PLACING THE CONCRETE IN PLACES, THE JOINTS SHALL INCLUDE THE COST OF ALL CONCRETE AND REINFORCEMENT COMPLETE IN PLACE.

CONCRETE IN THE SAFETY BARRIER CURB SHALL BE CLASS B.

MEASUREMENT OF SAFETY BARRIER CURB IS TO THE NEAREST LINEAR FOOT FOR EACH STRUCTURE, MEASURED ALONG THE OUTSIDE TOP OF SLAB FROM END OF WING TO END OF WING.

BARRIER CURB ELEVATION (REVISED) JAN. 1990

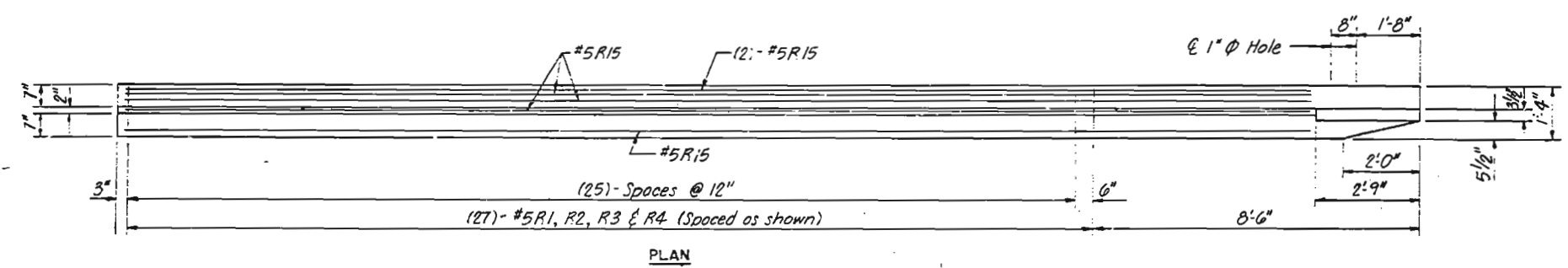
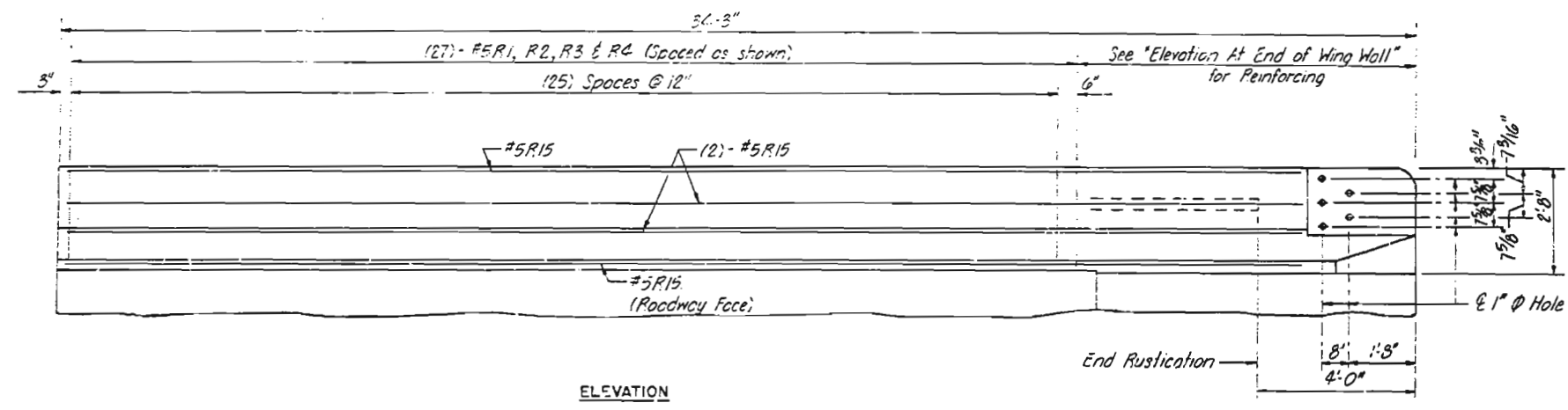
DETAILED May 1990
CHECKED June 1990

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

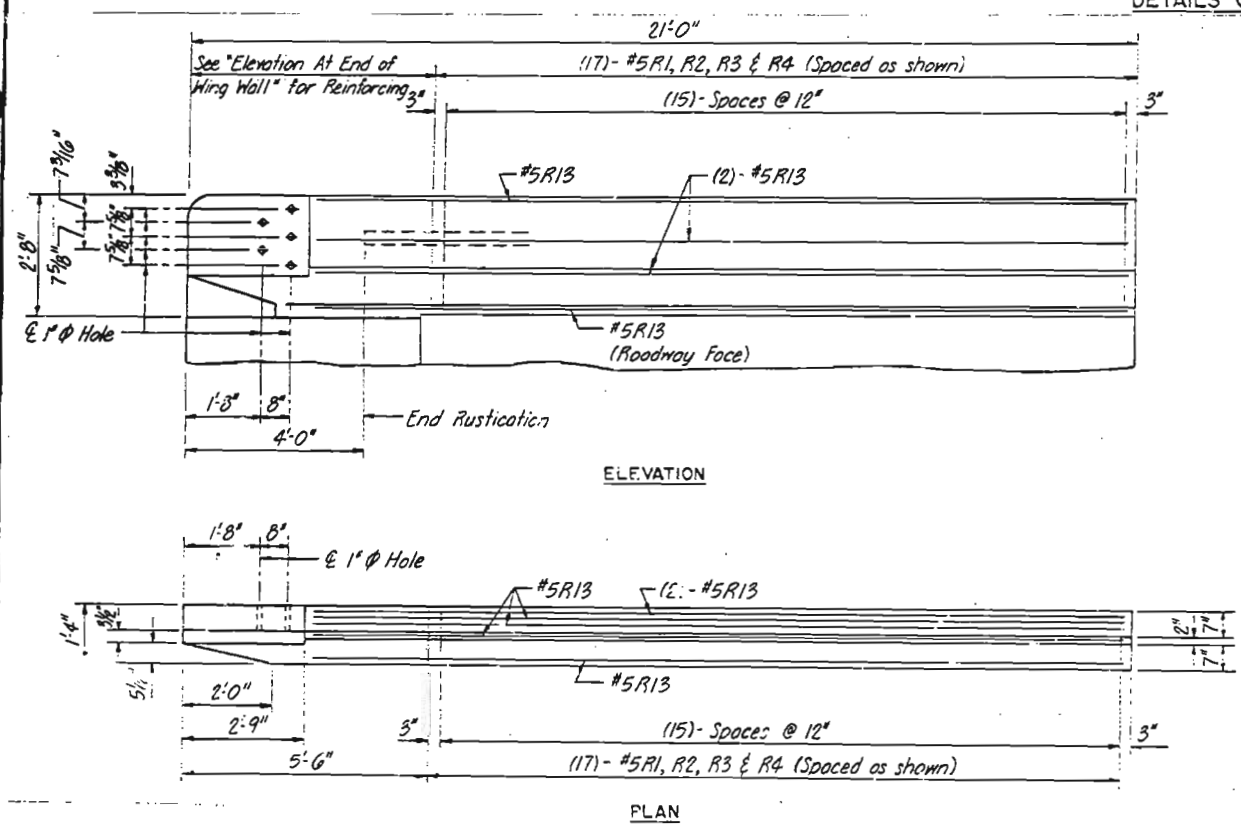
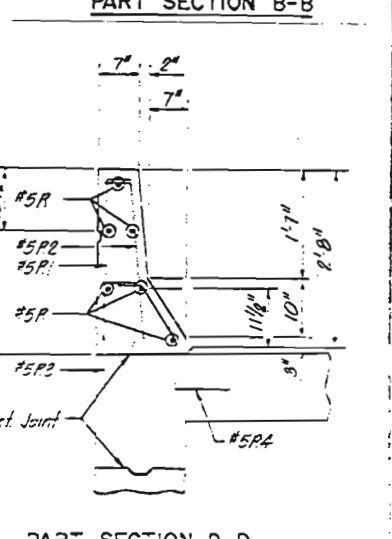
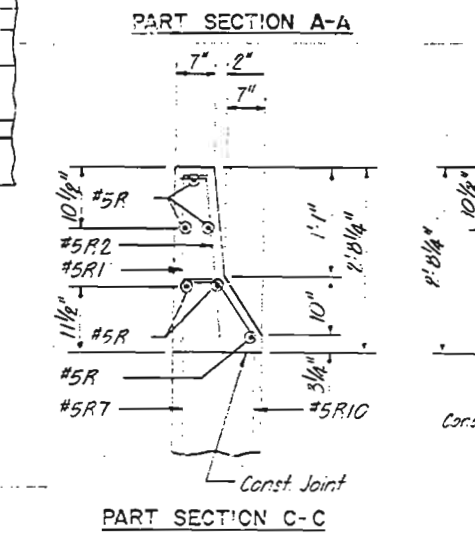
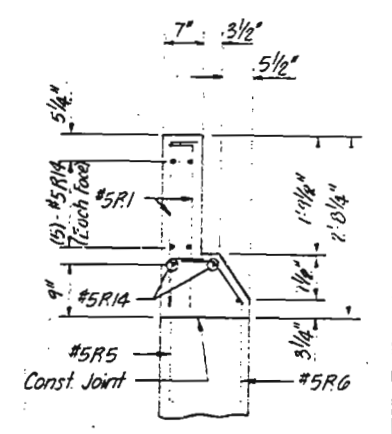
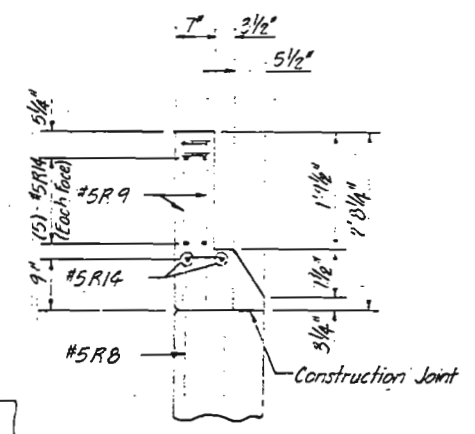
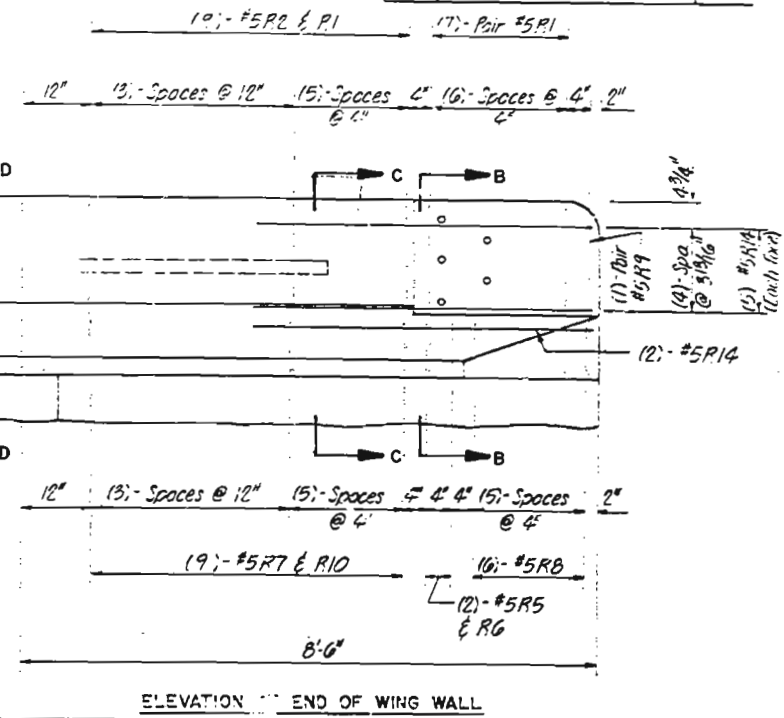
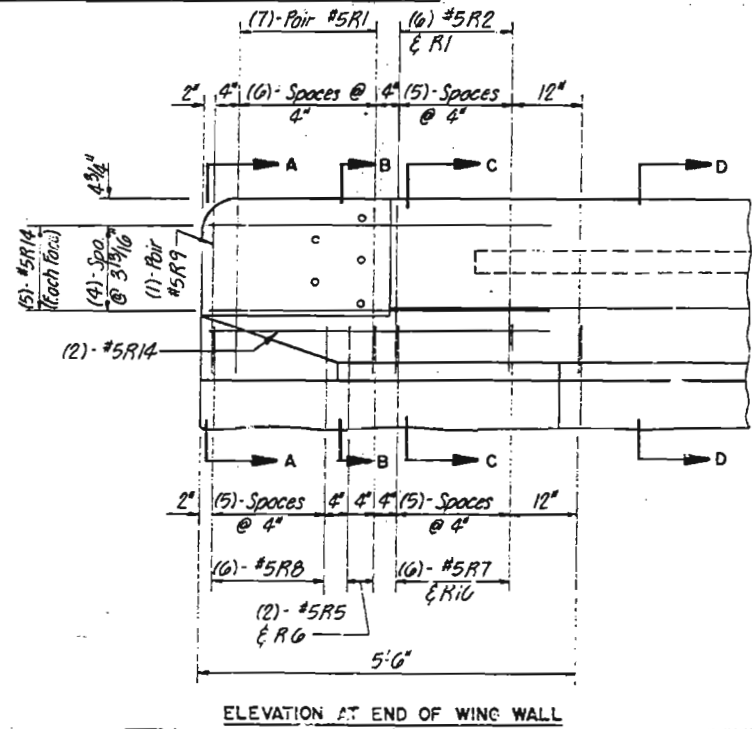
SHEET NO. 20 OF 24

ST. CHARLES COUNTY

A-5045



DETAILS OF BARRIER CURB AT ABUTMENT NO. 3



DETAILS OF BARRIER CURB AT ABUTMENT NO. 4

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

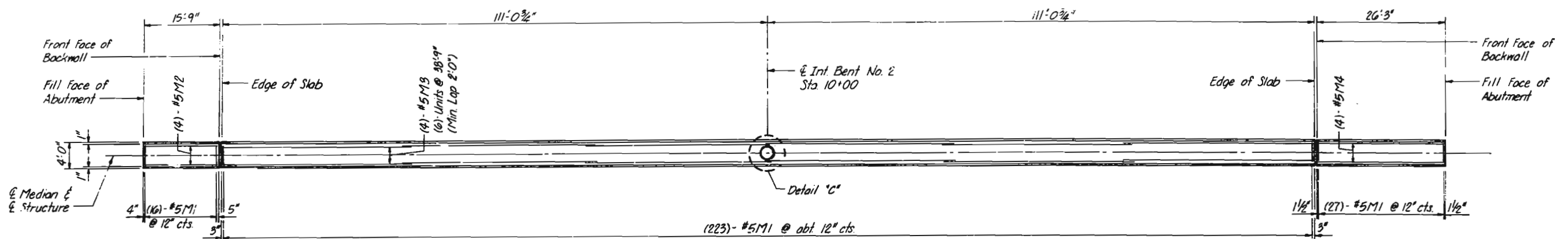
DETAILED May 1990
CHECKED June 1990

Sheet No. 21 of 24

ST. CHARLES COUNTY

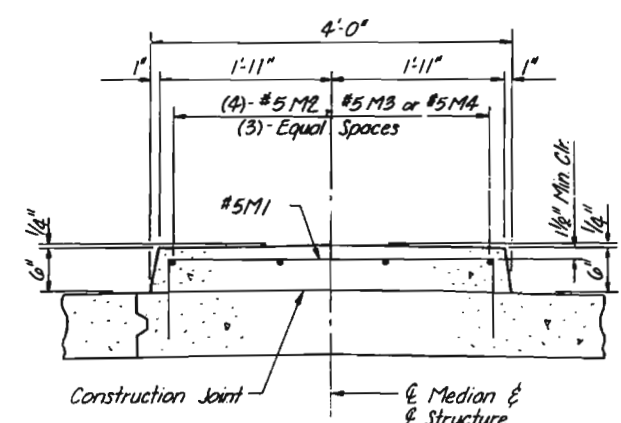
A-5045

396 526

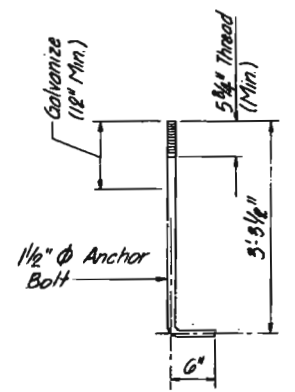


MEDIAN PLAN

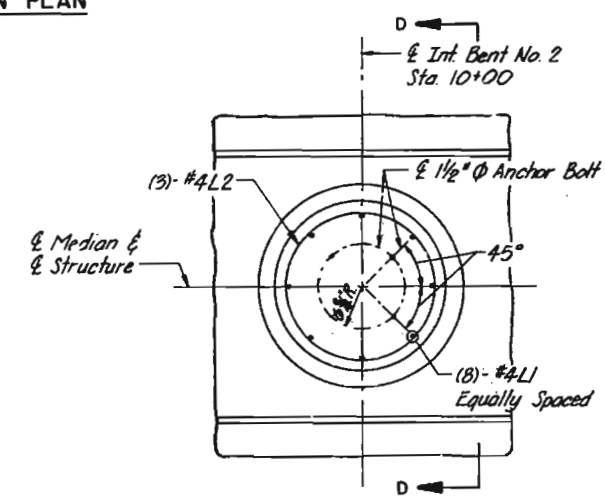
Note: Cost of Reinforcing Bars in Median shall be included in price bid for Median Barrier Curb per Lin. Ft. Reinforcing bars in Median are listed in Bill of Reinforcing for Information Only.



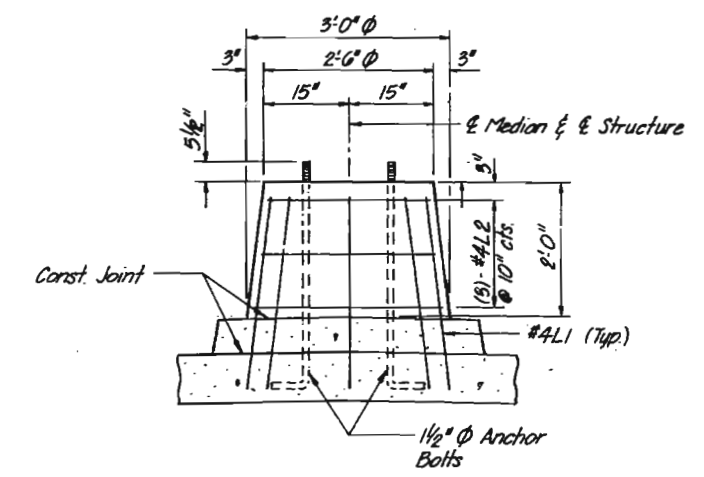
SECTION THRU MEDIAN



ANCHOR BOLT DETAIL

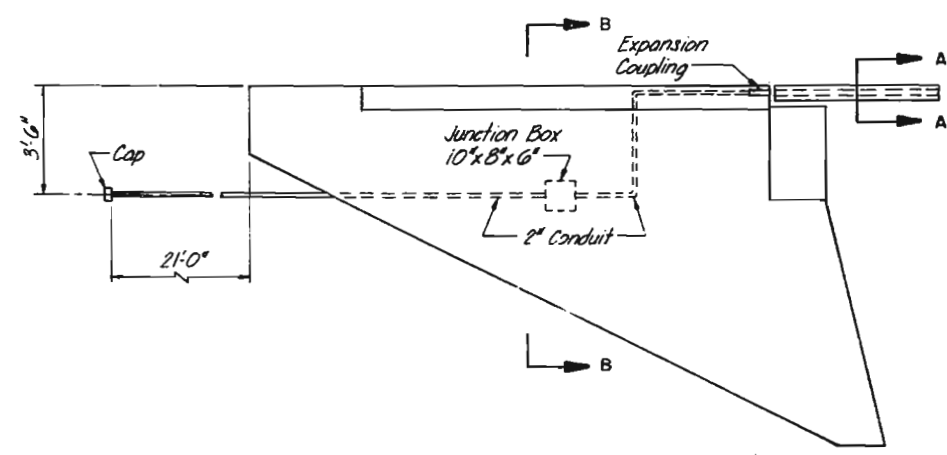


DETAIL 'C'

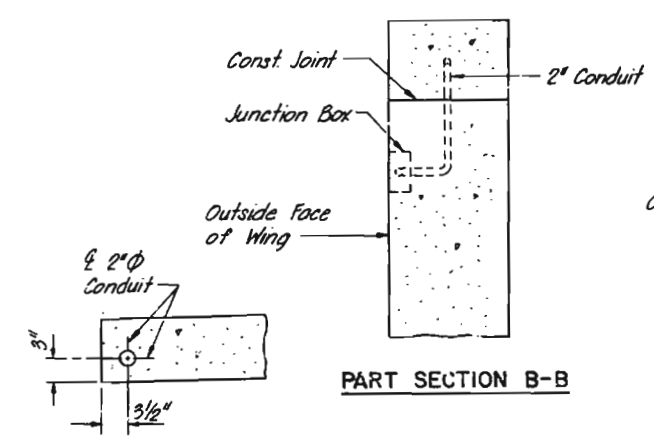


SECTION D-D

DETAILS OF MEDIAN



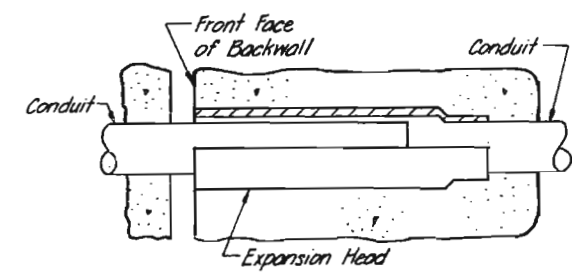
DETAILS OF CONDUIT AT ABUTMENTS NO. 1 & 3 (EAST WING)



PART SECTION A-A

PART SECTION B-B

CONDUIT DETAILS



CONDUIT EXPANSION COUPLING

Conduit Notes:
Conduit shall be Schedule 40 Heavy Wall PVC (Polyvinyl Chloride Plastic) or HDPE (High Density Polyethylene). Shift reinforcing steel in field where necessary to clear conduit & junction boxes. Expansion Coupling shall provide a minimum movement in either direction of 2 1/4" at open joints of Abutments No. 1 & 3. Junction boxes shall be flush mounted & equal to O.Z. Gedney Co. Type "YR" and/or Spring City Elec. Mfg. Co. Type "ER". Wall thickness to be sufficient to provide 5 full threads for watertight conduit joint at terminal adapters.

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

Sheet No. 22 of 24

ST. CHARLES COUNTY

A-5045

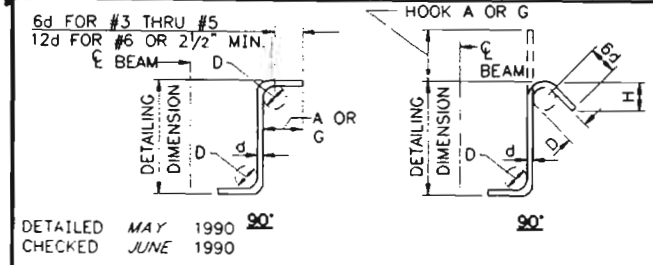
397 527

DETAILED May 1990
CHECKED June 1990

COMPLETE BILL OF REINFORCING																							
NO. RECD.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP SUBSTR. VARIES (S)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT		
							B		C		D		E		F		H					K	
							FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.
		SUBSTRUCTURE																					
		ABUTMENT NO.																					
1	6H1	BACKWALL		20	X		38	1.000										38	1.38	114			
1	4H2	BACKWALL		20	X		38	1.000										38	1.38	153			
1	6H3	BACKWALL		20	X		49	9.000										49	9.49	149			
1	4H4	BACKWALL		20	X		25	2.000										25	2.25	202			
4	9H5	BEAM		20	X		41	5.000										41	5.41	563			
3	9H6	BEAM		17	X		30	2.000										31	5.31	855			
2	6H7	BEAM		20	X		38	1.000										38	1.38	114			
2	6H8	BEAM		20	X		49	5.000										49	5.49	517			
4	9H9	BEAM		17	X		38	1.000										39	4.39	535			
4	9H10	BEAM		17	X		51	4.000										52	7.52	715			
8	6H11	APRON		20	X		38	1.000										38	1.38	458			
8	8H12	BEAM		17	X		39	3.000										40	2.40	858			
4	8H13	BEAM		17	X		50	9.000										51	8.51	552			
2	6H14	BEAM		20	X		39	3.000										39	3.39	118			
2	6H15	BEAM		20	X		48	3.000										48	3.48	145			
4	8H16	BEAM		17	X		49	2.000										50	1.50	535			
8	6H17	APRON		20	X		49	5.000										49	5.49	594			
2	4H18	BEAM CORBEL		20	X		24	3.000										24	3.24	32			
1	4H19	BEAM CORBEL		20	X		39	9.000										39	9.39	27			
16	4H20	CURTAIN WALL		20	X		4	4.000										4	4.4	46			
4	4H21	WING					10	7.000										10	7.10	28			
4	4H22	WING					15	5.000										15	5.15	41			
4	6H23	WING					18	0.000										18	0.18	108			
4	6H24	WING					20	4.000										20	4.20	122			
8	6H25	WING					20	8.000										20	8.20	248			
12	4H26	WING		20	X V 4		5	1.000										5	1.5	1			
		INCR=35.000 IN					10	11.000										10	11.10	64			
4	4H27	WING					5	8.000										5	8.5	15			
4	7T1	WING		14	X		4	11.000	2	5.000	21	0.000			19	6.875	7	7.250	28	4	28	1	230
4	7T2	WING		15	X		2	0.000	6	5.000	2	3.875	5	11.750				8	5.8	5	69		
32	4T3	APRON		10	X		1	10.000	1	3.000								4	11.4	9	102		
4	4T4	CURTAIN WALL		19	X		6	9.000	2	3.000								9	0.8	11	24		
8	6T5	APRON		10	X		2	0.000	2	0.000								4	0.3	10	46		
85	5U1	BEAM	E	10	S X		3	8.000	2	3.000								9	7.9	4	827		
79	5U2	BEAM		13	S X		2	3.000	2	8.000	2	0.000	2	8.000				10	9.10	5	858		
42	5U3	BEAM		13	S X		3	3.500	2	9.000	3	11.500	2	8.000				13	7.13	3	580		
35	5U4	BEAM		13	S X		3	2.500	3	0.750	3	11.500	2	11.625				14	1.13	9	502		
45	4U5	BEAM		10	S X			6.000	3	3.000								4	3.4	0	120		
82	4U8	BEAM		10	X		1	6.000	6.000									3	6.3	4	183		
82	6V1	BACKWALL	E	20	X		7	7.000										7	7.7	7	934		
114	5V2	APRON		20	X		5	10.000										5	10.5	10	694		
40	4V3	WING		20	X V 4		5	1.000										5	1.5	1			
		INCR=7.750 IN					10	10.750										10	11.10	11	213		
20	5V4	WING		20	X V 4		2	10.000										2	10.2	10			
		INCR=5.250 IN					4	7.000										4	7.4	7	77		
4	4V5	WING		20	X		5	11.000										5	11.5	11	16		
4	4V6	WING		20	X		6	6.000										6	6.6	6	17		
4	4V7	CURTAIN WALL		20	X		6	9.000										6	9.6	9	18		
82	5V8	BACKWALL	E	20	X		7	7.000										7	7.7	7	649		
18	2W1	A.B. WELL		22	X		1	3.000	9.125									23	0.23	0	69		

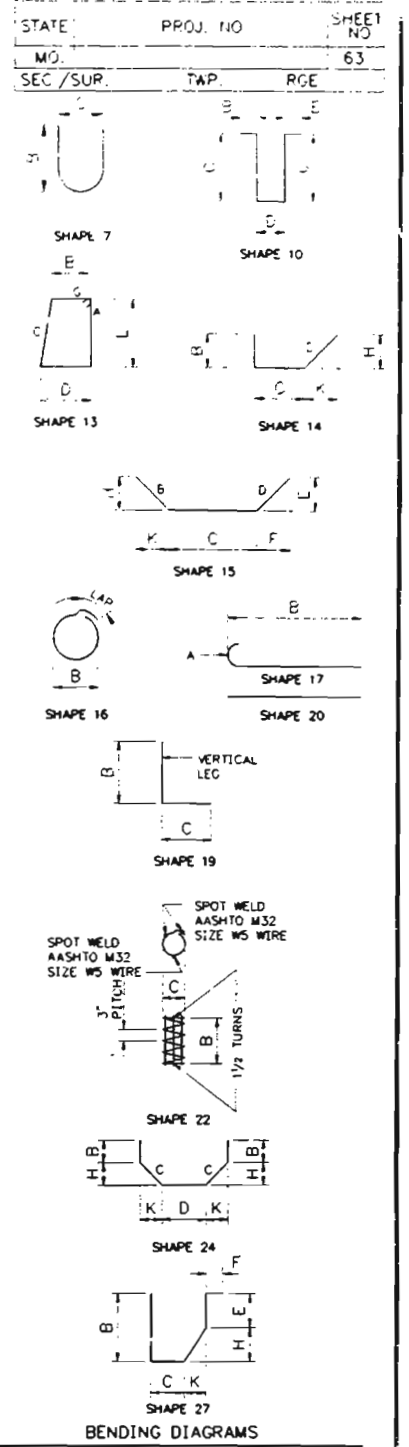
NOTE:
2- #5 R13 & 2- #6 S5 ARE INCLUDED FOR TEST BENDING.

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



STIRRUP HOOK DIMENSIONS				
GRADES 40-50-60 KSI				
BAR SIZE	D (IN.)	90° HOOK		135° HOOK
		A OR G	A OR G	H
#3	1 1/2"	4"	4"	2 1/2"
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	7 3/4"	4 1/2"

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



NOTES:

ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E - EPOXY COATED REINFORCEMENT

S - STIRRUP

X - BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.

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

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

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

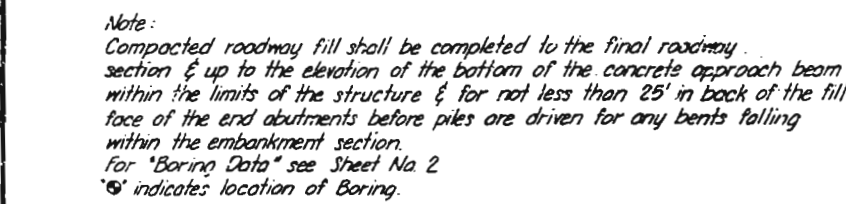
ACTUAL LENGTHS - ARE MEASURED ALONG CENTERLINE BAR TO NEAREST INCH.

PAY WEIGHTS ARE BASED ON ACTUAL LENGTHS

COMPLETE BILL OF REINFORCING																										
NO. RECD.	MARK NO.	LOCATION	EPOXY	SHAPE NO.	STIRRUP SUBSTR.	VARIABLES	NO. EACH	DIMENSIONS																NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
								B	C	D	E	F	H	K	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.			
								SIZE	MARK	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	LBS.
		SUBSTRUCTURE																								
		ABUTMENT NO. 3																								
13	6H1	BACKWALL		20	X			38	1.000									38	1.38	114						
13	4H2	BACKWALL		20	X			38	1.000									38	1.38	153						
13	6H3	BACKWALL		20	X			49	9.000									49	9.49	149						
13	4H4	BACKWALL		20	X			25	2.000									25	2.25	202						
13	6H5	BEAM		20	X			41	5.000									41	5.41	563						
13	6H6	BEAM		17	X			30	2.000									31	5.31	855						
13	6H7	BEAM		20	X			38	1.000									38	1.38	114						
13	6H8	BEAM		20	X			49	5.000									49	5.49	148						
4	9H9	BEAM		17	X			38	1.000									39	4.39	535						
4	9H10	BEAM		17	X			51	4.000									52	7.52	715						
14	6H11	APRON		20	X			38	1.000									38	1.38	1						
8	8H12	BEAM		17	X			39	3.000									40	2.40	2						
4	8H13	BEAM		17	X			50	9.000									51	8.51	8						
2	6H14	BEAM		20	X			39	3.000									39	3.39	3						
2	6H15	BEAM		20	X			48	3.000									48	3.48	3						
4	8H16	BEAM		17	X			49	2.000									50	1.50	1						
14	6H17	APRON		20	X			49	5.000									49	5.49	5						
16	4H20	CURTAIN WALL		20	X			4	4.000									4	4.4	4						
24	4H29	WING		20	X	V	4	8.000										4	8.4	8						
		INCR=33.000 IN						18	5.000									18	5.18	5						
4	4H30	WING		20	X			17	8.000									17	8.17	8						
4	4H31	WING		20	X			20	9.000									20	9.20	9						
4	5H32	WING		20	X			25	6.000									25	6.25	6						
12	5H35	WING		20	X			23	4.000									23	4.23	4						
4	6H36	WING		20	X			7	11.000									7	11.7	11						
4	6H37	WING		20	X			10	5.000									10	5.10	5						
8	6H38	WING		20	X			13	1.000									13	1.13	1						
4	5H39	WING		20	X			7	9.000									7	9.7	9						
8	4H40	WING		20	X			6	5.000									6	5.6	5						
56	4T3	APRON		10	X					1	10.000	1	3.000					4	11.4	9						
4	4T4	CURTAIN WALL		19	X			6	9.000	2	3.000							9	0.8	11						
11	6T5	APRON		10	X					2	0.000	2	0.000					4	0.3	10						
4	7T7	WING		15	X					2	0.000	7	7.000	2	10.250	7	0.250	9	7.9	7						
4	7T8	WING		14	X			7	9.000	2	2.000	35	6.000					32	9.250	13						
																		7.625	45	5.45						
85	5U1	BEAM	E	10	S	X				3	8.000	2	3.000					9	7.9	4						
79	5U2	BEAM		13	S	X		2	3.000	2	8.000	2	3.000	2	8.000			10	9.10	5						
42	5U3	BEAM		13	S	X		3	3.500	2	9.000	3	11.500	2	8.000			13	7.13	3						
35	5U4	BEAM		13	S	X		3	2.500	3	0.750	3	11.500	2	11.625			14	1.13	9						
45	4U5	BEAM		10	S	X					6.000	3	3.000					4	3.4	0						
82	4U8	CORBEL		10	X					2	5.000		6.000					5	4.5	2						
82	6V1	BACKWALL	E	20	X			7	7.000									7	7.7	7						
4	4V7	CURTAIN WALL		20	X			6	9.000									6	9.6	9						
82	5V8	BACKWALL	E	20	X			7	7.000									7	7.7	7						
114	5V11	APRON		20	X			10	4.000									10	4.10	4						
32	5V12	WING		20	X	V	4	2	7.000									2	7.2	7						
		INCR=4.875 IN						5	5.125									5	5.5	5						
68	4V13	WING		20	X	V	4	5	9.000									5	9.5	9						
		INCR=6.875 IN						14	11.000									14	11.14	11						
4	4V14	WING		20	X			9	6.000									9	6.9	6						
4	4V15	WING		20	X			10	2.000									10	2.10	2						
4	4V16	WING		20	X			9	5.000									9	5.9	5						
18	2W1	A.B. WELL		22	X			1	3.000		9.125							23	0.23	0						

COMPLETE BILL OF REINFORCING																							
NO. RECD.	MARK NO.	LOCATION	EPOXY	SHAPE NO.	STIRRUP SUBSTR. VARS	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.
		SUPERSTRUCTURE																					
		CAST-IN-PLACE CONVENTIONAL FORMS																					
410	5S1	SLAB	E	20			39	9.000										39	9.39	9			
820	5S2	SLAB	E	20			25	0.000										25	0.25	0			
672	5S3	SLAB	E	20			33	11.000										33	11.33	11			
408	5S4	SLAB	E	20			39	1.000										39	1.39	1			
134	6S5	SLAB	E	20			18	10.000										18	10.18	10			
134	6S6	SLAB	E	20			50	0.000										50	0.50	0			
444	6S7	SLAB	E	20			47	1.000										47	1.47	1			
444	6S8	SLAB	E	20			39	9.000										39	9.39	9			
		PRECAST PANEL FORMS																					
6	5S1	SLAB	E	20			39	9.000										39	9.39	9			
12	5S2	SLAB	E	20			25	0.000										25	0.25	0			
56	5S3	SLAB	E	20			33	11.000										33	11.33	11			
408	5S4	SLAB	E	20			39	1.000										39	1.39	1			
136	6S5	SLAB	E	20			18	10.000										18	10.18	10			
134	6S6	SLAB	E	20			50	0.000										50	0.50	0			
444	6S7	SLAB	E	20			47	1.000										47	1.47	1			
444	6S8	SLAB	E	20			39	9.000										39	9.39	9			
444	4S9	SLAB	E	20			3	8.000										3	8.3	8			
114	4S10	SLAB	E	20			1	0.000										1	0.1	0			
626	5R1	BARRIER CURB	E	19			2	6.000	3	5.000								2	10.2	8			
570	5R2	BARRIER CURB	E	15			2	6.125	3	5.000								2	10.2	8			
540	5R3	BARRIER CURB	E	19			1	5.000	6	0.000								1	11.1	10			
540	5R4	BARRIER CURB	E	27					6.000	11.125	7.000	12.000	9.125	6.375	3	0.2	10	15.96					
4	5R5	BARRIER CURB	E	19			2	1.000	6	0.000								2	7.2	6			
8	5R6	BARRIER CURB	E	27					7.500	8.175	6.000							2	10.2	9			
30	5R7	BARRIER CURB	E	20			2	3.500	6	0.000								2	10.2	8			
24	5R8	BARRIER CURB	E	10			2	1.000	7	5.000								4	10.4	7			
8	5R9	BARRIER CURB	E	19			2	2.500	3	5.000								2	6.2	5			
30	5R10	BARRIER CURB	E	24				6.000	11.125	6.000								6	3.75	9			
72	5R11	BARRIER CURB	E	20			35	5.000										35	5.35	5			
24	5R12	BARRIER CURB	E	20			9	9.000										9	9.9	9			
14	5R13	BARRIER CURB	E	20			18	0.000										18	0.18	0			
48	5R14	BARRIER CURB	E	20			5	0.000										5	0.5	0			
12	5R15	BARRIER CURB	E	20			31	3.000										31	3.31	3			
	5M1	MEDIAN	E	10	S				10.500	3	7.000							5	4.5	1			
	5M2	MEDIAN	E	20			15	6.000										15	6.15	6			
	5M3	MEDIAN	E	20			38	9.000										38	9.38	9			
4	5M4	MEDIAN	E	20			26	0.000										26	0.26	0			
8	4L1	PEDESTAL	E	20			2	10.000										2	10.2	10			
3	4L2	PEDESTAL	E	16	V	1	2	3.000										9	4.9	4			
		INCR.=9.000 IN.					2	9.000										10	10	10			

STATE	PROJ. NO.	SHEET NO.
MO.	56101418	41
SEC./SUR.	30	TWP. 47N RGE. 3E



Sheet No. 1A of 25

STD. 611.60
STD. 706.35
A-5045

LIST OF DRAWINGS

SHEET NO.	DESCRIPTION
1.	GENERAL PLAN & ELEVATION
2.	LIST OF DRAWINGS, GENERAL NOTES & QUANTITIES
3.	BORING DATA, PROFILE GRADE ELEVATIONS
4.	ABUTMENT NO. 1 DETAILS
5.	ABUTMENT NO. 1 DETAILS
6.	ABUTMENT NO. 1 DETAILS
7.	ABUTMENT NO. 3 DETAILS
8.	ABUTMENT NO. 3 DETAILS
9.	ABUTMENT NO. 3 DETAILS
10.	DETAILS OF INTERMEDIATE BENT NO. 2
11.	PLAN OF STRUCTURAL STEEL
12.	GIRDER ELEVATIONS & DETAILS
13.	WELDING DETAILS, DETAILS OF SHEAR CONNECTORS
14.	CROSS FRAME DETAILS
15.	BEARING PAD DETAILS
16.	SLAB PLAN & SECTION
17.	DETAILS OF PRECAST PRESTRESSED PANELS
18.	SLAB DRAIN DETAILS
19.	DETAILS OF PREFORMED COMPRESSION JOINT SEAL
20.	BARRIER CURB DETAILS
21.	BARRIER CURB DETAILS
22.	MEDIAN DETAILS
23.	BILL OF REINFORCING
24.	BILL OF REINFORCING
25.	PILE DRIVING DATA

FINAL QUANTITIES				
ITEM		SUBSTR.	SUPERSTR.	TOTAL
CLASS 1 EXCAVATION	CU. YD.	150		150
STRUCTURAL STEEL PILE (10 IN.)	LIN. FT.	2,874		2,874
PRE-BORE FOR PILING	LIN. FT.	976		976
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	357		357
SLAB ON STEEL, SEE SPECIAL PROVISIONS	SO. YD.		2,090	2,090
SAFETY BARRIER CURB	LIN. FT.		0	0
SLAB ON SEMI-DEEP ABUTMENT	SO. YD.		395	395
MEDIAN BARRIER CURB	LIN. FT.		264	264
LAMINATED NEOPRENE BEARING PADS (STEEL STRUCTURES)	EACH		9	9
TYPE N PIPE BEARINGS	EACH		18	18
PREFORMED COMPRESSION EXPANSION JOINT SEAL (3.5 INCHES)	LIN. FT.		164	164
REINFORCING STEEL (GRADE 60) (BRIDGES)	LB.	44,980		44,980
CONDUIT SYSTEM ON STRUCTURE	LUMP SUM		1	1
REINFORCING STEEL (EPOXY COATED)	LB.	4,920		4,920
FABRICATED STRUCTURAL CARBON STEEL (PLATE ORDERS)	LB.		388,073	388,073
FABRICATED STRUCTURAL LOW ALLOY STEEL (PLATE ORDERS) (A-572)	LB.		97,860	97,860
SLAB DRAINS	EACH		12	12
PILE POINT REINFORCEMENT	EACH	48		48
PAINTING (SYSTEM C) GREEN	TON		241.5	241.5
SAFETY BARRIER CURB (CONTINGENT)	LIN. FT.		556	556

NOTE:
THE TABLE OF ESTIMATED QUANTITIES FOR ALTERNATE SLABS REPRESENTS THE QUANTITIES USED BY THE STATE IN PREPARING THE COST ESTIMATE FOR CONCRETE SLABS. VARIATIONS MAY BE ENCOUNTERED IN THESE ESTIMATED QUANTITIES BUT THESE VARIATIONS CANNOT BE USED FOR AN ADJUSTMENT IN THE CONTRACT UNIT PRICE PER SQUARE YARD OF ALTERNATE SLAB USED.
SEE SPECIAL PROVISIONS FOR ALTERNATE METHODS OF FORMING SLABS.

ESTIMATED QUANTITIES FOR ALTERNATE SLABS			
TYPE OF SLAB	REINFORCEMENT LBS. EPOXY / PLAIN	CONCRETE (CU. YDS.)	
PRESTRESSED PANEL FORMS	92,157	0	363.7

INTERMEDIATE BENT PILE DATA		
LOCATION	BT. 2	
TYPE	HP10x42	
NUMBER	40	
ACTUAL LENGTH RANGE (FT.)	13-31	
DESIGN BEARING (TONS)	52	
HAMMER ENERGY REQUIRED (FT. LBS.)	11,655	

NOTES:
1. COST OF CONCRETE & REINFORCING STEEL SHALL BE INCLUDED IN PRICE BID FOR SLAB ON STEEL, MEDIAN BARRIER CURB & SAFETY BARRIER CURB.
2. COST OF CONCRETE & REINFORCING STEEL ABOVE SLAB CONSTRUCTION JOINT SHALL BE INCLUDED IN PRICE BID FOR SLAB ON SEMI-DEEP ABUTMENT.
3. ALL REINFORCING STEEL, EXCEPT VERTICAL BARS IN SIDE WALLS & WING WALLS, EXTENDING THRU THE SLAB CONSTRUCTION JOINTS SHALL BE INCLUDED.
4. PRICE BID FOR REINFORCING STEEL (EPOXY COATED).

PILE DATA								
ABUTMENT NO.	1				3			
LOCATION	APPROACH BEAM RT.	APPROACH BEAM LT.	BEARING BEAM RT.	BEARING BEAM LT.	APPROACH BEAM RT.	APPROACH BEAM LT.	BEARING BEAM RT.	BEARING BEAM LT.
TYPE	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42
NUMBER	4	4	8	8	4	4	8	8
ACTUAL LENGTH RANGE (FT.)	37-49	46-49	37-46	32-48	46-51	51-66	40-44	48-62
DESIGN BEARING (TONS)	32	32	45	45	44	44	55	55
HAMMER ENERGY REQUIRED (FT. LBS.)	7,200	7,200	10,125	10,125	9,900	9,900	12,375	12,375

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.

STATE	PROJ. NO.	SHEET
MO.	J6107416	1 42

GENERAL NOTES

DESIGN SPECIFICATIONS:

DESIGN TO 1989 (LOAD FACTOR DESIGN)
DESIGN TO 1983 GUIDE SPECIFICATIONS FOR SEISMIC DESIGN
SEISMIC PERFORMANCE CATEGORY 1

DESIGN LOADINGS:

HS20-44 & MODIFIED 24,000# TANDEN AXLE
EARTH 120#/CU. FT.
EQUVALENT FLUID PRESSURE = 45#/CU. FT.
FATIGUE CASE II
35#/SQ. FT. FUTURE WEARING SURFACE

DESIGN UNIT STRESSES:

CLASS B CONCRETE (SUBSTRUCTURE) $f'_c = 3,000$ PSI
CLASS B1 CONCRETE (SAFETY BARRIER CURB & MEDIAN BARRIER CURB) $f'_c = 4,000$ PSI
CLASS B2 CONCRETE (SUPERSTRUCTURE & ABUTMENT SLABS EXCEPT SAFETY BARRIER CURB & MEDIAN BARRIER) $f'_c = 4,000$ PSI
REINFORCING STEEL (GRADE 60) $f_y = 60,000$ PSI
STEEL PILE $f_y = 9,000$ PSI
STRUCTURAL CARBON STEEL $f_y = 36,000$ PSI
STRUCTURAL STEEL (A572, A572) GRADE 50 $f_y = 50,000$ PSI
FOR PRECAST PRESTRESSED PANEL STRESSES, SEE SHEET NO. 17

FABRICATED STEEL

FIELD CONNECTIONS FOR HIGH STRENGTH BOLTS 3/4" SHALL HAVE HOLES 13/16", EXCEPT AS NOTED.

JOINT FILLER

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

REINFORCING STEEL:

MINIMUM CLEARANCE TO THE REINFORCING STEEL SHALL BE 1-1/2" UNLESS OTHERWISE SHOWN.
ALL REINFORCING BARS IN THE TOPS OF THE SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLTS FOR BEARINGS BY AT LEAST 1/2".

CONSTRUCTION CLEARANCE:

A MINIMUM LATERAL CLEARANCE OF 2'-0" FROM THE EDGE OF EXISTING PAVEMENT AND A MINIMUM VERTICAL CLEARANCE OF 15'-3" FOR EACH LANE SHALL BE MAINTAINED DURING CONSTRUCTION.

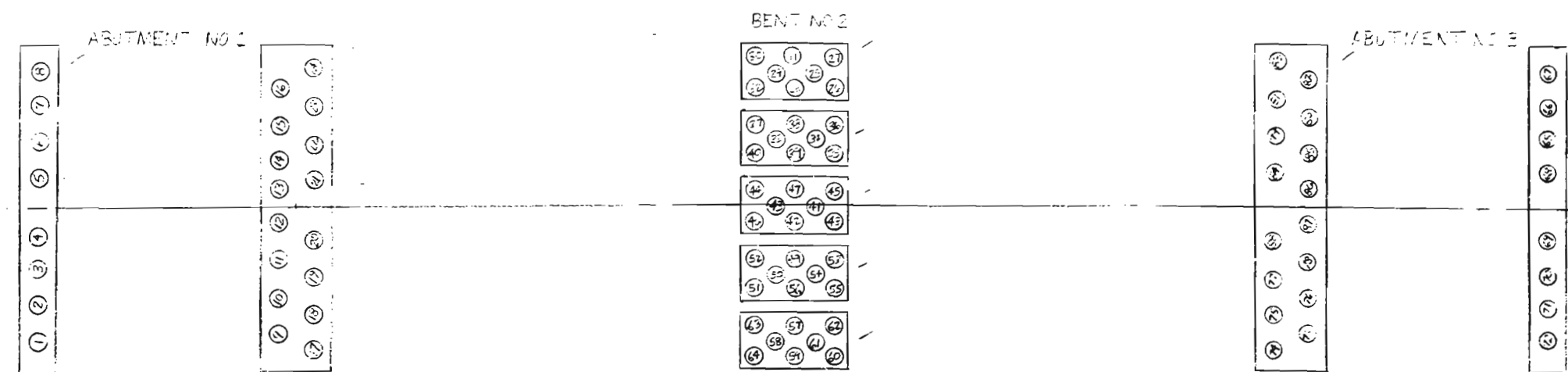
PAINT:

SYSTEM C BY CONTRACTOR IN ACCORDANCE WITH STANDARD SPECIFICATION 712.12. (COLOR OF THE FINAL FIELD COAT FOR SYSTEM C SHALL BE GREEN.)

FINAL PLANS

DESIGNED June 1990
DETAILED June 1990
CHECKED July 1990

4-7



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

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
1	37	145.6	10 X 42 BP (TYPICAL)
2	49	*	* REFUSAL - ROCK
3	49	*	
4	45	*	
5	49	*	
6	48	*	
7	48	*	
8	46	*	
9	37	121.3	
10	46	*	
11	41	*	
12	46	*	
13	32	145.6	
14	48	145.6	
15	45	*	
16	41	*	
17	37	111.3	
18	39	133.6	
19	32	132.6	
20	44	132.6	
21	42	132.6	
22	47	*	
23	47	133.6	
24	46	132.6	
25	19	121.3	
26	19	*	
27	16	116.0	
28	31	112.0	
29	28	121.3	
30	18	116.0	
31		121.3	
32	27	*	
33	14	*	
34	14	*	
35	14	*	
36	31	*	ADD 3' OF PILE FOR SPICE
37	14	*	
38	14	*	

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
39	14	*	
40	14	*	
41	14	*	
42	14	132.4	
43	14	121.3	
44	14	126.7	
45	14	139.3	
46	14	126.7	
47	14	132.4	
48	14	116.0	
49	14	132.4	
50	14	*	
51	17	116.0	
52	13	139.3	
53	14	139.3	
54	14	145.6	
55	17	139.3	
56	16	132.4	
57	13	132.4	
58	14	132.4	
59	14	*	
60	15	116.0	
61	15	132.4	
62	15	126.7	
63	14	126.7	
64	14	*	
65	51	145.6	
66	66	*	ADD 9' OF PILE FOR SPICE
67	64	121.3	ADD 2' OF PILE FOR SPICE
68	51	*	
69	51	112.0	
70	50	112.0	
71	46	*	
72	47	145.6	
73	41	*	
74	41	133.6	
75	41	*	
76	40	*	

"AS BUILT FILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
77	43	133.6	
78	44	145.6	
79	62	121.5	ADD 3' OF PILE FOR SPICE
80	47	145.6	
81	44	*	
82	44	132.4	
83	51	121.5	
84	47	133.6	
85	45	132.4	
86	43	*	
87	44	*	
88	43	111.3	
		2842	SUB-TOTAL
		32	4 SPICES A-E
		2874	TOTAL

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.

FINAL PLANS

DETAILED OCT 1902
CHECKED NOV 1992

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

SHEET NO. 25 OF 25

ST CHARLES COUNTY A-5045