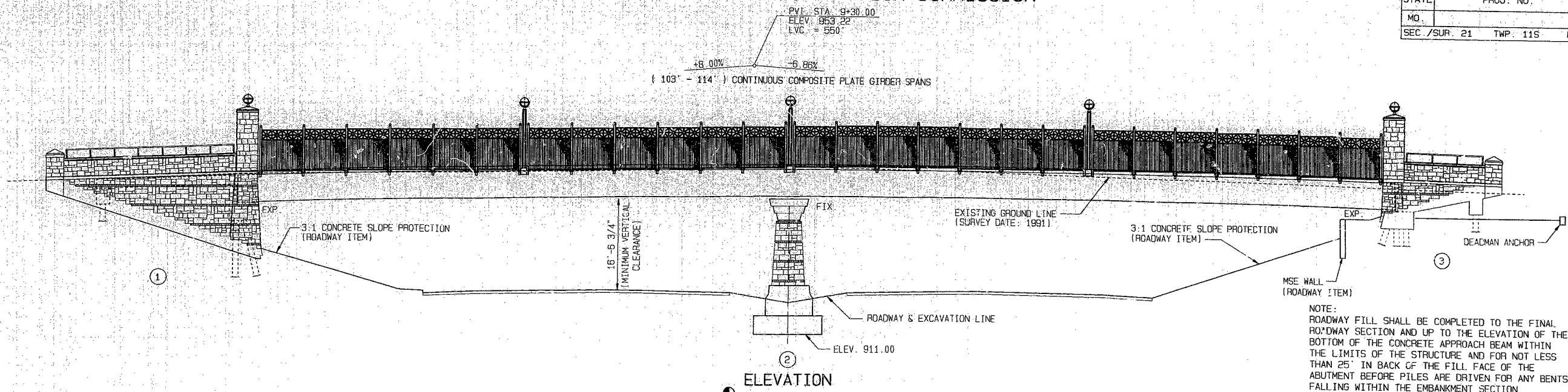
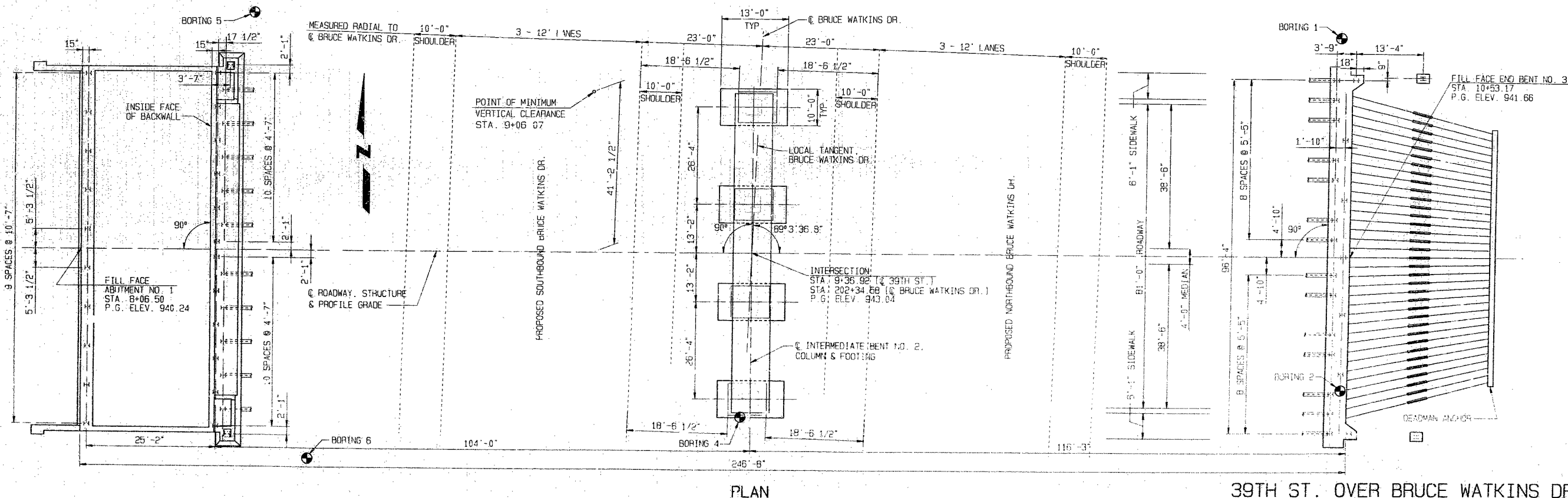


MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.		175
SEC./SUR. 21	TWP. 11S	RGE. 33W



NOTE:  
ROADWAY FILL SHALL BE COMPLETED TO THE FINAL ROADWAY SECTION AND UP TO THE ELEVATION OF THE BOTTOM OF THE CONCRETE APPROACH BEAM WITHIN THE LIMITS OF THE STRUCTURE AND FOR NOT LESS THAN 25' IN BACK OF THE FILL FACE OF THE ABUTMENT BEFORE PILES ARE DRIVEN FOR ANY BENTS FALLING WITHIN THE EMBANKMENT SECTION.



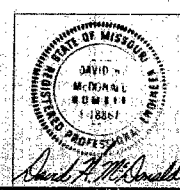
206  
213

⊙ INDICATES LOCATION OF BORINGS. BORING DATA FOR ALL LOCATIONS IS AVAILABLE UPON REQUEST FROM THE DISTRICT OFFICE. BORING DATA FOR NUMBERED LOCATIONS IS DETAILED ON SHEET 3.

BENCHMARKS:  
B.M. #249 ELEV. 941.62  
"X" IN TOP FLANGE BOLT (ENE), FH  
@ NW COR. 39TH AND EUCLID  
STA. 201+82 153' LT.  
B.M. #250 "R" ELEV. 942.47  
"X" NNE TOP FLANGE BOLT, FH @ NW  
COR. 39TH AND MICHIGAN  
STA. 201+92 146' RT

39TH ST. OVER BRUCE WATKINS DR.  
STATE ROAD S. MIDTOWN RDWY. AT 39TH ST.  
IN KANSAS CITY

PROJECT NO. STA. 202+34.58  
JOB NO. J4U0011G RTE. 71



JACKSON COUNTY

DATE 4/17/95

STD. 611.60
STD. 706.35
A-5183

DETAILED MAY 1993  
CHECKED JULY 1993  
REVISED MARCH 1995


McDONALD & WARGER, INC.  
CONSULTING ENGINEERS

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

SHEET NO. 1 OF 36

LIST OF DRAWINGS

SHEET DESCRIPTION NO.

- 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 INTERMEDIATE BENT NO. 2 DETAILS
  - 8 INTERMEDIATE BENT NO. 2 DETAILS
  - 9 END BENT NO. 3 DETAILS
  - 10 END BENT NO. 3 DETAILS
  - 11 DETAILS OF DEADMAN ANCHORAGE SYSTEM
  - 12 VERTICAL DRAIN AT END BENT NO. 3
  - 13 PLAN OF STRUCTURAL STEEL & GIRDER ELEVATION
  - 14 FIELD SPLICES & MISCELLANEOUS DETAILS
  - 15 CROSS FRAMES & MISCELLANEOUS STEEL DETAILS
  - 16 DETAILS OF TYPE "N" PTFE BEARINGS
  - 17 DETAILS OF LAMINATED NEOPRENE BEARINGS (STEEL STRUCTURES)
  - 18 SLAB PLAN & SECTION
  - 19 DETAILS OF PRECAST PRESTRESSED PANELS
  - 20 DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT BENT NO. 1 & NO. 3
  - 21 SIDEWALK DETAILS
  - 21A DETAILS OF CONDUIT SYSTEM ON STRUCTURE
  - 22 RAISED MEDIAN DETAILS
  - 23 ORNAMENTAL PEDESTRIAN FENCE DETAILS
  - 24 ORNAMENTAL PEDESTRIAN FENCE DETAILS
  - 24A ORNAMENTAL PEDESTRIAN FENCE DETAILS
  - 25 BARRIER CURB DETAILS
  - 26 BARRIER CURB DETAILS (ABUTMENT NO. 1)
  - 27 PEDESTRIAN WALL DETAILS (ABUTMENT NO. 1)
  - 28 PEDESTRIAN WALL DETAILS (END BENT NO. 3)
  - 29 ORNAMENTAL COLUMN DETAILS
  - 30 STONE MASONRY FACADE ON ABUTMENT NO. 1
  - 31 STONE MASONRY FACADE ON INTERMEDIATE BENT NO. 2
  - 32 STONE MASONRY FACADE ON END BENT NO. 3
  - 33 BILL OF REINFORCING STEEL
  - 34 BILL OF REINFORCING STEEL
  - 35 BILL OF REINFORCING STEEL
  - 36 "AS-BUILT" PILE DATA
- 31B DETAILS OF LIGHT SUPPORT BLISTERS ADDED 

ESTIMATED QUANTITIES FOR SLAB ON STEEL

ITEM	TOTAL
REINFORCING STEEL (PLAIN) LB.	-
REINFORCING STEEL (EPOXY COATED) LB.	131,810
CONCRETE CU. YD.	458.5

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

SEE SPECIAL PROVISIONS FOR ALTERNATE METHODS OF FORMING SLAB.

THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON STEEL ASSUMES THAT PRESTRESSED PANEL FORMING IS USED. QUANTITIES FOR ALTERNATE METHODS ARE NOT INCLUDED IN THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON STEEL.

THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON STEEL.

ESTIMATED QUANTITIES FOR SLAB ON SEMI-DEEP ABUTMENT

	REINFORCEMENT LBS. EPOXY / PLAIN	CONCRETE CU. YDS.
ABUTMENT NO. 1	19990	166.0

ESTIMATED QUANTITIES

ITEM	SUB	SUPER	TOTAL
CLASS I EXCAVATION CU. YD.	465		465
STRUCTURAL STEEL PILES (12") LIN. FT.	1107		1107
PRE-BORE FOR PILING LIN. FT.	760		760
CLASS B CONCRETE (SUBSTRUCTURE) CU. YD.	486.1		486.1
CLASS B1 CONCRETE (SUPERSTRUCTURE) CU. YD.		18.9	18.9
SLAB ON STEEL SQ. YD.		2106	2106
SLAB ON SEMI-DEEP ABUTMENT SQ. YD.		289	289
REINFORCING STEEL (GRADE 60) LB.	59,900		59,900
REINFORCING STEEL (EPOXY COATED) LB.	3560	2280	5840
DEADMAN ANCHORAGE ASSEMBLY EACH	1		1
SAFETY BARRIER CURB LIN. FT.		493	493
SIDEWALK SQ. FT.		3122	3122
RAISED MEDIAN SQ. FT.		929	929
UNI-STONE PAVERS ON RAISED MEDIAN SQ. FT.		636	636
LAMINATED NEOPRENE BEARING PADS (STEEL STRUCTURES) EACH		10	10
TYPE "N" PTFE BEARINGS EACH		20	20
PREFORMED COMPRESSION JOINT SEAL (3.5") LIN. FT.		192	192
FABRICATED STRUCT. CARBON STEEL (PLATE GIRDER) LB.		292,860	292,860
FABRICATED STRUCT. LOW ALLOY STEEL (PLATE GIRDER) (A-572) LB.		254,850	254,850
VERTICAL DRAIN AT END BENTS EACH	1		1
ORNAMENTAL PEDESTRIAN FENCE LIN. FT.		416	416
TUBE HANDRAIL ON PEDESTRIAN WALL LIN. FT.		94	94
STONE MASONRY FACADE ON ABUTMENT NO. 1 SQ. FT.	1432		1432
STONE MASONRY FACADE ON INTERMEDIATE BENT NO. 2 SQ. FT.	1038		1038
STONE MASONRY FACADE ON END BENT NO. 3 SQ. FT.	400		400
STONE VENEER SQ. FT.		2210	2210
CAST-IN-PLACE CAP ON SAFETY BARRIER CURB LIN. FT.		493	493
PRECAST CAP ON PEDESTRIAN WALL LIN. FT.		98	98
PRECAST CAP ON ORNAMENTAL COLUMN EACH		4	4
PRECAST CAP ON END POST EACH		4	4
ORNAMENTAL PAINTING LUMP SUM			1
MASONRY PROTECTION SYSTEM LUMP SUM			1
GRAFFITI PROTECTION SYSTEM LUMP SUM			1
CORRUGATED METAL PIPE PILE SPACERS EACH	21		21
LIGHT FIXTURES EACH		10	10
CONDUIT SYSTEM ON STRUCTURE LUMP SUM			1

NOTES:  
 ALL CONCRETE AND REINFORCING STEEL BELOW TOP OF SLAB AND ABOVE CONST. JOINT IN THE SEMI-DEEP ABUTMENT IS INCLUDED IN THE SUPERSTRUCTURE QUANTITIES FOR SLAB ON SEMI-DEEP ABUTMENT.

ALL REINFORCING STEEL IN THE PEDESTRIAN WALL, END POST & ORNAMENTAL COLUMN IS INCLUDED IN THE ESTIMATED QUANTITIES FOR REINFORCING STEEL (EPOXY COATED).

CONCRETE ABOVE THE UPPER CONSTRUCTION JOINT IN THE BACKWALL AT END BENT NO. 3 IS INCLUDED WITH CLASS B (SUBSTRUCTURE) QUANTITIES.

ALL CONCRETE AND REINFORCING STEEL IN THE SIDEWALK, RAISED MEDIAN, SAFETY BARRIER CURB, CAST-IN-PLACE CAP ON SAFETY BARRIER CURB, AND DEADMAN ANCHORAGE ASSEMBLY ARE INCLUDED IN THE ESTIMATED QUANTITIES FOR SIDEWALK, RAISED MEDIAN, SAFETY BARRIER CURB, CAST-IN-PLACE CAP ON SAFETY BARRIER CURB, AND DEADMAN ANCHORAGE ASSEMBLY, RESPECTIVELY.

WHEN THE PRECAST CONCRETE CAP IS BID BY LINEAR FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE, REINFORCEMENT, AND STAINLESS STEEL DOWELS COMPLETE IN PLACE.

PAYMENT FOR THE STONE VENEER AND DOVETAIL ANCHORS, COMPLETE IN PLACE, FOR THE PEDESTRIAN WALL, SAFETY BARRIER CURB, ORNAMENTAL COLUMN AND END POST SHALL BE INCLUDED IN THE ESTIMATED QUANTITIES FOR STONE VENEER PER SQ. FT.

ITEMS TO BE GALVANIZED SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A123 AND A.S.T.M. A153 (SEE SPECIAL PROVISIONS).

PILE AND FOOTING DATA

BEARING PILES	SUBSTRUCTURE UNIT LOCATION	1A	1	2	3	3A
		APPROACH BEAM	BEARING BEAM		BEARING BEAM	WING BEAM
	PILE TYPE / SIZE	HP12x53	HP12x53		HP12x53	HP12x53
	NUMBER	10	24		21	2
	APPROXIMATE LENGTH	21	19		19	21
	DESIGN BEARING	52	60		69	10
	DESIGN REQUIRE	11700	14100		16200	7000
SPREAD FOOTING	FOUNDATION MATERIAL				ROCK	
	DESIGN BEARING (TONS / SQ. FT.)				7.5	

NOTES:  
 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 ALL STRUCTURAL STEEL PILING TO ELEVATION 917.0.

GROUT OR CONCRETE BACKFILL ALL PREBORED HOLES AFTER DRIVING OF PILES.

FOR STRUCTURAL STEEL PILING SPLICE DETAIL SEE SHEET NO. 6.

 REVISED MARCH 15, 1995

NOTE: THIS SHEET IS NOT TO SCALE. DIMENSIONS

SHEET NO. 2 OF 36

STATE	PROJ. NO.	SHEET NO.
MO.		

GENERAL NOTES

DESIGN SPECIFICATIONS:

A.A.S.H.T.O. 1992 (LOAD FACTOR DESIGN) SEISMIC PERFORMANCE CATEGORY A.

DESIGN LOADINGS:

HS20-44 & MODIFIED 24,000# TANDEM AXLE. EARTH 120# /CU.FT. EQUIVALENT FLUID PRESSURE = 45# /CU.FT. FATIGUE CASE II 36# /SQ.FT. FUTURE WEARING SURFACE.

DESIGN UNIT STRESSES:

CLASS B CONCRETE (SUBSTRUCTURE) f'c = 3000 PSI.  
 CLASS B1 CONCRETE (SAFETY BARRIER CURB, PEDESTRIAN WALLS, ORNAMENTAL COLUMNS, AND RAISED MEDIAN) f'c = 4000 PSI.  
 CLASS B2 CONCRETE (SUPERSTRUCTURE & ABUTMENT SLAB EXCEPT SAFETY BARRIER CURB, PEDESTRIAN WALLS, ORNAMENTAL COLUMNS, AND RAISED MEDIAN) f'c = 4000 PSI.  
 REINFORCING STEEL (GRADE 60) fy = 60,000 PSI.  
 STEEL PILE fb = 9000 PSI.  
 STRUCTURAL CARBON STEEL fy = 36,000 PSI.  
 STRUCTURAL STEEL (A.S.T.M. A-572) GRADE 50 fy = 50,000 PSI.  
 FOR PRECAST PRESTRESSED PANEL STRESSES, SEE SHEET NO. 19.

FABRICATED STEEL CONNECTIONS:

FIELD CONNECTIONS FOR HIGH STRENGTH 3/4" Ø BOLTS SHALL HAVE 1 1/8" Ø HOLES, EXCEPT AS NOTED. HIGH STRENGTH BOLTS, NUTS, AND WASHERS SHALL BE SAMPLED FOR QUALITY IN ACCORDANCE WITH STANDARD SPECIFICATION 106 AND FIELD SECTION (FS-712).

JOINT FILLER:

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

REINFORCING STEEL:

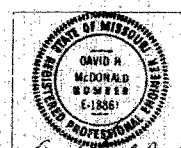
MINIMUM CLEARANCE TO THE REINFORCING STEEL SHALL BE 1 1/2" UNLESS OTHERWISE SHOWN. ALL REINFORCING BARS IN THE TOPS OF THE SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".

PAINT:

SYSTEM F BY CONTRACTOR IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

BORING LOG DATA NOTICE AND DISCLAIMER:

THE LOCATION OF ALL SUBSURFACE BORINGS FOR THIS STRUCTURE ARE SHOWN ON THE BRIDGE PLAN SHEET(S) FOR THIS STRUCTURE. BORING DATA FOR THE NUMBERED LOCATIONS IS SHOWN ON SHEET(S) 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, ARE 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.



David H. McDaniel

JACKSON COUNTY

A-5183

STATE	PROJ. NO.	SHEET NO.
MO.		177

STANDARD PENETRATION TEST				
DEPTH FT.	SAMPLE	BLOWS / 6"	P.P. (TSF)	ELEV.
3.5	SS-1	7/8/9	4.5+	944.0
8.5	SS-2	9/13/14	4.5+	939.0
13.5	SS-3	12/4/40	3.0	929.5
27	DB-1	RUN #1, 27.0' TO 29.2' REC = 100%, RGD = 100%		921.0
29.2	DB-2	RUN #2, 29.2' TO 34.2' REC = 98%, RGD = 90%		917.0
34.2	DB-3	RUN #3, 34.2' TO 39.2' REC = 100%, RGD = 38%		906.2

BORING WAS TERMINATED @ -39.2' (ELEV. 904.8)

①  
STA. 201+75, 114' LT.

STANDARD PENETRATION TEST				
DEPTH FT.	SAMPLE	BLOWS / 6"	P.P. (TSF)	ELEV.
4	ST-1		4.5+	884.5

BORING WAS TERMINATED @ -64.5' (ELEV. 879.9)  
BORING BACKFILLED 11-14-91

④  
STA. 202+79, 2' RT.

STANDARD PENETRATION TEST				
DEPTH FT.	SAMPLE	BLOWS / 6"	P.P. (TSF)	ELEV.
4	ST-1		2.0	941.2

⑥  
STA. 202+91, 86' RT.

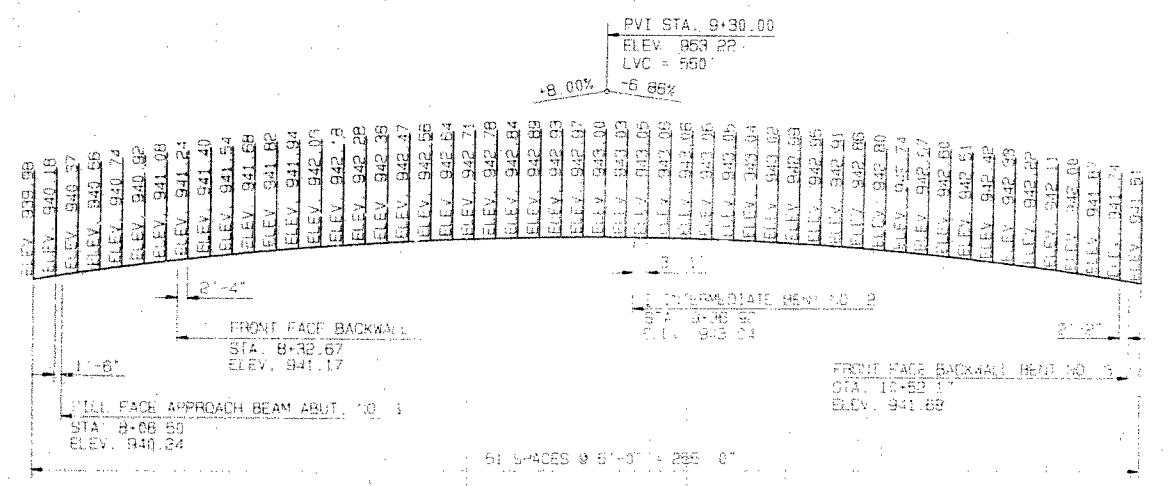
STANDARD PENETRATION TEST				
DEPTH FT.	SAMPLE	BLOWS / 6"	P.P. (TSF)	ELEV.
4	SS-1	5/7/9	2.5	944.4
9	SS-2	5/7/8	3.5	931.9
28	DB-1	RUN #1, 28.0' TO 29.5' REC = 100%, RGD = 100%		921.4
29.5	DB-2	RUN #2, 29.5' TO 34.5' REC = 86%, RGD = 80%		916.4
34.5	DB-3	RUN #3, 34.5' TO 39.5' REC = 100%, RGD = 8.4%		910.8
39.5	DB-4	RUN #4, 39.5' TO 44.5' REC = 90%, RGD = 38%		910.1
44.5	DB-5	RUN #5, 44.5' TO 49.5' REC = 100%, RGD = 100%		907.9
49.5	DB-6	RUN #6, 49.5' TO 54.5' REC = 100%, RGD = 96%		906.7
54.5	DB-7	RUN #7, 54.5' TO 59.5' REC = 100%, RGD = 98%		906.5
59.5	DB-8	RUN #8, 59.5' TO 64.5' REC = 100%, RGD = 52%		906.5

BORING WAS TERMINATED @ -39.1' (ELEV. 906.5)

⑤  
STA. 201+70, 97' RT.

STANDARD PENETRATION TEST				
DEPTH FT.	SAMPLE	BLOWS / 6"	P.P. (TSF)	ELEV.
3.5	SS-1	6/9/11	4.0	945.6
8.5	SS-2	5/7/10	4.0	944.1
23	DB-1	RUN #1, 23.0' TO 24.1' REC = 92%, RGD = 64%		934.1
24.1	DB-2	RUN #2, 24.1' TO 29.1' REC = 90%, RGD = 90% (SHALE)		930.6
29.1	DB-3	RUN #3, 29.1' TO 34.1' REC = 100%, RGD = 90%		922.6
34.1	DB-4	RUN #4, 34.1' TO 39.1' REC = 100%, RGD = 80%		921.2

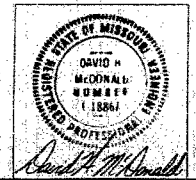
BORING WAS TERMINATED @ -39.1' (ELEV. 906.5)



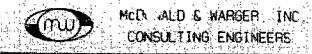
PROFILE GRADE ELEVATIONS

**BORING DATA**  
FOR LOCATION OF BORINGS SEE SHEET NO. 1  
BORING DATA FOR ALL LOCATIONS IS AVAILABLE  
UPON REQUEST FROM THE DISTRICT OFFICE.  
STATIONS & OFFSETS FOR BORING DATA ARE ALONG  
C BRUCE WATKINS DR.

BORING DATA & PROFILE GRADE ELEVATIONS



DETAILED MAY 1993  
CHECKED JULY 1993  
REVISED MARCH 1995

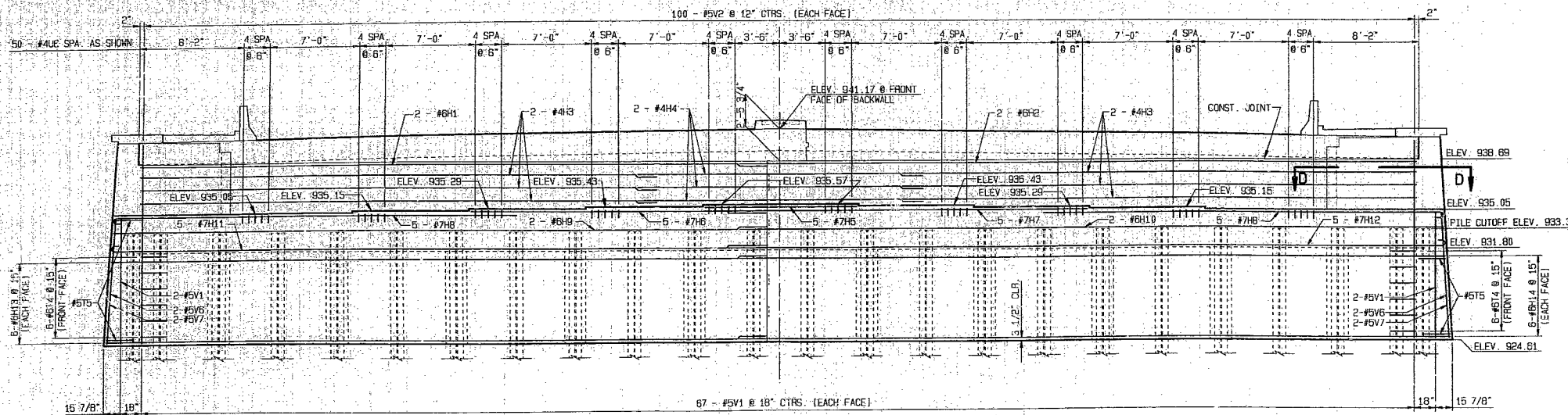


NOTE: THIS SHEET IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 3 OF 36

JACKSON COUNTY A-5183

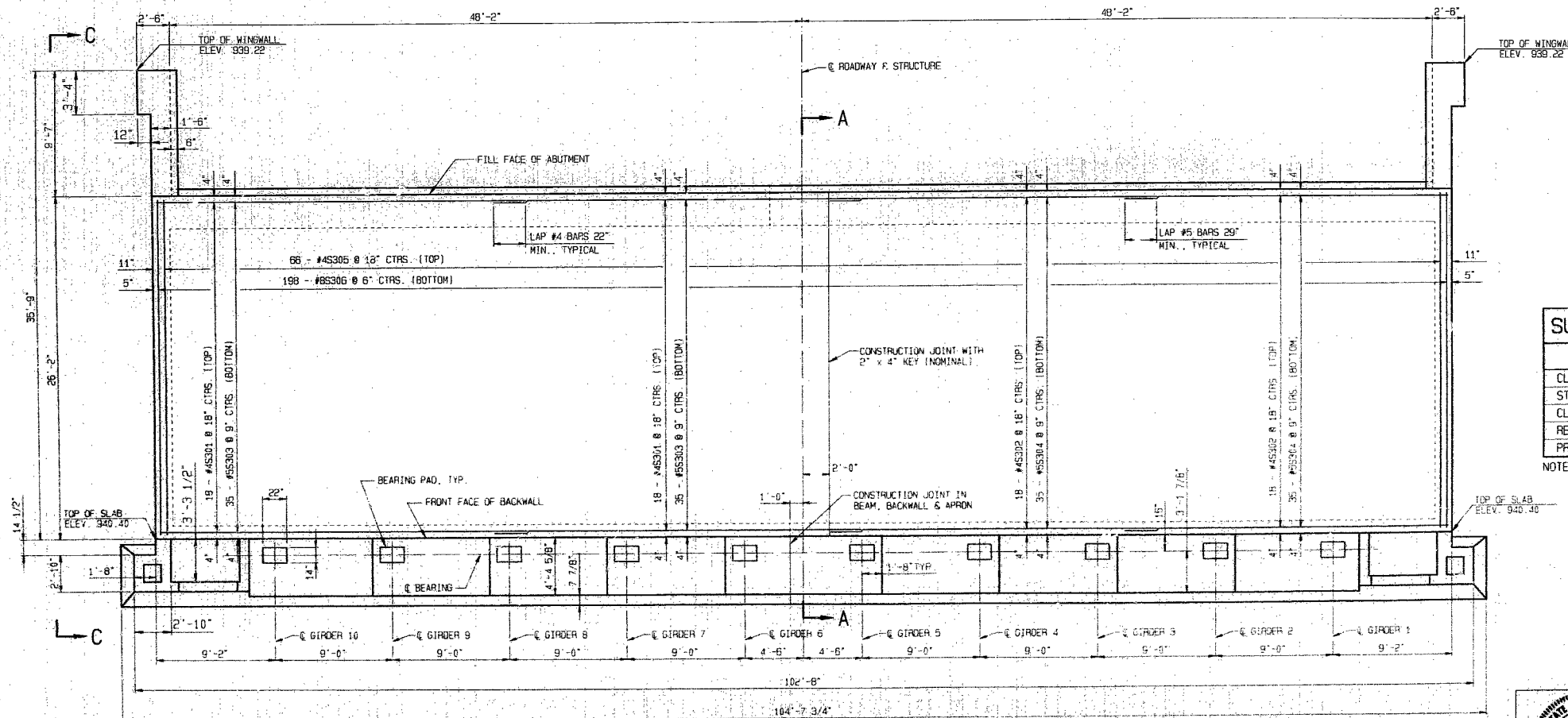
STATE	PROJ. NO.	SHEET NO.
MO.		178



ELEVATION

CONSTRUCTION JOINT KEY DATA  
 BACKWALL: 2' x 4' x 15'  
 APPROACH BEAM: 2' x 10' x 12"  
 BEAM: 2' x 14' x 14"  
 APRON: (2) 2' x 4' x 10"  
 (ALL KEY DIMENSIONS ARE NOMINAL)

- NOTES:
- TOP OF ABUTMENT SLAB AND EXPANSION DEVICE FOR ABUTMENT NO. 1 SHALL CONFORM TO THE CROWN OF ROADWAY SLAB.
  - FOR SECTION A-A AND ELEVATION C-C SEE SHEET NO. 6.
  - FOR DETAILS AND REINFORCEMENT OF BARRIER CURB SEE SHEET NO. 26.
  - FOR DETAILS AND REINFORCEMENT OF SIDEWALK SEE SHEET NO. 21.
  - FOR DETAILS OF TIMBER HEADER SEE SHEET NO. 10.



PLAN

ABUTMENT NO. 1 DETAILS

ITEM	QUANTITY
CLASS I EXCAVATION	CU. YD. 105.0
STRUCTURAL STEEL PILE (12")	LIN. FT. 666
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD. 187.8
REINFORCING STEEL	LB. 19,930
PREBORE FOR PILING	LIN. FT. 411

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES ON SHEET NO. 2

8x6 209

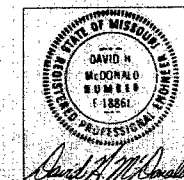
DETAILED JUNE 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995



McDONALD & WARGER, INC.  
 CONSULTING ENGINEERS

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

SHEET NO. 4 OF 36

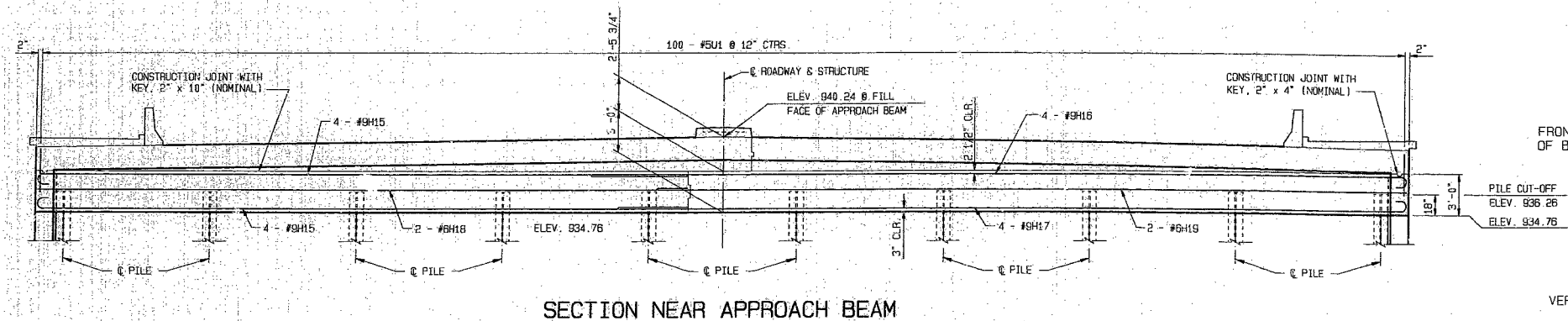


JACKSON COUNTY

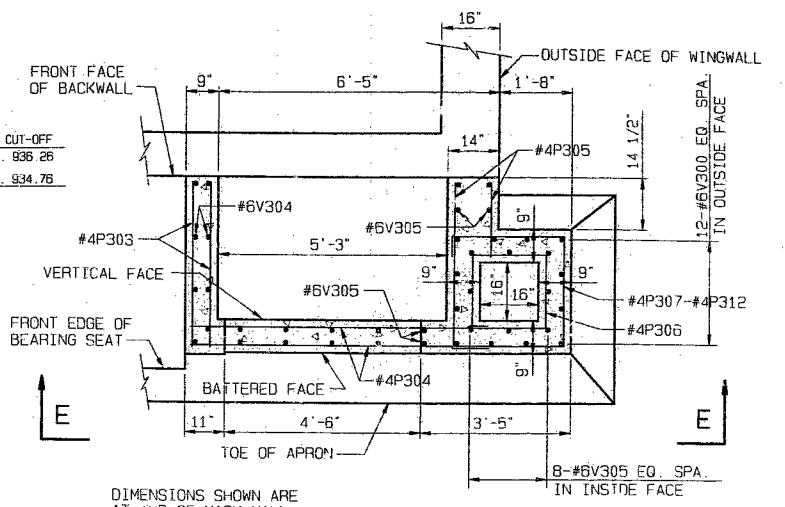
A-5183

1820

STATE	PROJ. NO.	SHEET NO.
MO.		119

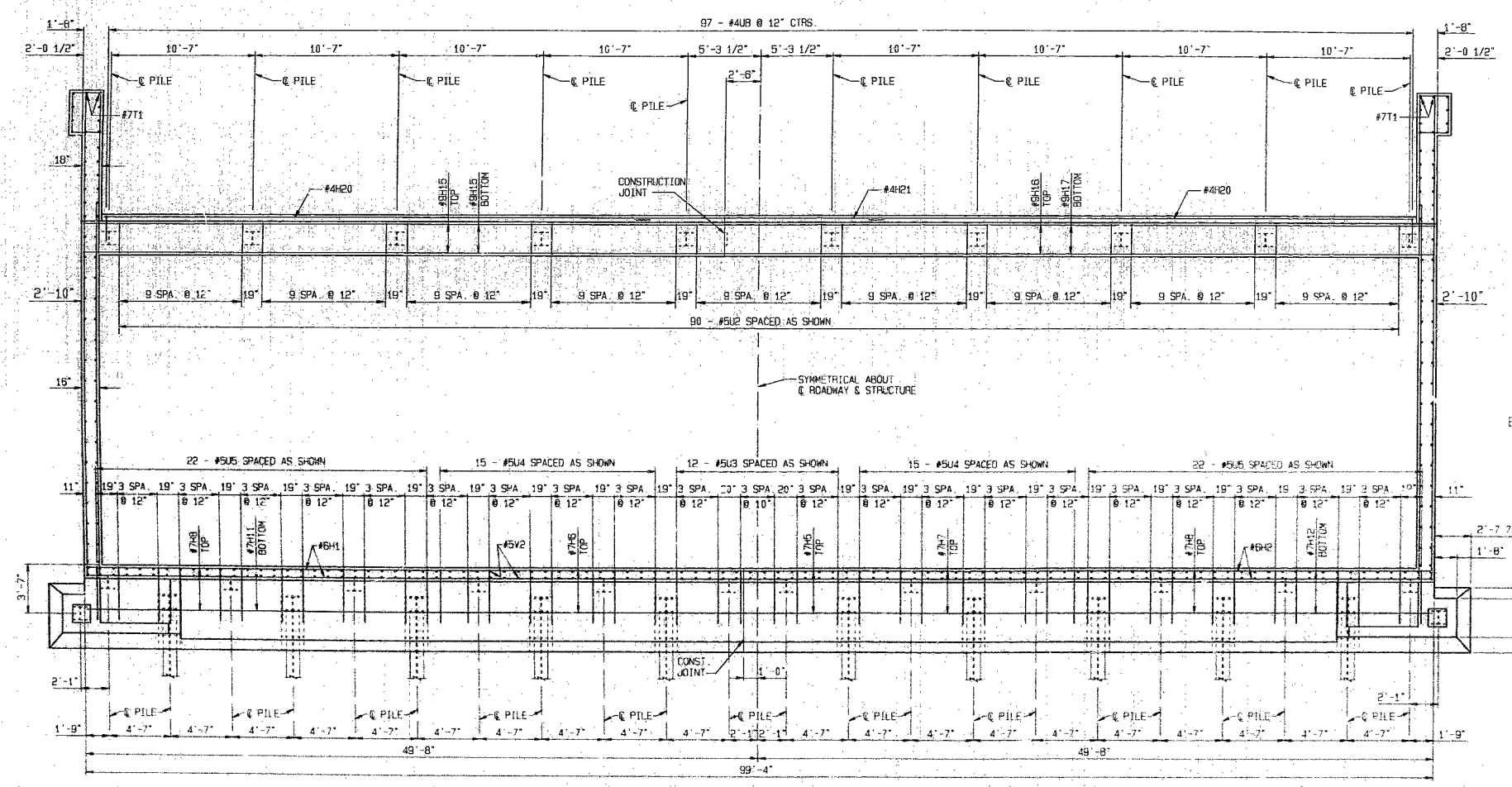


SECTION NEAR APPROACH BEAM

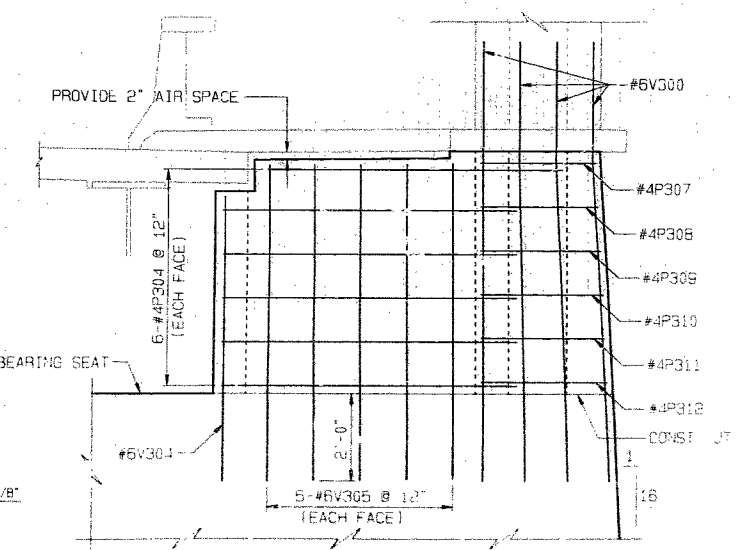


DIMENSIONS SHOWN ARE AT TOP OF MASK WALL

SECTION D-D



SECTION NEAR UPPER CONSTRUCTION JOINT

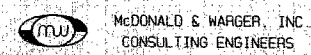


ELEVATION E-E

FOR WINGWALL REINFORCEMENT SEE SHEET NO. 5

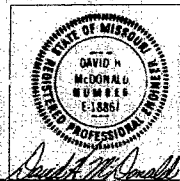
ABUTMENT NO. 1 DETAILS

DETAILED MAY 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995



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

SHEET NO. 5 OF 35

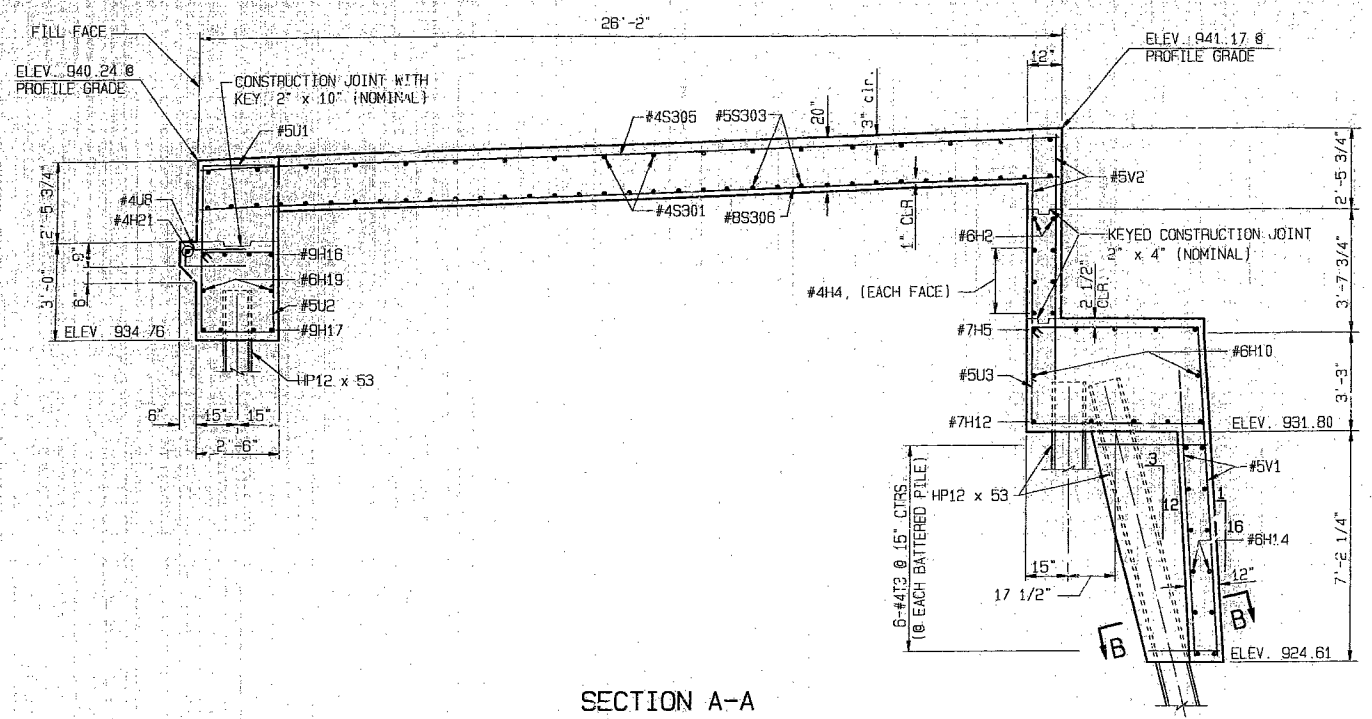


JACKSON COUNTY

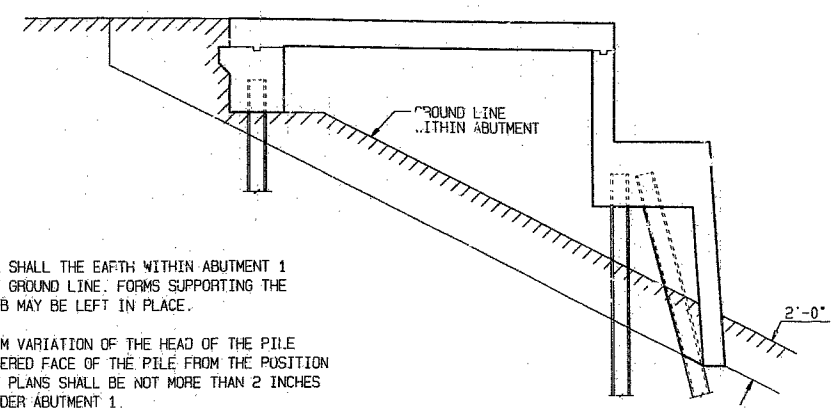
A-5183

210 012

STATE	PROJ. NO.	SHEET NO.
MO.		180



SECTION A-A



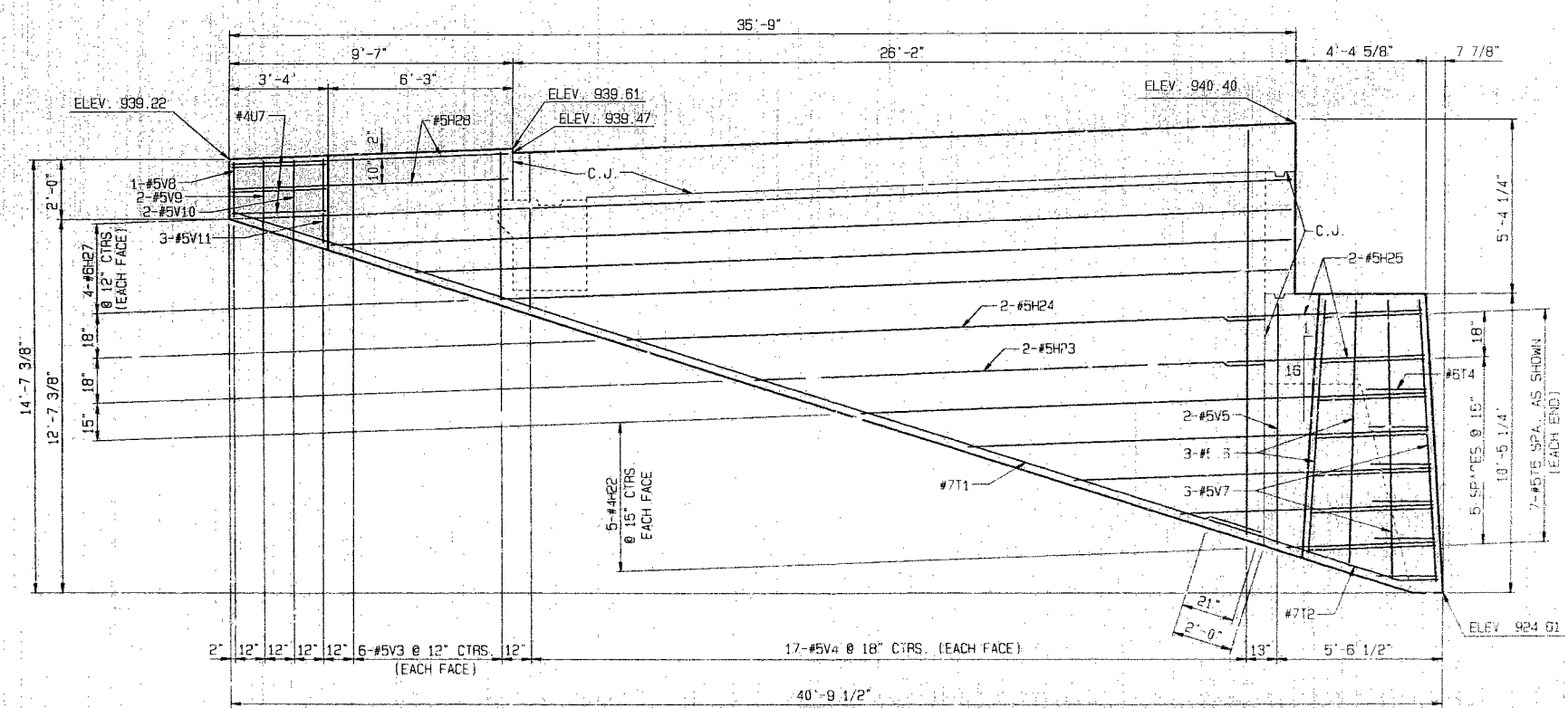
NOTES:

IN NO CASE SHALL THE EARTH WITHIN ABUTMENT 1 BE ABOVE THE GROUND LINE. FORMS SUPPORTING THE ABUTMENT SLAB MAY BE LEFT IN PLACE.

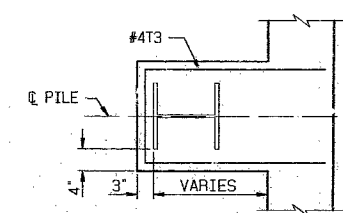
THE MAXIMUM VARIATION OF THE HEAD OF THE PILE AND THE BATTERED FACE OF THE PILE FROM THE POSITION SHOWN ON THE PLANS SHALL BE NOT MORE THAN 2 INCHES FOR PILES UNDER ABUTMENT 1.

EXPOSED STEEL PILES WITHIN THE ABUTMENT SHALL BE COATED WITH A HEAVY COATING OF AN APPROVED BITUMINOUS PAINT.

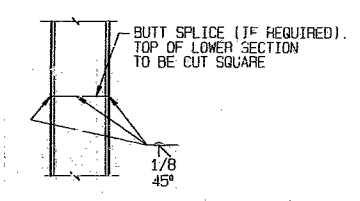
GROUND LINE & PILING WITHIN ABUTMENT



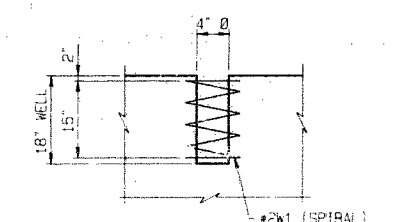
ELEVATION C-C



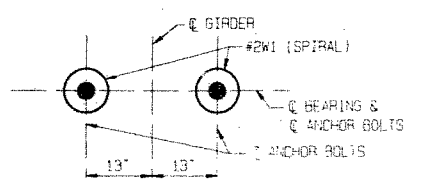
SECTION B-B



PILE SPLICE DETAIL



DETAIL OF ANCHOR BOLT WELLS



LOCATION OF ANCHOR BOLTS

C. J. DENOTES CONSTRUCTION JOINT, KEY 2" x 4" (NOMINAL)

ABUTMENT NO. 1 DETAILS

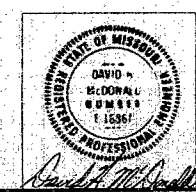
211 788

DETAILED MAY 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995

MCDONALD & WARGER, INC.  
 CONSULTING ENGINEERS

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

SHEET NO. 6 OF 36

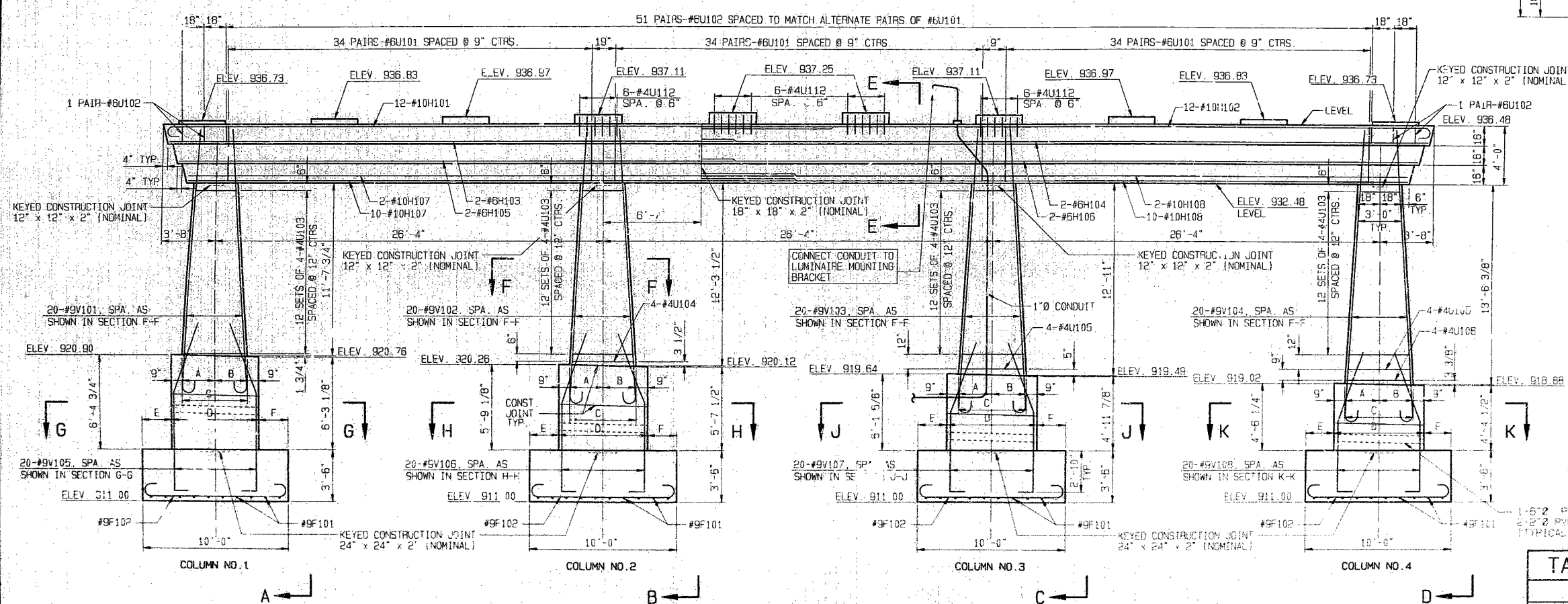
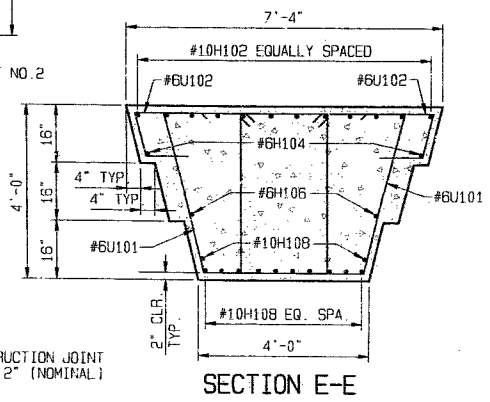
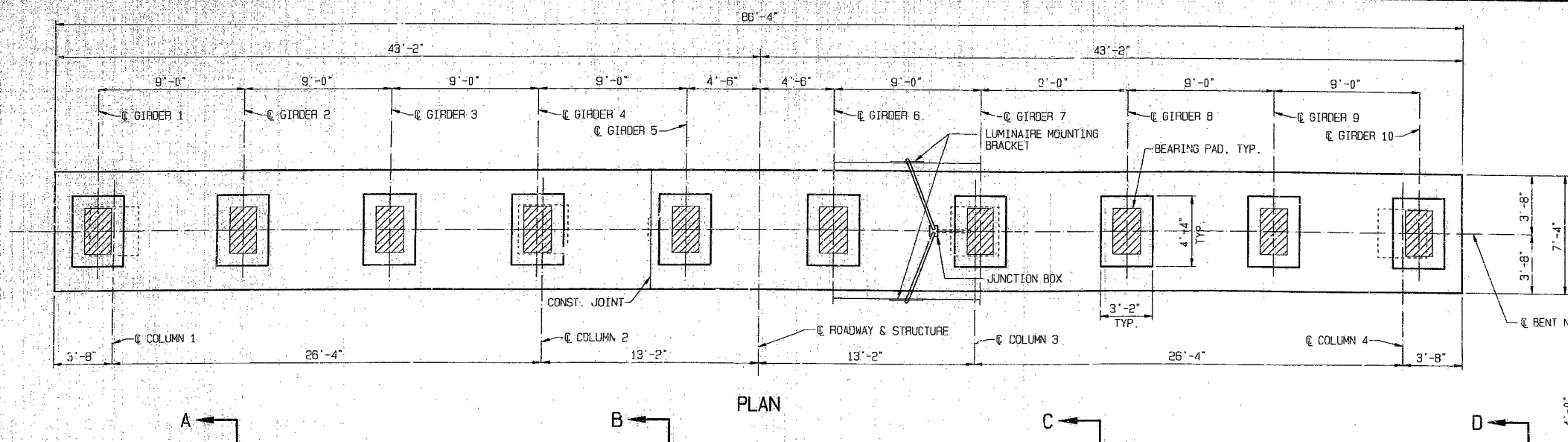


JACKSON COUNTY

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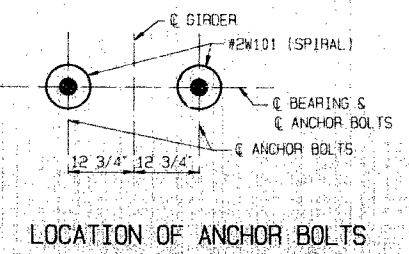
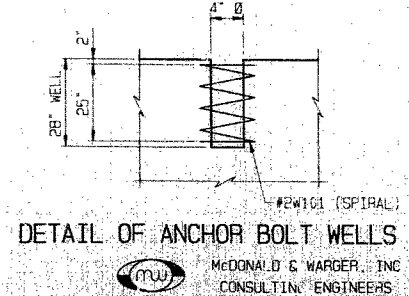
1820

STATE	PROJ. NO.	SHEET NO.
MD.		181



FOR ELEVATIONS A THRU J AND SECTIONS F THRU K, SEE SHEET NO. 8.  
 PAYMENT FOR CONDUIT JUNCTION BOX AND PVC SLEEVES SHALL BE SUBSIDIARY TO THE PAY ITEM "CONDUIT SYSTEM ON STRUCTURE".  
 FOR ADDITIONAL NOTES CONCERNING THE CONDUIT INSTALLATION SEE "DETAILS OF CONDUIT ON STRUCTURE".

7/12/95



ELEVATION

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 2

ITEM	QUANTITY
CLASS I EXCAVATION	CU. YD. 250.0
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD. 197.3
REINFORCING STEEL	LB. 33,210

NOTE: WORK THIS TABLE WITH ESTIMATED QUANTITIES AS SHOWN ON SHEET NO. 2.

TABLE OF DIMENSIONS

DIMENSION	COLUMN			
	1	2	3	4
A	2'-2 3/4"	2'-3 1/4"	2'-3 5/8"	2'-4 1/8"
B	2'-2 3/4"	2'-3 1/4"	2'-3 3/4"	2'-4 1/8"
C	4'-5 1/2"	4'-6 1/2"	4'-7 5/8"	4'-8 1/4"
D	5'-11 1/2"	6'-0 1/2"	6'-1 5/8"	6'-2 1/4"
E	2'-8 1/4"	2'-11 3/4"	2'-11 3/8"	2'-10 7/8"
F	2'-8 1/4"	2'-11 3/4"	2'-11 3/4"	2'-10 7/8"
G	1'-6"	1'-11"	2'-3 3/8"	2'-8 1/8"
H	2'-11 1/2"	2'-5 1/2"	2'-11 3/4"	1'-6 5/8"
J	1'-7 1/8"	2'-0 1/4"	2'-1 7/8"	2'-3 1/4"
K	2'-10 3/8"	2'-4 1/4"	2'-10 3/4"	1'-5 1/2"

DETAILED JULY 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995

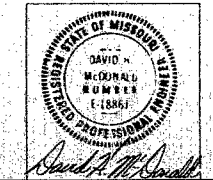
DETAIL OF ANCHOR BOLT WELLS  
 McDONALD & WARGER, INC.  
 CONSULTING ENGINEERS

LOCATION OF ANCHOR BOLTS

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

INTERMEDIATE BENT NO. 2 DETAILS

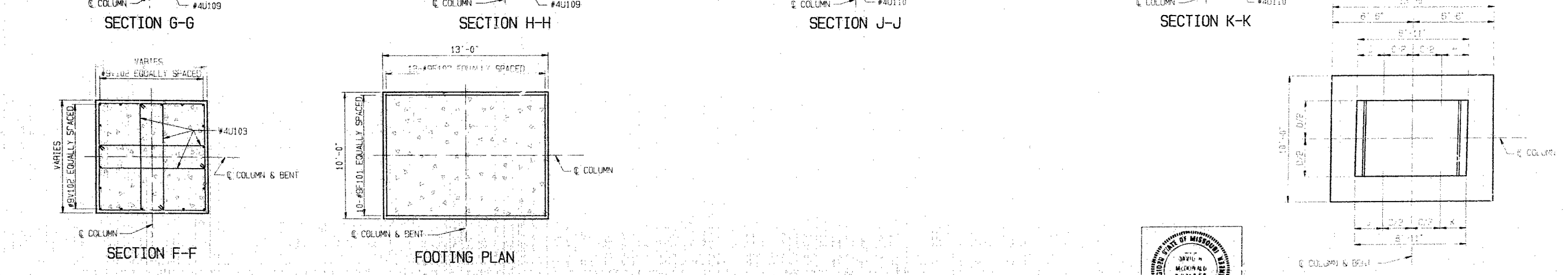
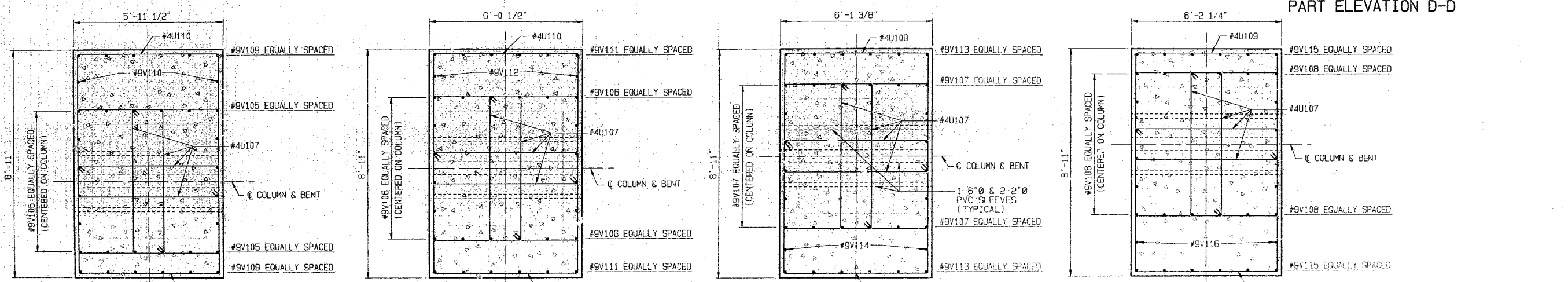
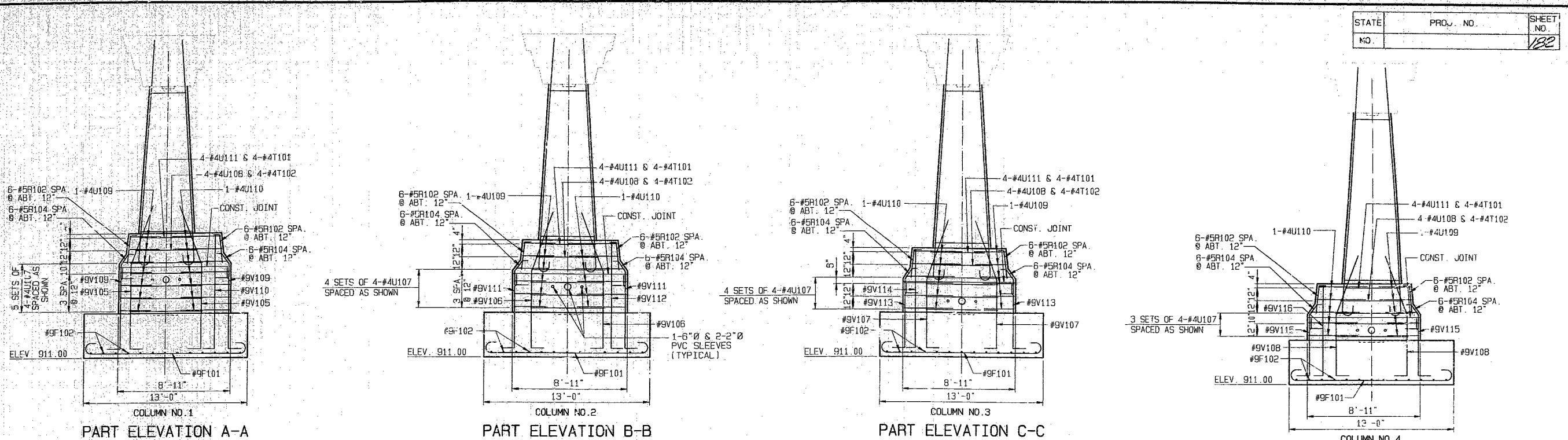
SHEET NO. 2 OF 36



JACKSON COUNTY

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STATE	PROJ. NO.	SHEET NO.
MO.		182



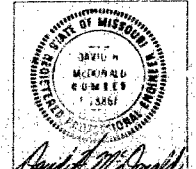
DETAILED MAY 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995

**MW** McDONALD & WARGER, INC.  
 CONSULTING ENGINEERS

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

INTERMEDIATE BENT NO. 2 DETAILS

SHEET NO. 8 OF 36

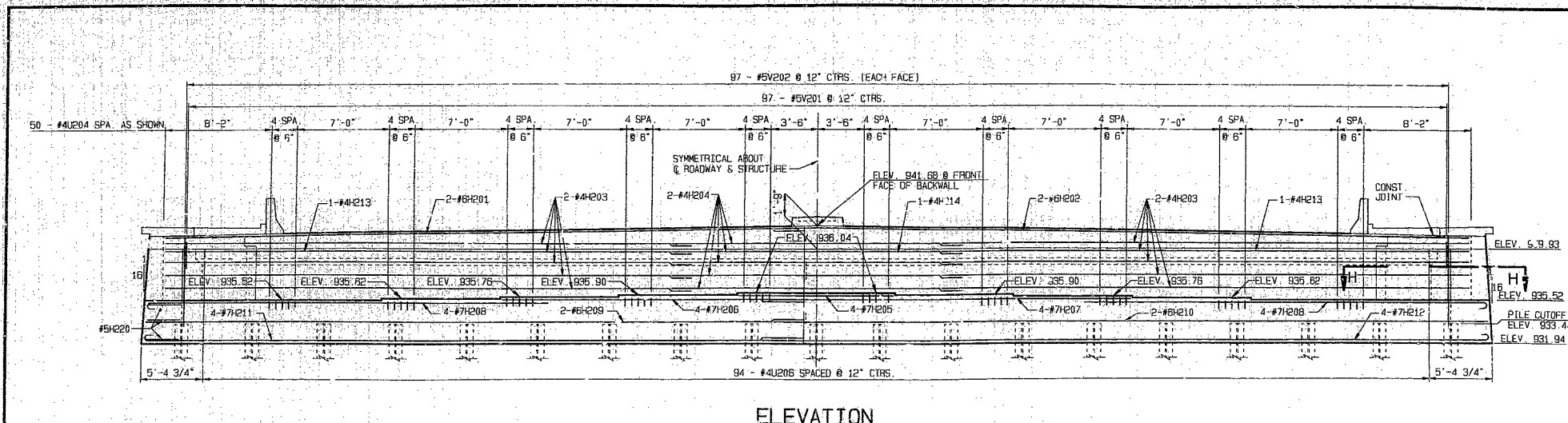


SUB-COLUMN LAYOUT

JACKSON COUNTY A-5183

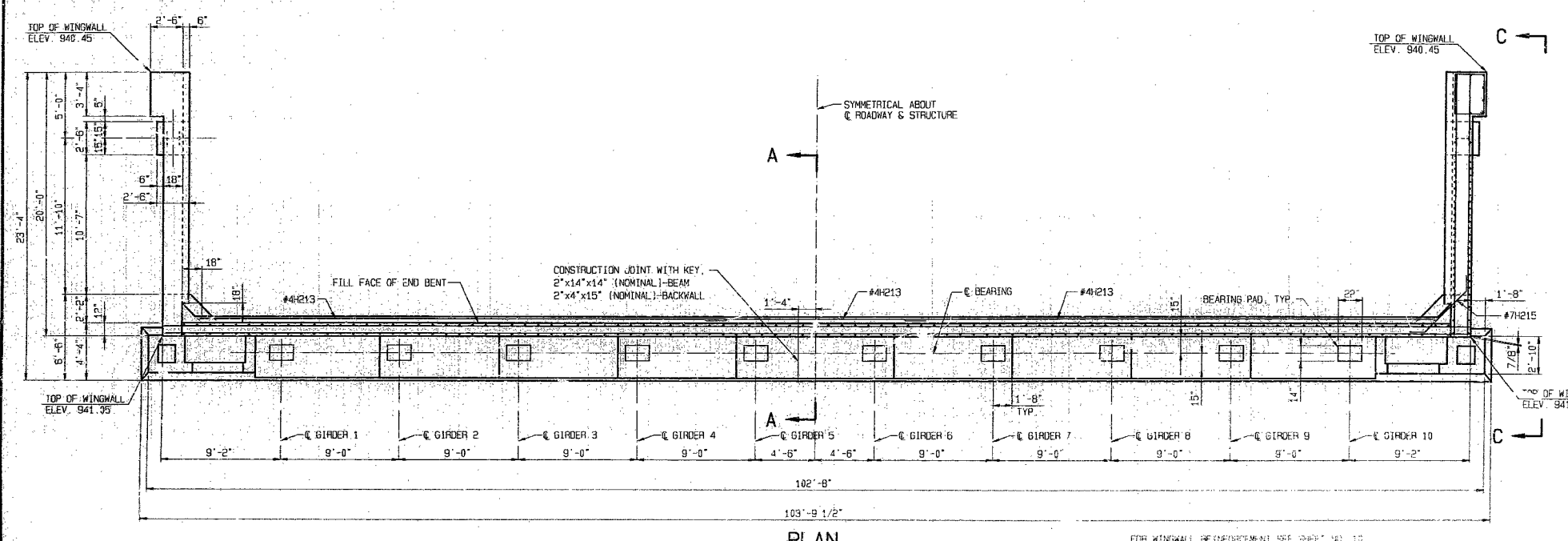


STATE	PROJ. NO.	SHEET NO.
MO.		183

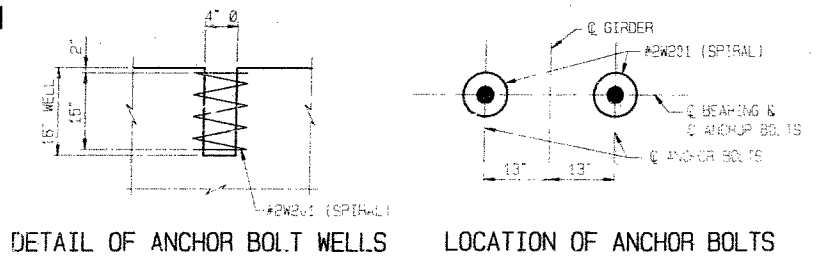


ELEVATION

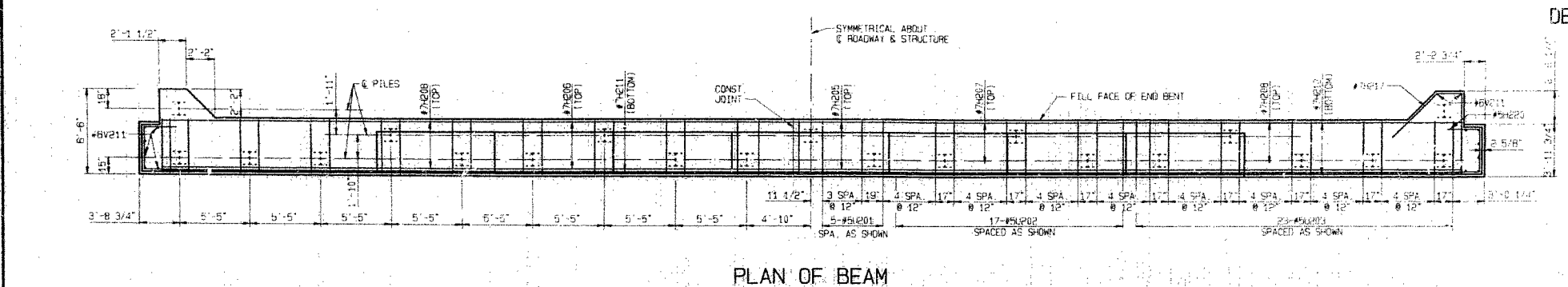
NOTES:  
 TOP OF BACKWALL AND EXPANSION JOINT DEVICE FOR END BENT NO. 3 SHALL CONFORM TO THE CROWN OF THE ROADWAY SLAB. BACKWALL ABOVE THE UPPER CONSTRUCTION JOINT SHALL NOT BE POURED UNTIL THE SUPERSTRUCTURE SLAB HAS BEEN POURED IN THE ADJACENT SPAN.  
 BACKWALL AND TOP & FRONT FACE OF BEAM CAP SHALL BE SEALED WITH PROTECTIVE COATING. (SEE SPECIAL PROVISIONS)  
 FOR DETAILS & REINFORCEMENT OF BARRIER CURB SEE SHEET NO. 25.  
 FOR DETAILS & REINFORCEMENT OF SIDEWALK SEE SHEET NO. 21.  
 FOR DETAILS & LOCATION OF DEADMAN ANCHORAGE SYSTEM SEE SHEET NO. 11.



PLAN



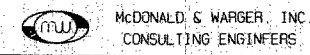
821 079



PLAN OF BEAM

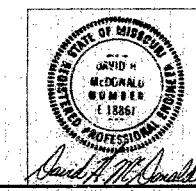
END BENT NO. 3 DETAILS

DETAILED MA 1993  
 CHECKED JULY 1994  
 REVISED MARCH 1995



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

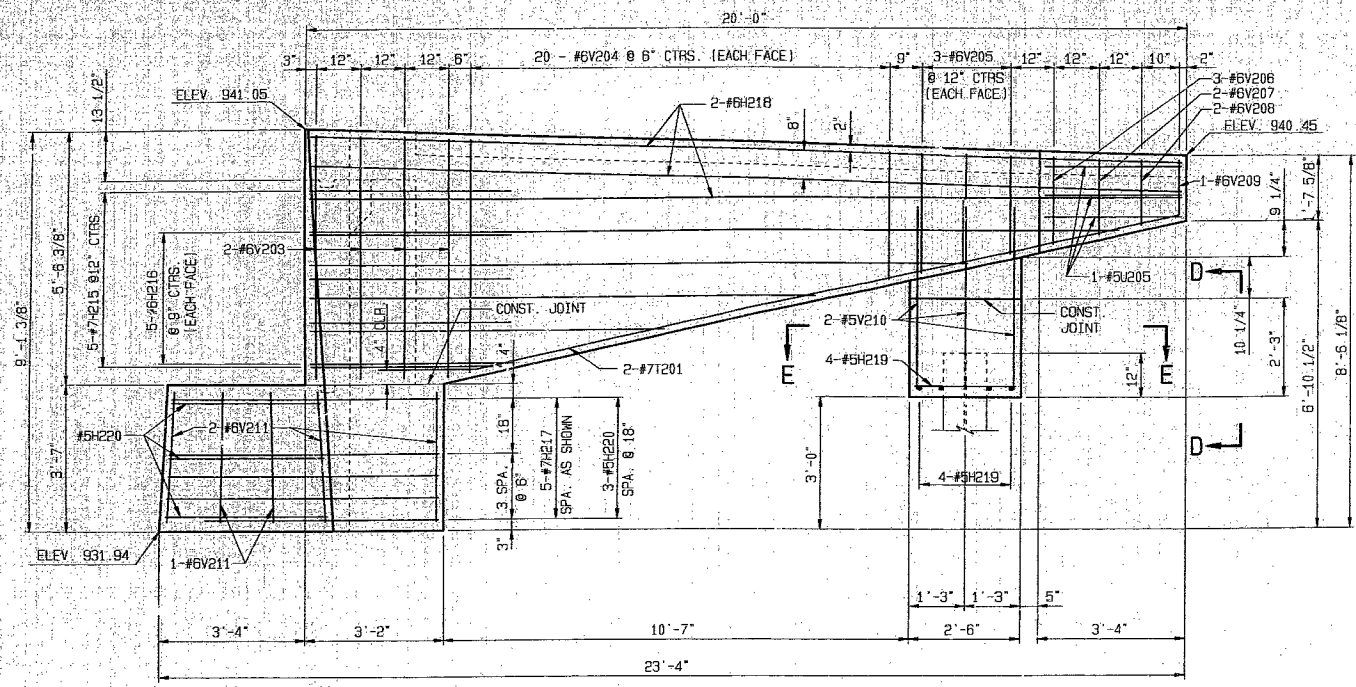
SHEET NO. 9 OF 36



JACKSON COUNTY

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STATE	PROJ. NO.	SHEET NO.
MO.		184

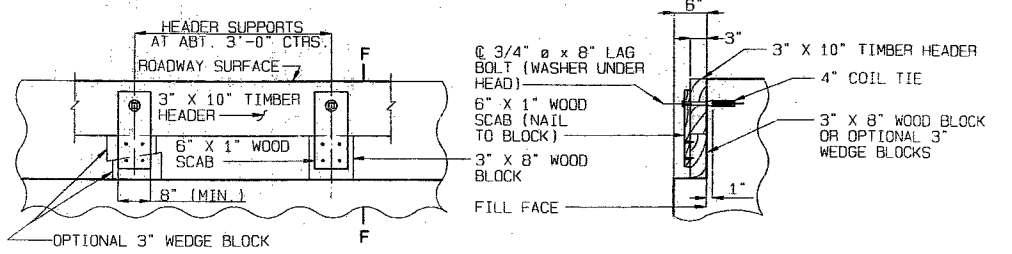


ELEVATION C-C

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 3

ITEM	QUANTITY
CLASS I EXCAVATION	CU. YD. 110
STRUCTURAL STEEL PILE (12")	LIN. FT. 441
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD. 101.0
REINFORCING STEEL	LB. 10,320
PREBORE FOR PILING	LIN. FT. 349
DEADMAN ANCHORAGE ASSEMBLY	EACH 1

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES ON SHEET NO. 2.

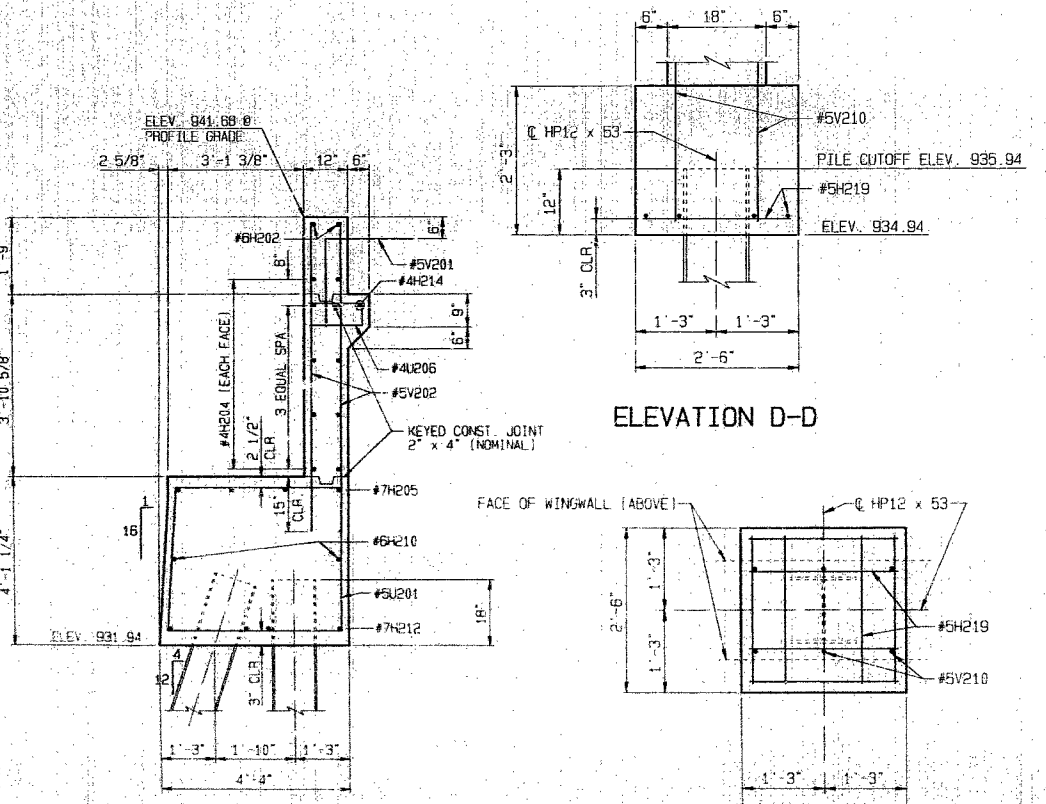


PART ELEVATION

SECTION F-F

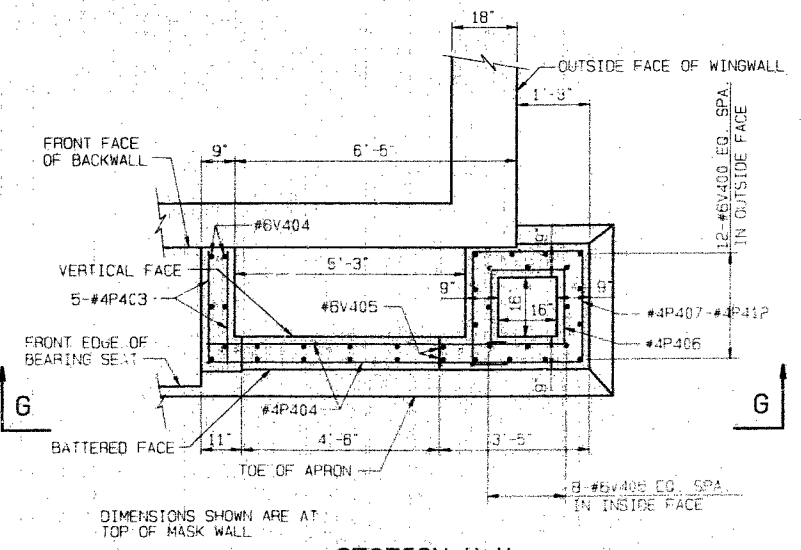
NOTE: COST OF TIMBER HEADERS COMPLETE IN PLACE TO BE INCLUDED IN CONTRACT UNIT PRICE FOR CONCRETE.

DETAILS OF TIMBER HEADER AT END BENTS

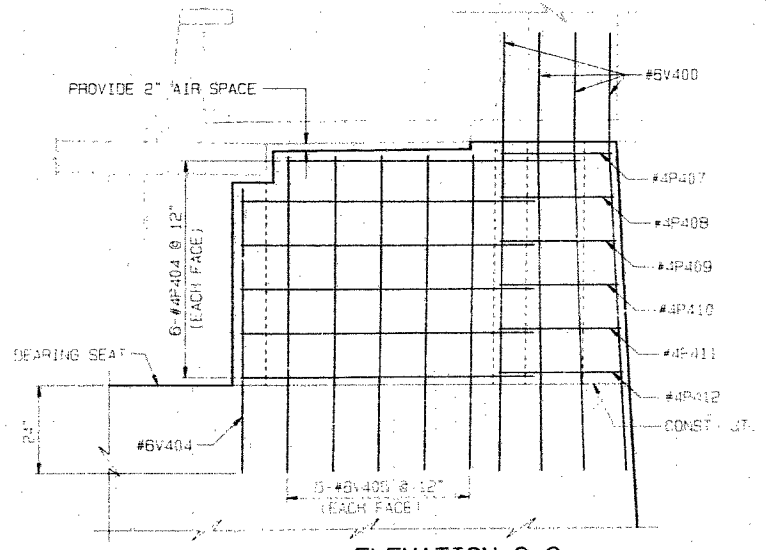


ELEVATION D-D

SECTION A-A



SECTION H-H



ELEVATION G-G

END BENT NO. 3 DETAILS

DETAILED JULY 1993  
CHECKED JULY 1993  
REVISED MARCH 1995

McDONALD & WARGER, INC.  
CONSULTING ENGINEERS

NOTE: THIS SHEET IS NOT TO SCALE FOLLOW DIMENSIONS.

SHEET NO. 10 OF 38



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2/22/05

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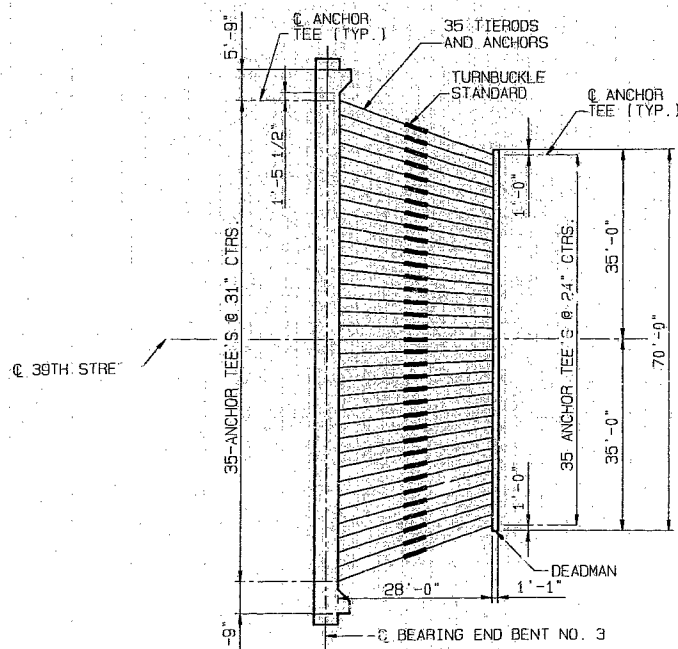
STATE	PROJ. NO.	SHEET NO.
MO.		185

NOTES:

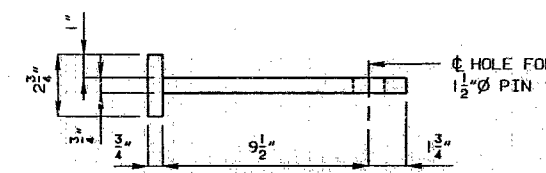
CONSTRUCTION SEQUENCE:

- CONSTRUCT END BENT WITH ANCHOR TEES IN PLACE. MACHINE COMPACT FILL UP TO ELEVATION OF 7/8"Ø ROD AND TURNBUCKLE.
- CONSTRUCT DEADMAN WITH ANCHOR TEES IN PLACE. INSTALL 7/8"Ø ROD, CLEVIS AND TURNBUCKLE ASSEMBLY. TIGHTEN TURNBUCKLE UNTIL SNUG.
- HAND COMPACT FILL FOR 12" (MIN.) OVER 7/8"Ø ROD AND TURNBUCKLE.
- MACHINE COMPACT REMAINING FILL.
- THE CONTRACT UNIT PRICE FOR THE DEADMAN ANCHORAGE ASSEMBLY SHALL INCLUDE THE COST OF THE EXCAVATION, CONCRETE, REINFORCING ANCHORS AND OTHER INCIDENTALS, COMPLETE IN PLACE.

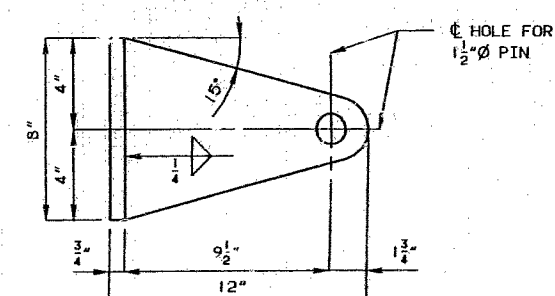
BILL OF REINFORCING STEEL EACH DEADMAN		
NUMBER	SIZE & MARK	LENGTH
16	#4-H220	35'-8"
278	#4-V212	21'



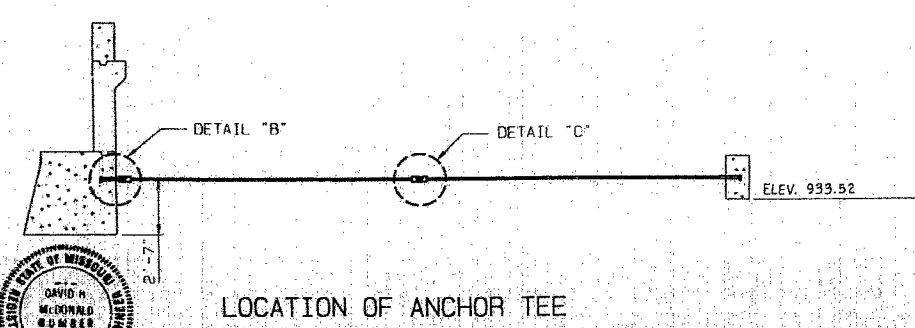
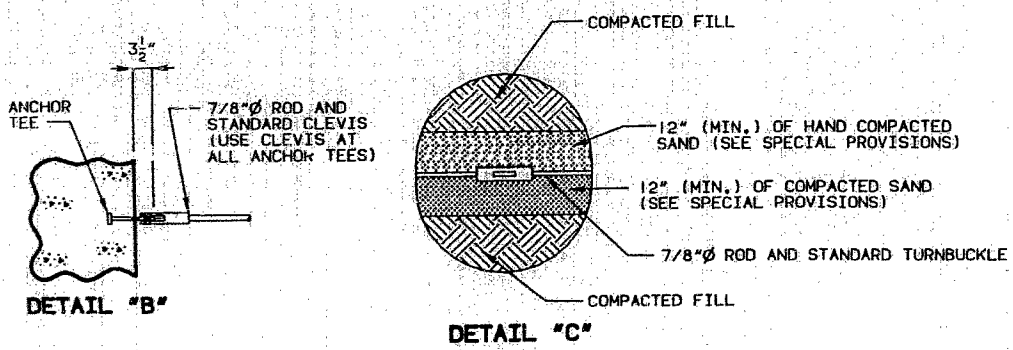
DEADMAN ANCHOR  
END BENT NO. 3



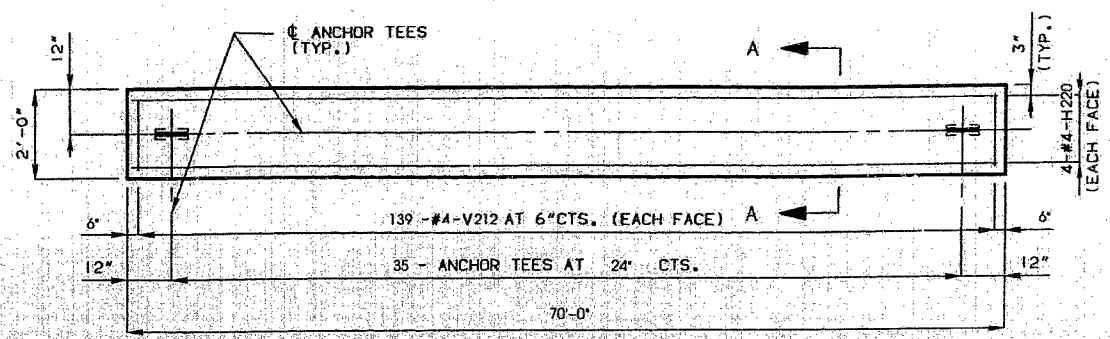
ELEVATION



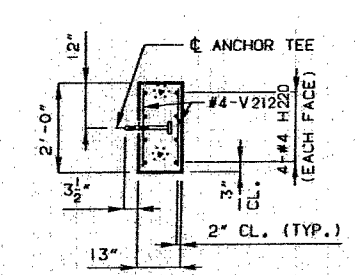
PLAN  
DETAIL OF ANCHOR TEE



LOCATION OF ANCHOR TEE



ELEVATION OF DEADMAN



SECTION A-A

DETAILS OF DEADMAN ANCHORAGE SYSTEM

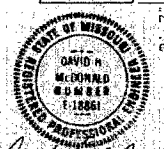
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 11 OF 36

JACKSON COUNTY

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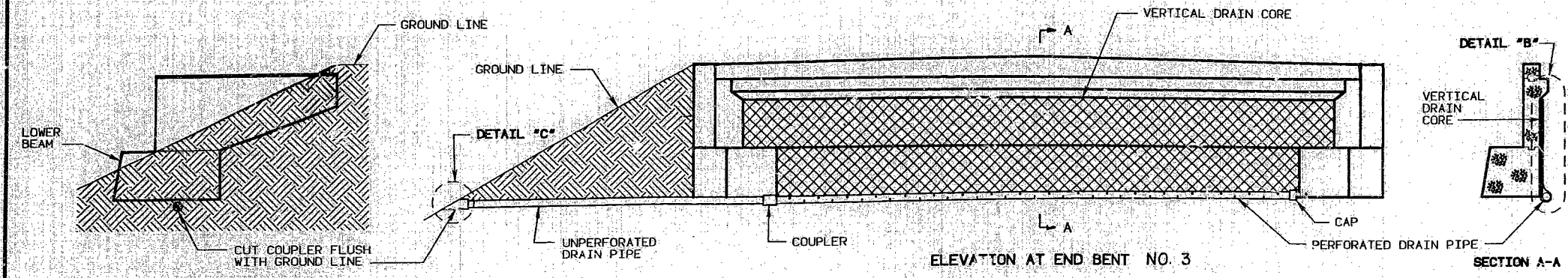
206 2023  
 DEADMAN, P083.721, 1, 1, A  
 STD. D.M.A., REVISED  
 JULY 1984 NOV. 1989



David H. McDonald  
 DETAILED JULY 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995

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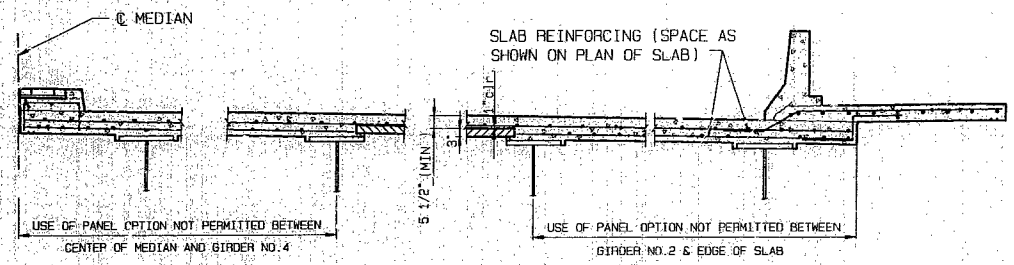


**GENERAL NOTES:**

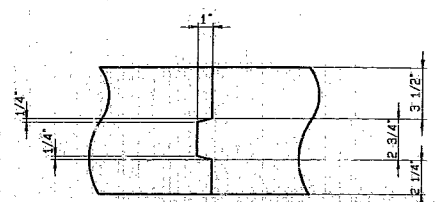
DRAIN PIPE MAY BE EITHER 6" DIAMETER CORRUGATED METALLIC-COATED STEEL PIPE UNDERDRAIN, 4" DIAMETER CORRUGATED POLY VINYL CHLORIDE (PVC) DRAIN PIPE, OR 4" DIAMETER CORRUGATED POLYETHYLENE (PE) DRAIN PIPE.

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)

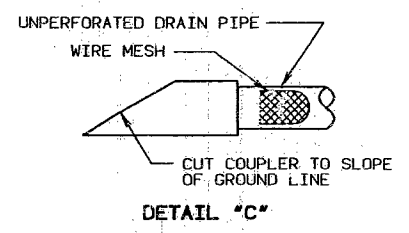
PERFORATED PIPE SHALL BE PLACED AT FILL FACE SIDE AT THE BOTTOM OF END BENT AND PLAIN PIPE SHALL BE USED WHERE THE VERTICAL DRAIN ENDS TO THE EXIT 'T' GROUND LINE.



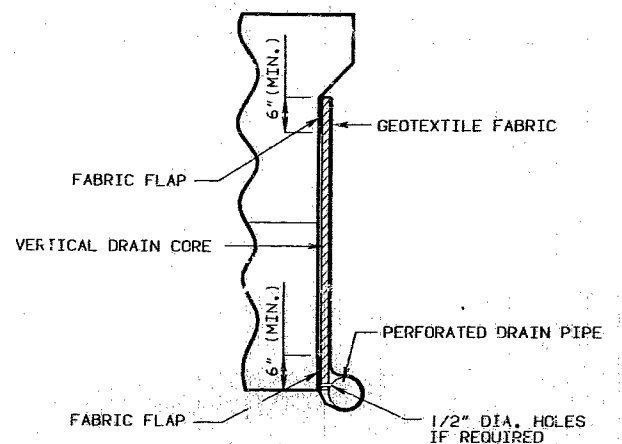
SECTION E-E  
(NOTE: NORTH SLAB SHOWN, SOUTH SLAB SIMILAR)



SECTION C-C

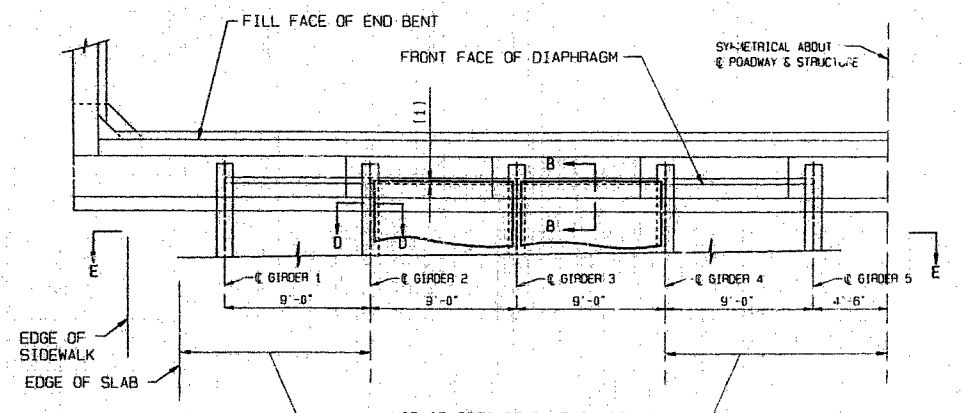


DETAIL "C"

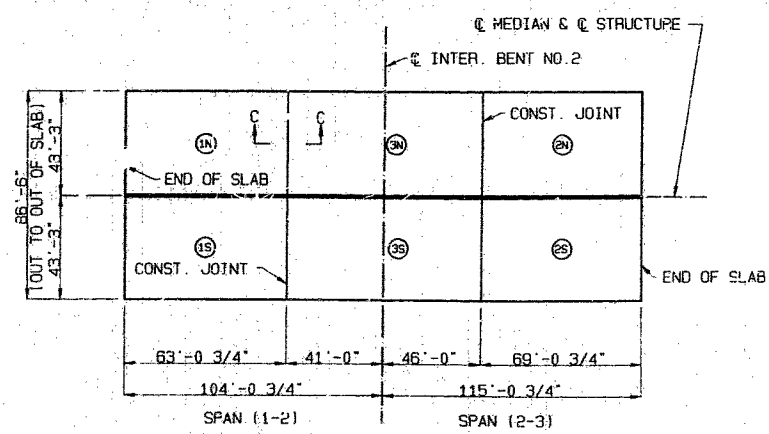


DETAIL "B"

NOTES: PREVENT EXCESSIVE GROUT LEAK BETWEEN PANELS (TYP.). (SEE SPECIAL PROVISIONS)  
SEE SHEET NO. 19 FOR SECTIONS, NOTES AND OTHER PRECAST PANEL DETAIL.



PLAN OF PRECAST PANEL PLACEMENT  
(BENT 3 SHOWN, ABOUT NO. 1 & BENT NO. 2 SIMILAR)



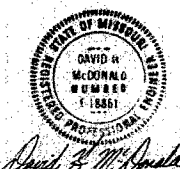
SLAB POURING SEQUENCE

	SEQUENCE OF POURS			MIN. RATE OF POUR CU. YDS./HR.	
	DIRECTION			WITH RETARDER	WITHOUT RETARDER
BASIC SEQUENCE	1	2	3	25	25
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 POURS - A	1		3 + 2	55	65
	END TO 3		1 TO END		
ALTERNATE POURS - B	1 + 2 + 3			55	65
	END TO END				

**SLAB POURING NOTES:**

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 THE CONCRETE TO 2.5 HOURS.



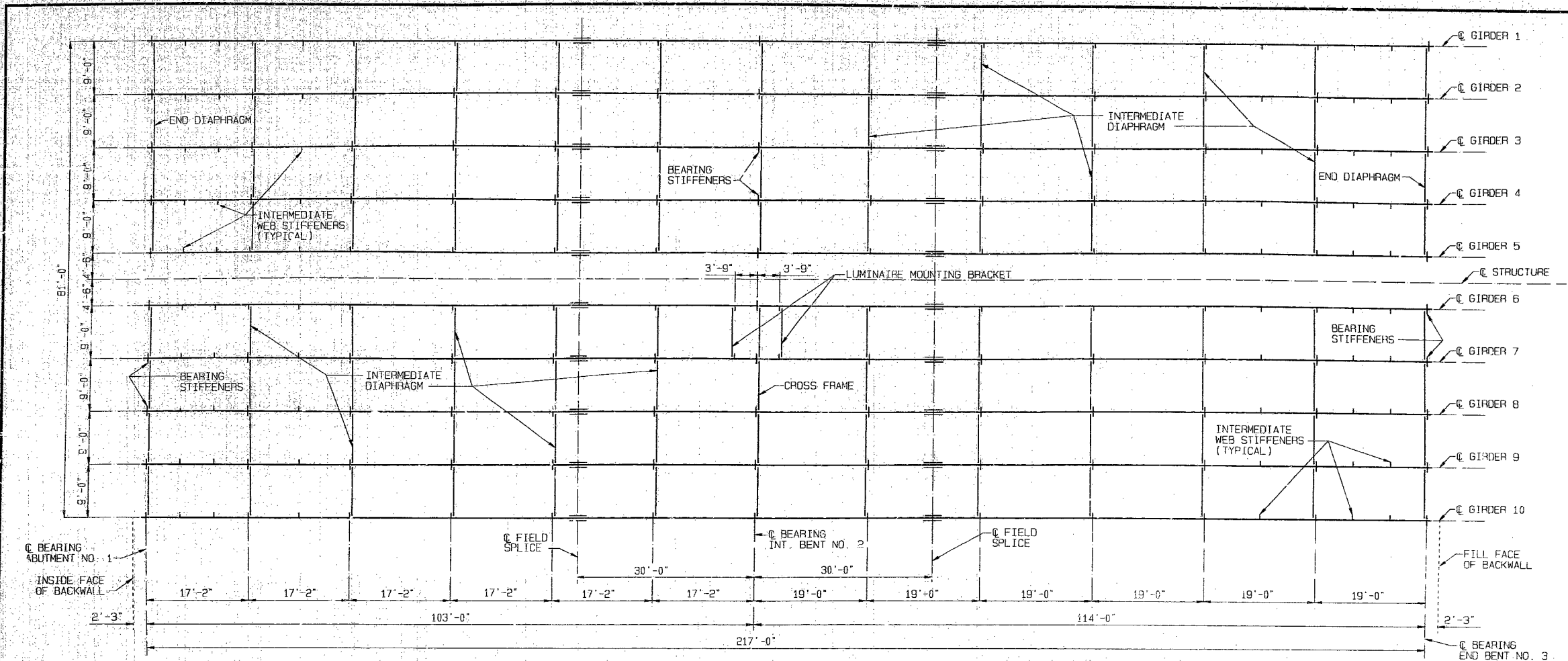
217  
 DR. VERT. (P. 23, 72) NON-1/A  
 T. DRAIN (NON-1)  
 MARCH 1986  
 REVISED  
 AUG. 1991

DETAILED JUNE 1993  
CHECKED JULY 1993

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

SHEET NO. 12 OF 36

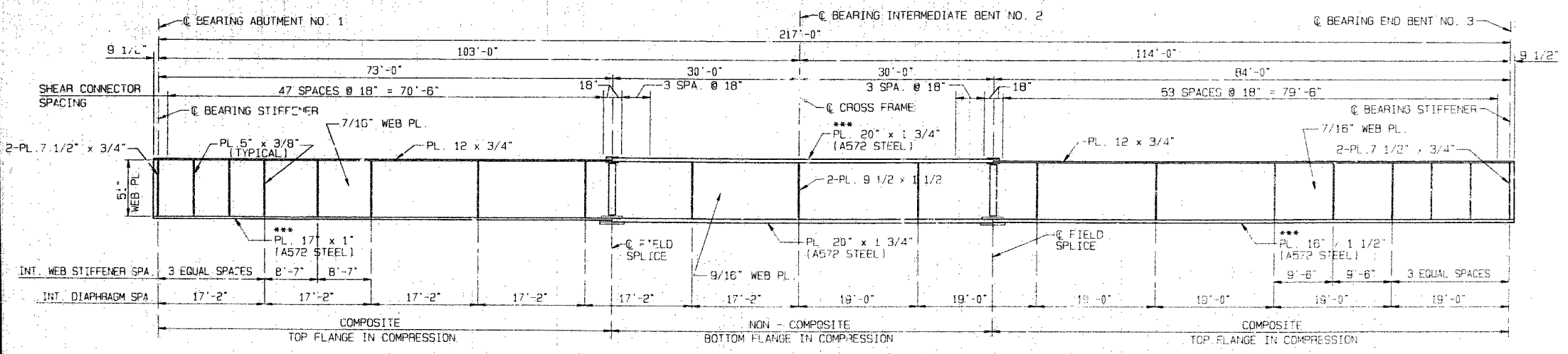
JACKSON COUNTY A-5183



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PLAN OF STRUCTURAL STEEL

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.



GIRDER ELEVATION

\*\*\* DENOTES FLANGE PLATE SUBJECT TO NOTCH TOUGHNESS REQUIREMENTS. ALL WEB PLATES ARE SUBJECT TO NOTCH TOUGHNESS REQUIREMENTS.

PLAN OF STRUCTURAL STEEL & GIRDER ELEVATION

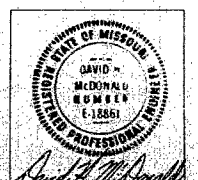
- NOTES:
- GIRDER DIMENSIONS ARE MEASURED HORIZONTALLY ALONG GIRDER CENTERLINES FROM BEARING TO BEARING.
  - FLANGE AND WEB PLATE LENGTH SHALL BE CORRECTED FOR GRADE, CAMBER AND SHRINKAGE DUE TO WELDING.
  - FABRICATED STRUCTURAL STEEL SHALL BE A36, UNLESS NOTED OTHERWISE.
  - PLATE GIRDERS SHALL BE FABRICATED TO CONFORM TO THE CAMBER DIAGRAM, SEE SHEET NO. 14.
  - FOR PART LONGITUDINAL SECTION AND DETAILS OF BOLTED FIELD SPLICES SEE SHEET NO. 14.
  - FOR DETAILS OF DIAPHRAGMS, CROSS FRAMES AND SHEAR CONNECTORS SEE SHEET NO. 15.
  - FOR DETAILS OF LUMINAIRE MOUNTING BRACKET SEE SHEET NO. 14.

DETAILED MAY 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995

MCDONALD & WARGER, INC.  
 CONSULTING ENGINEERS

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

SHEET NO. 13 OF 36

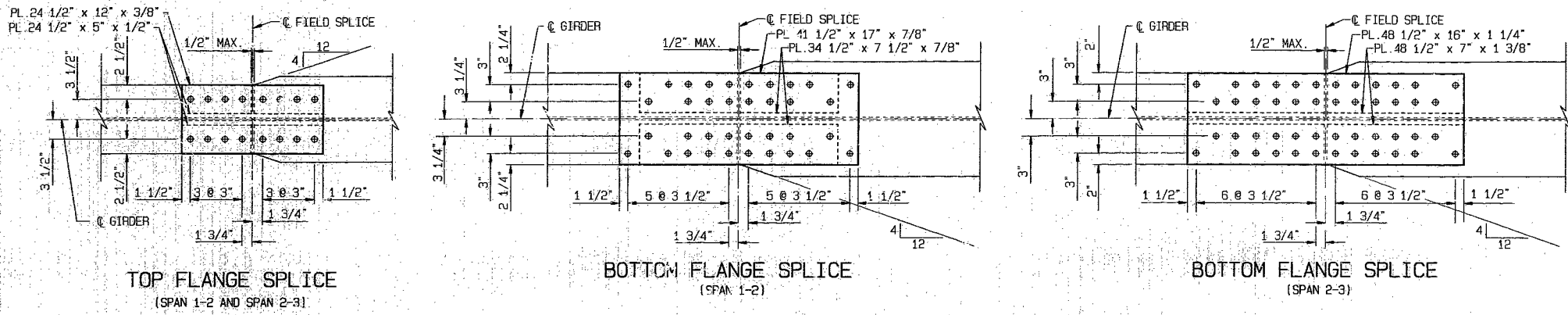
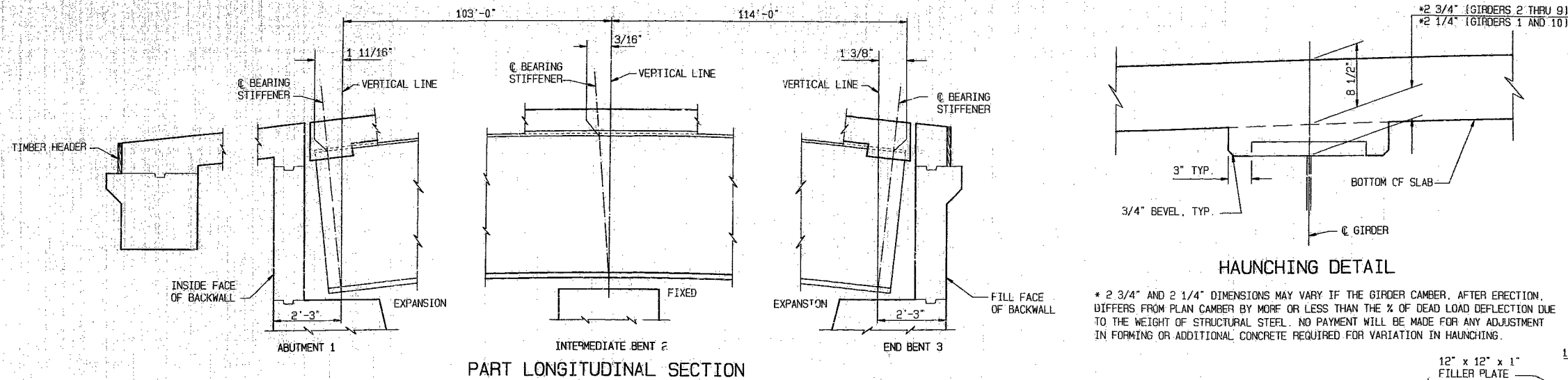


JACKSON COUNTY

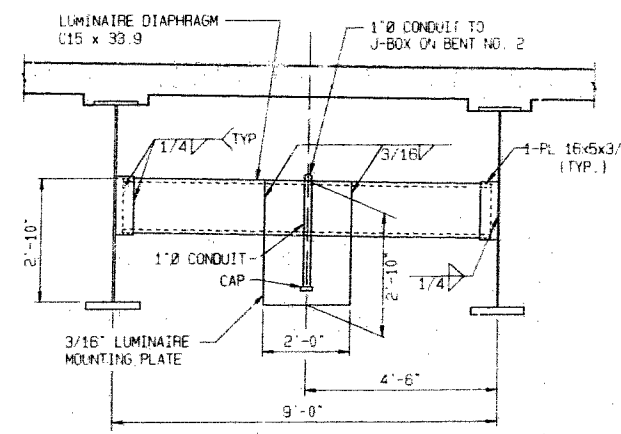
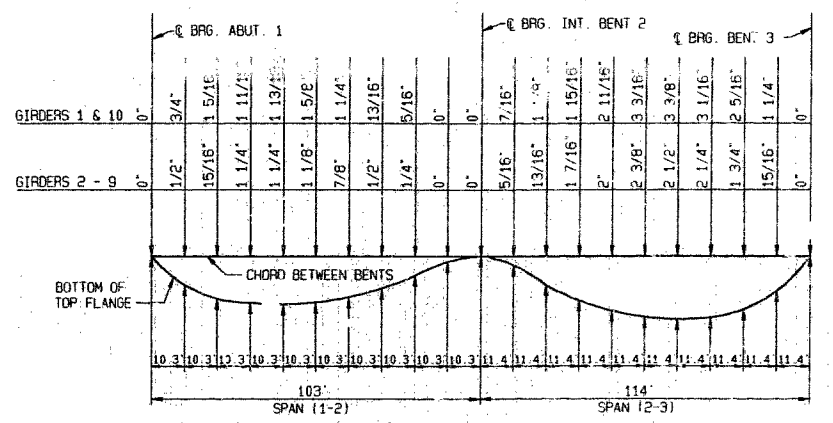
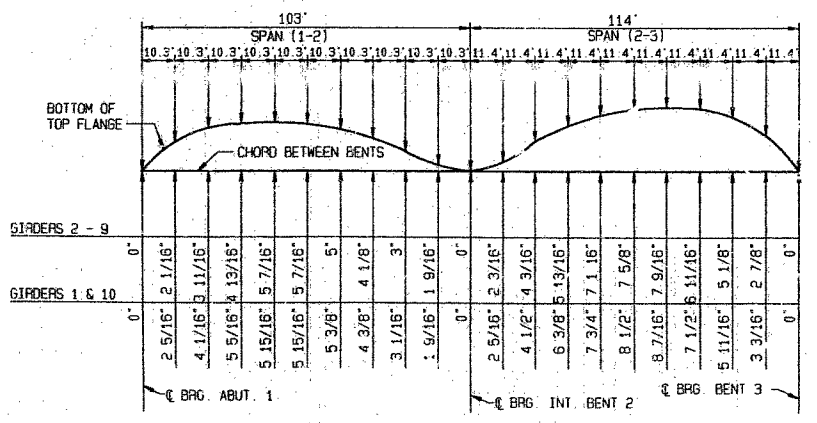
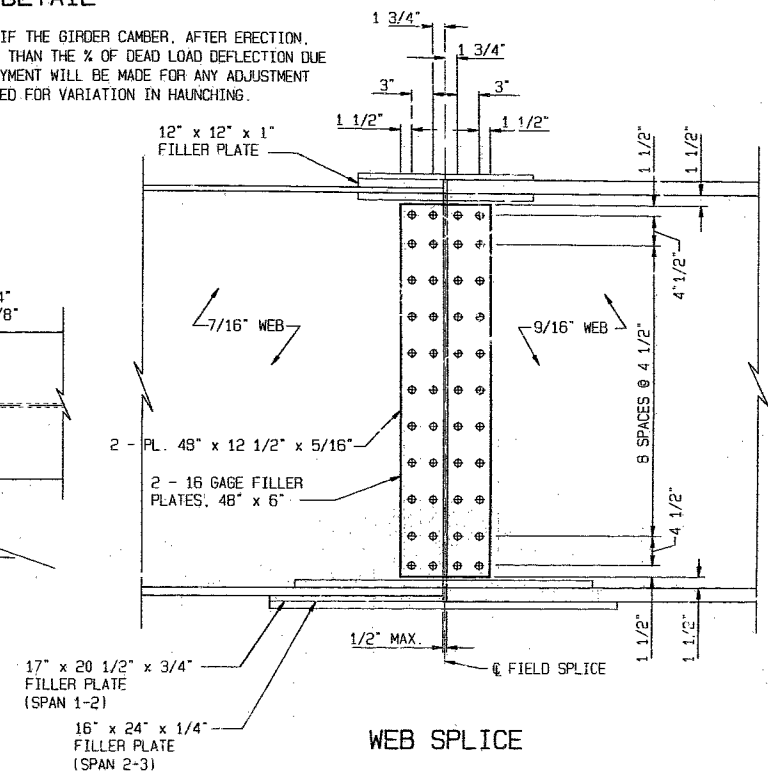
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MO.		128



NOTE: FOR BOLTED FIELD SPLICE PLATES USE 7/8" Ø H.S. BOLTS WITH 15/16" Ø HOLES.



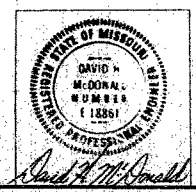
FIELD SPLICES & MISCELLANEOUS DETAILS

219 326  
 DETAILED JUNE 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995

McDONALD & WARGER, INC.  
 CONSULTING ENGINEERS

NOTE: THIS SHEET IS NOT TO SCALE. FOLLOW DIMENSIONS

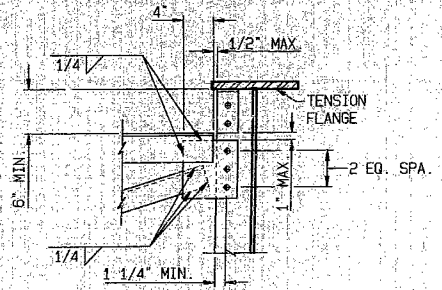
SHEET NO. 14 OF 36



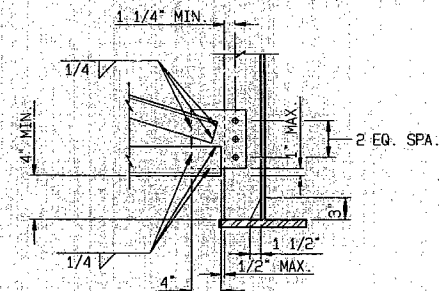
PAYMENT FOR LUMINAIRE, DIAPHRAGMS AND MOUNTING PLATES SHALL BE SUBSIDIARY TO THE PAY ITEM "CONDUIT SYSTEM ON STRUCTURE"

JACKSON COUNTY A-5183

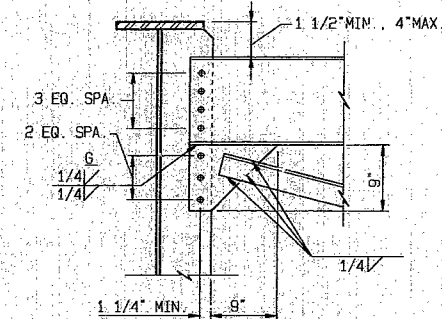
STATE	PROJ. NO.	SHEET NO.
MO.		187



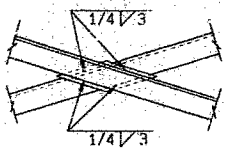
DETAIL A



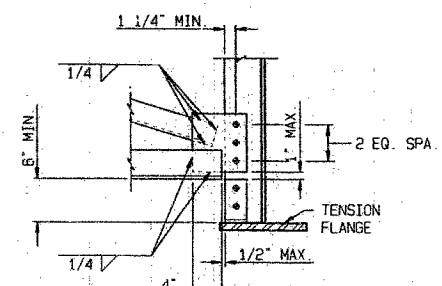
DETAIL B



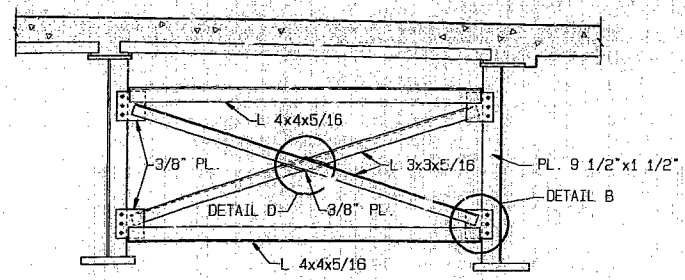
DETAIL C



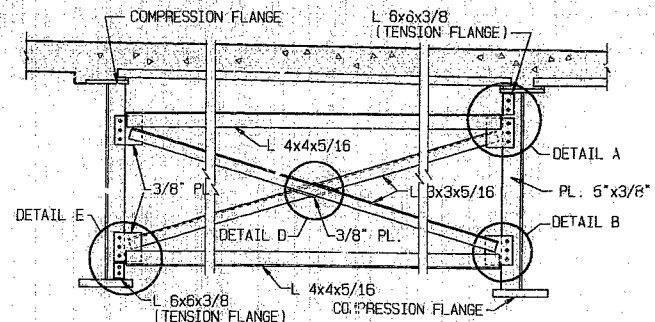
DETAIL D



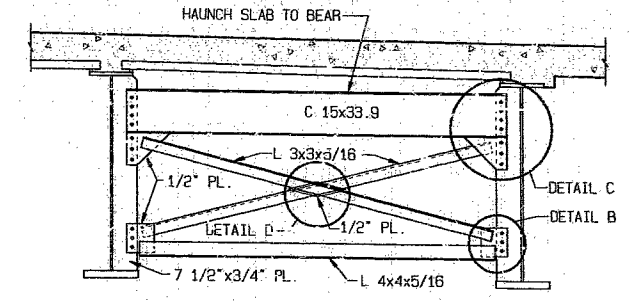
DETAIL E



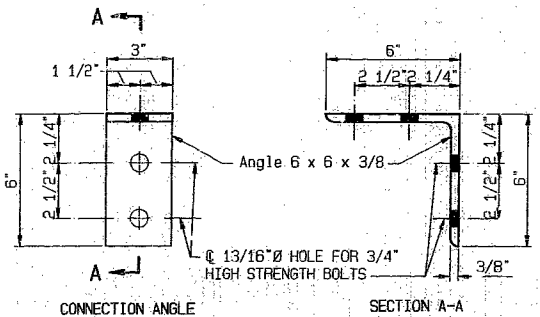
TYPICAL PART SECTION SHOWING CROSS FRAME



TYPICAL PART SECTION SHOWING INTERMEDIATE DIAPHRAGM

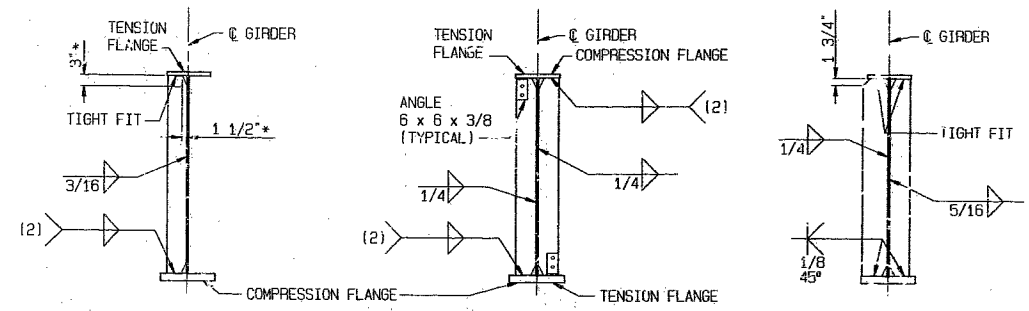


TYPICAL PART SECTION SHOWING END DIAPHRAGM



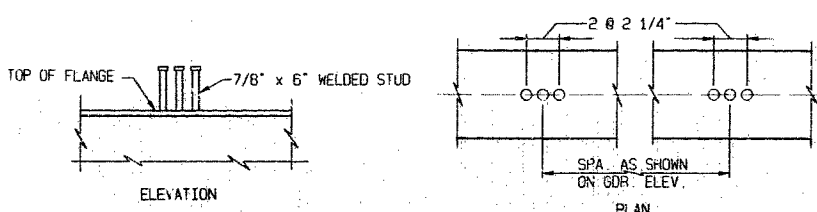
DETAIL OF FLANGE CONNECTION ANGLE

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 "W" IS ON THE INSIDE OF THE FLANGE. (TOWARD THE WEB).



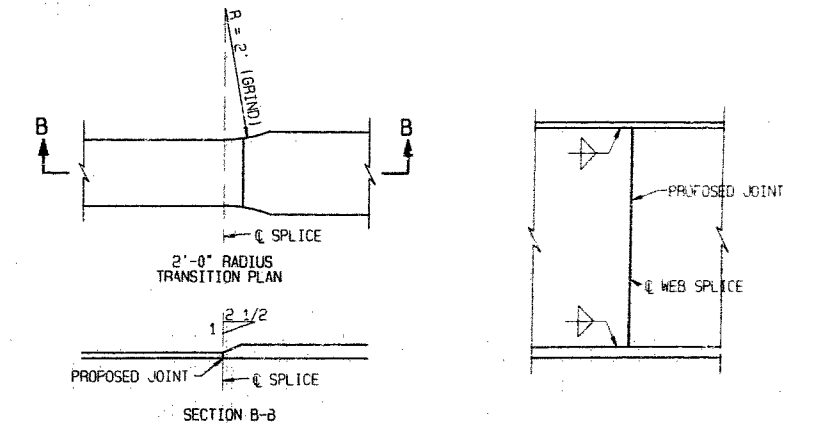
WELDING DETAILS

(2) WELD TO COMPRESSION FLANGE AS LOCATED ON GIRDER ELEVATION. \* TYPICAL FOR ALL INTERMEDIATE WEB STIFFENERS, INTERMEDIATE DIAPHRAGM CONNECTION PLATES & BEARING STIFFENERS. NOTE: INTERMEDIATE WEB STIFFENERS SHALL BE LOCATED AS SHOWN ON THE "PLAN OF STRUCTURAL STEEL".



DETAILS OF SHEAR CONNECTORS

NOTE: WEIGHT OF 3795 LBS. OF SHEAR CONNECTORS IS INCLUDED IN THE WEIGHT OF FABRICATED STRUCTURAL CARBON STEEL. SHEAR CONNECTORS SHALL MEET THE REQUIREMENTS OF STD. SPEC. 1037.



SHOP WELDED FLANGE SPLICE SHOP WELDED WEB SPLICE

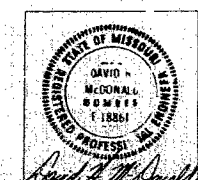
CROSS FRAMES & MISCELLANEOUS STEEL DETAILS

210 887  
 DETAILED MAY 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995

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 CONSULTING ENGINEERS

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

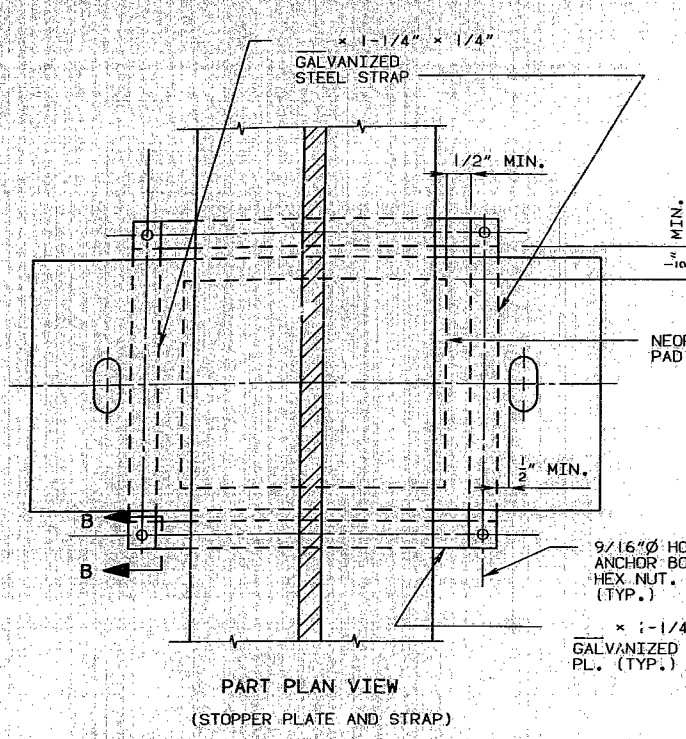
SHEET NO. 15 OF 36



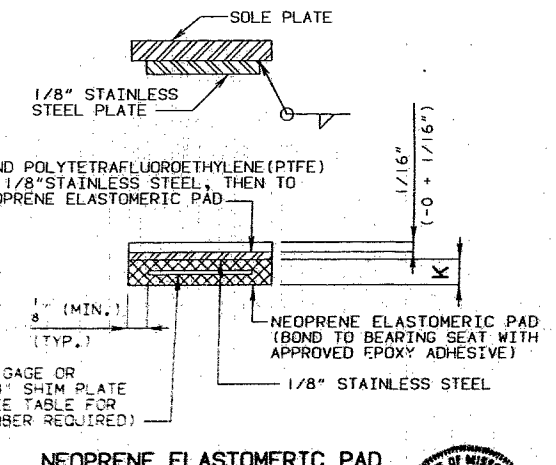
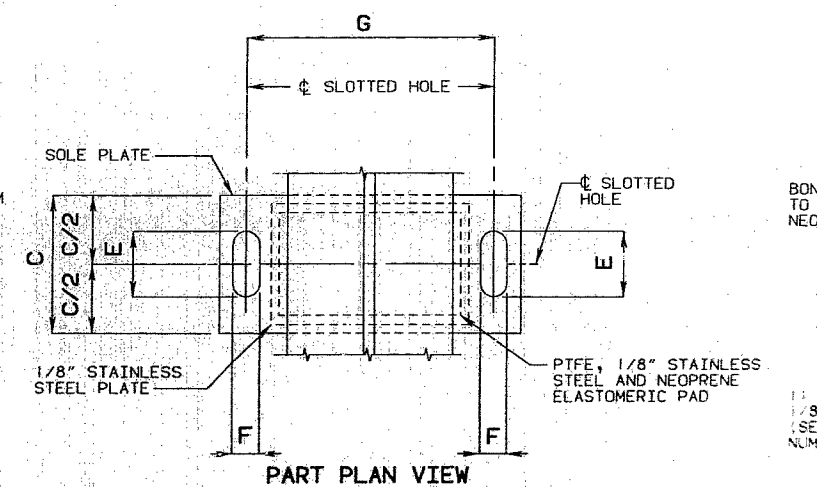
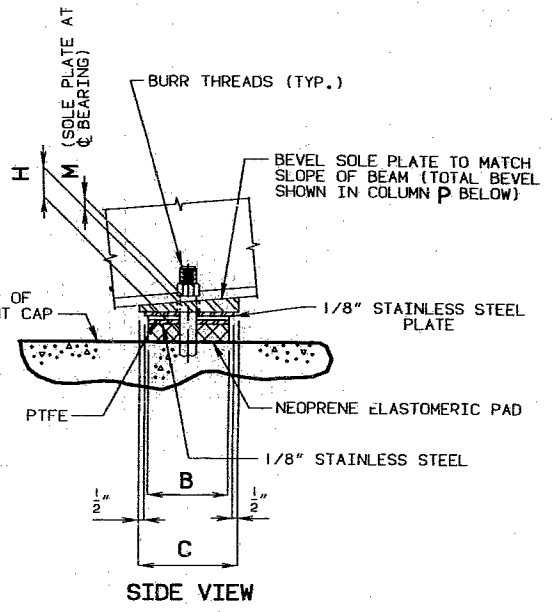
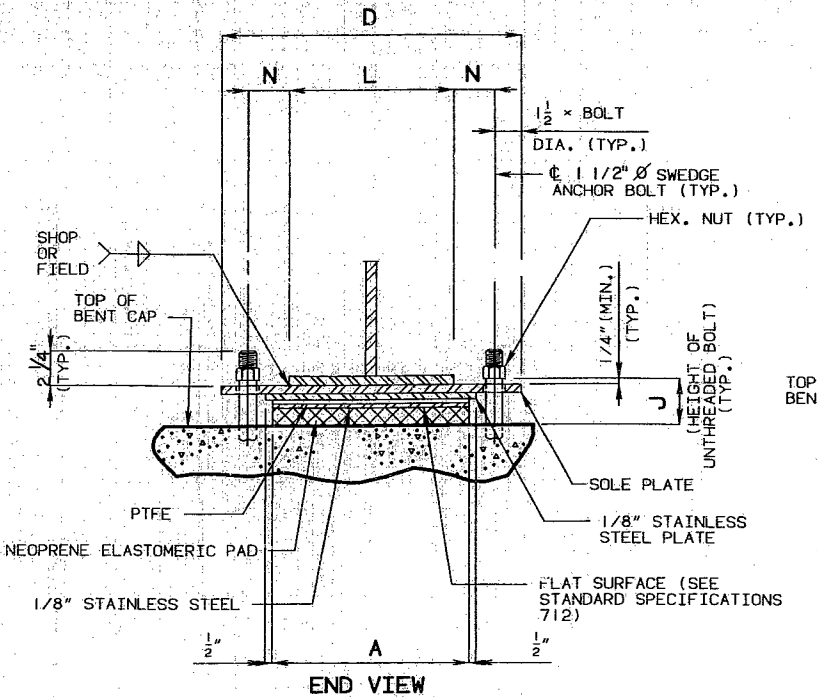
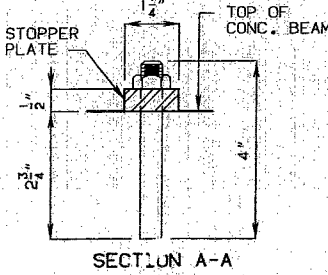
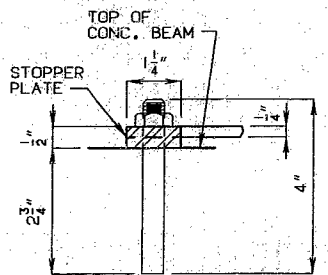
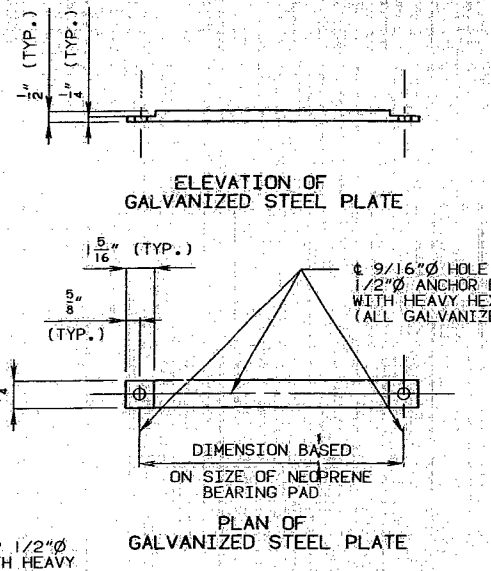
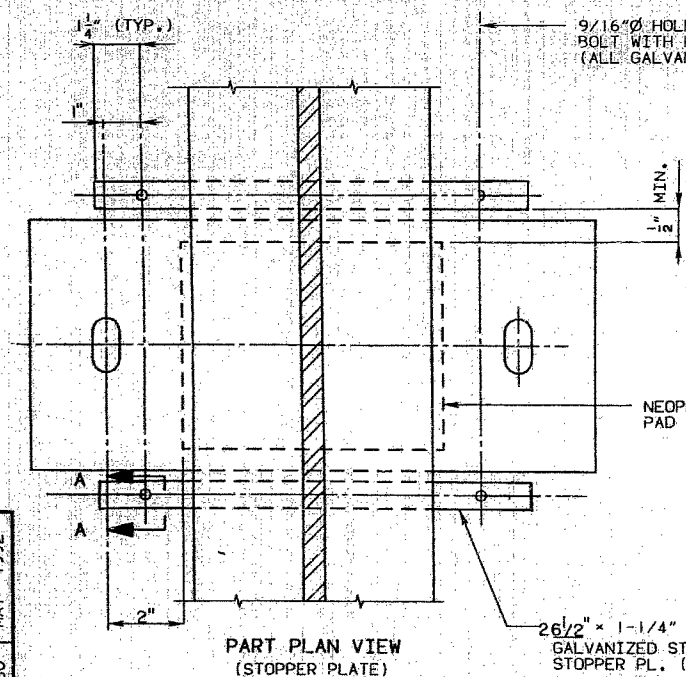
JACKSON COUNTY

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NOTE:  
 PROVIDE A 1/2" STOPPER PLATE TO PREVENT THE LOSS OF SUPPORT DUE TO CREEPING OF PTFE BEARINGS FROM UNDER GIRDERS AT EXPANSION BEARINGS. TO PREVENT SLIDING, 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. PAYMENT FOR ALL GALVANIZED MATERIAL SHALL BE INCLUDED IN THE COST OF PTFE BEARINGS PER EACH. PROVIDE A LIGHT COATING OF SILICONE GREASE (DOW-CORNING SILICONE OR EQUIVALENT), AT TOP OF BEARING, AT INSTALLATION TO PERMIT INITIAL MOVEMENT.



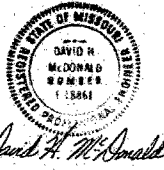
**GENERAL NOTES:**  
 ANCHOR BOLTS SHALL BE 1-1/2" Ø A588 STEEL SWEDGED BOLTS AND SHALL EXTEND 15" INTO THE CONCRETE WITH A194-2, 2H OR A563-C, C3, D, DH, DH3 HEAVY HEXAGON NUTS. ACTUAL MANUFACTURER'S CERTIFIED MILL TEST REPORTS (CHEMICAL AND MECHANICAL) SHALL BE PROVIDED. (SWEDGING SHALL BE 1" LESS THAN THE EXTENSION INTO THE CONCRETE.)  
 ALL STRUCTURAL STEEL FOR THE SOLE PLATE, ANCHOR BOLTS AND THE HEAVY HEXAGON NUTS SHALL BE PAINTED WITH 2 COATS (5 MILS MIN.) OF INORGANIC ZINC. WELD AREAS TO BE TOUCHED UP AFTER ASSEMBLY.  
 THE NEOPRENE ELASTOMERIC PADS SHALL BE 70 DUROMETER.  
 THE SOLE PLATE SHALL BE FURNISHED WITH THE BEARING AND FIELD OR SHOP WELDED TO THE GIRDERS.  
 STRUCTURAL STEEL FOR THE SOLE PLATE SHALL BE A-36.  
 PAYMENT FOR THE SOLE PLATE, ANCHOR BOLTS AND HEAVY HEXAGON NUTS SHALL BE INCLUDED IN THE COST OF THE BEARING ASSEMBLY. SEE SPECIAL PROVISIONS.  
 THE ACCEPTED QUANTITY OF THE ELASTOMERIC BEARING ASSEMBLIES, COMPLETE-IN-PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR TYPE 'N' PTFE BEARINGS, EACH.

NOTE: THE LOCATION OF THE ANCHOR BOLTS IN RELATION TO THE SLOTTED HOLES IN THE SOLE PLATE SHALL CORRESPOND WITH THE TEMPERATURE AT THE TIME OF ERECTION. AT 60° F. THE SLOTTED HOLES SHOULD CENTER ON THE ANCHOR BOLTS.

BENT NO.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
1	22"	14"	18"	30 1/2"	4"	15 3/8"	26"	2 1/16"	3 13/16"	13 3/4"	17"	1 1/2"	4 1/2"	1 1/2"	2	10
3	22"	14"	18"	30 1/2"	4"	15 3/8"	26"	2 1/16"	3 3/16"	13 3/4"	16"	1 1/2"	5"	1 1/2"	2	10
															TOTAL BEARINGS	20

(\*) THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

DETAILS OF TYPE 'N' PTFE BEARINGS



BRG 'N' TYPE 'N' PTFE BEARINGS  
 JAN. 1980  
 REVISED MAY 1992  
 CHECKED JULY 1993  
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 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, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

DETAILED JUNE 1993  
 CHECKED JULY 1993 REVISIONS MARCH 1995

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

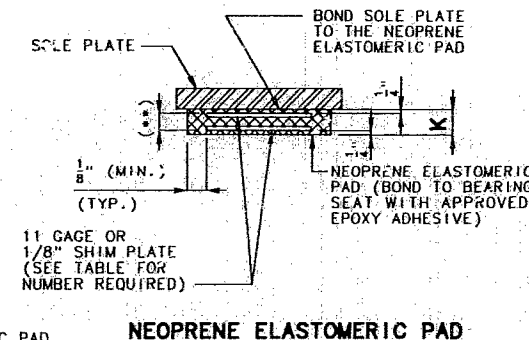
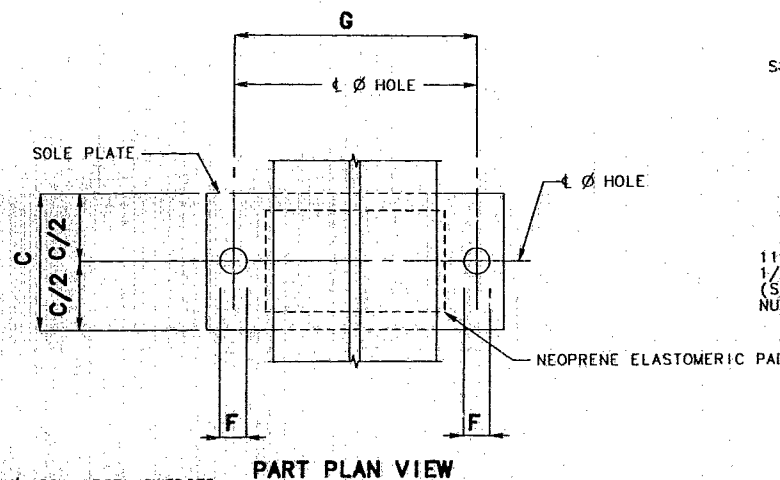
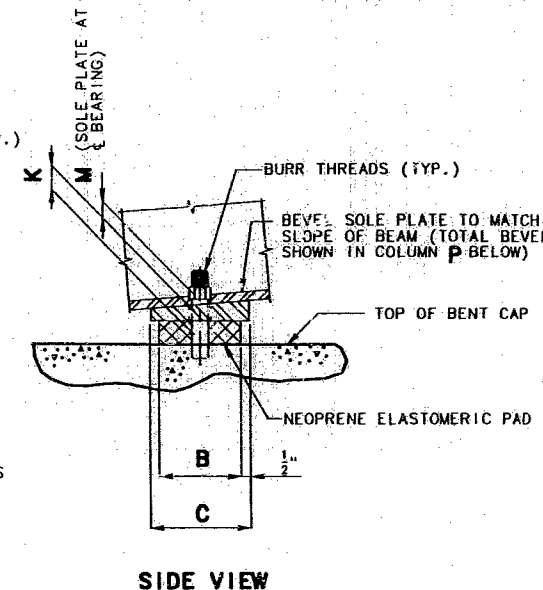
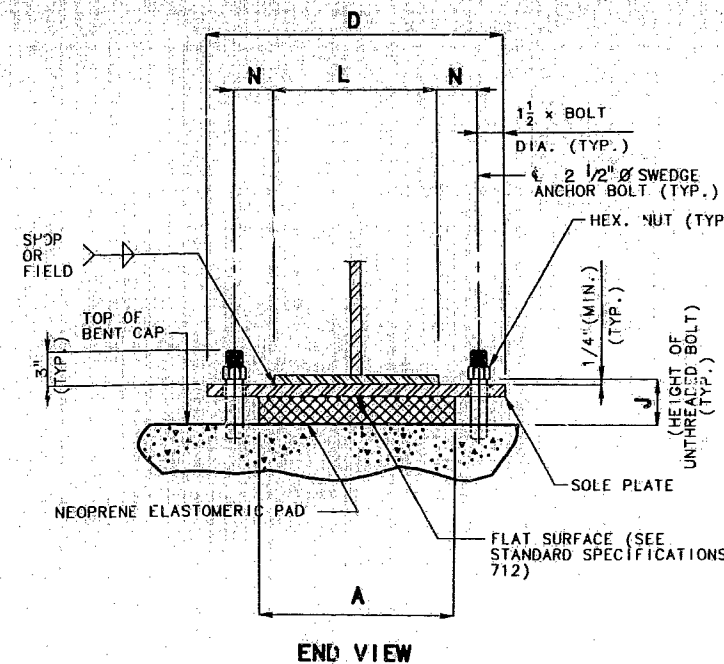
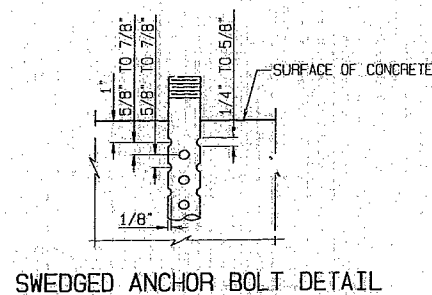
SHEET NO. 16 OF 36

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MO.		191



**GENERAL NOTES:**

ANCHOR BOLTS SHALL BE 2 1/2" Ø A588 STEEL SWEDGED BOLTS AND SHALL EXTEND 25" INTO THE CONCRETE WITH A194-2, 2H OR A563-C, C3, D, DH, DH3 HEAVY HEXAGON NUTS. ACTUAL MANUFACTURER'S CERTIFIED MILL TEST REPORTS (CHEMICAL AND MECHANICAL) SHALL BE PROVIDED. (SWEDGING SHALL BE 1" LESS THAN THE EXTENSION INTO THE CONCRETE.)

ALL STRUCTURAL STEEL FOR THE SOLE PLATE, ANCHOR BOLTS AND THE HEAVY HEXAGON NUTS SHALL BE PAINTED WITH 2 COATS (5 MILS MIN.) OF INORGANIC ZINC. WELD AREAS TO BE TOUCHED UP AFTER ASSEMBLY.

THE NEOPRENE ELASTOMERIC PADS SHALL BE 60 DUROMETER.

THE SOLE PLATE SHALL BE FURNISHED WITH THE BEARING AND FIELD OR SHOP WELDED TO THE GIRDERS.

STRUCTURAL STEEL FOR THE SOLE PLATE SHALL BE A-36.

PAYMENT FOR THE SOLE PLATE, ANCHOR BOLTS AND HEAVY HEXAGON NUTS SHALL BE INCLUDED IN THE COST OF THE BEARING ASSEMBLY. SEE SPECIAL PROVISIONS.

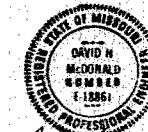
THE ACCEPTED QUANTITY OF THE ELASTOMERIC BEARING ASSEMBLIES, COMPLETE-IN-PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR LAMINATED NEOPRENE BEARING PADS (STEEL STRUCTURES), EACH.

**FIXED BEARINGS**

BENT NO.	A	B	C	D	F	G	J	K	L	M	N	P	NUMBER OF SHIM PLATES (+)	NUMBER REQUIRED
2	20"	2'-10"	2'-11"	2'-9"	25/8"	25/2"	4 7/8"	3 1/8"	20"	1/2"	2'-4"	0	5	10
													TOTAL BEARINGS	10

(\*) THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

(\*\*) LAYERS OF 1/2" ELASTOMER ALTERNATING WITH 11 GAGE OR 1/8" STEEL SHIM PLATE.



David W. McDonald

BRG LAM, BRG3.31, STL, A  
 LAMINATED BRG, REVISED  
 JAN. 1980, FEB. 1993  
 1722  
 8029

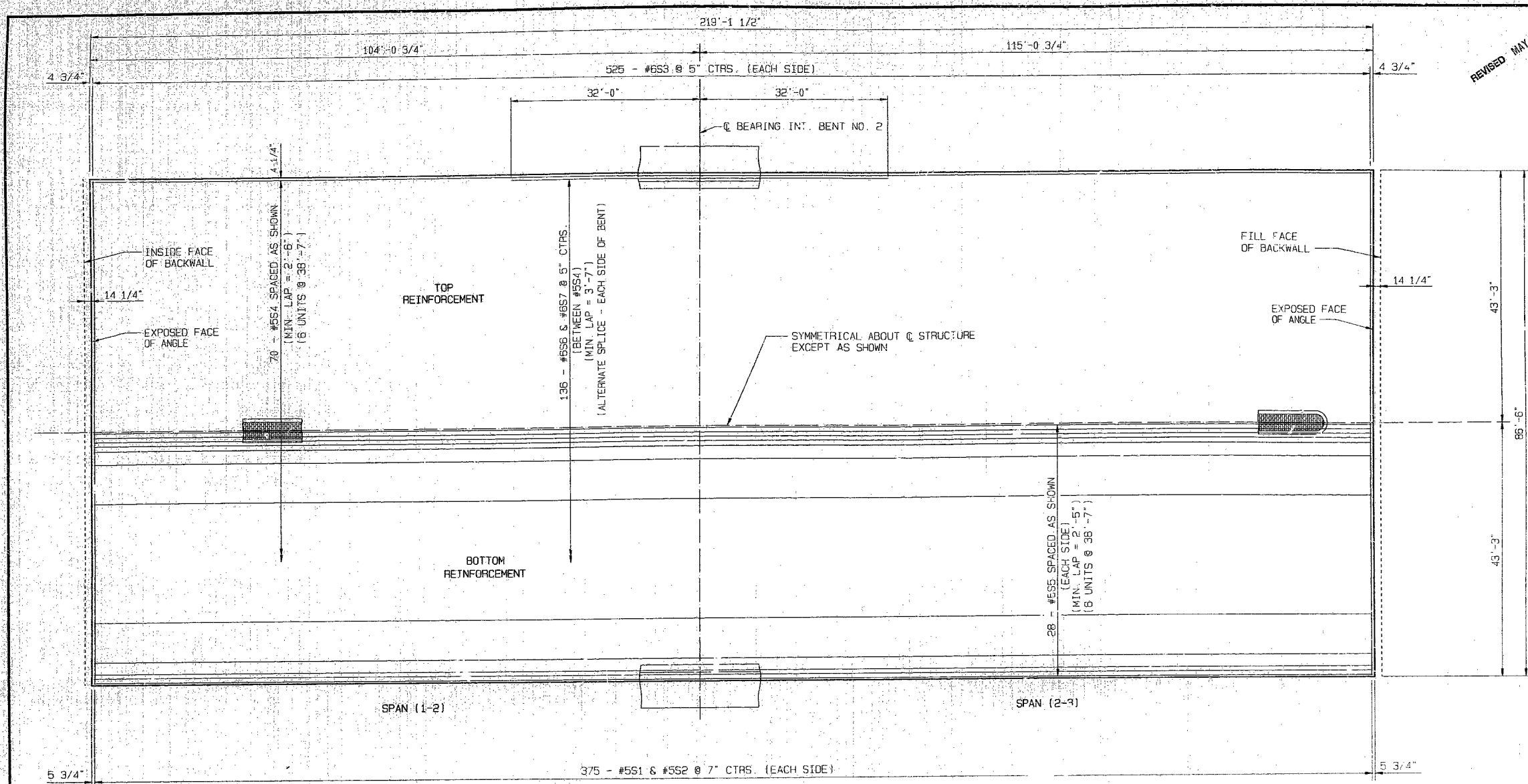
DETAILED JUNE 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995

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

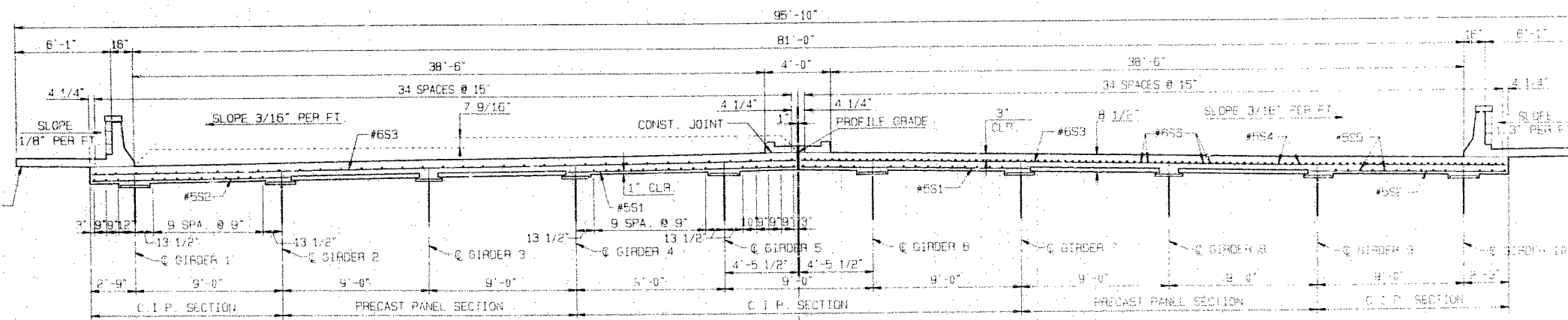
SHEET NO. 17 OF 36.

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PLAN OF SLAB SHOWING REINFORCEMENT



TYPICAL HALF SECTION NEAR MID SPAN

TYPICAL HALF SECTION NEAR INTERMEDIATE BENT

SLAB PLAN & SECTION

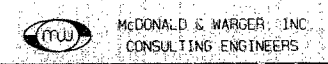
- NOTES:
- ALL DIMENSIONS ARE MEASURED HORIZONTAL @ 60° F.
  - LONGITUDINAL REINFORCING STEEL SHALL BE PLACED SO THAT ENDS ARE NOT MORE THAN 1" ± FROM THE VERTICAL LEG OF THE ANGLE FOR THE EXPANSION DEVICE.
  - FOR SLAB POURING SEQUENCE SEE SHEET NO. 12.
  - FOR SLAB HAUNCHING SEE SHEET NO. 14.
  - FOR DETAILS OF PRESTRESSED PANEL OPTION SEE SHEET NO. 19.
  - FOR DETAILS OF SAFETY BARRIER CURB SEE SHEET NO. 25.
  - FOR DETAILS OF RAISED MEDIAN SEE SHEET NO. 22.
  - FOR DETAILS OF SIDEWALK AND PEDESTRIAN FENCE SEE SHEET NO'S. 21, 23, 24 & 24A.
  - CONCRETE IN THE SLAB HAUNCHES IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON STEEL.

STATE	PROJ. NO.	SHEET NO.
MO.		192

REVISED MAY 15 1995

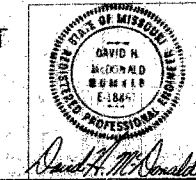
2023 230

DETAILED MAY 1993  
CHECKED JULY 1993  
REVISED MARCH 1995



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

SHEET NO. 18 OF 36

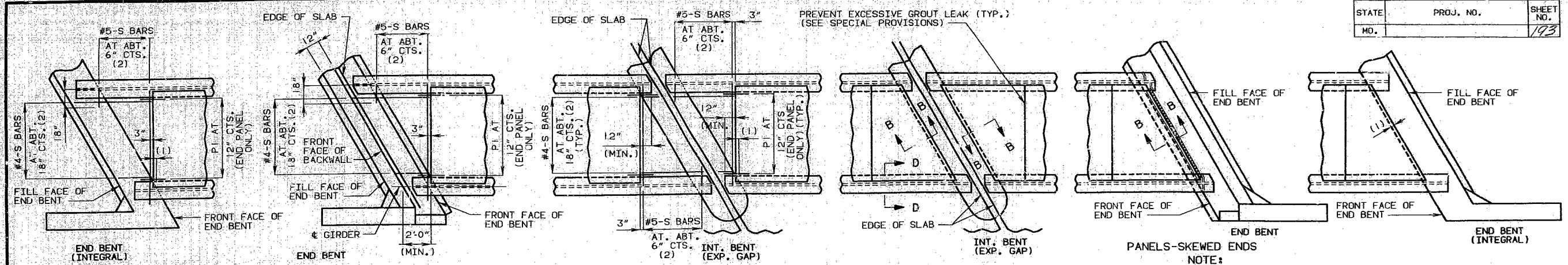


JACKSON COUNTY

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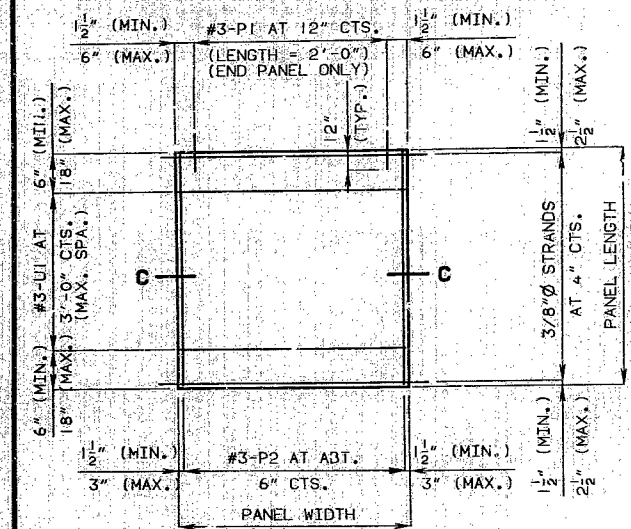
1820

STATE	PROJ. NO.	SHEET NO.
MO.		193

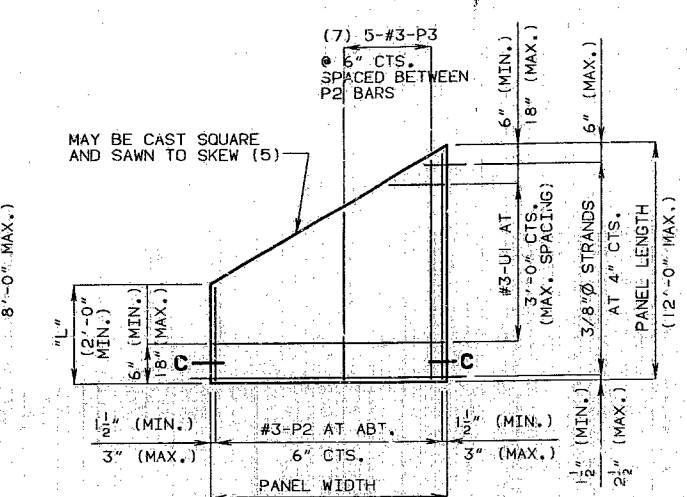


NOTE: SKEWED BENT SHOWN, SQUARE BENT SIMILAR SEE SQUARE BENT DETAILS, SHEET NO. 12

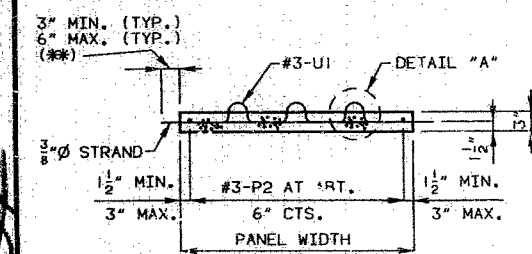
PLAN OF PRECAST PRESTRESSED PANELS PLACEMENT



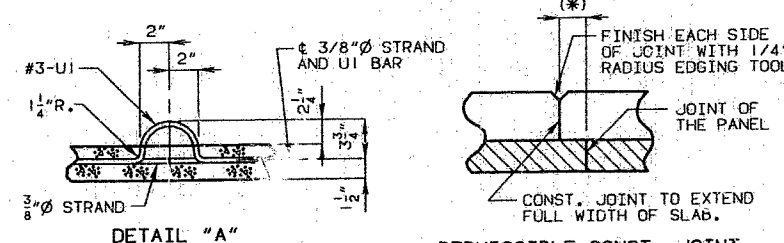
PLAN OF PRECAST PRESTRESSED PANEL



PLAN OF PRECAST PRESTRESSED PANEL (SKEWED END-OPTIONAL)

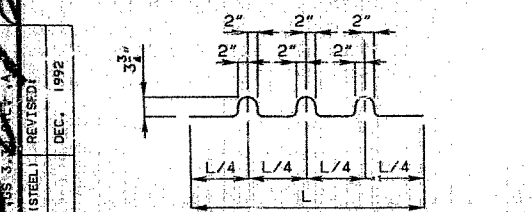


SECTION C-C



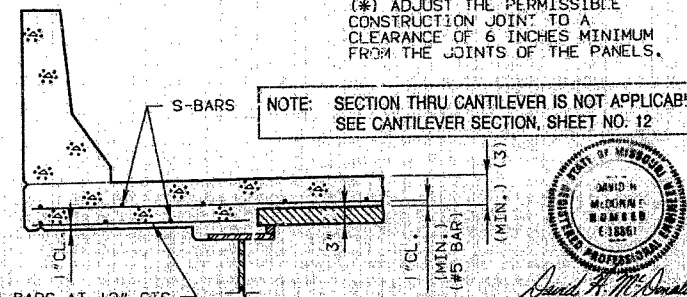
DETAIL "A"

PERMISSIBLE CONST. JOINT



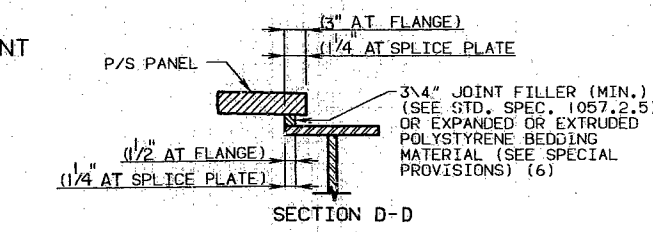
BENDING DIAGRAM FOR U1 BAR

(U1 BARS MAY BE ORIENTED AT RIGHT ANGLES TO LOCATION AND SPACING SHOWN. U1 BARS SHALL BE PLACED BETWEEN P1 BARS).

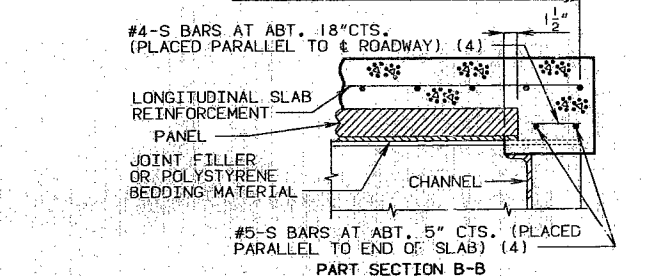


SECTION THRU CANTILEVER

NOTE: SECTION THRU CANTILEVER IS NOT APPLICABLE SEE CANTILEVER SECTION, SHEET NO. 12



TOP TRANSVERSE SLAB REINFORCEMENT



PART SECTION B-B

- 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. COST OF S-BARS SHALL BE INCLUDED IN PRICE BID FOR SLAB PER SQUARE YARD. S-BARS ARE NOT LISTED IN BILL OF REINFORCING.
  - (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 PLAN 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 (21 INCHES LAP IF NECESSARY) OR TO WITHIN 3 INCHES OF 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 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.

USE SLAB HAUNCHING DIAGRAM ON SHEET NO. 14 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 A1 WITH F'C = 5,000 PSI, F'CI = 3,500 PSI.  
 THE TOP SURFACE OF ALL PANELS SHALL RECEIVE A SCORED FINISH WITH A DEPTH OF SCORING OF 1/4 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 = 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 LIFTING 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, 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.C.T. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCING STEEL 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 0.22 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 NOT LESS THAN 2FT.  
 THE REINFORCING STEEL SHALL BE TIED SECURELY TO THE 3/8" 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

SPAN 3 1/2 S. 12.12.1992  
 3" PANEL (STEEL) REVISED  
 MAY 1985  
 DEC. 1992

DETAILED JULY 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995

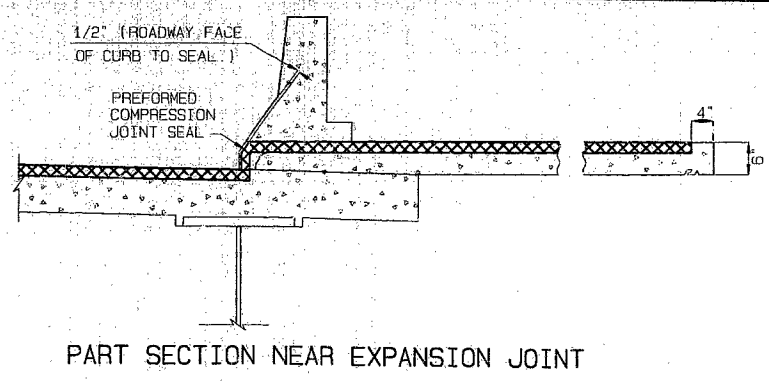
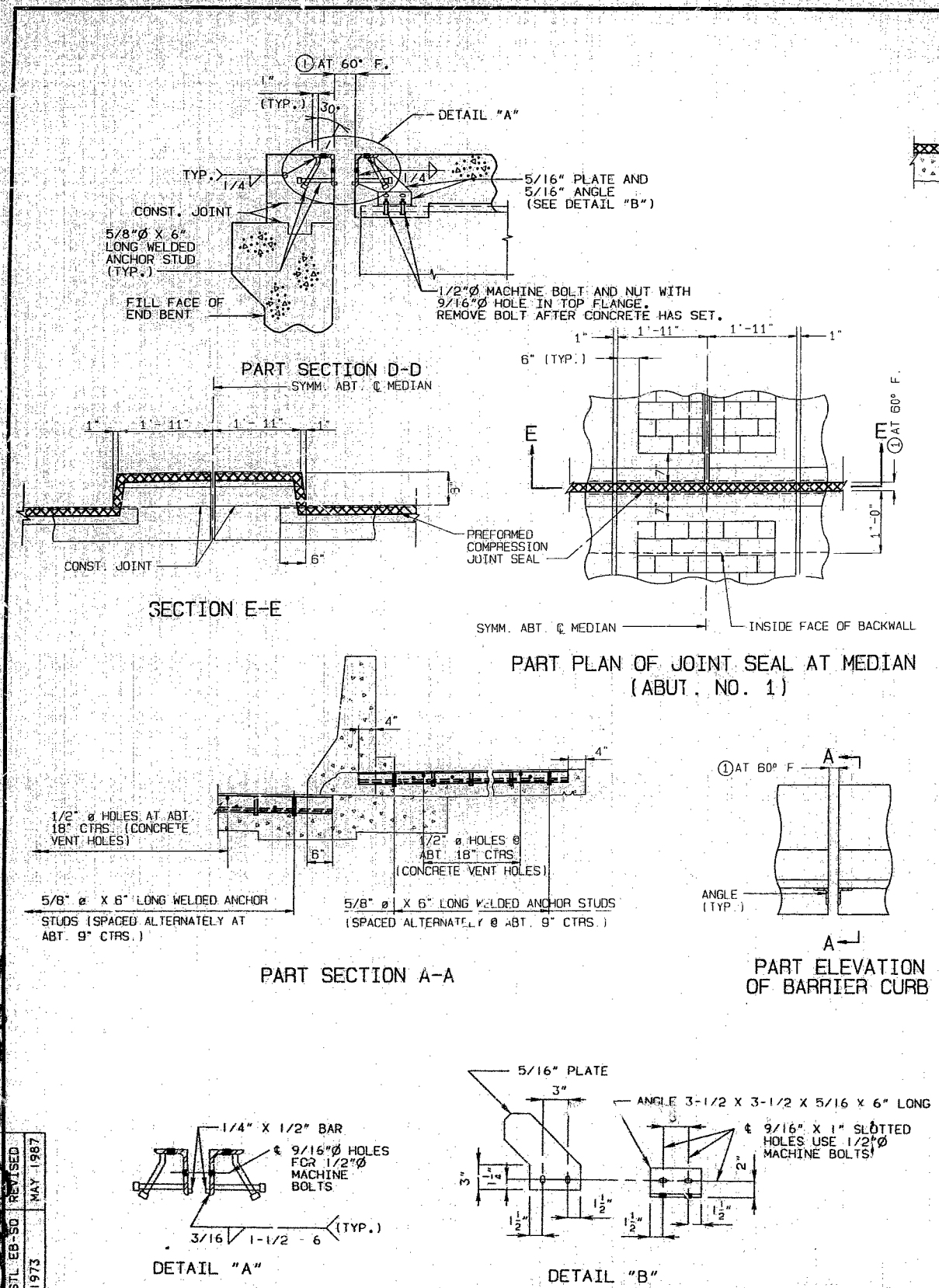
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 19 OF 36

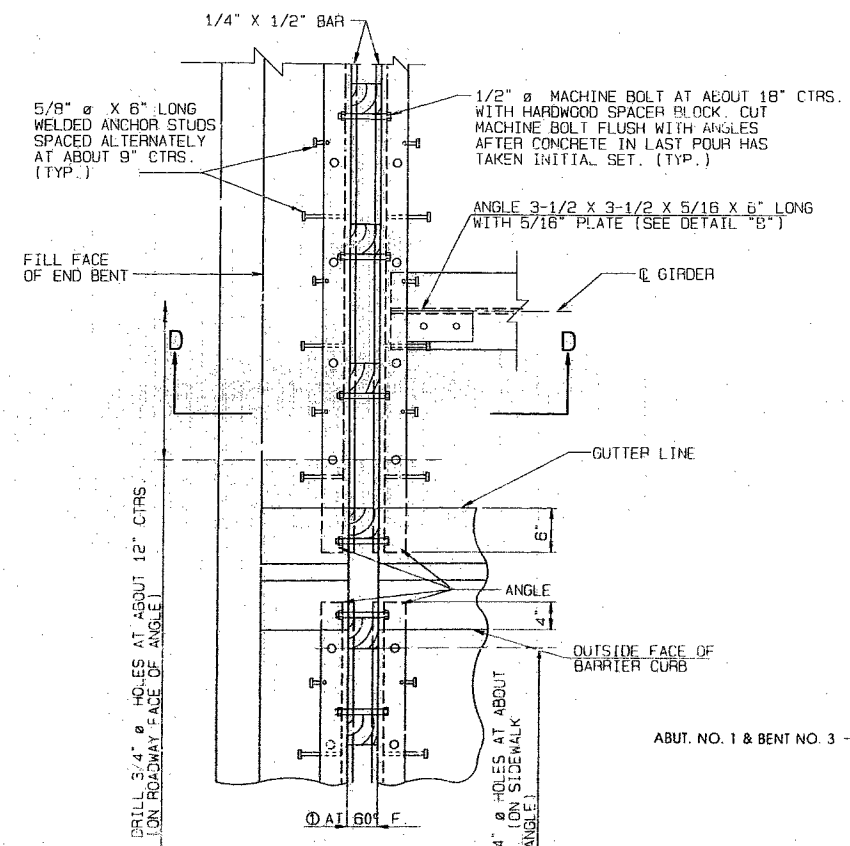
JACKSON COUNTY A-5183

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STATE	PROJ. NO.	SHEET NO.
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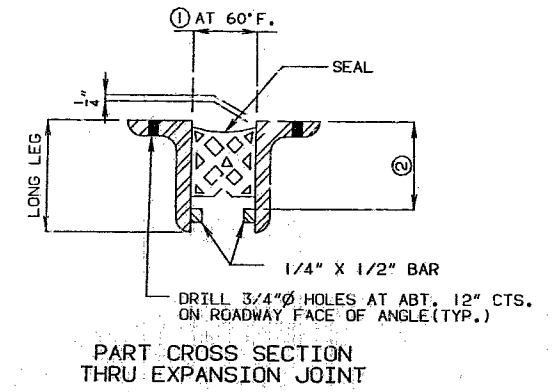
PART SECTION NEAR EXPANSION JOINT



PART PLAN (BENT NO. 3 SHOWN, ABUTMENT NO. 1 SIMILAR)

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 (C1010 THRU C1020).
- 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.
- 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

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 A  
 PCJS-STL EB-50 REVISED  
 OCT. 1973  
 MAY 1987

DETAILED JULY 1993  
 CHECKED JULY 1993

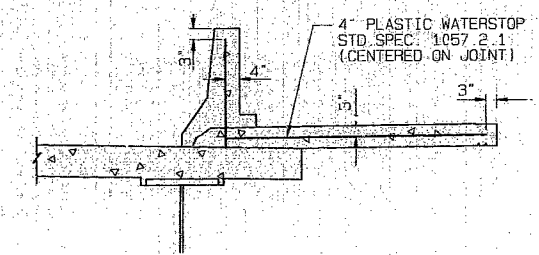
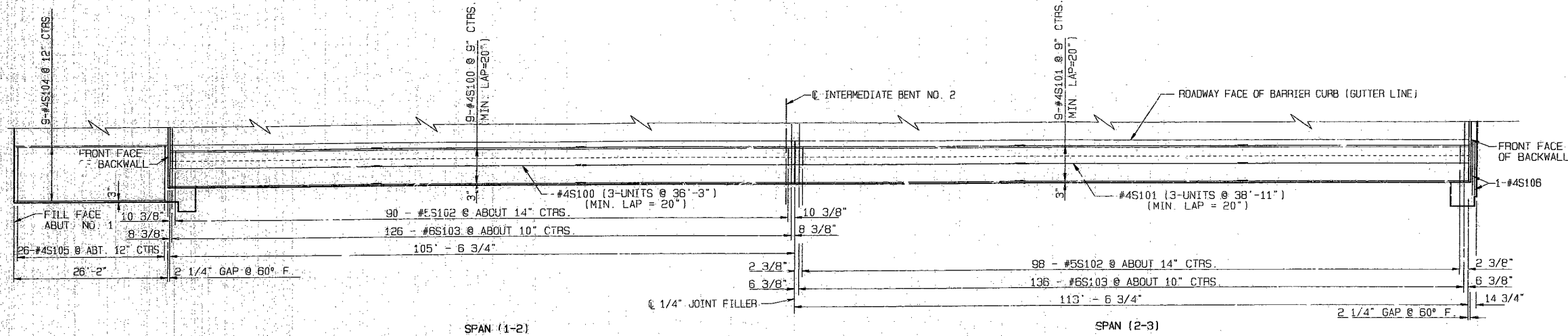
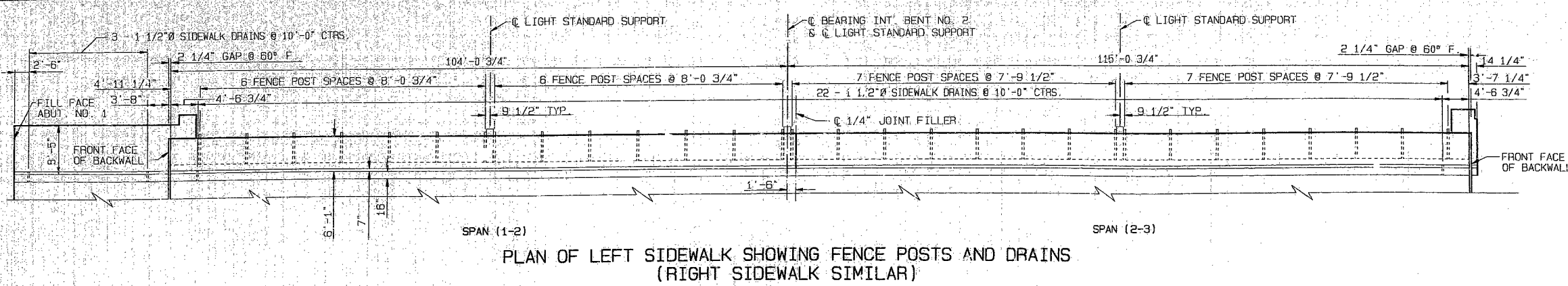
NOTE: THIS DRAWING NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 20 OF 36

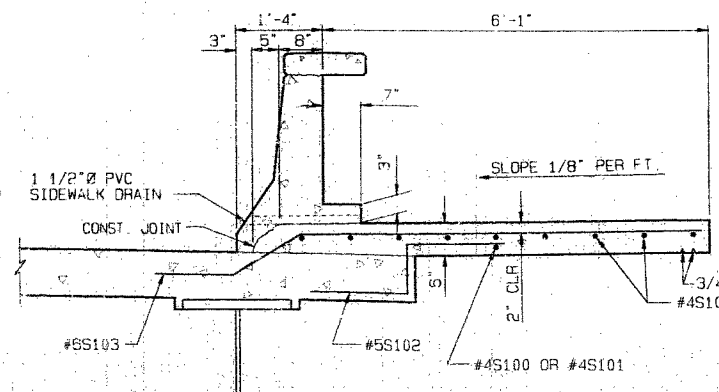
JACKSON COUNTY

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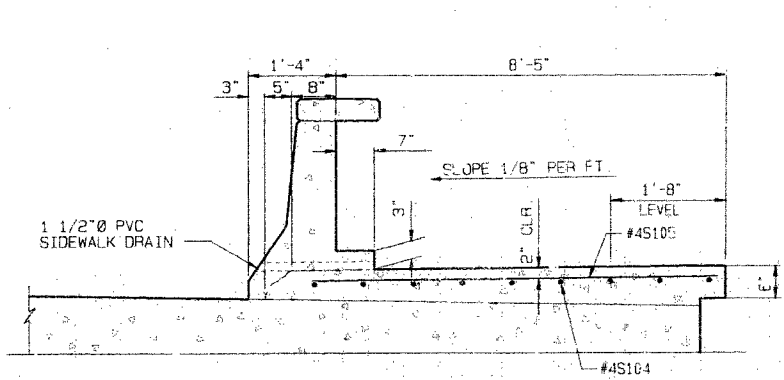
STATE	PROJ. NO.	SHEET NO.
MO.		195



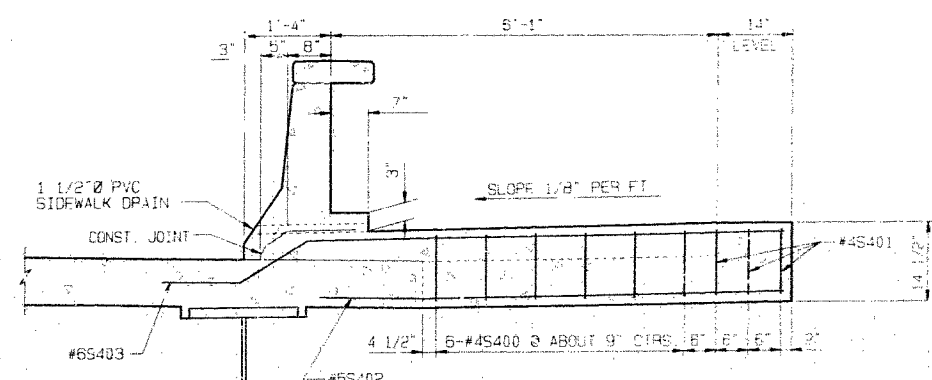
PLASTIC WATERSTOP SHALL BE PLACED IN ALL SAFETY BARRIER CURB AND SIDEWALK FILLED JOINTS. COST OF PLASTIC WATERSTOP COMPLETE IN PLACE TO BE INCLUDED IN CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB AND SIDEWALKS RESPECTIVELY.



SECTION THRU SIDEWALK NEAR INTERMEDIATE BENT



SECTION THRU SIDEWALK AT ABUTMENT NO. 1



SECTION THRU SIDEWALK AT LIGHT STANDARD SUPPORT

NOTES:  
 FOR DETAILS OF PEDESTRIAN FENCE ON SIDEWALK SEE SHEET NO'S. 23, 24 & 24A.  
 ALL EXPOSED EDGES OF SIDEWALK SHALL HAVE EITHER 1/2" RADIUS OR 3/8" BEVEL STRIP, UNLESS OTHERWISE NOTED.  
 CONCRETE IN THE SIDEWALK SHALL BE CLASS B2.  
 WHEN THE SIDEWALK IS BID BY SQUARE FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE, REINFORCEMENT & SIDEWALK DRAINS COMPLETE IN PLACE.  
 MEASUREMENT OF THE SIDEWALK IS TO THE NEAREST SQUARE FOOT FOR EACH STRUCTURE, MEASURED FROM THE OUTSIDE FACE OF SAFETY BARRIER CURB TO THE OUTSIDE EDGE OF SIDEWALK FROM FILL FACE ABUT. NO. 1 TO FILL FACE END BENT NO. 3.  
 FOR DETAILS OF EXPANSION DEVICE IN SIDEWALK SEE SHEET NO. 20.  
 FOR ADDITIONAL DETAILS OF ANCHOR BOLTS & REINFORCING IN THE LIGHT STANDARD SUPPORT SEE SHEET NO. 24A.  
 THE COST OF FURNISHING & PLACING THE REINFORCING, ANCHOR BOLTS & CONCRETE FOR THE LIGHT STANDARD SUPPORTS SHALL BE INCLUDED IN THE UNIT PRICE FOR SIDEWALK.  
 THE TOP OF THE LIGHT STANDARD SUPPORT SHALL BE MADE HORIZONTAL, ANCHOR BOLTS SHALL BE PLACED VERTICALLY.

826 833

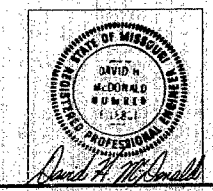
DETAILED MAY 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995

MCDONALD & WARGER, INC.  
 CONSULTING ENGINEERS

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

SIDEWALK DETAILS

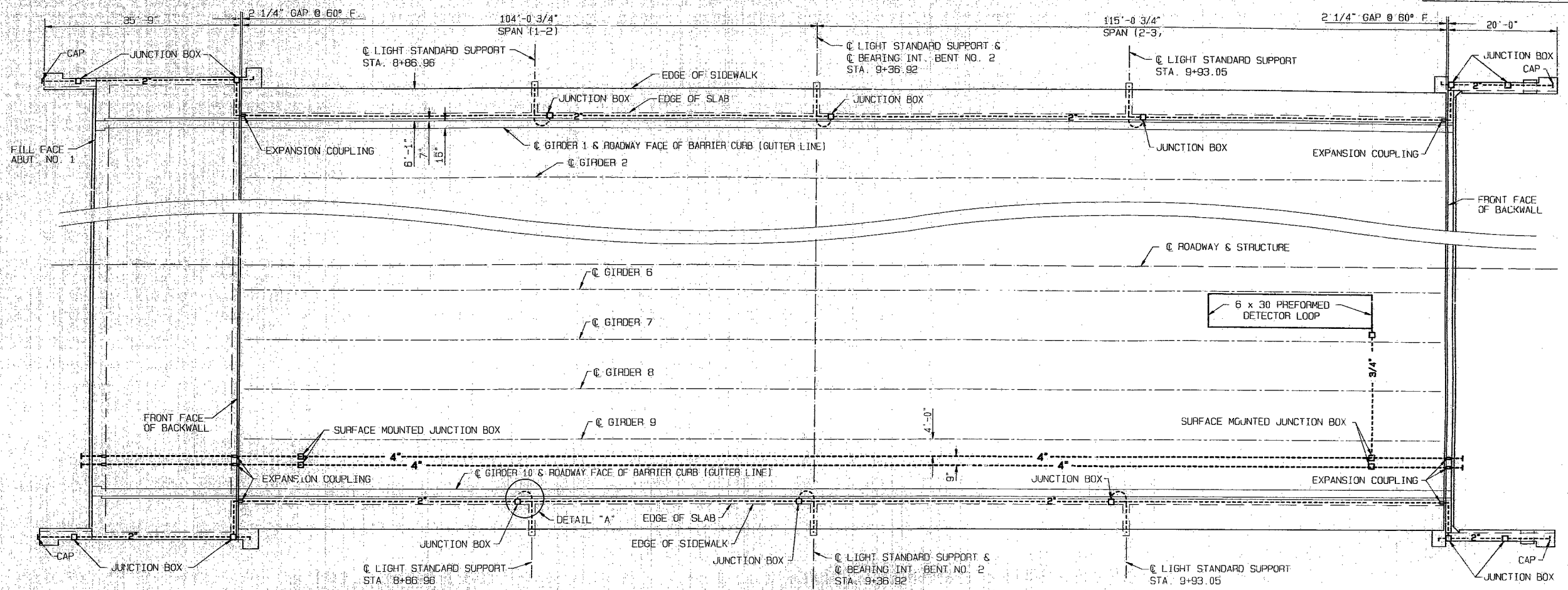
SHEET NO. 21 OF 36



JACKSON COUNTY

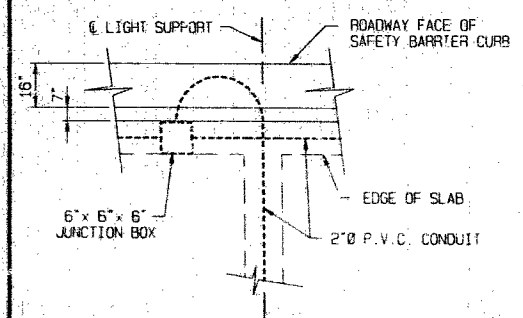
A-5183

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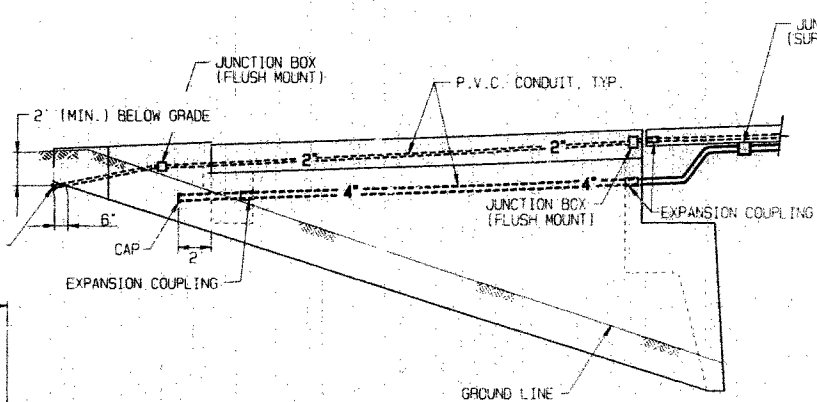


PLAN SHOWING CONDUIT SYSTEM

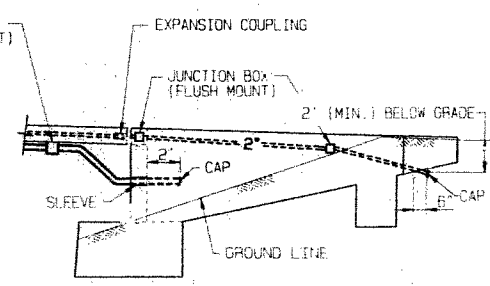
NOTE: FOR DETAILS AND LOCATIONS OF ADDITIONAL PVC CONDUIT NEAR INT. BENT NO. 2, SEE SHEET NO. 7.



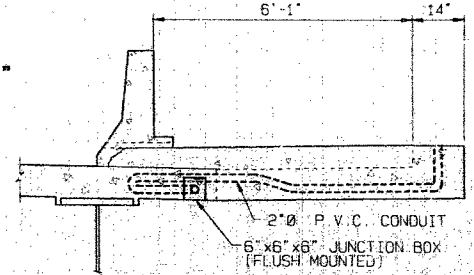
DETAIL "A"



ELEVATION - ABUTMENT 1



ELEVATION - END BENT 3



SECTION THRU SIDEWALK AT LIGHT SUPPORT

DETAILS OF CONDUIT SYSTEM ON STRUCTURE

- NOTES:
- ALL CONDUIT SHALL BE RIGID NON-METALLIC SCHEDULE 40 HEAVY WALL PVC (POLYVINYL CHLORIDE PLASTIC) WITH 3" MIN. COVER IN CONCRETE. EACH SECTION OF CONDUIT SHALL BEAR THE UNDERWRITERS' LABORATORIES, INC. (UL) LABEL.
  - SHIFT REINFORCING STEEL IN FIELD WHERE NECESSARY TO CLEAR CONDUIT AND JUNCTION BOXES.
  - EXPANSION FITTINGS SHALL PROVIDE A MINIMUM MOVEMENT IN EITHER DIRECTION OF 2" AT OPEN JOINTS. EXPANSION FITTINGS SHALL BE EQUAL TO CARLON ELECTRICAL CONSTRUCTION PRODUCTS OR TRIANGLE CONDUIT AND CABLE COMPANY, INC.
  - ALL JUNCTION BOXES SHALL BE PVC MOLDED, FLUSH MOUNTED (UNLESS OTHERWISE NOTED) AND EQUAL TO CARLON ELECTRICAL CONSTRUCTION PRODUCTS OR TRIANGLE CONDUIT AND CABLE COMPANY, INC. THE CONDUIT TERMINALS SHALL BE PERMANENT OR SEPARABLE. THE TERMINATIONS AND COVERS SHALL BE WATERTIGHT CONSTRUCTION.
  - WEEPHOLES SHALL BE PROVIDED AT APPROPRIATE LOCATIONS TO DRAIN ANY MOISTURE IN THE CONDUIT LINES.
  - THE CONDUIT SYSTEM, COMPLETE IN PLACE, SHALL BE PAID FOR AS CONDUIT SYSTEM ON STRUCTURE, PER LUMP SUM.
  - FOR DETAILS OF LIGHT STANDARDS, SEE ELECTRICAL PLANS.
  - FOUR INCH CONDUIT SHALL BE SECURED TO CONCRETE WITH CLAMPS AT ABT. 5 FT. CTRS. CONCRETE ANCHORS FOR CLAMPS SHALL MEET FEDERAL SPEC. FF-S-325, GROUP II, TYPE 4, CLASS 1, AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, B635-91 CLASS 50 OR STAINLESS STEEL. MINIMUM EMBEDMENT IN CONCRETE SHALL BE 1-3/4". THE SUPPLIER SHALL FURNISH A MANUFACTURER'S CERTIFICATION THAT THE CONCRETE ANCHORS MEET THE REQUIRED MATERIAL AND GALVANIZING SPECIFICATIONS.

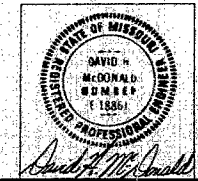
207 234

DETAILED MARCH 1995  
CHECKED MARCH 1995

McDONALD & WARGER, INC.  
CONSULTING ENGINEERS

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

SHEET NO. 21A OF 36

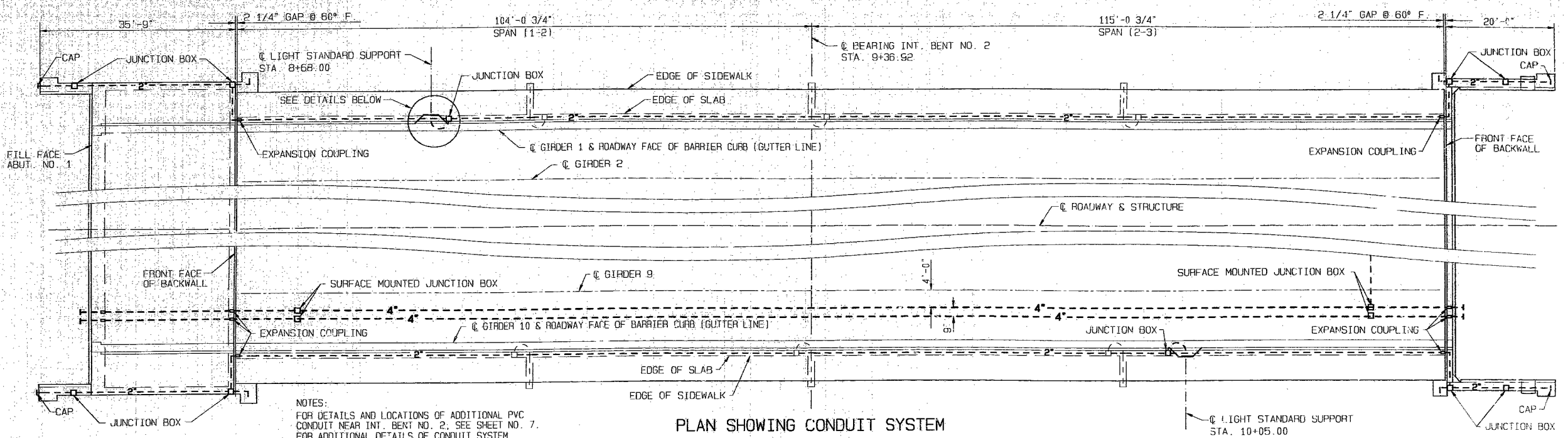


JACKSON COUNTY

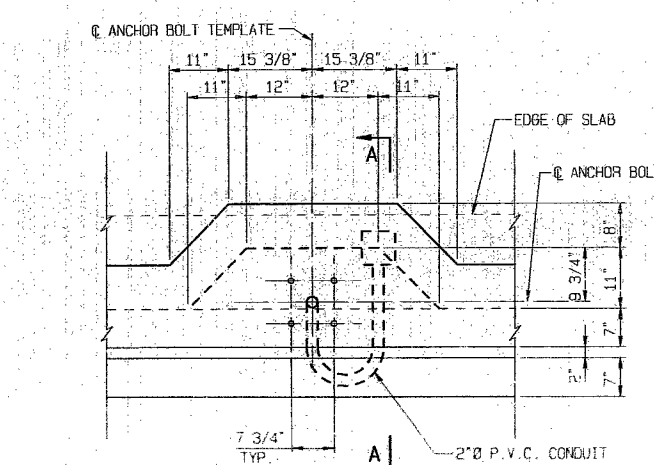
A-5183

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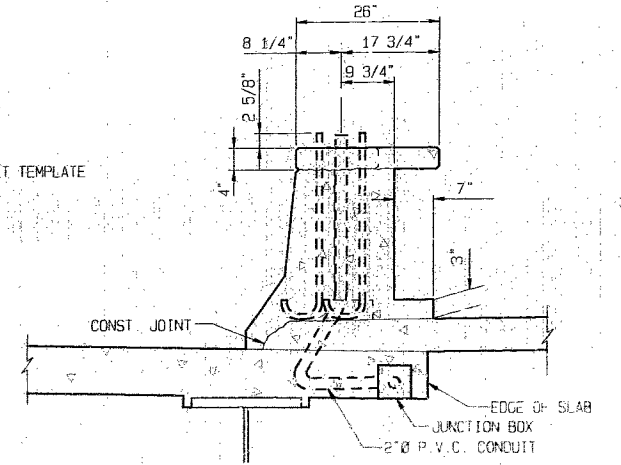
STATE	PROJ. NO.	SHEET NO.
MO		



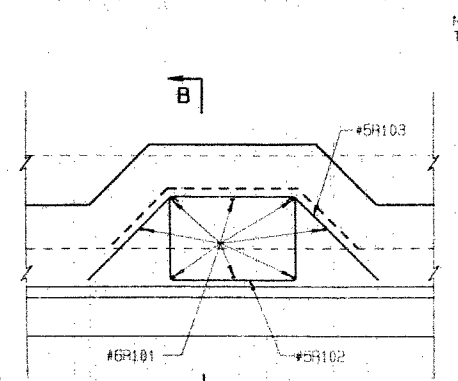
NOTES:  
 FOR DETAILS AND LOCATIONS OF ADDITIONAL PVC CONDUIT NEAR INT. BENT NO. 2, SEE SHEET NO. 7.  
 FOR ADDITIONAL DETAILS OF CONDUIT SYSTEM SEE SHEET NO. 21A.



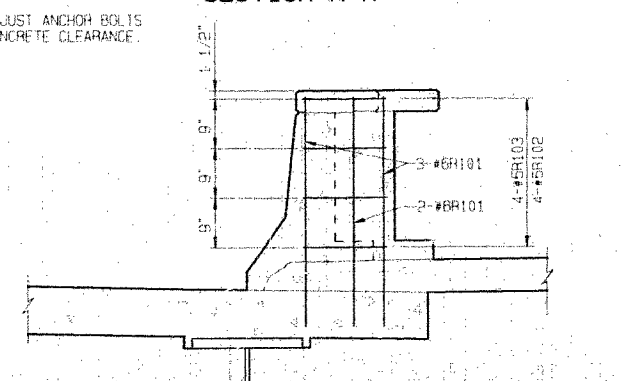
PLAN SHOWING ANCHOR BOLTS AND CONDUIT



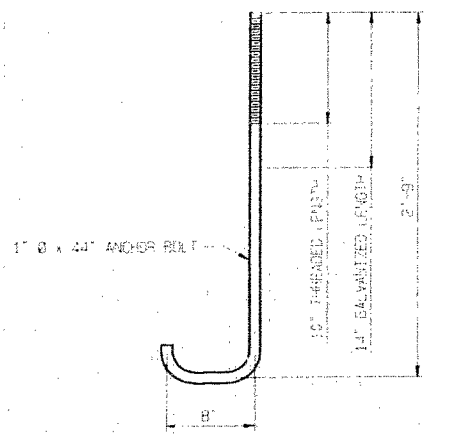
SECTION A-A



PLAN SHOWING REINFORCEMENT



SECTION B-B



DETAIL OF ANCHOR BOLT

DETAILS OF LIGHT SUPPORT BLISTERS

NOTES:  
 COST OF FURNISHING AND INSTALLING ANCHOR BOLTS, REINFORCING AND CONCRETE IN LIGHT SUPPORT SHALL BE INCLUDED IN PRICE BID FOR SAFETY BARRIER CURB.  
 ALL CONDUIT SHALL BE RIGID NON-METALLIC SCHEDULE 40 HEAVY WALL PVC (POLYVINYL CHLORIDE PLASTIC) WITH 3\"/>

2028

DETAILED MARCH 1996  
 CHECKED MARCH 1996

MCDONALD & WARGER, INC.  
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NOTE: THIS SHEET IS NOT TO SCALE. FOLLOW DIMENSIONS.

ADDED SHEET MARCH 15, 1996

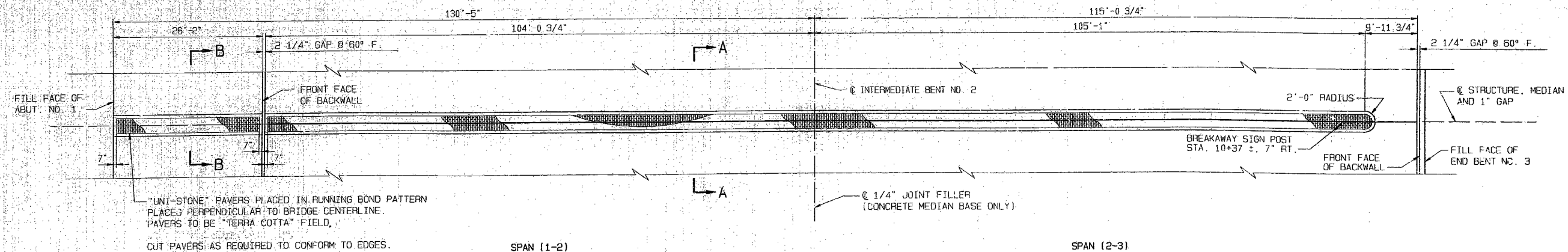
SHEET NO. 21B OF 36



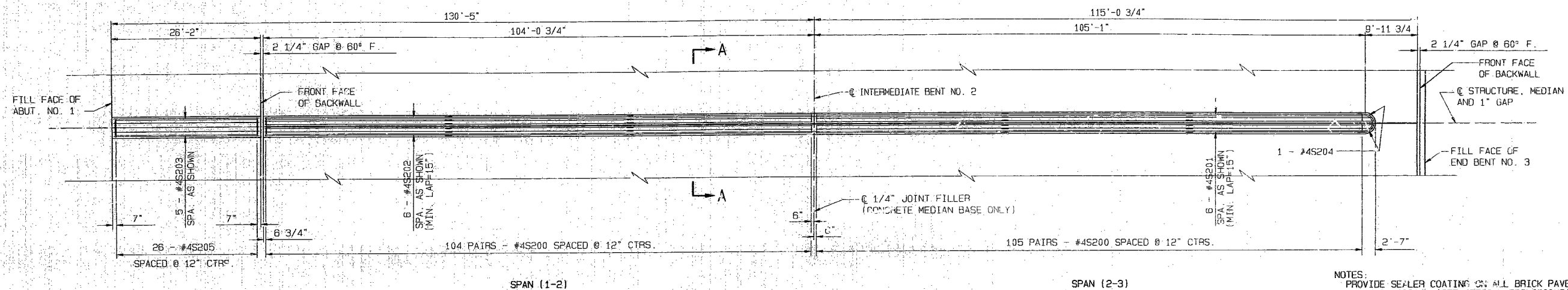
JACKSON COUNTY

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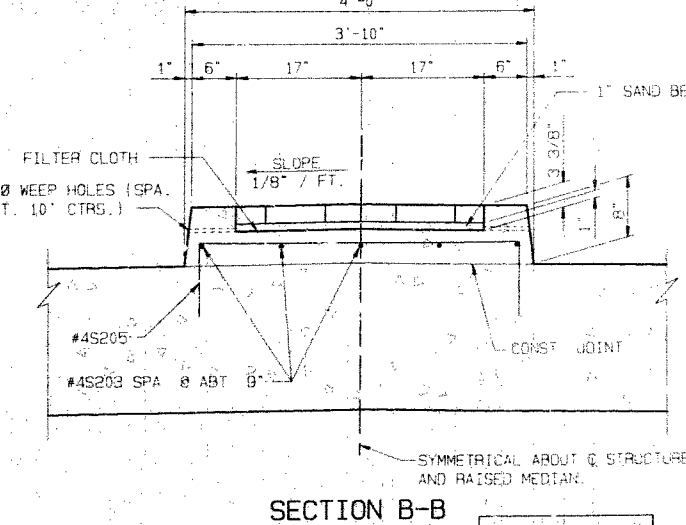
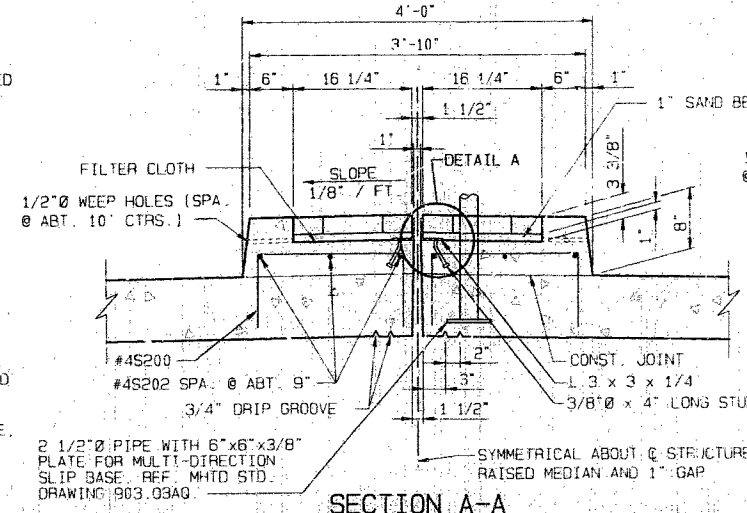
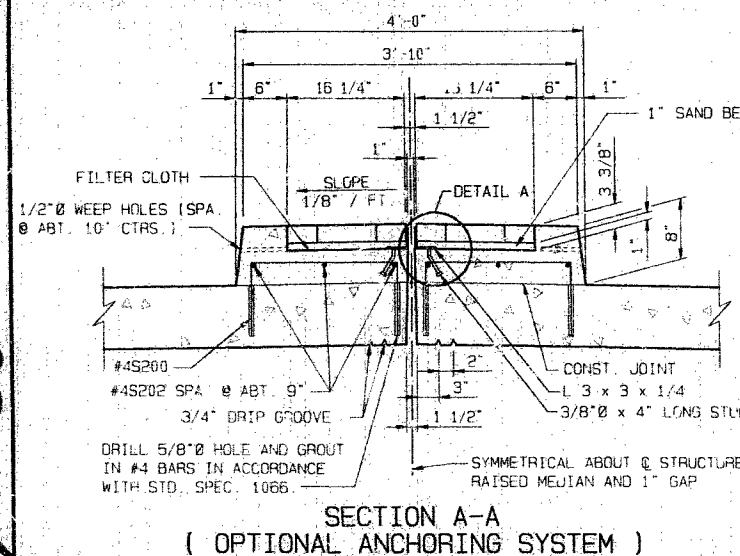
STATE	PROJ. NO.	SHEET NO.
MD.		197



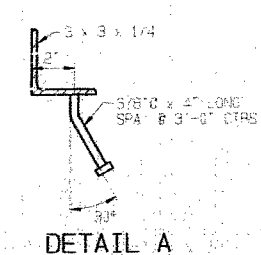
PLAN OF RAISED MEDIAN SHOWING BRICK PAVING



PLAN OF RAISED MEDIAN SHOWING REINFORCEMENT



- NOTES:
- PROVIDE SEALER COATING ON ALL BRICK PAVERS IN RAISED MEDIAN. (SEE SPECIAL PROVISIONS)
  - WHEN THE RAISED MEDIAN IS BID BY SQUARE FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE, REINFORCEMENT, WEEP HOLES, PAVERS AND FILTER FABRIC COMPLETE IN PLACE.
  - CONCRETE IN THE RAISED MEDIAN SHALL BE CLASS B1.
  - MEASUREMENT OF THE RAISED MEDIAN IS TO THE NEAREST SQUARE FOOT, MEASURED FROM FILL FACE OF ABUTMENT NO. 1 TO THE END.
  - FURNISHING, PAINTING AND INSTALLING THE STRUCTURAL STEEL ANGLE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR RAISED MEDIAN.
  - ANCHORS FOR STEEL ANGLE SHALL BE APPROVED STUD WELDED ANCHORS (C1010 TRU C1020).
  - FOR PAINTING REQUIREMENTS OF THE STEEL ANGLE, SEE SPECIAL PROVISIONS.
  - BREAKAWAY SIGN POST TO BE CONSTRUCTED WITH BRIDGE BUT INCLUDED WITH ROADWAY ITEMS FOR FURNISHMENT.



RAISED MEDIAN DETAILS

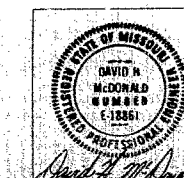
229 235

DETAILED MAY 1993  
CHECKED JULY 1993  
REVISED MARCH 1995

McDONALD & WARGER, INC  
CONSULTING ENGINEERS

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

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NOTES

ALL FENCE POSTS SHALL BE PLACED VERTICAL. SHIM PLATES MAY BE REQUIRED BETWEEN FENCE POSTS AND SIDEWALK FOR ALIGNMENT.

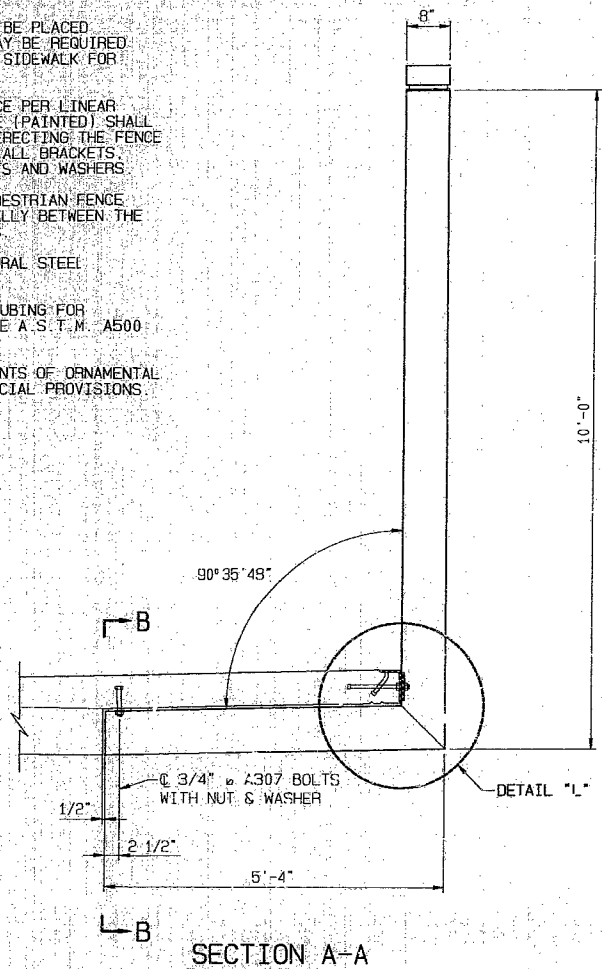
THE CONTRACT UNIT PRICE PER LINEAR FOOT OF PEDESTRIAN FENCE (PAINTED) SHALL INCLUDE FURNISHING AND ERECTING THE FENCE AND FRAME COMPLETE WITH ALL BRACKETS, SHIMS, ANCHOR BOLTS, NUTS AND WASHERS.

MEASUREMENT OF THE PEDESTRIAN FENCE SHALL BE TAKEN HORIZONTALLY BETWEEN THE CENTER LINE OF END POSTS.

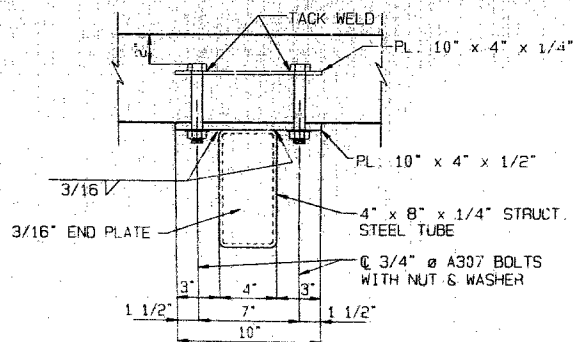
ALL FABRICATED STRUCTURAL STEEL SHALL BE A.S.T.M. A36.

ALL STRUCTURAL STEEL TUBING FOR PEDESTRIAN FENCE SHALL BE A.S.T.M. A500 OR A501.

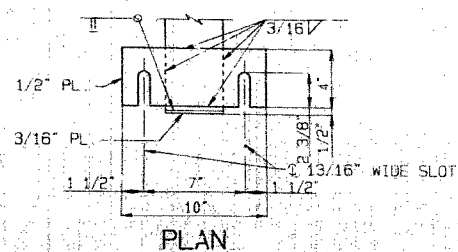
FOR PAINTING REQUIREMENTS OF ORNAMENTAL PEDESTRIAN FENCE SEE SPECIAL PROVISIONS.



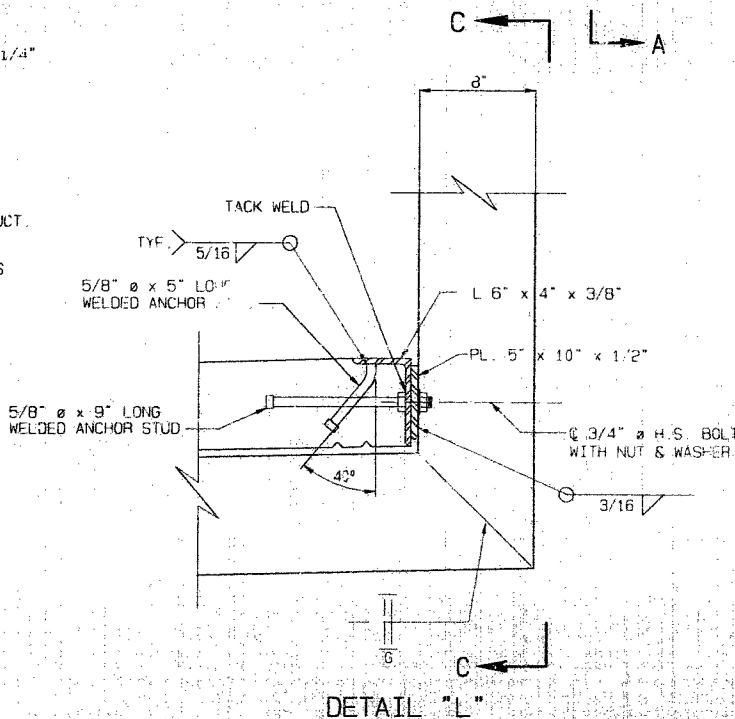
SECTION A-A



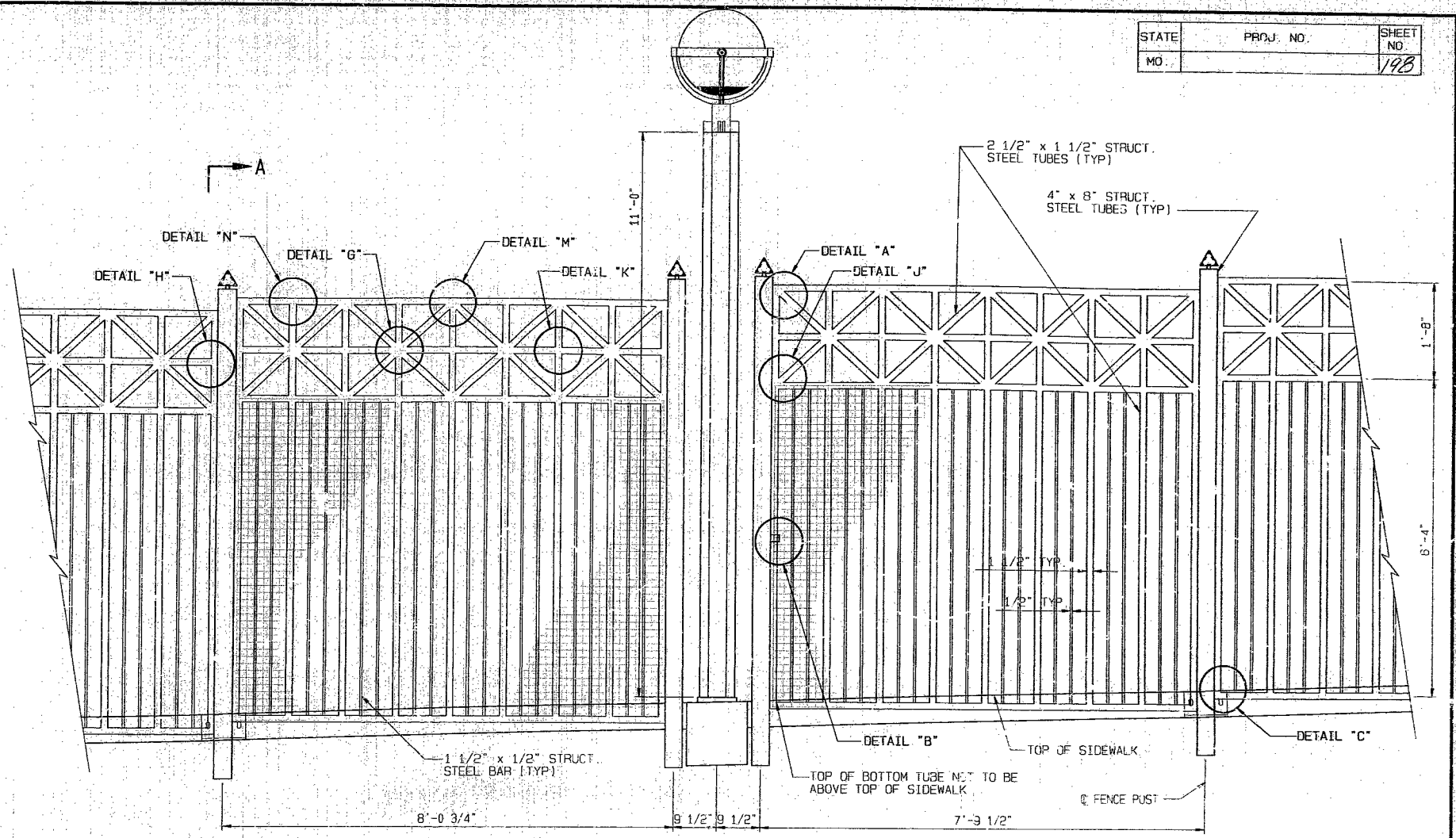
SECTION B-B



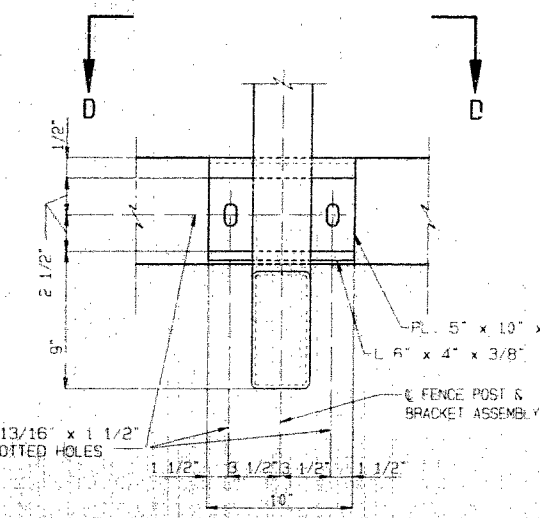
PLAN



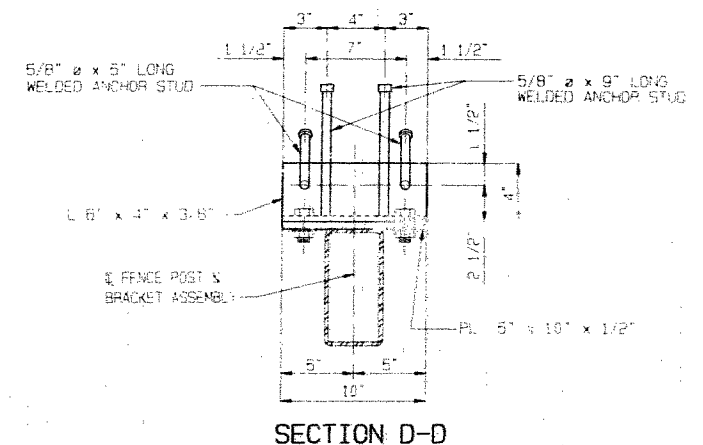
DETAIL "L"



PART ELEVATION OF ORNAMENTAL STEEL PEDESTRIAN FENCE



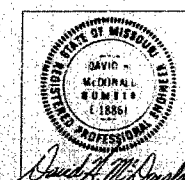
ELEVATION C-C



SECTION D-D

ORNAMENTAL PEDESTRIAN FENCE DETAILS

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



DETAILED MAY 1993  
CHECKED JULY 1993  
REVISED MARCH 1995



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CONSULTING ENGINEERS

SHEET NO. 23 OF 36

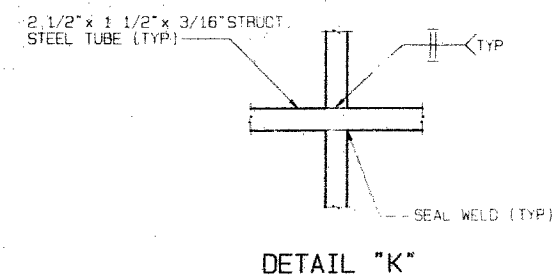
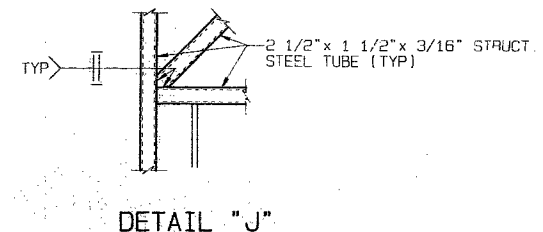
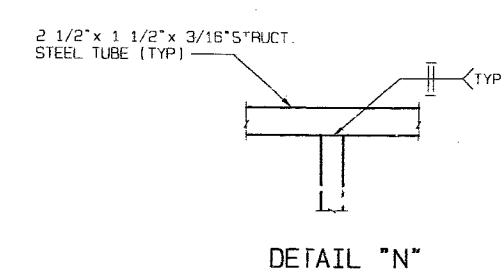
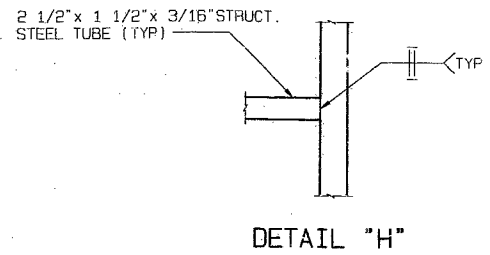
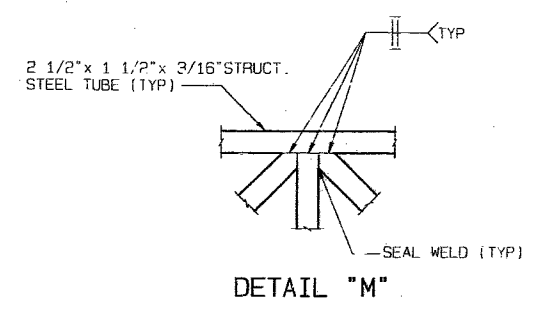
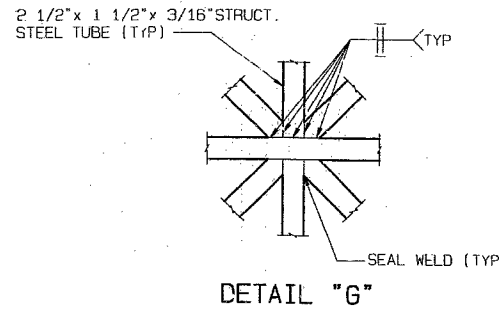
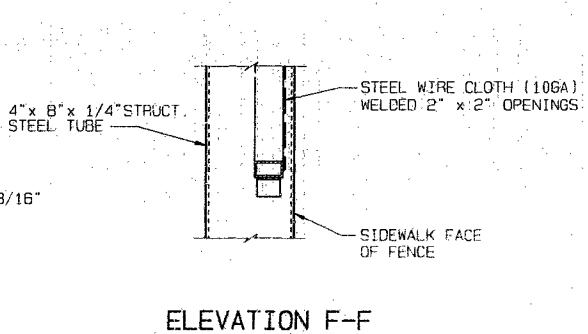
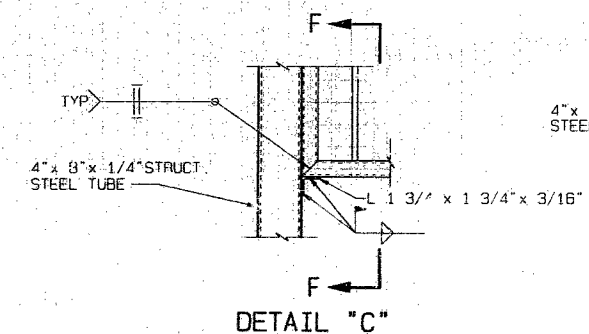
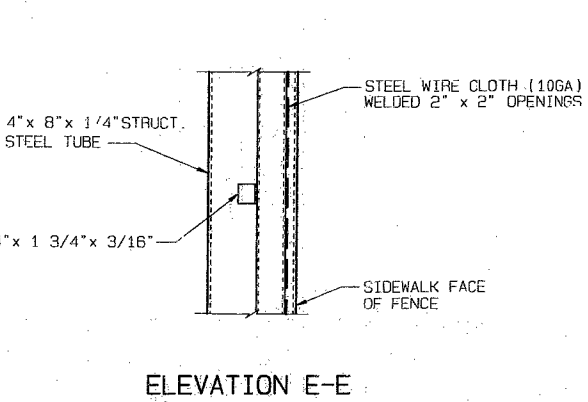
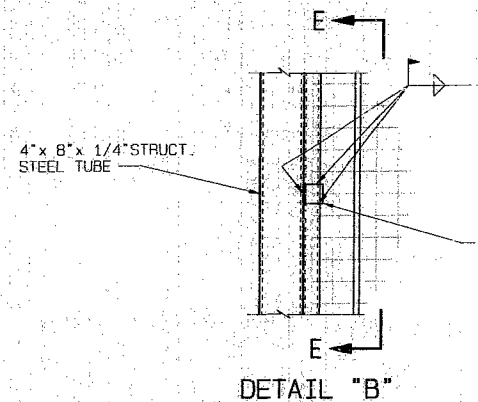
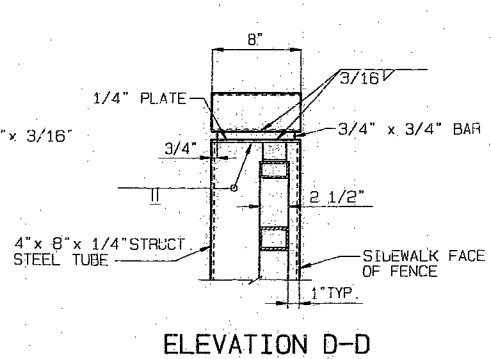
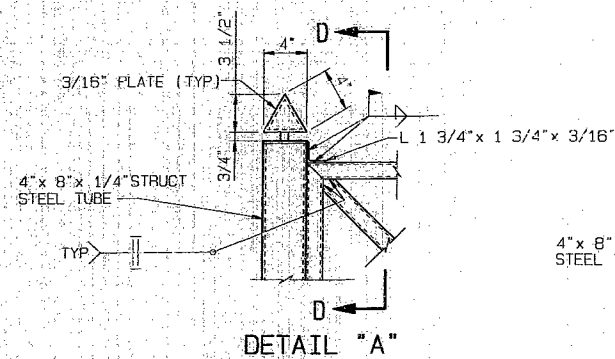
JACKSON COUNTY

A-5183

1820

230 236

STATE	PROJ. NO.	SHEET NO.
MO.		199



NOTES:  
 WIRE CLOTH SHALL BE SPOT WELDED TO THE STEEL TUBE FRAME.  
 FOR ADDITIONAL PEDESTRIAN FENCE DETAILS AND LOCATIONS SEE SHEET NO. 23 & 24A.

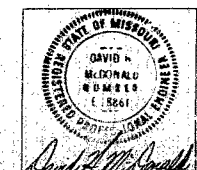
23/837

DETAILED MAY 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995

MCDONALD & WARGER, INC.  
 CONSULTING ENGINEERS

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

ORNAMENTAL PEDESTRIAN FENCE DETAILS

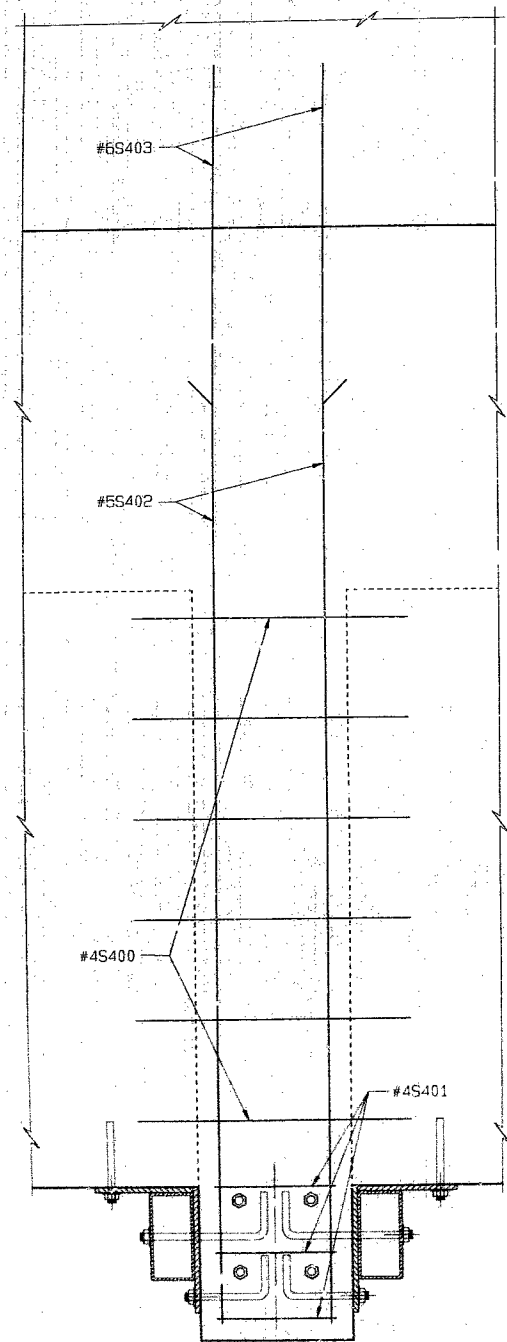


SHEET NO. 24 OF 36

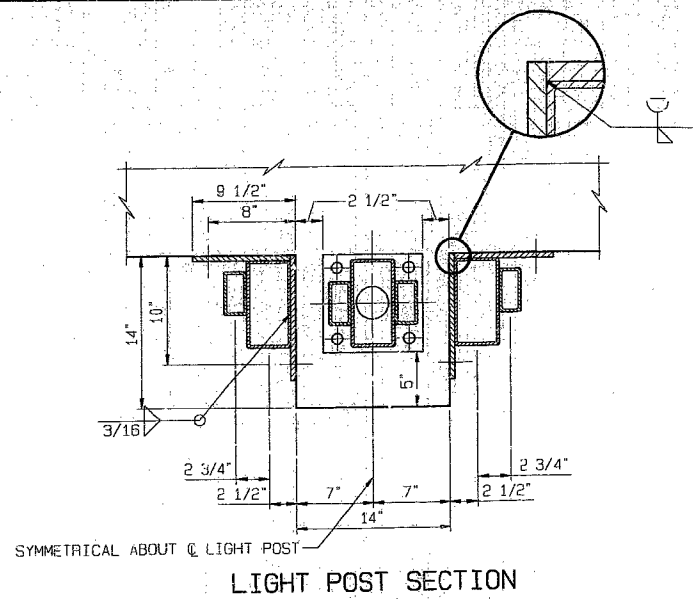
JACKSON COUNTY

A-5183

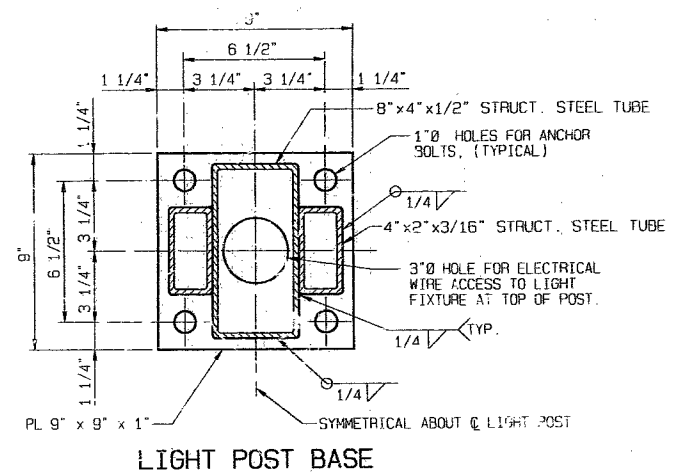
STATE	PROJ. NO.	SHEET NO.
MO.		200



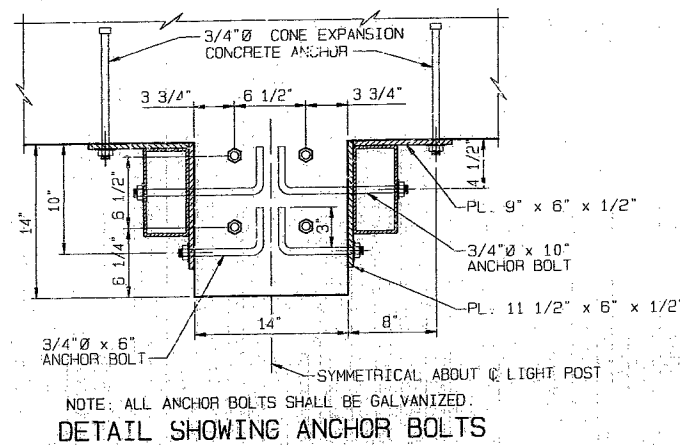
DETAIL SHOWING REINFORCEMENT



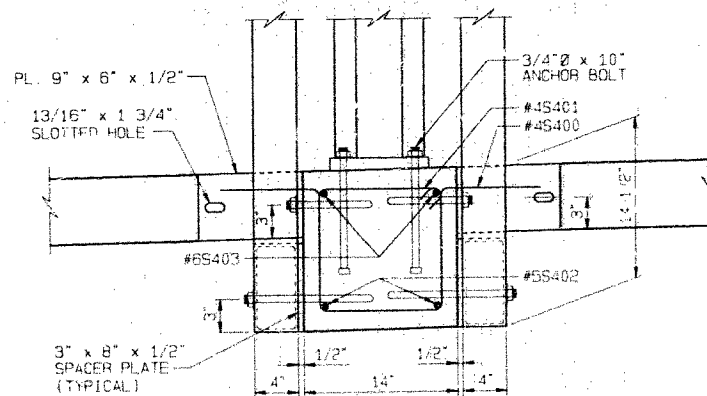
LIGHT POST SECTION



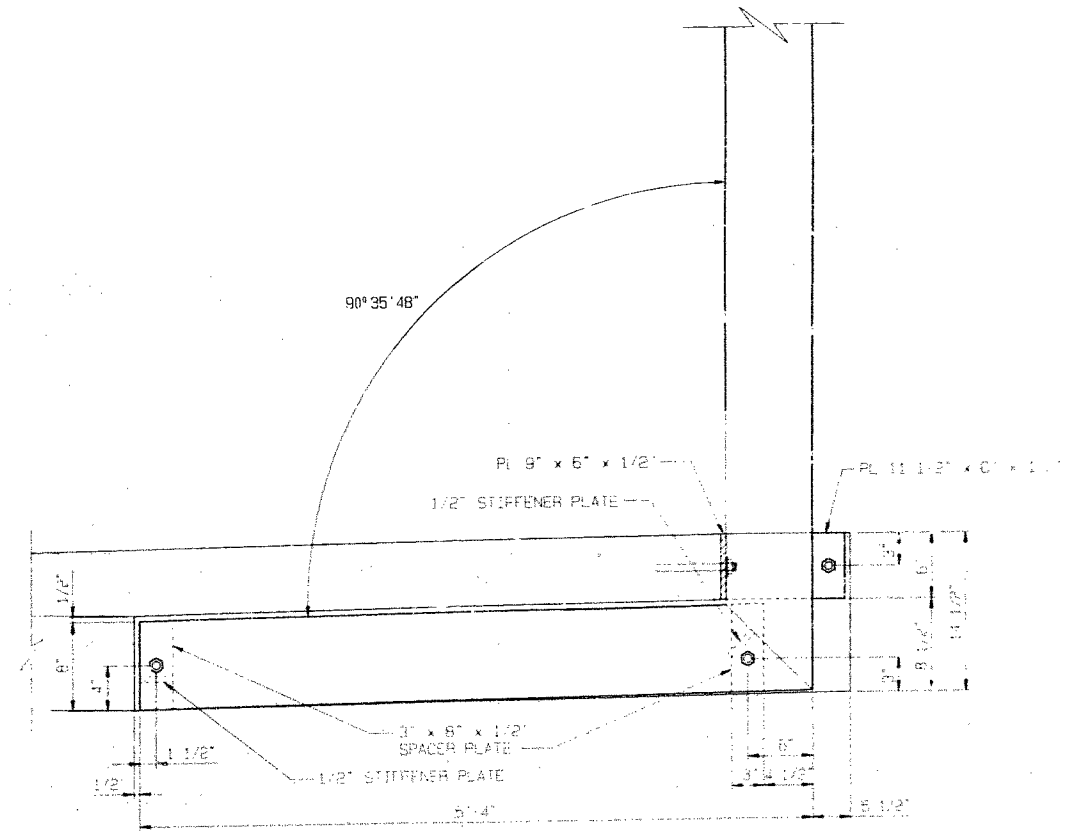
LIGHT POST BASE



DETAIL SHOWING ANCHOR BOLTS

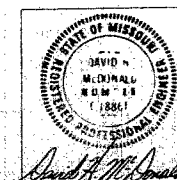


ELEVATION OF BEAM UNDER LIGHT POST



FENCE POST AT SIDEWALK BEAM

ORNAMENTAL PEDESTRIAN FENCE DETAILS



DETAILED MARCH 1995  
CHECKED MARCH 1995

McDONALD & WARGER, INC.  
CONSULTING ENGINEERS

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

SHEET NO. 24A OF 36

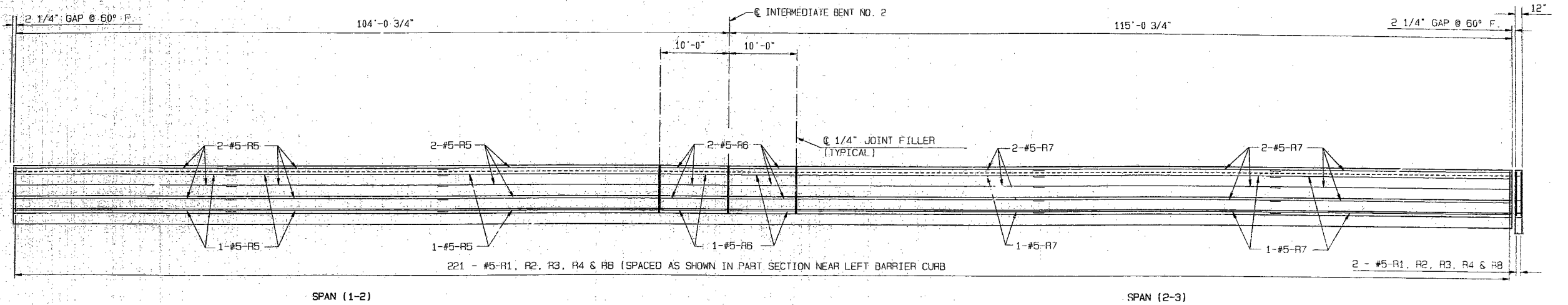
JACKSON COUNTY

A-5183

232730

1820

STATE	PROJ. NO.	SHEET NO.
MO.		201



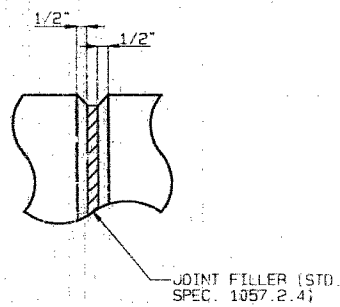
SEE SHEET NO. 26 FOR BARRIER CURB DETAILS AT ABUTMENT NO. 1.

SECTION NEAR LEFT SAFETY BARRIER CURB

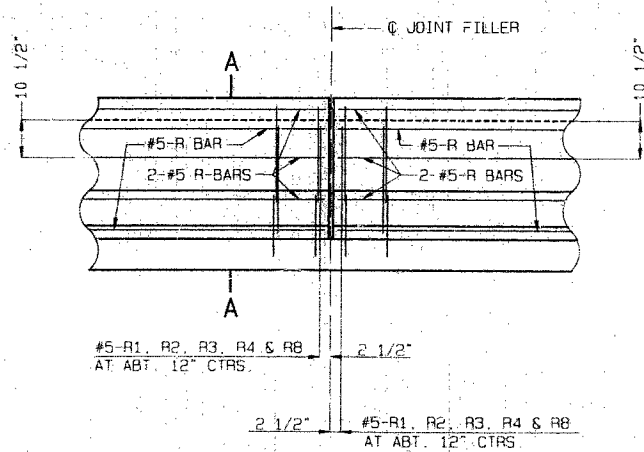
(RIGHT BARRIER CURB SIMILAR)

NOTES:

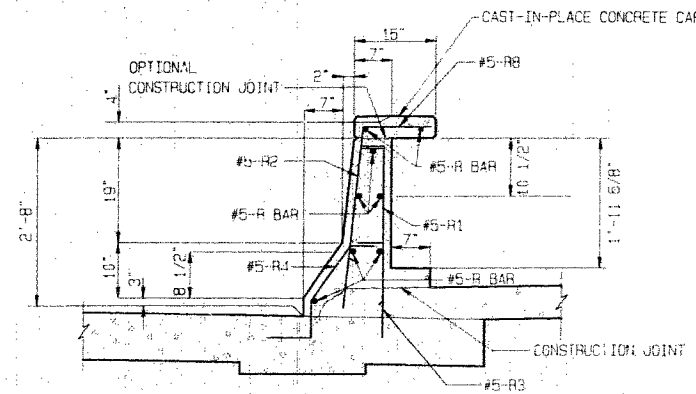
- LONGITUDINAL DIMENSIONS SHOWN ARE HORIZONTAL.
- FOR DETAILS OF STONE VENEER ON SIDEWALK FACE OF BARRIER CURB AND CONCRETE CAP, SEE SHEET NO. 26.
- PROVIDE WEEP HOLES AT SILLS NOT TO EXCEED 16" CTRS.
- TOP OF SAFETY BARRIER CURB SHALL BE BUILT PARALLEL TO GRADE WITH SAFETY BARRIER CURB JOINTS (EXCEPT AT END BENTS) NORMAL TO GRADE.
- ALL EXPOSED EDGES OF SAFETY BARRIER CURB SHALL HAVE EITHER A 1/2" RADIUS OR A 1/2" 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 AND CAST-IN-PLACE CAP 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 FILL FACE OF ABUTMENT NO. 1 TO FILL FACE OF BENT NO. 3.
- USE A MINIMUM LAP OF 17" FOR #5 HORIZONTAL SAFETY BARRIER CURB BARS.
- THE CROSS-SECTIONAL AREA ABOVE THE SLAB AND BELOW THE CAP = 2.27 SQ. FT.
- FOR DETAILS OF PLASTIC WATER STOP, SEE SHEET NO. 21.



FILLED JOINT DETAIL



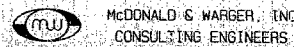
PART SECTION NEAR LEFT SAFETY BARRIER CURB (CAST-IN-PLACE CONVENTIONAL FORMING OPTION)



PART SECTION A-A

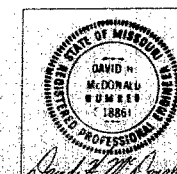
BARRIER CURB DETAILS

233 832  
 DETAILED MAY 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1996



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

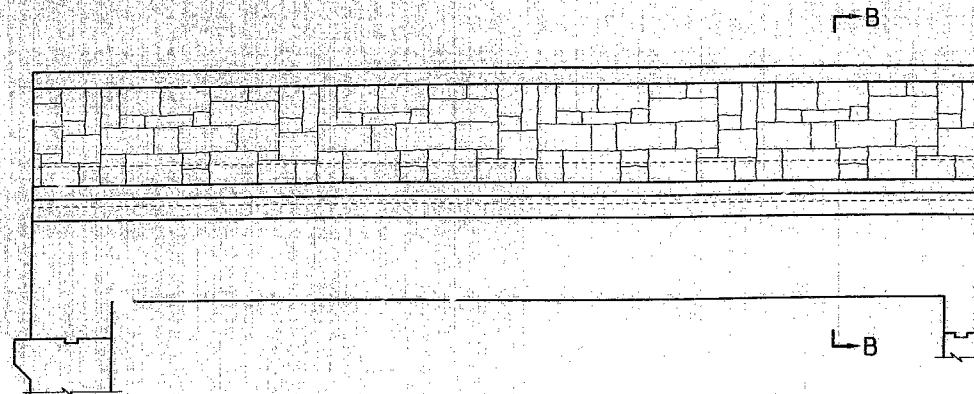
SHEET NO. 25 OF 36



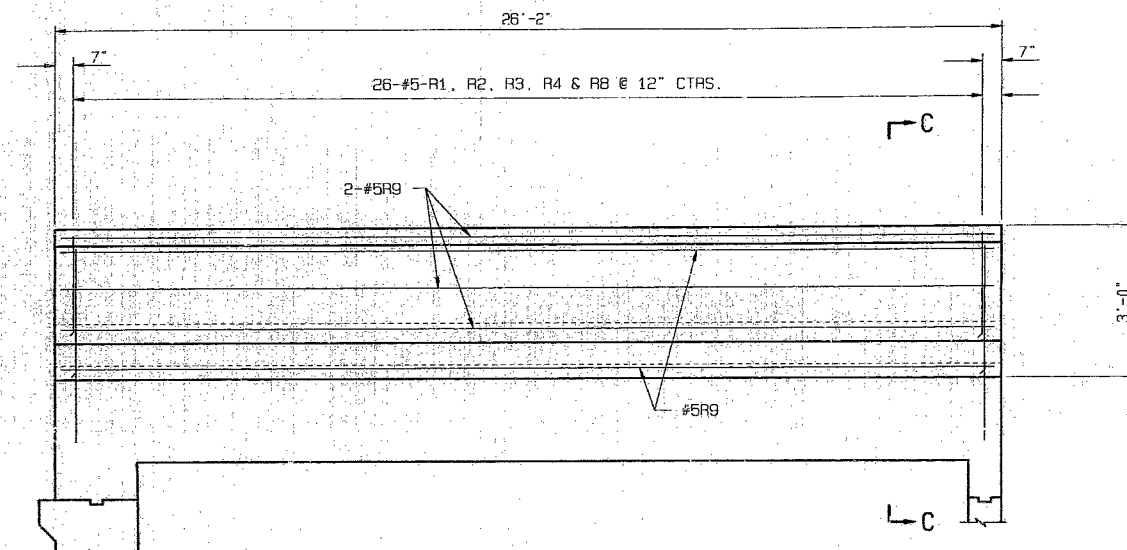
JACKSON COUNTY

A-5183

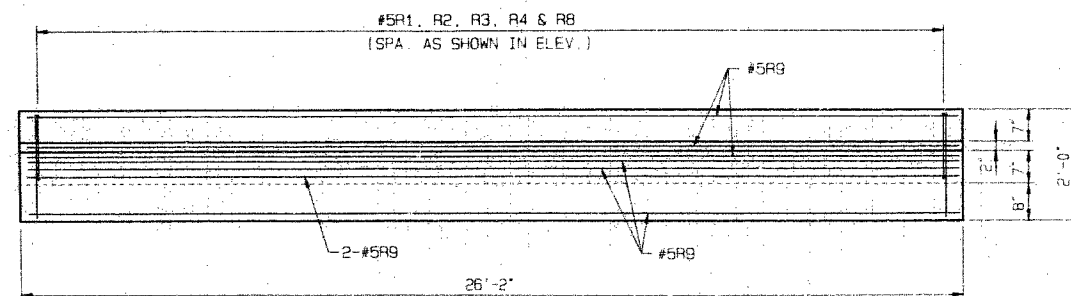
STATE	PROJ. NO.	SHEET NO.
MO.		202



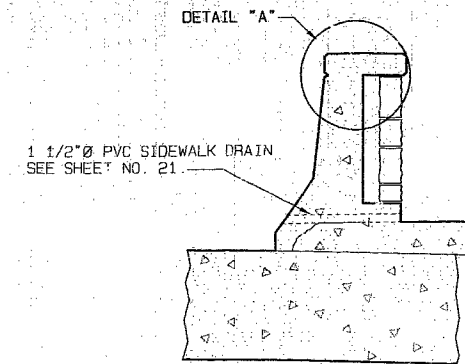
ELEVATION OF RIGHT SAFETY BARRIER CURB AT ABUTMENT NO. 1  
(STONE FASCAD E ON LEFT CURB IS SIMILAR)



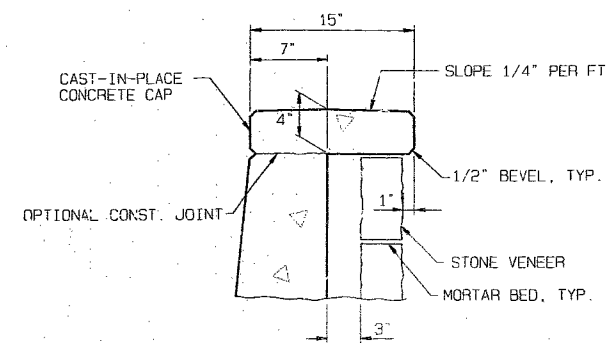
ELEVATION



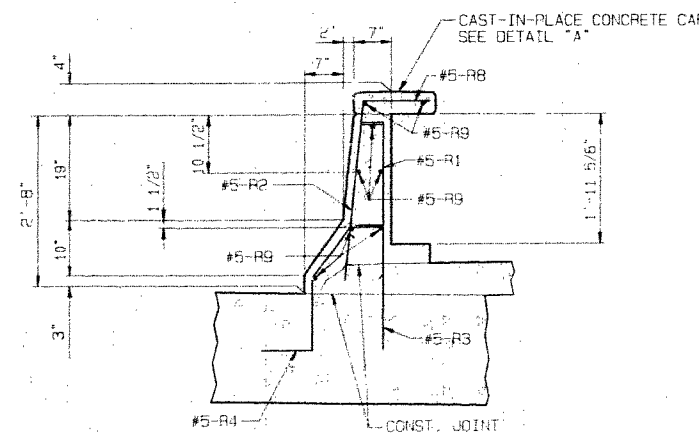
PLAN



PART SECTION B-B



DETAIL "A"



PART SECTION C-C

NOTES:

PROVIDE WEEP HOLES AT SILLS NOT TO EXCEED 16" CTRS.

SECURE STONE VENEER TO CONCRETE BACKING WITH FLEXIBLE ANCHORS SPACED NOT MORE THAN 16" CTRS. VERTICALLY AND 24" CTRS. HORIZONTALLY.

ANCHORS SHALL BE DOVETAIL ANCHOR SLOTS. (SEE SPECIAL PROVISIONS).

PROVIDE TWO PIECE ANCHORS WHICH PERMIT VERTICAL AND HORIZONTAL MOVEMENT BUT PROVIDE LATERAL RESTRAINT OF MASONRY.

TIES SHALL BE CORRUGATED STRAPS NOT LESS THAN 12 GAGE OR TRIANGULAR WIRE TIES NOT LESS THAN 3/16" DIAMETER AS DETERMINED BY THE ENGINEER. LENGTH OF TIES SHALL BE AS REQUIRED FOR EMBEDMENT IN WYTHES OF MASONRY.

PROVIDE SEALER ON ALL STONE AND MORTAR. (SEE SPECIAL PROVISIONS)

WHEN THE SAFETY BARRIER CURB IS BID BY LINEAR FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE, REINFORCEMENT AND DOVETAIL ANCHORS COMPLETE IN PLACE.

THE COST OF FURNISHING AND INSTALLING THE CAST-IN-PLACE CONCRETE SAFETY BARRIER CURB, COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR CAST-IN-PLACE CURB ON SAFETY BARRIER CURB.

2340740

DETAILED MAY 1993  
CHECKED JULY 1993  
REVISED MARCH 1995

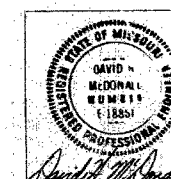


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CONSULTING ENGINEERS

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

BARRIER CURB DETAILS (ABUTMENT NO. 1)

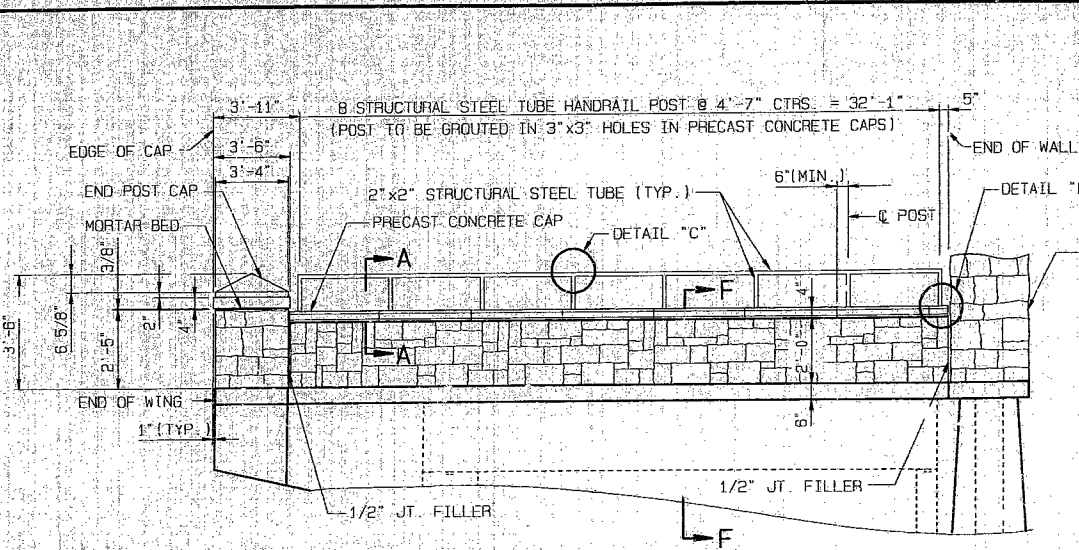
SHEET NO. 26 OF 36



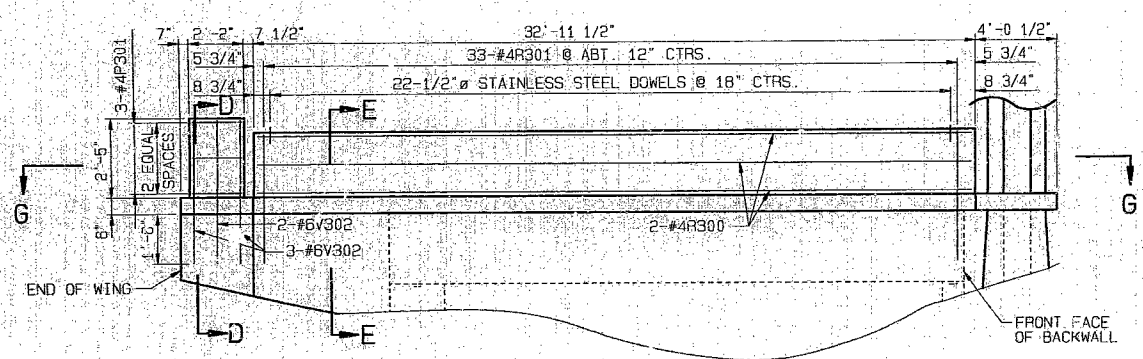
JACKSON COUNTY

A-5183

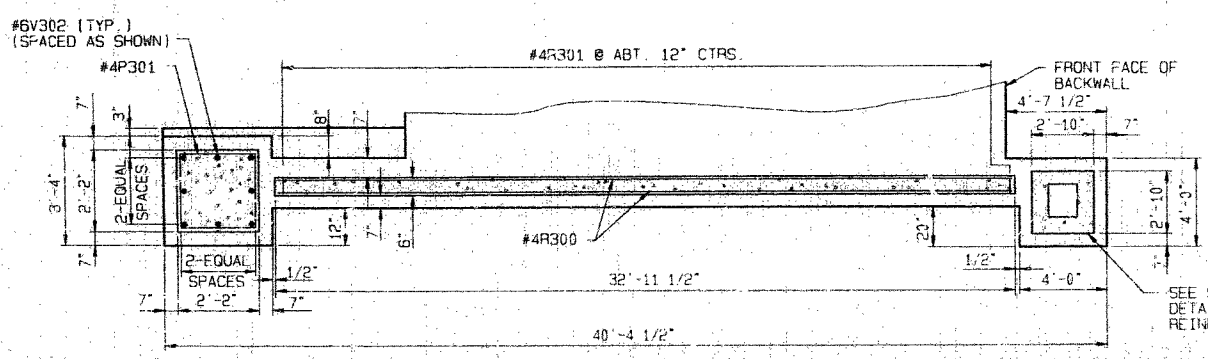
STATE	PROJ. NO.	SHEET NO.
MO.		203



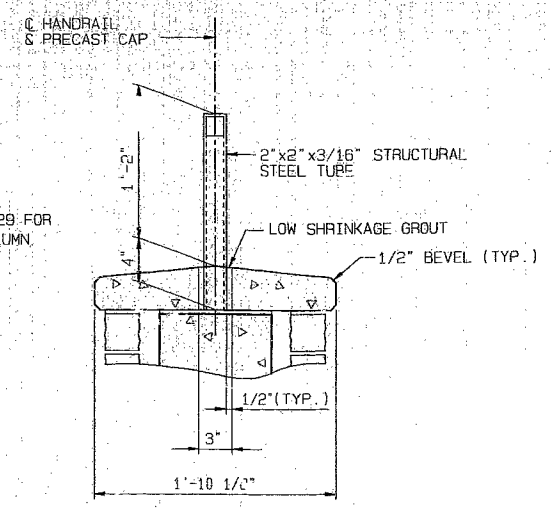
ABUTMENT NO. 1  
ELEVATION OF RIGHT PEDESTRIAN WALL SHOWING STONE VENEER  
(LEFT PEDESTRIAN WALL SIMILAR)



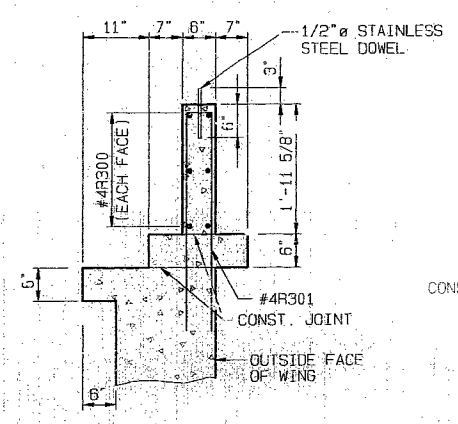
ELEVATION OF RIGHT PEDESTRIAN WALL SHOWING REINFORCEMENT  
(LEFT PEDESTRIAN WALL SIMILAR)



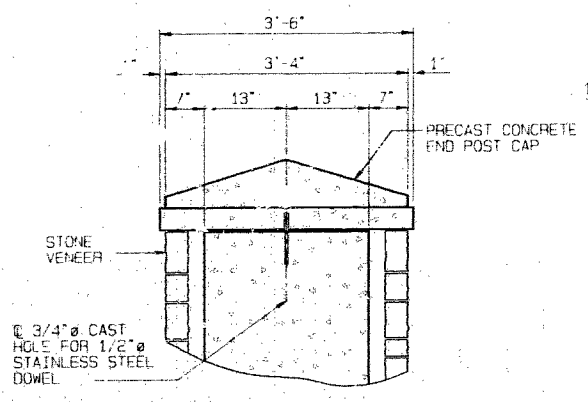
SECTION G-G  
(LEFT PEDESTRIAN WALL SIMILAR)



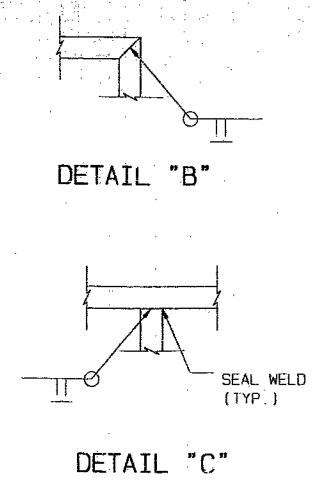
SECTION A-A



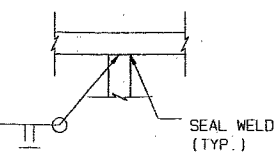
SECTION E-E



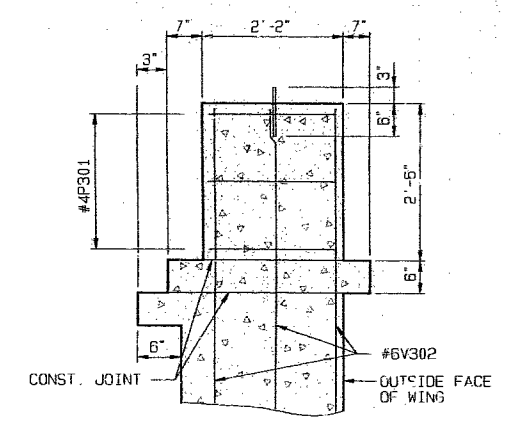
TYPICAL SECTION THRU END POST  
(EITHER DIRECTION)



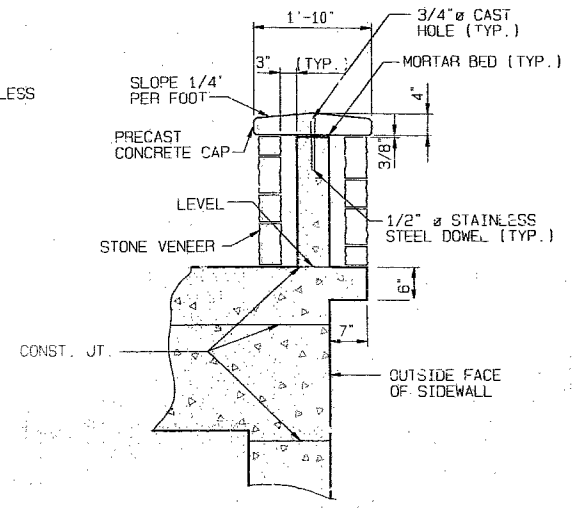
DETAIL "B"



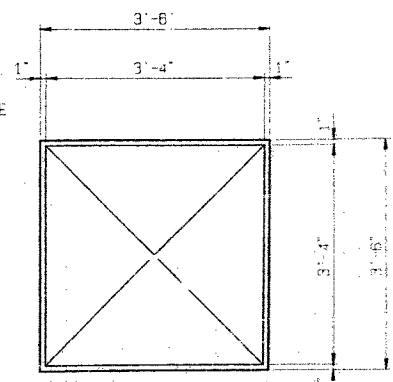
DETAIL "C"



SECTION D-D



SECTION F-F



PLAN OF PRECAST END POST CAP

- NOTES:
- CONCRETE IN THE PEDESTRIAN WALL, END POST, ORNAMENTAL COLUMN AND STONE STILL FOR PEDESTRIAN WALL IS INCLUDED IN THE PRICE BID FOR CLASS B1 CONCRETE (SUPERSTRUCTURE).
  - THE COST OF FURNISHING AND INSTALLING THE PRECAST WALL CAP, COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR PRECAST CAP ON PEDESTRIAN WALL.
  - THE COST OF FURNISHING AND INSTALLING THE PRECAST ENDPOST CAP, COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR PRECAST CAP ON END POST.
  - THE COST OF FURNISHING AND INSTALLING THE STRUCTURAL STEEL TUBE (PAINTED), COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR TUBE HANDRAIL ON PEDESTRIAN WALL.
  - THE COST OF FURNISHING AND INSTALLING THE STONE VENEER, COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR STONE VENEER PER SQUARE FOOT.
  - PROVIDE WEEP HOLES AT SILLS NOT TO EXCEED 16" CTRS.
  - SECURE STONE VENEER TO CONCRETE BACKING WITH FLEXIBLE ANCHORS SPACED NOT MORE THAN 16" CTRS. VERTICALLY AND 24" CTRS. HORIZONTALLY.
  - ANCHORS SHALL BE DOVETAIL ANCHOR SLOTS. (SEE SPECIAL PROVISIONS)
  - PROVIDE TWO PIECE ANCHORS WHICH PERMIT VERTICAL AND HORIZONTAL MOVEMENT BUT PROVIDE LATERAL RESTRAINT OF MASONRY.
  - TIES SHALL BE CORRUGATED STRAPS NOT LESS THAN 12 GAGE OR TRIANGULAR WIRE TIES NOT LESS THAN 3/16" DIAMETER AS DETERMINED BY THE ENGINEER. LENGTH OF TIES SHALL BE AS REQUIRED FOR EMBEDMENT IN WYTHES OF MASONRY.
  - PROVIDE SEALER ON ALL BRICKS, MORTAR AND PRECAST CONCRETE (SEE SPECIAL PROVISIONS)
  - 2"x2" STRUCTURAL STEEL TUBING FOR PEDESTRIAN HANDRAIL SHALL BE A.S.T.M. A500 OR A501.
  - SEE SPECIAL PROVISIONS FOR PAINTING REQUIREMENTS OF PEDESTRIAN HANDRAILS.
  - CONCRETE IN THE PEDESTRIAN WALL AND END POST SHALL BE CLASS B1.

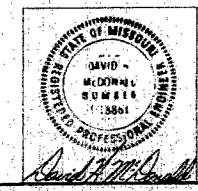
PEDESTRIAN WALL DETAILS (ABUTMENT NO. 1)

DETAILED JUNE 1993  
CHECKED JULY 1993  
REVISED MARCH 1995

MCDONALD & WARGER, INC.  
CONSULTING ENGINEERS

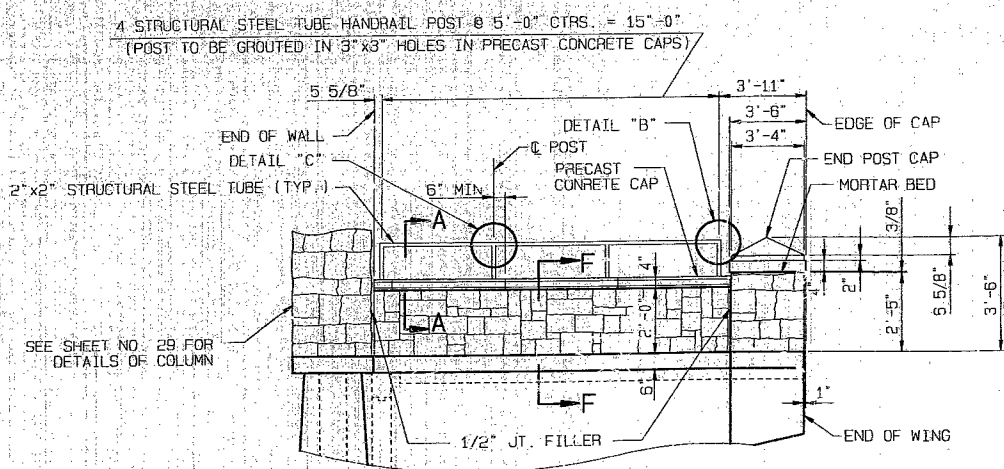
NOTE: THIS SHEET IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 27 OF 36



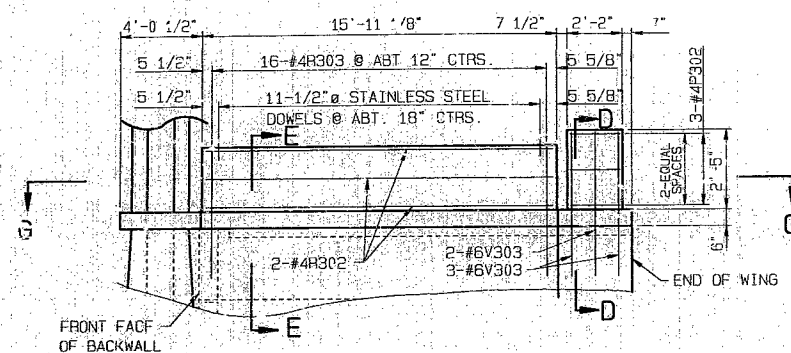
JACKSON COUNTY A-5183

STATE	PROJ. NO.	SHEET NO.
MO.		20A

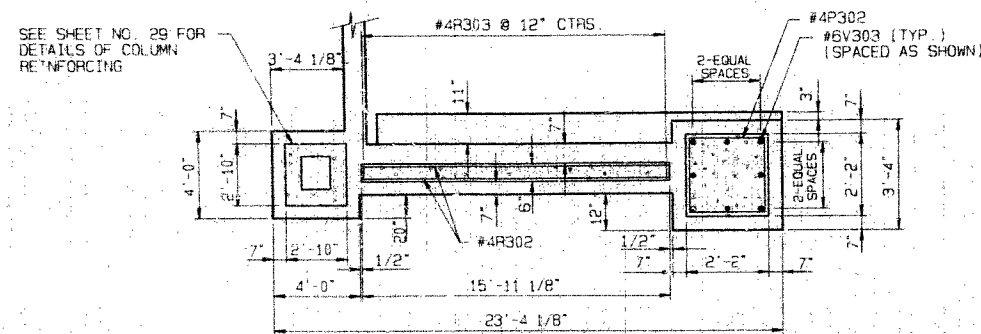


END BENT NO. 3

ELEVATION OF RIGHT PEDESTRIAN WALL SHOWING STONE VENEER  
(LEFT PEDESTRIAN WALL SIMILAR)

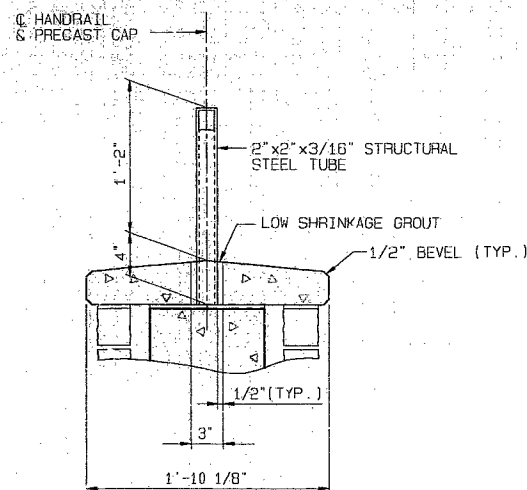


ELEVATION OF RIGHT PEDESTRIAN WALL SHOWING REINFORCEMENT  
(LEFT PEDESTRIAN WALL SIMILAR)

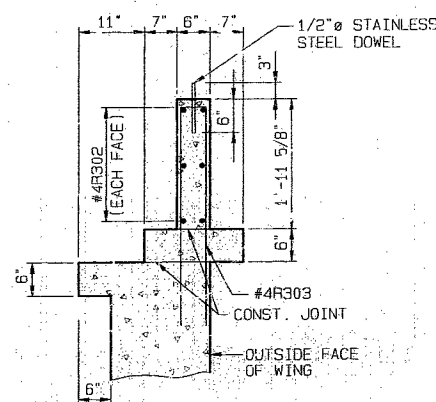


SECTION G-G

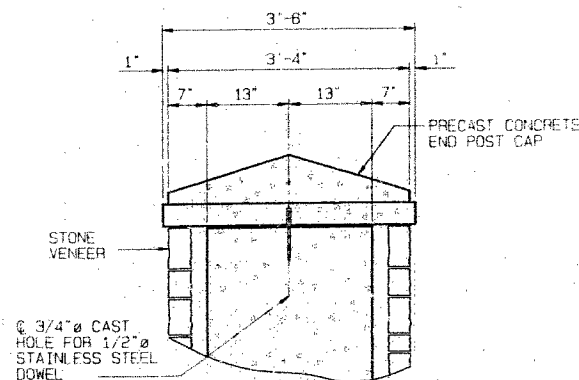
(LEFT PEDESTRIAN WALL SIMILAR)



SECTION A-A

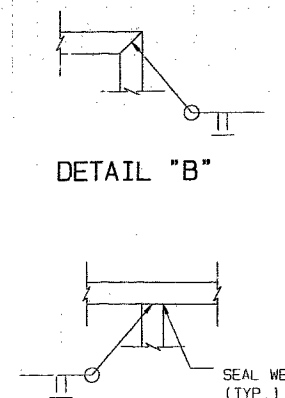


SECTION E-E

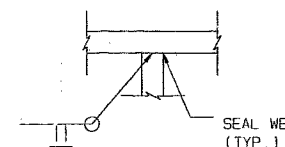


TYPICAL SECTION THRU END POST

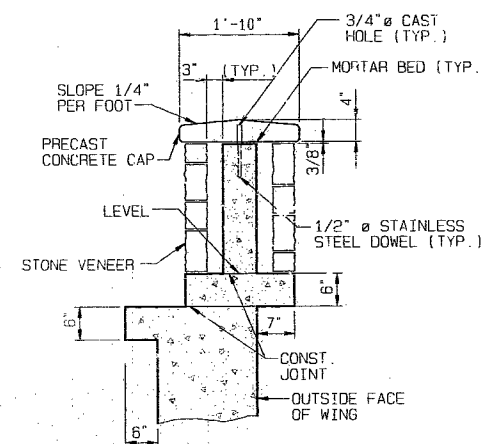
(EITHER DIRECTION)



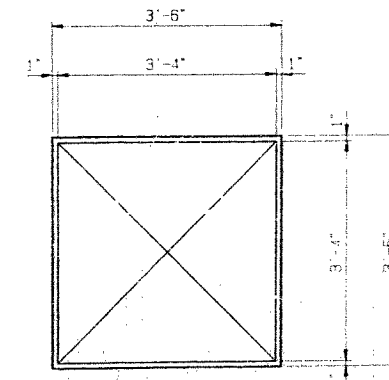
DETAIL "B"



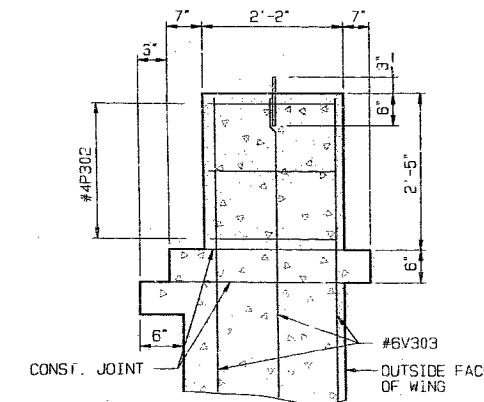
DETAIL "C"



SECTION F-F



PLAN OF PRECAST END POST CAP



SECTION D-D

NOTES:

CONCRETE IN THE PEDESTRIAN WALL, END POST, ORNAMENTAL COLUMN AND STONE SILL FOR PEDESTRIAN WALL IS INCLUDED IN THE PRICE BID FOR CLASS B1 CONCRETE (SUPERSTRUCTURE).

THE COST OF FURNISHING AND INSTALLING THE PRECAST WALL CAP, COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR PRECAST CAP ON PEDESTRIAN WALL.

THE COST OF FURNISHING AND INSTALLING THE PRECAST ENDPOST CAP, COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR PRECAST CAP ON END POST.

THE COST OF FURNISHING AND INSTALLING THE STRUCTURAL STEEL TUBE (PAINTED), COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR TUBE HANDRAIL ON PEDESTRIAN WALL.

THE COST OF FURNISHING AND INSTALLING THE STONE VENEER, COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR STONE VENEER PER SQUARE FOOT.

PROVIDE WEEP HOLES AT SILLS NOT TO EXCEED 16" CTRS.

SECURE STONE VENEER TO CONCRETE BACKING WITH FLEXIBLE ANCHORS SPACED NOT MORE THAN 16" CTRS VERTICALLY AND 24" CTRS HORIZONTALLY.

ANCHORS SHALL BE DOVETAIL ANCHOR SLOTS. (SEE SPECIAL PROVISIONS)

PROVIDE TWO PIECE ANCHORS WHICH PERMIT VERTICAL AND HORIZONTAL MOVEMENT BUT PROVIDE LATERAL RESTRAINT OF MASONRY.

TIES SHALL BE CORRUGATED STRAPS NOT LESS THAN 12 GAGE OR TRIANGULAR WIRE TIES NOT LESS THAN 3/16" DIAMETER AS DETERMINED BY THE ENGINEER. LENGTH OF TIES SHALL BE AS REQUIRED FOR EMBEDMENT IN WYTHES OF MASONRY.

PROVIDE SEALER ON ALL BRICKS, MORTAR AND PRECAST CONCRETE. (SEE SPECIAL PROVISIONS)

2" x 2" STRUCTURAL STEEL TUBING FOR PEDESTRIAN HANDRAIL SHALL BE A.S.T.M. A500 OR A501.

SEE SPECIAL PROVISIONS FOR PAINTING REQUIREMENTS OF PEDESTRIAN HANDRAILS.

CONCRETE IN THE PEDESTRIAN WALL AND END POST SHALL BE CLASS B1

8/2/93

DETAILED JUNE 1993  
CHECKED JULY 1993  
REVISED MARCH 1995

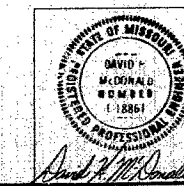


McDONALD & WARGER, INC.  
CONSULTING ENGINEERS

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

PEDESTRIAN WALL DETAILS (END BENT NO. 3)

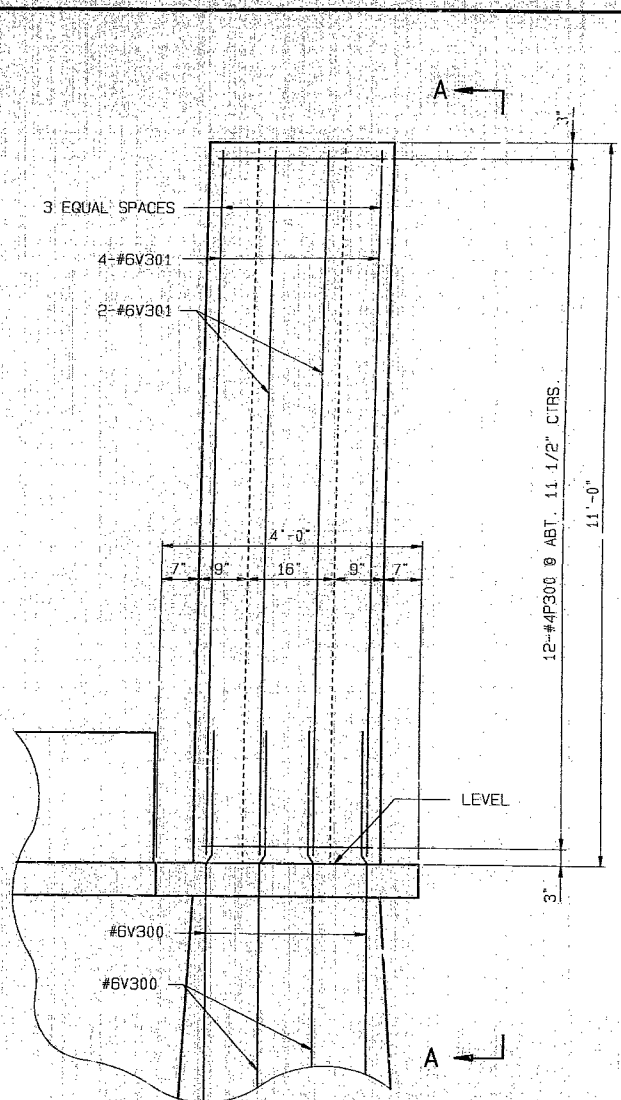
SHEET NO. 28 OF 36



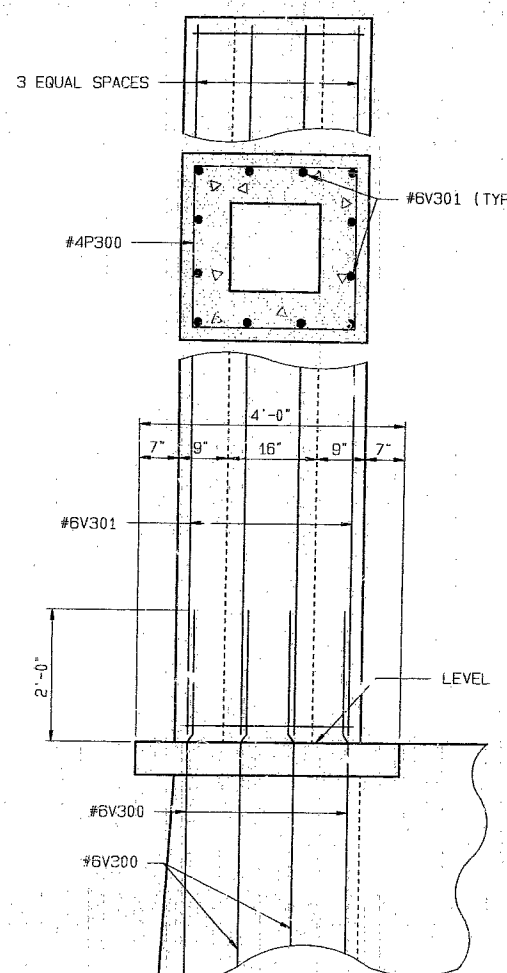
JACKSON COUNTY

A-5183

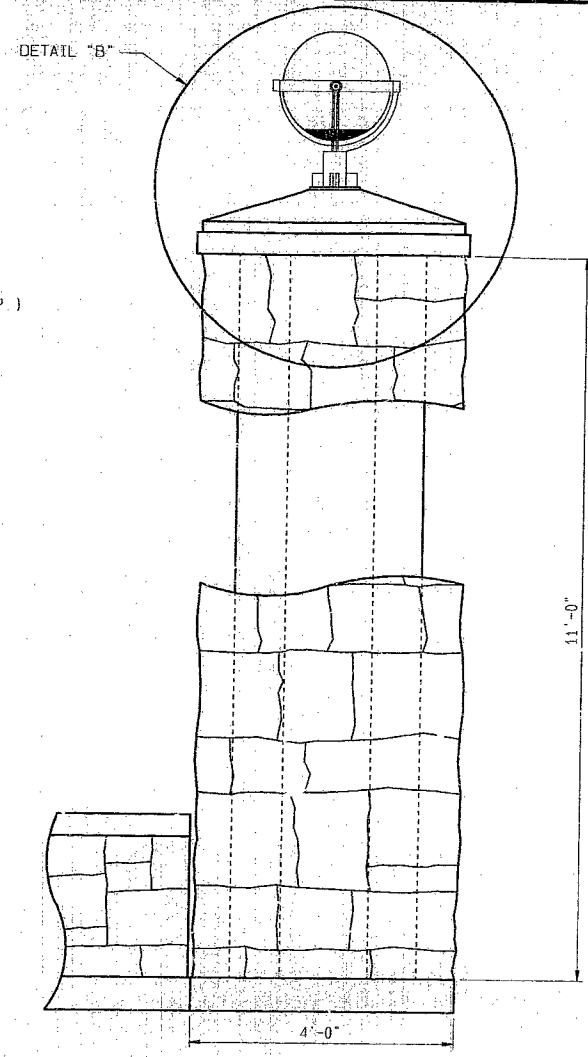
STATE	PROJ. NO.	SHEET NO.
MO.		205



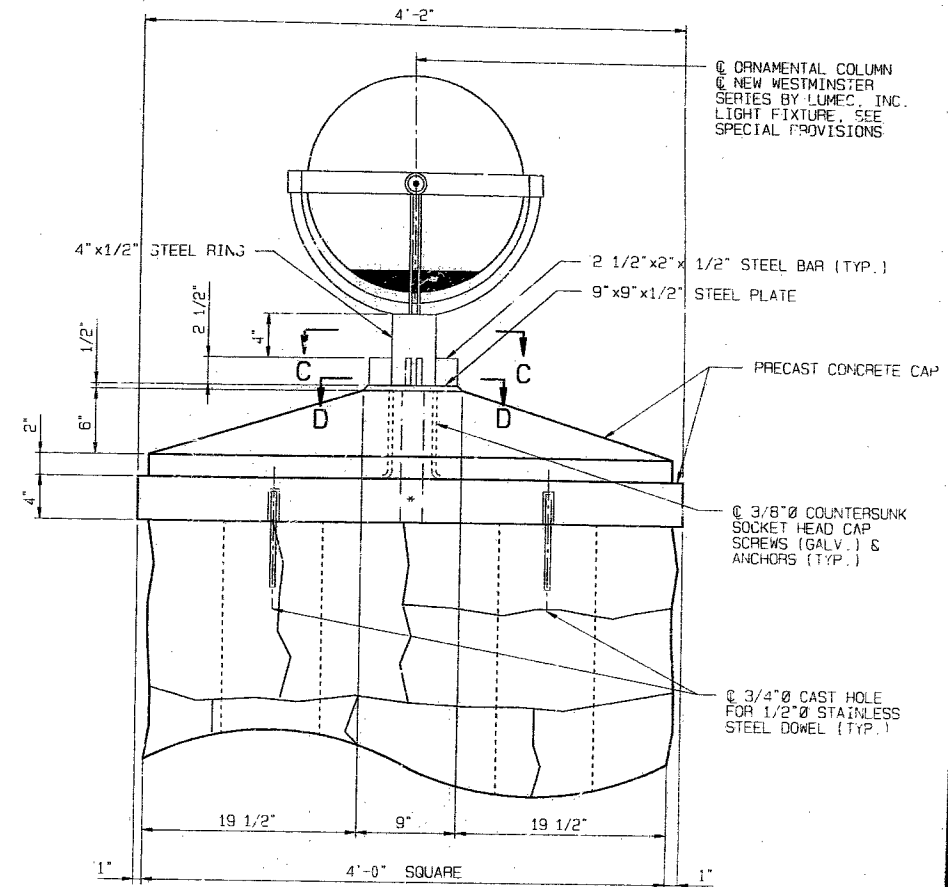
ELEVATION OF ORNAMENTAL COLUMN SHOWING REINFORCEMENT



ELEVATION A-A



ELEVATION OF ORNAMENTAL COLUMN SHOWING STONE VENEER

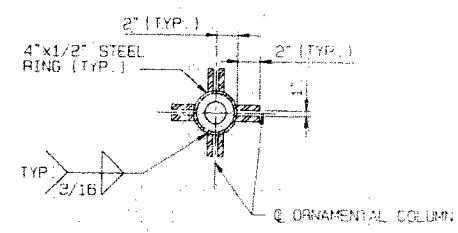


DETAIL "B"

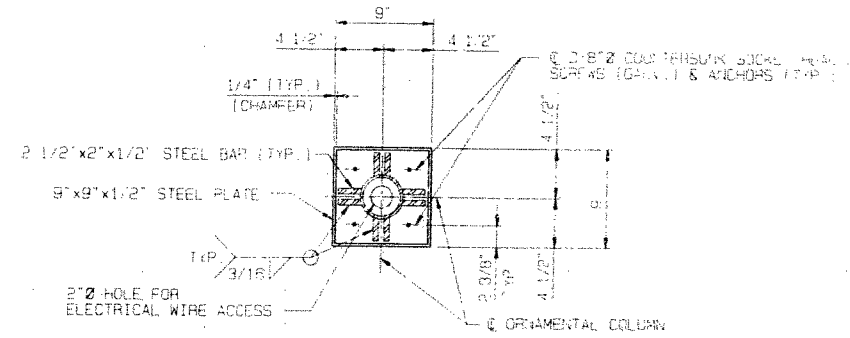
NOTES:

- PROVIDE WEEP HOLES AT SILLS NOT TO EXCEED 16" CTRS.
- SECURE STONE VENEER TO CONCRETE BACKING WITH FLEXIBLE ANCHORS SPACED NOT MORE THAN 16" CTRS. VERTICALLY AND 24" CTRS. HORIZONTALLY.
- ANCHORS SHALL BE DOVETAIL ANCHOR SLOTS. (SEE SPECIAL PROVISIONS)
- PROVIDE TWO PIECE ANCHORS WHICH PERMIT VERTICAL AND HORIZONTAL MOVEMENT, BUT PROVIDE LATERAL RESTRAINT OF MASONRY.
- TIES SHALL BE CORRUGATED STRAPS NOT LESS THAN 12 GAGE OR TRIANGULAR WIRE TIES NOT LESS THAN 3/16" DIAMETER AS DETERMINED BY THE ENGINEER. LENGTH OF TIES SHALL BE AS REQUIRED FOR EMBEDMENT.
- PROVIDE SEALER ON ALL STONES, MORTAR, AND PRECAST CONCRETE. (SEE SPECIAL PROVISIONS)
- STRUCTURAL STEEL SHALL BE A36 AND PAINTED IN ACCORDANCE WITH SPECIAL PROVISION FOR PAINTING ORNAMENTAL METAL.
- THE 3/8" COUNTERSUNK SOCKET HEAD CAP SCREWS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A153.
- ANCHORS SHALL BE CAST-IN-PLACE AND SHALL HAVE A CONCRETE PULL OUT STRENGTH (ULTIMATE LOAD) OF AT LEAST 4,000 LBS. IN 4,000 PSI CONCRETE.
- CONCRETE IN ORNAMENTAL COLUMNS SHALL BE CLASS B1.

NOTE: RIGHT COLUMN ON ABUTMENT NO. 1 SHOWN, OTHERS SIMILAR



SECTION C-C

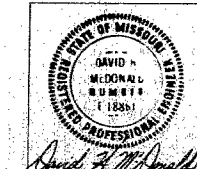


SECTION D-D

NOTES:

- THE COST OF FURNISHING AND INSTALLING THE PRECAST CONCRETE CAP, COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR PRECAST CAP ON ORNAMENTAL COLUMN.
- THE COST OF FURNISHING AND INSTALLING THE STONE VENEER, COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR STONE VENEER.
- THE COST OF FURNISHING AND INSTALLING THE LIGHT FIXTURE, COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR LIGHT FIXTURES.

ORNAMENTAL COLUMN DETAILS



DETAILED JUNE 1993  
CHECKED JULY 1993  
REVISED MARCH 1995

McDONALD & WARDER, INC.  
CONSULTING ENGINEERS

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

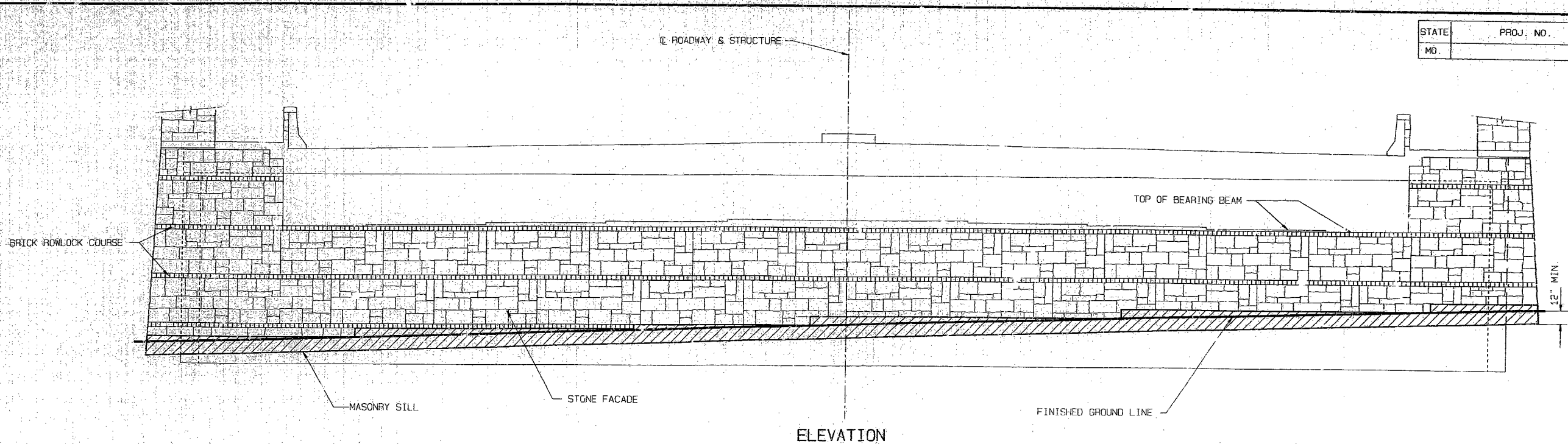
SHEET NO. 29 OF 36

JACKSON COUNTY

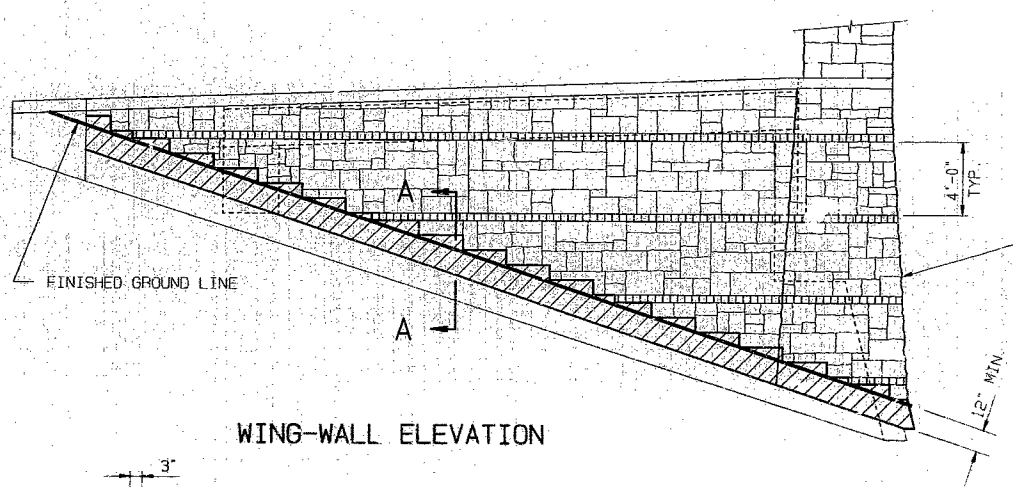
A-5183



STATE	PROJ. NO.	SHEET NO.
MD.		206



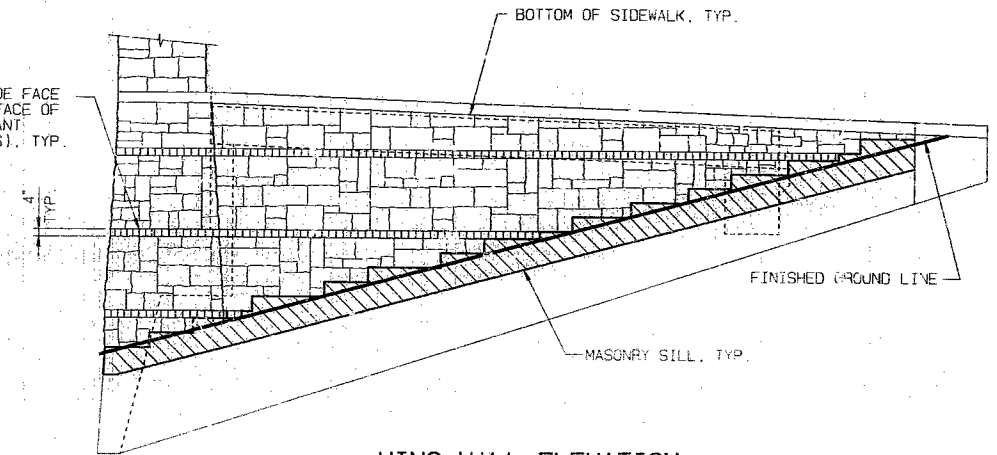
ELEVATION



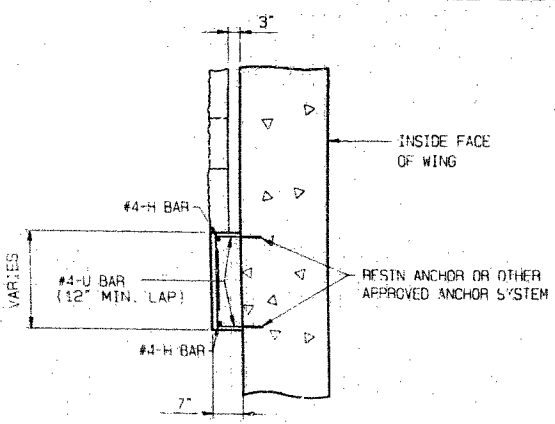
WING-WALL ELEVATION

SEAL AREA BETWEEN INSIDE FACE OF STONES AND OUTSIDE FACE OF BEARING BEAM WITH SEALANT. (SEE SPECIAL PROVISIONS). TYP.

SEAL AREA BETWEEN INSIDE FACE OF STONES AND OUTSIDE FACE OF ABUTMENT WINGWALL WITH SEALANT (SEE SPECIAL PROVISIONS). TYP.



WING-WALL ELEVATION



SECTION A-A

NOTE: SPACE #4-U BARS AND EPOXY ANCHORS AT ABOUT 18\"/>

NOTES:

- PROVIDE WEEP HOLES AT SILLS NOT TO EXCEED 16\"/>
- SECURE STONE MASONRY FACADE TO CONCRETE BACKING WITH FLEXIBLE ANCHORS SPACED NOT MORE THAN 16\"/>
- ANCHORS SHALL BE DOVETAIL ANCHOR SLOTS. (SEE SPECIAL PROVISIONS)
- PROVIDE TWO PIECE ANCHORS WHICH PERMIT VERTICAL AND HORIZONTAL MOVEMENT BUT PROVIDE LATERAL RESTRAINT OF MASONRY.
- TIES SHALL BE CORRUGATED STRAPS NOT LESS THAN 12 GAGE OR TRIANGULAR WIRE TIES NOT LESS THAN 3/16\"/>
- MASONRY SILLS FOR SUPPORT OF STONE FACADE SHALL BE STEPPED IN ORDER TO MINIMIZE THE AMOUNT OF EXPOSED MASONRY SILL ABOVE FINISH GRADE.
- PROVIDE EXPANSION, CONTROL AND ISOLATION JOINTS TO ACCOMMODATE MOVEMENT IN MASONRY WORK. (SEE SPECIAL PROVISIONS)
- PROVIDE SEALER AND ANTI-GRAFFITI COATING ON ALL BRICK, STONE MASONRY AND MORTAR. (SEE SPECIAL PROVISIONS)
- COST OF CONCRETE, REINFORCING STEEL AND ANCHORS FOR MASONRY SILL, COMPLETE IN PLACE, SHALL BE INCLUDED IN UNIT PRICE BID FOR OTHER ITEMS.

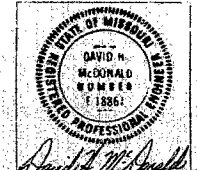
STONE MASONRY FACADE ON ABUTMENT NO. 1

DETAILED JUNE 1993  
CHECKED JULY 1993  
REVISED MARCH 1995

MCDONALD & WARGER, INC.  
CONSULTING ENGINEERS

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

SHEET NO. 30 OF 36



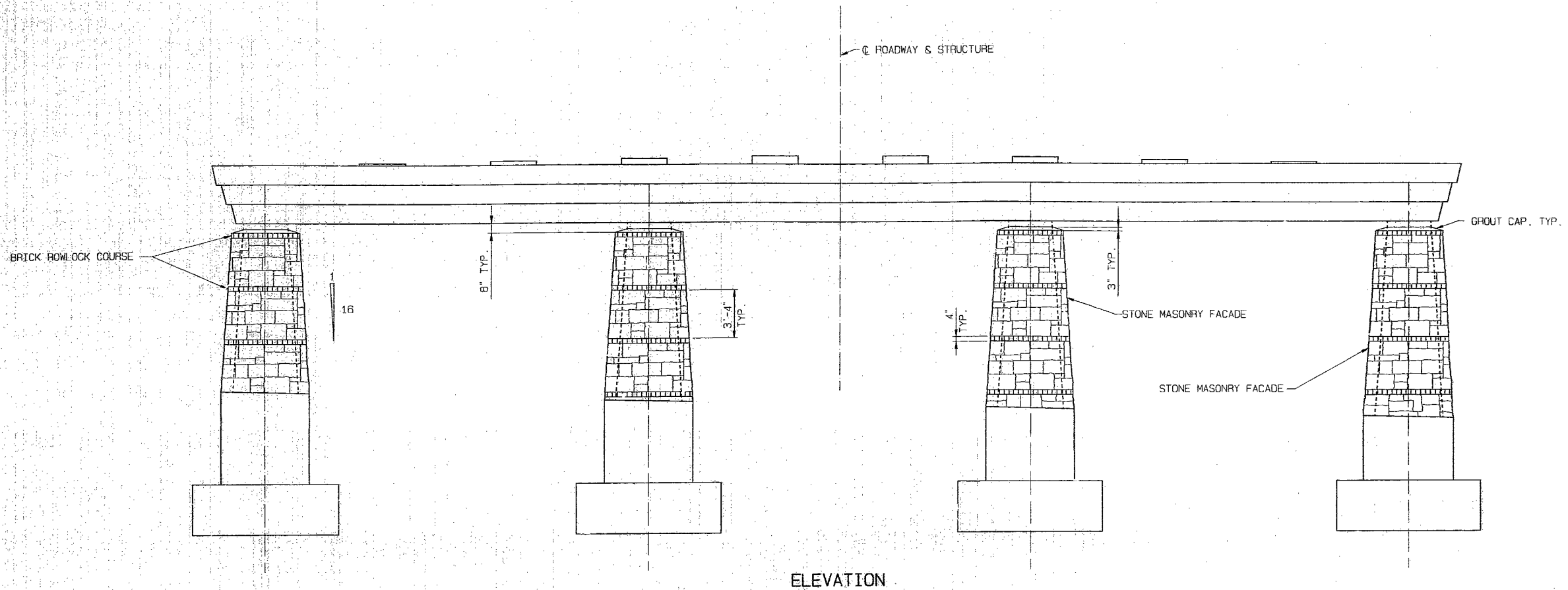
JACKSON COUNTY

A-5183

244-230

1820

STATE	PROJ. NO.	SHEET NO.
MO.		34



ELEVATION

NOTES:

PROVIDE WEEP HOLES AT SILLS NOT TO EXCEED 16" CTRS.

SECURE STONE MASONRY FACADE TO CONCRETE BACKING WITH FLEXIBLE ANCHORS SPACED NOT MORE THAN 16" CTRS. VERTICALLY AND 24" CTRS. HORIZONTALLY.

ANCHORS SHALL BE DOVETAIL ANCHOR SLOTS. (SEE SPEC. PROVISIONS)

PROVIDE TWO PIECE ANCHORS WHICH PERMIT VERTICAL AND HORIZONTAL MOVEMENT BUT PROVIDE LATERAL RESTRAINT OF MASONRY.

TIES SHALL BE CORRUGATED STRAPS NOT LESS THAN 12 GAGE OR TRIANGULAR WIRE TIES NOT LESS THAN 3/16" DIAMETER AS DETERMINED BY THE ENGINEER. LENGTH OF TIES SHALL BE AS REQUIRED FOR EMBEDMENT.

PROVIDE EXPANSION, CONTROL, AND ISOLATION JOINTS TO ACCOMMODATE MOVEMENT IN MASONRY WORK. (SEE SPECIAL PROVISIONS)

PROVIDE SEALER AND ANTI-GRAFFITI COATING ON ALL BRICK, STONE MASONRY AND MORTAR. (SEE SPECIAL PROVISIONS)

COST OF CONCRETE, REINFORCING STEEL AND ANCHORS FOR MASONRY SILL, COMPLETE IN PLACE, SHALL BE INCLUDED IN UNIT PRICE BID FOR OTHER ITEMS.

245-239

STONE MASONRY FACADE ON INTERMEDIATE BENT NO. 2

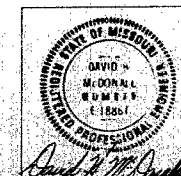
DETAILED JUNE 1993  
CHECKED JULY 1993  
REVISED MARCH 1995



McDONALD & WARGER, INC.  
CONSULTING ENGINEERS

NOTE: THIS SHEET IS NOT TO SCALE. FOLLOW DIMENSIONS

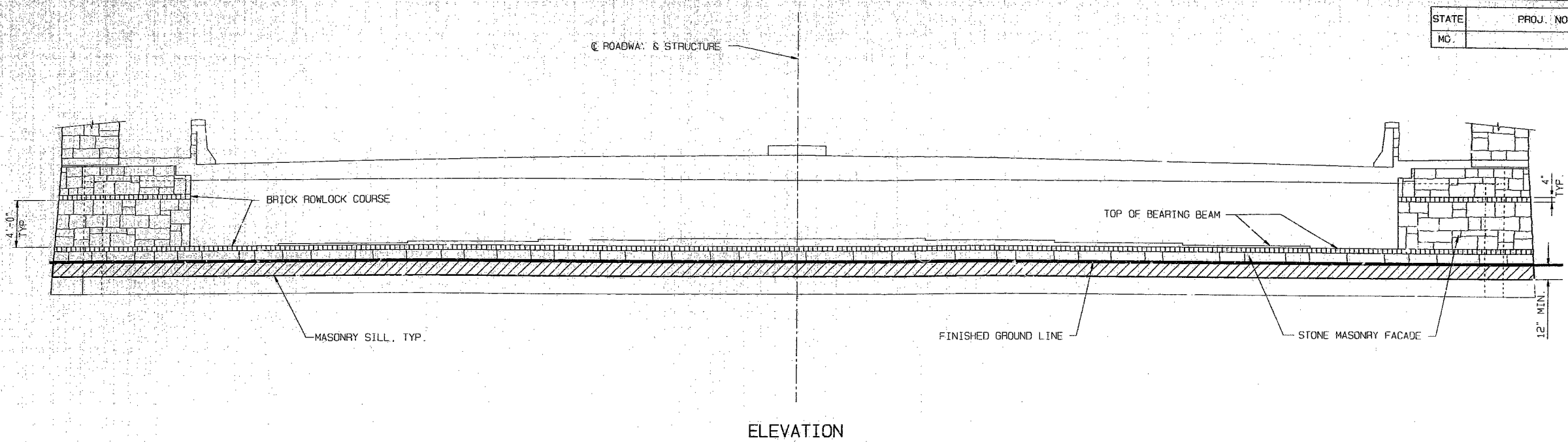
SHEET NO. 31 OF 36



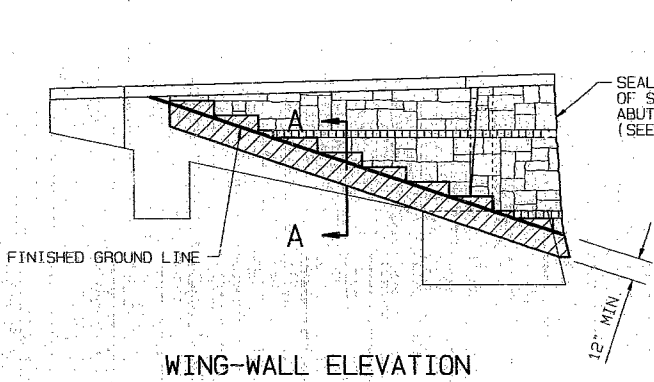
JACKSON COUNTY

A-5183

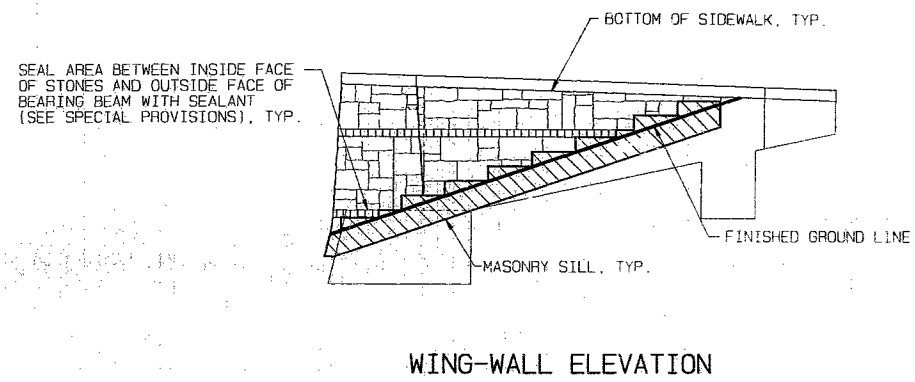
STATE	PROJ. NO.	SHEET NO.
MO.		228



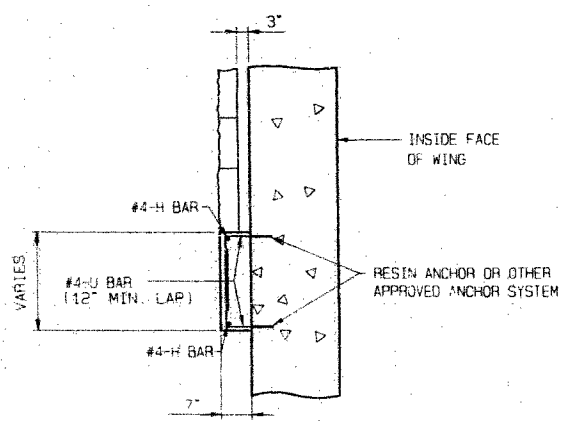
ELEVATION



WING-WALL ELEVATION



WING-WALL ELEVATION



SECTION A-A

NOTE: SPACE #4-U BARS AND EPOXY ANCHORS AT ABOUT 18" CTRS. ALONG BLOCK SILLS.

NOTES:

- PROVIDE WEEP HOLES AT SILLS NOT TO EXCEED 16" CTRS.
- SECURE STONE MASONRY FACADE TO CONCRETE BACKING WITH FLEXIBLE ANCHORS SPACED NOT MORE THAN 16" CTRS. VERTICALLY AND 24" CTRS. HORIZONTALLY.
- ANCHORS SHALL BE DOVETAIL ANCHOR SLOTS. (SEE SPECIAL PROVISIONS)
- PROVIDE TWO PIECE ANCHORS WHICH PERMIT VERTICAL AND HORIZONTAL MOVEMENT BUT PROVIDE LATERAL RESTRAINT OF MASONRY.
- TIES SHALL BE CORRUGATED STRAPS NOT LESS THAN 12 GAGE OR TRIANGULAR WIRE TIES NOT LESS THAN 3/16" DIAMETER AS DETERMINED BY THE ENGINEER. LENGTH OF TIES SHALL BE AS REQUIRED FOR EMBEDMENT.
- MASONRY SILLS FOR SUPPORT OF STONE FACADE SHALL BE STEPPED IN ORDER TO MINIMIZE THE AMOUNT OF EXPOSED MASONRY SILL ABOVE FINISH GRADE.
- PROVIDE EXPANSION, CONTROL AND ISOLATION JOINTS TO ACCOMMODATE MOVEMENT IN MASONRY WORK. (SEE SPECIAL PROVISIONS)
- PROVIDE SEALER AND ANTI-GRAFFITI COATING ON ALL BRICK, STONE MASONRY AND MORTAR. (SEE SPECIAL PROVISIONS)
- COST OF CONCRETE, REINFORCING STEEL AND ANCHORS FOR MASONRY SILL, COMPLETE IN PLACE, SHALL BE INCLUDED IN UNIT PRICE BID FOR OTHER ITEMS.

246 270

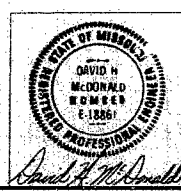
STONE MASONRY FACADE ON END BENT NO.3

DETAILED JUNE 1993  
CHECKED JULY 1993  
REVISED MARCH 1995

McDONALD & WARGER, INC.  
CONSULTING ENGINEERS

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

SHEET NO. 32 OF 36



JACKSON COUNTY

A-5183

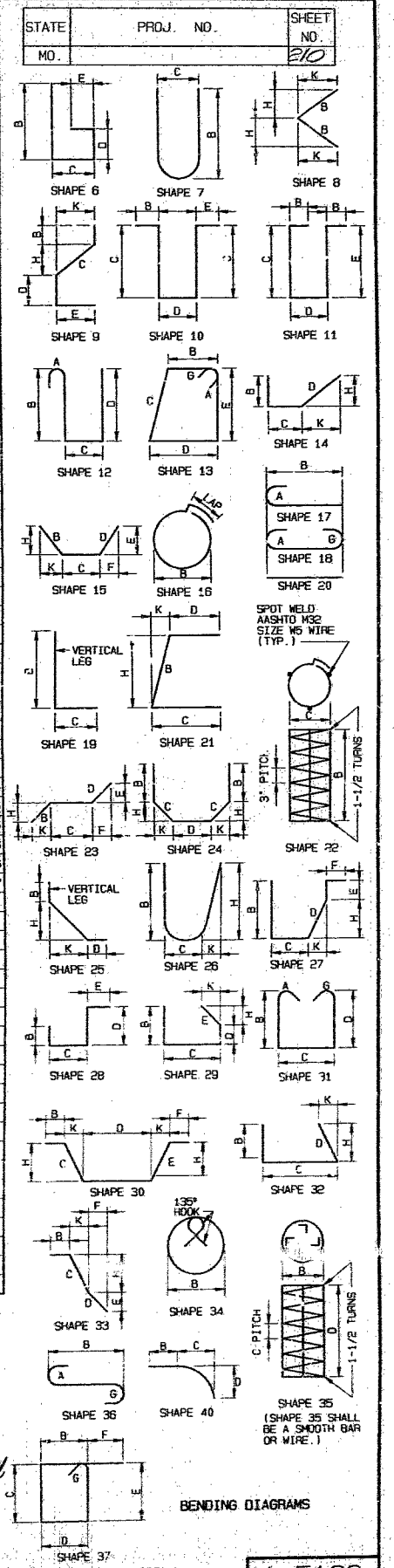


BILL OF REINFORCING STEEL

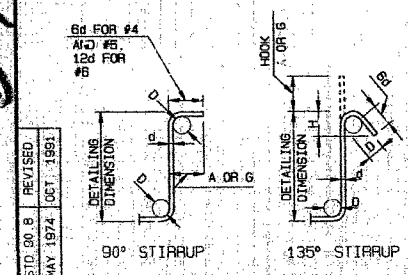
Table with columns: NO. REQ'D, MARK NO., LOCATION, DIMENSIONS (B, C, D, E, F, H, K), NOMINAL LENGTH, ACTUAL LENGTH, WEIGHT. Includes sub-headers for Epoxy, Stirrup, and Substr. Varies.

BILL OF REINFORCING STEEL

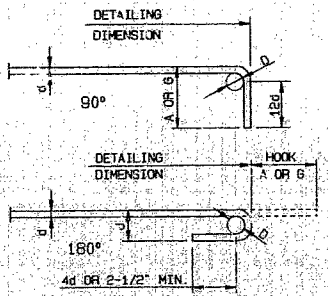
Table with columns: NO. REQ'D, MARK NO., LOCATION, DIMENSIONS (B, C, D, E, F, H, K), NOMINAL LENGTH, ACTUAL LENGTH, WEIGHT. Includes sub-headers for Epoxy, Stirrup, and Substr. Varies.



248 274

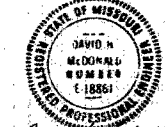


STIRRUP HOOK DIMENSIONS table with columns: BAR SIZE, D (IN.), 90° HOOK, 135° HOOK, and APPROPX. H.



END HOOK DIMENSIONS table with columns: BAR SIZE, D (IN.), ALL GRADES, 180° HOOKS, and 90° HOOKS.

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



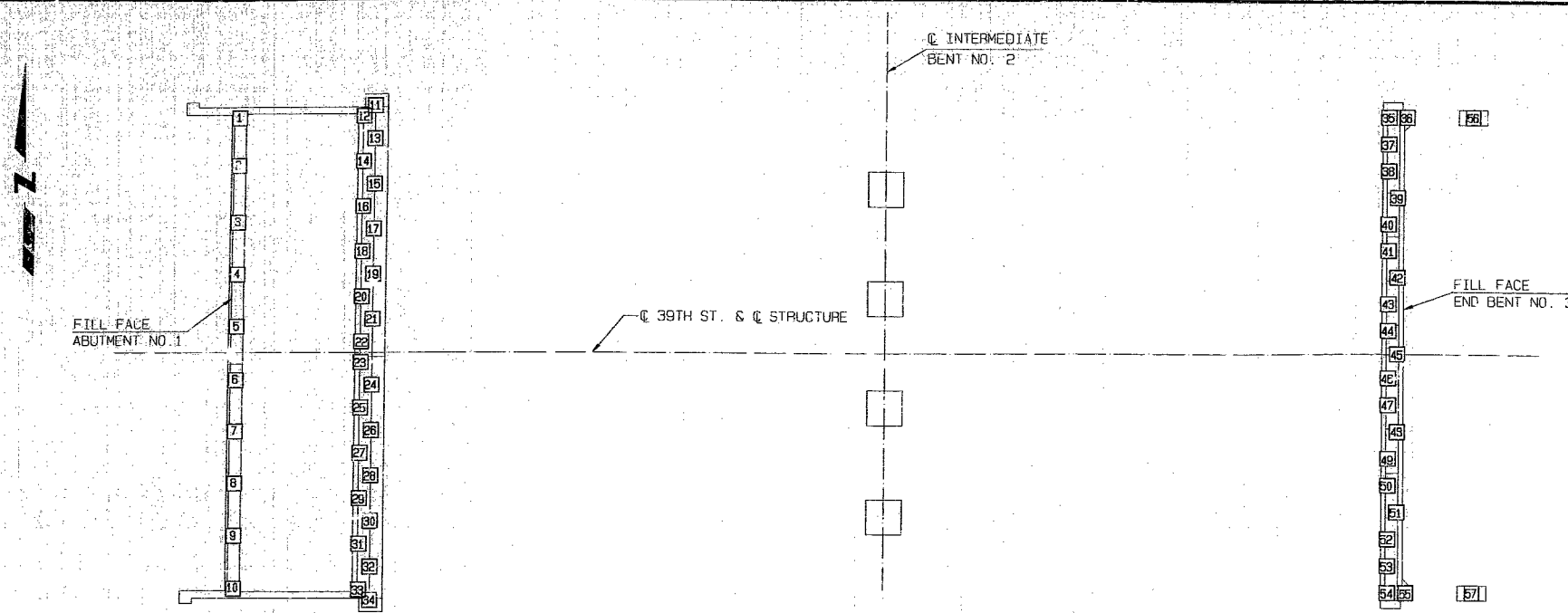
DETAILED JULY 1993 CHECKED JULY 1993 REVISED MARCH 1995

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 34 OF 36



STATE	PROJ. NO.	SHEET NO.
MO.		212



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
			ABUTMENT NO. 1
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			

" AS BUILT PILE " DATA			
PILE NO.	LENGTH IN PLACE ( FT )	COMPUTED BEARING ( TONS )	REMARKS
			END BENT NO. 3
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			

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.

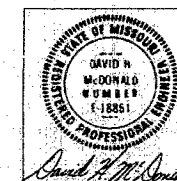
250 244

DETAILED JUNE 1993  
 CHECKED JULY 1993  
 REVISION MARCH 1995

MCDONALD & WARNER, INC.  
 CONSULTING ENGINEERS

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

SHEET NO. 36 OF 36



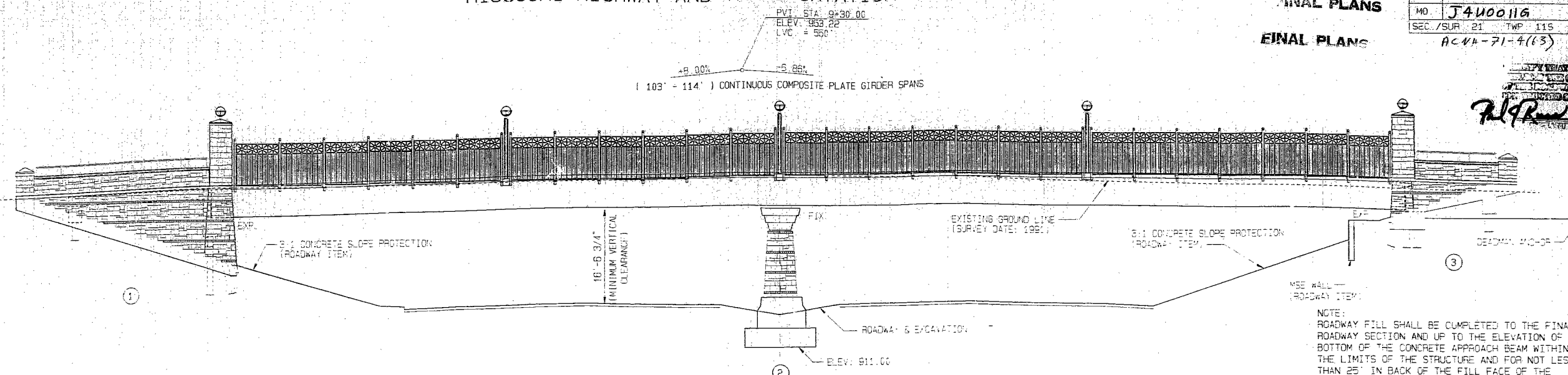
JACKSON COUNTY

A-5183

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

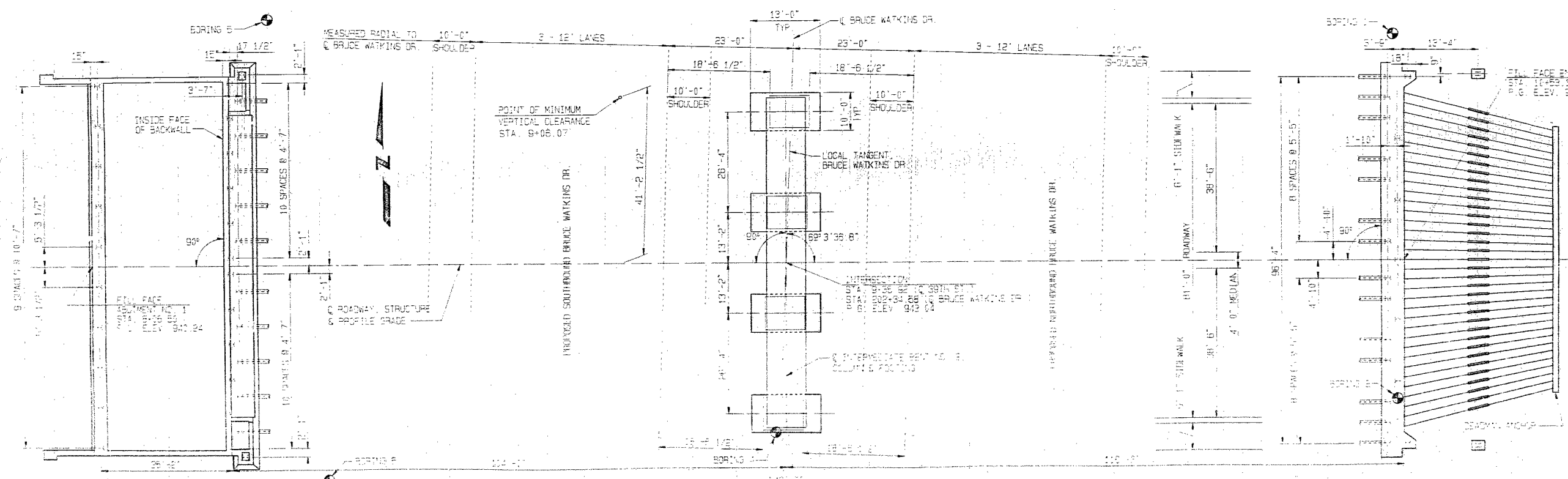
FINAL PLANS  
FINAL PLANS

STATE	MO	PROJ. NO.	J4U0011G	SHEET NO.	175
SEC./SUR.	21	TWP.	11S	RGE.	33W
AC 44-71-4(63)					



ELEVATION

NOTE:  
ROADWAY FILL SHALL BE COMPLETED TO THE FINAL ROADWAY SECTION AND UP TO THE ELEVATION OF THE BOTTOM OF THE CONCRETE APPROACH BEAM WITHIN THE LIMITS OF THE STRUCTURE AND FOR NOT LESS THAN 25' IN BACK OF THE FILL FACE OF THE ABUTMENT BEFORE FILES ARE DRIVEN FOR ANY BENTS FALLING WITHIN THE EMBANKMENT SECTION.



PLAN

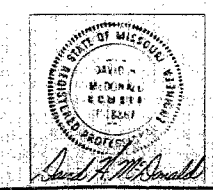
INDICATES LOCATION OF BORINGS. BORING DATA FOR ALL LOCATIONS IS AVAILABLE UPON REQUEST FROM THE DISTRICT OFFICE. BORING DATA FOR NUMBERED LOCATIONS IS DETAILED ON SHEET 3.

BENCHMARKS

B.M. #249	ELEV. 941.52
"X" IN TOP FLANGE BOLT (ENCL. PH)	
0 NW COR. SOUTH AND ENCLID	
STA. 201+82	153' LT.
B.M. #250 "H"	ELEV. 942.47
"* IN NINE TOP FLANGE BOLT (PH @ NW COR. 39TH AND MICHIGAN)	
STA. 201+82	146' RT.

39TH ST. OVER BRUCE WATKINS DR.  
STATE ROAD S. MIDTOWN ROWY. AT 39TH ST.  
IN KANSAS CITY

PROJECT NO. J4U0011G  
JOB NO. J4U0011G  
STA. 202+34.58  
RTE. 71  
JACKSON COUNTY  
DATE 4/17/95



DETAILED MAY 1993  
CHECKED JULY 1993  
REVISED MARCH 1995  
MCDONALD & WARGER, INC.  
CONSULTING ENGINEERS

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

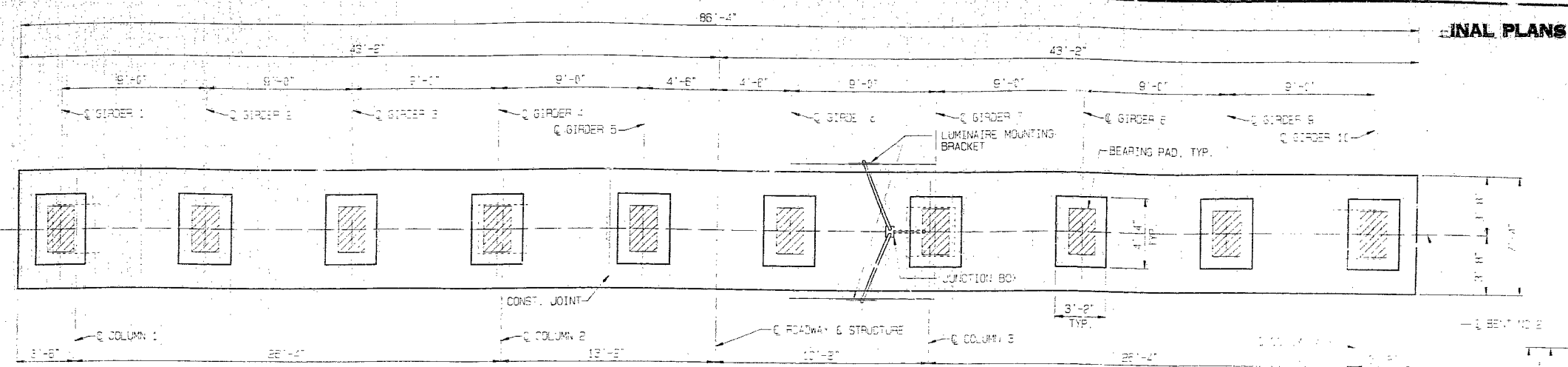
SHEET NO. 1 OF 35

STD. 611.60
STD. 706.35
A-5183

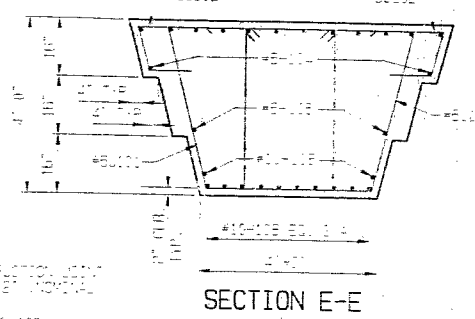
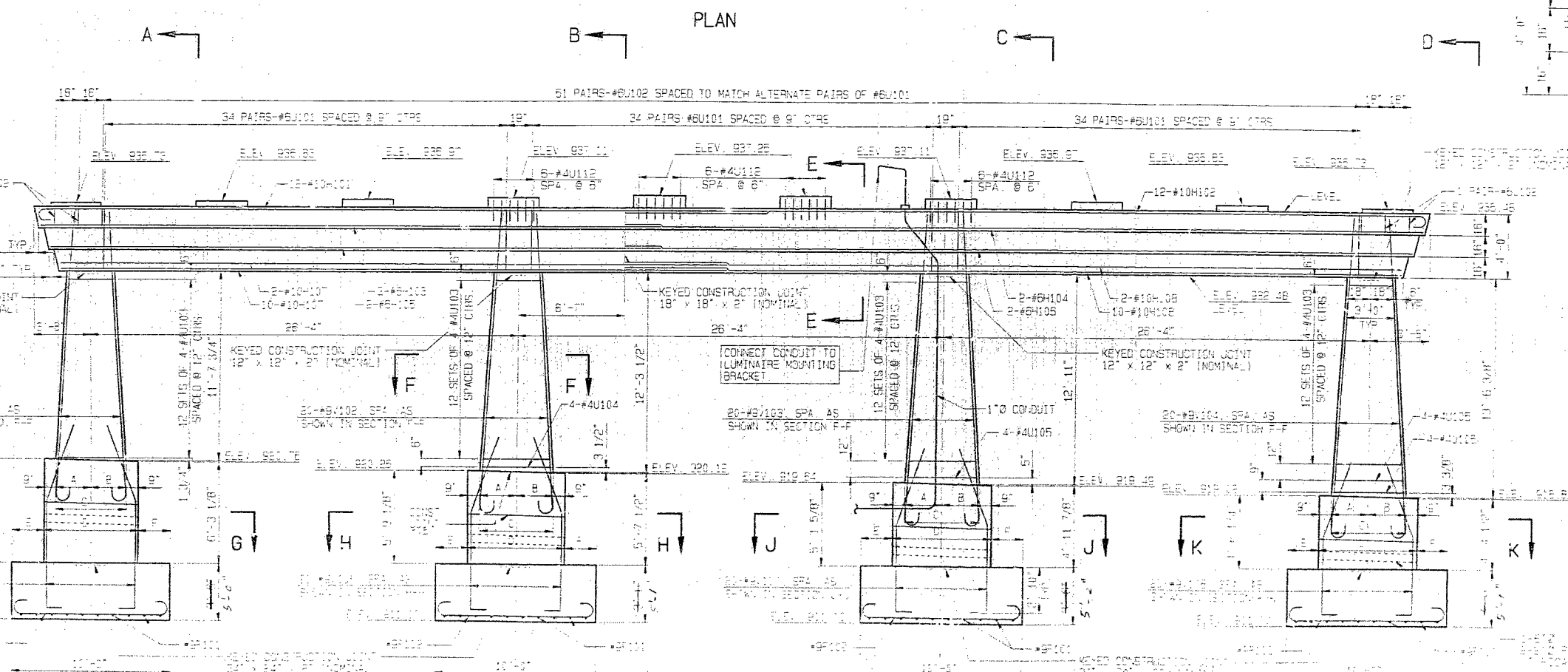
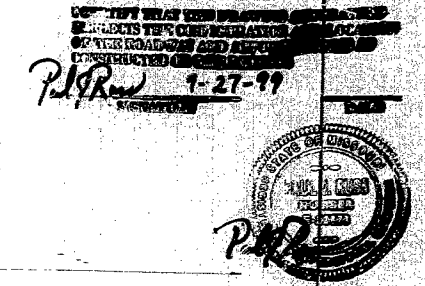
SHE 78







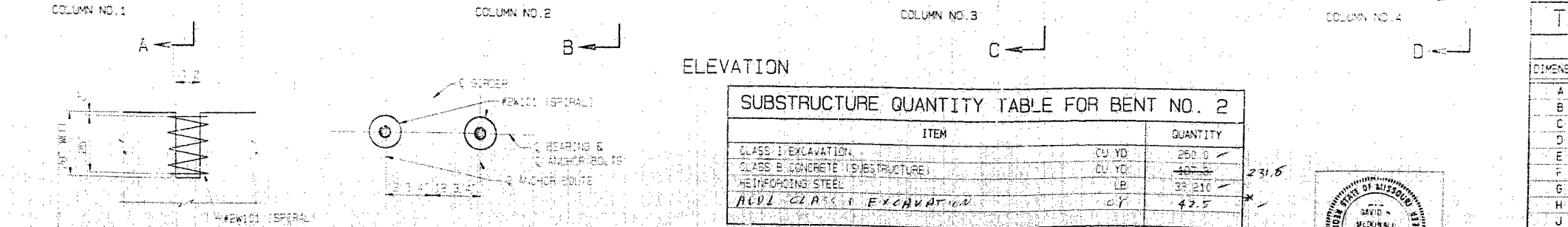
STATE	PROJ.	SHEET NO.
MO	J4400116	101
ACNH-71-4(63)		FINAL PLAN



FOR ELEVATIONS A THRU D AND SECTIONS F THRU K, SEE SHEET NO. 8.  
 PAYMENT FOR CONDUIT, JUNCTION BOX AND PVC SLEEVES SHALL BE SUBSIDIARY TO THE PAY ITEM "CONDUIT SYSTEM ON STRUCTURE".  
 FOR ADDITIONAL NOTES CONCERNING THE CONDUIT INSTALLATION SEE "DETAILS OF CONDUIT ON STRUCTURE".

\* Bent 2 Footings Depth was increased from 3'-6" to 5'-0" (cuttings) due to poor site conditions.

279 247



SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 2

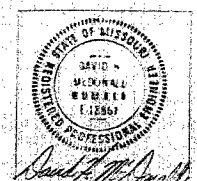
ITEM	UNIT	QUANTITY
CLASS 1 EXCAVATION	CU YD	252.0
CLASS B CONCRETE (SUBSTRUCTURE)	CU YD	40.5
REINFORCING STEEL	LB	39,210
ADD CLASS 1 EXCAVATION	CU YD	42.5

NOTE: WORK THIS TABLE WITH ESTIMATED QUANTITIES AS SHOWN ON SHEET NO. 2.

TABLE OF DIMENSIONS

DIMENSION	COLUMN			
	1	2	3	4
A	18'-18"	18'-0"	18'-0"	18'-0"
B	18'-0"	18'-0"	18'-0"	18'-0"
C	18'-0"	18'-0"	18'-0"	18'-0"
D	18'-0"	18'-0"	18'-0"	18'-0"
E	18'-0"	18'-0"	18'-0"	18'-0"
F	18'-0"	18'-0"	18'-0"	18'-0"
G	18'-0"	18'-0"	18'-0"	18'-0"
H	18'-0"	18'-0"	18'-0"	18'-0"
J	18'-0"	18'-0"	18'-0"	18'-0"
K	18'-0"	18'-0"	18'-0"	18'-0"

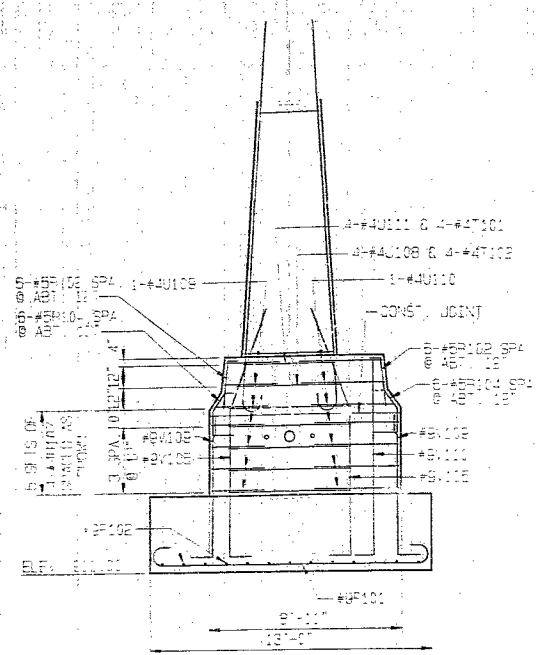
INTERMEDIATE BENT NO. 2 DETAILS  
 SHEET NO. 7 OF 361



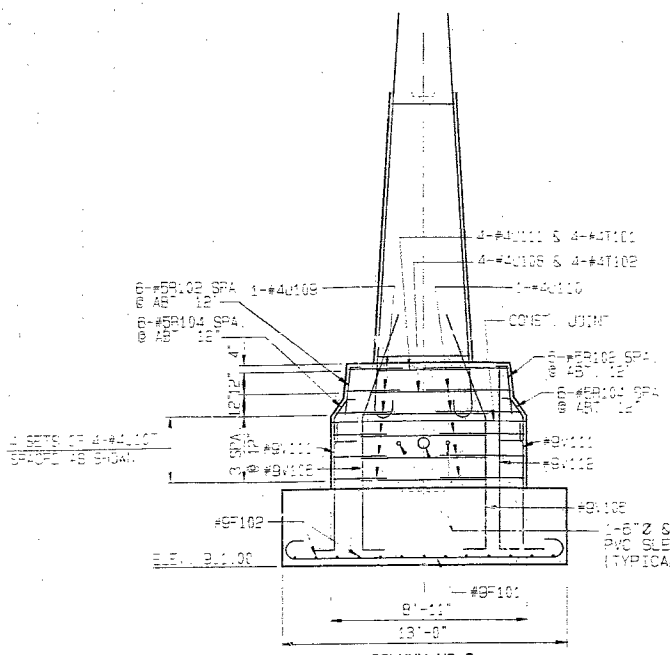
FINAL PLANS

STATE	PROJ. NO.	SHEET NO.
MO.	J400016	22
ACAH-71-4(63) FINAL PLANS		

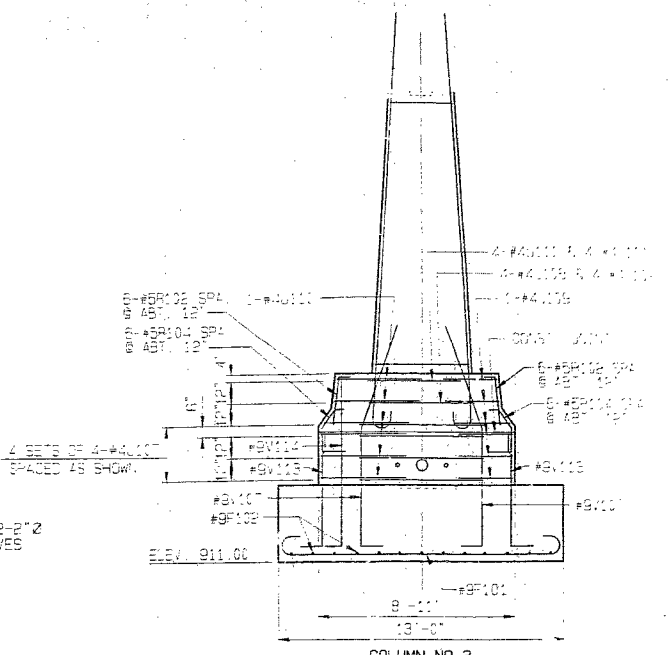
DATE 9-27-99



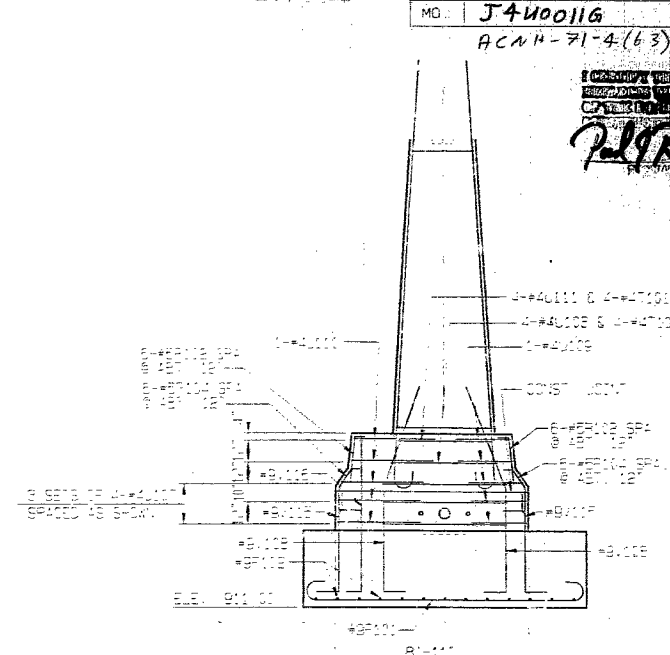
COLUMN NO. 1  
PART ELEVATION A-A



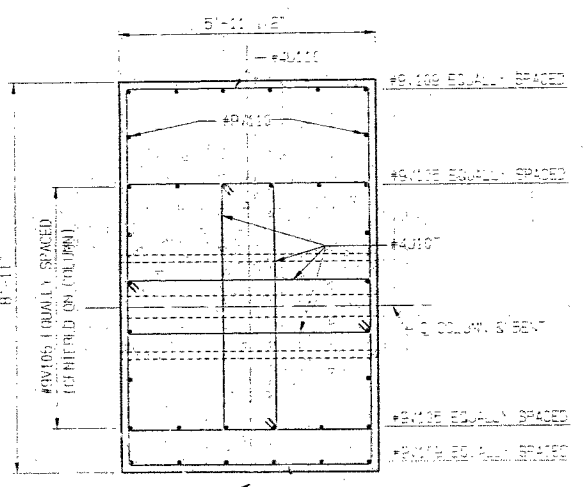
COLUMN NO. 2  
PART ELEVATION B-B



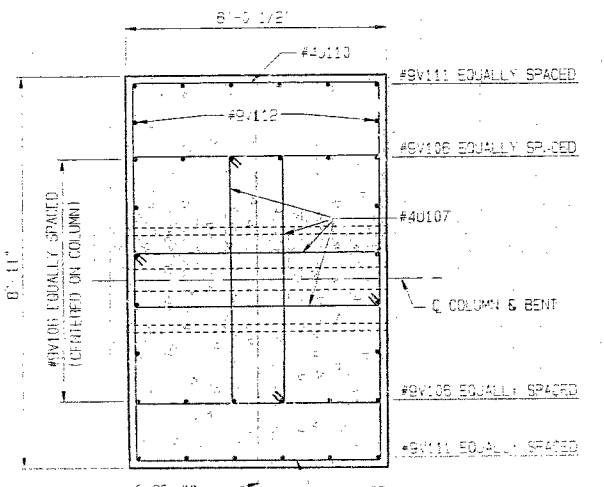
COLUMN NO. 3  
PART ELEVATION C-C



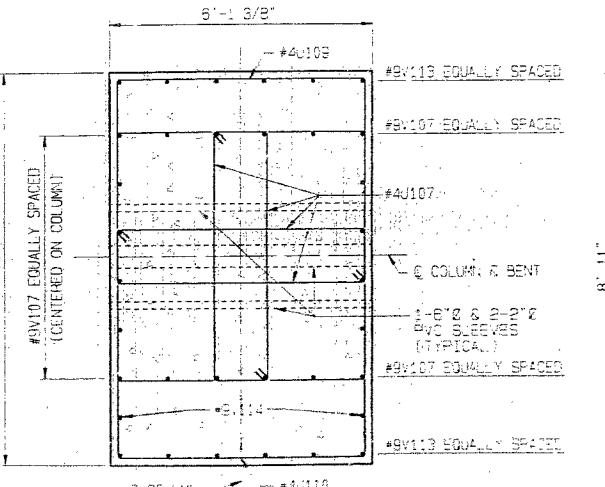
COLUMN NO. 4  
PART ELEVATION D-D



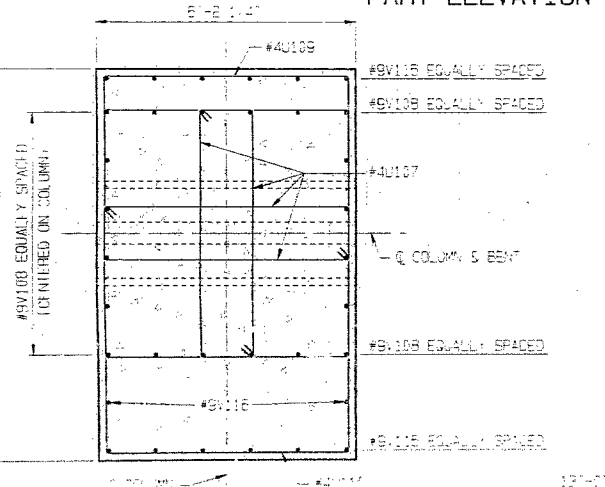
SECTION G-G



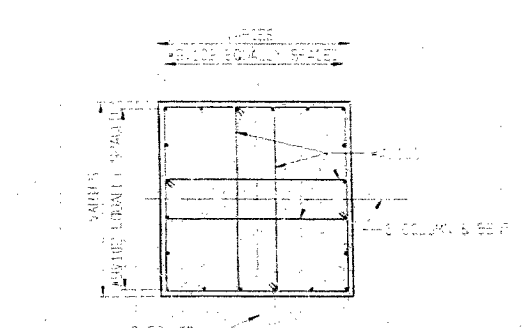
SECTION H-H



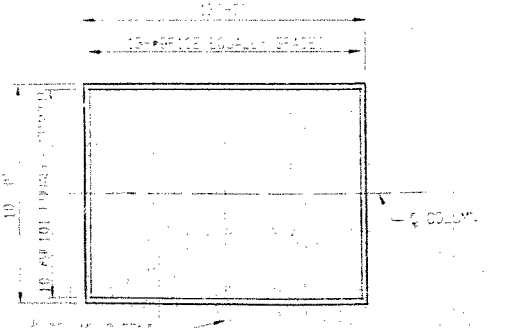
SECTION J-J



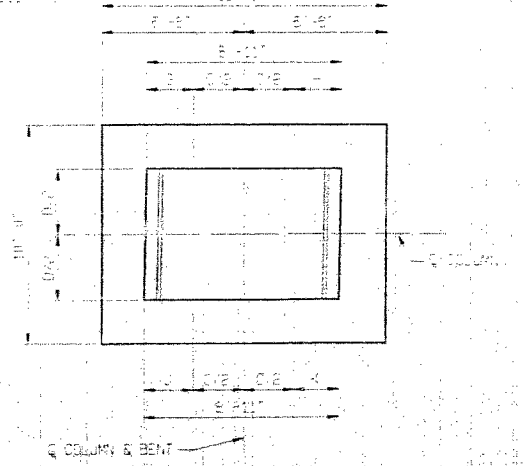
SECTION K-K



SECTION F-F



FOOTING PLAN



SUB-COLUMN LAYOUT

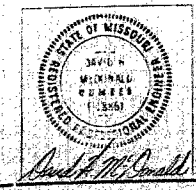
INTERMEDIATE BENT NO. 2 DETAILS

DETAILED MAY 1993  
CHECKED JULY 1993  
REVISED MARCH 1995

McDONALD & WARGER, INC.  
CONSULTING ENGINEERS

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

SHEET NO. 8 OF 36



JACKSON COUNTY

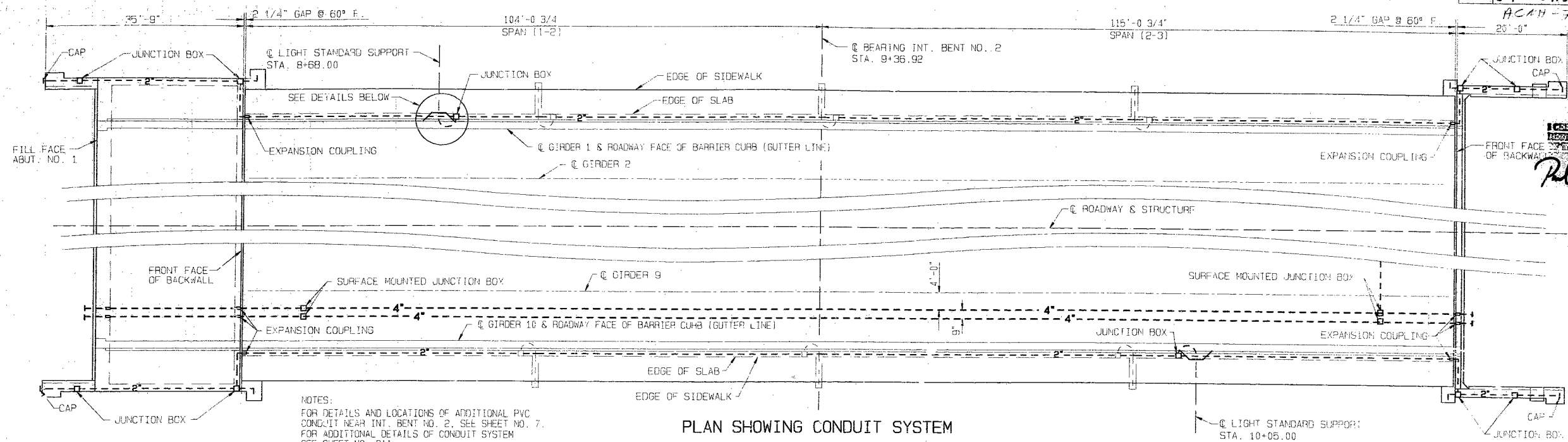
A-5183

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24 to 1

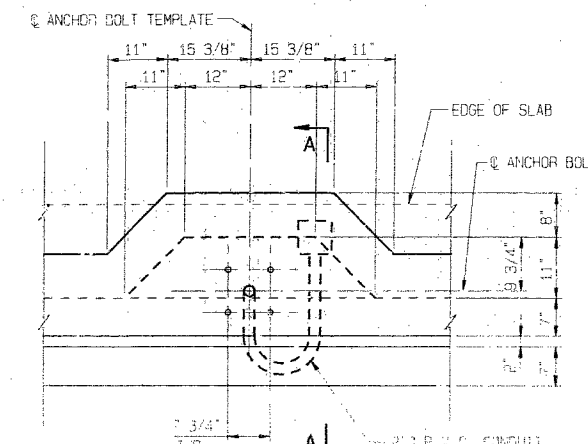
FINAL PLANS

STATE	PROJ. NO.	SHEET NO.
MO.	J4400116	196A
ACAH-71-4(6)		

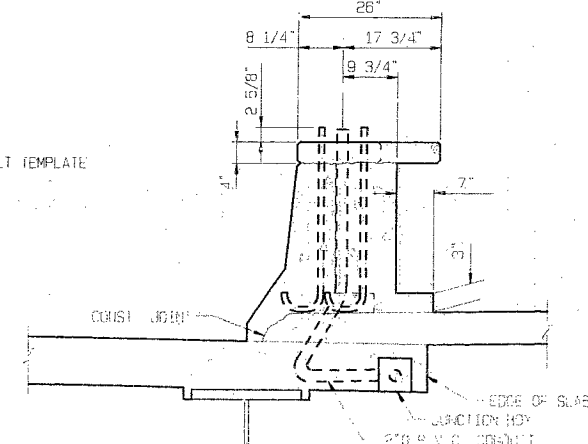


NOTES:  
 FOR DETAILS AND LOCATIONS OF ADDITIONAL PVC CONDUIT NEAR INT. BENT NO. 2, SEE SHEET NO. 7.  
 FOR ADDITIONAL DETAILS OF CONDUIT SYSTEM SEE SHEET NO. 21A.

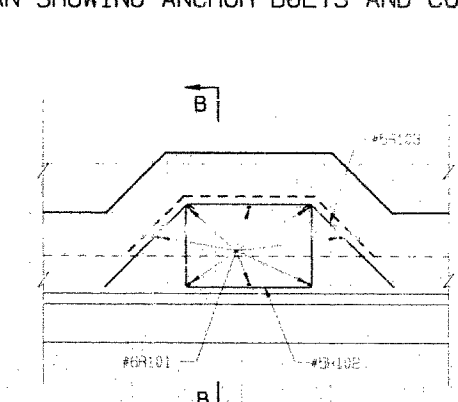
DATE: 9-27-99  
 P. H. R. [Signature]



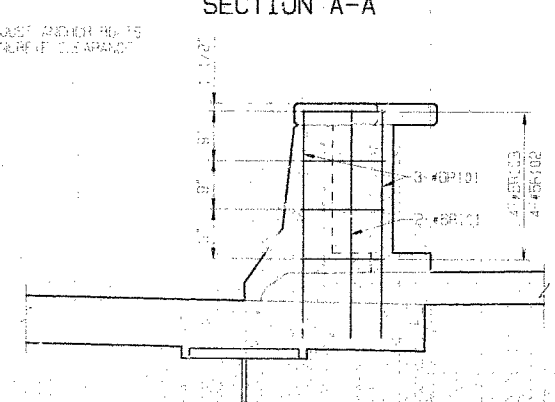
PLAN SHOWING ANCHOR BOLTS AND CONDUIT



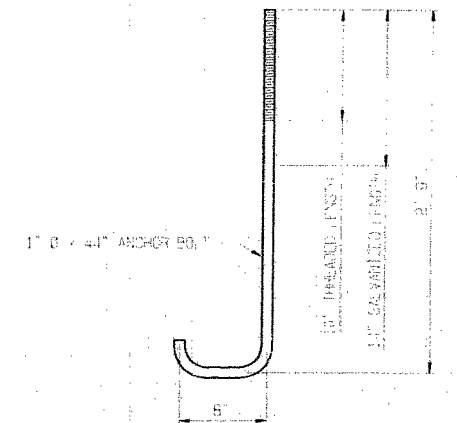
SECTION A-A



PLAN SHOWING REINFORCEMENT



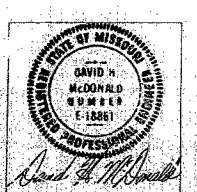
SECTION B-B



DETAIL OF ANCHOR BOLT

DETAILS OF LIGHT SUPPORT BLISTERS

NOTES:  
 COST OF FURNISHING AND INSTALLING ANCHOR BOLTS, REINFORCING AND CONCRETE IN LIGHT SUPPORT SHALL BE INCLUDED IN PRICE BID FOR SAFETY BARRIER CURB.  
 ALL CONDUIT SHALL BE RIGID NON-METALLIC SCHEDULE 40 HEAVY WALL PVC (POLYVINYL CHLORIDE PLASTIC) WITH 3\"/>



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DETAILED: MARCH 1996  
CHECKED: MARCH 1996

McDONALD & WARGER, INC.  
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NOTE: THIS SHEET IS NOT TO SCALE. FC: LOW DIMENSIC

ADDED SHEET: MARCH 15, 1996

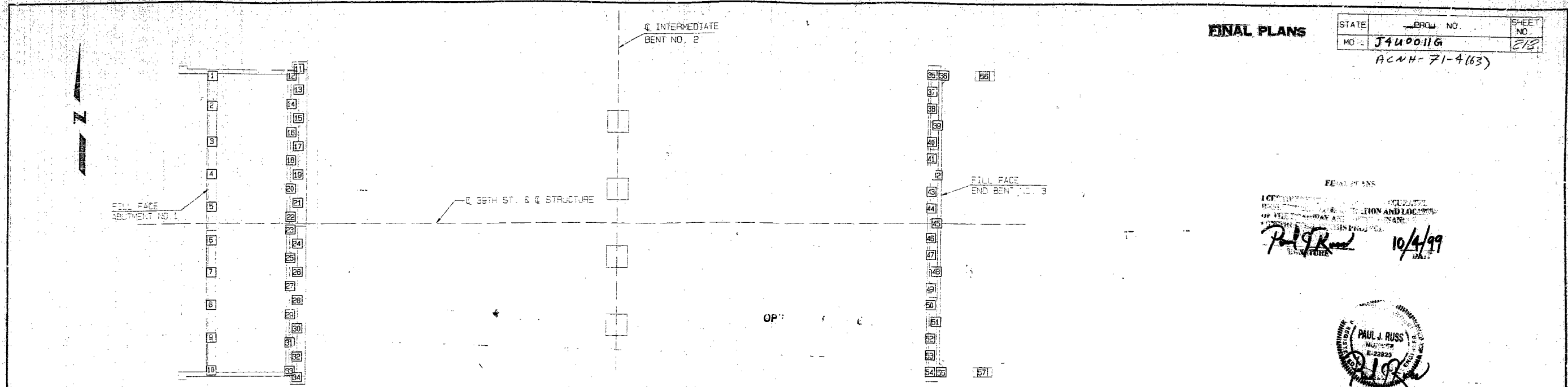
SHEET NO. 21B OF 36

JACKSON COUNTY

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FINAL PLANS

STATE	PROJ. NO.	SHEET NO.
MO.	J400116	218
ACNH-71-4(63)		

10/4/99  
 Paul J. Russ  
 DATE



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
ABUTMENT NO. 1			
1	19.4	109	All piles driven to practical refusal Used HP12x53 piles
2	19.8	102	
3	20.3	76	
4	19.9	117	
5	19.7	96	
6	20.0	102	
7	20.0	109	
8	20.0	117	
9	20.0	102	
10	20.4	91	
11	20.0	163	
12	19.7	149	
13	20.0	150	Battered
14	16.6	149	Battered
15	18.6	150	
16	17.6	149	
17	18.8	150	
18	16.9	163	
19	19.7	150	
20	18.2	149	
21	18.6	150	
22	17.9	149	
23	17.8	163	
24	19.6	150	
25	19.3	149	Battered
26	19.3	150	
27	18.5	149	
28	18.0	150	
29	18.7	149	
30	18.8	150	
31	19.9	149	
32	18.6	150	
33	17.1	149	
34	18.3	137	
647.0 Lin Ft total for Bent 1			

" AS BUILT-PILE " DATA			
PILE NO.	LENGTH IN PLACE ( FT. )	COMPUTED BEARING ( TONS )	REMARKS
END BENT NO. 3			
35	18.1	150	Battered
36	16.2	192	
37	17.1	150	
38	19.1	150	
39	19.5	172	
40	18.6	150	
41	18.7	150	
42	17.5	172	
43	18.6	150	
44	18.9	150	
45	18.7	149	
46	18.5	150	
47	19.3	150	
48	18.9	149	
49	19.1	150	
50	18.2	150	
51	18.9	149	
52	18.5	150	
53	18.9	150	
54	19.1	150	
55	19.7	149	
56	19.5	149	Wing wall
57	19.4	136	Wing wall
427.2 Lin Ft total for Bent 3			

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: All piles driven to practical refusal.

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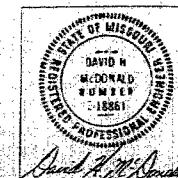
DETAILED JUNE 1993  
 CHECKED JULY 1993  
 REVISED MARCH 1995



MCDONALD & WARGER, INC.  
 CONSULTING ENGINEERS

NOTE: THIS SHEET IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 36 OF 35



JACKSON COUNTY

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